Controlled Reflexives: A Study on Chinese Reflexives*

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Abstract

Chinese reflexives have been one of the often-discussed grammatical topics in Chinese linguistics and have been put forward various explanations on its binding relation, theoretically or functionally. In direct contrast to English anaphors, which are not allowed to be independent in reference, reflexives in Chinese bear no exact resemblance in this respect whatsoever. This paper aims, first, to examine data concerning Chinese reflexive anaphors, which show that both zijì and pronoun+zijì can be free (from binding). Since binding principle A demands that an anaphor be co-indexed with an antecedent somewhere in a local zone, a reflexive without a binder in a local domain or even in the entire sentence obviously violates the binding theory. Second, the relation between the binding properties of Chinese reflexives and the binding theory will then be discussed; and finally, a control account for the Chinese reflexive zijì will be proposed to explain its distributions.

Key words: Reflexives, Binding, Control, C-command, PRO

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0. INTRODUCTION

There are two types of reflexives in Chinese: the plain form ziji ‘self’ and the compound form pronoun+ziji ‘himself, yourself, ourselves, etc.’ The former is known as long-distance reflexive, whereas the latter is short-distance reflexive,¹ as illustrated in (1).

(1) a. Long-distance reflexive

張太太，承認李四婚前常常到自己家門口站崗
Zhangtaitai, chengren Lisi hunqian changchang
Ms. Zhang admit Lisi before getting married often
dao ziji de jia menkou zhangang.
go to self’s home entrance wait
“Ms. Zhang admitted that before they’d got married Lisi often went to her home entrance to wait for her coming home.”

b. Short-distance reflexive

張三，認為李四，說的是他自己
Zhangsan, renwei Lisi, shuo de shi ta-ziji
Zhangsan thought Lisi say Nom was he-self
“Zhangsan thought that what Lisi pointed out was Lisi himself.”

Within the framework of Government and Binding (Chomsky (1996)), the

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¹This paper presents a different explanation on the syntactic behavior of Chinese reflexives than the previous one published in the JCLA, vol. 31, 2001. For the purpose of consistency, certain description and examples used in the previous paper are repeated here.

Depending on the preference of the author, the two types of reflexive anaphors have been variously termed as follows:

(i)ziji ‘self’: long-distance reflexive, bare reflexive, monomorphemic reflexive, nonphrasal reflexive.

(ii)pronoun+ziji ‘himself, yourself, etc.’: short-distance reflexive, compound reflexive, polymorphemic reflexive, phrasal reflexive.
relation of anaphors to their antecedents is assumed to fall under the syntactic Binding Condition A: An anaphor must be bound in a local domain. However, there are three binding problems associated with Chinese reflexives showing that it seems difficult to distinguish those Chinese reflexive anaphors that are structurally constrained from those that are constrained by non-structural consideration. As we shall see in this paper, in certain situation Chinese reflexives allow various types of non-c-commanders; they may be free in other situation; they may occur in certain structural configurations that are similar to that of PRO; the reflexive zijí can ‘overlook’ its local subject binder to be either long-distance or discourse bound. All of these suggest that the interpretation of Chinese reflexives involves some non-structural factors as well as some general binding properties. Solely depending on the binding theory to explain all the anaphoric binding relations thus becomes untenable.

1. Three Binding Problems of Chinese Reflexives

1.1 Non-c-commanding Antecedents

Reflexive anaphors are well known to require c-commanding antecedents; nevertheless sometimes they can be anteceded by non-c-commanding NPs. As Huang and Tang (1988) point out, in Chinese it is possible for a non-c-commanding NP to antecede zijí if it is a sub-commander or an experiencer, as shown in (2).

(2)a. 自己的親人失蹤的消息使李四很難過。
   [zijí de qínren shízōng de xiāoxi] shí Lí sì hén nánguó.
   self POSS relative missing POSS news make Lisi very sad
   “The news that his own relatives were missing made Lisi sad.”

b. [張三的壞脾氣]害了自己。
   [Zhuāngsān de huài píqì] hài-le zíjǐ
   Zhangsan POSS bad temper hurt-ASP self
   “Zhangsan’s bad temper hurt himself.”
In (2a) *ziji*'s antecedent Lisi is an experiencer, whereas *ziji*'s binder Zhangsan in (2b) is a sub-commander. As a matter of fact, *ziji*'s binding problem can be much more severe. In addition to experiencers and sub-commanders, there exist two more different types of non-c-commanding situations: when the antecedent is in possessive position of a raising NP and, when the antecedent is in object position. Examples (3-4) exhibit these two types of non-c-commanding structures, respectively.

(3) 張三i 說自己ij 的兒子李四j 竟然不要。

*Zhangsan* shuo [zijiij de erzi[Lisi j jingran bu yao]]

"Zhangsan said that Lisi unexpectedly didn’t want his own son."

(4) 自己i 支持張三j 的原因是他j 以前也支持過我i。

*ziji* zhichi Zhangsanij de yuanyin shi taj yiqian ye zhichi-guo wo.

do support Zhangsan POSS reason is he before also support-ASP I

"The reason that I supported Zhangsan was that he too supported me before."

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In (3-4) we clearly see that the reflexive *ziji*’s antecedent in each sentence fails to c-command *ziji*. Furthermore, as we can see, examples (3-4) demonstrate two entirely different types of non-c-commanding situations from (2). That would mean, if the observation in this paper is correct, Chinese reflexives would have at least four types of non-commanders, including experiencers and sub-commanders. This diversity argues against a solution involving parameterizing c-command into a variety of somewhat similar principles, say, c-command, sub-command, x-command, y-command, etc.²

Let us now look in some more detail at the structures of (3-4). In (3) we know that the NP *ziji de erzi* ‘self’s son’ has been moved from its object position at D-Structure to be adjoined to IP2. In other words, the D-Structure of (3) would be roughly as follows.

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² Cole and Sung (1990) have argued that parameterizing the notion of c-command into two different types: c-command and sub-command, is not a preferable approach because it is possible to account for the sub-commanding problem via a c-commanding explanation. Although, as we shall soon see, Cole and Sung’s alternate proposal still fails to explain the non-c-commanding problems shown in this section, their objection of sub-commanding account is not implausible.
The binding relations between *ziji* and *Zhangsan* and *Lisi* are the same after and before the movement. Notice that, however, this does not tell us that in this type of structure the embedded subject NP can always be a non-c-commander. Consider Huang and Tang's (1988) example in (6) and its D-Structure representation in (7).

(6) 張三_i 說自己_i/ziji_的書裡李四_j 最喜歡。
    Zhangsan_i shuo [ziji_i de shu [Lisi_j zui xihuan]]
    Zhangsan say self_i's book Lisi most like
    (Lit.)"Zhangsan_i said that, self_i's book, Lisi_j likes most."

(7) D-Structure
    Zhangsan_i shuo [Lisi_j zui xihuan ziji_ij de shu]
    Zhangsan say Lisi most like self_i's book
    "Zhangsan_i said that Lisi_j likes his_ij book most."

We see in (6-7) that the reflexive *ziji* cannot be bound by *Lisi* after raising. Since (3) and (6) have the same structure, whether the embedded subject NP can serve as a non-c-commander in this type of construction is evidently determined by nonstructural factors.
Turn now to (4). One may argue that the non-c-commander wo ‘I’ has been moved in the syntax from the matrix subject position to the embedded object position. Thus, its D-Structure may look like (8).

(8) IP1

NP     VP

   IP2 NP    V    IP3

      NP  VP  yuanyin  NP  VP

         NP  V  NP       V  NP

   |  ziji  |  wo  |  ta  |  zhichi-guo  e

Structure (8) is very arguable, and it involves the issue whether the reflexive ziji can be a subject. I will temporarily leave this question and return to it in the subsequent discussion.

In summary, we have seen that Chinese reflexives permit several types of non-commanders, which seems to suggest that the c-command requirement may be not very important in a language like Chinese.

1.2 Free Reflexives in Chinese

In this section we will observe some sentences in Chinese, which show that both ziji and pronoun+ziji can be free from indexing. Since principle A demands that an anaphor be bound in its governing category, a syntactically well-formed free reflexive in its governing category is definitely not allowed in the binding theory. For example, let’s consider the following sentences quoted from Chao (1968) and Lü (1945), respectively.
(9) a. 自己做錯了事，不應該怪人。
   ziji zuo-cuole shi, bu yinggai guai ren
   self do-wrong thing not should blame people
   “When one has done something wrong oneself, one should not blame it on someone else.” (Chao 1968)

b. 另外那些你自己留著吧。
   lingwai naxie ni-ziji liu-zhe ba
   addition those you-self keep-ASP SA
   “Why don’t you keep those yourself?” (Lü 1945)

c. 他自己人摔下來了。
   ta-ziji ren shuai-xialai le
   he-self person fall-off ASP
   “It in person (i.e. bodily) fell off.” (Chao 1968)

In (9) we see that the subject reflexive has no syntactic binder at all. In fact, a free reflexive is not necessarily restricted to subject position only. Recall that direct object and possessive positions are also possible for antecedents to stay. The following two sentences in (10) are examples.

(10) a. [那个人] 欺負過自己。
   [nage ren] qifu guo ziji
   that man bully ASP self
   “That man has bullied me before.”

b. 張三, 是曾經救過自己 的大恩人。
   Zhangsan shi cengjing jiu guo ziji de da enren
   Zhangsan is have been save ASP self POSS big benefactor
   “Zhangsan, who saved my life before, is my great benefactor.”

Chinese reflexives evidently can be free not only in subject position, as in (9), but also in direct position, as in (10). The binding theory in this regard provides no satisfactory explanation towards the phenomena.
1.2.1 Obligatory Long-Distance and Discourse Binding Phenomena

We have just seen certain examples of free reflexives, which are contrary to what is assumed in the binding theory. There are two more types of such binding phenomena particularly concerning the reflexive *ziji* that deserve our attention. For reasons that will soon be clear, such binding phenomena are termed **obligatory long-distance binding** and **obligatory discourse binding**. Let’s first consider the examples in (11).

(11) a. 張三, 發現李四, 對自己, 沒有異心。
    Zhangsan, faxian [Lisi, dui zijii, you yixin]
    Zhangsan find Lisi to self have disloyalty
    “Zhangsan found that Lisi was disloyal to him.”

b. 張三, 不滿李四, 搶去自己, 的飯碗。
    Zhangsan, bu man [Lisi, qiangqu zijii, de fanwan]
    Zhangsan not like Lisi take away self POSS rice bow
    “Zhangsan did not like it that Lisi took away his job.”

The notion of governing category in this work is referring to Chomsky’s (1986a) CFC version. Thus, a reflexive anaphor must be bound in the least IP (= S) or NP if there is a potential NP that can bind the reflexive. On the other hand, a pronoun must be free within the same domain. In (11), the embedded clause is the CFC for the reflexive *ziji*, since there is a potential NP Lisi that can serve as *ziji*’s antecedent in this domain. Yet we find that they cannot corefer. The reflexive *ziji* in (11) must be bound by the remote subject Zhangsan. (11) obviously is not consistent with the CFC. However, this violation does not entail that the reflexive *ziji* in a case like (11) fails to be locally bound. Compare (11) with the examples in (12), with a similar structural representation:

(12) a. 張三, 發現李四, 對自己, 有偏見。
    Zhangsan, faxian [Lisi, dui zijii, you pianjian]
    Zhangsan find Lisi to self have prejudice
    “Zhangsan found that Lisi has had prejudice against him/himself.”
b. 張三 不滿李四 先吃掉自己 的飯。
Zhangsan, bu man [Lisi xian chidiaozijih de fan]
Zhangsan not like Lisi first eat self POSS rice
“Zhangsan did not like it that Lisi ate his food first.”

The reflexive *ziji* in the same argument position in (12) must be locally bound, suggesting that some lexical or other factors are involved in (12). As we can see, *ziji* in (11) behaves like a pronoun as it is free in its binding domain, whereas *ziji* in (12) is like an anaphor since it must be bound in its governing category.

Unlike Chinese, English does not allow anaphoric dependency beyond a sentence boundary. Consider (13):

(13) a. *Bill* knew that [Alice criticized himself.]
    b. Bill knew that [John criticized himi/*him.*]

Even in (13b) the locality requirement is respected. That is, the pronoun him must have disjoint reference in the smallest IP (= the embedded S), so that we can derive the correct binding result. For the reason that the pronoun him must be free in the embedded clause, disjoint reference between John and him is required. Thus, the binding phenomenon in (11) can be referred to obligatory long-distance binding, in the sense that the reflexive must be co-indexed with an NP in the sentence that is outside its binding domain.

Turn now to another type of binding involving a free reflexive. Consider (14) below:

(14) a. [那個人] 欺負過自己。
    [nage ren] qifu guo ziji*
    that person bully ASP self
    “That man has bullied me before.”

b. 張三 是曾經救過自己 的大恩人。
Zhangsan shi cengjing jiu guo ziji* de da enren
Zhangsan is have been save ASP self POSS big benefactor
“Zhangsan is my great benefactor who has saved me before.”
That is, a reflexive that is subsumed within a sentence should always have an internal potential antecedent. The reflexive *ziji* here, however, for some nonstructural reason, overlooks the potential antecedent and goes outside the sentence to look for its referent, which may be the speaker, or anyone in the discourse world. In this paper this type of binding phenomenon is thus referred to obligatory discourse binding.

It is easy to see why both types of binding phenomena do not follow from the binding theory. If the binding theory can allow an anaphor to be free in its binding domain, it would create serious problems. For example, there would be no clear distinction between principles A and B.

Summarizing, Chinese has two types of structures in which the reflexive *ziji* exhibits a kind of ‘overlooking’ binding phenomenon, which cannot be explained in terms of the binding theory. When the reflexive *ziji* is directly bound by a remote antecedent in the sentence, it is obligatory long-distance binding; when *ziji* is directly bound by someone outside the sentence, it is obligatory discourse binding.

1.3 PRO-Like Reflexives

Thus far we have seen three types of unusual binding properties of Chinese reflexives: non-c-commanding antecedents, their being free and their ‘overlooking’ its local subject to be either long-distance or discourse bound. In this section we will see a fourth set of facts, which also raise serious problems for the binding theory. These involve verbal class dependent reflexives, by which this paper refers to reflexives that have similar referential properties to PRO in the so-called ‘subject control’ and ‘object control’ constructions. As is known, control constructions are associated with particular verbs, the English verb *try* with respect to subject control and *tell* in regard to object control, for example. However, there seems to be no directly corresponding constructions found in Chinese. We will see that while subject and object control constructions involve the null element PRO in English, they may otherwise involve reflexives or pro in Chinese. The later occurrence
suggests that the association between reflexives and their antecedents will entail non-syntactic considerations, similarly to the account given for PRO in the control theory.

Recall that we have seen that the reflexive $ziji$ in sentences such as (9a) has arbitrary reference; that is, it can refer to anyone. Nonetheless, the subject position of a sentential subject is not the only position that $ziji$ observes arbitrary reference. In an appropriate context, $ziji$ in matrix subject position can be arbitrarily bound:

(15) 自己不應該騙人。

$ziji \quad bu \quad yinggai \quad pian \quad ren$

self not should cheat people

“One must not cheat other persons.”

The reflexive $ziji$ observing arbitrary reference in (9a) and (15) raises an important question: is $ziji$ in (9a) and (15) a subject? Note that when $ziji$ has the meaning of ‘oneself’, its grammatical category must be pronominal, which implies that it is an NP rather than an emphatic element, and therefore can be a subject. More specifically, $ziji$ in (15) cannot be an emphatic element functioning as an adverb because it has no emphatic implication. The following structure would be problematic if $ziji$ behaves like an adverb.

(16) pro-自己不應該騙人。

$pro-ziji \quad bu \quad yinggai \quad pian \quad ren$

self not should cheat people

“(e)-self must not cheat other persons.”

If $ziji$ takes in the meaning ‘oneself’, how is it possible that $ziji$ in the same position functions as an adverb on one hand, and an NP argument on the other hand? Moreover, the $ziji$ as ‘oneself’ cannot be preceded by an optional NP element, since in syntax there is no place for this preceding NP and, if $ziji$ has a preceding NP element, it must be emphatic rather than with the meaning of ‘oneself’, as in (17) shown.
(17) 張三自己不應該騙人。
Zhangsan ziji bu yinggai pian ren
"Zhangsan himself must not cheat the other persons."

Similarly, ziji in (9a) is comprehended not to emphasize any specific person:

(18) 張三自己做錯了事，不應該怪人。
Zhangsan ziji zuo-cuo le shi, bu yinggai guai ren
"When Zhangsan himself has done something wrong, he should not blame it on someone else."

Accordingly we may conclude that when ziji in subject position has arbitrary reference, it must be an NP in preference to an emphatic element.

Within the framework of Government and Binding, the relation of reflexive anaphors to their antecedents are well known to fall under the binding theory. However, we have seen that certain constructions in Chinese containing reflexive anaphors do not seem to obey the binding theory. Consider further the following three groups of sentences, in which the reflexive ziji in each group demonstrates a distinct referential property.

(19) ziji may be co-indexed with subject or object or both

a. 張三 i 告訴李四 h 自己 i/h 去拿。
Zhangsan i gaosu Lisi h [ziji i/h qu na]
"Zhangsan told Lisi to take it (by) himself i/h."

b. 張三 i 告訴李四 h 自己 i/h 別去拿。
Zhangsan i gaosu Lisi h [ziji i/h bie qu na]
"Zhangsan told Lisi not to take it (by) himself i/h."

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(20) 

**ziji can be co-indexed with object only**

a. 張三_i 勸李四_h 自己_i*/h* 去拿。

Zhangsan_i quan Lisi_h [ziji_i*/h* qu na]
Zhangsan persuade Lisi self go take
“Zhangsan_i persuaded Lisi_h to take it (by) himself_i*/h*.”

b. 張三_i 懇求李四_h 自己_i*/h* 去拿

Zhangsan_i kenqiu Lisi_h [ziji_i*/h* qu na]
Zhangsan appeal Lisi self go take
“Zhangsan_i appealed Lisi_h to take it (by) himself_i*/h*.”

c. 張三_i 命令李四_h 自己_i*/h* 去拿

Zhangsan_i mingling Lisi_h [ziji_i*/h* qu na]
Zhangsan order Lisi self go take
“Zhangsan_i ordered Lisi_h to take it (by) himself_i*/h*.”

(21) **ziji can be co-indexed with subject only**

a. 張三_i 答應李四_h 自己_i*/h* 會去拿。

Zhangsan_i daying Lisi_h [ziji_i*/h* hui qu na]
Zhangsan promise Lisi self will go take
“Zhangsan_i told Lisi_h to take it (by) himself_i*/h*.”

b. 張三_i 請教李四_h 自己_i*/h* 怎麼拿。

Zhangsan_i qingjiao Lisi_h [ziji_i*/h* zeme na]
Zhangsan ask Lisi self how take
“Zhangsan_i asked Lisi_h how to take it (by) himself_i*/h*.”

Sentences in (19) show that ziji in the embedded clause may be bound by subject, object, or both simultaneously. Examples (20) and (21), which have the same structure as (19) except that the matrix verb is different, indicate that ziji can be
bound either by object or subject only. This suggests that the nature of the matrix
verb in each sentence plays a crucial role in determining the binding relation. One
may notice that the data (19-21) exhibit a similar control pattern to PRO in English,
as shown in (22).

(22) a. Bill persuaded John [PRO\textsubscript{i} to take it himself]  
    b. Bill\textsubscript{i} promised John [PRO\textsubscript{i} to take it himself]  
    c. Bill appealed to John\textsubscript{i} [PRO\textsubscript{i} to take it himself]  
    d. Bill\textsubscript{i} asked John [how PRO\textsubscript{i} to take it himself]  
    e. Bill told John\textsubscript{i} [how PRO\textsubscript{i} to take it himself]  
    f. John\textsubscript{i} hired Mary\textsubscript{h} [PRO\textsubscript{r/h} to fire Bill] (from Manzini 1983:428, cited in
Haegeman 1991)

Depending on the matrix verb, PRO in (22) is either interpreted as controlled by the
subject (as in (b) and (d)), object (as in (a), (c), and (e)), or both subject and object
(as in (f)). Thus, one reasonable possibility to explain Chinese sentences (19-21) is
that they may involve the null element PRO in subject position of the embedded
clause, something roughly like the following structures:

(23) a. 張三 i 告訴李四 h-自己 i/h [PRO 去拿]。  
      Zhangsan\textsubscript{i} gaosu Lisi\textsubscript{h-ziji\textsubscript{i/h}} [PRO qu na]  
      Zhangsan tell Lisi self go take  
    b. 張三 i 勸李四 h-自己* i/h [PRO 去拿]。  
      Zhangsan\textsubscript{i} quan Lisi\textsubscript{h-ziji* i/h} [PRO qu na]  
      Zhangsan persuade Lisi self go take  
    c. 張三 i 答應李四-自己 i [PRO 去拿]。  
      Zhangsan\textsubscript{i} daying Lisi-ziji\textsubscript{i} [PRO qu na]  
      Zhangsan promise Lisi self go take

One might suspect that Lisi and ziji are compounds, and therefore ziji is not in the
embedded subject position. Nevertheless, there are three reasons to reject (23). First,
structure (23a) is impossible because ziji has two readings. If the object Lisi ziji
were compounded, *ziji* could not take two indexes, a similar fact to the following English example:

(24) Bill$_1$ told John$_1$ himself$_{i/n}$ [PRO to take it]

More precisely, since the function of *ziji* in compound form (i.e. NP+*ziji*) is to modify (or emphasize) its preceding NP component, then in this case *ziji* cannot refer to an NP that is not in its preceding position. Second, (23c) is also not to be thought of because *ziji* is bound by the subject *Zhangsan* rather than its preceding NP *Lisi*. (23b) appears to be the only possible example that has a compound reflexive form in the object position and PRO in the embedded subject position, as in this sentence *ziji* modifies the object *Lisi*. However (23b) cannot have PRO in the embedded subject position, because we can always have a lexical nominal expression in place of PRO there, which indicates that PRO cannot be in the position. As is known in the theory, PRO can only occur in an ungoverned position. Compare (23b) with (25) below:

(25) 我勸李四 [他自己一個人去拿]。

    wo quan Lisi [ta-ziji yige ren qu na]

    I persuade Lisi he-self one person go take

    “I persuaded Lisi to take it by himself.”

(25) is grammatical, which suggests that the embedded subject position is a governed position, which in addition entails that the only possible null element that can occur in this embedded subject position is pro rather than PRO. Compare (25) with (26).

(26) 我勸李四 [(他自己)一個人去拿]。

    wo quan Lisi [(ta-ziji) yige ren qu na]

    I persuade Lisi (he-self) one person go take

    “I persuaded Lisi to take it by himself.”

The parallel between (25) and (26) shows that the empty element must be pro.\(^3\) A

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\(^3\) The embedded subject NP *ziji* in all the sentences (19-21) can be null, and therefore the position, if empty, must be pro.
structure like (27) is impossible:
(27) *?wo quan Lisi [PRO ta-ziji yige ren qu na]
    I persuade Lisi he-self one person go take
    "I persuaded Lisi to take it by himself."
Third, in colloquial speech, the complement of the matrix verb in structures like
(19-21) cannot be a compound reflexive. Consider the following sentences:
(28) a. *?wo quan Lisi ziji [pro qu na]
    I persuade Lisi self go take
    "I persuaded Lisi himself to take it."
b. *?wo jiao Lisi ziji [pro zeme na]
    I teach Lisi self how take
    "I taught Lisi how to take it by himself."
Evidence to support the idea that sentences in (28) are impossible comes from the
fact that in structures like (19-21), we can always have a pause between the object
and the embedded clause during the production of an utterance, approximately like
(29) below:
(29) wo quan Lisi, (ziji) qu na
    I persuade Lisi self go take
However, if the object were a compound reflexive, the production of an utterance
with a pause between the object and the embedded clause becomes very awkward
and rather unnatural, as in (30):
(30) *?wo quan Lisi ziji, pro qu na
    I persuade Lisi self go take
(30) is not an acceptable structure in natural speech, which leads us to believe that 
自己 cannot be an emphatic component in object position; rather, it must be an NP in 
the embedded subject position. For these three reasons, a conclusion can thus be 
made that structures (23a-c) are impossible, and 自己 or pro, instead of PRO, is the 
subject of the embedded clause in sentences like (19-21). Subsequently, one might 
consider another possibility for the embedded subject position in structures like 
(19-21):

(31) 張三告訴李四[PRO-自己去拿]。

Zhangsan gaosu Lisi [PRO-ziji qu na]
Zhangsan tell Lisi self go take

Before we are able to tell whether (31) is a possible structure, let us consider (32) 
first:

(32) a. 張三-自己一個人去拿。

Zhangsan-ziji yige ren qu na
Zhangsan-self one person go take
“Zhangsan went to take it (by) himself.”

b. 張三一個人去拿。

Zhangsan yige ren qu na
Zhangsan one person go take
“Zhangsan went to take it (by) himself.”

c. PRO 張三-自己一個人去拿。

PRO Zhangsan-ziji yige ren qu na
Zhangsan-self one person go take
“Zhangsan went to take it (by) himself.”

d. PRO 張三一個人去拿。

PRO Zhangsan yige ren qu na
Zhangsan one person go take
“Zhangsan went to take it (by) himself.”
What (32) tells us is that *Zhangsan-ziji* in (a) or *Zhangsan* in (b) must be a subject. Sentences (32c-d) are impossible because PRO must be in [NP, IP] position, the NP *Zhangsan-ziji* in (c) and *Zhangsan* in (d) would have no extra argument position to occupy. In other words, PRO cannot occur in (32c-d). Thus, in a like manner, if we have sentences like (33), PRO cannot be in the embedded subject position.

(33) ?? 張三告訴李四 [PRO王五-自己去拿]。

?? Zhangsan gaosu Lisi [PROi Wangwu-ziji qu na]
Zhangsan tell Lisi Wangwu-self go take
Since PRO in this sentence is supposed to refer to the matrix object Lisi, (33) clearly is not a creditable structure. One further piece of evidence to support the idea that *ziji* or pronoun+ziji can be a subject comes from (8), which shows that *ziji* must be regarded as a subject and the NP *wo* ‘me’ is not derived from Move-Alpha but is base-generated at D-Structure.

To conclude, in this section we have seen some sentence structures, which indicate that Chinese reflexives can occur in embedded subject position. This observation in turn suggests that first, the embedded clause in sentences like (19-21) must be finite; therefore, second, pro but not PRO can be in this embedded subject position and; third, *ziji* in this embedded subject position must be an NP rather than an emphatic element.

2. A Control Explanation

2.1 Why a Control Solution is Necessary

Section 2 is dedicated to propose a control hypothesis for Chinese reflexives. In the preceding section we have seen that certain types of Chinese reflexives, due to their similar referential properties to PRO, cannot be best explained by the binding theory. An alternative is to interpret them in terms of the notion ‘control.’ Before explaining this possibility, we must first examine the relation between PRO and the control theory.
According to Chomsky (1981, p.78), control theory "involves a number of different factors: structural configurations, intrinsic properties of verbs, other semantic and pragmatic considerations," distinct properties that are independent of the binding theory. Recall that the only NP category that falls under the theory of control is the null element PRO. We thus conclude that the relation of PRO to its antecedent relies on such factors as structural configurations, intrinsic properties of verbs, other semantic and pragmatic considerations. Or, more simply, it relies on the following three types of information: syntax, semantics, and pragmatics. Consider the following examples:

(34) a. Bill tried PRO to come
   b. Bill thought that it was possible PRO to finish the assignment in time
   c. I bought Mary some food [PRO [PRO to give t to John]]
   d. I got a check from Mary [PRO [PRO to give t to John]]
   e. [PRO living in my own country] is good for me.

As shown in (34), the relation between PRO and its antecedent in (a) is obligatory (i.e. an anaphor-like property), and is arbitrary in (b) (i.e. a pronominal-like property). In (c-d), the interpretation involves semantic or pragmatic considerations. And the c-command requirement is not necessary in (e).

One basic property of PRO is that it cannot have a governing category. This property, known as 'the PRO Theorem,' is derived from its feature specification [+ana, +pro]. Since if PRO is both an anaphor and a pronoun, it must obey principle A and B simultaneously, a contradictory situation. PRO therefore cannot have a governing category. The fact that PRO does not have a governing category is to say that it can never be governed. In this way, binding theory can only characterize PRO's distribution (i.e. PRO must always be in an ungoverned position) but not its reference. This is the reason why a separating module of the binding theory, control theory, is needed in the earlier version of GB framework.

Other important properties of PRO will be summarized in (35). For the purpose of
this presentation, these properties will be termed as **control properties**:

(35) Control Properties
   a. the c-command condition is not required for the antecedent of PRO
   b. PRO may be obligatorily or arbitrarily bound
   c. The relation of PRO to its antecedent may be dependent on the predicate
   d. PRO has the feature [+ana, +pro]

Although no one to date has claimed that any NP but PRO can have all of these properties as in (35), it seems reasonable to conclude that any NP category that observes these properties would fail to obtain its reference via the binding theory, and should be explained under the control theory. Turning to Chinese reflexives, we have seen that they follow (35a-c), but not (35d). Thus, we should explore the possibility of a control-type analysis for them.

The relevant facts discussed in the preceding section concerning certain verbal class dependent reflexives can be schematically represented in (36-38) below:

(36) ziji/pronoun+ziji may be bound by subject, object, or both
where the matrix V must be a verb such as gaosu ‘tell’, tongzhi ‘inform’, etc.

(37) ziji/pronoun+ziji can be bound by object only

![Diagram 1]

where the matrix V must be a verb such as quan ‘persuade’, kenqiu ‘appeal’, mingling ‘order’, yunxyu ‘allow’, guli ‘encourage’, etc.

(38) ziji/pronoun+ziji can be bound by subject only

![Diagram 2]
where the matrix V must be a verb such as daving ‘promise’, qingjiao ‘ask’, etc.
Two generalizations come out from (36-38). First, these reflexives must be [-ana, +pro] because they are in subject position. Second, the nature of the matrix verb controls the relation of the reflexives to their antecedents.

2.2 Extended Control Theory (ECT)

The Extended Control Theory (ECT thereafter) proposed for Chinese reflexives here in this section is made up of the following components. First, the notions of control and control domain are defined as follows:

(39) A controls B iff
    a. A and B are co-indexed;
    b. A and B are in A-positions.

(40) A is the control domain for B iff A is the least IP or NP containing B.

Second, the ECT is formulated as in (41):

(41) Extended Control Theory

Control Rule A
The reflexive ziji ‘self’ must be controlled in its minimal control domain if such a domain exists.

Control Rule B
The reflexive ziji ‘self’ must be free in its minimal control domain

Control Rule C
An embedded subject reflexive must be controlled by the matrix subject iff the matrix verb is daving ‘promise’ or qingjiao ‘ask’.

Control Rule D
An embedded subject reflexive must be controlled by the matrix object iff the matrix verb is quan ‘persuade’, kenqiu ‘appeal’, mingling ‘order’, yunxyu ‘allow’, or guli ‘encourage’.

Control Rule E
An embedded subject reflexive may be controlled by the matrix subject or
object or both iff the matrix verb is *gaosu* 'tell' or *tongzhi* 'inform'.

One point concerning control rule A requires further explanation here. That is, following Chomsky's version of the CFC, the control rule A too demands that the reflexive be bound in its control domain if there is a potential controller in this domain. In other words, if there is not such a potential controller in the reflexive's minimal control domain, then it has to look for its controller in the next higher domain.

Third, we need to characterize multiple control possibilities as follows:

(42) **Multiple Control Rule**

A reflexive is multiply controlled in the root IP iff

a. there are two (or more) NPs A & B, A & B are potential controllers for *ziji*, such that A & B are subjects

b. there are three (or more) NPs A & B & C, A & B & C are potential controllers for pronoun+*ziji*, such that A & B & C may be subjects or objects

c. there is no NP A, a blocker for *ziji*, such that A is in either of the following three situations:

(i) \( A_i ... [B_h ... ziji_{i/h}] \)

(ii) \( A_i ... B_h ... [C_k ... ziji_{i/h/k}] \)

(iii) \( A_i ... B_h ... [C_k ... ziji_{i/h/k}] \)

where the bold letter is a blocker for *ziji* if it is in first or second person

Since compound reflexives have an inherent \( \phi \)-feature, multiple control is possible only if every controller shares the same person and number. Note that reflexive *ziji* is controlled by two or more subjects, while the compound reflexive pronoun+*ziji* can be multiply controlled by subject or object. For example, if an object reflexive *ziji* has three potential controllers which meets (42c), then it must be controlled by all of them.

We are also required to designate the following classes of Anti-Control Predicates, which can block the control relation of *ziji* to its antecedent in its
minimal control domain:

(43) **Anti-Control Predicates**

a. Verbs Relating to ‘Abuse’
   
   qifu ‘bully’, huibang ‘slander’,

b. Directional Verbs
   
   guolai ‘come over’, jinlai ‘come in’, chulai ‘come out’, huilai ‘come back’,
   shanglai ‘come up’, xialai ‘come down’, qilai ‘get up’

c. Verbs Relating to Illegal Activities
   
   qiangqu ‘rob’, pianzou ‘gain something by cheating’

d. Predicates Relating to Unfavorable Characteristics
   
   you yixin ‘be disloyal’, you buliang qitu ‘to have ulterior motives’

Finally, we need a genitive NP control rule as follows:

(44) **Genitive NP Control Rule**

An NP A inside a genitive NP B can serve as a controller only if A is

a. an animate head noun, or

b. an animate possessive with an inanimate head noun

The following presentation shows how various types of reflexives comply with the ECT.

(45) If the reflexive zijj is/has

<table>
<thead>
<tr>
<th></th>
<th>Control Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>an embedded subject with a matrix verb</td>
<td>( \Rightarrow ) C</td>
</tr>
<tr>
<td>daying ‘promise’ or qingjiao ‘ask’</td>
<td></td>
</tr>
</tbody>
</table>
| quan ‘persuade’, kenqiu ‘appeal’, mingling
  ‘order’, yunxyu ‘allow’, or guli ‘encourage’ | \( \Rightarrow \) D |

---

4 In general, these verbs are required to show up with the verbal aspect guo.
2.3 How the ECT Works

2.3.1 Explaining the Problem of Non-c-command

Recall that we have seen certain types of non-c-commanding situations in examples (2-4). Let’s begin with (2a), partially repeated as (46).

(46) 自己的親人失蹤的消息使李四很難過。

[IP[NP ziji de qinren shizong de xiaoxi] shi Lisi hen nanguo.

self POSS relative missing POSS news make Lisi very sad

Since ziji in (46) is in possessive NP position and has no anti-control predicate, it must obey control rule A. The entire sentence is then the control domain for ziji because it is the least IP containing ziji. The reflexive ziji is co-indexed with the NP Lisi in this domain, which is required by control rule A.

Let’s turn to (2b), partially repeated as (47).
Controlled Reflexives: A Study on Chinese Reflexives

(47) [張三的壞脾氣]害了自己。

[IP1[NP Zhangsan de huai piqi] hai-le ziji]

Zhangsan POSS bad temper hurt-ASP self

The reflexive ziji in (47) is subject to control rule A, since ziji involves no anti-control predicate. Control rule A requires that ziji be controlled in its control domain, which is IP1 as it contains ziji and there is an animate NP that can serve as the reflexive’s controller. Note that, however, the potential NP is inside a genitive construction. According to Genitive NP Control Rule, the possessive NP Zhangsan is the only possible antecedent for ziji, seeing that the head noun is inanimate. In this control domain (i.e. IP1), ziji is correctly co-indexed with the NP Zhangsan. Turn now to (3), as in (48).

(48) 張三說自己ij的兒子李四j竟然不要。

Zhangsan shuo [ziji de erzi [Lisi jingran bu yiao]]

Zhangsan say self POSS son Lisi unexpectedly not want

“Zhangsan said that Lisi unexpectedly didn’t want his own son.”

Let us further compare (48) with (49).

(49) 張三說自己ij的書李四j最喜歡。

Zhangsan shuo [ziji de shu [Lisi zui xihuan]]

Zhangsan say self POSS book Lisi most like

“Zhangsan said that Lisi liked his book the most.”

Sentences (48) and (49) together tell us that the Extended Control Theory must be able to apply at D-structure, otherwise the problem caused by (48) and (49) cannot be given an account. If we assume (49) obeys control rule A (i.e. according to (45)), (48) cannot be explained. More clearly, we cannot account for why ziji in (48) can be controlled by the remote NP Zhangsan, which is outside its control domain (i.e. the embedded clause). On the other hand, if we assume that the Multiple Control Rule applies (because both sentences have two potential subject NP controllers), we can explain (48) but not (49). Thus, since at D-structure ziji is multiply bound
in both sentences (recall examples (5) and (7)), and since the c-command condition
is not required in this theory, it is plausible to assume that the Extended Control
Theory can apply at D-structure. Therefore, the reflexive *ziji* in (48) and (49) must
obey the Multiple Control Rule, because there are two potential controllers for *ziji*
(i.e. the two subject NPs Zhangsan and Lisi) and there is no NP that is a potential
blocker. The rule requires that *ziji* in (48) and (49) be multiply controlled in the
root sentence at D-structure.

Finally, let’s consider (4), repeated in (50).

(50) 自己支持張三的原因是他以前也支持過我。

*ziji* zhichi Zhangsan de yuyanin shi ta yiqian ye zhichi-guo wo.

self support Zhangsan POSS reason is he before also support-ASP I

“The reason that I supported Zhangsan was that he too supported me
before.”

The reflexive *ziji* in (50) is in the matrix subject position; so it is subject to control
rule B. The rule requires that the reflexive be free in its control domain. The
reflexive’s control domain is the subject NP as it is the least NP containing the
reflexive, and in which there is a potential NP in this domain. The potential NP
Zhangsan is not co-indexed with *ziji*, as demanded by control rule B.

2.3.2 Explaining the Problem of Free Reflexives

In this section we will see how the ECT explains the free reflexives in Chinese.

Consider first (51).

(51) 自己會去。

*ziji* hui qu

self will go

“(He/I) himself/myself will go.”

The reflexive in (51) is a matrix subject, which, according to (45), must obey
control rule B. As there is no potential controller in the entire sentence, *ziji* must be
free in the sentence, which is in accord with (51). Consider (52) next.
(52) [那个人] 欺負过自己。

[nage ren] qifu guo ziji
that man bully ASP self

"That man has bullied me before."

(52) involves an anti-control predicate, qifu ‘bully’; therefore, ziji must be subject to control rule B. The control domain for ziji is the whole sentence and it is free in the domain. The actual co-indexing shown in (52) is thus in accordance with control rule B.

Turn next to (53).

(53) 張三不滿[FP2 李四在背後毀謗自己]。

Zhangsan bu man [FP2 Lisi zai behou huibang ziji]
Zhangsan not like Lisi at back slander self

"Zhangsan did not like it that Lisi slandered him behind his back."

When ziji is the object of an insulting verb such as huibang ‘slander’, it must comply with control rule B, according to the ECT. In (53), FP2 is the control domain for ziji, in which ziji is free; therefore it follows control rule B.

2.3.3 Explaining the PRO-Like Reflexives

Recall that we have seen several types of PRO-like reflexives in the first section of this paper, namely, subject control reflexives, object control reflexives, and subject or object control reflexives. They are shown in (54a-c), respectively.

(54) a. 張三答應李四自己會去拿。

Zhangsan daying Lisi [ziji hui qu na]
Zhangsan promise Lisi self will go take

"Zhangsan told Lisi to take it (by) himself."

b. 張三鼓勵李四自己去拿。

Zhangsan guli Lisi [ziji qu na]
Zhangsan encourage Lisi self go take

"Zhangsan encouraged Lisi to take it (by) himself."
c. 張三 i 告訴李四 h 自己 i/h 去拿。
   Zhangsan i, gaosu Lisi h [ziji i/h qu na]
   "Zhangsan told Lisi that he自己 would take it (by) himself."

Note that the matrix verb in (54a) is dying ‘promise’, a subject control verb.
According to (45), ziji is subject to control rule C, and which correctly predicts that
ziji in the embedded subject position in (54a) is controlled by the matrix subject
Zhangsan. A similar explanation also applies to (54b-c).

2.4 Multiple Control

In this work the long-distance binding effect associated with Chinese reflexives
will be reinterpreted as multiple control. Consider the following examples:

(55) 張三 i 表示李四 h 害過自己 i/h。
   Zhangsan i biaoshi [IP2 Lisi h hai-guo ziji i/h]
   "Zhangsan indicated that Lisi had hurt himself/him."

The reflexive ziji in (55) must be multiply controlled in the entire sentence, because
there are two potential subject controllers Zhangsan and Lisi in the sentence, and
no blocker appears in the sentence (i.e. there is no potential controller that is in first
or second person). Thus, ziji can be multiply controlled by Zhangsan and Lisi.
Recall that the compound reflexive has been argued to observe no long-distance
binding effect, and we have seen in the section 1 that when the sentence has at least
three levels of embedding, long-distance binding turns out to be possible. Consider
(56).

(56) a. 王五 i 希望張三 h 向李四 k 請求是否能讓他自己 i/h/k 一個人去。
   Wangwu i xiwang Zhangsan h xiang Lisi k qingqu [IP3 shifou neng
   Wangwu hope Zhangsan to Lisi ask whether can
   rang ta-ziji i/h/k yige ren qu]
   let he-self one person go
   "Wangwu hoped that Zhangsan asked Lisi whether he could go by himself."
b. 王五，同意張三，向李四，說為何老師，只喜歡他自己。

Wangwu, tongyi Zhangsan, xiang Lisi, shuoming [IP3 weihe laoshi, y
Wangwu agree Zhangsan to Lisi explain why teacher
zhi xuan ta-ziji,]
only choose he-self

"Wangwu agreed that Zhangsan explained to Lisi the reason why the teacher
chose him/himself only."

According to the Multiple Control Rule, ta-ziji in (56) must be multiply controlled,
since every controller shares the same person and number (i.e. being the third
person and singular). The multiple control explanation in (56) accounts for the
long-distance binding effect of pronoun+ziji.

Let’s now go on to consider (57), in which multiple control is impossible:

(57) a. 張三，我，覺得李四，常欺騙自己。

Zhangsan, shuo wo, jude [IP3 Lisi, chang qipian ziji,]
Zhangsan say I feel Lisi often cheat self

“Zhangsan said that I felt that Lisi often cheated himself.”

b. 張三，你，覺得李四，常欺騙自己。

Zhangsan, shuo ni, jude [IP3 Lisi, chang kupian ziji,]
Zhangsan say you feel Lisi often cheat self

“Zhangsan said that you felt that Lisi often cheated himself.”

The reflexive ziji in (57) cannot be multiply controlled in the root sentence,
because the nearest remote NP in (a) is in first person wo ‘I’ and in (b) the second
person ni ‘you’. More specifically, since (42c) of the Multiple Control Rule is not
satisfied, multiple control is not allowed in cases like (57).

3. Conclusion

This paper presents a rather different look at Chinese reflexives. Evidence
presented in this work shows that Chinese reflexives behave quite irregularly. For
examples, they allow several different types of non-c-commanders and can be
surprisingly free in their governing category or the entire sentence, even though there is a potential NP binder in the binding domain. Furthermore, we find that Chinese reflexives can show up in certain types of control structures, which implies that their interpretation is somewhat like PRO in a similar structure: their reference determination is dependent on the nature of the predicate. All these unusual properties pose serious problems for the binding theory, which posits a purely syntactic approach. This paper further shows that some Chinese reflexives seem to obey principle A, but others can be quite free in reference, showing that c-command appears not to be obligatory. They can be arbitrarily bound, and their relation to their antecedents may not be syntactically constrained. A more serious problem is that we do not seem to be able to, in a principled way, distinguish those reflexives that are subject to the binding theory from those that are not. This work, therefore, proposes a possible explanation concerning the problems shown up in this work: Extended Control Theory (ECT). The ECT consists of certain control rules, which are necessary for adequately explaining Chinese reflexives. The relations between various types of reflexives and their antecedents are summarized and the mentioned long-distance binding effect is also reinterpreted in terms of the ECT.

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