Chapter Three

Prominence and Reflexive Binding

0. Introduction

In this chapter, I propose a unified account for both the non-contrastive compound reflexive and the bare reflexive in Chinese (as well as the reflexive in English), and show that they are constrained by the same reflexive binding condition, which stipulates that a reflexive should be bound to an accessible prominent NP in its binding domain defined by the candidate set related to the most prominent NP. Since different languages may have different definitions of the most prominent NP, then the parameterization of the prominence of NPs will determine the parameterization of the binding domain of reflexives across languages, and thus account for the different properties of reflexives either in different languages or within the same language.

This chapter contains four parts. In the first part, I investigate Reinhart and Reuland’s (henceforth R&R) (1993, 1995) and Lidz’s (2001a, b) predicate-based binding theory and their characterization of anaphoric expressions, and show that neither of their theories can adequately characterize the binding properties of anaphoric expressions in Chinese. In the second part, I give my own characterization of Chinese anaphoric expressions. In the third part, I discuss the peculiar binding properties of the Chinese bare reflexive *ziji*, and review two recent accounts of *ziji*. In the fourth part, I show that the binding of the non-contrastive
compound reflexive and the bare reflexive is governed by the same binding condition established on the prominence of NPs. Based upon Huang and Tang’s (1991) assumption that *ziji* has neither referential features nor phi-features, I develop an approach of two feature-searching engines to account for the binding properties of the bare reflexive *ziji*, and show that the blocking effect exhibited by *ziji* results from the union of the two most prominent NPs selected by the two searching engines.

1. **The Predicate-Based Binding Theory**

R&R (1993, 1995) propose to replace Chomsky’s argument-based binding theory with their predicate-based non-structural binding theory that requires a reflexive-marked predicate be reflexive (Condition A) and a reflexive predicate be reflexive-marked (Condition B). They establish a typology of anaphoric expressions with the property *Reflexivizing* function and the property R(referential independence). Their analysis predicts that the SELF anaphor---a complex reflexive---cannot be long-distance (LD) bound when occupying an argument position, since it can reflexive-mark a predicate, whereas the SE anaphor---a bare reflexive---which does not reflexive-mark a predicate can be LD bound. Recently, Lidz (2001a, 2001b) tries to extend R&R’s theory by distinguishing Pure-reflexives from Near-reflexives. He claims that the former are anaphors that occur with lexically reflexive-marked predicates, and require a complete identity between the reflexive and its antecedent, whereas the latter are anaphors that syntactically reflexive-mark the predicate, and do not impose the above-mentioned identity requirement.
In the following discussion, I will show that neither R&R’s (1993, 1995) nor Lidz’s (2001a, b) theories can be extended to Chinese to correctly characterize the properties of its reflexives, since their theories are both too strong and too weak, and will thus make wrong predictions regarding the binding and referential possibilities of reflexives in Chinese. Besides failing to differentiate the bare reflexives in Chinese such as ziji ‘self’, benren ‘self’, and benshen ‘self’, R&R’s typology of reflexives, if extended to Chinese, would wrongly exclude the existence of reflexives like ziji ‘self’ and ta-ziji ‘he-self’ in Chinese since they can not only reflexivize their predicate, but also find long-distance antecedents when occurring in an argument position. I argue that, although it is necessary to make a distinction between Near-reflexives and Pure-reflexives, Lidz’s (2001a, 2001b) Condition R is not a universal principle since, when applied to Chinese reflexives, besides wrongly grouping simplex reflexive ziji ‘self’ with complex reflexive ta-zij’, it also fails to make a distinction between reflexives such as ta-ziji that do not require identity and reflexives like ziji, benren, and benshen that require identity. This section also discusses a possible way to re-analyze the Chinese data so as to save R&R’s predicate-based theory of reflexivization, but only finds that this is impossible, and it concludes that reflexives in natural language are not of a homogeneous class and thus cannot be adequately characterized simply by the two properties given in R&R (1993) and the Condition R proposed by Lidz (2001a, 2001b).

1.1  R&R’s Predicate-Based Theory of Reflexives

1.1.1  R&R’s Typology of Reflexives
Following Faltz’s (1977) and Pica’s (1985, 1987) observation that complex reflexives are universally locally bound, whereas simplex reflexives are universally long-distance bound, R&R (1993) classify the former as SELF anaphors and the latter SE anaphors. They establish a typology of anaphoric expressions with the property Reflexivizing function and the property R(referential independence), as illustrated below:

<table>
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<tr>
<th></th>
<th>SELF</th>
<th>SE</th>
<th>PRONOUN</th>
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<tbody>
<tr>
<td>Reflexivizing function</td>
<td>+</td>
<td>-</td>
<td>-</td>
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<tr>
<td>R(referential independence)</td>
<td>-</td>
<td>-</td>
<td>+</td>
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The property R (referential independence) applies to both R-expressions and pronouns, whereas the property Reflexivizing function only applies to SELF anaphors. As seen in (1), SE anaphors not only form a group with SELF anaphors with respect to the R property, as both are referentially deficient (-R) expressions, but also form a group with pronouns with respect to the Reflexivizing function since none of them can reflexivize a predicate.

Besides, SE anaphors also pattern with pronouns in having an empty head, as illustrated in (2), whereas SELF anaphors have the head N position occupied by ‘self’, as shown in (3).

(2) a. \([NP \text{ Pron} [N’ \ldots e\ldots]]\)

b. \([NP \text{ SE} [N’ \ldots e\ldots]]\)

(3) \([NP \text{ Pron/SE} [N’ \text{ self}]]\)
According to R&R, both SELF and SE anaphors allow (discourse) uses known as logophoric. They argue that the terms *local anaphor* and *long-distance anaphor* are highly misleading because both kinds of anaphors can be used logophorically when they do not occupy an argument position, especially the object position, and can thus occur at all kinds of distances. They think that there are two domains for the occurrence of an anaphor: one is the domain of reflexivity, and the other the domain where SE anaphors are allowed to be bound. The first is the domain where a SELF anaphor obligatorily reflexivizes a predicate and both pronouns and SE anaphors are excluded. The second is the domain where the binding of the SE anaphors must obey the Tensed-S Constraint (R&R 1993).

1.1.2 R&R’s Predicate-Based Binding Theory

R&R (1993) formulate the following conditions for the theory of reflexive binding.

(4) Conditions

A: A reflexive-marked syntactic predicate is reflexive.

B: A reflexive semantic predicate is reflexive-marked.

(5) Definitions

a. The *syntactic predicate* of a (head) P is P, all its syntactic arguments, and an external argument of P (subject).

The *syntactic arguments* of P are the projections assigned θ-role or Case by P.

The *semantic predicate* formed of P is P and all its arguments at the relevant semantic level.
b. A predicate is *reflexive* iff two of its arguments are coindexed.

c. A predicate (formed of P) is *reflexive-marked* iff either P is lexically reflexive or one of P’s arguments is a SELF anaphor.

Condition A draws a dividing line between the bound use and the logophoric use of SELF anaphors. It requires that SELF anaphors reflexive-marking a syntactic predicate be interpreted reflexively, and also implies that SELF anaphors can be used logophorically if they do not occupy an argument position of a syntactic predicate and thus do not reflexive-mark the relevant predicate. This analysis can adequately account for the contrast between the sentences in (6) (R&R 1993: 670):

\[(6)\]

\[a. \text{Max boasted that the queen invited Lucie and himself for a drink.} \]

\[b. \ast \text{Max boasted that the queen invited himself for a drink.} \]

\[(6a)\] is grammatical because the SELF anaphor in (6a) does not occupy an argument position by itself and thus does not reflexive-mark the relevant predicate. In this case, Condition A does not apply, and the SELF anaphor can be used logophorically. \[(6b)\] is ungrammatical because Condition A is violated. The SELF anaphor in (6b) occupies an argument position and thus reflexive-marks the predicate. However, it is not reflexive since it is not coindexed with its co-argument, the queen.

Condition B requires that a reflexive predicate be reflexive-marked. \[(7)\] is ungrammatical because the reflexive predicate is not reflexive-marked.

\[(7) \ast \text{Max, criticized him.} \]
However, if no reflexive predicate is formed, reflexive-marking is not required. Consider the following sentence:

(8) a. Max$_1$ likes jokes about him$_1$.
   
   b. Max (λx (like (x, jokes about x)))

In (8a) the pronoun is not an argument of the predicate like, but an argument of the nominal predicate joke, as illustrated by the semantic representation given in (8b). In this case, the coindexation between Max and the pronoun him does not yield a reflexive predicate. Hence, Condition B is vacuously met in (8a).

Since it is a condition on reflexivization rather than on the distribution of pronouns, Condition B predicts that SE anaphors, like pronouns, cannot occur as an argument of a predicate that is not lexically reflexive.

(9) *Max$_1$ haat zich$_1$.

Max hates SE

In the Dutch example (9), a reflexive predicate is formed, as the two arguments of the predicate are coindexed. Since zich is not assumed to be a reflexive-marker and the predicate is also not lexically reflexive-marked, (9) is ruled out as ungrammatical by Condition B. Now, consider the following sentence:

(10) Willem$_1$ schaamt zich$_1$/*hem$_1$.

Willem shames SE/*him.
Although it can correctly rule in the coindexation between *Willem* and the SE anaphor *zich* in (10) since the reflexive predicate formed by the coindexation of the subject and *zich* is intrinsically reflexive-marked by the inherent lexical property of the verb, Condition B cannot properly rule out the illicit coindexation between *Willem* and the pronoun *hem* in (10) since the reflexive predicate formed by the coindexation of the subject and *hem* is also intrinsically reflexive-marked. Note that the relevant coindexation cannot be ruled out by Condition A, either, as the lexically reflexive-marked predicate is indeed made reflexive by the relevant coindexation. In order to rule out such an unwarranted coindexation, R&R (1993) propose a Condition on A-chains which can regulate the distribution of SE anaphors and pronominals. The definition of an A-chain and the condition on its well-formedness are given below:

(11) Definition (R&R 1993: 693)

An A-chain is any sequence of coindexation that is headed by an A-position and satisfies antecedent government.

(12) General Condition on A-chains (R&R 1993: 696)

A maximal A-chain \((\alpha_1, \ldots, \alpha_n)\) contains exactly one link — \(\alpha_1\) — that is both +R and Case-marked.

Now, the illicit coindexation between *Willem* and *hem* in (10) will be ruled out by the Chain Condition. According to the feature analysis given in (1), SE anaphors are different from pronouns in terms of R(eferential independence). SE anaphors have the feature [-R], and pronouns, the feature [+R]. The coindexation between
Willem and hem in (10) is illicit because the chain formed from such a coindexation will contain two [+R] elements, violating the Chain Condition, whereas that between Willem and zich is licit, since the tail of the chain zich is [-R], not violating the Chain Condition defined in (12).

1.2 Lidz’s Condition R

Lidz (2001a, 2001b) argues that there are limitations in R&R’s (1993) predicate-based theory of reflexives since their theory would wrongly predict that reflexive-marked predicates are semantically uniform. He claims that predicates which are reflexive-marked by SELF anaphors should be distinguished from those which are lexically reflexive-marked. According to Lidz (2001a, 2001b), there is a distinction between Near-reflexives and Pure-reflexives, and the former are anaphors that syntactically reflexive-mark the predicate, while the latter are anaphors that require a lexically reflexive-marked predicate. These two types of anaphors differ from each other in their semantic interpretations: Pure-reflexives require a complete identity between the reflexives and their antecedents, whereas Near-reflexives do not impose such a requirement. The difference between Pure-reflexives and Near-reflexives is reflected in their respective semantic representations, given in (13): only the former is translated as a bound variable, whereas the latter is translated as a function related to the antecedent (Lidz 2001b).

(13) a. \( \lambda x \ [P(x, x)] \) \hspace{1cm} (Semantic/Pure-reflexive)

b. \( \lambda x \ [P(x, f(x))] \) \hspace{1cm} (Near-reflexive)
In (13a) the two arguments of the predicate $P$ are directly related to each other and thus have the same identity, whereas in (13b) the two arguments are related to each other via a Near-reflexive function $f$ and thus need not be identical, though in most cases the two are extensionally equivalent. Lidz (2001a, 2001b) proposes the following Condition R to account for the fact that lexically or morphologically reflexive-marked predicates disallow the Near-reflexive interpretation.

(14) Condition R

$$\lambda x \ [P(x, x)] \leftrightarrow (\theta_1=\theta_2)$$

semantics theta-grid

The left side of the formula is the semantic representation of reflexivity, and the right side is the theta-grid requirement of a lexically/morphologically reflexive predicate. Condition R states that if a predicate is semantically reflexive, then it must be lexically/morphologically reflexive, namely that there is only one argument in the relevant predicate, which is why there is only one theta-role allowed in the predicate ($\theta_1=\theta_2$), and if a predicate is lexically or morphologically reflexive, then it must be semantically reflexive. Like R&R’s theory, Condition R can also rule out the illicit coindexation found in (9), repeated below as (15). This is because this sentence is semantically reflexive, as $zich$ is assumed to introduce the Pure-reflexive function, but not lexically reflexive, as there are two different $\theta$-roles in it, violating the $\theta$-grid requirement of Condition R. Notice that, if a predicate is lexically reflexive, it is inherently reflexive-marked. For instance, the verb in (16) is inherently reflexive-marked, but the one in (15) is not. If a predicate is morphologically reflexive, it is reflexive-marked by a morpheme. Lidz (1995,
2001b) extends the R&R’s definition of reflexive-marked predicates by including morphological reflexivity, which can be found in languages like Kannada which have a morpheme reflexive-marking a predicate. Lidz points out that in Kannada the anaphor *tannu cannot be bound by a co-argument if the verbal reflexive morpheme –*kol (*koND in past tense) is absent, as illustrated by the contrast in (17).

(15) a. *Max₁ haat zich₁.
   b. *Max₁ hates him₁.

(16) a. Max scheert zich.
   Max shaves self
   ‘Max shaves himself.’
   b. Max scheert zichzelf.
   Max shaves self-self
   ‘Max shaves himself.’

(17) a. *Hari tann-annu hoDe-d-a
   Hari self-ACC hit-PST-3SM
   ‘Hari hit himself.’
   b. Hari tann-annu hoDe-du-koND-a
   Hari self-ACC hit-PP-REFL.PST-3SM
   ‘Hari hit himself.’

In addition, Condition R can predict that the reflexive in (16a) and (17b) can only get a Pure-reflexive interpretation, while that in (16b) can get a Near-reflexive interpretation. The reflexives in (16a) and (17b) cannot get a Near-reflexive reading
because the predicates are lexically/morphologically reflexive, and must thus be semantically reflexive, according to Condition R. (16b) can have a Near-reflexive reading because \textit{zichzelf} syntactically reflexive-marks the predicate in question, and thus introduces the Near-reflexive function.

1.3 Limitations of the Predicate-Based Theory of Reflexives

1.3.1 Problems with R&R’s Characterization and Their Typology of Reflexives

When we apply R&R’s (1993) predicate-based theory of reflexives to the analysis of reflexives in Chinese, the first problem we encounter is that we do not know how to classify the simplex reflexive \textit{ziji}. Since there is a contrast between the simplex reflexive \textit{ziji} and the complex reflexive \textit{ta-ziji}, it seems that \textit{ziji} should be analyzed as a SE anaphor. This analysis can account for the fact that \textit{ziji} can be long-distance bound. However, if \textit{ziji} is a SE anaphor, then it cannot reflexivize the predicate, and thus cannot be bound by its co-argument when the relevant predicate is not lexically reflexive, though \textit{ziji} can obviously be locally bound by its co-argument, as illustrated below:

(18) John, xihuan ziji.

John likes self

‘John likes himself.’

(18) indicates that \textit{ziji} should not be a SE anaphor but can be a SELF anaphor since it can reflexivize a predicate. However, if \textit{ziji} is a SELF anaphor, it should not be long-distance bound when occurring in an argument position. But this prediction is
not borne out.

(19) John, renwei Bill, xihuan ziji,j.

John think Bill like self

‘John thinks that Bill likes him/himself.’

In (19) ziji can refer to the matrix subject across the local one. If ziji is a SELF anaphor, the long-distance binding in (19b) should be ruled out, according to R&R, since ziji, occupying an argument position, reflexive-marks the local predicate and should thus be coindexed with its co-argument. What is worse is that ziji in (19) can be both locally and long-distance bound. In order to account for these facts, R&R would have to assume that there are two kinds of ziji: one is a SELF anaphor and the other is a SE anaphor. However, nothing in their theory can help us distinguish these two kinds of ziji in Chinese. In fact, R&R’s theory is too weak because it cannot rule out the illicit binding in the following sentences:

(20) a. [John, de baba], hai-le ziji,j.

John DE father hurt-ASP self

‘John’s father hurt him.’

b. John, zhidao wo, bu xihuan ziji,j.

John know I not like self

‘John knows that I do not like him/myself.’

If we apply R&R’s analysis to (20), the illicit binding of ziji would be ruled in as grammatical since ziji can be a SE anaphor and can thus be bound by a
non-co-argument antecedent. The blocking effect of *ziji* as exemplified in (20b) also presents a problem for R&R, as they would fail to predict the impossibility of long-distance binding in (20b), as their theory, if extended to Chinese, would predict that the LD binding should be possible, with the assumption that *ziji* can be a SE anaphor. Notice that, although we can appeal to *ziji*’s property of being a SELF anaphor to account for (20), sentences like (19) will be problematic for such an appeal. Hence, it is not easy for R&R to have a consistent criterion to differentiate SELF *ziji* from SE *ziji*.

These problems not only arise for the simplex reflexive *ziji*, but also for the complex reflexives like *ta-ziji* in Chinese. According to R&R’s (1993) typology of reflexives, complex reflexives like *ta-ziji* should be classified as SELF anaphors. Although R&R’s theory can correctly predict the local binding of the complex reflexive *ta-ziji* in (21), it fails to do so in (22) because their theory is not only too weak, as discussed above, but also too strong. Their Condition A would wrongly rule out the well-formed sentences in (22).

(21) Johni renwei Bill j xihuan *ta-ziji*_i/*j.

John think Bill like himself

‘John thinks that Bill likes himself*i/j.’

(22) a. Johni de jiaoao hai-le *ta-ziji*.

John DE pride hurt-ASP himself

‘John’s pride hurt him.’

b. John i shuo [zhejianshi] j hai-le *ta-ziji*_i/*j.

John say this-matter hurt-ASP himself

‘John said that this matter hurt him.’
R&R’s theory would predict that, when occupying an argument position, complex reflexives, being a SELF anaphor, cannot be LD bound, which contradicts with the fact that complex reflexives like ta-ziji in argument positions can be LD bound, as shown in (22) and noted in Pan (1998). Although the complex reflexive ta-ziji can reflexive-mark the predicates in (22a) and (22b), respectively, both sentences should be ungrammatical, according to R&R, since the reflexive-marked predicates in (22a) and (22b) are not reflexive due to the fact that the co-arguments of verb hai ‘hurt’ are not co-indexed, thus violating R&R’s Condition A. Notice that one cannot account for the LD binding possibility in (22) by claiming that the occurrences of ta-ziji there are logophoric, as they are not contrastive and occupy an argument position.

Besides, sentences like (22b) also present a problem for R&R’s A-chain Condition. One property of the A-chain Condition is that the A-chain domain of a given NP is a subset of the binding domain of this NP, and there should be no barrier between any two of the links in the A-chain. Hence, the A-chain for the reflexive in (23) should be confined to the embedded clause:

(23) Johni thinks [CP that hei likes himselfi].

In (23) even though the embedded subject he bears the same index as the matrix subject John, it does not form an A-chain with it since they are in different binding domains. The same analysis can be applied to the following Chinese sentence:

(24) Johni renwei [CP ta i xihuan ta-ziji].
John think he like himself

‘John thinks that he likes himself.’

In (24), the embedded subject *ta* ‘he’ also does not form an A-chain with the matrix subject *John*. If it formed an A-chain with *John*, the A-chain condition would be violated since the relevant A-chain would contain two [+R] elements. These facts indicate that in Chinese, CP is a barrier for A-chain formation. However, if it is really the case that in Chinese an A-chain can only be formed within the CP domain, the following sentence, repeated from (22b), should be ruled out as ungrammatical, according to R&R’s A-chain Condition.

(25) John shuo [CP zhejianshi hai-le ta-ziji].

   John say this-matter hurt-ASP himself

   ‘John said that this matter hurt him.’

In (25) *ta-ziji* does not form an A-chain with the matrix subject because they are separated by a CP barrier. However, if the A-chain domain of *ta-ziji* is restricted to the embedded CP, it will not have a [+R] element in its A-chain, and should thus be ruled out as ungrammatical by the Chain Condition. Obviously, (25) is grammatical. If we extend the A-chain domain of *ta-ziji* to the whole sentence, the A-chain Condition will be satisfied in (25), but (24) will be wrongly ruled out since its A-chain contains two [+R] elements. Note that *ta-ziji* in (25) occupies an argument position and is not in focus, and thus it is not a logophor, according to R&R’s theory. In fact, (25) will be wrongly ruled out twice under R&R’s analysis, as it is also ruled out by Condition A: although *ta-ziji*, a SELF anaphor, reflexive-marks
the predicate, the predicate in the embedded clause is not reflexive, as the co-arguments of the predicate in question are not coindexed. Although one may change the barrier definition for Chinese ta-ziji by stipulating that a barrier is a CP with a human subject to account for sentences like (25), this change will cause problems when we consider the cases involving ziji, e.g. (19). In (19) the embedded clause will be considered as a barrier for chain formation, and this would predict that ziji cannot form an A-chain with the matrix subject, and thus cannot have the matrix subject as its antecedent, a wrong prediction.

Finally, R&R’s two-way classification of reflexives fails to differentiate the three bare reflexives in Chinese: ziji, benren ‘self’, and benshen ‘self’, as discussed in Pan (1997). If we apply R&R’s typology of reflexives to these reflexives in Chinese, they should all be classified as SE anaphors, as they do not have systematic variation in terms of number, gender, or Case. However, as discussed in Pan (1995, 1997), these bare reflexives exhibit different properties. For instance, the bare reflexive benren, different from ziji, cannot refer to any c-commanding subject when occupying an object position, as illustrated below:

(26) Johni renwei Bill j kanbuqi benren\textasciitilde{i\mid j}.  

John think Bill contemplate self

‘John thinks that Bill contemplates me.’

Although benren in (26) can refer to neither the local subject nor the matrix subject and can only refer to the speaker, it can, nevertheless, be used anaphorically, as illustrated below (Pan 1997: 187-188):
(27) a. Ta, shi wo de tongshi, jiating chushen buxiang, benren, chengfen

He be I DE classmate family background unknown self class-status
xuesheng.

student

‘He is my colleague. His family background is not clear. His own class
status is student.’

b. Nashuiren, chu benren, mianshui’e wai hai keyi xiangshou

Tax-payer except self exempt-amount out also can enjoy
beifuyangren de mianshui’e.

foster-child DE exempt-amount

‘Besides the exempt amount of their own, tax payers can also enjoy the
exempt amount for the foster child.’

In (27a) benren has an antecedent across a clause boundary, and in (27b) benren occurs in an adjunct phrase, and has the local subject as its antecedent. Note that, although benren cannot be replaced by ziji in (27a), it can in (27b). If we follow R&R’s analysis and simply group benren and ziji into the same type, i.e., the SE anaphor type, their different properties will be left unaccounted for.

In a recent paper, Reuland (2001) recasts some of the ideas in R&R (1993) in the Minimalist terms. Since he still maintains that only complex reflexives can license reflexivization, the question why (18) is grammatical is still left unanswered. According to Reuland (2001), the bare reflexive ziji and subject in (18) should form a CHAIN which functions as the only argument of the predicate. Hence, (18) should be ruled out since there is a conflict between the arity of xihuan ‘like’ which is a two-place verb and the fact that the CHAIN makes it a one-place
predicate. However, (18) is grammatical, which casts serious doubt on Reuland’s (2001) analysis. Note that, although it is possible to analyze the Chinese bare reflexive *ziji* as a complex reflexive with an empty pronoun *pro-ziji*, similar to *ta-ziji*, in Reuland (2001), this analysis will not recognize the differences between *ziji* and *ta-ziji* and thus leave them unaccounted for. Another problem with Reuland (2001) is that English reflexives like *himself* have to be treated as simplex reflexives incapable of bearing an independent theta role when they are associated with inherently reflexive-marked verbs as in ‘*John behave himself*’, but as complex reflexives capable of bearing an independent theta role when associated with verbs that are not inherently reflexive-marked as in ‘*John likes himself*’. Since simplex reflexives have different structures from complex reflexives under Reuland’s analysis, it is unknown how English reflexives should be structurally represented when they are associated with these two kinds of verbs.

### 1.3.2 Problems with Lidz’s Condition R

The recent extension to R&R’s theory by Lidz (2001a, 2001b), who makes a distinction between Pure-reflexives and Near-reflexives, will not work for Chinese, either. Lidz (2001a, 2001b) distinguishes syntactically reflexive-marked predicates from lexically and morphologically reflexive-marked predicates, as pointed in section 1.2. He argues that syntactically reflexive-marked anaphors are Near-reflexives, and lexically/morphologically reflexive-marked anaphors are Pure-reflexives. Specifically, any anaphor that can be locally bound in the absence of lexical reflexivity introduces the Near-reflexive function.

According to Lidz (2001a, 2001b), the simplex reflexive *ziji* in Chinese is a
Near-reflexive since it can be locally bound by its co-argument in the absence of lexical reflexivity. Therefore, in the following sentence, *ziji* can either refer to *John* or his statue:

(28) John ba ziji qianbi le

John BA self shoot ASP

‘John shot himself (=statue or John).’

According to Lidz, (28) can be uttered in a situation in which *John* goes into a wax museum where he finds a statue depicting himself, and he gets enraged at seeing this statue. Under this situation, (28) can be uttered to mean either that John shot himself or the statue, according to Lidz. This is interesting, but not true. I have consulted many native speakers, and none of them thinks that (28) can mean that John shot the statue. If one wants to have the relevant reading, *ta-ziji* has to be used instead of *ziji*.

There are cases where *ziji* can indeed refer to the statue, though this is usually limited to situations in which the relevant sentences are spoken humorously. Suppose that Queen Elizabeth II and *John* are in front of the wax figure of Queen Elizabeth II. The Queen finds that there is something wrong with the nose of the wax figure, and she raises her fingers to touch the nose, but when she touches the nose, the nose suddenly falls off. Under this context, *John* may say the sentence below with humor, and in this case, *ziji* can refer to the statue.

(29) Nüwang, ni, zenme ba ziji, de bizi nong diao le.

Queen you why BA self De nose make off ASP
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Lit. ‘Queen, why did you make your nose come off?’

Although *ziji* in (29) can get the Near-reflexive reading, it should be pointed out that *ziji* is different from *ta-ziji* in obtaining the Near-reflexive reading. It is easy for *ta-ziji* to get the non-identity (Pan 1997) or Near-reflexive reading, but difficult for *ziji* to get the same kind of reading. In fact, only when used humorously can *ziji* get the Near-reflexive reading. According to the native speakers’ judgement, if used in some humorous situation, even the Chinese reflexive forms such as *pronoun-benren* (pronoun-self) and *ziji-benshen* (self-body) that clearly point to the real self in lexical meaning can have a Near-reflexive reading. Suppose that Queen Elizabeth II and *John* are in front of the wax figure of Queen Elizabeth II. The Queen dislikes the wax figure depicting herself so that she kicks the wax figure several times. As a result, one of the legs of the wax figure gets broken. In this situation, *John* may say the sentence below to the Queen with humor, with *benren* and *zishen*—an abbreviated form of *ziji-benshen*—referring to the statue:

(30) Nüwangı, ni nong duan de ke shi ni-benren/zishen, de

Queen you make broken DE just is you-self self DE

yu tui a.

jade-like leg SFP

Lit. ‘Queen! What you have broken is just your own jade-like leg.’

However, there are other situations in which *ta-benren* and *zishen* cannot get the Near-reflexive reading even when these reflexives are used humorously. For instance, in (31) neither *ta-benren* nor *zishen* can refer to the duplicated self, even
when they are used humorously.

(31) John, kanbuqi  ta-benren/zishen,.
   John contemplate  he-self   self
   ‘John contemplates himself.’

Besides, (31) poses another problem for Lidz’s Condition R since it predicts that, if a predicate is semantically reflexive, it must be lexically reflexive. In (31), although the reflexives are semantically reflexive, as they only allow the identity reading, namely the Pure-reflexive reading, they are not lexically reflexive. I think that the difference between (30) and (31) in reflexive interpretation lies in the semantics of the verb in question. For certain verbs expressing the meaning of physical evaporation and psychological process, it is difficult for the reflexives selected by them to get the Near-reflexive reading.

Hence, I think that there is a fundamental distinction between \textit{ta-ziji} and \textit{ziji} in referring to the duplicated self. \textit{Ta-ziji} can directly refer to the duplicated self because it does not require identity whereas \textit{ziji} can refer to the duplicated self only under some special situation because it requires identity (Pan 1997). I argue that the identity-requiring reflexives like \textit{ziji} can get the Near-reflexive reading in sentences like (29) only when there is a metaphorical process that can project the real person and the wax figure into a possible world where the wax figure is personified so that both the real person and the personified wax figure share the same identity.

Now, we can see that some special conditions must be satisfied in order for \textit{ziji} and other identity-requiring reflexives to obtain the Near-reflexive reading. Lidz fails to account for these differences between \textit{ta-ziji} and identity-requiring
reflexives like *ziji* in their referential possibilities and constraints. Furthermore, Lidz’s criterion for identifying *ziji* as Near-reflexive is also inappropriate. According to Lidz (2001b), only a sloppy interpretation is allowed in a Pure-reflexive sentence under Comparative Deletion in Dutch and Kannada, whereas both the strict and sloppy interpretations are allowed in Near-reflexive sentences. Lidz claims that, since *ziji* allows both a strict and sloppy interpretation in (32) under Comparative Deletion, it should be a Near-reflexive.

(32) Zhangsan bi Lisi wei ziji bianhu de hao.

Zhansan than Lisi for self defend DE well

‘Zhangsan defended himself better than Lisi defended himself.’

‘Zhangsan defended himself better than Lisi defended him.’

There are two points that should be made clear here. First, (32) is not an acceptable comparative sentence in Mandarin Chinese. An acceptable comparative sentence expressing the meaning of (32) in Mandarin Chinese should be something like (33), but (33) does not allow the sloppy reading, as indicated below.

(33) Zhangsan wei ziji bianhu bi Lisi bianhu de hao.

Zhansan for self defend than Lisi defend DE well

*‘Zhangsan defended himself better than Lisi defended himself.’

‘Zhangsan defended himself better than Lisi defended him.’

Note that (33) is different from (32) in that *ziji* in (32) is c-commanded by both Zhangsan and Lisi in the comparative construction, whereas *ziji* in (33) is
c-commanded only by *Zhangsan*, which may be the reason that in (32) *ziji* can refer to both NPs, whereas in (33) it can only refer to *Zhangsan*. Second, although sentences like (33) are still compatible with the Near-reflexive interpretation of *ziji* according to Lidz’s criterion, I think that the fact that a sentence allows both the strict and sloppy interpretations cannot prove that a reflexive is a Near-reflexive. If we make a similar awkward sentence like (32) in which *ziji* is replaced by *ta-benren*, *ta-benren* will also allow the strict and sloppy interpretations, but note that *ta-benren* can never be used as a Near-reflexive in such a neutral context.

(34) ?*Zhangsan bi Lisi wei ta-benren bianhu de hao.*

'Zhangsan than Lisi for he-self defend DE well'

'Zhangsan defended himself better than Lisi defended himself.’ (sloppy reading)

'Zhangsan defended himself better than Lisi defended him.’ (strict reading)

The above fact shows that, even if the strict/sloppy interpretation test under Comparative Deletion works in Dutch and Kannada, it does not work in Chinese since it would wrongly classify a Pure-reflexive as a Near-reflexive.

The above discussion shows clearly that Lidz’s extension to the predicate-based theory of reflexives is also both too strong and too weak when applied to Chinese reflexives. It is too strong since it would wrongly rule out the licit sentences like (31) in which a semantically reflexive predicate is not lexically/morphologically reflexive, thus violating Lidz’s Condition R. It is also too weak since it would wrongly rule in the impossible and thus illicit Near-reflexive reading of reflexives in (28), (31) and (34).
1.4 The Missing Type

Anagnostopoulou and Everaert (henceforth A&E) (1999) note that in R&R’s typology of reflexives a fourth type, characterized as [+SELF, +R], is predicted but not attested in natural language. According to A&E (1999), there is a theory-internal reason why the missing type is not attested, which follows from the interaction between R&R’s Binding Conditions A and B and their Chain Condition. Specifically, if a predicate is reflexive-marked by a SELF anaphor, the co-arguments of the predicate must be coindexed, according to R&R. When the co-arguments of the predicate are coindexed, the A-chain formed from this coindexation must obey the A-chain Condition, which excludes the occurrence of an element with the feature [+R] in the tail of the chain. This is why anaphors with the feature [+SELF, +R] are missing in R&R’s typology. Nevertheless, A&E argue that anaphors with the feature [+SELF, +R] can still occur in natural language if they do not enter into chain formation. According to A&E, the Greek o e aftos tu is such an anaphor which consists of the definite determiner o ‘the’, the head noun e aftos ‘self’, and the possessive pronoun tu ‘his’. Consider the following sentence taken from A&E (1999: 105):

(35) [O Petros]i agapai [ton e afto, tu j].

The Petros(Ν) loves the self(Α) his(Г)

‘Petros loves himself.’

In (35) the two coindexed elements are the subject of the predicate and the
possessor inside the object DP, a complex anaphor. Since the two coindexed elements occur in two different governing categories, they do not form an A-chain. Note that, although in (35) the SELF anaphor that reflexive-marks the predicate is not coindexed with its co-argument, the sentence is not ungrammatical. A&E argue that (35) is grammatical because an abstract incorporation occurs in it, as illustrated below:

(36) [O Petros], eafto-agapai [ton t1, tu1].

In (36) the noun and the verb form a complex predicate, and as a result of this noun-verb incorporation, the possessor is “promoted” to the status of an argument of the complex predicate, and thus the possessor and the subject become co-arguments, satisfying R&R’s Binding Condition A. Notice that A&E seem to suggest that the head noun eafto, by incorporating to the verb, reflexive-marks the predicate, and the coindexation of the promoted possessive pronoun and the subject makes the predicate reflexive. Hence, no violation of Condition A or Condition B. The crucial point is that the reflexive marker need not share the same index with the subject or object.

At the first sight, it seems that the incorporation analysis solves the problem that a [+SELF, +R] anaphor might pose for R&R’s theory, and can adequately explain why the missing type can exist in natural language. However, after closer examination, I find that A&E’s incorporation analysis is, in fact, implausible since it has its own problems that cannot be resolved. The first problem is that they fail to explain why the reflexive-marker can be counter-indexed with the subject of the predicate. According to the standard analysis, as assumed in Cole, Hermon and
Sung (1990), and Cole and Wang (1996), if a reflexive is adjoined to the predicate by head movement, it will be coindexed with the subject via Spec-Head agreement. However, in (36) the reflexive is counter-indexed with the subject. How is this possible? Note that Fox (1993) has already pointed out that if a reflexive marker does not need to participate in reflexive binding, nothing can block the derivation of illicit sentences like ‘You showed myself to yourself’ or ‘Jani showed myself to SEi (Dutch)’. In these sentences, the predicates are reflexive since their two arguments are coindexed, and the predicates are also reflexive-marked by a third argument, namely myself. This may be the reason why R&R (1993: 662) relativize their Conditions A and B to an index in order to exclude such illicit structures in their system. They stipulate that an i-reflexive marked syntactic predicate must be i-reflexive, and an i-reflexive semantic predicate must be i-reflexive marked. Hence, what is assumed in A&E is just what is banned by the analysis of R&R, since it will produce wrong results.

Another problem with A&E’s analysis of (36) is that it runs against the attested case of incorporation in Chinese that the possessive pronoun must be counter-indexed with its co-argument, i.e. the subject of the sentence, when incorporation occurs and the possessive pronoun is promoted to the argument position.

(37) Johni zai sheng tade*i/j qi.

\[
\text{at grow his anger}
\]

‘John is being angry at him.’

In (37) qi ‘anger’ is incorporated into the verb sheng ‘grow’ to form a verb-noun
compound *shenqi* ‘be angry at’ and the possessive pronoun is promoted to the argument position and functions as the object of the compound *sheng-qi*. In this case, the possessive pronoun must be counter-indexed with the subject. If incorporation does not occur and the possessive pronoun is not promoted to the argument position, the possessive pronoun can be coindexed with the subject of the sentence because they are not co-arguments, as demonstrated below:

(38) Johni zai kan tadeij shu.

    at read his    book

‘John is reading his book.’

Hence, I think that it is impossible for the possessive pronoun to be coindexed with the subject in (36) when it is promoted to the argument position since such a coindexation will violate the standard Binding Condition B, as we have a pronoun bound in its local domain. Note that there is no evidence to show that the possessive pronoun in (36) can change its status and become an anaphor when it is promoted to the argument position, and I think that such a status changing process should generally be prohibited. Since the possessive pronoun cannot be coindexed with its co-argument if it is promoted to the argument position, I think that such a promotion process as indicated in (36) is impossible.

Besides, there is a potential conflict in A&E’s treatment of *eaftos*. On the one hand, they say that the noun-verb incorporation is possible in (36) because *eaftos* is a semantically defective noun, and it is the semantic defectiveness of *eaftos* that triggers the abstract incorporation. On the other hand, they classify it as referential. The question is: can semantic defectiveness coexist with referentiality? A&E do not
define clearly what semantic defectiveness means, but it seems that they take particles and idiomatic nouns/adjectives as semantic defective elements, as indicated in their note 12. However, if *eaftos* is grouped with these semantic defective idiomatic nouns/adjectives, they are not referential in the normal sense. Hence, it should not be classified as referential. Notice that this is a general problem in R&R’s definition of the R properties. According to R&R (1993), an element is defined as an R element if it has a full specification of phi-features and structural Case. Phi-features are grouped into classes, which include person, number, and gender. An element will be defined as a [-R] element if it lacks consistent contrast in phi-features and structural Case. Under this analysis, the referential dependence of anaphors does not necessarily mean that it cannot refer independently, but means that it lacks contrast in phi-features and Case. If we follow R&R’s definition, we would find it difficult to classify elements which are fully specified for phi-features and Case but are semantically defective. The Greek *eaftos* is such an element. A&E adopt R&R’s definition of R, and conclude that *eaftos* in Greek is an R element since it is marked for gender, and fully inflected for number and case. But, if *eaftos* is defined as an R element, how can we account for its semantic defectiveness? Obviously this way of defining referential independence does not work for Chinese reflexives. Simplex reflexives like *ziji, benren, benshen* and *zishen* do not exhibit any contrast in phi-features or Case, and complex reflexives like *ta-ziji* exhibit a contrast only in person and number, but not in gender or case. If we use R&R’s criteria to classify these reflexives, two possibilities will arise: (i) all the simplex reflexives are classified as [-R] elements, but the complex reflexives like *ta-ziji* are classified as [+R] since they exhibit contrast in person and number; and (ii) all of them are classified as [-R] elements
since, although the complex reflexives show contrast in person and number, they
do not show such a contrast in gender or case, and hence, they do not exhibit a full
contrast in phi-features. But, note if we apply R&R’s criteria to the pronouns in
Chinese, they should also be classified as [-R] elements since, although pronouns
in Chinese exhibit a contrast in person and number, they do not exhibit a contrast in
gender or case, thus showing no full contrast in phi-features. Clearly, there is a
problem in R&R’s phi-feature based definition of R, as Chinese third person
singular pronoun *ta* can apparently be used independently.

I think that if an element is an R element, it should be able to refer
independently. That is, it can be used deictically and need not be dependent on an
antecedent for its interpretation within the sentence domain. In this case, our
definition of R is consistent with Chomsky’s (1981) definition of pronouns and
names in the sense that they need not be bound within their local domain. If we
define referential independence as the ability to refer independently, the Chinese
reflexive *pronoun-benren* ‘pronoun-self’ can be characterized as a [+SELF, +R]
element. For instance, the compound form *ta-benren* ‘he-self’ given in (31),
repeated as (39), can refer independently, besides being bound to the co-argument
of its own predicate. It can refer to some NP other than the local subject, for
example, some person under discussion or mentioned in the previous discourse,
besides being anaphoric to the local subject.

(39) John, kanbuqi ta-benren$^\alpha_j$.  

John contemplates himself

‘John contemplates himself.’
Sentences like (39) indicate that *ta-benren* is really a [+SELF, +R] anaphor, which cannot be explained away by the incorporation analysis. First, if the bare reflexive *benren* ‘self’ is incorporated into the predicate, it will reflexive-mark the predicate. Otherwise, such an incorporation process is unmotivated. However, *benren* by itself is not qualified as a reflexive-marker since it must obviate its co-argument in reference, cf. (26). Second, *benren*, different from the Greek anaphor *eaftos*, is not semantically defective, and is thus not allowed to be incorporated into the verb.

### 1.5 Further Discussion: Complex Predicates and Reflexive-Marking

In this section we will see if it is possible to solve the problems presented by Chinese reflexives while still maintaining R&R’s (1993) basic assumption that binding is a process of reflexive-marking of the predicate. It seems that the above problem can be possibly solved if we assume that different clauses in a Chinese sentence can optionally form a complex predicate. We may assume that complex predicate formation is constrained by the finiteness of clauses. Different finite clauses cannot be absorbed into one predicate whereas different nonfinite clauses can. We may further assume that complex predicate formation is sensitive only to predicates which exhibit overt morphological marking of finiteness. Given that Chinese does not have overt morphological marking of finiteness or nonfiniteness (cf. Hu, Pan & Xu 2001), it is conceptually possible that complex predicate formation in Chinese is not constrained by the above finiteness condition. Hence, Chinese exercises more freedom in forming a complex predicate than those languages which exhibit overt morphological marking of finiteness. If this is true, then in (40) we may treat *renwei Bill xihuan* ‘thinks that Bill likes’ as a complex
predicate which takes two arguments: the matrix subject and the reflexive. Under this kind of analysis, *ziji* is treated as a SELF anaphor instead of a SE anaphor. Since complex predicate formation is optional in Chinese, both local and non-local binding of *ziji* in (40) can be accounted for.

(40) John, renwei Bill, xihuan zijij.

John think Bill like self

‘John thinks that Bill likes him/himself.’

Although the complex predicate account can explain why *ziji* can be both locally and non-locally bound when occupying an argument position, it cannot explain the binding properties of the following sentences:

(41) John, zhidao wo, bu xihuan zijij.

John know I not like self

‘John knows that I do not like him/myself.’

(42) Wo, zhidao John, bu xihuan zijij.

I know John not like self

‘I know that John does not like himself/me.’

(43) a. John, de jiaoao hai-le (ta-)ziji.

John DE pride hurt-ASP himself

‘John’s pride hurt him.’

b. John, shuo [zhejianshi] hai-le (ta-)ziji.

John say this-matter hurt-ASP himself

‘John said that this matter hurt him.’
In (41) *ziji* cannot be bound by the matrix subject, and it is unclear why the embedded clause and the matrix predicate cannot form a complex predicate when the subject of the embedded clause is a pronoun of different phi-features. We may assume that complex predicates must be formed of clauses with subjects of the same phi-features. However, even if this is possible, it cannot explain why the reflexive can be bound by the matrix subject in (42), though the subject of the embedded clause has different phi-features from the matrix subject. Another problem with the hypothetical analysis is that it still cannot explain why the sentences in (43) are grammatical though bluntly violating Binding Condition A, given that both *ta-ziji* and *ziji* are SELF anaphors and must obey Binding Condition A. (44) further shows that the complex predicate analysis might not be valid since in (44) the reflexive cannot be bound by the matrix subject, though the complex predicate analysis assumes that it can.

From the discussion of the above sections we can see that the predicate-based binding theory, as proposed by R&R and Lidz, and their relevant typology of reflexives cannot adequately characterize the properties of reflexives in Chinese, when extended to Chinese. It seems that reflexives in natural language are not of a homogeneous class and thus cannot be adequately characterized simply by the two properties given in R&R (1993), i.e. the property Reflexivizing function and the property \( R \) (referential independence). Although the reflexives in natural language
may have one of these two properties, they also have other properties that cannot be covered by these two properties. I think that the predicate-based binding theory need be further improved if it is intended to be a general theory of reflexives in Universal Grammar, and no typology of reflexives can present a complete picture of reflexives in Universal Grammar if Chinese reflexives are not adequately covered and accounted for.

2. Characterizing Reflexives in Chinese: Deriving Referential Dependency and Reflexivity from Primitive Features

Chomsky (1981) uses two binary features, [±anaphor] and [±pronominal], to characterize the properties of nominal expressions. R&R (1993) use [±Reflexivizing function] and [±R(eferntial independence)] to characterize the properties of anaphoric expressions. Although their feature characterization of anaphoric expressions is quite useful in establishing a preliminary typology of anaphoric expressions across languages, it fails to capture the binding properties of anaphoric expressions in Chinese. Simply making a distinction among nominal expressions with features like [±anaphor, ±pronominal], besides failing to predict the long-distance (LD) binding property of the Chinese bare reflexive *ziji*, has nothing to say about the blocking effect exhibited by *ziji*. I have shown that R&R’s (1993) feature characterization of anaphoric expressions also fails in this aspect. Besides failing to explain why and when *ziji* would exhibit the blocking effect, their characterization also cannot predict the varieties of anaphoric expressions in Chinese. Moreover, their feature characterization of anaphoric expressions is not primitive enough, and thus fails to answer the question what properties of nominal
expressions make themselves anaphors or pronominals, and why some reflexives are reflexivizers while some are not. In the following discussion, I will give my own feature characterization of Chinese anaphoric expressions and show that some of the binding properties of Chinese anaphoric expressions can be derived from it.

If we view nominal expressions in general, we can make a first distinction between them with the binary feature [±dependency]. It is well-known that reflexives are referentially dependent, but r-expressions and pronouns are not. Assuming that it is true that nominal expressions in natural language can be classified by the feature [±dependency], the next question to ask is why some expressions are referentially dependent but some are not. It seems that there must be some syntactic primitives that are responsible for [±dependency]. In accounting for the difference in referential behaviour between the bare reflexive and the compound reflexive in Chinese, Huang and Tang (1991) point out that the bare reflexive is more ‘anaphoric’ than the compound reflexive in the sense that it has neither references nor phi-features. It is a ‘double anaphor’ since it needs to obtain not only phi-features but also references from its antecedent. This view is very insightful since it does reveal the crucial difference between the bare reflexive and the compound reflexive. Obviously, it is less ad hoc to tie the referential behavior of the reflexives to their primitive properties. In later discussion, I will further develop this feature-driven account of reflexives and show that the blocking effect of the Chinese bare reflexive can in effect be derived from it.

If we characterize the anaphoric expressions in Chinese with these more primitive features, [±phi-features] (henceforth [±phi]) and [±reference] (henceforth [±ref]), we can obtain the following result:
The above feature characterization shows that pronouns have phi-features and referential features. According to Huang and Tang (1991: 274), all NPs, except quantifiers, have both inherent phi-features and inherent referential features. A pronoun has inherent phi-features, and may have independent reference or obtain reference from its antecedent. If lacking either phi-features or reference can result in the dependency property of the nominal elements, then it is reasonable to analyze the bare reflexive *ziji* as a ‘double anaphor’. Since the Chinese compound reflexive lacks only a referential feature, it can be assumed that whenever it obtains this feature from a proper antecedent (I will explain later what a proper antecedent is), it will not continue its antecedent searching process since further searching is unmotivated. If this is true, then the relative local nature of the compound reflexive binding may result from the fact that it lacks only one feature. As for the bare reflexive, it is possible that there are two searching processes involved: one for phi-features and the other for the referential features. I will soon show that this is the case.

Another question related to the above feature characterization is whether reflexivity can be derived from it. At first sight, it seems that reflexivity could be derived from the lack of reference. But in fact this is not true. Consider the empty pronominals in Chinese. According to Chomsky (1981: 20, 60, 322), PRO has
phi-features such as person, number, and gender, but lacks inherent reference. Chomsky (1981: 65) claims that the overt pronoun is free in reference, but PRO is not since its reference is determined by its co-indexed antecedent, and PRO has to be interpreted under control. Let us simply follow Chomsky’s assumption without further argument that PRO has phi-features, but lacks reference. Huang (1991) suggests that both PRO and pro fall under the same category Pro. Following Huang, I simply label both PRO and pro as Pro. Although I do not make a distinction between PRO and pro, I still maintain the distinction between the obligatorily controlled Pro and the optionally controlled Pro. I claim that only the former has no reference. As for the latter, it can be either optionally controlled if it has an antecedent within the sentence, or used deictically when referring to a non-linguistic antecedent, as claimed by M.-D. Cole (2000). When Pro is used deictically, it has reference. If we use the above feature matrix to characterize the controlled Pro and the uncontrolled Pro, the former should be characterized as [+phi, -ref] ([phi] means phi-feature, and [ref] means referential feature), and the latter should be characterized as [+phi, +ref]. Now, consider the following sentences:

(46) a. Lisi, dasuan [Pro, mingtian lai].
   Lisi plan       tomorrow come
   ‘Lisi plans to come tomorrow.’

b. Lisi, shuo Pro_{ij} mingtian lai.
   Lisi say       tomorrow come
   ‘Lisi said that he will come tomorrow.’

c. Lisi, pa laoshi_{j} hui piping Pro_{i/j/k}. 
Lisi afraid teacher will criticize

‘Lisi is afraid that the teacher will criticize him.’

In (46a) Pro has no reference before entering a dependency relation with an antecedent since it is an obligatorily controlled Pro. The Pro’s in (46b) and (46c) are optionally controlled. In (46b), pro can depend on either the matrix subject or a sentence external antecedent for these referential features. (46c) shows that, although Pro can be identified by either the matrix subject or a sentence external antecedent, it cannot depend on its co-argument for reference. This fact demonstrates that in this aspect, Pro exhibits different binding properties from reflexives, though Pro is sometimes termed as the “zero anaphor” in the literature. I claim that the distinction between reflexives and Pro, be it obligatorily controlled or optionally controlled, does not lie in whether they have the relevant dependency features, i.e., the referential feature or the phi-feature, but in whether they have the SELF feature. I will show that a distinction must be made between dependency and reflexivity as this distinction is necessary for an adequate characterization of anaphoric expressions. I argue that reflexivity requires the presence of the SELF feature, though dependency does not necessarily needs it. I think that SELF can be best understood when it is set in contrast with OTHER. Hence, [+SELF] means [-OTHER]. But it should be pointed out that [-OTHER] does not necessarily mean [+SELF], as will be shown soon. In Safir (1996), OTHER is a semantic primitive, but SELF is not. Safir makes a distinction between SELF and SAME, and points out that in Germanic languages, the SELF morpheme is used to form reflexives, while in Romance languages, it is the SAME morpheme, for instance, *même* ‘same’ in *lui-même* ‘himself’ in French, that is used. He further claims that, although both
of them participate in identity relations, they differ in the sense that the former can be used to denote an individual, whereas the latter cannot. Since SAME is irrelevant to the definition of Chinese reflexives, we will not discuss it here. Under Safir’s (1996) analysis, SELF is an instance of MET applied to the body part self.

The following is Safir’s definition of MET (1996: 548):

(47) MET is a two-place metonymic identity relation parasitic on the argument of BODYPART, whereby the part argument stands for or is identified with an unsaturated whole argument.

BODYPART is defined as below (Safir 1996: 549):

(48) BODYPART is a two-place relation between a part and the whole inalienably associated with it. The argument corresponding to the whole may be unsaturated. The body part in question inherently saturated the part argument.

Under Safir’s analysis, the anaphoric SELF is a metonymic anaphor, which represents a part of an individual as being identical to the whole of that individual, with the result that the atom SELF is used as a two-place identity relation. Safir treats the second argument of SELF as \textit{self}, which corresponds to the ‘part’ argument. Hence, according to Safir, the sentence \textit{John loves himself} would mean that John loves the part of him that is his ‘self’, as shown below:

(49) a. John loves himself.

b. John, loves [x, SELF]
According to Safir, the interpretation of (49b) is that *John* loves the *x* represented by *self* and MET requires that *self* stands for whatever is the antecedent of *x*, namely *John*. As a result, the reflexive reading for *love* mediated by MET is derived. Haiman (1985, 1995) also argues that ‘self’ is an instantiation of the body, and he claims that the use of reflexives suggests a (subject)mind-(object)body dualism. If we take into consideration Chinese contrastive reflexives *benren* ‘this person’ and *benshen* ‘this body’, we can see why their analyses are reasonable. If we adopt Safir’s (1996) analysis, then in the representation for *benren*, the second argument of SELF is realized as ‘person’, while in the representation for *benshen*, the second argument of SELF is realized as ‘body’. These facts show that Safir’s characterization of reflexives really can capture their semantic properties. However, this characterization, though plausible and insightful, fails to explain why *benren* and *benshen* cannot be used as a reflexivizer, but the bare reflexive *ziji* can. The only difference between *ziji* and *benren* and *benshen* is that in the representation for *ziji*, the second argument, i.e., the ‘part’ argument, is realized as ‘self’ rather than the person or body. This fact shows that in reflexivization what matters is not MET or BODYPART, but ‘self’ in Safir’s terms. Let us represent Safir’s ‘self’ as SELF. Note that SELF is different from the Self defined by Sells (1987). SELF can be understood literally as the SELF morpheme in reflexives (Note that Safir (1996) also occasionally uses SELF to mean the SELF morpheme). The crucial point is that SELF is used in contrast with OTHER.

If we include SELF and OTHER in anaphoric classification, we can characterize Chinese anaphoric expressions as below:
The Characterization of Chinese Anaphoric Expressions

<table>
<thead>
<tr>
<th>phi(-features)</th>
<th>ref(ERENCE)</th>
<th>SELF</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>uncontrolled Pro</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>controlled Pro</td>
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In Chomsky (1981), PRO, i.e., the controlled Pro, is characterized as [+pronominal, +anaphor]. Under the present analysis, its [+anaphor] feature is derived from its lack of reference, and its [+pronominal] feature is derived from the fact that it has a [+OTHER] feature, but lacks the [+SELF] feature. Ziji derives its dependency from its lack of both phi-features and referential features, and its reflexivity from the fact that it has a SELF feature, but lacks the OTHER feature. Compound reflexives like ta-ziji differ from ziji only in that it has phi-features. If dependency results from the lack of phi-features or referential features, it can be reasoned that lacking one of these features will result in the local dependency whereas lacking both of these features may result in LD dependency. This is exactly what is suggested in Huang and Tang (1991). Although lacking phi-features or referential features may result in dependency, a nominal expression cannot be used reflexively if it does not have the
SELF feature. It is the SELF feature that results in the co-reference of the co-arguments of a predicate. If this is true, then a plausible assumption is that if a nominal expression has the SELF feature, but lacks only one of the dependency features, i.e., either the phi-feature or the referential feature, it does not tend to be LD bound if it can obtain its reference locally. This assumption not only conforms to the Principle of Economy, but is also supported by the facts. It is well-known that the Chinese compound reflexive like *ta-ziji* prefers to be locally bound whenever possible. It can be LD bound only if it cannot find an ideal antecedent locally (See Pan 1995, 1997, 1998 for detailed discussion). Since we will discuss *ta-ziji* later, we will not go into the details of it here. Another Chinese reflexive that obeys a relatively restrictive locality condition is *ziji-benshen*. Yu (2000) notes that in the following sentence *ziji-benshen* can be bound to the embedded subject, but cannot be LD bound to the matrix subject across the embedded subject:

(51) Zhangsan, shuo [Lisi zi guanxin ziji-benshen*±i].
Zhangsan say Lisi only care self-self
‘Zhangsan said that Lisi only cared about himself.’
(Yu 2000: 51)

However, if the embedded subject is not a possible antecedent, LD binding of *ziji-benshen* to the matrix subject across the local one is possible, as shown below:

(52) Ta zhidao [zhe yinggai guai ziji-benshen].
he know this should blame self-self
'He knew that this should be blamed on him himself.'

(Yu 2000: 18)

As a first approximation, the present analysis can assume that the relative local nature of *ziji-benshen* is derived from the fact that it lacks only one kind of feature: the phi-feature. Whenever this feature is obtained from a prominent antecedent, its antecedent searching process will stop. In this aspect, *ziji* is different from *ta-ziji* or *ziji-benshen*. Since *ziji* lacks both the phi-feature and the referential feature, it needs two feature-searching processes: one for the phi-feature, and the other for the referential feature. Later on, I will show that the LD binding property of *ziji* can be derived from its lack of these two features.

*Benren* and *benshen* are two bare contrastive reflexives under Pan’s (1995, 1997) analysis. *Benren* means *this person*, and *benshen* means *this body*. Although these two contrastive reflexives do not have the SELF feature, they do not point to the OTHER. This shows that [-SELF] does not necessarily means [+OTHER]. Take *benren* for an example. Pan (1995, 1997) notes that, although *benren* usually refers to the speaker of the utterance or the author of the article, it can be used anaphorically, and have antecedents across clauses or sentences, as shown below:

(53) a. Ta shi wo de tongshi, jiating chushen buxiang, benren

   he be I DE colleague family background unknown self
   chengfen xuesheng.
   class-status student

   ‘He is my colleague. His family background is not clear. His own class status is student.’
b. Nashuiren, chu benren, mianshuie wai hai keyi xiangshou

Tax-payer except self exempt-amount out also can enjoy

beifuyangren de mianshuie.

foster-child DE exempt-amount

‘Besides the exempt amount of their own, tax payers can also enjoy the
exempt amount for the foster child.’

(Pan 1997: 188)

Pan (1995, 1997) further notes that benren cannot refer to any c-commanding NP, as exemplified below:

(54) John, gaosu Mark, Bill bu xihuan benren*i/*j/*k de zhaopian.

John tell Mark Bill not like self DE picture

‘John tells Mark that Bill does not like my picture.’

The anaphoric property of benren is expected under the present analysis since it can be derived from the [-OTHER] feature, but its anti-c-commanding property is unexpected. Note that lacking the SELF feature does not mean that it cannot refer to a c-commanding NP. Pronouns also lack the SELF feature, but they can refer to c-commanding NPs if the c-commanding NPs are not their co-arguments, as shown below.

(55) Zhangsan, shuo Lisi xihuan ta,

Zhangsan say Lisi like him
‘Zhangsan said that Lisi liked him.’

The anti-c-commanding property of *benren* must be derived from some other features. But none of the features given (50) can derive this property. Lasnik (1989) (see also Thráinsson 1991) has argued quite convincingly that the binary feature \([±r\text{-expression}]\) (henceforth, \([±R]\)) is needed in the characterization of the so-called pronominal epithets (*the bastard*, etc.) since, besides having some pronominal properties, it also has certain things in common with names (*John*, etc.). Assume that the feature \([±R]\) is really needed, as suggested by Lasnik (1989) and Thráinsson (1991). Then, the next question to ask is whether it is redundant to posit both a [ref] feature and an [R] feature in the present system, and whether these two features can be reduced to one. In fact, these two features are independently needed. The [ref] feature means ‘independent reference’, whereas the [R] feature means that the relevant element containing it is an R-expression. Thráinsson (1991) argues that both the independent reference feature and the [R] feature are needed in the classification of anaphoric expressions since, although an NP having the [R] feature may also have the [ref] feature, an NP having the [ref] feature may not have the [R] feature. For instance, a pronoun has the [ref] feature, but does not have the [R] feature. In Thráinsson’s typology of NPs, NPs are first classified by the \([±ref]\) feature, and then further classified by the \([±R]\) feature and other features. I think that NPs should be first classified by the feature \([±R]\), and then further classified by other features. In Chomsky’s (1981) typology of NPs, r-expressions are characterized as \([-\text{anaphor}, -\text{pronominal}]\). If Chomsky’s (1981) typology is adopted, then quantifiers and wh-expressions should also be classified as r-expressions with the feature \([-\text{anaphor}, -\text{pronominal}]\). However, it is well-known that quantifiers do
not have reference. And according to the standard analysis (e.g. Chomsky 1981), wh-expressions are also non-referring expressions since they do not pick up a specific individual or entity in a given domain of discourse. That is why they are often treated as quantifiers. If quantifiers and wh-expressions do not have reference, they should not be classified as r-expressions. Since they are also not anaphors or pronominals, they are not included in Chomsky’s typology of NPs. This shows that Chomsky’s typology may not cover all possible NPs in natural language. If we use the feature [±R] to make a first distinction between NPs, then names have the [+R] feature, and all other nominal expressions, including anaphors, pronominal, quantifiers, and wh-words, have the [-R] feature. Assuming that NPs can be further classified by [±SELF] and [±OTHER], and that [±ref] is relevant only to the [-R] NPs, but not to the [+R] NPs, then we can see the necessity of using both [±ref] and [±R] in our system. If this analysis is on the right track, we can reformulate our feature characterization of Chinese anaphoric expressions as below. In the following feature characterization, the [±phi] feature and the [±ref] feature apply only to the [-R] NPs, but not to the [+R] NPs.
(56) The Characterization of Chinese Anaphoric Expressions

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The above feature characterization can explain why *benren* cannot be bound to a c-commanding antecedent. This is because it has the feature [+R]. It is well attested that r-expressions always reject c-commanding antecedents. Notice that, as mentioned in our previous discussion, *benren* also has a [-OTHER] feature. That is
why it can be used anaphorically.

Pan (1995, 1997) notes that the compound contrastive reflexive \textit{ta-benren} can refer to a c-commanding antecedent, as shown below:

\begin{align*}
\text{(57) John, shuo Bill, kanbuqi \ ta-benren}_i/k/k.
\end{align*}

\begin{align*}
\text{John say Bill contemplate he-self}
\end{align*}

‘John says that Bill contemplates him/himself.’

According to Pan (1997), in (57) the preferred antecedent for \textit{ta-benren} is the matrix subject, and the less preferred one is the embedded subject. Note that in (57) \textit{ta-benren} can also refer to some sentence external antecedent. Under our analysis, \textit{ta-benren} does not prefer to be bound to its local subject because it is not a strong reflexivizer. It is not a strong reflexivizer due to its lack of a SELF feature, though it has a [-OTHER] feature. I think that only those nominal elements that have the [+SELF] feature can function as strong reflexivizers.

In (56), \textit{benshen} ‘this body’ has the same feature characterization as \textit{benren} ‘this person’. However, there is an important difference between \textit{benshen} and \textit{benren}. Pan (1997: 202) notes that \textit{benshen} differs from \textit{benren} in that it cannot be used as an agent, as shown below.

\begin{align*}
\text{(58) *John/Ta benshen da-le Bill yixia’r.}
\end{align*}

\begin{align*}
\text{John/He self hit-ASP Bill once}
\end{align*}

‘John/He himself hit Bill once.’

Although this property of \textit{benshen} is not predicted by the above feature
characterization, it can be worked out independently from its lexical meaning. Since the lexical meaning of *benshen* is *this body*, and what it refers to is the *body* rather than the *person*, it does not seem to have a strong animacy feature. Assuming that agentivity requires the relevant element to be ranked high in the animacy hierarchy or have a strong animacy feature, the reason why *benshen* cannot be used as an agent is explained.

Note that the above feature characterization of anaphoric expressions can also be used to characterize the SELF-anaphor and the SE-anaphor defined by R&R (1993). Both the SELF-anaphor like *himself* in English and the SELF-anaphor like *zichzelf* in Dutch have the features [+SELF, -OTHER, -R]. Their difference lies in that the former is specified as [+phi, -ref], whereas the latter, just like *ziji-benshen* in Chinese, is specified as [-phi, +ref]. The reason why *zichzelf* has a [+ref] feature is because the reference of *zelf* in *zichzelf* is defined by *zich*, and thus points to the self of *zich*. Since *himself* and *zichzelf* both have the [+SELF] feature but only lack one of the dependency features (i.e., they lack either phi-feature or the referential feature), they are predicted to be reflexivizers. The features that the SE-anaphor has must be [-SELF, -OTHER, -R] and [-phi, -ref]. The SE-anaphor cannot be a reflexivizer because it does not have the [+SELF] feature.

### 3. The Chinese Bare Reflexive

The Chinese bare reflexive *ziji* has attracted the attention of many theoretical linguists not only because it can access an NP outside its Governing Category (GC), and thus demonstrates some peculiar properties that is not captured by Chomsky’s (1981) Binding Condition A (BCA), but also because it exhibits the blocking effect,
and the blocking effect is asymmetrical, as shown in Pan (1995, 1997, 2001). To account for the peculiar properties of Chinese reflexives, different linguists have proposed different analyses which can be divided into two general lines of inquiry: one, syntactic and the other, non-syntactic.

3.1 Syntactic Approaches

The syntactic approach attempts to show that LD binding of Chinese reflexives is basically a syntactic phenomenon, and can be dealt with under BCA with some revision. One analysis proposes to parameterize the notion of GC for different languages in the spirit of Huang (1983), Yang (1983), and Manzini and Wexler (1987). Another analysis, represented by Wang and Stillings (1984) (see also Mohanan 1982), suggests that ziji represents a new type of NP, called “anaphoric pronoun”, the interpretation of which is regulated by a new binding principle. The third approach, based largely on Pica (1985, 1987), is to assume that the long-distance binding of ziji is a result of covert cyclic movement at LF. Although in the literature there is disagreement about the details of the LF movement of ziji, these analyses all agree that the apparently unbounded dependencies between the antecedent and reflexive are covertly bounded in fact and are thus local in nature. In Huang and Tang (1991) the LF movement is a A’-movement, realized through IP-adjunction, similar to the process of quantifier raising. In Battistella (1989), Cole et. al. (1990), Cole and Sung (1994) as well as Cole and Wang (1996), it is a head movement, with ziji moving to the I (or AGR) of its own clause and optionally moving (via C) to the next clause up. The fourth analysis, proposed by Progovac (1992, 1993), is a non-movement variant of the LF movement analysis,
called relativized subject (RS) approach (adopted and revised in Tang 1994), and it assigns $X^\circ$ (namely AGR) as the SUBJECT for $X^\circ$ reflexives (e.g. \textit{ziji}), but assigns XP as the SUBJECT for XP reflexives (e.g. \textit{ta-ziji} ‘he-self’). Recently, Tang and Gu (1998) also use the notion of subject to account for the binding properties of \textit{ziji}. Following Bower’s Predication Theory, they claim that the binding of \textit{ziji} is regulated by the notion of the primary subject and the secondary subject in Bower’s terms.

In the spirit of Baker (1995), Xue, Sag and Pollard (1994) and Pollard and Xue (1998) argue for the separation of syntactic binding from discourse prominence, and propose an HPSG account of \textit{ziji} that posits a fourth NP category called Z-pronoun of which Chinese \textit{ziji} is one, and it is subject to a new binding condition, in the same spirit as Wang and Stillings (1984). Cole, Hermon, and Lee (2001) also argue for the separation of syntactic binding from discourse prominence, while Huang and Liu (2001) suggest that the dividing line for the local \textit{ziji} and the LD \textit{ziji} be the traditional notion of governing category (GC), and that the blocking effect exhibited by \textit{ziji} be accounted for by a theory of perspectivity based on Kuno (1972).

3.2 Non-Syntactic Approaches

The non-syntactic approach claims that LD binding of Mandarin reflexives should be accounted for by non-syntactic factors. Chou (1992) argues that LD reflexives are not subject to syntactic binding, but to some animacy and thematic conditions. Xu (1993, 1994) shows that the blocking effect is not consistently observed in \textit{ziji} binding. He argues that the antecedent of \textit{ziji} is constrained by subjects or the
thematic hierarchy. He also recognizes the interaction between prominence and locality in the interpretation of Mandarin \textit{ziji} (Xu 1999). Others follow a discourse-pragmatic approach to account for the binding properties of Mandarin reflexives and claim that the antecedent of Mandarin reflexives is determined by discourse factors such as logophoricity (Maling 1984; Zribi-Hertz 1989; Reinhart and Reuland 1991, 1993; Yu 1991; Yan Huang 1994), perspectivity (Kuno 1987; Sells 1987; Zubin et al. 1990; N.-C. Li 1991; Iida 1992), emphasis, or intensive pronouns (Baker 1995). Following this line of research, Yu (1991) and Y. Huang (1994) claim that Chinese \textit{ziji} is a \textit{logophor}, and must thus be constrained by logophoricity, and Li (1991) argues that the interpretation of unbound and LD bound \textit{ziji} should be determined by perspectivity, while Chen (1992) uses TOPICALITY and Sells’ PIVOT notion to account for LD binding of \textit{ziji}.

Following the spirit of Baker (1995), Pan (1995, 1997, 2001) proposes a three-way partition of Chinese reflexives: locally bound reflexives should be distinguished from non-locally bound ones which are further divided into \textit{de se} anaphor \textit{ziji} and contrastive reflexives like \textit{benren}, and \textit{benshen}. He claims that discourse, specifically \textit{self-ascription} and \textit{discourse prominence}, plays an essential role in the interpretation of Chinese reflexives. Pan claims that LD bound \textit{ziji} is a \textit{de se} anaphor and should be constrained by \textit{self-ascription}. Pan (1995, 1997, 2001) argues that the blocking effect is asymmetrical, and the crucial factor in inducing the blocking effect is not the local subject or the unlike person feature conflict, as suggested in the literature (Huang and Tang 1991; Xue, Pollard, and Sag 1994). Rather it is the asymmetry between first/second and third person noun phrases that plays a crucial role in the blocking effect, and syntactic functions other than subject can also induce the blocking effect. Pan (1998) further shows that non-contrastive
compound reflexives like *ta-ziji* do not need a c-commanding or sub-commanding antecedent, can have LD antecedents, and also exhibit the blocking effect, which casts serious doubt on Pica’s (1987) widely-accepted generalization that only morphologically simplex reflexives not compound reflexives can be LD bound.

Since I have already reviewed both the syntactic approaches and non-syntactic approaches elsewhere (cf. Hu 1998, Hu and Pan 2002), and a detailed and insightful review of the previous studies on Chinese reflexives can be easily accessed from Pan (1995, 1997, 2001), it is deemed unnecessary to give another review of the relevant literature if new comments and criticism cannot be offered. In what follows, after a brief discussion on the binding properties of *ziji*, I will only review two recent studies on *ziji* done by Pan (2001), and Huang and Liu (2001), and then propose my own analysis. Before starting the discussion on *ziji*, it is necessary to point out that, although in the last 15 years or so, an increasing volume of research has been conducted on the bare reflexive *ziji*, a unified account of both the compound reflexive and the bare reflexive in Chinese is still lacking. Besides, how to give a more satisfactory account of the blocking effect exhibited by *ziji* is still a great challenge to theoretical linguistics. A satisfactory account should explain not only why *ziji* exhibits the blocking effect, but also why sometimes it is strong and sometimes it is weak. Most of the analyses treat the blocking effect as a hard inviolable constraint, but in fact it is not since it is not a grammatical constraint according to my analysis. In the following discussion, I will show that the blocking effect, in fact, can be reduced since the blocking effect is derived from the prominence of NPs, and it is reasonable that the blocking effect would be weakened if the prominence of the relevant NP is reduced or if another NP more prominent than it comes into the picture.
3.3 The Binding Properties of Ziji

The following examples show that the bare reflexive *ziji* (i) can be LD bound, (ii) can be bound only to a subject, (iii) can be bound to a sub-commanding NP, and (iv) cannot be LD bound to an antecedent across an intervening NP with different person features (Y.-H. Huang 1984; Tang 1989; Wang & Stilling 1984; C.-T. J. Huang 1982).

(59) a. Zhangsani renwei Lisi xihuan ziji_l.
   Zhangsan think Lisi like self
   ‘Zhangsan thinks that Lisi hates himself/him.’

b. Zhangsan, mei-you gaosu Lisi ziji_l de fenshu.
   Zhangsan not-have tell Lisi self DE grade
   ‘Zhangsan did not tell Lisi his own grade.’

c. Lisi zhidao ni xihuan ziji_l.
   Lisi knows you like self
   ‘Lisi knows that you like yourself.’

d. [Zhangsan de jiao’ao] hai-le ziji_l.
   Zhangsan DE pride hurt-ASP self
   ‘Zhangsan’s pride hurt him.’

(59a) shows that *ziji* can be bound either locally or non-locally. (59b) illustrates the subject-orientation property of *ziji* since it can be bound only to a subject. (59c) shows that LD binding of *ziji* to the matrix subject is blocked by an intervening NP
with different person feature from the matrix subject. (59d) shows that *ziji* can be bound to a sub-commanding subject, with the definition of sub-commanding given below (Tang 1989):

\[(60) \beta \text{ sub-commands } \alpha \text{ iff } \beta \text{ is contained in an NP that } c\text{-commands } \alpha \text{ or that sub-commands } \alpha, \text{ and any argument containing } \beta \text{ is in subject position.}\]

Although a local sub-commander can bind *ziji*, a non-local one cannot bind it, as observed by Huang and Tang (1991).

\[(61) \text{ Zhangsan, de } \text{xin biaoshi [Lisi hai-le } \text{ ziji}*_{ij}.\text{ Zhangsan} \text{ DE letter indicate } \text{ Lisi hurt-ASP self} \]
\n‘Zhangsan’s letter indicates that Lisi hurt himself.’

Huang and Tang (1991) also notice that the possible blockers of LD *ziji* include not only c-commanding subjects, but also sub-commanding NPs, as shown below:

\[(62) \text{ a. Zhangsan, shuo woj de jiao’ao hai-le } \text{ ziji}*_{ij}.\text{ Zhangsan} \text{ say } \text{ I DE pride hurt-ASP self} \]
\n‘Zhangsan said that my pride hurt myself.’

b. Zhangsan, shuo [ni, zheyang zuo] dui ziji*_{ij} buli].
\n‘Zhangsan said that your doing this will do yourself no good.’

Li (1993) notes that a sub-commander with different person feature can induce
blocking effect even though it is not a possible antecedent for \textit{ziji} when it functions as the possessor of a [+Human] NP.

(63) Lisi, yiwei woj de xuesheng bu xihuan ziji\textit{i/*j/k}.

$Lisi \ \text{think} \ I \ \text{DE student} \ \text{not like} \ \text{self} \n
‘Lisi thinks that my student does not like himself.’

Furthermore, Xue et al. (1994) find that direct objects and obliques can also induce blocking effect, and that blockers may not be potential binders of \textit{ziji}, contra Huang and Tang’s (1991) claim, as shown below:

(64) a. Zhangsan, gaosu wo j Lisik hen ziji\textit{i/*j/k}.

$Zhangsan \ \text{tell} \ \text{me} \ Lisi \ \text{hate} \ \text{self} \n
‘Zhangsan told me that Lisi hates himself.’

b. Zhangsan, dui wo j shuo Lisik chang piping ziji\textit{i/*j/k}.

$Zhangsan \ \text{to me say} \ Lisi \ \text{often criticize} \ \text{self} \n
‘Zhangsan told me that Lisi often criticized himself.’

c. Zhangsan, cong ni j nar tinghuso Lisik chang piping ziji\textit{i/*j/k}.

$Zhangsan \ \text{from you there hear-say} \ Lisi \ \text{often criticize} \ \text{self} \n
‘Zhangsan heard from you that Lisi often criticized himself.’

(Xue et al. 1994: 437)

(65) a. Zhangsan, zhidaowoj de xinbiaoming Lisik hai-le ziji\textit{i/*j/k}.

$Zhangsan \ \text{know} \ I \ \text{DE letter} \ \text{show-clear} \ Lisi \ \text{harm-ASP} \ \text{self} \n
‘Zhangsan knows that my letter makes it clear that Lisi harmed himself.’

b. Zhangsan, tingshuoni j de wenzhang jielu Lisik hen ziji\textit{i/*j/k} de taitai.
Zhangsan hear-say you DE article reveal Lisi hate self DE wife

‘Zhangsan heard that your article revealed that Lisi hated his wife.’

(Xue et al. 1994: 437-438)

According to Xu (1994), the nominals that follow the passive morpheme be or the preverbal object marker ba (hereafter, be and ba nominals) can be antecedents of ziji, and do not block the binding of ziji to the subject of the sentence with unlike person features. Cole and Wang (1996) note that these be and ba nominals do not induce the blocking effect even in LD binding, as shown below:

(66) a. Zhangsan, yiwei Lisi hui ba ni_k ling hui ziji _j/k de jia.
    Zhangsan think Lisi will BA you lead back self DE home
    ‘Zhangsan thought Lisi would take you back to his/your home.’

b. Zhangsan, yiwei Lisi hui bei ni_k ling hui ziji _j/k de jia.
    Zhangsan think Lisi will BEI you lead back self DE home
    ‘Zhangsan thought Lisi would be taken by you back to his/your home.’

(Cole and Wang 1996: 360-361)

Cole et al. (2001) further note that although in (66) it is possible for the reflexive ziji to co-refer with the matrix subject Zhangsan, this co-reference can be more easily obtained in (67). Based upon this fact, they conclude that a mild blocking effect occurs in (66) due to the occurrence of a second person pronoun that follows ba/bei.

(67) a. Zhangsan, yiwei Lisi hui ba Xiaomingk dai hui ziji _j/k de jia.
Cole et al. make a distinction between grammatical blocking and logophoric blocking. In (66) the mild blocking effect is derived from the logophoric blocking, whereas in the following sentences the grammatical blocking is derived from LF head-movement and feature percolation. According to their observation, the grammatical blocking is stronger than the logophoric blocking.

(68) a. Zhangsan, yiwei woj hui ba nǐ k dai hui zi jī de jia.

   Zhangsan think I will BA you take back self DE home
   ‘Zhangsan thought I would take you back to *his/my/your home.’

b. Zhangsan, yiwei woj hui bei nǐ k dai hui zi jī de jia.

   Zhangsan think I will BEI you take back self DE home
   ‘Zhangsan thought I would be taken by you back to *his/my/your home.’

(Cole and Wang 2001: 31)

It should be pointed out that, although the blocking effect is sometime strong and sometimes weak, this does not mean that the stronger one is a grammatical blocking, whereas the weaker one is a logophoric one. According to Cole et al. (2001), if the blocker occupies the subject position, it will produce the strong
blocking effect. Under their analysis, in sentences given in (68), *ziji* will first adjoin to the local AGR at LF and percolate its features to it, and since *ziji* can subsequently adjoin to the AGR of the next clause up, a person feature conflict will occur if the NP occupying the Spec of AGR has a different person feature. Hence, the blocking effect. This kind of feature percolation mechanism is widely assumed in various LF approaches to the study of the bare reflexive *ziji*. The basic idea is to derive the blocking effect from a failure in grammatical agreement. It is a well-established fact that grammatical agreement cannot be violated, as shown below:

(69) *He am a student.

The above sentence is excluded simply because the Spec of the AGR and the AGR itself have different person features. If the blocking effect can really be derived from the agreement failure, as suggested by Cole et al. (2001), the following sentences should also be ruled out by the grammar.

(70) a. Ni pa ta chaoguo ziji ma?

you fear he surpass self Q

‘Are you afraid that he may surpass you?’

b. Wo bu xihuan Lisi guan ziji de shi.

I not like Lisi interfere self DE matter

‘I don’t like Lisi interfering in my/his (own) business.’

(Pan 2001: 283)
However, the above sentences are perfectly acceptable, though the embedded subject and matrix one have different person features. The above fact demonstrates that the blocking effect exhibited by ziji cannot be derived from the agreement failure and thus should not be treated as a grammatical blocking. It is unreasonable to assume that a derivation violating a grammatical constraint can remain grammatical if the constraint is really a grammatical one.

3.4 Pan’s (2001) Self-Ascription Theory

Pan (1995, 1997, 2001) makes a distinction between local and LD bound reflexives and claims that only LD bound non-contrastive ziji exhibits the blocking effect. He finds that the blocking effect of ziji is not symmetrical, and the crucial factor in inducing the blocking effect is not the local subject or the unlike person feature conflict, as suggested in the literature (Huang and Tang 1991; Xue, Pollard, and Sag 1994), but the asymmetry between first/second and third person NPs. He claims that first/second person pronouns can block third person NPs from long-distance (LD) binding ziji, though third person NPs do not necessarily block first/second person pronouns from LD binding ziji, as shown below.

(71) a. Woji bu xihuan Lisij guan ziji,j de shi.
    I not like Lisi interfere self DE matter
    ‘I don’t like Lisi interfering in my/his (own) business.’

b. Ni, xihuan Lisij guan ziji,j de shi ma?
    you like Lisi interfere self DE matter Q
    ‘Do you like Lisi interfering in your/his (own) business?’
c. Lisi, bu xihuan wo/nǐ guān zījī de shì.

Lisi not like I/you interfere self DE matter

‘Lisi does not like me/you interfering in my/your (own) business.’

d. Lisi, bu xihuan Zhangsān guān zījī de shì.

Lisi not like Zhangsān interfere self DE matter

‘Lisi does not like Zhangsān interfering in his (own) business.’

(Pan 2001: 283)

(71a) and (71b) show that the co-reference between the first/second person pronoun and zījī is not blocked by the intervening third person NP Lisi. (71c) shows that when the first/second person pronoun intervenes between the matrix subject and zījī, their co-reference is blocked. Pan (1995, 1997, 2001) also notes that other grammatical functions filled by first/second person pronouns, not just subject or NPs contained in the subject, can induce the blocking effect, as shown in (64).

Based upon these facts, he develops a theory of self-ascription to account for the blocking effect exhibited in zījī binding. Pan (1995, 1997, 2001) claims that LD zījī points to the carrier of belief, and is thus constrained by self-ascription in interpretation. He accounts for the blocking effect by appealing to the fact that only first/second person pronouns are obligatory self-ascribers and can thus block LD binding of zījī if they intervene between the potential third person NP and zījī, while third person NPs are optional self-ascribers and thus do not necessarily block zījī from being LD bound by first/second person pronouns. Pan (1995, 1997) makes a distinction between the locality zījī and the self-ascription zījī. He claims that only the self-ascription zījī is sensitive to the blocking effect. Pan (2001: 297) proposes the following binding condition for the self-ascription zījī:
The Condition for Self-Ascription \textit{Ziji}

\textit{Ziji} can be bound to the carrier of belief, the most prominent self-ascriber, in a linguistic domain $\gamma$ iff there is no blocker in the believed proposition contained in $\gamma$.

The Prominence Condition is defined below (Pan 2001: 298):

(72) The Condition for Self-Ascription \textit{Ziji}

\begin{quote}
\textit{Ziji} can be bound to the carrier of belief, the most prominent self-ascriber, in a linguistic domain $\gamma$ iff there is no blocker in the believed proposition contained in $\gamma$.
\end{quote}

(73) The Prominence Condition

$\alpha$ is the most prominent self-ascriber in $\gamma$ iff there is no $\beta$ in $\gamma$ such that $\beta$ appears higher in one of the following hierarchies than $\alpha$.

a. SUBJ > OBJ or OBLIQUE

b. Dominating NPs > Dominated NPs

Under Pan’s analysis, blockers are separated from antecedents, and hence, a blocker is not necessarily among the possible antecedents. It seems that the Prominence Condition is only responsible for the identification of possible antecedents, but is irrelevant to that of blockers. That is why Pan (2001: 298) defines blockers separately.

(74) $\alpha$ is a blocker for $\beta$ if $\alpha$ is a self-ascriber such that (a) $\alpha$ precedes \textit{ziji}; and (b) neither $\alpha$ nor the NP controlled by it is an argument of an irreflexive predicate containing \textit{ziji}.

Although Pan’s analysis fares better than previous accounts, it still has a number of
problems left unaccounted for. First, the addition of the notion of the irreflexive predicate to the definition of blockers weakens the explanatory power of the self-ascription theory since it is unclear why self-ascription should be sensitive to irreflexive predicates if first/second person pronouns are really obligatory self-ascribers, as claimed in Pan (1995, 1997, 2001). The reason why irreflexive predicates should be considered in the definition of blockers is mainly because there exist sentences like the following which are not constrained by self-ascription.

(75) a. Ta pa wo chaoguo ziji.
   he fear I surpass self
   ‘He is afraid that I may surpass him.’

   b. Zongtong qing wo zuo zai ziji de pangbian.
      president ask I sit at self DE side
      ‘The president asked me to sit beside him.’

(Xu 1993: 136)

In (75) the first/second person pronoun does not block the binding of ziji to a third person NP. Pan (2001) explains these examples away by claiming that self-ascription does not occur in the irreflexive predicate. If this is true, it means that first/second person pronouns may not be obligatory self-ascribers. It is true that there are some pragmatic or world-knowledge factors that exclude the possibility for ziji to be co-referential with the closest NP in (75). But we can modify the above sentences slightly to make it possible for ziji to be bound to either the closest NP or the matrix subject, as shown below:
(76) a. Tai pa  ni chaoguo ziji de er’zi.

   he fear you surpass  self   DE son

   ‘He is afraid that you may surpass your/his son.’

b. Zongtongi qing wo zuo zai ziji de taitai pangbian.

   president ask   I   sit   at   self DE wife side

   ‘The president asked me to sit beside my/his wife.’

In (76) the interpretation of the reflexive ziji is not constrained by the irreflexive predicate since it is not an argument of it. Hence, it becomes possible for ziji to refer to the local antecedent. Since binding to the matrix subject is not the only possible choice, the self-ascription theory would predict that ziji cannot be bound to the matrix subject, contra the above fact. Second, the self-ascription theory also fails to explain why first/second person pronouns are not obligatory self-ascribers when they occur after ba/bei as shown in (66).

Third, there exists a potential conflict between Pan’s (2001) account of self-ascription and the claim that first/second person pronouns are obligatory self-ascribers. According to Pan (2001: 295), a self-ascriber ascribes a property to him/herself. In the following sentence (77), ziji cannot refer the matrix subject since there is an obligatory self-ascriber, the first person pronoun wo ‘I’, in the believed proposition. If the first person pronoun is an obligatory self-ascriber, then one may ask why it cannot function as the antecedent. A ready answer for this question is that blockers may not be antecedents. Even if we accept this claim, we may still ask why the first person pronoun in (77) is a self-ascriber and what property it self-ascribes. It seems that there is no believed proposition for it to
self-ascribe in (77). If the first person pronoun in (77) does not have a property to ascribe, to label it as a self-ascriber in (77) may not be well-motivated since it is inconsistent with Pan’s claim that a self-ascriber should ascribe a property to him/herself. This problem is also pointed out in Huang and Liu (2001). They argue that to call the embedded subject in (71c) a self-ascriber is not appropriate for what the term self-ascription means because it is simply the subject of some event-denoting predicate without ascribing any property.

(77) Lisi yiwei woj de xuesheng bu xihuan ziji.

Lisi think I DE student not like self

‘Lisi thinks that my student does not like himself.’

3.5 Huang and Liu’s (2001) Account

Huang and Liu (2001) also make a distinction between the local reflexive and the LD reflexive, and claim that the dividing line between them is the traditional notion of the governing category (GC), as given below (Huang and Liu 2001: 141):


α is the governing category for β if and only if α is the minimal category containing β, a governor of β, and a SUBJECT accessible to β.

Huang and Liu (2001) claim that the GC can make a correct distinction between embedded subject and object reflexives:
(79) a. Zhangsan yiwei ziji de er’zi zui congming.
   ‘Zhangsan thought that his son was the cleverest.’

b. Zhangsan yiwei Lisi zui xihuan ziji de er’zi.
   ‘Zhangsan thought that Lisi liked his son most.’

(80) a. Zhangsan shuo ziji kanjian-le Lisi.
   ‘Zhangsan said that he saw Lisi.’

b. Zhangsan shuo Lisi kanjian-le ziji.
   ‘Zhangsan said that Lisi saw him.’

(Huang and Liu 2001: 168)

According to Huang and Liu, in (79a) and (80a), *ziji* is ambiguous between a logophor and a local reflexive when being bound by the matrix subject *Zhangsan*. That is to say, it can refer to the matrix subject under either a *de se* scenario or a non-*de se* scenario. Whereas in (79b) and (80b), *ziji* can only be bound by the embedded subject *Lisi*, but not by the matrix subject *Zhangsan* under the non-*de se* scenario. Under their analysis, this difference is derived from the fact that the GC for *ziji* in (79a) and (80a) is the main clause, and that in (79b) and (80b) is the embedded clause. They claim that the distribution of the blocking effect in the following sentences further shows that the dividing line between the local reflexive and the LD reflexive is the GC.
In (81b) and (82b) the binding of *ziji* to the matrix subject is blocked by a first person pronoun since *ziji* is a LD reflexive, whereas in (81a) and (82a) the binding of *ziji* to the matrix subject is not blocked since *ziji* is a local reflexive which is bound within its GC. Huang and Liu further claim that in the following sentence *ziji* is also a local reflexive when it takes a sub-commanding NP as its antecedent.

Since under their analysis only logophors exhibit the blocking effect, they correctly
predict that in the following sentence the binding of *ziji* to the sub-commanding antecedent is not blocked.

(84) Zhangsan, de biaoqing  gaosu wo, [ziji/*j shi wugude].  
Zhangsan DE expression tell me self is innocent  
‘Zhangsan’s [facial] expression tells me that he is innocent.’  
(Huang and Liu 2001: 170)

Although it may be both theoretically and empirically necessary to make a distinction between local *ziji* and LD *ziji*, Huang and Liu’s criterion to distinguish them fails to capture an important distinction between the local reflexive and the LD reflexive. It is well-known in the literature that the local reflexives are in complementary distribution with pronouns, whereas the LD reflexives are in free variation with them. It is obvious that in (79a), (80a), (81a), (82a), (83), and (84), *ziji* can be replaced by a pronoun that maintains the reference for *ziji*. If *ziji* in these sentences is really a local reflexive, one may ask why it can be in free variation with a pronoun. Note that in the following sentence, *ziji* cannot be replaced by a pronoun, which indicates that *ziji* is a real local reflexive in this sentence:

(85) John, xihuan ziji/*ta*/.  
John, likes himself/*him*/.

I think that if it is really necessary to make a distinction between local *ziji* and LD *ziji*, the distinction should be kept only to those syntactic environments where *ziji* is in complementary distribution with the pronoun.
Huang and Liu (2001) employ a theory of perspectivity to account for the blocking effect exhibited in the binding of ziji, and claim that the blocking effect can be explained by taking literally Kuno’s (1972) direct discourse representation hypothesis. According to Huang and Liu’s analysis, the LD binding of ziji is blocked in (86a) because there is a conflict between the perspective of the external speaker and that of the internal speaker.

(86) a. Zhangsan juede wo zai piping ziji.
   Zhangsan think I at criticize self
   ‘Zhangsan thinks that I am criticizing self.’

b. Zhangsan juede, “wo zai piping wo.”
   Zhangsan think I at criticize me
   Zhangsan thinks, “I am criticizing me.”
   (Huang and Liu 2001: 161)

Following Kuno (1972), Huang and Liu suggest that in (83a) the LD ziji be underlyingly wo ‘I/me’, and (86a) have the representation (86b). In (86b), there are two occurrences of wo ‘I’. The first one refers to the (external) speaker of the entire sentence, and the second one refers to Zhangsan, the (internal) “speaker” of the direct discourse complement. Because there is a conflict between the perspectives of two different speakers, (86a) is not acceptable if ziji is bound to the matrix subject.

As pointed out in Pan (2001: 301), the problem with the perspectivity account is that it would wrongly predict that the LD binding of ziji is blocked in sentences like the following:
Under the analysis of Huang and Liu (2001), (87) can be represented as (88):

(87) John shuo Bill ba ziji de shu songge-le wo.

John say Bill BA self DE book give-ASP I

‘John said that Bill gave his own books to me.’

(Pan 2001: 300)

(88) John shuo, “Bill ba wo de shu songge-le wo.”

John say Bill BA I DE book give-ASP I

John said, “Bill gave my own books to me.”

In (88), the first wo ‘I’ refers to John, the (internal) “speaker” of the direct discourse complement, and the second one refers to the (external) speaker of the entire sentence. Because there is a conflict between the perspectives of two different speakers, the analysis assumed in Huang and Liu would predict that (88) is not acceptable if ziji is bound to the matrix subject, contra the fact. Note that sentences like those in (66), (75), (76), and (77), repeated below as (89), (90), (91), and (92) are also problematic for the perspectivity-based account.

(89) a. Zhangsan, yiwei Lisi hui ba ni ling hui ziji de jia.

Zhangsan think Lisi will BA you lead back self DE home

‘Zhangsan thought Lisi would take you back to his home.’

b. Zhangsan, yiwei Lisi hui bei ni ling hui ziji de jia.

Zhangsan think Lisi will BEI you lead back self DE home
‘Zhangsan thought Lisi would be taken by you back to his home.’

(90) a. Ta pa wo chaoguo ziji.

he fear I surpass self

‘He is afraid that I may surpass him.’

b. Zongtong qing wo zuo zai ziji de pangbian.

president ask I sit at self DE side

‘The president asked me to sit beside him.’

(91) a. Ta ni chaoguo ziji de er’zi.

he fear you surpass self DE son

‘He is afraid that you may surpass your/his son.’

b. Zongtong qing wo zuo zai ziji de taitai pangbian.

president ask I sit at self DE wife side

‘The president asked me to sit beside my/his wife.’

(92) Lisi yiwei woj de xuesheng bu xihuan ziji.

Lisi think I DE student not like self

‘Lisi thinks that my student does not like himself.’

Take (89a) as an example. When ziji refers to the matrix subject, (89a) can be represented as (93):

(93) Zhangsan yiwei, “Lisi hui ba ni ling hui wo de jia.”

Zhangsan think Lisi will BA you lead back I DE home

Zhangsan thinks, “Lisi would take you back to my home.”

According to the analysis assumed in Huang and Liu (2001), in (93) ni refers to the
addressee with respect to the external speaker, and \textit{wo} refers to the internal speaker \textit{Zhangsan}. Since there is a conflict between the internal Source (to whom \textit{wo} is “anchored”) and the external Source (to whom \textit{ni} is anchored), (89a) is predicted to be unacceptable under the intended reading according to the analysis assumed in Huang and Liu, again contra the fact. Although Huang and Liu can dispense with (90) by claiming that it involves the irreflexive predicate, they cannot do so with (91). Another problem with their analysis is that it would wrongly predict that in (92) \textit{ziji} can be bound to the sub-commanding NP, as shown below.

(94) Lisi yiwei, \textit{“wo de xuesheng bu xihuan wo.”}

\begin{center}
Lisi think I DE student not like me
\end{center}

Lisi thinks, “my student does not like me.”

In (94), the direct discourse representation for (92), there are two occurrences of \textit{wo} ‘I’. Since both the first and the second \textit{wo} would refer to the external speaker under the intended reading that the first \textit{wo} and the second \textit{wo} co-refer, there is no perspective conflict in (94). As a result, the perspectivity-based account would wrongly predict that \textit{ziji} can refer to the sub-commanding NP in (92). Of course, Huang and Liu could argue that the sub-commander \textit{wo} cannot antecede the object \textit{wo} in (94) since the sub-commander \textit{wo} is an NP dominated by another NP. But the question that is left unanswered is why perspectivity should be sensitive to the difference between the dominating NP and the dominated NP.

Another problem with the analysis assumed in Huang and Liu (2001) is that it would wrongly predict that the logophoric use of the compound reflexives in Chinese should also be blocked when the perspective conflict occurs. Consider the
following sentence:

(95) Lisi, bu xihuan wo guan ta-ziji de shi.

Lisi not like I interfere he-self DE matter

‘Lisi does not like interfering in his (own) business.’

When used contrastively, the compound reflexive ta-ziji can be LD bound. Note that since the compound reflexive has a clearly specified person feature, it does not exhibit the blocking effect in LD binding. If we use the Direct Discourse Representation approach to represent (95), the result is (96):

(96) Lisi, bu xihuan, “wo guan wo de shi.”

Lisi does not like, “I interfere in my (own) business.”

Since the first wo refers to the external speaker, and the second wo refers to the internal speaker, Huang and Liu’s analysis would expect that the LD binding of logophoric ta-ziji to the matrix subject should be blocked, but in fact, it is not. Besides these problems, it also seems strange to represent sentences like (95) as (96) no matter whether the reflexives involved is a compound one or a bare one sine verbs like xihuan ‘like’ cannot be used to introduce a direct discourse.

4. Prominence and the Binding of Reflexives in Chinese

4.1 The Binding of the Compound Reflexive

Pan (1995, 1997, 1998) notes that the Chinese compound reflexive, e.g., ta-ziji
‘himself’, can be bound not only to an LD antecedent, but also to a non-c-commanding/sub-commanding antecedent, as shown by the following sentences cited from Pan (1998):

(97) a. John shuo naben shu fang zai ta-ziji de jiali
   John say that book put at he-self DE home
   ‘John said that that book was put at his home.’

b. John de jiao’ao hai-le ta-ziji,.
   John DE pride hurt-ASP he-self
   ‘John’s pride hurt him.’

c. Wo wei John zhaodao-le ta-ziji de zhaopian.
   I for John find-ASP he-self DE photo
   ‘I found John’s photo for him.’

d. John shuo [Bill de xiaocongming]k hai-le ta-ziji i/j/*k.
   John say Bill DE little-trick hurt-ASP he-self
   ‘John said that Bill’s little trick hurt him.’

e. *John zhidao Bill xihuan ta-ziji,
   John know Bill like he-self
   ‘John knows that Bill likes himself.’

In (97a), *ta-ziji ‘himself’ is LD bound across a local subject. In (97b), it is bound to a sub-commanding NP. In (97c), it is bound to a non-c-commanding antecedent. In (97d), it can be bound to either the sub-commanding NP or the matrix subject. In (97e), it cannot be bound to the matrix subject. Based upon the above facts, Pan (1998) claims that an NP can be the antecedent of an anaphor if there is no closer
blocker in its linguistic domain. Under his analysis, the blocker covers two types of NPs with equal or higher prominence, namely, the subject and the non-subject that dominates the candidate in question. Based on Pan (1998), Pan and Hu (2001) claim that the Chinese compound reflexive cannot be bound to a remote antecedent by crossing a closer one which is not less prominent than the remote one. They give the following condition to constrain the binding possibilities of the Chinese compound reflexive.

(98) An anaphor cannot be bound to $\alpha$ across an intervening NP $\beta$ which is not less prominent than $\alpha$.

According to the above condition, the compound reflexive in (97e) cannot be bound to the matrix subject simply because the local subject is not less prominent than the matrix subject. In Pan and Hu (2001), prominence is defined on the basis of the animacy hierarchy and the grammatical function hierarchy, as shown below:

(99) The Animacy Hierarchy (AH) (Chou 1992)

$[+\text{Human}] > [+\text{Animate (-Human)}] > [-\text{Animate}]$

(100) The Grammatical Function Hierarchy (GFH)

Subject $>$ Non-Subject

Although (98) can correctly constrain the binding of the Chinese compound reflexive, it would wrongly predict that in the following sentence the bare reflexive *ziji* cannot be bound to the matrix subject.
(101) Zhangsanı renwei Lisı xihuan zijiı.

Zhangsan think Lisi like self

‘Zhangsanı thinks that Lisiı hates himself/himı.’

Pan (1995, 1997, 1998) as well as Pan and Hu (2001) account for this difference in binding between the compound reflexive and the bare reflexive by assuming that the compound reflexive and the bare reflexive should be constrained by different binding conditions. Although this is possible, it will be more welcome if these two kinds of reflexives can be constrained by the same condition. In previous discussion, I claim that if ta-ziji finds a proper antecedent, it is not motivated to find another one. Assume that this proper antecedent for the compound reflexive as well as the bare reflexive is the most prominent NP, though it is possible that ziji and ta-ziji require different definitions of the most prominent antecedents. If reflexives do not tend to find another antecedent whenever it finds the most prominent one, then the blocking effect exhibited by reflexives can be derived from the prominence of NPs. If this is true, then we can recast Pan and Hu’s (2001) generalization as a general reflexive binding condition:

(102) Reflexive Binding Condition (RBC)

A reflexive prefers to be bound to a more prominent NP, but cannot be bound across the most prominent one.

Now, the remaining task is to define the most prominent NP. I think that the variation in reflexive binding just lies in the definition of the most prominent NP. A plausible assumption is that different languages may have different definitions of
prominence (cf. Pan 1998), and different reflexives are constrained by different prominent NPs. According to the feature characterization given in (56), the Chinese compound reflexive needs to obtain a referential feature from its antecedent. Assume that it can pick up the referential feature from any antecedent available under the condition that the Reflexive Binding Condition (RBC) is not violated. Under this view, the reflexive in question can be bound to any binder available as long as it does not violate RBC. Since we have two prominence hierarchies for the compound reflexive, it can be easily seen that the most prominent binder for it is an NP with the feature [+Human, +Subject]. Suppose that its feature searching process is somewhat like a feature replacing process. Whenever it finds a binder, it is bound to that binder, but whenever it finds a more prominent binder, it will replace the less prominent one. But, whenever it picks up the referential feature from the most prominent binder, its feature searching process will stop since the most prominent binder does not allow its feature to be replaced by the feature of a less prominent binder. It can be seen that this feature searching process can derive not only different binding possibilities, but also the constraint on these possibilities. For instance, in (97d), the compound reflexive can get its referential feature from the sub-commanding NP since RBC is not violated when the reflexive is bound to it. If the feature searching process for the compound reflexive optionally stops, it will end up being co-indexed with the sub-commander. But, if it continues its feature search, it will find the matrix subject as its binder and replace the feature obtained from the less prominent binder with the feature of the more prominent one. In (97e), when the compound reflexive is bound to the embedded subject, it is anchored there and cannot continue its feature searching process because the embedded subject is the most prominent one that does not allow the reflexive to replace its
feature with that of another binder that is not more prominent than it.

4.2 The Binding of the Bare Reflexive: Two Searching Engines

It is shown in the above section that the prominence condition for the Chinese compound reflexive can be defined by the Animacy Hierarchy (AH) and the Grammatical Function Hierarchy (GFH). Now, let us see how the prominence condition for the bare reflexive can be defined. In defining the prominence conditions for the bare reflexive, two extra things must be considered in addition to AH and GFH. One is person feature, and the other is the notion of empathy (Kuno 1987). Person feature should be considered because the bare reflexive *ziji* lacks phi-features. The notion of empathy is included because it affects the binding of *ziji*. In order to avoid being involved in the potential controversies around the definition of empathy, let us restrict the notion of empathy to the use of certain verbs. Consider the following sentences:

(103) a. ?Lisi, shuo laoshi hui piping Pro\(_i\).

Lisi say teacher will criticize

‘Lisi said that the teacher would criticize him.’

b. Lisi, pa laoshi hui piping Pro\(_i\).

Lisi fear teacher will criticize

‘Lisi is afraid that the teacher would criticize him.’

Although the empty object in (103a) does not tend to refer to the matrix subject, the one in (103b) can be easily associated with the matrix subject for interpretation.
This difference results from the fact that the matrix verb in (103b) is a verb of empathy, but the one in (103a) is not. Verbs like pa ‘fear’, gan ‘dare’, danxin ‘worry’, baoyuan ‘complain’, and huaiyi ‘suspect’ are verbs of inherent empathy in the sense that the use of these verbs shows the speaker’s empathy towards the subject (i.e., the referent) of these verbs. These verbs express some subjective feelings or judgment of the speaker towards the subject NP that these verbs are predicated of. Since it is often the case that the complement clauses selected by these verbs describe some event that may have an effect on the subject NP that these verbs are predicated of, it is quite natural for the anaphor involved in the complement clause to refer to the subject NP of these verbs. For instance, in (103b), if what the subject NP Lisi is afraid of has nothing to do with him, he may have no reason to feel afraid and the speaker may have no reason to believe that Lisi should be afraid. In the relevant case, the use of pa ‘fear’ in that sentence would be unreasonable. Assuming that the subject of the verb that induces the speaker’s empathy is more prominent than the one that does not, we can explain why the subject of the empathy verbs can be easily chosen as the antecedent of the anaphor. Now, we can formulate the following prominence hierarchy involved in empathy.

(104) The Empathy Hierarchy (EH)

The Subject of the Inherent Empathy Verb > Other Subjects

Since ziji lacks phi-features, it can be conceived that its phi-features searching process should be constrained by the following person-feature hierarchy.
(105) The Person Hierarchy (PH)

First/Second Person Pronoun > Third Person NP

As for the reference of ziji, I think that, besides AH, it is also determined by the following Closeness Hierarchy (CH) and the Syntactic Prominence Hierarchy (SPH) which incorporates notions such as grammatical functions and c-command. I propose that it is the combination of AH, CH and SPH that determines the binding of ziji.

(106) The Syntactic Prominence Hierarchy (SPH)

a. The Grammatical Function Hierarchy (GFH)

   Subject/Subject-Possessor > Obj (Indirect-Object > Direct-Object) > Adjunct

b. The Structural Hierarchy (SH)

   C-Commander > Sub-Commander > Non-C/Sub-Commander

(107) The Closeness Hierarchy (CH)

   [+Closer] > [-Closer]

Notice that closeness also plays a role in determining the prominence of NPs, as shown in (107). That is, an NP closer to the reflexive is more prominent than an NP that is less close to it unless the former appears lower than the latter in other higher hierarchies. The notion of closeness is defined below:
The Closeness Condition (Pan 1998: 793)

\[ \alpha \] is closer to \( X \), the reflexive, than \( \beta \) is iff the path from \( X \) to the minimal maximal projection dominating \( \alpha \) is a proper subset of the path from \( X \) to the minimal maximal projection dominating \( \beta \).

Since we have different hierarchies in our system, one important thing is how to apply these hierarchies to compute the prominence of NPs and determine the binding of reflexives. I think that the application of these hierarchies will be regulated by something like the ordering of rules in early generative grammar or the ranking of the relevant constraints in the Optimality Theory. The basic idea is that some of the hierarchies are ranked higher than others in the computation of the prominence of NPs. I propose that the relevant hierarchies can be ranked below:

The Prominence Ranking (PR)

\[ EH > AH > GFH > CH > SH \]

I further propose that the computing of the prominence of the relevant NPs is regulated by the following algorithm.

The Prominence Computing Algorithm (PCA)

If \( A \) appears higher than \( B \) in a higher hierarchy in PR, \( A \) is more prominent than \( B \).

Following Huang and Tang (1991), I assume that there are two processes involved for \( ziji \) to acquire two kinds of features, though, different from Huang and
Tang (1991), I do not assume that the phi-feature is acquired at S-structure while
the referential feature is obtained at LF. I assume that both the phi-feature and the
referential feature of *ziji* are acquired in overt syntax. Suppose that there are two
searching engines at work: one for phi-features, and the other for referential feature.
Let us call the former P-engine (phi-feature searching engine) and the latter
R-engine (referential feature searching engine). The function of these two engines
is to find a candidate set and the most prominent NP according to their respective
prominence conditions so as to help *ziji* to delimit its binding domain. The P-engine
will choose the most prominent NP in PH, whereas the R-engine will choose the
most prominent NP in PR, according to PCA.

After the two candidate sets and the most prominent NP(s) being chosen, the
binding domain of *ziji* is in fact delimited, and since *ziji* should be bound within the
binding domain defined by the union of the sets related to the two most prominent
NPs chosen by the two engines, the blocking effect is also derived if the reflexive
in question is bound outside of its binding domain. If this line of analysis is on the
right track, RBC can be redefined as below on the basis of Chomsky (1981: 212)
and Pan (1998, 2001):

(111) Reflexive Binding Condition (RBC)

a. A reflexive can be bound to an accessible prominent NP in its binding
domain.

b. The binding domain of the reflexive is the minimal complete functional
complex (CFC) that contains all the members of the candidate set and
the reflexive.

c. A binds B iff A is co-indexed with B, and A and B are compatible in
phi-features.

d. A is accessible to B iff the assignment of the index of A to B would not violate $*_{\gamma \ldots \delta \ldots}$, where $\gamma$ and $\delta$ bear the same index.

Notice that in the above definition, neither c-command nor sub-command is required since it is already incorporated into the definition of the prominent NPs.

Now, the most important task left is how to produce the candidate set for the bare reflexive *ziji*. Suppose that the candidate set for *ziji* results from the union of the two candidate sets selected by the R-engine and the P-engine. Suppose that the P-engine and the R-engine work according to the same principle that governs the antecedent searching process for the compound reflexive. Hence, whenever the P-engine finds the most prominent NP, i.e., the first/second person pronoun, in PH, it will stop its phi-feature searching process. The R-engine works similarly. Whenever it finds the most prominent NP in PR according to PCA, its referential feature searching process will stop. The union of the two candidate sets produced by the P-engine and the R-engine delimits the domain of *ziji* binding.

If we use the searching engine to search for the candidates, the first thing that we should do is specify its searching domain. I think that the relevant searching domain should be confined to the sentence. Suppose that all the NPs in the sentence that precede the reflexive form a sequence according to their relative closeness to the reflexive: $N = <\alpha_1, \ldots, \alpha_n>$, and the NPs that follow the reflexive but are contained in the derivational cycle of the reflexive also form a sequence: $N' = <\alpha'_1, \ldots, \alpha'_{n'}>$. And among the NPs that precede the reflexive, the NP that is the closest to the reflexive is $\alpha_i$, where $i = 1$. Among the NPs that follow the reflexive but are contained in the derivational cycle of the reflexive, the NP that is the closest
to the reflexive is $\alpha'^{-i}$, where $-i = -1$. For all the NPs that linearly precede $\alpha_i$, $\alpha_i = \alpha_{i+1}$. For all the NPs that linearly follow $\alpha'^{-1}$ in the derivational cycle of the reflexive, $\alpha'^{-i} = \alpha'^{-i+1}$. After the searching domain is defined, we can formulate the following condition to regulate the operation of the searching engines:

\[(112) \quad \text{The Condition on the Operation of the Searching Engine (COSE)}\]

Search for candidates in $N$ and $N'$, where $N = <\alpha_1, \ldots, \alpha_n>$, and $N' = <\alpha'^{-1}, \ldots, \alpha'^{-n}>$. Suppose that there is an $N$, and $N$ = the most prominent NP. Assuming that the operation of the searching engine is constrained by the Closeness Condition, the searching engine will:

(i) check if $\alpha_i = 0$. If $\alpha_i = 0$, go to (iii). If $\alpha_i \neq 0$, pick up $\alpha_i$, and put it into the candidate set, and then go to (ii-a).

(ii) a. check if $\alpha_i = N$. If $\alpha_i = N$, go to (iii). If $\alpha_i \neq N$, repeat (i).

b. check if $\alpha'^{-i} = N$. If $\alpha'^{-i} = N$, go to (iv). If $\alpha'^{-i} \neq N$, repeat (iii).

(iii) check if $\alpha'^{-i} = 0$. If $\alpha'^{-i} = 0$, go to (iv). If $\alpha'^{-i} \neq 0$, pick up $\alpha'^{-i}$ and then go to (ii-b).

(iv) stop searching and produce the candidate set.

In (112), $\alpha_i = 0$ or $\alpha'^{-i} = 0$ means that there is no NP available for the searching engine to pick up. Of course, it is possible that the candidate set may be completely empty. In that case, the reflexive would have no binding domain and may thus be free in reference in the relevant sentence.

As for the prominent NPs, they can be be defined below:

\[(113) \quad \text{The Definition of the Prominent NPs}\]
A. In Chinese, an NP is the most prominent NP for the P-engine iff it appears the highest in PH, and an NP is the most prominent NP for the R-engine iff there is no B such that B appears higher than A in a higher hierarchy in PR according to PCA. In English, the most prominent NP for the R-engine is the subject/SUBJECT, i.e., [NP, IP], [NP, NP], or AGR.

B. (i) The assignment of antecedents to the reflexive is constrained by the following PR’.

\[ PR' = AH > GFH > SH \]

In Chinese, an NP that appears the highest in PR’ in its own derivational cycle is a prominent NP that can antecede the reflexive iff there is no closer NP that appears higher than it in PR’ in the binding domain. And, an NP that appears the highest in PR’ in its own derivational cycle but lower than a closer NP in PR’ in the binding domain of the reflexive is also a prominent NP that can antecede the reflexive, iff this NP can bear the speaker’s empathy. (ii) In English, A is a prominent NP for the reflexive if A c-commands the reflexive.

I use PR’ rather than PR to regulate the assignment of antecedents to the reflexive because the latter is used to choose only the most prominent NP for the R-engine, and thus cannot correctly predict which NP is the prominent NP that can antecede the reflexive. Notice that in the above definition, the notion of prominence has two uses. The most prominent NP is defined for the searching engines. The prominent
NP is used to assign the antecedents to the reflexive. In defining the possible antecedents, the notion of the derivational cycle is involved. A derivational cycle is a domain upon which rules operate, e.g., the clause (IP). Later on, I will show why the notion of the derivational cycle is needed in defining the possible antecedents for the reflexive.

Now, consider the following sentences:

(114) Lisi yiwei wo_j de xuesheng bu xihuan ziji*/i/*j/*k.

Lisi think I DE student not like self

‘Lisi thinks that my student does not like himself.’

(115) a. Zhangsan shuo Lisi gaosu-guo wo_k Wangwu hen ziji*/i/*j/*k/*n.

Zhangsan say Lisi tell-ASP me Wangwu hate self

‘Zhangsan said that Lisi told me that Wangwu hates himself/him.’

b. Zhangsan yiwei Lisi dui wo_k shuo-guo Wangwu chang piping ziji*/i/*j/*k/*n.

Zhangsan think Lisi to me say-ASP Wangwu often criticize self

‘Zhangsan thinks Lisi told me that Wangwu often criticized himself/him.’

c. Zhangsan yiwei Lisi cong ni_k nar tinghuso Wangwu

Zhangsan think Lisi from you there hear-say Wangwu

chang piping ziji*/i/*j/*k/*n.

often criticize self

‘Zhangsan thinks that Lisi heard from you that Wangwu often criticized himself/him.’

(114) is repeated from (63), and the sentences given in (115) are constructed on the basis of (64). What is interesting about (114) is that although the first/second
person pronoun in it is not a possible antecedent, and thus may not treated as the most prominent binder, it produces the blocking effect. How is this possible? If the first/second person pronoun is not the most prominent binder in these sentences, one expects that the reflexive can be bound across it, but in fact, it cannot. According to Xue et al. (1994), \textit{ziji} cannot refer to the intermediate subject in (115), but according to Pan (2001) and my own judgment, it can, though a mild blocking effect occurs when \textit{ziji} refers to the intermediate subject. Notice that, although \textit{ziji} can refer to the intermediate subject, it cannot refer to the matrix subject in (115).

Based upon Huang and Tang (1991), I assume that there are two feature-searching engines that operate simultaneously in overt syntax to find possible antecedents for \textit{ziji}. The LD binding property of \textit{ziji} is derived from the fact that the phi-feature searching process and the referential feature searching process are governed by two different prominence conditions. Under the present analysis, the P-engine’s feature-searching process is regulated by PH only, and PR is thus irrelevant to the P-engine’s searching. Since the P-engine’s searching process is constrained by the prominence condition, it stops its searching whenever it finds the most prominent NP defined by PH. When it stops its searching, the P-engine will produce a set of candidates.

Consider (114). The P-engine will first find the embedded subject \textit{xuesheng} ‘student’, and since it is a third person NP, and is thus not the most prominent one in PH, the P-engine will continue its search. The next one found by the P-engine is the first person pronoun dominated by the embedded subject. Since the first person pronoun is the most prominent NP according to PH, the P-engine stops its searching process here. Now, the candidate set produced by the P-engine includes the first person pronoun \textit{wo} ‘I’ and the embedded subject \textit{xuesheng}. The R-engine
will also produce a set in its searching. It stops its searching when it finds the embedded subject *xuesheng* since it is the most prominent NP in PR according to PCA. *Xuesheng* is more prominent than *wo* in SH and CH, though they are equally prominent in GFH, AH and EH. Hence, *xuesheng* is more prominent than *wo*. If we compare the prominence of *xuesheng* with that of the matrix subject, we find that the former is more prominent than the latter in CH, though they are equally prominent in SH, GFH, AH and EH. Since no other NP is more prominent than *xuesheng* in (114), *xuesheng* is chosen as the most prominent NP by the R-engine. When *xuesheng* is picked up by the R-engine, the searching process is stopped. The union of the candidate sets produced by the P-engine and the R-engine is \{*wo*, *xuesheng*\}. Hence, the binding domain for *ziji* is the embedded clause since the embedded clause is the minimal CFC that contains the reflexive and the candidate set defined for the reflexive. In this domain, *xuesheng* is the only possible antecedent for *ziji* since the first person pronoun *wo* ‘I’, as a sub-commander NP dominated by the commander NP *xuesheng*, is less prominent than *xuesheng* in SH in the derivational cycle, i.e., the clause that contains both *wo* and *xuesheng*. Hence, *wo* cannot function as a possible antecedent for *ziji*. Since the matrix subject is not in the binding domain, *ziji* cannot be bound to it, given that *ziji* can only choose its possible antecedents in its binding domain.

Now, consider (115). In (115a), the candidate set produced by the P-engine is \{*wo*, *Wangwu*\}. The matrix subject *Zhangsan* and the intermediate subject *Lisi* are not included since the P-engine stops its searching when it finds the most prominent NP *wo* ‘I’ defined by PH. The candidate set produced by the R-engine has only one member which is \{*Wangwu*\} since *Wangwu* is the most prominent NP in (115a) in PR according to PCA. *Wangwu* is the most prominent NP because no
other NP is more prominent than it, given that it is more prominent than the matrix object _wo_ in CH and GFH, and more prominent than the matrix subject _Zhangsan_ and the intermediate subject _Lisi_ in CH. The union of these two sets is \{wo, Wangwu\}. Since the minimal CFC that contains the candidate set and the reflexive is the intermediate clause followed by the embedded clause, the combination of the intermediate clause and the embedded clause constitutes the binding domain of the reflexive. Notice that the binding domain cannot be the embedded clause since the embedded clause does not contain _wo_, which is a member of the candidate set. Since _Wangwu_ is the most prominent NP and there is no closer NP that appears higher than it in PR’ in the binding domain, _ziji_ can be bound to it. In (115a), _wo_ cannot antecede _ziji_ since _wo_, as an object, is less prominent than _Lisi_ in PR’ in its own derivational cycle, i.e., the intermediate clause. _Lisi_, as a prominent NP in its own derivational cycle, can antecede _ziji_ since it is contained in the binding domain.

In (115b) and (115c), the story is basically the same. In (115b), the P-engine stops when it finds the first person pronoun _wo_ with a candidate set \{Lisi, wo, Wangwu\}. _Lisi_ is included in the candidate set because the operation of the searching engines is constrained by the Closeness Condition proposed by Pan (1998), repeated below:

(116) The Closeness Condition (Pan 1998: 793)

\[ \alpha \text{ is closer to } X, \text{ the reflexive, than } \beta \text{ is iff the path from } X \text{ to the minimal maximal projection dominating } \alpha \text{ is a proper subset of the path from } X \text{ to the minimal maximal projection dominating } \beta. \]
According to the above condition, there is no subset relation between the path from the reflexive to the intermediate subject and the path from the reflexive to the adjunct *dui wo* ‘to me’ in (115b), as shown in (117).

As shown in (117), the path from *ziji* to the PP node dominating NP₃ is \{ VP₄, IP₄, VP₃, VP₂, PP\}, and the path from *ziji* to the IP₂ node dominating NP₂ is \{ VP₄, IP₄, ...\}.
VP₃, VP₂, IP₂}. As there is no path containment relation between the path from ziji to the adjunct and the one from ziji to the intermediate subject Lisi, the grammatical system cannot determine which one the P-engine finds first. As a result, both are chosen as the members of the candidate set. Since the adjunct in (115b) is a first person pronoun, the P-engine stops its search after picking up the adjunct and the intermediate subject. The candidate set produced by the R-engine includes only one member which is Wangwu. The union of these two sets is {Lisi, wo, Wangwu}. Since the minimal CFC containing the union of these two sets and the reflexive is the intermediate clause followed by the embedded clause, the binding domain of the reflexive is the combination of the intermediate clause and the embedded clause. Since wo, as an adjunct, is a non-c-commanding NP, and is thus less prominent than the intermediate subject Lisi in PR’ in its own derivational cycle, it cannot antecede ziji. Wangwu can be the antecedent of ziji since it is the most prominent NP in its own derivational cycle and there is no closer NP that appears higher than it in PR’ in the binding domain. Lisi can antecede ziji since it is contained in the binding domain and is also prominent in its derivational cycle. In (115c), the candidate set produced by the P-engine is {Lisi, ni, Wangwu}, and the one produced by the R-engine is {Wangwu}. The R-engine picks up both Lisi and ni because it cannot determine which one is closer to the reflexive. The union of these two sets results in a set {Lisi, ni, Wangwu}. Since Wangwu, as an embedded subject, is the most prominent NP in PR’ in its own derivational cycle (the embedded clause) and there is no closer NP that is more prominent than it in PR’ in the binding domain, it can antecede ziji. The second person pronoun ni ‘you’ cannot antecede ziji since it is an adjunct and thus less prominent than the intermediate subject Lisi in PR’ in its own derivational cycle. Lisi can be the
antecedent since it is contained in the binding domain and prominent in its derivational cycle.

Now, consider the following sentence, repeated from (71a):

(118) Wo, bu xihuan Lisi guan ziji de shi.

I not like Lisi interfere self DE matter

‘I don’t like Lisi interfering in my/his (own) business.’

In (118), the candidate set produced by the P-engine is \{wo, Lisi\}, and the candidate set produced by the R-engine is \{Lisi\} since \textit{Lisi} is the most prominent NP for the R-engine. The union of these two sets is \{wo, Lisi\}. Since the minimal CFC that contains the candidate set and the reflexive is the whole sentence, the whole sentence is the binding domain. Since both the matrix subject \textit{wo} and the embedded subject \textit{Lisi} are prominent in their own derivational cycles in PR’, both of them can be the antecedents of \textit{ziji}. Notice that the closer NP \textit{Lisi} does not block the binding of the reflexive to the matrix subject since \textit{Lisi} does not appear higher than the matrix subject in PR’. Our system of two engines will also predict that if (118) is embedded as a complement clause, the union of the candidate sets produced by the P-engine and the R-engine is the same, as shown in the following sentence, where \textit{ziji} can be bound to either the local subject or the intermediate subject, but cannot be bound across the intermediate subject since the intermediate clause defines the upper boundary of the binding domain.

(119) Zhangsan, zhidao wo, bu xihuan Lisi guan ziji de shi.

Zhangsan know I not like Lisi interfere self DE matter
‘Zhangsan knows that I don’t like Lisi interfering in my/his (own) business.’

The present analysis can also account for the so-called local binding of ziji discussed in Huang and Liu (2001). Consider the following sentences repeated from (81a) and (82a):

(120) a. Zhangsani gaosu wo zijii de er’zi zui congming.

Zhangsan tell me self DE son most clever

‘Zhangsan told me that his son was the cleverest.’

b. Zhangsani dui wo shuo zijii piping-le Lisi.

Zhangsan to me say self criticize-ASP Lisi

‘Zhangsan said to me that he criticized Lisi.’

In (120a), the candidate set produced by the P-engine includes only one member, i.e., {wo}, and the one produced by the R-engine includes two members, i.e., {Zhangsan, wo}. The union of these two sets produces the candidate set {Zhangsan, wo}, and the binding domain is the whole sentence that contains the candidate set. Since Zhangsan and wo are contained in the same derivational cycle, and the former, as a subject, is more prominent than the latter, which is an object, in a higher hierarchy (i.e., GFH) in PR’ and there is no closer NP that is more prominent than it in the binding domain, it is chosen as the antecedent of ziji. In (120b), the candidate set produced by the P-engine is {Zhangsan, wo}, and the one produced by the R-engine is also {Zhangsan, wo}. The union of these two sets results in the candidate set: {Zhangsan, wo}, and the binding domain is the whole sentence that contains the candidate set. Since Zhangsan is more prominent than
wo in PR’ and there is no closer NP that appears higher than it in the binding domain, it is chosen as the antecedent of ziji. Note that our analysis can correctly capture the fact that in (120a) and (120b) the first person pronoun wo does not block the binding of ziji to the matrix subject without assuming that ziji in these sentences is a local reflexive constrained by a different binding condition. Obviously, the present analysis fares better since it gives a unified account for ziji. Note that as I have already pointed out, it is dubious to treat ziji in (120a) and (120b) as a local reflexive since it is in free variation with the pronoun.

Now, consider the following sentences repeated from (66):

(121) a. Zhangsan, yiwei Lisi, hui ba ni, ling hui ziji de jia.

Zhangsan think Lisi will BA you lead back self DE home
‘Zhangsan thought Lisi would take you back to his/your home.’

b. Zhangsan, yiwei Lisi, hui bei ni, ling hui ziji de jia.

Zhangsan think Lisi will BEI you lead back self DE home
‘Zhangsan thought Lisi would be taken by you back to his/your home.’

In (121a), the candidate set produced by the P-engine is {Lisi, ni}. Lisi is included in the candidate set because the operation of the searching engines is constrained by the Closeness Condition, according to which there is no subset relation between the path from the reflexive to the embedded subject and the path from the reflexive to the ba/bei nominal in (121a) because the ba/bei nominals are adjuncts in these sentences, as shown in (122).
As shown in (122), the path from \textit{ziji} to the PP node dominating NP\(_3\) is \{VP\(_3\), VP\(_2\), PP\}, and the path from \textit{ziji} to the IP\(_2\) node dominating NP\(_2\) is \{VP\(_3\), VP\(_2\), IP\(_2\)\}. As there is no path containment relation between the path from \textit{ziji} to the \textit{ba} nominal and the one from \textit{ziji} to the embedded subject \textit{Lisi}, the grammatical system cannot determine which one the P-engine finds first. As a result, both are chosen as the members of the candidate set. Since the \textit{ba} nominal is a second person pronoun, the
P-engine stops its search after choosing the *ba* nominal and the embedded subject. The candidate set produced by the R-engine includes \{Lisi, ni\}. The R-engine stops when picking up the embedded subject *Lisi* since *Lisi* is the most prominent NP for the R-engine, as it is more prominent than the matrix subject in CH, and more prominent than the *ba* nominal *ni* in SH and GFH. The union of the sets produced by the P-engine and the R-engine is \{Lisi, ni\}. Since the embedded subject *Lisi* is more prominent than the *ba* nominal, which is in an adjunct position, in PR' and there is no closer NP that is more prominent than it in the binding domain, *Lisi* is chosen as the antecedent. However, the *ba* nominal obviously can also be the antecedent. How is this possible? This is possible because the candidate set contains not only the embedded subject and the *ba* nominal, but also a Pro, which is co-indexed with the *ba* nominal. Consider the following representation for part of the structure of (121a):

(123) \[IP Lisi, hui [VP ba ni [VP ling t [Pro, hui ziji, de jia]]]]

Lisi will  BA you  lead       back self  DE home

The structural representation given in (123) shows that the *ba* nominal is underlyingly the object of the verb *ling* ‘lead’, and the subject of the verb *hui* ‘return’ is a Pro co-indexed with the *ba* nominal. Chomsky (1981: 20, 60, 322) assumes that PRO, which is the controlled Pro under the present analysis, has phi-features such as person, number, and gender, but lacks independent or inherent reference. Following Chomsky (1981), let us assume that the controlled Pro has phi-features, though it has no reference. Assume that its reference can only be obtained from an antecedent under control. If Pro has phi-features, then it can be
included in the candidate set produced by the P-engine. Since Pro in (121a), as shown in (123), is co-indexed with the *ba* nominal, the *ba* nominal can be associated with Pro via co-indexation for interpretation though the *ba* nominal itself is not a possible antecedent for *ziji*. Note that the present analysis predicts that there is a blocking effect exhibited in (121a) when *ziji* is bound to the matrix subject.

Now, consider (121b). In (121b), the candidates selected by the P-engine are *Lisi* and *ni*, as there is no subset relation between the path from *ziji* to *Lisi* and the one from *ziji* to the *bei* nominal. Under the present analysis, *bei* is treated as a preposition, and hence, the *bei* nominal is treated as an adjunct, as shown in (124) below. Note that under the analysis assumed by Huang (1999) and Tang (2001), the nominal after *bei* is treated as a subject. One obvious problem with this analysis is that it fails to account for the blocking effect. If the *bei* nominal is really a subject, *ziji* cannot be bound across it in (121b). It is a well-tested fact that when functioning as the subject, the first/second person pronoun will block the binding of *ziji*. However, in (121b) there is no blocking effect at all when *ziji* is bound to *Lisi* across the second person pronoun that follows *bei*. This fact clearly demonstrates that the nominal that follows *bei* is not a subject.

(124) \([p Lisi \text{ hui} [vp bei ni] [vp ling ti [Proi hui ziji de jia]]]\)

*Lisi will BEI you lead back self DE home*

The candidate set produced by the R-engine contains \{Lisi, ni\}. The union of the two sets gives us the set \{Lisi, ni\}. Since *Lisi* is more prominent than *ni* in PR’ in its own derivational cycle and there is no closer NP that is more prominent than it
in the binding domain, it is chosen as the antecedent. But, it should be noted that *ni*
can also function as the antecedent, though it is less prominent than *Lisi*. I will soon
explain why *ni* can also antecede *ziji*.

What is interesting about the sentences in (121) is that native speakers’
judgments vary. Some native speakers feel that there is a blocking effect exhibited
in (121), whereas some feel that there is not. Cole et al. (2001) also note that the
blocking effect is not strong in sentences like (121). The question to ask is why
some native speakers feel that the blocking effect does not exist in (121). One
possible reason for this is that the *ba/bei* nominals in these sentences are members
of a chain. Consider (123). In (123), the chain formed by the *ba* nominal contains
three members before the binding of *ziji*: \{*ni*, *t*, *Pro*\}. Suppose that when the
P-engine finds a chain in its search, it does not select the whole chain, but only one
member of the chain. In fact, it is redundant to put the whole chain into the
candidate set, given the fact that members of a chain share their phi-features via
co-indexation. If it is true that selecting one member is enough, the P-engine, of
course, will select the member that is the closest to *ziji*. In (121a), the member in
the chain \{*ni*, *t*, *Pro*\} that is the closest to *ziji* is *Pro*. Assume that, although *Pro*
has phi-features, it does not have a full specification of phi-features. Specifically, it
does not have clearly specified person features before being co-indexed with an
antecedent. If this is true, this means that the person feature on *Pro* is not strong.
Under this situation, since *Pro*, instead of the second person pronoun, is selected
from the chain, and since *Pro* does not have a strong person feature, and is thus not
regarded as the most prominent NP, the P-engine can continue its search and thus
produce a candidate set including \{*Zhangsan*, *Lisi*, *Pro*\}. Since all the members of
this candidate set are subjects and thus prominent in their derivational cycles, they
all can function as the antecedent of *ziji*. This result reflects the intuition shared by those native speakers who do not feel that there is a blocking effect in (121a).

The same analysis can be applied to the *bei* nominal in (121b). Part of the structure of (121b) can be represented below:

\[(125) \text{[IP Lisi hui \textbf{VP bei ni \textbf{VP Pro j ling ti \textbf{Pro hui ziji de jia}]]}}\]

Lisi will BEI you lead back self DE home

I have argued that the *bei* nominal is not subject, but adjunct. Here, I further argue that the NP that follows *bei* is not moved from the VP-internal subject position. Rather it is a base-generated adjunct. The VP-internal position is occupied by a base-generated Pro bearing the agent role. It should be pointed out that in contemporary generative grammar, the *by*-phrase in English passive sentences is also not treated as a movement-derived phrase. Although English and Chinese share this similarity in passives, there is an important difference between English and Chinese with respect to the formation of passives. In English, passivization is realized in morphology and the agent role is absorbed in morphology and thus cannot be realized as an argument in syntax, though it may still have a semantic effect on sentence interpretation as an implicit argument. In Chinese, passive sentences are not derived from a morphological process, and hence, the agent role is not absorbed in morphology, and can thus be realized as an argument. Hence, one important difference between English and Chinese with respect to passivization is that the agent role is not realized in syntax in English, but may have syntactic realization in Chinese. Notice that the above structure given in (125) is very plausible for Chinese passive sentences. If passives in Chinese do not have the
above structure, it is hard to explain why the blocking effect in the *bei* sentence is not strong. As shown in (115), the blocking effect for *ziji* is stronger when the first/second person pronouns are in object positions or other adjunct positions. If the present analysis is not assumed, there is no reason why the blocking effect formed by the *bei* nominal should be weak, given that it is also an agent. Since both *ba* nominals and *bei* nominals exhibit the weak blocking effect when they are first/second person pronouns, they must have properties in common. If we assume that control structures are involved in both *ba* and *bei* sentences and that the P-engine can choose the controlled Pro as the candidate, we can explain why the blocking effect found in (115) is stronger though the blockers are not possible antecedents in these sentences. This is because in these sentences, the first/second person pronouns do not form a chain with controlled Pro’s, and hence, they themselves will be picked up by the P-engine. In the following sentence, the blocking effect is also weak because the first/second pronoun forms a chain with a Pro.

(126) Zhangsān, yiwei Li sī hui quan     niₖ [Proₖ tou  zijiₖ/k de piao].
    'Zhangsan thinks that Lisi may persuade you to vote for him/yourself.'

In the above sentence, the blocking effect is also not strong when *ziji* refers to the matrix subject. If the sentences in (121) are treated on a par with the above sentence, a unified account can be achieved. Notice that if the present analysis is adopted, the reason why the *bei* nominal can be the antecedent of the reflexive is explained. This is because it controls a Pro that can antecedes the reflexive.
If (121b) does have a structure as (125), the reason why some native speakers feel that there is no blocking effect in it is explained. In (121b), as represented in (125), the candidate set produced by the P-engine is \{Zhangsan, Pro\_j, Pro\_i\}. The candidate set produced by the R-engine is \{Lisi, ni\}. Note that Pro will not be selected by the R-engine since Pro has no reference. The union of these two sets produces the candidate set \{Zhangsan, Lisi, ni\_j, Pro\_j, Pro\_i\}. Since the minimal CFC containing the candidate set and the reflexive is the whole sentence, the binding domain of the reflexive is the whole sentence. Since Zhangsan, Pro\_j, and Pro\_i are subjects and thus prominent in PR’, and since Pro\_j and Pro\_i can obtain reference from their controllers, ziji can be bound to either Zhangsan, Lisi, or ni in (121b). If it is co-referential with Zhangsan, it is directly bound by it. If it is co-referential with Lisi or ni, it is indirectly co-indexed with them via the controlled Pro.

Native speakers’ judgments on sentences in (121) vary because there are two strategies available. For those speakers who adopt the Pro strategy, they do not feel the existence of the blocking effect. For those who do not adopt the Pro strategy, they do feel that the blocking effect exists in these sentences.

Note that since the blocking effect is derived from the prominence of NPs, it can be assumed that it is possible for the strength of the blocking effect to be weakened in some cases. This is exactly what happens in the following sentences:

(127) a. Ta pa wo chaoguo ziji.
   he fear I surpass self
   ‘He is afraid that I may surpass him.’

b. Zongtong qing wo zuo zai ziji de pangbian.
   president ask I sit at self DE side
‘The president asked me to sit beside him.’

(Xu 1993: 136)

(128) a. Ta, pa ni chaoguo ziji de erzi.

he fear you surpass self DE son

‘He is afraid that you may surpass your/his son.’

b. Zongtong, qing wo zuo zai ziji de taitai pangbian.

president ask I sit at self DE wife side

‘The president asked me to sit beside my/his wife.’

Sentences like (127b) and (128b) involve control structures. In these sentences, the verb qing ‘ask’ is a control verb and its object controls the empty subject of the embedded clause. For instance, (127b) can be represented below:

(129) Zongtong, qing wo [Proj zuo zai ziji de pangbian].

president ask I sit at self DE side

In (129), the candidate set produced by the P-engine is \{zongtong, Pro\}, and the one produced by the R-engine is \{zongtong, wo\}. The union of these two sets is \{zongtong, wo, Pro\}. Since wo is co-indexed with Pro, and ziji can refer to either the matrix subject zongtong ‘president’ or Pro, both zongtong and wo can be the antecedent of ziji. Note that in (127b), ziji does not prefer to be bound to Pro which is controlled by wo because their co-reference does not conform to our world knowledge. In (128b), ziji can be bound to the matrix object controlled Pro because their co-reference is not in conflict with our knowledge of the world.

In (127a) and (128a), ziji is bound across the first/person pronoun. This means
that the prominence defined by the first/second person pronoun is not absolute. The prominence of the embedded first/second person pronoun subject in these sentences is first reduced by the embedded predicate which is termed as irreflexive predicate in Pan (2001), and then surpassed by the prominence of the subject of an inherent empathy verb. Note that if the matrix verb in these sentences is replaced by a non-empathy verb, the situation may be different.

(130) a. Ta_i shuo woj chaoguo-le ziji_wj.
   he say I surpass-ASP self
   ‘He said that I had surpassed him.’

b. Ta_i shuo ni_j chaoguo-le ziji_wji de er’zi.
   he say you surpass-ASP self DE son
   ‘He said that you had surpassed your/his son.’

In (130), it becomes difficult for ziji to be bound to the matrix subject across the first/second person pronoun since, although the prominence of the embedded subject is reduced by the semantics of the embedded predicate, the matrix subject is not more prominent than the embedded subject. Under the present analysis, in (127a) and (128a), the subject of the matrix predicate is more prominent than the embedded subject in terms of the Empathy Hierarchy (EH), the highest hierarchy in PR. Hence, ziji can be bound to the matrix subject in these sentences. For instance, in (128a), the candidate set chosen by the P-engnie is {ni}, and the candidate set chosen by the R-engine is {ta, ni}. The matrix subject ta ‘he’ is included by the R-engine because it appears higher in PR. The union of these two sets results in the set {ta, ni}. Since both the matrix subject and the embedded subject appear higher
in PR’ in their derivational cycles, both of them can antecede ziji.

Now, consider the following examples, repeated from (62a), and (97d):

(131) a. Zhan-san shuo wo de jiao’ao hai-le ziji

Zhangsan say I DE pride hurt-ASP self

‘Zhangsan said that my pride hurt myself.’

(Huang and Tang 1991: 269)

b. John shuo [Bill de xiaocongming] hai-le ta-ziji

John say Bill DE little-trick hurt-ASP he-self

‘John said that Bill’s little trick hurt him.’

(Pan 1998: 785)

In (131a), the candidate set produced by the P-engine is \( \{\text{wo}\} \), and the candidate set produced by the R-engine is \( \{\text{wo}, \text{jiao’ao}\} \). The union of these two sets produces the candidate set \( \{\text{wo, jiao’ao}\} \), and the binding domain is the embedded clause. The matrix subject is not chosen by the R-engine because the sub-commander wo ‘I’ is the most prominent NP. Wo is more prominent than the embedded subject jiao’ao ‘pride’ in AH. Although jiao’ao appears higher than wo in SH and CH, SH and CH are ranked lower than AH in PR. Hence, wo is more prominent than jiao’ao since wo appears higher than jiao’ao in a higher hierarchy.

Notice that wo is also more prominent than the matrix subject Zhangsan in (131a) since it appears higher than Zhangsan in CH. Although Zhangsan appears higher than wo in SH, SH is ranked lower than CH. Since no other NP is more prominent than wo in (131a), wo is chosen as the most prominent NP by the R-engine. It is obvious that wo is the only NP that can antecede ziji in (131a) since it is the most
prominent NP in its derivational cycle and there is no closer NP that is more prominent than it in the binding domain. The matrix subject cannot antecede the reflexive since it is not included in the binding domain. Now, consider (131b). Pan (1998) claims that in (131b) both the sub-commander and the matrix subject can antecede the reflexive. If there is no difference between the embedded sub-commander and the matrix subject in anteceding the reflexive, Pan’s claim will present a problem for the present analysis. However, since the present approach aims to work out a preferred interpretation for reflexives, and in fact, there exists a difference between the embedded sub-commander and the matrix subject in anteceding the reflexive in (131b), his claim would not present a real problem for the present analysis. According to the native speakers’ judgment, it is difficult for the compound reflexive to refer to the matrix subject across the sub-commander in (131b), and there is no substantial difference between ziji in (131a) and ta-ziji in (131b) in their binding possibilities. This fact suggests that there is something in common between (131a) and (131b). In (131b), the most prominent NP for the R-engine is also the sub-commander contained in the embedded subject.

5. Further Discussion

5.1 The Derivational Cycle

According to the definition of the prominent NPs given in (113), the reflexive in Chinese can be bound to an accessible prominent NP that appears the highest in PR’ in a derivational cycle if there is no closer NP that appears higher than it in PR’ in the binding domain of the reflexive, and the reflexive can also be bound to an NP that is less prominent than a closer NP in PR’ in the binding domain of the reflexive
but appears the highest in a given derivational cycle in PR’ if and only if this NP bears the speaker’s empathy. The notion of the derivational cycle can be defined below:

(132) A derivational cycle is a domain upon which rules operate, e.g., the clause.

One may ask why the notion of the derivational cycle is needed. The idea of including the notion of the derivational cycle in defining the possible antecedents for the reflexive is inspired by Pan’s (2001: 297) Condition for Self-Ascription Ziji.

The basic idea is that the prominent antecedent for the reflexive can also result from the comparison of the prominence of the relevant NPs according to the relevant prominence hierarchies within the derivational cycle, i.e, the clause. Consider the following sentences:

(133) a. Lisi gaosu Markj Suek pian-le ziji_{i/j/k}.
   Lisi tell Mark Sue cheat-ASP self
   ‘Lisi told Mark that Sue cheated herself/him.’

b. Wuqing de shishì gaosu Markj Suek pian-le ziji_{i/j/k}.
   cruel DE fact tell Mark Sue cheat-ASP self
   ‘The cruel fact told Mark that Sue cheated herself/him.’
   (Pan 2001: 301)

c. Zhangsan, de xin biaoshi [Lisi hai-le ziji_{i/j}].
   Zhangsan DE letter indicate Lisi hurt-ASP self
   ‘Zhangsan’s letter indicates that Lisi hurt himself.’
   (Huang and Tang: 267)
d. Zhangsan, de xin anshi Lisi, hai-le ziji.

Zhangsan DE letter hint Lisi harm-ASP self

‘Zhangsan’s letter hinted that Lisi harmed him/himself.’

(Pan 2001: 282)

In (133a), *ziji* can be bound to either the embedded subject or the matrix subject, as these two subjects are the most prominent NPs in PR’ in their derivational cycles, i.e., the embedded clause and the matrix clause. In (133a) the reflexive cannot be bound to the matrix object, because the matrix object is less prominent than the matrix subject in its derivational cycle in PR’. Notice that, although the reflexive cannot be bound to the matrix object in (133a), it can be bound to it in (133b), according to Pan (2001). The contrast between these two sentences is just predicted by the present analysis. In (133b), *ziji* can be bound to the matrix object because the matrix object is prominent in its derivational cycle, i.e., the matrix clause, given that the matrix subject, as inanimate NP, is less prominent than it in PR’. Notice that, although in (133b), the matrix object *Mark* is less prominent than the closer NP *Sue* in PR’ in the binding domain, it is an NP that the speaker can empathize with, because it can be interpreted as an indirect experiencer, as suggested by Xu (1994). Hence, according to the definition of the prominent NP given in (113B), it can antecede the reflexive. In (133c), it is difficult for the reflexive to refer to the matrix sub-commander, though the latter is prominent in PR’ in its derivational cycle. The matrix sub-commander cannot antecede the reflexive because there is a closer NP, i.e., the embedded subject *Lisi*, that appears higher than it in PR’ in the binding domain. Notice that, according to (113B), an NP prominent in its own derivational cycle but less prominent than a closer NP in PR’ in the binding domain
can antecede the reflexive if and only if it bears the speaker’s empathy. But in (133c), the matrix sub-commander does not bear the speaker’s empathy since the verb *biaoshi* ‘indicate, show’ can only indicate the speaker’s objective judgment, but not subjective empathy. In (133d), the reflexive can refer to the matrix sub-commander. The matrix sub-commander *Zhangsan* in (133d) is prominent in its own derivational cycle. Although it is less prominent than the closer NP *Lisi* in PR’ in the binding domain of the reflexive, it can antecede the reflexive since it can receive the speaker’s empathy. The use of the verb *anshi* ‘hint’ indicates the speaker’s empathy with the sub-commander. Notice that, although the sub-commander is not the subject of the verb *anshi* in syntax, it is in fact associated with the agent role of the verb in semantic interpretation. The subject *xin* ‘letter’ can be interpreted as an instrument in semantics since the verb *anshi* requires an animate agent. Hence, the meaning of the sentence is *Zhangsan hinted in (with) his letter that Lisi harmed him.*

It should be pointed out that different languages may have different definitions of prominent NPs in assigning the possible antecedents to the reflexive. For instance, the prominent NP that can antecede the reflexive in English is the c-commanding NP. In (134a), both the subject and the object can antecede the reflexive as they are both prominent in terms of c-command:

(134) a. John, talked to Bill, about himself.

(Kuno 1987: 154)

b. Lisi gaosu le ta ziji de fenshu.

Lisi tell ASP him self DE grade

‘Lisi told him his own grade.’
However, in the Chinese sentence (134b), the preferred antecedent for the reflexive is the subject since it appears higher than the object in PR’. Notice that the notion of prominence can account for not only the blocking effect, but also the subject-orientation exhibited in Chinese reflexive binding. Reflexives tend to choose subjects as their antecedents because they are more prominent. If elements other than subjects are also prominent, as shown in (133b) and (133d), they can also be chosen as antecedents.

5.2 The Non-Contrastive and Contrastive Compound Reflexives

As mentioned in section 4.1, according to Pan (1998), the compound reflexive in Chinese can be bound to an adjunct antecedent in the following sentences.

(135) a. Wo wei Johni zhaodao-le ta-ziji, de zuoye.
    I  for John  find-ASP he-self DE homework
    ‘I found John’s homework for him.’

b. Lisi zai Zhangsanj jiali tingshuo ta-zijij de wenzhang fabiao-le.
    Lisi  at Zhangsan home hear   he-self DE  article   publish-ASP
    ‘At Zhangsan’s home Lisi heard that his article was published.’

c. Lisi, cong Zhangsanj nar tingshuo zanyang ta-zijij de wenzhang
    Lisi  from Zhangsan there hear praise he-self DE article
    publish-ASP
    ‘Lisi heard from Zhangsan that the article that praised him was published.’
However, according to my and other native speakers’ judgment, the compound reflexive cannot refer to the adjunct antecedents in the above sentences if used non-contrastively. Note that according to Xue et al. (1994), the compound reflexive in the following sentence cannot refer to the object.

(136) Zhangsan\textsubscript{i} gaosu Lisi\textsubscript{j} ta-ziji\textsubscript{i}/*j de shenshi.

\textbf{Zhangsan tell Lisi he-self DE life-story} \\
‘Zhangsan told Lisi the story of his life.’

(Xue et al. 1994: 435)

If it cannot refer to the object, one wonders how it is possible for it to refer to the adjunct in (135), given that an adjunct is obviously less prominent than an object since adjuncts do not c-command the reflexive. Notice that in (135a), the adjunct is the only choice for the reflexive since the subject is incompatible with the reflexive in person feature. If the matrix subject is replaced by a third person NP, the reflexive does not tend to refer to the adjunct, as shown below:

(137) Lisi\textsubscript{i} wei John\textsubscript{j} zhaodao-le ta-ziji\textsubscript{j}/*j de zuoye.

\textbf{Lisi for John find-ASP he-self DE homework} \\
‘Lisi found his homework for John.’

Here, the question to ask is why the grammatical judgments vary. I think that the answer lies in the fact that the compound reflexive in Chinese can be used as an
intensive pronoun. Note that, when the compound reflexive like ta-ziji is used as an intensive pronoun, it can be used deictically and refer to a contextual antecedent.

(138) Ni qu wen ta-ziji ba.

you go ask he-self SFP

Lit. ‘You may go to ask him HIMSELF.’

Since the compound reflexive like ta-ziji can be used as an intensive pronoun, it is quite possible that the native speakers who can get the coreferential reading between the reflexive and the adjuncts in (135) and (137) may take the contrastive reading of the reflexive as the non-contrastive reflexive reading. Pan (1998) discusses the distinction between the contrastive compound reflexive and the non-contrastive one in Chinese, and claims that the contrastive ta-ziji is stressed in the ziji part, whereas the non-contrastive ta-ziji is pronounced neutrally. Obviously, this phonological criterion is not reliable since the intensive pronoun in (138) can also be pronounced neutrally, and the non-contrastive ta-ziji can also be pronounced with stress on ziji. Since he does not offer any reliable syntactic means to make a distinction between the non-contrastive compound reflexive and the contrastive one in Chinese, Pan (1998) fails to show that the compound reflexive is not used as an intensive pronoun when it refers to the adjunct antecedents in (135). In fact, there is a way to make a syntactic distinction between the non-contrastive compound reflexive and the contrastive one in Chinese. When I ask a native speaker of Beijing dialect if it is possible for the compound reflexive to refer to the adjunct antecedents in sentences given in (135), she tells me that if the adjunct is intended as the antecedent, she prefers to replace the compound reflexive with a
form like NP+\textit{ziji}. For instance, she prefers to say the following if the adjunct is treated as the antecedent:

(139) Zhangsan wei Lisi, zhaodao-le Lisi-\textit{ziji}, de zuoye.

\textit{Lit.} ‘Zhangsan found Lisi’s own homework for Lisi.’

Notice that in the following sentence, the non-contrastive \textit{ta-ziji} cannot be replaced by an NP+\textit{ziji} form, even though \textit{ta-ziji} is LD bound.

(140) Lisi, shuo na-ben shu fang zai *Lisi-\textit{ziji} (=ta-\textit{ziji}) de jiali.

\textit{Lit.} ‘Lisi said that that book was put at Lisi’s own home.’

As shown in (139) and (140), when \textit{ta-ziji} refers to the adjunct antecedent, it is used as an intensive pronoun and can thus be replaced by NP+\textit{ziji}, and when it refers to a prominent antecedent within its binding domain, it is used as a non-contrastive reflexive and cannot be replaced by NP+\textit{ziji}. Notice that RBC will not be responsible for the binding of the contrastive reflexive.

Since I tie the binding possibilities of the reflexive to the prominence of the NP in RBC, it can be seen that RBC can only work out a preferred interpretation for the reflexive since prominence is a relative rather than an absolute concept. Although the compound reflexive does not prefer to be bound to the adjunct antecedent, it can refer to it if it is made prominent. If the adjunct antecedent is made prominent, even \textit{ziji} can refer to it. There are a variety of ways to make an NP
prominent. Contextualization is one of the possible ways. Consider the following sentence:

(141) Lisi zhao ziji de zhaopian yizhi mei zhaodao,
      Lisi look-for self DE photo all-the-time not find
zuihou haishi Zhangsan wei ta zhaodao le ziji de zhaopian.
      finally still Zhangsan for he find ASP self DE photo
      ‘Lisi tried to find his photo for a long time, but did not find it. In the end, it is
      still Zhangsan who found his photo for him.’

5.3 Multiple Occurrences of Ziji

According to Pan (1995, 1997, 2001), the two occurrences of ziji in (142) can have
their possible readings in (143a) and (143b), but not in (143c) or (143d).

(142) John renwei Bill zhidao Mark ba ziji de shu jie gei-le
      John think Bill know Mark BA self DE book loan-to-ASP
      ziji de pengyou.
      self DE friend
      ‘John thinks Bill knows that Mark has loaned his book to his friend.’
      (Pan 1997: 167)

(143) a. John renwei Bill zhidao Mark ba ziji de shu jie-gei-le
      John think Bill know Mark BA self DE book loan-to-ASP
      ziji de pengyou.
      self DE friend
‘John thinks Bill knows that Mark has loaned his book to his friend.’

b. *John, renwei Bill, zhidao Mark, ba zij, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
zij de pengyou.
self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

c. *John, renwei Bill, zhidao Mark, ba zij, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
zij de pengyou.
self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

d. *John, renwei Bill, zhidao Mark, ba zij, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
zij de pengyou.
self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

(Pan 1997: 167)

Pan (1995, 1997, 2001) further notes that, although the mixed readings are not possible in (143c) and (143d), they are possible in the following sentences:

(144) a. *John, renwei Bill, zhidao Mark, ba zij, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
zij de pengyou.
self DE friend
‘John thinks Bill knows that Mark has loaned his book to his friend.’

b. John, renwei Bill, zhidao Mark, ba ziji, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-Perf
ziji, de pengyou.

self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

c. John, renwei Bill, zhidao Mark, ba ziji, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
ziji, de pengyou.

self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

d. John, renwei Bill, zhidao Mark, ba ziji, de shu jie-gei-le

John think Bill know Mark BA self DE book loan-to-ASP
ziji, de pengyou.

self DE friend

‘John thinks Bill knows that Mark has loaned his book to his friend.’

(Pan 1997: 168)

Pan (1995, 1997, 2001) points out that in (143c) and (143d), the mixed readings are not allowed because the reflexives involved are LD bound, and that in (144) the mixed readings can be derived because one of the reflexives involved is locally bound. Based on this fact, Pan (1995, 1997, 2001) argues that locally bound ziji and LD bound ziji are constrained by different conditions.

I think that the above evidence cannot be used to support the distinction between the locally bound ziji and the LD bound ziji in these sentences. First, in all
the sentences given in (144), the so-called locally bound *ziji* can be replaced by a pronoun *ta* ‘he’. If it is really a local reflexive, the reason why it can be replaced by a pronoun is left unanswered. Second, although it is difficult to get the mixed readings in (143c) and (143d), native speakers find that the mixed readings in (144) are also not easy to obtain. The preferred interpretation for the multiple occurrences of *ziji* is that they refer to the same antecedent. This fact shows that the difficulties in acquiring the mixed readings in the relevant sentences may not result from the fact that one of the two occurrences of *ziji* is locally bound, whereas the other is LD bound in these sentences, but from some processing constraints that do not prefer the mixed readings since the mixed readings are more difficult for the interpreter to process. Consider (145) and (146), where the two occurrences of LD *ziji* are intended to have mixed readings with the subject of the matrix clause and the subject of the intermediate clause. According to the native speakers’ judgment, there is no difference between (144) and (145-146) in obtaining the mixed readings.

(145) a. ?Lao nainai, zhidao Wang xiaojiej daxin na-xie ren hui ba ziji de
    old granny know Wang miss worry that-CL people will BA self DE
    haizi cong ziji de jia-li dai-zou.
    child from self DE home-in take-go
    ‘The old granny knew that Miss Wang was worrying that those people
    would take her child away from her home.’

b. ?Lao nainai, zhidaow Wang xiaojiej daxin na-xie ren hui ba ziji de
    old granny know Wang miss worry that-CL people will BA self
    haizi cong ziji de jia-li dai-zou.
child from self DE home-in take-go

‘The old granny knew that Miss Wang was worrying that those people would take her child away from her home.’

(146) a. ?Zuotian Zhangsheng, he-zui le jiu, Yingyingj Xiaojie zhidao ta,
yesterday Zhangsan drink-drunk ASP spirits Yingying Miss know he
genben jiu bu hui jiede shi shei ba ziji song-dao ziji de
at-all just not will remember SHI who BA self send-to self DE
jia-li qu de.
home-in go DE

‘Zhangsheng was drunk yesterday. Ms. Yingying knew that he could not remember at all who took him back to her home.’

b. ?Zuotian Zhangsheng, he-zui le jiu, Yingyingj Xiaojie zhidao ta,
yesterday Zhangsan drink-drunk ASP spirits Yingying Miss know he
genben jiu bu hui jiede shi shei ba ziji song-dao ziji de
at-all just not will remember SHI who BA self send-to self DE
jia-li qu de.
home-in go DE

‘Zhangsheng was drunk yesterday. Ms. Yingying knew that he could not remember at all who took her back to his home.’

6. Summary

In this chapter I have shown that it is necessary to make a distinction between not only dependency and reflexivity, but also SELF and OTHER. I have demonstrated that our feature characterization of anaphoric expressions fares better than R&R’s
in capturing the referential properties of Chinese anaphoric expressions. On the basis of an assumption made in Huang and Tang (1991), I derive the LD binding properties of *ziji* from its lack of phi-features and referential features and show that it is constrained by the same binding condition that applies to the compound reflexive in Chinese. What is crucial for the present analysis is Prominence. It is Prominence that defines the binding domain of reflexives, which is consistent with the conception that Prominence plays a crucial role in Chinese reflexive binding, as pointed out in Pan (1998) and Xu (1999). According to Pan (1998), Chinese compound reflexives like *ta-ziji* also exhibit the blocking effect. Under the present analysis, *ta-ziji* is blocked by the most prominent NP selected by the R-engine since it only lacks the referential feature. *Ziji* is different from *ta-ziji* in that it lacks not only the referential feature, but also the phi-feature, and must thus depend on two feature-searching engines to define the most prominent NP for its binding domain. When the binding domain of *ziji* is defined by the union of the sets determined by the two prominent NPs selected by the two searching engines, the blocking effect is derived if *ziji* is bound outside of its binding domain. Notice that under the present analysis, the binding domain is determined by the size of the candidate set. Since in this work the binding domain of the reflexive is defined as the minimal CFC that contains the candidate set and the reflexive, the actual size of the binding domain of the reflexive may be larger than that of the candidate set, as shown in (115a), though in many cases they have the same size.
Notes

1 According to Lidz (2001b), Near-reflexivity is primarily a property of anaphors, and derivatively a property of predicates.

2 This example was constructed by me in May 2000, and was used by Dr. Haihua Pan in reviewing a paper submitted to a journal.

3 In spoken Chinese, pronouns do not show any contrast in gender.

4 Xu (p.c.) points out that since Huang’s (1983) definition of the GC does not consider animacy, it would wrongly predict that there is a difference between ziji in (79a), (80a), (81a), and (82a), and the one in the following sentence:

(i) Lisi shuo na-feng xin hai le ziji.
    Lisi say this-CL letter harm-ASP self
    ‘Lisi said that that letter harmed him.’

5 Pan (p.c.) points out that in the following sentence, the second occurrence of ziji cannot be replaced by a pronoun when it refers to the embedded subject:

(i) John renwei Bill zhidaow Mark wei ziji de pengyou da-le ziji yi-xia’r.
    John think Bill know Mark for self DE friend beat-ASP self once
    ‘John thinks Bill knows that Mark has beaten him for his friend.’

I agree with Pan that, when the second occurrence of ziji refers to the embedded subject in
(i), it is a local reflexive. But the point is that it is also possible for the two occurrences of *ziji* to have mixed readings with the matrix subject and the intermediate subject in (i). For instance, in (i) the first occurrence of *ziji* can refer to the intermediate subject, with the second occurrence of *ziji* referring to the matrix subject. Notice that in the following sentences, it is even easier for the first occurrence of *ziji* to refer to the intermediate subject, and the second occurrence of *ziji* to refer to the matrix subject.

(ii)  

(a) John pa Bill hui rang Mark ti ziji de pengyou lai da ziji.
    John fear Bill will let Mark for self DE friend come beat self
    ‘John is afraid that Bill will ask Mark to come and beat him for his friends.’

(b) John pa Bill hui yaoqiu Mark ti ziji lai da ziji.
    John fear Bill will request Mark for self come beat self
    ‘John is afraid that Bill will ask Mark to come and beat him for him.’

The fact that the two occurrences of *ziji* can obtain mixed readings with the two non-local subjects in (ii) shows that it may not be the distinction between the locally bound *ziji* and the LD bound *ziji* that determines whether the multiple occurrence of *ziji* can have the mixed readings with the relevant subjects.