

1989

The Local Nature of the Long-Distance Reflexive in Chinese

C.-T. James Huang
Cornell University

C.-C. Jane Tang
Cornell University

Follow this and additional works at: <https://scholarworks.umass.edu/nels>



Part of the [Linguistics Commons](#)

Recommended Citation

Huang, C.-T. James and Tang, C.-C. Jane (1989) "The Local Nature of the Long-Distance Reflexive in Chinese," *North East Linguistics Society*. Vol. 19 : Iss. 1 , Article 14.
Available at: <https://scholarworks.umass.edu/nels/vol19/iss1/14>

This Article is brought to you for free and open access by the Graduate Linguistics Students Association (GLSA) at ScholarWorks@UMass Amherst. It has been accepted for inclusion in North East Linguistics Society by an authorized editor of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

The Local Nature of the Long-Distance Reflexive in Chinese

C.-T. James Huang and C.-C. Jane Tang

Cornell University

1. Introduction

Chinese has two reflexive forms: the bare reflexive having the invariant form *ziji* 'self' and the compound reflexive having the form of a pronoun+*ziji* sequence, as in *taziji* 'himself/herself', *niziji* 'yourself', etc. As described in Y.-H. Huang (1984), Tang (1987), and Wang and Stillings (1984), these elements exhibit distributional and referential properties that are of considerable interest to linguistic theory. As far as their reference is concerned, one property of the reflexives is that the bare reflexive, though not the compound reflexive, exhibits possibilities of having a long-distance antecedent apparently outside of its governing category. Thus in (1a) *ziji* may have either *Zhangsan* or *Lisi* as its antecedent, but in (1b) *taziji* must be locally bound by *Lisi*:

- (1) a. Zhangsan_i renwei [Lisi_j hai-le ziji_{i/j}].
 Zhangsan think Lisi hurt-ASP self
 '(Lit.) Zhangsan_i thought that Lisi_j hurt himself_{i/j}.'
- b. Zhangsan_i renwei [Lisi_j hai-le ta-ziji*_{i/j}].
 Zhangsan think Lisi hurt-ASP himself
 'Zhangsan_i thought that Lisi_j hurt himself*_{i/j}.'

Long-distance binding with *ziji* is, however, restricted by a condition that requires the remote antecedent to agree in person and number features with all closer potential antecedents. In particular, a remote NP can antecede *ziji* only if it agrees with the local NP in the governing category of *ziji*. Thus, although *ziji* may have *Zhangsan* as its antecedent in (1a), where it agrees with *Lisi* in person and number, long-distance binding is blocked in examples like (2), where the remote NP differs from the local NP either in person or in number, or both. In all these cases, *ziji* must be bound by the local NP:¹

- (2) a. Zhangsan_i renwei [wo_j hai-le ziji*_{i/j}].
Zhangsan think I hurt-ASP self
'Zhangsan thought that I hurt myself.'
- b. ni_i renwei [Zhangsan_j dui ziji*_{i/j} meiyou xinxin].
you think Zhangsan to self not-have confidence
'You think that Zhangsan has no confidence in himself.'
- c. wo_i renwei [women_j yinggai dui ziji*_{i/j} you xinxin].
I think we should to self have confidence
'I think we should have confidence in ourselves.'
- d. women_i renwei [ta_j dui ziji*_{i/j} meiyou xinxin].
we think he to self not-have confidence
'We think that he has no confidence in himself.'

In the following sentence, long-distance binding of *ziji* is also blocked, in spite of the fact that the remote NP agrees with the most local NP:

- (3) Zhangsan_i shuo [wo_j zhidao [Lisi_k chang piping ziji*_{i/*j/k}]].
Zhangsan say I know Lisi often criticize self
'Zhangsan said that I feel that Lisi always criticized himself.'

This is because of the intervening NP *wo* 'I', which agrees with neither *Zhangsan* nor *Lisi*. If *wo* is replaced by *Wangwu* as in (4), long distance binding is again allowed:²

- (4) Zhangsan_i shuo [Wangwu_j zhidao [Lisi_k chang piping ziji_{i/j/k}]].
'Zhangsan_i said that Wangwu_j knew that Lisi_k often criticised self_{i/j/k}.'

The purpose of this paper is to consider how these facts regarding the long-distance reflexive may be best explained. In particular, we will be concerned with (a) why only the bare reflexive may exhibit long-distance binding, and (b) why long-distance *ziji* is subject to the strict requirement of agreement just described. In section 2 we briefly indicate general conditions on what may qualify as a potential antecedent of the Chinese reflexives, and in section 3 we review two recent accounts of long-distance *ziji*. The discussion in these two sections will help to crystalize the nature of the problems we are dealing with, which will then lead to our proposal in section 4, followed by a brief conclusion in section 5. It will be our claim that the phenomena observed are best explained if we assume that the bare reflexive is an anaphor in two ways, since it lacks not only reference, but also intrinsic features normally associated with pronouns, and that as such it needs to receive two indices under Binding Theory, first at S-Structure and again at LF. Other principles of grammar will combine to derive the facts to be explained.

2. Potential Binders of the Reflexive

Before discussing the issue of long-distance binding, we must identify a few conditions on what, in general, may qualify as a binder, local or remote. First, the Chinese reflexive *ziji* can be bound only to a subject, but not in general to an object (see Huang (1982)).

- (5) wo_i gaosu Lisi_j ziji_{i/*j} de fenshu.
I tell Lisi self 's grade
'I told Lisi my own grade.'

LONG-DISTANCE REFLEXIVE IN CHINESE

Second, only an animate, not an inanimate, NP can antecede *ziji*:

- (6) wo bu xiaoxin dapo-le ziji de yanjing.
I not careful break-ASP self 's glasses
'Not being careful, I broke my own glasses.'
- (7) *yanjing diao-dao dishang, dapo-le ziji.
glasses drop-to floor break-ASP self
'(Lit.) The glasses dropped on the floor, and broke themselves.'

Generally, any c-commanding animate subject NP in the governing category of a reflexive may be its antecedent. There are two situations under which a non-c-commanding subject may be an antecedent. The first situation arises when a sentence contains a 'psychological' verb:

- (8) [ziji_i de xiaohai mei de jiang de xiaoxi] shi Lisi_i hen nanguo.
self 's child not get prize DE news make Lisi very sad
'The news that his own child did not get a prize made Lisi sad.'

The special status of psych-sentences is, of course, well known since Postal (1971), and recent work by Giorgi (1984) and others have revived an interest in such constructions (cf. Pesetsky 1987b, Belletti and Rizzi 1988, etc.). We will not discuss how psych-sentences are to be analyzed in this paper, but simply note that, in Chinese too, the experiencer argument may bind a reflexive even though the element is otherwise subject-oriented.

The other situation where an NP that is not a c-commanding animate subject may antecede *ziji* is when it appears as the 'most prominent' animate subject NP within an *inanimate* NP that c-commands *ziji*. This is illustrated in (9a), to be compared with (9b):

- (9) a. [wo_i de jiaoao]_j hai-le ziji_i/*_j.
I 's pride hurt-ASP self
'(Lit.) My pride hurt myself.'
- b. [wo_i de meimei]_j hai-le ziji*_i/_j.
I 's sister hurt-ASP self
'My sister hurt herself.'

Clearly, the fact that the non-c-commanding *wo* 'I' can be the antecedent of *ziji* is related to the fact that the c-commanding NP *wo de jiaoao* 'my pride' is inanimate, hence not a potential antecedent. To capture this intuition, Tang (1987) proposed the notion of 'sub-command':

- (10) β sub-commands α iff β is contained in an NP that c-commands α or that sub-commands α , and any argument containing β is in subject position.

The condition under which the c-command requirement may be relaxed is stated as in (11).³

- (11) A reflexive α may take an NP β as its binder if
- β sub-commands α , and
 - There is no NP γ , γ a potential binder for α , such that γ is closer to α than β is.

For the notion of relative distance, assume that, other things being equal, a c-commander of α is closer than a sub-commander is to α , and a c-commander or sub-commander in the minimal clause containing α is closer than one outside of the minimal clause, etc. In the case where a sub-

commander is contained in a c-commander, the c-commander is closer to α . A 'potential binder' is any NP that satisfies all conditions of being a binder of α except that it is not yet coindexed with α .

Given (10)-(11), in (9a) *wo* 'I' can antecede *ziji*, for the former sub-commands the latter and there is no potential binder closer to the reflexive. The only NP closer to *ziji* than *wo* 'I' is the NP *wo de jaoao* 'my pride', which, not being animate, is not a potential binder. In (9b), on the other hand, *wo* 'I' cannot antecede *ziji*, because, though the former sub-commands the latter, it is contained in the animate NP *meimei* 'sister', which is a potential binder and is closer to *ziji*. (See Tang 1987 for more details and other facts captured by (10)-(11).)

Summarizing, we have seen that the reflexive may take as its antecedent an animate NP that is (a) a c-commanding subject, (b) a sub-commanding subject, or (c) an experiencer. Without attempting an exact formulation of the term, we shall refer to coindexing with any of these NPs as an instance of binding (even though the standard definition of binding entails c-command).

We have seen examples in which certain NPs are potential *local* binders. What about potential long-distance binders? There is reason to believe that the conditions are essentially the same (except for the restrictions noted in section 1). For example, we have seen in section 1 that a c-commanding subject can be a long-distance binder (see (1a) and (4)). Furthermore, an experiencer can be a long-distance binder, too, as illustrated below:

- (13) [Zhangsan_i taoyan ziji_{i/j} de xiaoxi] shi Lisi_j hen nangguo.
Zhangsan dislike self DE news make Lisi very sad
'(Lit.) The news that Zhangsan_i disliked self_{i/j} made Lisi_j sad.'

The only exception is that a sub-commander cannot, in general, be a long-distance binder. (14) allows only local binding:

- (14) Zhangsan_i de xin biaooshi [Lisi_j hai-le ziji*_{i/j}].
Zhangsan 's letter indicate Lisi hurt-ASP self
'Zhangsan's letter indicates that Lisi hurt himself.'

This may be attributed to the fact that a sub-commander is picked out as a (marked) antecedent only as a 'last resort', when there is no other more accessible NP that can bind a given reflexive (cf. the condition (11b)). In a situation where a sub-commander occurs in a remote position, there is already an NP in a local position that is more accessible to the reflexive. Therefore, given (11b), a sub-commander cannot be a long-distance binder.⁴

3. Long-Distance *ziji*: Previous Analyses

How does the 'long-distance' *ziji* fit into an optimal theory of grammar? From what we have seen so far, it is clear that *ziji* is really not something whose referential properties are unconstrained by principle A of Binding Theory, nor an element that is free from the locality restriction imposed by the notion of minimal governing categories. The restrictions we saw suggest that in order for *ziji* to be bound by an NP outside of its governing category, it must first be *licensed* by an NP in its governing category that agrees in person and number with the remote NP. And each further remote NP may be an antecedent only if *ziji* can be successively licensed by all lower potential antecedents in the same way. This indicates that there is a sense of strict locality involved here, and that so-called long-distance binding should be described in terms of successive steps of local binding. 'Long-distance' *ziji*, in other words, should not be admitted by parameterizing the notion of a governing category, as might be suggested along the lines of Yang (1983) and Manzini and Wexler (1987). It would also be inappropriate to simply define *ziji* as a non-anaphor, as a 'pronominal anaphor' (Wang and Stillings 1984), or as a bound pronoun (e.g., Sportiche 1986). For all these proposals simply relax the locality conditions on the binding of *ziji*,

LONG-DISTANCE REFLEXIVE IN CHINESE

thus failing to capture the strict locality requirements observed.

To capture the relevant restrictions, Tang (1985, 1987) proposed that the bare *ziji* originates as *pro-ziji*, a compound reflexive with an empty *pro*, and that the limited cases of long-distance *ziji* are derived from the optional feature-copying rule (15) and the iterative reindexing rule (16):

(15) Feature-Copying Rule

The *pro* in a *pro-ziji* reflexive may transfer its features (such as person and number) to *-ziji* after the application of Binding Theory, thus turning *ziji* into a 'long-distance' reflexive.

(16) Reindexing Rule

Reindex the long-distance reflexive with the potential antecedent of the next higher governing category.

Given (15) and (16), the restrictions noted in section 1 are accounted for. Consider (1a) and (1b), above. Since the feature copying rule applies only to *pro-ziji*, the compound reflexive in (1b) is unaffected and remains a local reflexive. In (1a), on the other hand, *pro-ziji* can optionally undergo the rule (15). If (15) does not take place, the *pro-ziji* is still a local reflexive and is bound to the local *Lisi*. If (15) applies, *ziji* becomes a long-distance reflexive, carrying the person and number features of *Lisi* (after Binding Theory has applied). At this time, *ziji* is reindexed with *Zhangsan*, under (16). Since *ziji* agrees with *Zhangsan* in person and number features, reindexing is allowed, and *ziji* comes to be bound by a remote antecedent.

The blocking effects indicated above also follow straightforwardly. Consider the sentences in (2) and (3) above. When Binding Theory applies at S-Structure, *ziji* in each of these sentences is bound by its local antecedent. So if the copying rule applies in (2a), *ziji* must carry the features [1st person, singular] as it is turned into a long-distance reflexive. But this prevents it from taking *Zhangsan* as its remote antecedent under reindexing. Therefore *ziji* cannot be turned into a long-distance anaphor. Similarly, since reindexing is required to be successive-cyclic, long-distance binding by *Zhangsan* is also blocked in (3).

Although the proposal embodying (15)-(16) accounts for the relevant facts, it also leaves a number of questions unanswered. For example, it does not explain why the reindexing rule (16) applies only to *ziji*, nor does it explain why the copying rule can change a local reflexive into a long-distance one. Furthermore, as Battistella (1987) points out correctly, it is not clear why copying should trigger reindexing, nor why reindexing should mimic the effects of binding.

In recent years, a new analysis of the reflexive anaphor has aroused considerable interest. Inspired by the work of Lebeaux (1983) and Chomsky (1986a), a number of writers (Pica 1987, Battistella 1987, among others) have suggested that certain reflexives may be raised in LF into INFL, in a way analogous to clitic-movement in Syntax, thereby accounting for their subject-orientation. Furthermore, certain such reflexives may move from INFL to INFL (an instance of head-to-head movement, in a way analogous to the phenomenon of 'clitic climbing'), thereby accounting for their long-distance binding possibilities.

Under Battistella's approach, for example, the compound reflexive is a full NP, whereas the bare *ziji* is an N^o. Given that INFL-to-INFL movement is a head-to-head movement, he argues that only *ziji* may undergo this INFL-to-INFL movement. Assuming that no successive-cyclic movement is otherwise available for the compound reflexive, he accounts for the fact that only *ziji* exhibits long-distance binding. To account for the blocking effects of *ziji*, he proposes (a) that INFL movement must go successive-cyclically, and (b) that each trace left by *ziji* in INFL, as well as the moved *ziji* itself, must agree in grammatical features with its own local subject, as a general requirement of subject-INFL agreement, construed abstractly in Chinese. Since all traces must be coindexed with the moved *ziji*, it follows that all local and non-local subjects must agree in

person and number, in cases where *ziji* has a remote antecedent.

Attractive as it is, the INFL-movement theory is faced with important difficulties. For one thing, Battistella does not explain why the compound reflexive *taziji* cannot adjoin successively-cyclically in LF, giving rise also to long-distance binding. (Note incidentally that the Lebeaux-Chomsky proposal in fact assumes that the compound reflexive *himself* is moved to INFL.)

A more serious problem concerns the blocking effects. According to Battistella, the blocking effects follow partially from the fact that INFL is the locus of agreement. Notice, however, that the potential blockers of long-distance *ziji* include not only c-commanding local subjects (as we have seen in all the relevant examples), but also local sub-commanders and experiencer non-subjects. For example, in the following sentences, *ziji* must be bound by its local sub-commander, but not by the matrix subject:

- (17) Zhangsan_i shuo [wo_j de jiaoao hai-le ziji_{*i/j}].
Zhangsan say I 's pride hurt-ASP self
'(Lit.) Zhangsan_i said that my_j pride hurt myself_{*i/j}.'
- (18) Zhangsan_i shuo [[ni_j zheyang zuo] dui ziji_{*i/j} bu li].
Zhangsan say you thus do to self not advantage
'(Lit.) Zhangsan_i said that your_j doing this will do yourself_{*i/j} no good.'
- (19) Zhangsan_i shuo [[ni_j zuo shi de taidu] dui ziji_{*i/j} bu hao].
Zhangsan say you do work REL attitude to self not good
'Zhangsan_i said that the attitude with which you_j work is not good for yourself_{*i/j}.'

Battistella suggests that in these cases, the verb of the embedded clause containing *ziji* in effect agrees with the sub-commanding NP. However, this way of looking at subject-INFL agreement does not seem seriously entertainable. There is little reason, other than to derive the blocking effects, to say that a matrix verb agrees not with its own subject, but with the subject of its sentential subject (as in (18)) or of its complex NP subject (as in (19)).⁵

Furthermore, (20) shows that an experiencer non-subject may block long-distance *ziji*.

- (20) [[[Zhangsan_i dui ziji_{i/*j/*k} mei xinxin de shi] shi wo_j
Zhangsan to self no confidence 's fact make me

hen nanguo de xiaoxi] shi Lisi_k hen yiwai].
very sad DE news make Lisi very surprised

'The news that I was saddened by the fact that Zhangsan had no confidence in himself surprised Lisi.'

In this sentence, the matrix predicate *shi Lisi hen yiwai* 'make Lisi very surprised' takes a complex NP subject meaning 'the news that the fact that Zhangsan has no confidence in himself saddened me'. Long-distance binding of *ziji* by the outermost experiencer *Lisi* is blocked by the inner experiencer *wo* 'me'. Here the blocker is not a subject, and it thus looks even more unlikely that the blocking effects have to do with subject-INFL agreement. Rather, the emerging generalization we want to capture is the following:

- (21) The set of potential blockers of long-distance *ziji* is exactly the set of its potential local, or less remote, binders.

This generalization suggests that the blocking effects should not be treated as an effect of

agreement, but as a property of binding.

Finally, since under the INFL-movement theory the movement of *ziji* in LF is a case of head-movement, the traces left over by *ziji* are subject to antecedent-government (see Chomsky (1986b, 1988)). While this has the consequence that the movement must be successively cyclic, it incorrectly rules out certain acceptable cases of long-distance *ziji*. In particular, we know from independent evidence that movement of a phrase whose trace needs to be antecedent-governed cannot cross any singular barrier. Thus, adjuncts located in adverbial clauses and relative clauses cannot be wh-moved out of these islands. This is true both in the syntax (22) and in LF (23):

- (22) a. *Why_i did you go home [before John bought the book t_i]?
 b. *Why_i did you like [the man who kicked Bill t_i]?
 (23) a. *suiran Lisi weishenme mei lai, ni haishi bu shengqi?
 though Lisi why not come you still not angry
 '*Though Lisi didn't come why, you weren't angry?'
 b. *ni zui xihuan [ta weishenme mai de shu]?
 you most like he why buy REL book
 'You like the book that he bought why?'

Furthermore, Huang (1982) argues that A-not-A questions in Chinese exhibit ECP effects. The A-not-A element is an element in INFL, and INFL-movement cannot cross barriers:

- (24) a. *ruguo ta lai-bu-lai, ni jiu hui shengqi?
 if he come-not-come you then will angry
 '*If he comes or not, then you will be angry?'
 a. *ni zui xihuan ta mai-bu-mai de shu?
 you most like he buy-not-buy REL book
 '*You like the books that he will buy or will not buy?'

These facts lead one to expect that, if *ziji* undergoes head-to-head movement in LF, no long-distance binding is possible across adjunct clauses or complex NPs. But this prediction is incorrect. In the following sentences, long-distance binding is fully acceptable, suggesting that LF traces of *ziji* are not subject to antecedent-government.

- (25) Zhangsan_i shuo [ruguo Lisi_j piping ziji_{i/j}], ta jiu bu qu.
 Zhangsan say if Lisi criticize self he then not go
 '(Lit.) Zhangsan_i said that if Lisi_j criticized himself_{i/j}, then he won't go.'
 (26) Zhangsan_i bu xihuan [neixie piping ziji_{i/j} de ren_j].
 Zhangsan not like those criticize self REL person
 '(Lit.) Zhangsan_i does not like those people_j who criticize self_{i/j}.'

In view of these problems, we must now look elsewhere for an explanation of long-distance *ziji*.⁶

4. The Locality of Long-Distance *Ziji*

Although the INFL-movement theory cannot account for the locality restrictions of long distance *ziji* in a proper way, one property of the theory that seems to us to be correct is the idea that the locality restrictions are to be expressed by successive-cyclic movement of *ziji* in LF. We

shall pursue an explanation along this line, but attempt to derive the locality requirements from other sources. To see how this may be done, consider the following sentences:

- (27) a. John knows that Bill likes pictures of himself.
 b. John knows that, pictures of himself, Bill likes.
 c. Pictures of himself, John knows that Bill likes.
- (28) a. John knows that Bill likes these pictures of himself.
 b. John knows which pictures of himself Bill likes.
 c. Which pictures of himself does John think that Bill likes?

These sentences exemplify the so-called 'reconstruction problem' or 'connectivity effect', well known since Higgins (1973) and more recently Barss (1986). In each (a) sentence above, the reflexive must have *Bill* as its antecedent, but not the remote *John*. In (b), however, *himself* may have either *John* or *Bill* as its antecedent, though only *John* actually c-commands the reflexive. And in (c), either *John* or *Bill* may antecede *himself*, though neither c-commands the latter. The suppression of the c-command requirement in these sentences is dealt with in Barss (1986) in terms of a condition of 'chain accessibility' on Binding Theory as applied at S-Structure. That is, by virtue of its relation to a trace in the minimal c-command domain of *John* or *Bill*, *himself* is defined as being 'chain-bound' by *John* or *Bill* in the (b) and (c) sentences. What is important here is that in these cases a locality requirement is still maintained for the binding of *himself* to be possible. Thus, binding by *John* in the (b) sentences is possible only because *himself* has been moved to a position where its governing category contains *John*. In the following sentence, where *himself* is in the most deeply embedded COMP, only *Bill* may antecede *himself*:

- (29) John knows that Bill wondered which pictures of himself I would buy.

Similarly, Barss shows that the (c) sentences allow *John* to antecede *himself* only because the NP (*which*) *pictures of himself* binds a trace in the intermediate COMP, creating a chain-configuration in which *John* is allowed to bind *himself* as a 'minimally accessible' antecedent. (See Barss 1986, chapter 3, for more details.) From the point of view of D-Structure (cf. (27a) and (28a)), then, we may say that a reflexive in its D-Structure argument position has only a local antecedent, but may pick up a 'long-distance' antecedent as a result of successive-cyclic movement. But from the point of view of S-Structure, all 'long-distance' antecedents are in fact local ones, each being a minimally-accessible 'chain-binder' in the sense of Barss.

What we would like to suggest is that the 'long-distance' *ziji* is essentially the same phenomenon as that illustrated in (27)-(29), except that it is a phenomenon that occurs in LF rather than in the Syntax. That is, from the point of view of S-Structure, *ziji* in its S-Structure argument position has only a local binder, but may pick up a remote antecedent as a result of successive-cyclic movement in LF. From the LF point of view, however, all 'remote antecedents' are local antecedents. This proposal is similar to the INFL-movement or the 'clitic climbing' theory, but we claim that the LF movement involved is simply A'-movement, more specifically IP-adjunction, perhaps as a case of QR.⁷ Thus, the ambiguous readings of (30) are unambiguously represented at LF as in (31), with *ziji* bound in each case by a local antecedent:

- (30) Zhangsan manyuan Lisi chang shuo Wangwu bu xihuan ziji.
 Zhangsan complain Lisi often say Wangwu not like self
 'Zhangsan complained that Lisi often said that Wangwu does not like Wangwu/Lisi/Zhangsan.'
- (31) a. Zhangsan_k manyuan [Lisi_j chang shuo [Wangwu_i bu xihuan ziji_i]].

LONG-DISTANCE REFLEXIVE IN CHINESE

- b. Zhangsan_k manyuan [Lisi_j chang shuo [ziji_j [Wangwu_i bu xihuan t_j]]].
 c. Zhangsan_k manyuan [ziji_k [Lisi_j chang shuo [t_k [Wangwu_i bu xihuan t_k]]]].

Our proposal thus assumes that the reference of *ziji* can be determined by Binding Theory applying at LF. This by itself is not a problematic assumption, given the arguments of Aoun (1985) and the discussion in Chomsky (1982, note 11). However, there is well known evidence that Binding Theory must *also* apply at S-Structure (see Chomsky 1981, 1982, Barss 1986, among others.) For example, the binding possibilities of *himself* in (27)-(29), or in (32)-(33) below, must be determined at S-Structure:

- (32) a. John said that Bill criticized himself.
 b. John said that, himself, Bill criticized.
- (33) a. John said that Bill likes every picture of himself.
 b. John said that, every picture of himself, Bill likes.

In these cases, *himself* can take *John* as its antecedent only as a result of its movement in the Syntax. In LF, IP-adjunction of *every picture of himself* or *himself* may take place (under QR or as instances of Move α), but this movement does not alter binding possibilities of *himself* as does movement in the Syntax. The same point holds in Chinese with sentences containing *pronoun+ziji*. The compound reflexive *taziji* can have *Zhangsan* as its antecedent only in (34b):

- (34) a. Zhangsan shuo Lisi chang piping taziji.
 Zhangsan say Lisi often criticize himself
 'Zhangsan said that Lisi often criticized himself.'
- b. Zhangsan shuo, taziji, Lisi chang piping.
 'Zhangsan said that himself, Lisi often criticized.'

Given that *taziji* may be IP-adjoined in the Syntax (as in (34b)), nothing seems to prevent the same element in (34a) from being IP-adjoined in LF. The fact that (34a) does not allow *Zhangsan* to antecede *taziji* shows that LF-movement does not alter the binding possibilities of *taziji*. The index of *taziji* that is licensed (or γ -marked, extending Lasnik and Saito's (1984) terminology) by principle A at S-Structure remains in LF wherever *taziji* goes. Therefore, not only must Binding Theory apply at S-Structure, the following must also hold, in both Chinese and English:

- (35) The indices licensed by the Binding Theory at S-Structure cannot be undone in LF.

This means that Binding Theory, if it applies in LF, can affect only NPs whose indices are not already licensed at S-Structure with respect to specific binding principles. These considerations, however, contradict the hypothesis that long-distance binding of *ziji* arises as a result of LF-movement. A sentence like (30) is assigned the reading (31a) at S-Structure, and given (35), LF-movement should not be expected to derive representations like (31b) or (31c). Note that this is a problem not only for the hypothesis we are entertaining, but also for the INFL-movement or clitic-climbing account discussed in the preceding section.

Clearly, the difference in referential behavior between the bare reflexive in Chinese and the compound reflexive in Chinese and English must be tied to their difference in form. Note that the bare reflexive is more 'anaphoric' than the compound reflexive, in that it not only lacks inherent reference as the compound reflexive does, but also contains less 'sense' than the latter: it does not contain ' ϕ -features' (Chomsky 1981) like [α person, β number, γ gender] as compound reflexives and normal pronouns do. Let us suppose then that all NPs must have ϕ -features and, except for

quantifiers, also referential features, as they must have both sense and reference, if not inherent then by inheritance. R-expressions like *John* or *the boys* have both inherent ϕ -features and inherent referential features. A pronoun has inherent ϕ -features, and may have independent reference or inherit reference from its antecedent. A compound reflexive like *himself* also has inherent ϕ -features, but must acquire its reference by inheritance. Finally, a bare reflexive does not have inherent ϕ -features nor inherent reference, and must rely on an antecedent for both these features. It is therefore a 'double anaphor', in that it needs to pick up two indices, one for its ϕ -features and one for its reference, from an antecedent. Furthermore, since ϕ -features seem to have priority over referential features (as having a reference entails having a sense, but not vice versa), an NP that needs to be assigned a ϕ -index and an R-index must be assigned a ϕ -index first. Within the system we are proposing, in which Binding Theory applies once at S-Structure and again at LF, this means that a bare reflexive like *ziji* has its ϕ -index licensed at S-Structure, and its R-index licensed at LF. If this is right, the fact that *ziji* does not have its R-index fixed until at LF then gives rise to its long-distance binding possibilities. Take the following sentence for example.

- (36) Zhangsan shuo Lisi chang piping ziji.
 Zhangsan say Lisi often criticize self
 'Zhangsan said that Lisi often criticized Lisi/Zhangsan.'

Let $\phi(i)$, $\phi(j)$, etc. each designate some combination of ϕ -features (say, third person, masculine, singular), and let R(2), R(3), etc. each designate the referential index of some individual. Prior to the level of S-Structure, *ziji* has no licensed ϕ -index or R-index:

- (37) Zhangsan($\phi(i)$, R(3)) shuo Lisi($\phi(i)$, R(2)) chang piping ziji($\phi(0)$, R(0)).

On the other hand, *Zhangsan* and *Lisi* each have inherent ϕ - and R-indices. In this structure, incidentally, since *Zhangsan* and *Lisi* have the same ϕ -features (both being third person singular), they share the same ϕ -index.

When Binding Theory applies at S-Structure, the bare *ziji* is licensed by virtue of having a ϕ -index that is bound by (the ϕ -index of) an NP in its governing category, namely that of *Lisi*:

- (38) Zhangsan($\phi(i)$, R(3)) shuo Lisi($\phi(i)$, R(2)) chang piping ziji($\phi(i)$, R(0)).

In LF, the ϕ -indexed *ziji*($\phi(i)$, R(0)) may be adjoined to IP. If it does not move, then when Binding Theory applies at LF, (38) will be licensed only if *ziji* is assigned the R-index of *Lisi*, R(2):

- (39) [Zhangsan(i , 3) shuo [Lisi(i , 2) chang piping ziji(i , 2)]].

If *ziji*(i , 0) is IP-adjoined in LF, then the LF-structure of (38) is either (40) or (41):

- (40) [Zhangsan(i , 3) shuo [IP ziji(i , 0) [IP Lisi(i , 2) chang piping $t(i, 0)$]]].

- (41) [IP ziji(i , 0) [IP Zhangsan(i , 3) shuo [IP $t(i, 0)$ [IP Lisi(i , 2) chang piping $t(i, 0)$]]]].

At LF, when Binding Theory applies again, (40) can be licensed if *ziji* is assigned either the R-index of *Zhangsan* or that of *Lisi*, as either (i , 3) or (i , 2). In the former case, *ziji* in IP-adjoined position is bound in its governing category in accordance with principle A. In the latter case, it is 'chain-bound' by *Lisi*, in the terms of Barss (1986). Similarly, (41) may be licensed if *ziji* is R-indexed as either 3 or 2, as in both cases it is properly chain-bound by a 'minimally chain-accessible' antecedent. The binding possibilities of *ziji* as provided in (40) and (41) are thus on a par with those of the English reflexive in (27b-c) and (28b-c) above. The only difference is that,

whereas the ambiguity arises in English only in the Syntax, it arises in LF in Chinese, giving *ziji*, from the point of view of S-Structure, the appearance of a long-distance anaphor.

According to our proposal, then, a systematic difference between the bare reflexive and the compound reflexive is accounted for in a principled way. Since the compound reflexive (in both English and Chinese) has an inherent ϕ -index, only its R-index needs to be subject to principle A. Therefore, when Binding Theory applies at S-Structure, its R-index must be licensed. Given the principle (35), the R-index remains fixed in LF, and no long-distance binding is made possible by movement in LF. In the case of the bare reflexive, Binding Theory determines only its ϕ -index at S-Structure, leaving its R-index undetermined. And given the possibility of LF-movement, long-distance binding possibilities are derived. This difference between the English reflexive and the Chinese *ziji* very nicely parallels a well known difference in the syntax of *wh*-questions between these two languages. In English, a potentially ambiguous D-Structure like (42a) has its ambiguity resolved at S-Structure, as in (42b-c); but in Chinese, the ambiguous S-Structure (43a) is disambiguated at LF, as in (43b-c):

- | | | | |
|------|----|---|---------------|
| (42) | a. | You remember John bought what. | (D-Str.) |
| | b. | What do you remember that John bought t? | (S-Str.) |
| | c. | You remember what John bought t. | (S-Str.) |
| (43) | a. | [ni jide [Zhangsan mai-le shenme]]?
you remember Zhangsan buy-ASP what | (D- & S-Str.) |
| | b. | [shenme _i [ni jide [Zhangsan mai-le t _i]]?
'What do you remember that Zhangsan bought?' | (LF) |
| | c. | [ni jide [shenme _i [Zhangsan mai-le t _i]].
'You remember what Zhangsan bought.' | (LF) |

This difference may be described as one concerning where a [+wh] COMP is licensed by a [+wh] phrase that fills it. Likewise, the difference between the bare reflexive and the compound reflexive is accounted for as one between licensing an R-index at S-Structure and doing that at LF.

It should be clear by now that, besides providing a principled account for the different properties of two kinds of reflexives, our proposal also resolves the potential contradiction just noted, between the principle (35) and the idea that long-distance *ziji* arises as a result of LF-movement. The two conflicting ideas are jointly satisfied by *ziji*. The ϕ -index licensed at S-Structure remains unchanged in LF, in accordance with principle (35). The R-index is not determined yet at S-Structure, so its value may vary as a result of LF-movement, just as the R-index of a compound reflexive at D-Structure may vary as a result of syntactic movement.

Certain important restrictions on the long-distance *ziji* also follow under our system straightforwardly. Notice that in the example (37), the matrix subject and the embedded subject have the same ϕ -index, both being third person singular NPs. At S-Structure, *ziji* is licensed with $\phi(i)$, and is bound by the ϕ -index of *Lisi*. At LF, *ziji* (*i*, 0), is adjoined to the embedded IP (as in (40)), and comes to be locally bound by the ϕ -index of *Zhangsan*. If *ziji* is also assigned the R-index of *Zhangsan*, 3, then *Zhangsan* is the antecedent of *ziji*. Consider now a sentence in which the matrix subject and the embedded subject do not have the same ϕ -index:

- (44) [Zhangsan_(i, 3) shuo [ni_(j, 4) chang piping ziji_(0, 0)]].
Zhangsan say you often criticize self
'Zhangsan said that you often criticized yourself.'

At S-Structure, *ziji* must receive the ϕ -index j of *ni* 'you'. After movement in LF, *ziji* may pick up the R-index of either *Zhangsan* or *ni*, as *ziji*($j, 3$) or *ziji*($j, 4$). However, if *ziji* is indexed as ($j, 3$), it is still not bound by *Zhangsan*, since the two NPs differ in ϕ -features. Therefore, the bare reflexive in (44) can only be indexed as ($j, 4$), directly bound or 'chain-bound' by *ni* 'you' at LF. Similarly, in the following sentences *ziji* cannot have a long-distance antecedent:

- (45) a. *ni shuo Zhangsan chang piping ziji.*
 you say Zhangsan often criticize self
 'You said that Zhangsan often criticized himself.'
- b. *wo juede women bu yinggai piping ziji.*
 I feel we not should criticize self
 'I feel we shouldn't criticize ourselves.'
- c. *ta juede women zongshi piping ziji.*
 he feel we always criticize self
 'He said that we always criticize ourselves.'

In (a) the local subject and the matrix subject differ in person features, in (b) they differ in number, and in (c) they differ in both. On the other hand, since Chinese pronouns are not marked for their gender features (cf. note 1), we can assume that gender does not play a role in defining a ϕ -index in this language. It follows that a difference in gender alone does not block long-distance *ziji*:

- (46) *Li Xiaojie shuo Zhangsan zongshi piping ziji.*
 Li Miss say Zhangsan always criticize self
 'Miss Li said that Zhangsan always criticized himself/her.'

We thus correctly account for the fact that a remote NP can antecede *ziji* only if it has the same ϕ -index as the local NP. We account for the blocking effects by the idea that a first pass of principle A of Binding Theory at S-Structure assigns the reflexive the ϕ -index of its local ϕ -binder. This prevents the reflexive from being R-bound by a higher NP that has a different ϕ -index. Because the licensing of both the ϕ -index and the R-index is carried out under the same principle at different stages, we capture the important generalization (21), that the set of potential blockers of long-distance *ziji* is the set of its potential local binders. Unlike the head-movement theory, ours does not rely on the postulation of abstract agreement between INFL and an experiencer object, etc.

Consider now sentences like the following:

- (47) *Zhangsan shuo wo juede Lisi zongshi piping ziji.*
 Zhangsan say I feel Lisi always criticize self
 'Zhangsan said that I feel that Lisi always criticized himself.'

As indicated in the introductory section of this paper, in sentences like these, *ziji* also cannot be bound by the remote subject *Zhangsan*, in spite of the fact that *Zhangsan* agrees with the local subject *Lisi* in ϕ -features. The culprit, as indicated earlier, is the intermediate first-person NP. To obtain the correct results, we assume that adjunction of *ziji* in LF must go successive-cyclically. Furthermore, at each landing site the ϕ -index of *ziji* must be directly bound by an NP in its governing category, under the stipulation (48):

- (48) An anaphoric ϕ -index (i.e. that received by inheritance under binding) can be retained only if it is directly bound.

LONG-DISTANCE REFLEXIVE IN CHINESE

That is, contrary to our earlier assumption (see the discussion centering around (34)-(41)), we now require *ziji* to be directly-bound at all times. Earlier we assumed that the two readings of (36) may be derived and represented in several ways. The postulation (48) has the effect of eliminating such derivational ambiguities. According to (48), each interpretation of (36) has a unique derivation and representation. For the reading of (36) according to which *ziji* is locally bound by *Lisi*, the only possible representation is (39), and for the long-distance interpretation, *ziji* must occur in its position in (40) and gets indexed as (i, 3).

We can now explain the blocking effect observed in (47). Given (48) and the earlier requirement (35), *ziji* must be directly-bound at all times in LF. In order to be bound by the matrix subject, *ziji* must be IP-adjoined in LF. In accordance with the successive-cyclic requirement, *ziji* must first adjoin to the lowest IP before adjoining to the next higher IP. This required derivation is blocked at the first adjunction site, however, since *ziji* (with the ϕ -index inherited from *Lisi*) would not be directly bound by *wo* 'I'. Therefore, in (47) *ziji* cannot have a long-distance antecedent.

(48) essentially expresses the generalization that while *taziji* exhibits 'reconstruction effects', the bare *ziji* does not. As for why this should be the case, it may be that the compound reflexive is not a true operator and thus does undergo reconstruction in LF, whereas (long-distance) *ziji* is a true operator and must remain in operator (cf. Chierchia (1987), Katada (1988)). We shall tentatively leave it as a stipulation, noting only the overt independent evidence below:

- (49) Zhangsan_i shuo [ziji_{i/*j} de shu, [Lisi_j zui xihuan]].
Zhangsan said self 's book Lisi most like
(Lit.) 'Zhangsan_i said that, self's_{i/*j} book, Lisi_j likes most.'
- (50) Zhangsan_i shuo [taziji_{i/j} de shu, [Lisi_j zui xihuan]].
(Lit.) 'Zhangsan_i said that himself's_{i/j} book, Lisi_j likes most.'

In (49)-(50), a reflexive has been moved in the syntax. In (49) *ziji* can only take the matrix subject as its antecedent, though in (50) *taziji* may also take the embedded subject as its antecedent. The contrast shows that *ziji* can only be directly bound, thus providing independent evidence for (48).

As for the requirement of successive-cyclicity, we assume that this comes from considerations of 'economy of derivation,' which requires movement to take place in short steps whenever it can (see Chomsky (1988) for discussion).

Our theory predicts that, although the long-distance *ziji* exhibits successive-cyclicity, it does not exhibit Subjacency, CED or ECP effects. Consider (51)-(52) (see also (25)-(26)):

- (51) ta zhidao [[suiran Lisi piping-le ziji], dajia haishi hen xihuan ta].
he know though Lisi criticize-ASP self all still very like him
'(Lit) He_i knows that although Lisi_j criticized self_{i/j}, we still like him.'
- (52) Lisi bu xihuan [[piping ziji de] neige ren].
Lisi not like criticize self REL that person
'Lisi_i does not like the person_j [who criticized self_{i/j}].'

These sentences show that *ziji* may be bound by an NP outside an island (adjunct or complex NP). Under our analysis, the relevant readings are obtained after *ziji* is IP-adjoined successive-cyclically in LF. The adjunction process must be allowed to cross the island barriers, given the well known fact that Subjacency and CED do not obtain in LF, though ECP does (Huang (1982), Lasnik and Saito (1984) and Chomsky (1986b)).⁸ Furthermore, since *ziji* occurs in an argument position where it is lexically governed, its LF adjunction to IP (an instance of XP-movement) is not subject to antecedent-government. We thus correctly predict long-distance binding to be possible in (51)-

(52). On the other hand, under the head-movement analysis, movement of *ziji* leaves an X^0 trace that falls under the requirement of antecedent government (or the Head Movement Constraint, see Chomsky (1986b, 1988) for discussion). This analysis thus makes the wrong prediction that in sentences like (51)-(52) *ziji* cannot have a long-distance antecedent.

5. Conclusion

Our proposal is thus superior to the INFL-movement theory in two essential ways. First, we derive the locality properties of the so-called long-distance *ziji* from the idea that *ziji* undergoes A'-movement (not head-to-head movement), regulated by the requirement of successive-cyclicity but not subject to antecedent-government. And we correctly predict that the long-distance *ziji* exhibits only successive-cyclicity effects, but no ECP effects. Secondly, we derive the blocking effects from the common assumption that Binding Theory applies at both S-Structure and LF, and capture the important generalization that the set of potential blockers of long-distance *ziji* is exactly the set of its closer potential binders.

Our proposal also differs from certain previous approaches to long-distance anaphora. Instead of parameterizing the notion of a governing category for *ziji*, or defining it as a non-anaphor or 'semi-anaphor' of some sort, we treat it as the 'most anaphoric' of all anaphoric elements, and show that it in fact obeys very strict locality restrictions.⁹

Notes

*We are grateful to Genaro Chierchia, Wayne Harbert, Chilin Shih, Peter Cole, Lisa Cheng, John Whitman and other colleagues for comments and suggestions.

¹ But the local NP and the remote NP need not agree in gender features, as shown in (i):

- (i) Li Xiaojie_i shuo [Zhangsan_j zongshi piping ziji_{i/j}].
 Li Miss say Zhangsan always criticize self
 '(Lit.) Miss Li_i said that Zhangsan_j always criticized her_i/himself_j.'

This fact is apparently related to the fact that pronouns in Chinese are unmarked for gender, as in *ta* 'him/her' and *taziji* 'himself/herself'. We assume that gender is not a grammatical feature in Chinese, and thus does not enter into the determination of grammatical binding of anaphors.

² For some speakers binding of *ziji* by the intermediate subject is quite marginal. That is, *ziji* appears to be bindable by the minimal clause subject or the maximal clause subject, but not by any intermediate subjects. This appears, however, not to be an absolute condition. Following Y.-H. Huang (1984) and Battistella (1987) we shall assume this to be an extragrammatical effect.

³ This formulation differs slightly from that given in Tang (1987).

⁴ This explanation is confirmed by the fact that, if the local NP is inanimate and therefore not a potential binder, acceptability improves for a sub-commander to be a long-distance binder:

- (i) Zhangsan_i de xin biaooshi [neiben shu hai-le ziji_i].
 Zhangsan 's letter indicate that book hurt-ASP self

'(Lit.) Zhangsan_i's letter indicated that the book hurt himself_i.'

As Wayne Harbert has suggested to us, it may be that since both long-distance binding and binding by a sub-commander each represent a marked case, long-distance binding by a sub-commander would be doubly marked and thus not allowed.

⁵ In cases where an inanimate subject contains an animate subject, Battistella suggests that the whole inanimate subject carries the index of the animate subject it contains. This means that a sub-commander contained in a c-commander is treated as if it is the actual c-commander. But this makes an incorrect prediction about sentences like (i) with respect to principle B, that in (i) *ta* must be disjoint from *Zhangsan* which would 'c-command' it in its governing category:

- (i) [[Zhangsan nadao de] chengji] shi ta hen nanguo.
 Zhangsan get DE grade make he very sad
 'The grade that Zhangsan got made him very sad.'

Cases like (i) show that 'sub-command' is not required in the characterization of a governing category for disjoint reference, just as the presence of an accessible SUBJECT is irrelevant for the domain of principle B (see Huang 1983, Chomsky 1986a). This means that 'sub-command' must be clearly distinguished from c-command.

⁶ Cole, et al (1988) have recently developed a version of Battistella's theory in which they attempt to answer some of our objections. We hope to return to their paper after it is finalized.

⁷ We thus follow Chierchia (1987) and claim that the long-distance reflexive has the semantics of an operator. Katada (1988) argues for the same treatment of Japanese *zibun* by showing that it exhibits extensive properties of an operator.

⁸ One might say that Subjacency and CED do obtain in LF, but due to independent factors their effects are not visible. See Pesetsky (1987a), Nishigauchi (1986) and Fiengo, et al (1988) for somewhat different executions of this idea.

⁹ We have not addressed the problem of subject-orientation. An important claim of the INFL-movement theory is that subject-orientation follows from the fact that *ziji* is located in INFL. However, it is not entirely clear that subject-orientation is a property of long-distance reflexives, or bare reflexives alone. The compound reflexive *taziji*, for example, also exhibits a strong tendency for subject-orientation, as indicated below:

- (i) Zhangsan_i gaosu Lisi_j taziji_{i/*j} de shenshi.
 Zhangsan tell Lisi himself 's life-story
 'Zhangsan_i told Lisi_j about his_{i/*j} own life.'

References

- Aoun, Joseph (1985) *A Grammar of Anaphora*, MIT Press, Cambridge, Massachusetts.
 Barss, Andrew (1986) *Chains and Anaphoric Dependence*, doctoral dissertation, MIT.
 Battistella, Edwin (1987) "Chinese Reflexivization," paper presented at the 2nd Harbin Conference on Generative Grammar, Heilongjiang University, Harbin, People's Republic of China; ms., University of Alabama at Birmingham.

- [Belletti, Adrianna and Luigi Rizzi (1988) "Psych-Verbs and Thematic Theory," *Natural Language and Linguistic Theory* 6, 291-352.
- Chierchia, Genaro (1987) "Anaphora and Attitudes *de se*," ms., Cornell University; to appear in R. Barck and P. van Emde Boas, (eds.), *Language in Action*, Foris.
- Chomsky, Noam (1981) *Lectures on Government and Binding*, Foris, Dordrecht.
- Chomsky, Noam (1982) *Some Concepts and Consequences of the Theory of Government and Binding*, MIT Press, Cambridge, Massachusetts.
- Chomsky, Noam (1986a) *Knowledge of Language*, Praeger, New York.
- Chomsky, Noam (1986b) *Barriers*, MIT Press, Cambridge, Massachusetts.
- Chomsky, Noam (1988) "Some Notes on Economy of Derivation and Representation," ms., MIT.
- Cole, Peter, Gabriella Hermon and Li-May Sung (1988) "Principles and Parameters of Long Distance Reflexives," ms., University of Delaware.
- Fiengo, Robert, James Huang, Howard Lasnik, and Tanya Reinhart (1988) "The Syntax of Wh-in-situ," *WCCFL* 7, 81-98.
- Giorgi, Alessandra (1984) "Toward a Theory of Long Distance Anaphors: A GB Approach," *The Linguistic Review* 3, 307-359.
- Higgins, Roger (1973) *The Pseudo-Cleft Construction in English*, doctoral dissertation, MIT.
- Huang, C.-T. James (1982) *Logical Relations in Chinese and the Theory of Grammar*, doctoral dissertation, MIT.
- Huang, C.-T. James (1983) "A Note on the Binding Theory," *Linguistic Inquiry* 14, 554-561.
- Huang, Yun-Hua (1984) "Reflexives in Chinese," *Studies in English Literature and Linguistics* 10, 163-188, National Taiwan Normal University, Taipei.
- Katada, Fusa (1988) "LF-binding of anaphors," *WCCFL* 7, 171-186.
- Lasnik, Howard and Mamoru Saito (1984) "On the Nature of Proper Government," *Linguistic Inquiry* 15, 235-290.
- Lebeaux, David (1983) "A Distributional Difference between Reflexives and Reciprocals," *Linguistic Inquiry* 14, 723-730.
- Manzini, Rita and Kenneth Wexler (1987) "Parameters, Binding Theory, and Learnability," *Linguistic Inquiry* 18, 413-444.
- Nishigauchi, Taisuke (1986) *Quantification in Syntax*, doctoral dissertation, University of Massachusetts, Amherst.
- Pesetsky, David (1987a) "Wh-in-situ: Movement and Unselective Binding," in E. Reuland and A. ter Meulen (eds.), *The Representation of (In)definiteness*, MIT Press, Cambridge, Massachusetts.
- Pesetsky, David (1987b) "Binding Problems with Experiencer Verbs," *Linguistic Inquiry* 18, 126-140.
- Pica, Pierre (1987) "On the Nature of the Reflexivization Cycle," *NELS* 17, 483-499.
- Postal, Paul (1971) *Crossover Phenomena*, Holt, Rinehart, and Winston, New York.
- Sportiche, Dominique (1986) "Zibun," *Linguistic Inquiry* 17, 369-374.
- Tang, C.-C. Jane (1985) *A Study of Reflexives in Chinese*, Master's thesis, National Taiwan Normal University, Taipei.
- Tang, C.-C. Jane (1987) "Chinese Reflexives," to appear in *Natural Language and Linguistic Theory*.
- Wang, Jialing, and Justine Stillings (1984) "Chinese Reflexives," in Chunyan Ning, et al (eds.), *Proceedings of the First Harbin Conference on Generative Grammar*, Heilongjiang University, Harbin, People's Republic of China.
- Yang, Dong-Whee (1983) "The Extended Binding Theory of Anaphors," *Language Research* 19, 169-192.