

The Distribution of ziji -- a Control-Theoretic Account

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Syntax

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0. Introduction

In this paper, an alternative analysis of the long distance Chinese anaphor *ziji* ("self") is considered. In Section 1, I review the basic distributional properties of *ziji* as outlined in the recent literature. In Section 2, I show that certain stipulations on *ziji*'s distribution can be subsumed under more generalized principles. In Section 3, I suggest that treating *ziji* as a locally bound element of the form *e-ziji* is an attractive alternative to the traditional notion that it possesses long-distance binding properties. In Section 4 I present preliminary evidence for this analysis by positing that Control Theory, rather than Binding Theory, is responsible for the observed long-distance effects. In Section 5 I discuss some recent analyses of *ziji* in light of the control-theoretic analysis presented here.

Herein is only a preliminary investigation into a control-based analysis of the distribution of *ziji*. What will not be discussed in this paper is the nature of the parametric variation of Control that may be responsible for *ziji*'s long-distance antecedent-taking behavior.

## 1. The Distribution of *ziji*

In this section I will briefly present the properties *ziji* has traditionally been assumed to possess. Examples are from Tang (1989).

*ziji* has two functions in Chinese: anaphoric and

intensifying. Anaphoric *ziji* appears in A-positions (as in (1)), while intensifying *ziji* appears in A'-positions (2).

(1) Lisi<sub>i</sub> dui ziji<sub>i</sub> mei xinxin

Lisi to self no confidence

Lisi has no confidence in himself

(2) Lisi<sub>i</sub> ziji<sub>i</sub> zhufan

Lisi self cooks

Lisi herself cooked

As Chinese is a null subject language, anaphoric and intensifying *ziji* can appear in string-identical position.

(3) a. Lisi<sub>i</sub> juede ziji<sub>i</sub> hui ying

Lisi feels self will win

Lisi feels that she will win

b. Lisi<sub>i</sub> juede e<sub>i</sub>-ziji<sub>i</sub> hui ying

Lisi feels e self will win

Lisi feels that she herself will win

(Note that in (3b) *ziji* receives emphatic stress,

indicated by underscoring)

Tang states that anaphoric *ziji* requires an animate antecedent:

(4) a. wo taoyan *ziji*

I hate self

I hate myself

b. \*men guangshangle *ziji*

door closed self

The door closed iteself

Furthermore, anaphoric *ziji* may select an optional pronoun (5), whereas intensifying *ziji* is reported unable to do so (6).

(5) wo hen (wo-) *ziji*

I hate (my)self

(6) Zhang<sub>i</sub> ai taziji<sub>i</sub>/\*ta<sub>j</sub>-ziji<sub>j</sub> de taitai

Zhang love his self DE mother

Zhang loves his own mother

Zhang cites this as evidence that *ziji* is an argument,

while the pronoun is an A' prefix. In fact, the starred reading of (6) IS acceptable if *ta*, as well as *ziji*, receives emphatic stress. This shows that intensifying *ziji* may be locally associated with a pronoun, as (7) further confirms.

(7) Zhang xihuan wo<sub>i</sub>-ziji<sub>i</sub> de kanfa  
Zhang like my self DE point of view

Zhang likes my (very) own point of view

Note, however, that the structures of the two forms are assumed different. Anaphoric *ziji* is still in A-position, bound by a higher NP, while intensifying *ziji* is in A'-position, locally bound by the emphatically stressed pronoun in A-position.

It is assumed that a subject/object asymmetry exists: only subjects can act as antecedents for *ziji*.

(8) Zhangsan<sub>i</sub> dui Mali<sub>j</sub> shuo ziji<sub>i/\*j</sub> zui hao kan  
Zhangsan to Mali say self most good look

Zhangsan said to Mali that he is the best looking

Furthermore, non-c-commanding subject NPs can serve as antecedents for *ziji* just in case they are embedded within an inanimate c-commanding NP.

(9) [Zhangsan<sub>i</sub> de jiaobao] haile ziji  
Zhangsan DE pride hurt self

Zhangsan's pride hurt him

Finally, ziji may conditionally take a long distance antecedent.

(10) Zhangsan<sub>i</sub> renwei [Wangwu<sub>j</sub> zhidao [Lisi<sub>k</sub> dui ziji<sub>i/j/k</sub>  
mei xinxin  
Zhangsan thinks Wangwu knows Lisi to self  
no confidence

Zhangsan thinks that Wangwu knows that Lisi has no confidence in himself

Note that:

- (11) i) Non-third person NPs cannot serve as long distance binders
- ii) Intervening non-third person NPs block long distance binding
- iii) Compound reflexives (e.g. "ta-ziji") cannot be long-distance bound

## 2. Modifications on the Nature of ziji's Distribution

Tang reports that non-third person NPs cannot serve as

long-distance binders of *ziji*. Tang observes that this stipulation can be subsumed under an analysis that merely requires feature-matching of possible antecedents. As usually only third person NPs can match in features while simultaneously being disjoint in reference, it is only in such cases that long distance binding will be possible. First and second person NPs (i.e. pronouns) will rarely appear in a sentence matched for features yet disjoint in reference. There is therefore little opportunity to observe the binding behavior of *ziji* when bound by non-coindexed first (or second) person pronouns. However, one of the rare examples of this effect is in (1), where *ziji* can be bound by the embedded subject, but not by the matrix subject. Since features do not match -- despite person agreement -- long distance binding is excluded.

- (1)a.     [ta he wo]<sub>i</sub> renwei [ni he wo]<sub>j</sub> zui xihuan ziji<sup>\*i/j</sup>  
           he and I think you and I most like self
- b.     [ni he wo]<sub>i</sub> renwei [ta he wo]<sub>j</sub> zui xihuan ziji<sup>\*i/j</sup>  
           you and I think he and I most like self

As exclusive and inclusive "we" do not match for features, long-distance binding is excluded.

Tang notes that inanimate NPs may never serve as antecedents of anaphors. Cole (1990b) attributes this fact to the defective nature of such NPs. However, as inanimate NPs are



predictably third person, this feature need not be lexically specified in such forms. To borrow a notion from phonological theory, such information can be filled in by a late default rule of the form [ ] -> [third person].

Morphological evidence for this analysis becomes available when considering number agreement facts. Chinese has a (rather unproductive) plural morpheme, -men, that attaches to NPs. Significantly, only animate [+volitional] NPs are eligible for suffixation:

- (1) haizimen dou hen guai  
child pl. all very well-behaved  
  
The children are all well-behaved
- (2) tongzhimen yinggai ai zuguo  
comrade pl. should love motherland  
  
Comrades should love (their) motherland
- (3) \*niuyue de daloumen dou hen gao  
New York DE building pl. all very tall  
  
The buldings in New York are all tall
- (4) \*shitimen dou huiguole  
corpse pl. all return country ASP

The corpses were all returned to (their own) country

Animate NPs thus have the potential to bear agreement features. However, inanimate NPs, which are predictably third person and cannot acquire the plural morpheme, apparently do not bear agreement features at the stage where binding takes place.

They are therefore "transparent", not "defective".

ziji, too, need not be stipulated [+human]. As ziji's antecedent can be any person and either number, it is apparent that ziji's agreement features cannot be assigned by default, as inanimate NP's features can be. Rather, to borrow further phonological terminology, ziji's agreement features are underspecified, but not redundantly so: they require filling in by D-rule as binding operations proceed (cf. Steriade (1987)). If, as argues below, ziji is actually e-ziji, its features are acquired from e, which inherits features from its controller.

### 3. ziji and Condition A

Condition A of the binding theory states that anaphors must be bound in their governing category. Yet in sentence (1) ziji occupies matrix subject position, yet the sentence is fine.

- (1) ziji xihuan zou yi zou  
self like leave one leave

I like to stroll

There would seem three ways out of this seeming violation

- i. Abandon Condition A
- ii. Assume ziji is in fact NOT an anaphor
- iii. Assume ziji is associated with a null element which acts as its binder

Given that alternatives i. and ii. are extremely unattractive for a variety of obvious reasons, it will be argued in Section 5 that in fact alternative iii. is correct.

#### 4. On ziji and Local Binding

Tang states that ziji occurs in A-positions, citing (1) as an example.

(1) Lisi<sub>i</sub> ai [ziji<sub>i</sub> de taitai]

Lisi love self DE wife

Lisi loves his own wife

In (1), ziji can only be coindexed with Lisi, whereas in (2) the pronoun ta can be either coreferential or disjoint in reference.

(2) Lisi<sub>i</sub> ai [ta<sub>i/j</sub> de taitai]

Lisi love he DE wife

Lisi loves his wife

While these results fall out quite naturally from traditional analyses, further data suggest that perhaps an alternative approach to the phenomena in question is order. In (3), *taziji* has a reading whereby the anaphor refers to the clausal subject. However, two other readings are possible, if context dependent. In (b), *ta* is coreferential with the subject, *ziji* an emphatic. In (c), *ta* is disjoint in reference with the clausal subject, *ziji* being an emphatic, bound by the pronoun.

(3)a Lisi<sub>i</sub> ai [taziji<sub>i</sub> de taitai]

Lisi love himself DE wife

Lisi loves his own wife

b. Lisi<sub>i</sub> ai [ta<sub>i</sub>-ziji de taitai]

Lisi love his self DE wife

Lisi loves his own wife (as opposed to someone elses)

c. Lisi<sub>i</sub> ai [ta<sub>j</sub>-ziji de taitai]

Lisi love he self DE wife

Lisi loves his (someone elses) own wife

Given these other acceptable readings of (3), we now return to (1) (presented as (4)), positing a similar structure.

(4) Lisi<sub>i</sub> ai [e-ziji<sub>i</sub> de taitai]

(where e represents an empty pro-like category, the status of which will be considered at the end of this paper)

As the clausal subject controls e, the only reading of (4) is one in which ziji and Lisi are coindexed. e-ziji is thus locally bound by Lisi. If ziji receives emphatic stress, we would predict another structure of (1): e is an A-position subject, and ziji is an emphatic in A'-position. In fact, as discussed in section 1, such a reading is possible.

(5) Lisi<sub>i</sub> ai [e<sub>i</sub>-ziji de taitai]

Lisi love e self DE wife

Lisi loves his wife (as opposed to someone elses)

With a null element binding ziji we can not interpret ziji as disjoint in reference with Lisi.

(6)a. \*Lisi<sub>i</sub> ai [e<sub>j</sub>-ziji de taitai]

Lisi love e self DE wife

Lisi loves (some other particular) self's wife

b. \*Lisi<sub>i</sub> ai [e<sub>j</sub>-ziji de taitai]

Lisi love e self De wife

Lisi loves a particular man's very own wife

c. \*Lisi<sub>i</sub> ai [e<sub>j</sub>-ziji de taitai]

Lisi love e self DE wife

Lisi loves a particular man's very own wife as  
opposed to some other particular man's wife

This asymmetry is predicted, as e is controlled by the  
matrix subject, and thus cannot be disjoint in reference.

If this analysis of sentence (1) is correct, we would  
predict that, since e can occur in A-position with an emphatic  
ziji in A'-position, then e should also be able to occur alone  
in subject position, without an emphatic. It is predicted that  
such a structure would require joint reference without emphasis.

(7) Lisi<sub>i</sub> ai [e<sub>i</sub> taitai]

Lisi love e wife

Lisi loves (his) wife

In fact (7) is a simple and unambiguous statement that Lisi loves his wife. No second interpretation is possible. This falls out naturally assuming *e* is in A-position, controlled by the clausal subject. Under previous analyses, such a structure was indeed possible, but did not fall out as a naturally predicted paradigm of anaphora. Recall that previous analyses assume that while emphatic *ziji* takes the form [*e-ziji*], or [*ta-ziji*], non-emphatic *ziji* when in isolation, can appear in A-position, and furthermore does not require a local binder.

It is therefore proposed that ALL instances of *ziji* appearing in seeming isolation and seemingly possessing a long-distance binder are in fact instances of a controlled null element. If this analysis is correct, there exists complete symmetry among the forms *ziji* takes:

(9) <u>anaphors</u>		<u>pronoun+emphatic</u>	
woziji	womenziji	wo- <u>ziji</u>	women- <u>ziji</u>
niziji	nimenziji	ni- <u>ziji</u>	nimen- <u>ziji</u>
taziji	tamenziji	ta- <u>ziji</u>	tamen- <u>ziji</u>
	e-ziji		e- <u>ziji</u>

In previous analyses, an asymmetrical and qualified system was hypothesized.

(10) <u>anaphors</u>	<u>pronoun+emphatic</u>
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woziji	womenziji	wo- <u>ziji</u>	women- <u>ziji</u>
niziji	nimenziji	ni- <u>ziji</u>	nimen- <u>ziji</u>
taziji	tamenziji	ta- <u>ziji</u>	tamen- <u>ziji</u>
	ziji*		e- <u>ziji</u>

\*Long distance binding of this form is possible

ziji -- the odd-man-out in this system -- is assumed to be a special bare form of anaphor that may appear in isolation in A-position, and which can take a long distance antecedent. The analysis presented here regularizes the system completely, correctly predicting all paradigms to exist, and requiring no stipulation regarding the special nature of ziji: ALL instances of ziji are locally bound.

## 5. e-ziji and Control

Huang (1982) (inter alia) states that anaphoric ziji must take a subject antecedent. However, in (1), ziji is construed as being coindexed with either the subject or the object.

- (1) Huang Mei<sub>i</sub> gaosu Yuan Yuan<sub>j</sub> [e-ziji<sub>i/j</sub> yinggai dushu]  
 Huang Mei tell Yuan Yuan e self should study

Huang Mei told Yuan Yuan that she should study



The fact that either the subject or the object can act as antecedent to *ziji* immediately makes Huang's subject condition suspect. Note the ambiguity of (1) is attributable to the possibility of the speaker reporting what exactly Huang Mei said to Yuan Yuan, i.e. "I (Huang Mei) should study". However, as *gaosu* is an object-control verb, a more natural reading is one in which Huang Mei is suggesting to Yuan Yuan that she should study. This is tentative evidence supporting a control-theoretic analysis of such structures, and not a binding-theoretic one.

In (2) the antecedent of *ziji* is unambiguously the matrix object.

(2) Huang Mei<sub>i</sub> quan Yuan Yuan<sub>j</sub> [e-*ziji*<sub>\*i/j</sub> yinggai dushu]  
Huang Mei persuade Yuan Yuan e self should study

Huang Mei persuaded Yuan Yuan that she should study

This confirms that the subject condition does not correctly characterize the behavior of *ziji*, and strongly suggests that *ziji* is associated with an empty category controlled by a higher predicate.

The subject condition can perhaps be saved by assuming that in (1) and (2), *ziji* is not in A-position, but is an emphatic modifying an embedded empty subject, as in (3)

(3) Huang Mei<sub>i</sub> quan Yuan Yuan<sub>j</sub> [e-*ziji*<sub>\*i/j</sub> yinggai dushu]

Huang Mei persuaded Yuan Yuan self should study

Huang Mei persuaded Yuan Yuan that she should study

As *quan* is an object-control predicate, *ziji*'s seeking an object antecedent is seemingly accounted for. However, in such a sentence, *ziji* need not receive emphatic stress in order to be construed with the matrix object. This would not be predicted by the subject condition. Furthermore, assuming the traditional analysis, it must be stipulated that anaphoric *ziji* (*ziji* occupying an A-position in isolation) cannot occur with object-control predicates. If it could, we would expect the matrix subject Huang Mei to act as antecedent in (3). But in fact a subject antecedent is never possible for the object-control predicate *quan*, as (4) indicates.

(4) \*wo *quan* Huang Mei [*woziji mai zheben shu*]

I persuade Huang Mei myself bought this book

These facts cast strong doubt on the possibility that the subject condition is correct, and provide further evidence that *ziji* does not occur in isolation in A-position, and that control theory, rather than binding theory must account for the phenomena in question.

Under the analysis presented here, *ziji* does not seek subject antecedents by stipulation. Rather, when *ziji* superficially appears to be long-distance bound, it is in fact

covertly associated with a null element which acquires its features from its controller: subjects for subject-control predicates, objects for object-control predicates.

The sentences in (5) and (6) are all correctly predicted to be grammatical under this analysis.

(5)a Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [tazij<sub>i</sub><sub>j</sub> yinggai dushu]

I persuade Huang Mei herself should study

I persuaded Huang Mei that herself should study

b. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [ta<sub>j</sub>-ziji<sub>j</sub> yinggai dushu]

I persuade Huang Mei she self should study

I persuaded Huang Mei that she herself should study

c. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [ta<sub>j</sub> yinggai dushu]

I persuade Huang Mei she should study

I persuaded Huang Mei that she should study

d. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [ta<sub>k</sub>-ziji<sub>k</sub> yinggai dushu]

I persuade Huang Mei s/he self should study

I persuaded Huang Mei he/her -self (another person)  
should study

or (less preferred), I persuaded Huang Mei that she

herself should study

(6)a. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [e-ziji<sub>j</sub> yinggai dushu]

I persuaded Huang Mei self should study

I persuaded Huang Mei that she should study

b. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [e<sub>j</sub>-ziji yinggai dushu]

I persuade Huang Mei e self should study

I persuaded Huang Mei that she (herself) should study

c. Wo<sub>i</sub> quan Huang Mei<sub>j</sub> [e<sub>j</sub> yinggai dushu]

I persuade Huang Mei e should study

I persuaded Huang Mei (that she) should study

In (5a) *taziji* is in A-position and is locally bound by Huang Mei. In (5b) emphatic stress is placed on *ziji*, which is coindexed with *ta*, which in turn is coindexed with Huang Mei. In (5c), *ta* is coindexed with Huang Mei. In (5d) both elements receive emphatic stress, and thus *ta* can now have outside reference, *ziji* again acting as an emphatic. (6a) is (3) repeated, in which *e-ziji* is in embedded subject position, *e* controlled by the matrix object. In (6b) object-controlled *e* occupies embedded subject position, emphatic *ziji* stressing that it is indeed Huang Mei who should be studying. (6c) is an

ordinary object-control structure with a straightforward reading.

All of these forms are predicted without stipulation by the analysis presented here. The paradigmatic gap is also predicted: e-ziji cannot exist, as a phonologically null element cannot receive emphatic stress, and furthermore, pragmatically speaking, emphasis would not be expected to be placed on an argument which is predicted to occupy a given position. Recall that earlier analyses would not predict a contrast between (6a) and (6b), as only emphatic *ziji* should be able to appear in this position.

We can now incorporate the following paradigms, completing the model:

emphatic pronoun+emphatic anaphor

(7) wo-ziji                      women-ziji  
      ni-ziji                      nimen-ziji  
      ta-ziji                      tamen-ziji  
                                      (\*e-ziji)

## 6. e-ziji and Relativized Minimality

### a. Strict Cyclic Raising?

Another line of evidence in favor of a control-theoretic account of long distance anaphors comes from an analysis of binding from without tensed clauses. Sentence (1) is

grammatical in Chinese.

- (1) Huang Mei<sub>i</sub> renwei [ziji<sub>i</sub> hui xihuan Wan Ling]  
Huang Mei thinks self might like Wan Ling

Huang Mei thinks that self might like Wan Ling

Following Huang (1982) I assume that the modal *hui* is a lexical element in I. The embedded clause in (1) then, is a tensed clause, the subject position properly governed by *hui* in I. If *ziji* is in A-position, problems arise when considering minimality government. If *ziji* and the modal *hui* both raise at LF, *Hui* will act as an intervening A'-element, thus blocking binding.

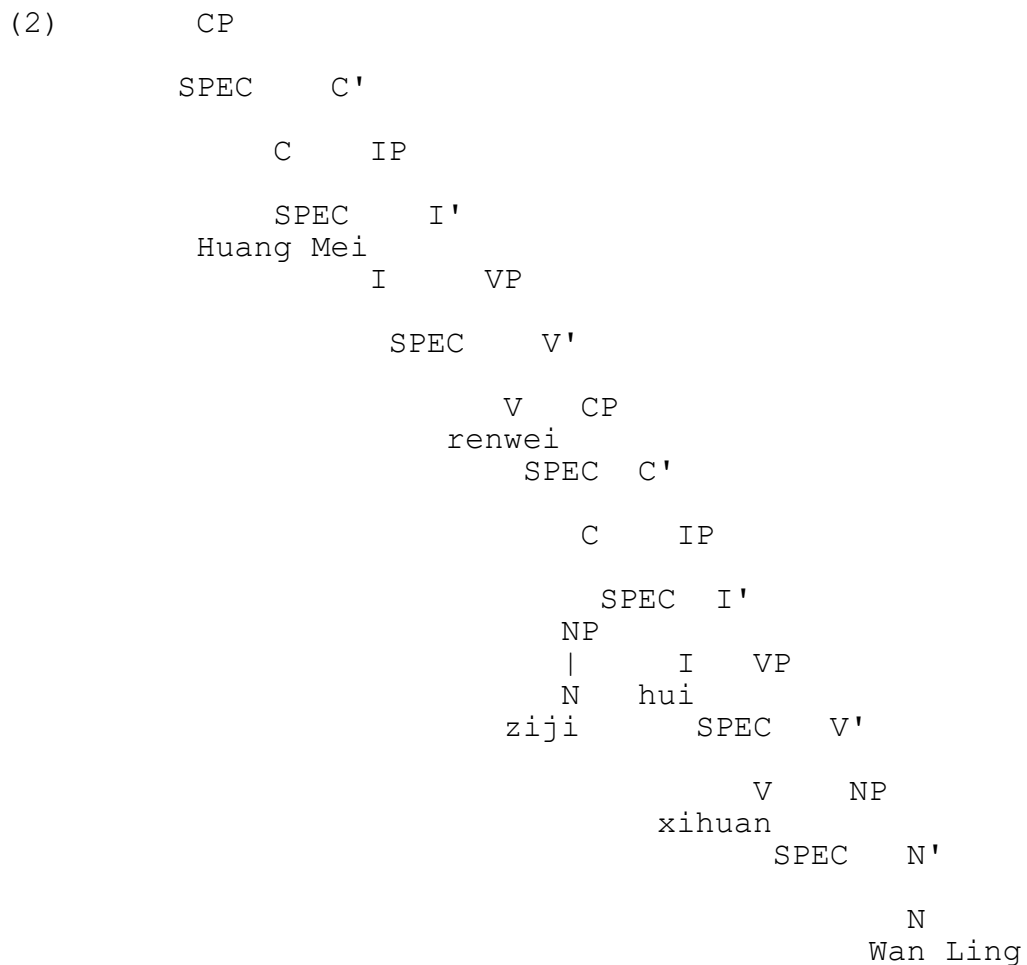
According to the analysis in Cole (1990), unlike all other anaphors, the long distance anaphor may pass through open embedded I in its movement to associate with its antecedent at LF. This analysis makes use both of I's lexical status in Chinese, and the hypothesis that long distance anaphors occupy X<sup>0</sup> positions, and thus may move (only) to X<sup>0</sup> positions. Anaphors like "himself" in English (and, e.g., *taziji* in Chinese) are assumed to be X<sup>max</sup>s and therefore may not move into X<sup>0</sup> positions.

Cole argues both this line of evidence and a line concerning the non-lexical status of I in English: the analysis forbids long distance binding of "himself" due to the fact that it cannot use I as an escape hatch out of its clause, because I is not lexical and therefore does not L-mark VP. VP is hence a

barrier to movement (assuming VP-adjunction is unavailable).

Yet according to his own analysis, "himself" could never move to I for independent reasons: it is an  $X^{\max}$ .

Regardless, I will attempt to derive ziji's binding effects in (1) according to Cole's analysis.



With Aoun and Li (1990) (inter alia), I assume that modals such as *hui* raise to A'-positions at LF to take assigned scope.

As *hui* (perhaps) occupies embedded C position at LF, it functions as an intervening non-coreferential A'-binder, blocking raised *ziji*'s binding of its trace (Aoun and Li make crucial use of intervening non-coreferential X<sup>0</sup> A'-binders to license bound pronouns in environments that would otherwise result in Condition B violations). Assuming the notion of relativized minimality presented in Rizzi (1989), an X<sup>0</sup> element intervening in an X<sup>0</sup> chain or binding domain should result in minimality government, thus rendering the structure illicit. Therefore, we would predict that in sentences like (1), *ziji* cannot be coindexed with the matrix subject, and the sentence should be ungrammatical.

If, however, we assume that the structure of (1) is actually (3), long distance raising of the anaphor is unnecessary, as it is a non-raising form, associated with controlled *e*.

(3) Huang Mei renwei [e-ziji hui xihuan Wan Ling]  
Huang Mei thinks e self might like Wan Ling

Huang Mei thinks self might like Wan Ling

The tree of (3) would be as in (4)



(4) CP

SPEC C'

C IP

SPEC I'  
Huang Mei  
I VP

SPEC V'

V CP  
renwei  
SPEC C'

C IP

SPEC I'  
e-ziji  
I VP

hui  
SPEC V'

V NP  
xihuan  
SPEC N'

N  
Wan Ling

e-ziji (just as forms such as taziji) is not presumed to raise out of its clause, as it is an  $X^{\max}$  of the form e-ziji, and thus no binding-theoretic violation arises, and the sentence is fine.

As before, it may be the case that in tensed clauses ziji is actually e-ziji. But again, such elements need not receive emphatic stress, and furthermore, such an analysis would be purely stipulative: would should only A'-ziji and not A-ziji be licensed in such structures?

If we assume long-distance ziji is actually e-ziji, we can correctly account for antecedents binding across minimality governors.

b. On Bound Pronouns and Intervening A'-Binders

An observation should be made regarding Aoun and Li's analysis of bound pronouns. To quickly summarize their findings, for some speakers of Mandarin an intervening A'-binder at LF that is disjoint in reference licences the otherwise local binding domain of a bound pronoun in its CFC.

- (1) \*Meiren<sub>i</sub> shuo ta<sub>i</sub> de le jiang  
no one say he got ASP prize

No one said he got the prize

(2) Meiren<sub>i</sub> shuo ta<sub>i</sub> hui de jiang  
no one say he could get prize

No one said he could get the prize

In (1) the the pronoun ta is bound in its minimal CFC, and thus the sentence is out. In (2), hui, assumed to raise at LF to an intervening A'-position, licenses the structure, as it is disjoint in reference with the pronoun. Note however, that while the QP and the pronoun are X<sup>max</sup>s, the modal is an X<sup>o</sup> in I. According to relativized minimality, elements that are not "of the same kind" should have no effect on each others binding relations or chain formations.

Nonetheless, for now we will assume that Aoun and Li's analysis is correct. In sentence (3) however, an intervening X<sup>o</sup> A'-element does NOT license an illicit structure.

(3) \*Huang Mei<sub>i</sub> zhidao [youren<sub>j</sub> shuo [ta<sub>j</sub> renwei [ziji<sub>i</sub>/\*<sub>j</sub>  
zui hao kan]]]

Huang Mei know someone say he think self  
most good look

Huang Mei knows someone said he thinks self is the  
best looking

It follows from Aoun and Li's analysis that ziji cannot

raise to associate with the QP, as the bound pronoun would still be bound in the critical domain, this time by raised, co-indexed *ziji*. However, it should be possible for *ziji* to raise to matrix subject position, thus referring to Huang Mei. Assuming long distance anaphors raise cyclically, *ziji* would first raise to I of the second embedded clause, then to embedded I of the first embedded clause on its way to the matrix. It is the trace of *ziji* in the first embedded I position that should license the structure, as an A'-element that is disjoint in reference intervenes between the QP and the bound pronoun. Since the sentence is ungrammatical under any reading, we can assume that *ziji* is actually *e-ziji*, and thus NEVER raises, thus never licensing the structure.

It should be noted that an alternative binding analysis might be possible. As the first embedded subject is a QP assumed to raise to an A'-position at LF, this raised  $X^{\max}$  may serve to interfere in the binding relationship between raised *ziji* and its trace. Note that this analysis too violates Rizzi's "same kind" notion, however. Furthermore, Aoun and Li report that sentence (4) is grammatical, indicating that raised QPs do not interfere with binding .

- (4) Zhang<sub>j</sub> renwei meiren<sub>i</sub> dui ziji<sub>j</sub> shuo ta<sub>i</sub> zui hao  
Zhang thinks no one to self say he most good

Zhang thought that no one thought to himself that he was best

(Note that we are not out of the quagmire just yet, as a non-raising analysis of ziji would predict this sentence ungrammatical, as there is assumed to be no intervening A' element between the QP and the bound pronoun.)

## 7. Problems and Questions

Even the not-so-careful reader will have noticed my calculated agnosticism regarding the status of the empty category assumed to bind ziji. Since this element co-occurs with an overt element, it cannot be PRO, as PRO cannot be governed, yet all overt NPs require a case-assigning governor. Furthermore, when this element is found in the subject of tensed clauses, we know that it is governed.

Is it pro? There is evidence to suggest that, at least much of the time, this empty element is pro. First, Chinese is a null-subject language, assumed to have a covert element in subject position due to the theta-criterion and the Projection Principle. Second, pro requires government, as does this null category. Third, pro is a controlled element. The empty position in question is presumed controlled by a higher predicate.

The problem with assuming that this element is pro arises from Condition B of the binding theory. pro is a null pronoun, and all pronouns -- overt or null -- must be free in their governing category. However, observe that e-ziji can freely

occur in object position:

- (1) Huang Mei xihuan e-ziji  
Huang Mei likes e-self  
  
Huang Mei likes herself

In (1), the governing category for e-ziji is the entire clause in that the clause is the minimal domain containing e-ziji, a governor of e-ziji (xihuan), and a subject (Huang Mei). However, as Huang Mei is coindexed with e-ziji, e cannot be pro, as pro must be free in its GC. Furthermore, if e were pro in (1) it would not be controlled, and a theta criterion violation would result.

We are therefore forced to conclude that, at least in object position, e-ziji is not pro-ziji.

If binding theory is not subject to the parametric variation traditionally assumed to account for long-distance anaphor effects discussed in Section 2, control theory must account for the phenomena in question. The logical question to ask then is -- what is the nature of this parametric variation in the control module of the grammar?

Yet before this question is asked, more preliminary evidence should be gathered in support of the analysis at hand.

Is there cross-linguistic support for a control-theoretic account of long-distance anaphors? Is there a correlation

between languages containing long distance anaphors and null subjects? Can these elements have antecedents beyond their minimal governor? What cross-linguistic variation exists regarding potential antecedents for long-distance anaphors? These question and surely many others require consideration before exploration into control theory can get underway.

## 8. Conclusion

It has been argued that long-distance *ziji* is actually of the form *e-ziji*. This form results in a regular, symmetrical pattern of anaphor types in Chinese. Moreover, it accounts for otherwise unexplainable object-control effects of *ziji*. Finally, it forces the re-analysis of certain binding properties in light of Relativized Minimality.

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