

A STUDY OF CHINESE REFLEXIVES

by

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ABSTRACT

This thesis investigates the different types of Chinese reflexive constructions and presents an analysis of these, attempting to integrate syntactic, morphological and discourse-related aspects of the phenomena.

In Chinese, two distinct types of reflexive have been widely discussed in the literature: simplex reflexive *ziji* 'self', which is a long-distance reflexive, and complex reflexives pronoun + *ziji*, such as *taziji* 'himself', which must be locally bound (see Huang and Tang (1991) among others). In addition, Chinese has a kind of double reflexive construction, such as *ziji-benshen*, and reflexive clitics *zi* and *ziwo*.

This thesis argues that reflexive clitics must be locally bound; and that under certain conditions, both simplex reflexive *ziji* and complex reflexives such as *taziji* and *ziji-benshen* can be locally bound, long-distance bound, or even free in an entire sentence. When the reflexive is locally bound, it must fall under the principles of the Binding Theory; when it is long-distance bound or free in an entire sentence, it is subject to logophoric interpretation. Whether a reflexive is subject to the Binding Theory or logophoric interpretation is determined by the interaction between the reflexive itself and the verb which governs it, which illustrates from whose point of view the report is made.

I propose that every type of reflexive has two structures: one is an anaphoric structure, while the other is a logophoric structure. When a verb assigns an anaphoric theta role, the reflexive can have the anaphoric structure and the head of the reflexive NP is allowed to adjoin the head of the VP at LF. In this sense, the anaphoric reading is the result of movement of the head of the reflexive at LF. If a reflexive cannot receive an anaphoric theta role, it can have a logophoric structure. In the logophoric structure, the head of the reflexive DP must be a *pro* in order to receive the disjoint theta role from the verb. In this sense, the logophoric reading is a result of coindexing the *pro* with its antecedent.

This thesis provides an explanation for local binding and long-distance binding within the Chomskyan paradigm and proposes a number of constraints for logophoric reflexives.

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CHAPTER ONE

INTRODUCTION

1.0 THE PURPOSE AND STRUCTURE OF THE THESIS

The purpose of this thesis is to show how the issue of **Local vs Long-distance binding** (henceforth **LDB**) arises in the Chinese reflexivisation system. We will look at the different kinds of reflexive elements in Chinese - simplex reflexive *ziji*, complex reflexives *taziji* and *ziji-benshen*, and reflexive clitics *zi* and *ziwo*, and explore under which circumstances a reflexive must be interpreted as being coreferential with a 'local' antecedent, when it can be interpreted as coreferential with a long-distance antecedent present in the sentence, and under which circumstances it can fail altogether to have a sentential antecedent, but have an antecedent in discourse. In other words, we shall study the domains which the distinct kinds of reflexives require for their interpretation, and attempt to find out why these reflexives have distinct domains. The analysis will be mainly within the GB formulation of the Chomskyan **Principles and Parameters** framework, but will incorporate some crucial discourse level notions, such as **Logophoricity**.

The thesis is organised as follows: the first chapter introduces the reader to the principles of Binding Theory and related notions, in particular the question of local vs long-distance binding of reflexives, which arises in English and many other languages. It also introduces the various forms of reflexive constructions in Classical and Modern Chinese.

Chapters 2 to 4 serve as overviews to the different aspects of the problem: in Chapter 2, the Binding Theory and different analyses of reflexivisation within the GB framework are introduced. In Chapter 3, a number of recent analyses of Chinese reflexivisation within the GB framework will be discussed. The topic of Chapter 4 is logophoricity.

Chapter 5 deals with the relationship between the Binding Theory and semantic aspects of verbal meanings, and proposes a verb classification through which a number of puzzling facts can be explained. In Chapter 6, we discuss reflexive clitics in Chinese. In Chapter 7, we return to the classification of reflexives and their structure and properties. Logophoricity and Chinese reflexives will be discussed in Chapter 8. Chapter 9 is the conclusion.

1.1 REFLEXIVES AND SYNTACTIC THEORY

More than twenty years of research on syntactic anaphora within generative grammar have led to a proposed universal typology of Noun Phrases, dividing them into r(eferential)-expressions, pronouns and anaphors. Various proposals aiming at a universal treatment of reflexives - the prototypical anaphors - have been proposed over the years.

One of the first main insights into anaphoric binding within the generative framework was first formulated by Jackendoff (1972: 136).

According to Jackendoff, a reflexive must have an accessible antecedent in the same clause. For instance, in English, the reflexive *himself* needs a third person, singular, male antecedent in the same clause, as is found in (1a), but not in (1b) or (1c):

- (1) a. John_i likes himself_i
 b. * John thinks that himself is sick
 c. * I gave [a book about John] to himself

In Jackendoff's formulation, pronominals (free anaphors, in his terms) and reflexives (bound anaphors, in his terms) are in complementary distribution, as illustrated in (2):

- (2) a. John_i likes himself_{i/*j} /him_{*i/j}
 b. John_i said that Bill_j likes himself_{*i/j} /him_{i/*j}

In (2a), the reflexive *himself* must refer to *John*; the pronoun *him* must not refer to *John*. In (2b), the reflexive *himself* must refer to the local subject *Bill*, not to the remote subject *John*; the pronoun *him*, conversely, must not refer to the local subject *Bill*, but may refer to the remote subject *John*, since it is free in the local clause, and nothing prevents it from referring to the root clause subject. Sentences (2a) and (2b) show that where a reflexive occurs, it is impossible for a pronominal to occur, and vice versa.

Chomsky developed these insights into the Binding Principle of Government-Binding theory (Chomsky 1981). Within this framework, Jackendoff's Generalisation survives virtually unaltered: an anaphor must be bound within a specific domain (**governing category**), while a pronominal must be free in that same domain.

(3) Binding Theory (Chomsky 1981)

- a. An anaphor must be bound in its governing category
- b. A pronominal must be free in its governing category
- c. An R-expression is free

The precise technical definition of governing category will be discussed in Chapter 2. For present purposes, we can take governing category to be a sentential or nominal clause.

Condition (3b) prevents the rule from applying in a sentence with a reflexive in the subject position, as in (1b), and condition (3c) prevents reflexivisation from applying in a sentence such as (1c). The three principles of the Binding Theory are illustrated in the English sentences in (4):

- (4)
- a. John_i likes himself_i
 - b. John_i likes him_{*i}
 - c. John_i likes Mary_{*i}

Himself, as an anaphor, in (4a), must be bound to an antecedent in its governing category; *him*, as a pronominal, in (4b), must be free in its governing category. *Mary*, as an R-expression, is always free.

However, in English, reflexives and pronouns are known to alternate in so-called PICTURE NPs (discussed by Warshawsky 1976, Ross 1970, Cantrall 1974, Chomsky 1981, Kuno 1987, among others) and also in some PPs (discussed in Lees & Klima 1963, Chomsky 1965, Lakoff 1968, Cantrall 1974, Chomsky 1981 and Kuno 1987). The former is illustrated in (5a), the latter in (5b):

- (5) a. They_i thought that [pictures of them_i /themselves_i] would be on sale
b. John_i hid the book [behind him_i /himself_i]

Chomsky (1981) proposes to get around this problem by redefining the notion of governing category (see Chapter 2).

Picture-NPs are not, however, an isolated problem. As a matter of fact, an increasing number of similar examples have been found in contemporary prose, in which English reflexive pronouns are shown apparently to violate Principle A of the Binding Theory (see Kuno 1987 and Zribi-Hertz 1989, among others): eg, long-distance bound reflexives, antecedents which do not c-command their anaphors, and sentences where the antecedent is lacking altogether (for detail, see Chapter 4).

Ross (1970), Cantrall (1974) and Zribi-Hertz (1989) independently note that English exhibits many *prima facie* exceptions to the standard Binding Theory. The essence of their claim is that a certain type of binding relation involves **logophoricity**, a notion in which a number of discourse factors play a role. According to these authors, syntactic conditions alone are not sufficient to account for the distribution.

So what is the real domain for reflexives like *himself*? Why is it that such reflexives can be LDB, even sentence-free? Are there any syntactic constraints upon such a LDB or sentence-free reflexive *himself*? Do any other factors affect LDB and sentence-free

reflexives? As we will see in the subsequent chapter, the Binding Theory as it stands runs into difficulties with these cases.

Another problem is raised by morphologically simplex reflexives (Reinhard and Reuland 1991) in certain languages, which apparently do not need to be clause-bound. There are several well-known discussions of non-clause-bound reflexives in the literature, for example, in Icelandic (Thrainsson 1976, Maling 1982, among others) and the anaphor *proprio* in Italian (Giorgi 1983). For example (brackets indicate local clausal domain):

- (6) Jón_i sagði þeim [að María elski (subj) sig_i]
told them that love (3sg) self
'John told them that Maria loves him' (Pica 1991)

- (7) Gianni_i ha riconciliato Maria con coloro_j [che amavano il proprio_{i/ni} figlio]
reconciled with those who loved self child
'Gianni reconciled Maria with those who loved his own child' (Giorgi 1991)

As it turns out, simplex reflexives can be found in many languages: *kendi* in Turkish, *zibun* in Japanese, *casin* in Korean, *sig* in Danish, to name but a few. In their 'Long-distance anaphora: an overview', Reuland and Koster (1991) propose that "the properties of long-distance anaphora as discussed in the current literature can be summarised as in (8), with (8A) as the initial defining characteristic.

- (8) A. Long-distance anaphors allow an antecedent outside their governing category.
B. The antecedents of LD-anaphors are subject to a more restrictive prominence condition than c-command. The most common requirement is that the antecedent must be a subject.
C. Long-distance anaphora is restricted to reflexives. Reciprocals are not allowed as long-distance anaphors (Yang 1984).

- D. Long-distance anaphors are morphologically simplex. Morphologically complex anaphors are local (Pica 1985, 1989).
- E. Outside the local domain there is no complementarity between pronouns and anaphors.”

However, long-distance anaphora in every language has its own particular properties. For instance, it is not necessary for Japanese *zibun* to have an antecedent in a subject position. Many simplex reflexives (for example, *sig* in Icelandic) and subject to the Tensed S condition,⁽¹⁾ whereas Japanese *zibun* and Korean *casin* are not subject to this condition at all.

This topic has produced a lot of research. Some linguists consider a simplex reflexive to be a pronominal anaphor (see Everaert 1986, 1991), others consider it to be a logophoric reflexive (see Reinhart and Reuland 1991), while others still adhere to the GB syntactic view (see Huang and Tang 1991) and try to account for it as a circular movement at LF. Many of those working within the Chomskyan Principles and Parameters paradigm try to find a solution involving LF movement (see Battistella 1989, Cole et al 1990, among others).

To sum up, in literature, there seem to be two distinct reflexive types in the world's languages: (i) complex reflexives, and (ii) simplex reflexives. Complex reflexives consist of two parts: a pronoun + *self*, like *him* + *self* in English, which have phi-features (gender, number and person, etc) and, in general, must be clause-bound, though in some cases they may be long-distance bound, or even free in an entire sentence. Simplex reflexives have no phi-features, and can be clause-bound as well as long-distance bound, or free in the sentence in which they occur. The proper characterisation of elements and environments which involve Local vs Long-distance binding is a major issue in the study of anaphora.

1.2 THE CHINESE REFLEXIVISATION SYSTEM

Having introduced the Binding Theory and some difficulties which arise when we apply it to certain languages, let us now look at the Chinese reflexivisation system.

In the syntactic literature on Chinese, the term 'reflexive' is usually used to refer to the forms *ziji* (自己) and *taziji* (他自己). These were discussed by Chao (1968). In his book A GRAMMAR OF SPOKEN CHINESE, Y R Chao (1968) claimed that there are three distinct forms of reflexive: the pure reflexive *ziji*; the pronoun-reflexive compounds such as *woziji* 'myself', *niziji* 'yourself', *ninziji* 'yourself' (formal form), *taziji* 'himself', *taziji* 'herself', *women-ziji* 'ourselves', *nimen-ziji* 'yourselves', *tamen-ziji* 'themselves', and finally, the NP-reflexive compounds such as *Zhangsan-ziji* 'Zhangsan's own self', *wo didi-ziji* 'my brother's own self'. These three types are exemplified in (9), (10) and (11):

- (9) Zhangsan_i dui ziji_i mei xinxin
to self no confidence
'Zhangsan has no confidence in himself' (Huang and Tang 1988)
- (10) Zhangsan_i dui taziji_i mei xinxin
to himself no confidence
'Zhangsan has no confidence in himself' (Huang and Tang 1988)
- (11) Zhangsan kan dao le Lisi-ziji, mei jian ta taitai
see arrive ASP Lisi-self not see him wife
'Zhangsan saw Lisi himself, but not his wife' (Chao 1968)

According to many linguists (Chao 1968, Huang and Tang 1991, among others), *ziji* in (9) must refer to the local subject *Zhangsan*; in (10), *taziji* has to refer to *Zhangsan* as well. In this sense, both *ziji* and *taziji* have to be analysed as anaphors due to their dependency. In (11), however, *Lisi-ziji* does not need any antecedent - it is free in the

sentence. It may be thought of as an R-expression and an emphatic *ziji*. *Ziji* and *taziji* might both be considered counterparts of the English reflexive anaphor *himself* and seem so far to behave in accordance with Jackendoff's Generalisation, as well as falling under Principle A of the Binding Theory.

However, the local vs LDB issue does arise when we apply the Binding Theory to Chinese reflexives. As has been noted by Huang and Tang (1991), among others, *ziji* can be long-distance bound, but *taziji* must be locally bound. This is illustrated in (12):

- (12) a. Zhangsan_i shuo [Lisi_j dui taziji_{i/j} mei xinxin]
 say to himself no confidence
 ‘Zhangsan said that Lisi has no confidence in himself’
- b. Zhangsan_i shuo [Lisi_j dui ziji_{i/j} mei xinxin]
 say to self no confidence
 ‘Zhangsan said that Lisi has no confidence in him/himself’

In (12a), *taziji* can only refer to the local subject *Lisi*, not the matrix subject *Zhangsan*; in (12b), *ziji* can refer to either *Zhangsan* or *Lisi*. This conclusion may be supported by an examination of historical evolution.

1.2.1 Reflexives in Classical Chinese

The Mandarin Chinese language has a long history. As widely characterised, in Classical Chinese every character is a syllable, a morpheme and a word which has a specific meaning, and the reflexives are no exception. Their original forms were: *zi* (己), *ji* (己) and *shen* (身). According to Wang (1947), Gao (1957), *zi* appeared earlier than the other two. The earliest example of *zi* can be seen in works from the Spring and Autumn Period, while *ji* and *shen* appeared later. The reflexives then developed into compounds such as *ziji* (自己) and *taziji* (他自己) in modern Chinese.

In Classical Chinese (from approximately 770 BC, surviving in the formal intellectual style up to 1911), reflexives can occur either in subject position or object position. For instance:

- (13) a. Bixia xing er she qian zhi, zi ji er si
Majesty lucky remit change him, self ill then die
(Lit) 'Luckily, Majesty remitted and demoted him, self fell ill and died'
(HANSHU, '*Jiayi Zhuan*')
b. Reni mo bu zi si, mo bu zi li ye
people no not self benefit no not self benefit
(Lit) 'Nobody does not want to benefit self and to do good for self'
(Liu Zong-yuan: '*Feng Jian Lun*')
(14) a. Wo_i qi bin zhi jin ba sui yi, shen_i qi shi yu zhan
I take up arms till today eight years self seventy more battle
(Lit) 'I have rebelled for eight years and self fought seventy battles'
(SHI JI '*Xiang Yu ben ji*')
b. Qin yu qi shen_i hao bu shan zhe, junzi_i bu ru ye
close to he self like no good person gentleman not enter
(Lit) 'If a person who is close to self likes doing bad things, a gentleman will not enter' (A gentleman should not visit a person who does not know how to behave himself, even though he is close to him)
(15) a. Ji suo bu yu, fu shi yu ren
self SUO not desire not give to other
(Lit) 'Don't apply something to others, if self does not want it'
(ZHUANGZI, '*Yu, wo suo yue ye*')
b. Zhi ji zhi bi, bai zhan bu dai
know self know other hundred battle not fail
(Lit) 'If one knows self's side and the other side very well, one will win every battle' (SUNZI BINFA)

Zi in (13), *shen* in (14) and *ji* in (15) are reflexives in Classical Chinese. According to Gao (1957), all these reflexives can occur either in the subject position of sentences, as in (13a), (14a) and (15a), or in object position, as in (13b), (14b) and (15b). According to Wang (1947), Chao (1968) and Gao (1957), when *ji* and *shen* are objects, they must follow the verb which governs them, but when *zi* is the object of a verb, it must precede the verb, as in (13b).⁽²⁾ There is also no evidence that *zi* can follow a preposition if it is the object of the preposition. Chapter 6 will cover this interesting and complex issue in detail.

Furthermore, according to Wang (1947), only *ji* can occur in a possessive position, ie only *ji*, unlike *zi*, can be genitive.

(16) Gan tan zhi gong, yi wei ji li
 dare arrogant ZHI merit YI be self strength
 'Dare arrogant other's achievement to own (self's) merit' (Dare claim his own credit for other people's achievement) (ZUO ZHUAN)

(17) * Gan tan zhi gong, yi wei zi li
 dare arrogant ZHI merit YI be self strength

In (16), *ji* is a possessive of the NP *ji li* ('self's strength'). However, we have no evidence that *zi* may occur in this position, hence the ungrammatical (17).

Wang (1947) further claimed that "*ji* *bubi* *yu* *zhushi* *zhe* *tong* *yi* *shiwu*, *er* *zi* *zi* *biran*" (it is not necessary for *ji* to have an antecedent in the same clause, but this is necessary for *zi*):

(18) Bu huan ren zhi bu ji zhi, hui bu zhi ren
 not worry people ZHI not self know worry not know people
 (Lit) 'Does not worry that nobody knows self, but worries that pro does not know people' (A gentleman should not worry about not being known by people, and should worry about not knowing people) (LUN YU 'Xue er')

- (19) Wei ren you *ji*, er you ren fu?
 Behave by self ER by people
 (Lit) 'Behaviour is decided by self, how can it be decided by others?' (LUN YU
 'Yan Yuan')
- (20) Ta ri gui, ze you kui qi xiong sheng e zhe, *ji* ping
 other day return just have present his brother alive goose ZHE self often
jie yue: "Wu yong shi ni ni zhe wei zai?"
 sigh say why use this little bird for
 (Lit) 'Next day, (he) went back home and saw the goose presented to his elder
 brother by somebody, self often sighed and said, "What did he present that little
 bird for?"
 (MENZI 'Teng Wen gong')

In (18), *ji* is not bound by the local subject *ren* 'people', but rather by the remote subject *pro* (understood as 'a gentleman'). In (19), *ji* may have a general reference, or no special reference at all. In (20), from the syntactic point of view, *ji* may be unbound in the sentence as well. If there is a binder, it must be *pro* in the initial of the sentence.

In sum, according to the traditional grammarians, *zi* as a reflexive can occur in subject position (13a) as well as object position (13b), but not in a genitive position; when it occurs in an object position, it has to precede the verb which governs it, and must refer to the local subject. *Ji*, on the other hand, can also occur in subject or object position, and in a genitive position as well, but when it occurs in object position, it normally follows the verb which governs it (except if it is in a negative sentence). *Ji* can be locally bound, long-distance bound, or even free in a sentence. *Shen* can occur both in a subject and object position, but not in a genitive position. It can be modified by the pronoun *qi*, meaning 'he' or 'she'. *Shen* is less widely used than the other two reflexives.

The Modern Chinese reflexivisation system is directly influenced by that of Classical Chinese. We can clearly trace its properties back to the old system.

1.2.2 Reflexives in Modern Chinese

In Modern Chinese, the original reflexive morphemes have developed into compounds. There are three types of reflexive compounds:

- (i) Reflexive + verb compound, for example *zize* 'reproach oneself', and *zifei* 'enrich oneself'. We assume that these compounds behave like verb-reflexive constructions in Classical Chinese. In traditional grammar, they are referred to as intransitive verbs.
- (ii) Reflexive + reflexive compounds or reflexive + noun compounds, such as *ziji* (自己), *zige* (自个), *zishen* (自身), *benshen* (本身), *ziwo* (自我) and *benren* (本人), which are all roughly equivalent to English *himself*. Although historically these forms arose as compounds, in the present-day language, they behave as simplex reflexive pronouns, and will be referred to as such in this thesis.
- (iii) Compound forms such as *ta-ziji* (他自已) 'him-self', *ziji-benshen* (自己本身) 'self-self', which are the result of compounding a pronoun and a reflexive or two simplex reflexives.

The reflexive pronoun *ziji*, however, takes the premier place in Modern Chinese, since the other reflexives only occur in certain dialects, or formal registers. The reflexive compound *ziji* first appeared in colloquial Chinese novels or fiction in the Song and Yuan Dynasty (approx 960-1368 AD). According to investigations into novels and fiction, at the first stage, *ziji* was restricted to preceding the verb, and might be a subject or a genitive, and there is no evidence for *ziji* following a verb as an object. In the Qing Dynasty (1644-1911), *ziji* can be found in object position. Examples can be seen in 'DREAM OF THE RED MANSION'. However, in most cases *ziji* remained in the subject or genitive position:

1.2.2.1 Reflexive-verb compounds and the reflexive-verb construction

Zi + transitive verbal morpheme

Compounds consisting of a reflexive morpheme and a transitive verbal morpheme can behave as action verbs, and are syntactically intransitive in Modern Chinese. They cannot take a direct object NP. For example:

(23) *Zi* (self) + *ze* (reproach) → *zize* (one who reproaches himself)

(24) *Zi* (self) + *wen* (kill) → *ziwen* (one who kills himself)

In (23) *ze* is a transitive verb meaning 'to reproach' and *zi* is a Classical Chinese reflexive. The relationship between *ze* and *zi* is that of verb and object. In (24), *ziwen* is a verb-reflexive compound, consisting of a verbal morpheme *wen* and a reflexive *zi*. The compound verb *ziwen* as a whole is an intransitive verb.

Compounding a verbal morpheme and the reflexive morpheme *zi* is still productive (see Chao 1968), but compounds with *ji* and *shen* are less common: they are not productive and only a few compounds are still in current usage. For example:

(25) *Dajia yinggai xuexi ta; na zhong sheji; weiren de jingshen*
everyone should learn he that CL sacrifice-oneself for-others DE spirit
'Everyone should learn from him the spirit of sacrificing oneself for the sake of others'

(26) *Ni; yinggai zhishen; yu qunzhong zhi zhong*
you should place-self in mass DE in
'You'd better place yourself in the midst of the masses'

Reflexive-verb compounds of this type still retain the classical form: while *zi* has to precede the verb, as in (27) and (28), *ji* and *shen* must come after it.

The reflexive morpheme in reflexive-verbal compounds must be coindexed with the local subject. For instance:

(27) Zhangsan_i; shuo Lisi_j; changchang $zi_{*i/j}$ yuan $zi_{*i/j}$ ai
say often self complain
'Zhangsan said that Lisi often complained about himself'

(28) John_i; tingshuo Lisi_j; piping Wanger_k $zi_{*i/*j/k}$ cheng fuweng
hear criticise self-call millionaire
'John heard that Lisi criticised Wanger for claiming himself to be a millionaire'

In (27) and (28), *zi* in *ziyuan ziai* and *zicheng* should refer to the local, and not the matrix, subject.

In short, there is a kind of compound in Chinese consisting of a reflexive morpheme and a transitive verbal morpheme. This will be discussed further elsewhere in this thesis.

Ziwo + compound verb construction

In Modern Chinese, there is a construction consisting of *ziwo* + verb. According to Chao (1968), "the form *ziwo* is also used for 'ego' in describing kinship relations in the present day." In other words, *ziwo* is also a kind of reflexive (even though he did not call it that). *Ziwo* can never be the subject of a sentence, although it may be the object, in which case it must precede the verb in the same way as *zi* in Classical Chinese. However, *ziwo* differs from *zi* + verbal morpheme compounds in Classical Chinese, in that verbs which follow it must be bisyllabic:

(29) Ta ziwo jiantao le yifan
he self exam ASP once
'He examined himself once'

- (30) John ziwo jieshao le yixia
 self introduce ASP once
 ‘John introduced himself once’

In (29) and (30), *ziwo* as an object precedes the verbs *jiantao* ‘examine’ and *jieshao* ‘introduce’. Since *ziwo* and the verb are both independent words, some linguists call *ziwo* + verb a cluster or an idiom. *Ziwo* has to refer to the local subject, and cannot be long-distance bound at all. We shall go into this in further detail later on.

1.2.2.2 Simplex reflexive *ziji*

The simplex reflexives in Chinese consist of either two reflexive morphemes or a reflexive plus a nominal such as *ziji*, *zige*, *zishen*, *ziwo*, *benren* and *benshen*. They do not have phi-features and the meaning corresponds roughly to the English *self*, since there are no pronouns like the *him* in *himself* to indicate the phi-features. According to the traditional grammarians, the distribution of *ziji*, the main simplex reflexive, is that of NPs, as follows:

(31) Subject position

- a. Ta, de koucai, ziji, ye zhidao buru renjia
 he DE eloquence self also know not-as-good-as the others
 ‘He knew that his eloquence could not compare with the others’
- b. Ziji shi xiangxia ren
 self be countryside person
 ‘I come from the countryside’
- c. Dongxi ziji zhi le ziji yong, qian liu-lai-liu-qu zai ziji ren
 things self made self use money run-come-run-go at self person
 shouli
 hands-in
 ‘Everybody uses the things made by themselves, and money circulates in people’s own hands’

(32) Object of verb

- a. John_i hen ziji_i
hate self
'John hates himself'
- b. John_i shuo Mary_j zhidao Lisi_k hen ziji_{i/j/k}
say know hate self
'John said that Mary knew that Lisi hated him/herself'

(33) Object of preposition

- a. John_i zai wei ziji_i gongzuo
ASP for self work
'John is working for himself'
- b. John_i zhidao Mary_j zai wei ziji_{i/j} gongzuo
know ASP for self work
'John knew that Mary was working for him /for herself'

(34) Genitive position

- a. John_i bu ai ziji_i de erzi
not like self DE son
'John dislikes his own son'
- b. John_i shuo Lisi_j dui ziji_{i/j} de erzi yidian dou bu yange
say to self DE son a-little all not strict
'John said that Lisi was not at all strict with his own son'

(35) *Ziji* in relative clauses

- a. John_i bu xihuan zhi zhidao daban ziji_{i/j} de nuren
not like only know make-up self DE woman
'John dislikes women who only know how to make themselves up'
- b. John_i hen nage qipian ziji_{i/j} de ren_j
hate that cheat self DE person
'John hates the person who cheated him'

(36) *Ziji* in adverbial clauses

- a. Yi xiangdao ziji beican de guoqu, ta jiu shangxin luolei
once think-of self miserable DE past she just sad weep
'As soon as she thought of her own bitter past, she shed sad tears'
- b. John yinwei Mary piping le ziji, qide lian fan dou chibuxia
because criticise ASP self angry even food all eat-not-down
'John was too angry to eat any food because Mary had criticised him'

Ziji can also occur in an adverbial position adjoined to a VP. In this case, *ziji* is interpreted as emphatic⁽³⁾, like the emphatic *himself* in English:

- (37) Zhangsan ziji zuo fan
self cook food
'Zhangsan himself cooked the food'

In (37), *ziji* adjoins to the VP *zuo fan* 'cook', and it behaves as an adverbial, and means 'it is he himself, not anybody else'. Since emphatic *ziji* is not an anaphor, we will not discuss it at length here, though we return to it later when we look at the Blocking Effect (with respect to binding) and the classification of reflexives.

From the data given above, we can see that *ziji* can be interpreted in a number of different ways. It can have a general/generic reference, as in (31c), and it can refer to the first person in novels or prose in (31b); it refers to the local subject in most cases, but can also refer to the remote subject. If we apply the Binding Theory to sentences (32a), (33a), (34a), (35a) and (36a), the result is perfect: *ziji* in Set A sentences in (32)-(36) falls straightforwardly under Principle A of the Binding Theory. If, on the other hand, we apply the Binding Theory to the Set B sentences, we find a puzzling situation. Although *ziji* in these sentences does have an accessible SUBJECT in the local domain, it need not be bound by this local subject, and may instead be bound by either the remote subject or a discourse-provided antecedent.

1.2.2.3 Complex reflexives

Complex reflexives can be sub-divided into two groups: pronoun + reflexive *ziji* and *ziji + benshen*.

Pronoun + reflexive

Chinese has pronoun-reflexive compounds: *wo-ziji* 'myself', *ni-ziji* 'yourself', *nin-ziji* 'yourself' (formal form), *ta-ziji* 'himself', *women-ziji* 'ourselves', *nimen-ziji* 'yourselves' and *tamen-ziji* 'themselves'. Let us first consider the distribution of complex reflexives such as *ta-ziji*:

(38) Subject position

- a. Ta₁ xiang haiburu shuo: "Ni xiang budao wo lai ba? Keshi wo lai le."
she think not-like say you think not I come but I come
Danshi taziji you yaozhe tou
but herself again shake head
'She wanted to say "You might not have thought that I would come, but I have come now." She did not say anything, but only shook her head'
- b. Taziji, zicong jincheng yi lai, you zhang gao le yi cun duo
himself from come-city since again grow tall one inch more
'He himself has grown one inch more since he came to the city'
(Laoshe: LUOTUO XIANGZI)
- c. Quan ketang dou xiaoqilai. Keshi Wang Ya Ming, taziji, que anrande
whole class all laugh but herself but peaceful
zuoxiaqu
sit-down
'Everybody in the class laughed, but Wang Ya Ming herself sat down peacefully'

(39) Object of a verb

- a. Ta; yinggai wenwen ta-ziji;
he should ask himself
'He should ask himself'
- b. Ta; zhe cai yishedao tamen; de maotou zhendui taziji;
he thus just realise they DE spear-head direct himself
'He had just realised that they were attacking him'

(40) Object of a preposition

- a. Ta; dui ta-ziji; yaoqiu hen bu yange
he to himself demand very not strict
'He is not very strict with himself'
- b. Zhangsan; shuo lingdao; ceng xiang taziji; shiyi guo
say leader ASP to himself hint ASP
'Zhangsan said that the leader had given him a hint'

(41) Genitive position

- a. Zhangsan; jiancha le taziji; de shubao
check ASP himself DE school-bag
'Zhangsan checked his own schoolbag'
- b. Zhangsan; kandao houzi; zhen zuo zai taziji; de zuowei shang, xue
see monkey ASP sit in himself DE seat on study
zhe taziji; de yangzi kanshu
himself DE example read-book
'Zhangsan saw that the monkey was sitting on his seat, and imitating his way of reading a book'

(42) In relative clauses

- a. Lian taziji; de mingzi dou buhui xie de ren; jingran ye
even himself DE name all cannot write DE person unexpectedly also
neng shang daxue
can go university
'Even a person who could not write his own name could unexpectedly go to university to study'

- b. Zhangsan_i hen nage pian guo taziji_{i/*j} de ren
 hate that cheat ASP himself DE person
 ‘Zhangsan hates the person who cheated him’

(43) In adverbial clauses

- a. Zhangsan yinwei Lisi_i dui taziji_i mei xinxin hengheng de piping
 because to himself no confidence seriously DE criticise
 le ta yidun
 ASP him once
 ‘Zhangsan criticised Lisi seriously because Lisi had no confidence in himself’
- b. Dang laoshi jiaodao taziji_i de mingzi de shihou, ta_i haishi tiaoleqilai
 when teacher call himself DE name DE time he still jump
 ‘When the teacher called his own name, he still jumped up’

In the A set of examples in (39)-(43), *taziji* is locally bound, while in the B set of examples, it can be long-distance bound. Moreover, in (38a) and (38b), *taziji* is in a subject position, with the antecedent in the discourse. In (38c), *taziji* refers to the topic. In fact, we can find other examples of sentence-free *taziji*:

- (44) Taziji ye bu zhidao zenme ban hao
 himself also not know how do good
 ‘He also did not know how to do it’

- (45) Ni wen taziji
 you ask himself
 ‘You’d better ask him personally’

All other things being equal, the data above might lead us to suppose that there is no difference in the distribution of *ziji* and *taziji*. However, this conclusion would be too strong. Many linguists (Y-H Huang 1984; Huang & Tang 1991) have previously asserted that “compound reflexives like taziji ‘himself’ cannot be long-distance bound”. Tang (1989) gives the following examples:

(46) Zhangsan_i juede [Lisi_j dui taziji_{i/j} mei xinxin]
think to himself no confidence
'Zhangsan thought Lisi had no confidence in himself'

(47) Zhangsan_i juede [Lisi_j dui ziji_{i/j} mei xinxin]
think to self no confidence
'Zhangsan thought Lisi had no confidence in him/himself'

(46) and (47) show that *taziji* in Chinese has to be locally bound, like *himself* in English, while *ziji* has the option of also being long-distance bound. Although it seems to be true that in general, *taziji* must be locally bound, I will argue that *taziji* can be long-distance bound under certain conditions, illustrated in the B set of examples in (39)-(43), and to be sentence-free in certain cases, such as in (38a), (38b), (44) and (45). Chapter 7 will discuss these conditions in more detail.

Ziji-benshen

The compound reflexive *ziji-benshen* has been left out of discussion in the theoretical linguistic literature. *Ziji-benshen* can be in either argument or non-argument position. The distribution is as follows:

(48) Subject
Ziji-benshen mei benshi, hebi guowen zhejian shi
self-self no ability why concern this matter
'He himself/you yourself has/have no ability, why does/do he/you take an interest in this matter?'

(49) Object of a verb
a. Ta_i hen ziji-benshen_i
he hate self-self
'He hates himself'

- b. Zhe dei guai ziji-benshen
 this should blame self-self
 ‘This should be blamed on him himself/me myself’
- c. Ta_i zhidao zhe yinggai guai ziji-benshen_i
 he know this should blame self-self
 ‘He knew that this should be blamed on him himself’

(50) Object of a preposition

- a. Ta_i dui ziji-benshen_i yidian ye bu yange
 he to self-self a little also not strict
 ‘He never puts strict demands on himself’
- b. Zhe dui ziji-benshen meiyou hao chu
 this to self-self not-have good
 ‘This is not good for him himself/you yourself/me myself’
- c. Zhangsan_i zhidao zhe dui ziji-benshen_i bu li
 know this to self-self no good
 ‘Zhangsan knows that it is no good for himself’

(51) Genitive

- a. Ta_i zhi kaolü ziji-benshen_i de liyi
 he only consider self-self DE benefit
 ‘He only considers his own benefit’
- b. Zhe guanxi dao ziji-benshen de liyi
 this concern self-self DE benefit
 ‘This is concerning my own benefit’
- c. Ta_i mingbai zhe guanxi dao ziji-benshen_i de liyi
 he know this concern self-self DE benefit
 ‘He knew that this concerned his own benefit’

(52) In relative clauses

- a. Lian ziji-benshen_i dou guan bu zhu de ren_i, zenme neng zuo
even self-self also control not DE person how can be
banzhang
monitor
'How can someone who cannot even control himself be a class
monitor?'
- b. * Zhangsan renshi nage pianguo ziji-benshen_i de ren
know that cheat self-self DE person

(53) In adverbial clauses

- a. Zhangsan yinwei Lisi_i dui ziji-benshen_i mei xinxin, hengheng de
because to self-self no confidence seriously DE
piping le ta yidun
criticise ASP him once
Zhangsan criticised Lisi seriously because Lisi has no confidence in
himself'
- b. * Dang laoshi jiaodao ziji-benshen_i de mingzi de shihou ta_i haishi tiaole
when teacher call self-self DE name DE time he still jump
qilai
up

The A set of sentences in (49)-(53) fall under Principle A of the Binding Theory, but sentence (48) and Set B of the above sentences and the C set of (49)-(51) do not. Moreover, the ungrammaticality of (52b) and (53b) suggests that *ziji-benshen*_i, more than the other compound reflexive *taziji*_i, must be strictly locally bound, even though it does not have any phi-features.

1.2.3 Conclusion

To sum up, Classical Chinese had three different reflexives: *zi*, *ji* and *shen*. *Zi* must precede the verb which governs it, and can only be bound by the local subject if it is in object position. *Ji* must follow the verb which governs it, as must *shen*. *Ji* and *shen*

may be in subject position. *Ji* can be long-distance bound, and can also be sentence-free. In Modern Chinese, there is a kind of reflexive-verb compound such as *zi* + verbal morpheme, a kind of simplex reflexive *ziji* and a kind of complex compound, eg *taziji* and *ziji-benshen*. The reflexive morpheme in the reflexive-verb compound must refer to the local subject. Simplex reflexive *ziji*, and also complex reflexives such as *taziji* and *ziji-benshen*, can be locally bound or, under certain conditions, long-distance bound or sentential free. However, *taziji* and *ziji-benshen* are mainly locally bound, with *ziji-benshen* perhaps more restrictively locally bound than *taziji*. The issue of local vs LDB arises in the Chinese reflexivisation system.

FOOTNOTES

(1) According to TRANSFORMATIONAL SYNTAX (Andrew Radford, p 239), the Tensed S Condition is as follows:

(1) No rule can involve X and Y in structures of the type

..... X [S' Y] X

where S-bar is tensed.

In the case of a movement rule, for a rule to involve two constituents X and Y means for the rule to move some constituent from position X to position Y, or conversely from position Y to position X. Thus, in respect of movement rules, (1) amounts to (2):

(2) No rule can move any element out of (or into) a tensed clause).

(2) Reflexivisation in Classical Chinese has been the subject of a longstanding debate: recently, Zhou Fa Gao (1990) and Yang Bai Jun (1993) have independently claimed that there is just one reflexive in Classical Chinese, namely *ji*. In A GRAMMAR OF ANCIENT CHINESE AND ITS DEVELOPMENT, Yang Bai Jun also confirms that *zi* could be an object semantically, but had to precede the verb like an adverbial. For this reason, he and He Le Shi conclude that *zi* cannot be a reflexive: "Jishen cheng shijishang zhiyou yige 'ji zi'. Ling yige 'zi' suiran ye biao shi jishen, que yi daici de yi yi zuo fuci yong, jingchang fang zai dongci qianmian, ta ji buneng zuo zhuyi, zongshi cong juyi lai shuo shi dongci bingyu, ye yiyang zai dongci qian, ru 'zibao ziqi', suoyi bulie zai daici nei." ("In fact, there is only one reflexive in Classical Chinese, which is *ji*. There is another character *zi*, which also means 'self', however, it behaves like an adverbial, and it must precede a verb. It cannot be a subject. Even if it is an object of the verb, it still has to precede the verb, for instance *zi bao zi qi* (from MENZI *Li lou*). Therefore, it cannot be counted as a reflexive pronoun." (A GRAMMAR OF ANCIENT CHINESE AND ITS DEVELOPMENT: 127)

(3) As linguists note, *ziji* can also adjoin to VP somewhat like emphatic *himself*. Li & Thompson (1979), Tang (1989) and Liu Yue Hua (1984) independently study this phenomenon. The problem is that Chinese is a pro-drop language. If *ziji* is in the initial position in the sentence, it is difficult to say whether *ziji* is in subject position or an adverbial. Even if there is a proper name or a pronoun before *ziji*, it is still difficult to say whether *ziji* is part of the subject NP or an adverbial.

In their book MANDARIN CHINESE - A FUNCTIONAL REFERENCE GRAMMAR (1981), Li & Thompson claim that *ziji* in a sentence like (i) may be considered as an adverbial, where the subject is not realised. In our terms, the subject is a pro.

- (i) Ziji hui lai de
 self will come DE
 'pro Self will come' (pro pro-self will come)

On the other hand, they also argue: “*Ziji* can be used to express a general truth in the form of a proverb such as in (2). In such a case, it means something like one and generally occurs with another *ziji* later in the sentence, with which it is coreferential. The general message is ‘if one does X, then that same one can also do Y.’” (page 138)

- (ii) Ziji zhuan qian ziji hua
 self earn money self spend
 ‘One earns money oneself, then one spends it oneself’

Ziji in (ii), then, can function either as a reflexive pronoun in a verb phrase to signal coreference with the subject noun phrase of the sentence, or as an adverb to sign a contrast between the self in question and others who could be involved. When *ziji* functions as an adverb, it always occurs after the subject and before the verb phrase.

This analysis is still unclear: why should *ziji* in a sentence such as (i) be a subject, while in another sentence such as (ii) it is not? Does it mean that reflexive *ziji* in the initial position of a proverb will change the category from adverb into subject?

Tang (1989), along Li and Thompson’s line, claims that there are different kinds of *ziji* in Chinese: one is anaphoric reflexive, while the other is intensifying. She gives three principles to distinguish anaphoric *ziji* from intensifying *ziji*:

- (iii) The principles for distinguishing anaphoric *ziji* from intensifying *ziji*
- i. Anaphoric *ziji* appears in an argument position, whereas intensifying *ziji* occurs in a non-argument position.
 - ii. The antecedent of anaphoric *ziji* is limited to animate nouns, while intensifying *ziji*, on the other hand, may be related to both animate and inanimate nouns.
 - iii. The anaphoric and intensifying uses of *ziji* also differ in their form: anaphoric *ziji* may be optionally preceded by a pronoun prefix (such as *wo*, *ni*, *ta* and so on). Intensifying *ziji* may also be preceded by a pronoun which it modifies. However, while a pronoun with anaphoric *ziji* forms an integral part of the anaphoric reflexive, one with intensifying *ziji* does not, for only anaphoric *ziji* appears in an A-position.

In their book A PRACTICAL CHINESE GRAMMAR, Liu Yue Hua et al propose that if *ziji* is an adverbial, it can be preceded by *hai* ‘still’, *you* ‘again’, *ke* ‘can’, *jiu* ‘just’ and *changchang* ‘often’. This is helpful for us to find out whether *ziji* in a following sentence is an adverbial or not, but it is unlikely to be a usable principle to distinguish an adverbial *ziji* from an anaphoric *ziji*, since there is often no *ye*, *hai*, *you*, *ke*, *jiu* and *changchang*.

We will discuss this point in Chapter 6.

CHAPTER TWO

REFLEXIVES IN PRINCIPLES AND PARAMETERS FRAMEWORK: AN OVERVIEW

2.0 INTRODUCTION

Chapter 1 has shown that Chinese reflexives are elements whose interpretations are dependent on other elements. In this chapter, we focus on one formal syntactic framework - **The pre-minimalist version of the Principles and Parameters framework** of Chomsky (1981) and subsequent work, and present an overview of recent analyses of reflexive elements within this theory. Of course, there are other formal syntactic accounts of reflexivisation - we have chosen the **Principles and Parameters** framework as the syntactic basis for the present investigation because of the large amount of in-depth crosslinguistic research into reflexivisation carried out within the framework.

According to Chomsky, language is a mirror of the mind. In order to reach a better understanding of how the human mind produces and processes language, Chomsky seeks to attain two parallel, interrelated goals in the study of language, namely to develop both a Theory of Human Language Knowledge and a Theory of Language Acquisition. In order to develop a Theory of Language, Universal Grammar was proposed. Universal Grammar seeks to abstract from particular grammars common, universal properties that they all share. In other words, it is a system of the universal principles and rules that are common to all human languages. Within the Government-Binding Theory of the Principles and Parameters framework, these include Theta Theory, X-bar Theory, Government Theory, Case Theory, Binding Theory, Bound Theory, Control Theory and Predication.

Binding Theory assigns an appropriate interpretation to NPs in sentences. In this context, three types of NPs are distinguished, as illustrated by the underlined expressions in (1):

- (1)
- a. The lecturer_i admires him_j
 - b. The young boy_i hurt himself_i
 - c. John_i said that he_{i,j} was sick
 - d. John_i expected him_j to go there
 - e. He_i expected John_j to go there
 - f. He_i thought that John_j was terrible

In (1a-f), the three types of NPs are:

- (2)
- a. Full noun phrases (R-expressions, in GB terms) such as *the lecturer*, *the young boy*, *John*, etc
 - b. Pronouns such as *he* and *him*, etc
 - c. Anaphors including reflexive elements such as *himself*, etc

A full nominal expression such as *the lecturer* refers independently. Such an NP may select a referent from the universe of discourse, the set of things we know and talk about, by virtue of its inherent properties.

Pronouns, in contrast, do not inherently select a reference from the universe of discourse. In (1a), *him* refers to some entity that is singular and male, but without a context of discourse it is impossible to identify a uniquely specified reference. The pronoun *him* will merely refer to some individual selected from the domain of entities we might want to talk about. However, it is not possible to choose absolutely any entity which is male as a reference for *him* in (1a): *him* cannot refer to *the lecturer*. So the interpretation is not wholly determined by the syntactic properties of the sentence. Pragmatic functions of some kind also play a role. On the other hand, the fact that *him* and *the lecturer* cannot be coreferential in (1a) definitely is a property of the grammar, and its characterisation falls under the Binding Theory.

Reflexives are assumed not to inherently select a reference from the universe of discourse, and not to be able to refer to a given individual selected from the discourse domain of entities. Its reference must be syntactically instantiated in the same clause. In (1b), the reflexive *himself* must refer to the subject NP *the young boy* in the same clause. The NP on which a reflexive is dependent for its interpretation is known as the antecedent of the reflexive. The set of NPs which constitute possible antecedents for the reflexive is *grammatically determined*.

A reflexive and its antecedent must agree with respect to the nominal phi-features of person, gender and number (see Chomsky 1981), and lack of agreement leads to ungrammaticality.

(3) * The young boy hurts herself/myself/yourself/themselves

(3) contains a potential antecedent. If the reflexive is *herself*, it has the properties [+ female], [+ singular] and [+ 3rd person], thus constraining the selection of the referent to a third, singular and female entity. Thus, it would be impossible for *herself* to be co-indexed with an antecedent which has the property [+ male] or whatever. So a reflexive must have the same phi-features as its antecedent, otherwise the sentence will be ungrammatical.

There are also *locality constraints* on the 'distance' allowed between a reflexive and its antecedent. Roughly, and with many exceptions, as we shall see, a reflexive and its antecedent should be in the same clause. This has been called the **Clause-mate Condition**⁽¹⁾ (see Haegeman 1991), and examples are given in (4a-b). However, the Clause-mate Condition alone is not sufficient.

- (4) a. John_i saw himself_i
b. * John_i said that Mary_j saw himself_i
c. * I_j expect [_{IP} himself_i to invite John_i]

In (4c), *himself* and its antecedent *John* appear in the same clause, but the sentence is ungrammatical. We therefore might propose that in addition to being a clause-mate of the reflexive, the antecedent must precede it. This will rule out sentences like (4c) in English, and entail that (4d) is grammatical. However, it also incorrectly predicts (4e) to be grammatical:

- (4) d. The young boy_i hurts himself_i
 e. * [The young boy_i's brother_j] hurts himself_i

In both (4d) and (4e), the reflexive *himself* and its antecedent are clause-mates, and the antecedent also precedes the reflexive. But in (4e), the presumed antecedent *the young boy* fails to bind the reflexive *himself*, since it is contained inside the subject NP. The structure of (4e) is as follows in (4f):

- (4) f. [_{IP} [_{NP_j} [_{NP_i} The young boy]’s brother] hurts himself_i]

Based on these facts, a further structural relation between antecedents and reflexives must hold. A reflexive must be c-commanded and thus bound by its antecedent.

(5) **C-command**

A c-commands B iff

- (i) A does not dominate B;
 (ii) B does not dominate A;
 (iii) the first branching node dominating A also dominates B.

(6) **Principle of reflexive interpretation**

A reflexive must be bound by a clause-mate antecedent.

(7) **Binding**

A binds B iff

- (i) A c-commands B;
 (ii) A and B are co-indexed.

In the following sections, we first look at Chomsky's (1981) version of Binding Theory, in Section 2.1; we then introduce cases which are problematic for the theory, in Section 2.2, and then Section 2.3 examines the proposals which attempt to deal with these problems, by Lebeaux (1985), Pica (1991), Giorgi (1984) and Manzini (1991a). Section 2.4 will be a conclusion.

2.1 CHOMSKY'S (1981) THEORY

Chomsky's (1981) version of the Binding Theory contains the binding conditions in (8), at an appropriate level of grammatical representation.

- (8)
- a. An anaphor is bound in its governing category
 - b. A pronominal is free in its governing category
 - c. An R-expression is free

The term 'bound' here means 'A-bound', that is, c-commanded by and coindexed with an element in an argument position.

An argument position is a position occupied by a subject or an object. 'Free' means 'A-free', ie, not A-bound. The aim of Binding Theory is to provide an explicit formulation of the grammatical constraints on the interpretation of NPs in argument positions. When A is bound to B, it is interpreted as coreferential with B; when A is free with respect to B, the two elements are interpreted as disjoint in reference.

Anaphor is defined as a category that lacks independent reference, and thus includes reflexives such as *himself*, reciprocals such as *each other* and NP traces. A pronominal may be referentially independent or may be dependent upon an antecedent outside of its governing category for its reference. Pronominals include pronouns such as *he* and *him*, which may be used deictically or anaphorically. An R-expression is referentially independent. This category includes all other NPs, wh-traces and traces of other types of A' movement, for instance topicalisation.

The original core notion of governing category is as follows:

(9) Governing category (Chomsky 1981a)

A is the governing category for B if A is the minimal category containing B and a governor of B where A is NP or S.

The governor can be the local verb.

The Binding Conditions capture the fact that the occurrence of reflexives is syntactically more restricted than that of pronouns, since according to the principles in (8a) and (8b), anaphors must be bound in the domain in which pronouns must be free. Reflexives and pronouns are supposed to be in complementary distribution.

2.2 PROBLEMATIC SENTENCES

Good theories are constantly being revised, and the Binding Theory has undergone many improvements in the course of being applied to specific languages.

First of all, although the notion of complementary distribution seems to be generally true, the large corpus of published material on anaphora has already revealed that there are many cases where the distribution of reflexives and pronouns actually overlaps.

In English, reflexives and pronouns are known to alternate in picture NPs, genitive positions, some PPs, and emphatic contexts. Picture NPs have been discussed by Ross (1970), Cantrall (1974), Chomsky (1981), Huang (1982), Kuno (1987) and others. Examples are shown in (10)-(14).

(10) The women_i saw [the pictures of (them_i/themselves_i)]

- (11) a. They_i thought that [pictures of (them_i/themselves_i)] would be on sale
b. We_i thought that [John's pictures of (us_i/ourselves_i)] would be on sale

- (12) They_i heard [the stories about (them_i/themselves_i)]
- (13) John_i said that there was [a picture of (him_i/himself_i)] on the desk
- (14) a. (John thought that) [a picture of (you/yourself)] would be nice on the wall
- b. (John thought that) [a picture of (me/myself)] would be nice on the wall

In (10), the pronoun *them* and reflexive *themselves* occur within the object NP [*the picture of (them/themselves)*] and is bound to the clause subject *the women*. In (11a), the pronoun *them* occurs within the embedded subject [*pictures of them/themselves*] and is bound to the subject in the matrix clause; so does the reflexive *themselves*; and in (11b), both the pronoun *us* and the reflexive *ourselves* occur within the embedded subject [*John's pictures of us/ourselves*], and are bound to the matrix subject *we*, even though *John* in the DP could serve as a subject. In (12), the subject *stories* cannot serve as an antecedent of *themselves* at all, and the possible subject is only the subject of the main clause, *they*. In (13), a third person pronoun, *him*, occurs within an existential embedded clause and is bound to the matrix subject *John*, as is reflexive *himself*. In each of (10)-(14), the bracketed NP is a governing category which contains a reflexive or a pronoun occurring as a possessive of the NP. If *picture* is the head of the NP as well as a governor within the NP, there is a contradiction: according to Principle A of the Binding Theory, *themselves* or *himself* as lexical anaphors must be bound within that bracketed NP, but in fact, they are not bound in the governing category at all. In (14), the absence of a lexical antecedent within the sentence is possible only with first or second person pronouns; compare (14a) and (14b) with (15):

- (15) (I thought that) [a picture of him/* himself] would be nice on the wall

In (14a) and (14b), the first/second person pronoun or reflexive may have no syntactic antecedent, an option not available to the third person reflexive in (15).

In short, Picture NPs show that complementary distribution does not hold throughout the grammar. Since pronouns and reflexives can both occur in the same position, one or the other of Binding Principles A and B must have been violated.

Reflexives and pronouns also alternate in locative PPs which follow object NPs, as discussed in Lees & Klima (1963), Chomsky (1965), Lakoff (1968), Cantrall (1974), Chomsky (1980) and Kuno (1987). Consider these examples:

(16) John_i hid the book [behind (him_i/himself_i)]

(17) They_i heard the story [about (them_i/themselves_i)]

In (16), *behind* is a preposition, and *himself* and *him* are both possible. In (17), *about* is a preposition, and either *them* or *themselves* can be its complement. The data again appear to violate Principles A and B of the Binding Theory, although they are perfectly well-formed.

A third set of reflexive/pronoun alternations, discussed in Ross (1970), Cantrall (1974), Kuno (1987) and Jayaseelan (1988), involves pronouns used 'emphatically':

(18) a. John_i thinks that Mary is taller than (him_i/himself_i)

b. John_i thinks that physicists like (him_i/himself_i) are a godsend

c. John_i believes that letter was sent to [both (him_i and Mary/Mary and himself_i)]

d. John_i believes that letter was sent to [either (him_i or Mary/Mary or himself_i)]

e. John_i believes that letter was sent to [everyone/no one but (him_i/himself_i)]

f. As for (him_i/himself_i), John_i said he would't need to move

g. John_i thinks that Mary is in love with (him_i/himself_i), not Peter

h. John_i thinks that Mary hates even himself_i

Cases like this were discussed by Keenan (1988) under the heading of **Complex Anaphors**. Complex anaphors are defined by Keenan as conjunctive or comparative NP structures, within which reflexives may occur in violation of Principle A - specifically, clause-boundness.

These data are apparent counterexamples to Principles A and B of the Binding Theory as presented, which predicts for each structural context the occurrence of one and only one type of pronoun.

Moreover, there are some well-known discussions in the literature of simplex reflexives such as Icelandic *sig* (Thrainsson 1967, Maling 1982), the Italian anaphoric reflexive *proprio* (Giorgi 1983) and Japanese reflexive *zibun* (Kuno 1987), which may be non-clause-bounded. The fact that many simplex reflexives can be free in the local clause and long-distance bound to their antecedents in the matrix sentences presents more problems for Principles A and B of the Binding Theory.

(19) Icelandic

Jón_i sagði þeim [að María elski (subj) sig_i]
 John told them [that Maria love 3sg self]
 'John told them that Maria loved self (him)' (Pica)

(20) Italian

Gianni_i ha aizzato Maria_i contro coloro [che disprezzano il proprio_{*i/j} figlio]
 turned against those who despise self's child
 'Gianni turned Maria against those who despised self's (his own) child'
 (Giorgi)

(21) Japanese

John_i wa [Mary ga zibun_i ni ai-tai toki ni wa] itumo atte-yatta
 self meet-want then always saw her
 'John saw Mary whenever she wanted to see self (him)' (Kuno)

(22) Korean

Chelswu-nun_i [Inho-ka casin-ul_i sarangha-n-ta-ko] sayngkakha-n-ta
top nom self-acc love-pres-decl-comp think-pres-decl
'Chelswu thinks Inho likes self'

In these examples, the simplex reflexives in the embedded clauses can refer to the matrix subjects. If we apply Chomsky's definition of governing category to sentences (19)-(22), it is not clear why the local clause is not a governing category for the simplex reflexives, since there is a governor (the verb) and a SUBJECT which is accessible to the simplex reflexive.⁽²⁾

These problematic sentences have led linguists to amend the concept of the Binding Principle.

2.3 THE EVOLUTION OF THE BINDING PRINCIPLE

Facing these problematic sentences, many linguists have tried to find a suitable explanation within the GB framework. The proposals that have been advanced fall into three main types: the movement hypothesis, the parameter hypothesis, and a redefinition of governing category.

2.3.1 Redefinition of the notion of governing category

2.3.1.1 Chomsky's redefinition of governing category

The problem of picture NPs led Chomsky (1981) to redefine the notion of governing category as in (23), along with the two independent principles in (24) and (25), as well as the notion of Accessibility in (26):

(23) Governing category

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

(24) AGR is co-indexed with the NP it governs.

(25) * [γ ξ] where γ and ξ bear the same index.

(26) Accessibility

α is accessible to β if both (a) and (b):

- a. β is in the c-command domain of α ;
- b. Assignment to β of the index of α would not violate the well-formedness condition (25).

The SUBJECT is technically defined as “the most prominent nominal element” within an NP or S, and includes AGR of a clause that contains it, as well as the clausal subject in the ordinary sense (the NP of S or NP of NP).

Chomsky’s formulation has the advantage of reducing the NIC (nominative island constraint) and SSC (Specified Subject Condition) into one single specified SUBJECT condition. It also predicts correctly the possibility of long distance binding of anaphors. Sentences such as (27a-c) are easily explained:

- (27)
- a. The men_i saw [the pictures of themselves_i]
 - b. They_i heard [the stories about themselves_i]
 - c. They_i thought that [pictures of themselves_i] would be on sale

In these sentences, the bracketed NP does not qualify as a governing category for the anaphor contained in it because, although it contains the anaphor and its governor, it does not contain a SUBJECT accessible to it. Therefore, the anaphor *themselves* should go to the higher domain.

Chomsky’s formulation explains why an anaphor such as *himself* can occur in a picture NP. However, the problem posed by the conjunction of Principle A and Principle B of the Binding Theory still persists: if one substitutes *themselves/each other* with *them* in

sentences such as (28), the sentence is always grammatical, therefore, the usual complementarity between pronouns and anaphors breaks down:

- (28) a. They_i expected that [[the picture of themselves_i] would be on sale]
b. They_i expected that [[the picture of them_i] would be on sale]

Either the pronoun or the reciprocal can be used to refer back to the subject. Another such context is the position of the possessor in (29):

- (29) a. They_i sold [each other's_i stories]
b. They_i heard [their_i stories]

There is also a problem for (30).

- (30) a. Bill_i hid [the book behind himself_i]
b. Bill_i hid [the book behind him_i]

In these sentences, the indexing possibilities indicate that the main clause must count as the local domain for the anaphor, since it need not be bound in the smallest domain, but that the bracketed constituent must be the local domain for the pronoun, since it need not be free in any large domain. Looking at the simplex reflexives such as *sig* in Icelandic, *zibun* in Japanese and *ziji* in Chinese, one will find that it is impossible for us to explain why the local governing category cannot be the local domain for them.

2.3.1.2 Huang's (1982) modification

Huang (1982) observes comparable instances of non-complementary distribution in Chinese, and points out that they can be accommodated by assuming that only anaphors, not pronouns, require the presence of an accessible SUBJECT. He modifies the notion of governing category as follows:

- (31) α is a governing category for β if and only if α is the minimal category containing β and a SUBJECT which, if β is an anaphor, is accessible to β .

According to Huang, the Governing Category for the pronoun *them* in (24b) should be [*the pictures of them*], while that of the reflexive must be the entire sentence. The reason is that in (28b), *picture* is the head of the NP, and *them* is governed by *of*, therefore the NP is the governing category for the pronoun *them*. *Them* must be free in this governing category, as, indeed, it is, so it falls under Principle B of the Binding Theory, and it does not matter whether *them* refers to the matrix subject *they* or not. In (28a), on the other hand, *picture* is not an accessible SUBJECT to the reflexive *themselves*, since it is inanimate. The accessible SUBJECT will be *they*. Pronouns and anaphors, in fact, have different governing categories: anaphors require a SUBJECT, therefore their governing category will be the higher clause, while pronouns do not require a SUBJECT, so their governing category will be the picture NP. The same explanation can be given for (29) and (30).

In short, Huang's argument is that reflexives and pronouns are not, in fact, in complementary distribution, since pronouns do not require the presence of a subject in their governing category.

- (32) a. They_i heard [the story about themselves_i/them_i]
b. They_i thought that [[books about them_i/each other_i] would be on sale]

Huang's modification gives a satisfactory explanation for Picture NPs. This insight is incorporated into the version of Binding Theory presented in Chomsky (1986b), though in a rather different way, which avoids stipulating different domains for the two types of elements in the individual binding principles themselves. However, in spite of these revisions, some of the initial problems still persist. For instance, under Huang's modification, the embedded clause in (32b) counts as Governing Category for the pronoun, but not for the anaphor, but the problem does arise with the anaphor in (33):

- (33) a. * They_i said that [each other_i would win]
 b. * John_i said that [your book hit himself_i]

In (33a), since it is not c-commanded by any potential binder within the embedded clause, which is therefore not a Governing Category for the anaphor, this Governing Category should be the entire sentence. In (33b), the anaphor is not c-commanded by any potential binder in the embedded clause, and AGR cannot serve as an antecedent at all, therefore, the matrix clause should be the relevant Governing Category, and the version of (33a) and (33b) with the anaphor would be predicted, incorrectly, to be good.

Moreover, the problems with the third set of reflexive and pronoun alternations in (18), and those non-clause-bounded simplex reflexives in (19)-(22), still exist. If we extend Huang's approach to Chinese, it may incorrectly rule out a great number of sentences as follows:

- (34) a. Zhangsan_i zhidao Lisi_j bu xihuan ziji_{i/j}
 know not like self
 'Zhangsan knew that Lisi did not like him/himself'
 b. Zhangsan_i zhidao youren_j dingshang le taziji_{i/mj}
 know somebody follow ASP himself
 'Zhangsan knew that somebody was following him'

Both *ziji* and *taziji* in (34) can be long distance bound. However, according to the definition, the local clause is their governing category, since it includes a governor verb and an accessible SUBJECT. The theory thus incorrectly predicts that long-distance binding is impossible.

These issues lead linguists to approach the problem in different ways. In 2.3.2, we are going to introduce and discuss the movement hypothesis, and in 2.3.3 the parameterisation approach.

2.3.2 Movement hypothesis

2.3.2.1 Lebeaux's theory

In his paper 'Locality and anaphoric binding', Lebeaux (1985) argues that the properties of local binding follow from the fact that the locally bound element is in a category predicated of the antecedent as subject; it is "bound by predication", and thus inherits the properties of this relation (obligatory c-command of antecedent, uniqueness of antecedent, etc). Non-local anaphors are not so bound, and so do not inherit these properties.

He argues that anaphors in Picture Noun Phrases, as for topic positions, or embedded within NPs should be classified as nonlocal, and that there is a difference in the binding properties for locally and non-locally bound anaphors, as follows:

(35)	Locally bound anaphor	Non-locally bound anaphor
a.	Requires unique antecedent	Allows split antecedents
b.	Complementary distribution with pronouns	Free variation with pronouns
c.	Necessarily c-commanded by antecedent	C-command not necessary
d.	One reading under VP deletion	Two readings under VP deletion

According to Lebeaux, the set of local binding properties (uniqueness of antecedent, etc) is not intrinsically linked to anaphoricity. The only property that is inherent in the notion of anaphor is necessary dependence within some local domain, for example, that of Chomsky's (1981) Governing Category. The binding properties are unspecified for anaphors. The reason that f-properties (ie local binding properties: see Lebeaux 1985, p 349) are associated with local binding but no nonlocal binding results from the interaction of a separate module, that of predication.

Based on the facts explored above, Lebeaux argues that the possession of local binding characteristics follows from the fact that a predicative relationship holds between the binder and the category containing the bindee. Adopting the general framework of

Williams (1980), he assumes that a predicative relationship holds between the bracketed category and the potential antecedent in (36a), but not (36b).

- (36) a. John_i [saw himself_i];
b. John_i knew that [those photographs of himself_i] would not come out right

He assumes that at D-structure there is a partial indexing of the surface tree, with pronominals and other referential NPs indexed, but that anaphors and VPs are not indexed. At some level (eg predicate structure), the subject copies its index and person and number features onto the VP; this then percolates to all unindexed elements without crossing maximal projections. In the resulting structure, the coindexing of an NP and a predicative phrase is construed as predication; the coindexing of an NP and an NP anaphor is construed as binding.

(37) Indexing at D-structure (or before predication coindexing):

- a. [John]₁ VP[likes [Mary]₂]
b. [John]₁ VP[likes [himself]]

After predication indexing and percolation:

- a. [John]₁ VP₁[likes [Mary]₂]
b. [John]₁ VP₁[likes [himself]₁]

This indexing rule gives an explanation for the difference between local binding anaphors and nonlocal binding anaphors, since in local binding the anaphoric NP will have the same index as the minimal maximal projection dominating it, while in nonlocal binding it will not.

He proposes that the anaphor is actually adjoined to its containing category at LF, both for local and nonlocal anaphoric binding. Differences in the properties of the anaphor, the f-binding properties, then follow from the relation that the category to which it is adjoined bears to the antecedent: predicative in the case of local binding, and non-predicative otherwise.



He assumes that for local binding *each of each other* adjoins to the immediately dominating VP at LF; the reflexive anaphor (*himself, herself, etc*) does likewise.

- LF
- (38) a. John and Mary saw each other →
 b. John and Mary [each_i [saw e_i other]]

- LF
- (39) a. John saw himself →
 b. John [self_i [saw e_i]]

The adjoined anaphor is bound to the antecedent in the course of predication, coindexing the predicative category with its antecedent.

Assuming that there is adjunction to successively dominating VP and S (or S') nodes, and predication at each relevant site, the earliest subject would 'block out' the rest, by copying its index onto the (unindexed) anaphor.

- (40) a. Bill_i thought that John_j saw himself_{j/*i}
 b. Bill_i thought that John_j [self_j [saw e_j]]

Locally bound anaphors are adjoined to the immediately dominating predicative category and related to their antecedent from there. Nonlocal binding is also done by means of adjunction, in this case by successive adjunction to dominating nodes. These may include S', N' and NP.

- (41) Local
- a. John_i [self_i [likes t_i]]

 predication movement
- b. I appreciated John's_i [self_i [stories about t_i]]

 predication movement

Nonlocal

- a. John told Mary that some pictures of themselves were inside
- b. LF: John_i told Mary_j s_i[self_{i+j}][that s_{NP}[e_{i+j}][some pictures of e_{i+j}]] were inside]]]
- c. John liked those pictures of himself
- d. LF: John_i liked _{NP}[self_i_{NP}[those pictures of e_i]]

Lebeaux's movement analysis has been extremely influential. Chomsky (1986a and subsequent work) adopts the movement analysis in essence. (See also Battistella 1989, Cole, Hermon and Sung 1990, Huang and Tang 1988, and so on.) Lebeaux's indexing mechanism also influenced many linguists. For instance, Tang (1989) and Huang & Tang (1991) try to find an explanation for the blocking effect of the LDB *ziji* in terms of the index rules. In this thesis, I shall adopt part of his analysis. However, one question is worth raising: why a pronoun and other referential NPs have index but anaphoric relations do not hold, even though a reflexive like *himself* does have *him* to indicate that it must have something to do with third person, singular and male. If a subject can copy its index and person and number features onto a VP and the VP can percolate to all unindexed elements such as anaphoric reflexive without crossing maximal projections, what is the explanation for sentences such as (42) below?

- (42) a. John_i no longer cares what happens to himself_i
b. * John_i kidnaps himself_i

(42a) is from Zribi-Hertz's paper. Let us assume that Lebeaux's analysis is right. Then, we should expect *himself* in (42a) to adjoin to the local predicate VP at LF, the local subject should copy its index and phi-features onto the verb, and these can then be received by the reflexive. Therefore, *himself* in (42a) will have no phi-features and index, while *himself* in (42b) should have the same index and phi-features as *John*. However, this prediction is wrong. It is also difficult to extend his proposal directly to Chinese:

- (43) a. * Zhangsan_i genzong taziji_i/ziji_i
 go-in-hot-pursuit-of himself
- b. Zhangsan_i faxian youren genzong taziji_i/ziji_i
 find someone go-in-hot-pursuit himself
 ‘Zhangsan found that somebody was in hot pursuit of him’

According to Lebeaux, *Zhangsan* in (43a) and *youren* in (43b) should copy their index and phi-features to the VP, so *taziji* should be bound by *Zhangsan* in (43a) and by *youren* in (43b). Moreover, following his theory, *taziji* in (43b) can only adjoin to VP, therefore, we predict *taziji* can only be bound to *youren* and long-distance binding is impossible. Both of these predictions are incorrect.

2.3.2.2 Pica’s analysis (1987, 1991)

Pica argues that the linguistic variation observed across languages can be reduced entirely to the respective lexical properties of the different reflexives.

In his (1987) paper, following an idea originally suggested for reflexives by Lebeaux (1985), he proposes that all anaphors move at LF. In his proposal, a large number of reflexives are, in fact, generated in non-argument positions and hence are subject to the SSC. For instance, the elements *self* of *himself* and *each* of *each other*, and not the whole NPs, are anaphors in English, and are subject to the SSC because they are base generated in non-argument positions. His claim is that compound reflexives (eg *themselves* in English) are usually clause bound, while non-compound reflexives (eg *zibun* in Japanese and *ziji* in Chinese) can frequently be long-distance bound.

Adopting the proposal of argument saturation in NPs from Higginbotham (1985), he argues that English reflexives are composed of a specifier preceding the head noun *self*. The open position associated with this head noun is not saturated by the specifier, whether this specifier has genitive case or accusative case. This is so because the coindexation of the open position with the specifier is blocked by the semantic nature of the N *self*, which expresses (metaphoric) inalienable possession. For monomorphemic

reflexives such as *sig* in Danish, *sig* itself is a head noun directly dominated by a maximal projection N'. The open position associated with the head noun *sig* is not closed (bound), since there is no specifier to bind it. X' anaphors can be adjoined to X' and interpreted in their adjunction sites, but X⁰ anaphors cannot be adjoined to that type position, and must move to INFL, where they will be interpreted. X⁰ reflexives in an embedded sentence can refer to the subject of the matrix clause, since X⁰ anaphors can move from INFL to INFL, as long as they do not cross any tensed sentences. Therefore, a reflexive such as *sig* embedded in a subordinate clause can refer to the matrix subject because it can move to the matrix inflection node. Pica gives two examples:

- (44) a. Jón_i sagði þeim_j [að María elski (SUBJ) sig_{i/þj}
 (John told them that Mary loves himself)
 b. * John_i veit [að María elskar (IND) sig_i]
 (John knows that Mary loves himself)

He proposes that the SSC can be overcome by a cyclic head movement from INFL to INFL through the head position C of CP (COMP). This position serves as an escape hatch for X⁰ anaphors when C is empty at LF (but not for X^{max} reflexives, for which such movement is impossible). An X⁰ reflexive has to move to the matrix INFL in order to be antecedent governed, while an X' reflexive such as *each other* cannot be antecedent governed by its antecedent without moving INFL. Hence, anaphor movement in LF is also motivated by antecedent government theory and the fact that the theory of binding itself is restricted to empty categories.

Pica also derives the tensed-S effect from the theory of antecedent-government and the fact that the Binding Theory itself does not apply to the reflexives or reciprocals themselves, but to their trace, reducing the Binding Theory to (45):

- (45) A trace *b*, which is not a variable, has to be bound in its binding category *a*, where *a* is a binding category for *b* iff *a* contains *b* and a subject accessible to *b*.

As he himself (1991) points out, his (1987) analysis seems to imply that the Composition should be incorporated into the definition of the specified subject condition, in which case it leaves open the following two questions:

- a. Why should this be the case if the SSC is expressed in terms of governing category (as in Chomsky 1981) or in terms of complete functional complex (as in Chomsky 1986b)?
- b. Why should it be impossible for a reflexive like *sig* or *himself* - whether Comp is incorporated into the definition of the SSC or not - to adjoin to an embedded IP or C (whatever the character of the embedded IP might be with respect to [+/- Tense]), and then undergo further movement to the upper clause?

In his (1991) paper, he goes on further to discuss the long-distance reflexives and to answer these questions. He contends that the asymmetry between long-distance reflexives and non-long-distance reflexives does not, in fact, follow from the status of the reflexives with respect to X' theory, and that it follows instead from the well-known asymmetries between arguments and adjuncts and X⁰ elements at LF. In particular, it shows that the nature of long-distance reflexivisation provides evidence for a theory in which Binding Theory applies to the trace of the reflexive only, contrary to what is suggested in Pica (1987).

He also argues that binding facts of long-distance reflexives are not entirely derivable from antecedent-government, but rather derive from the interaction of antecedent-government and Binding Theory and that the subject orientation of certain reflexives derives in a natural way from the interaction of these two theories with the theta-criterion.

He suggests the interaction of antecedent-government, which applies to all non-deletable traces, and Binding Theory, which applies to the original traces of all types of reflexives - which all move at LF - since traces are identified as anaphors. The composition does not, after all, need to be incorporated into the definition of SSC itself.

His analysis of long-distance reflexives can be summarised in the following way:

- (46) a. Clitics can be divided into two types, depending on whether they cliticise onto Infl at S-structure or at LF.
 b. Reflexives such as *sig* cliticise onto Infl at LF.
 c. A reflexive clitic, or, more precisely, its trace, can escape the SSC (or whatever the precise formulation of the binding condition on anaphors turns out to be) through an escape hatch such as the C position of Comp.

His analysis of long-distance reflexives in terms of cyclic movement predicts that sentence (47) in Icelandic will exhibit at LF properties very similar to those of 'clitic climbing'.

- (47) a. Jón_i sagði Þeim [að María elski (subj) sig]
 b. John Infl sagði [_{CP} [_C [_{IP} María Infl elski sig]]]



(47b) is the representation of (47a). He assumes further that such a reflexive can transmit its index to Infl and that the whole complex (Infl (Infl (Agr (Agr sig)))) moves to C at LF if that position is empty, as is the case with infinitives and subjective clauses, whose complementisers delete at this level of representation (or, alternatively, in the case of subjunctive clauses, that Agr moves to C, whose complementiser cliticises onto the main verb at LF). At LF, Agr moves to the C position of the embedded clause and extends the governing category of the embedded subject, which enters into disjoint reference with the main subject.

He also gives an explanation for long-distance reflexives in English (so called Picture NPs). He assumes that the whole reflexive moves to the Specifier of NP and then to the specifier of CP, where it is L-marked by a process of specifier-head agreement, along the lines of Chomsky (1986b):

(48) They_i said [_{CP} themselves_i [_C that [_{IP} pictures of e_i are on sale]]]

Pica's (1987) theory has been adopted by many linguists: Huang and Tang (1991), Battistella (1987), Cole, Hermon and Sung (1990) and Reinhart and Reuland (1991), to name a few. His long-distance reflexive movement in English will be of interest to us later with respect to the long-distance reflexives *taziji* and *ziji-benshen*. However, his analysis may not be able to provide an explanation for sentences in (42a) and (42b) either. Moreover, it is impossible to extend his whole theory directly to Chinese. In Chinese, *taziji* may be long-distance bound even when it is in an object position.

- (49) a. Zhangsan_i danxin youren_j zai genzong taziji_i
worry someone ASP go-in-hot-pursuit-of himself
'Zhangsan was worried that someone was in hot pursuit of him'
- b. Zhangsan_i danxin ni_j zai genzong ziji_{i/ni}
worry you ASP go-in-hot-pursuit-of self
'Zhangsan is worried that you are in hot pursuit of him'

According to Pica, *taziji* in the object position should move and adjoin to the local VP. It is impossible for *taziji* to move into the specifier of NP or CP. Moreover, both *taziji* and *ziji* can be long-distance bound in either finite or infinitive sentences, and are not subject to the tensed S theory at all. Furthermore, if all long-distance bound reflexives must undergo INFL-to-INFL movement, the reflexives *taziji* and *ziji* must move in this way, and *ziji* should have the same index and phi-features as *ni* 'you' has, not the same as *Zhangsan*. This prediction is incorrect. *Ziji* must be bound to *Zhangsan*, and has the same index and phi-features as the matrix subject *Zhangsan*.

2.3.2.3 Giorgi's proposal (1984, 1991)

In her (1984, 1991) papers, Giorgi develops an account of the distribution of third person pronouns and clause-bound and long-distance anaphors (hereafter LDA) within PPs. She isolates thematic properties peculiar to prepositions which differentiate them

from other lexical heads, such as adjectives and nouns, and argues that phenomena concerning the behaviour of PPs in small clause constructions, and in predicative contexts in general, can be captured in this way.

Giorgi (1984) proposes the following principles for long-distance anaphors:

- (50) a. A long-distance anaphor α is P-bound in its modal domain.
b. γ is a modal domain of α if:
 γ is the minimal thematic complex containing α and a subject accessible to α ;
 γ 's INFL is marked [-dep].

Here, P means 'Prominent argument', and is identified with the highest one in each argument structure, as specified in the following thematic hierarchy: (1) agent, (2) experiencer, (3) theme, (4) others. A thematic argument means an argument that can receive a theta role. Arguments differ from adjuncts, and binding cannot cross the boundary of an adjunct clause. [-dep] means that INFL is not dependent on any other INFLs to get its features. For instance, indicative is [-dep], but subjunctive is [+dep] for Italian.

The Italian non-clitic anaphoric system for third person includes a 'long-distance' possessive anaphor, *proprio*, and two non-possessive ones, *se* and *se stesso*. According to Giorgio, *se* is a subject-oriented anaphor and thus marked [-BT] (Binding Theory) lexically; *se stesso* is a clause-bound anaphor and is marked [+BT]. *Se* cannot be governed by a verb and must be governed by a preposition, while *se stesso* admits both a verb and a preposition as governors. *Proprio* is lexically specified as both [+BT] and [-BT], since *proprio*, being the possessive anaphor for both *se* and *se stesso*, inherits both features. In other words, it can be clause bound, in which case both subject and object of the same clause are possible antecedents, or it can be long-distance bound, in which case it is usually subject oriented, in a sense to be made precise in terms of theta-theory. The binding options of *proprio* parallel those of *se stesso* when clause bound. According to Giorgio, if there is no domain governing

category for an anaphor or an anaphor is lexically marked as [-BT], this is subject to the principle in (50a), but not to Principle A of the Binding Theory, therefore it can be long-distance bound.

She assumes that a preposition does not assign an external theta-role, whereas the AP or NP does. The consequence of this hypothesis is that a long-distance bound anaphor dominated by an AP or NP node is contained in the P-domain of the prominent argument NP¹, and can be bound by it, whereas a long-distance bound anaphor dominated by PP is not contained in the P-domain of NP, given that such an NP is not theta-marked by P, and must refer outside the SC, to NP, which in turn is the prominent argument in the P-domain identified by the verb. This constitutes a strong argument in favour of the idea that long-distance bound anaphors obey a thematic strategy. For this hypothesis to make the right predictions, verbs must be classified into two groups. Her proposal is that verbs like *vedere* 'see', *trovare* 'find', *eleggere* 'elect', *riconciare* 'reconcile', *aizzare* 'turn', etc take a small clause complement and assign both case and theta-role, through percolation, to the subject of the small clause. The result is that the predicate of the small clause can either be an AP, an NP or a PP. If it is a PP, long-distance binding is not allowed. On the other hand, verbs like *rendere* 'render', *ritenere* 'believe' and *considerare* 'consider', etc, plus *sembrare* 'seem' and *risultare* 'result', take a small clause complement, but there is no percolation of the theta-role to its subject. Consequently, if the subject can be theta-marked by the predicate, the structure is grammatical, as in the case of APs or NPs, and otherwise it will be ruled out, as in the case of PPs. Moreover, raising verbs such as *sembrare* and *risultare* cannot even case-mark the subject of the SC, so that raising is obligatory. Furthermore, PPs must be sub-divided into two groups: locative and non-locative. Locative is the term given to the PPs specifying the location in time and space of their subject. A non-locative preposition has an adjectival interpretation and as an adjective, it can assign an external theta-role.

In short, Giorgi's approach to long-distance binding is to appeal to thematic prominence, and she claims that long-distance reflexives are not subject to the Binding Condition. According to Giorgi's observations, different anaphors have different

properties, which are lexically specified; in addition, different verbs in the matrix clause may force an anaphor to be bound in different ways, either locally or long-distance. This interesting approach is relevant to us: in Chinese, according to our observations, verbal selection may decide the domain for an anaphor. We will discuss this later. However, it is impossible to extend her analysis wholly to Chinese. *Ziji*, as is well-known, can be either locally bound or long-distance bound, therefore *ziji* may be marked both [+BT] and [-BT], as in the following example:

- (51) Zhangsan_i zhidao Lisi_j juede Wangwu_k dui ziji_{ij/k} meiyou xinxin
 know think to self no confidence
 ‘Zhangsan knew that Lisi thought that Wangwu had no confidence in
 him/himself’

The definition of modal domain in (50) incorrectly predicts that *ziji* can only be bound to the intermediate subject, because Chinese, like English, has no [dep] distinction. Moreover, the Blocking Effect is particularly unexpected for an account in the spirit of Giorgi (1984).

2.3.2.4 Parameter governing category - Manzini (1983, 1991a) and Manzini & Wexler (1987)

Manzini and Wexler (1987) propose that characterisation of binding domain is simply parameterised - underspecified in certain ways by Universal Grammar - and languages vary in their choices of Governing Category for bound anaphors. They define a Governing Category by a five-valued definition, as follows:

- (52) γ is a governing category for α iff γ is the minimal category that contains α and a governor for α and
- a. can have a subject, or, for α = anaphor, has a subject β , $\beta \neq \alpha$; or
 - b. has an INFL; or
 - c. has a Tense; or

d. has a 'referential' Tense; or

e. has a 'root' tense

(if for α anaphoric, the subject β' ($\beta' \neq \alpha$) of γ , and of every category dominating α and not γ , is accessible to γ).

According to them, the English reflexive *himself* observes value (52a). It must, therefore, be bound to an accessible subject. The Danish *sig* must have (52c) as its domain: it must be bound in the Tense, but may be free in the domain of the subject of an infinitive clause. In the Icelandic language, reflexive *seg* should have (52d) as its domain. The Japanese *zibun* observes value (52e), and therefore need be bound only in the root clause.

Manzini and Wexler (1987) and Wexler and Manzini (1987) hypothesise that values of parameters are associated with lexical items. This parameterisation is referred to as the Lexical Parameterisation Hypothesis (Manzini and Wexler 1987):

(53) Lexical Parameterisation Hypothesis

Values of a parameter are associated not with particular grammars, but with particular lexical items.

According to them, the English lexical item *himself* is associated with the value of the locality parameter involving the notion of subject.

In her (1991) paper, Manzini further proposes that the subject-based definition of locality in Chomsky (1981) and the non-subject-based definition, under which ECP and Binding Theory are unified, are not mutually exclusive; rather the two definitions represent coexisting values of the locality parameter. Anaphors such as English *himself*, but also Italian *se stesso*, etc, are associated with the subject-based value. However, the binding relation that characterises the reciprocal and inalienable possession constructions in Italian is associated with the non-subject-based value. The locality and parameterisation theories are based on this.

In order to capture the binding possibility in picture-NPs in English, Manzini (1983) proposes that anaphors have two different domains: a governing category and a domain governing category. The relevant definitions are given as follows:

- (54) An anaphor is bound in its governing category and domain governing category.
- (55) α is a governing category for β iff
- a. α is the minimal category that (i) has a subject; (ii) contains β ; and (iii) contains a governor for β , and
 - b. α contains a subject accessible to β .
- (56) α is a domain governing category for β iff
- a. α is the minimal category with a subject containing the c-domain of α and a governor for the c-domain of β , and
 - b. α contains a subject accessible to β .
- (57) α is the c-domain of β iff α is the minimal maximal category dominating β .

She claims that long-distance binding is possible only if there is no governing category or domain governing category for the anaphor. Only anaphors contained in a subject NP will not have a governing category or domain category; thus they do not obey Binding Condition A as defined in (54), and can be free in the local clause. This revision of Chomsky (1981) provides an explanation for the long-distance binding anaphors contained in a subject.

Manzini (1983, 1991) and Manzini and Wexler (1987) emphasise the parameterisation of the lexicon, which essentially operates a definition of locality. As pointed out by Hartbert (1995), this type of approach to the variation problem identifies the definition of local domains as the locus of variation. Since variation results directly from different choices for local domains for anaphors and pronouns, it is not predicted to correlate with other syntactic differences between the languages in question. The fact that a

grammar assigns a particular local domain to a particular anaphor is not predicted to follow from other properties of that grammar. This, however, is contrary to the general expectation that different choices in parameter values should have widespread effects throughout the grammar.

As Tang (1989) points out, it is impossible to apply her analysis to Chinese.

- (58) Ni_i renwei [wo_j zhidao [ziji_{i+j} de taitai shi yige da hao ren]]
you think I know self DE wife is one big good person
'You thought that I knew that my own wife was a very good person'

According to Manzini, *ziji* in (58) can refer to either the long-distance or the local NP, since both the NP *ziji de taitai* 'self's wife' and the S *ziji de taitai shi yige da haoren* 'self's wife is a very good person' lack an accessible subject, and thus *ziji* has no governing nor domain-governing category. However, this does not hold in (58).

On the other hand, where a reflexive *ziji*, *taziji* or *ziji-benshen* appears in object position, Manzini's analysis predicts that *ziji*, *taziji* and *ziji-benshen* will not corefer freely, since it has a governing category. However, I have shown in Chapter 1 that there are many examples of reflexives in an object position being long-distance bound. In view of these problems, therefore, I think that her analysis may not apply to Chinese reflexives.

2.4 SUMMARY

In this chapter, I have roughly overviewed the evolution of the Binding Theory and some proposals in order to capture the binding possibilities of Picture NPs. We can see that there are several common assumptions: (i) languages may differ in the binding domains of their anaphors; (ii) within one language different anaphors may have different binding domains. However, a lot of questions still remain open: (a) Why can a locally bound anaphor such as *himself* in English be long-distance bound? (b) What are the exact domains for local anaphors and long-distance anaphor? Is there any

connection between them? When we apply the theory to English or extend it to Chinese reflexives, there are still a number of unanswered questions. Some issues, I have not been able to comment on in this chapter. However, we will leave these for the moment and return to some of them later.

In the next chapter, I will look at properties of the Chinese reflexives and overview the proposals for Chinese reflexive binding within the Principles and Parameters framework.

FOOTNOTES

(1) In the literature, the condition which specifies that two elements, the reflexive and its antecedent, must be in the same clause, has been referred to as the Clause-mate Condition.

(2) Chomsky proposes that in order for an element to be able to count as a subject/SUBJECT to determine the binding domain of a reflexive it must be an accessible subject/SUBJECT for the reflexive. A subject/SUBJECT is accessible for a reflexive if it is possible to co-index it with this reflexive.

The definition is shown as follows:

Accessible subject/SUBJECT

A is an accessible subject/SUBJECT for B, if the co-indexation of A and B does not violate any grammatical principle.

(Ref Haegeman 1991, p 207)

CHAPTER THREE

CHINESE REFLEXIVES: AN OVERVIEW OF PREVIOUS GB ANALYSES

3.0 INTRODUCTION

As was shown in Chapter 1, the Chinese reflexivisation system is quite complicated. Chinese has both a reflexive clitic and reflexive pronouns. However, in the literature, linguists have tended to concentrate on the analysis of two types of reflexive pronouns only: complex reflexives such as *taziji* 'himself', *niziji* 'yourself', *ninzi* 'yourself' (formal form), *woziji* 'myself', *tamenziji* 'themselves', *nimenziji* 'yourselves' and *womenziji* 'ourselves', and the simplex reflexive *ziji*. This chapter will, therefore, cover only previous analyses of these two types of reflexive pronouns. Reflexive clitics will be discussed further in Chapter 5. The complex reflexive *ziji-benshen* 'self-self' will be discussed in Chapter 6.

According to the literature, there are two main differences between compound reflexives and the simplex reflexive *ziji*: firstly, complex reflexives, such as *taziji*, behave in the same way as English *himself* (for details see Tang 1989, and Huang and Tang 1991). In other words, they must be locally bound (in an NP or a clause as in (1a)). The simplex reflexive *ziji*, on the other hand, can be either locally or long-distance bound, as illustrated in the two options in (1b):

- (1) a. Complex reflexive *taziji*
Zhangsan_i shuo [Mary_j hai le taziji_{i+j}]
say hurt ASP herself
'Zhangsan said that Mary had hurt herself'
- b. Simplex reflexive *ziji*
Zhangsan_i shuo [Mary_i hai le ziji_i]
say hurt ASP self
'Zhangsan said that Mary had hurt him/himself'

Secondly, the simplex reflexive *ziji* is subject-oriented,⁽¹⁾ whereas complex reflexives need not be.

- (2) a. Complex reflexive *taziji*
Zhangsan_i gaosu Lisi_j taziji_{ij} de fenshu
tell himself DE grade
'Zhangsan told Lisi his/his own grade'
- b. Simplex reflexive *ziji*
Zhangsan_i gaosu Lisi_j ziji_{i/*j} de fenshu
tell self DE grade
'Zhangsan told Lisi his own grade'

The *ziji* type of reflexive in (1b) and (2b) has been the subject of extensive study in the GB literature, from where three main types of analysis can be distinguished:

- (3) a. Those which claim that elements such as *ziji* are not really reflexives, but rather exhibit some pronominal properties, similar to those of so-called pronominal-pronouns (cf Yang 1983, Wang & Stillings 1984). These analyses propose to modify the principles of the Binding Theory to allow further parametric options among languages;
- b. Those which retain the standard version of the Binding Theory and analyse subject-orientation and the long distance effects in Chinese as arising from language-specific mechanisms independent of the Binding Theory (Tang 1989, Huang & Tang 1988, 1991);
- c. Those which radically reshape Binding Theory parameters in order to incorporate long-distance anaphors and subject orientation into its core. Their proposal is that long-distance binding has to be analysed as INFL-to-INFL movement at LF (Battistella 1989, Cole et al 1990, Li 1993).

The proposals in (3a) have a number of serious theoretical drawbacks. In the current theory, it is generally assumed that the principles of the Binding Theory are not in and of themselves subject to parametric variation. Rather, the locus of parametrisation lies

in the language-specific specification of lexical/functional features. It is also assumed that it is undesirable to propose that some anaphors can have pronominal properties, since these NPs would not be describable in terms of the NP features [+/- pronominal], [+/- anaphor].

For this reason, in this chapter we concentrate on the latter two approaches. We shall review the proposals of Tang (1989) in Section 3.1. Huang and Tang's (1991) proposal will be introduced and discussed in Section 3.2. Battistella's (1989) proposal will be presented in Section 3.3, Cole et al's (1990) proposal in Section 3.4, and Li's (1993) proposal in Section 3.5. Section 3.6 will present Pan's (1995) proposal and discuss it, and Section 3.7 is a conclusion.

3.1 TANG'S PROPOSAL (1989)

Following Lebeaux, in her 'Chinese Reflexives', Tang's (1989) analysis consists of three main proposals. Firstly, she argues that reflexive *ziji* is a compound reflexive preceded by pro: pro-*ziji*, just like pronoun-*ziji* cases such as *taziji* 'himself'.

Secondly, she extends the Binding Theory to account for subject-orientation and the animacy condition, which are demonstrated in example (4), and proposes a principle of sub-command.

- (4) a. [[Zhangsan_i de] jiao'ao]_j hai le ziji_{i/*j}
 DE pride hurt ASP self
 'Zhangsan's pride hurt him'
- b. [Wo_i na [ta_j de qian]_k]_i dui ziji_{i/*j/*k/*i} meiyou haochu
 I take he DE money to self no-have advantage
 'That I took his money did me no good'

In (4a), *jiao'ao* 'pride' is inanimate, and therefore is not eligible as an antecedent for *ziji*. The possessive NP *Zhangsan* is animate, and so can be the antecedent. In (4b), *ta* is not in a subject position, therefore it cannot antecede *ziji*. *Ziji* can only be

coindexed with *wo* 'I', which is an animate subject NP contained within a subject NP (in other words, the subject NP in the main clause is a small clause). Based on these facts, Tang proposes the notions of sub-command in (5) and potential binder in (6), and the principle in (7):

- (5) β SUB-COMMANDS α iff
- a. β c-commands α , or
 - b. β is an NP contained in an NP that c-commands α or that sub-commands α , and any argument containing β is in subject position
- (6) A POTENTIAL BINDER for α is any NP which satisfies all conditions of being a binder of α except that it is not yet coindexed with α .
- (7) A reflexive α can be BOUND by β iff
- a. β is coindexed with α , and
 - b. β sub-commands α , and
 - c. β is not contained in a potential binder of α .

Thus, the sub-commanding holds at least in the following three configurations (order irrelevant):

- (i) [β [_{VP}..... α]]
- (ii) [[_{NP} β] [_{VP}..... α]]
- (iii) [_S [_{NP} [_S [_{NP} β] [_{VP}.....]]] [_{VP}..... α]]

For example, in (4a), the antecedent of *ziji* is a possessive of the subject NP, as in configuration (ii); in (4b), the antecedent of *ziji* is *wo* 'I', which is a subject of the clause contained in the subject NP, as in configuration (iii). It is impossible for *ta* 'he' to antecede *ziji*, because its containing NP is not in subject position.

Thirdly, following Y-H Huang (1984), Tang argues that long-distance binding of *ziji* is subject to 'four restrictions':

(i) Compound reflexives like *taziji* ‘himself’ cannot be long-distance bound, in contrast with the long-distance bound *ziji* in (8):

- (8) a. Zhangsan_i shuo [Lisi_j dui taziji_{i/j} meiyou xinxin]
say to himself no confidence
‘Zhangsan said that Lisi had no confidence in himself’
b. Zhangsan_i shuo [Lisi_j dui ziji_j meiyou xinxin]
say to self no confidence
‘Zhangsan said that Lisi had no confidence in him/himself’

(ii) Non-third person NPs apparently cannot serve as long-distance binders, as illustrated in (9):

- (9) Wo/Ni_i juede [Lisi_j dui ziji_{i/j} mei xinxin]
I/you think to self no confidence
‘I/You thought Lisi had no confidence in himself’

(iii) Intervening non-third person NPs block long-distance binding, as shown in (10a) and (10b). This is hereafter referred to as the **Blocking Effect**.

- (10) a. Zhangsan_i juede [wo/ni_j dui ziji_{i/j} mei xinxin]
think I/you to self no confidence
‘Zhangsan thought that I/you had no confidence in myself/yourself’
b. Zhangsan_i zhidao [wo/ni_j juede [Lisi_k dui ziji_{i/j/k} mei xinxin]]
know I/you think to self no confidence
‘Zhangsan knew that I/you thought that Lisi had no confidence in himself’

(iv) Only the remotest, and not intermediate, third person NPs can act as long-distance binders. This is exemplified in (11), where *ziji*, according to Y-H

Huang and Tang, can be long-distance bound to the matrix *Zhangsan*, but not to the intermediate *Lisi*. This is hereafter referred to as a **Maximality Effect**.⁽²⁾

- (11) Zhangsan_i zhidao [Lisi_j juede [Wangwu_k dui ziji_{l/j/k} mei xinxin]]
 know think to self no confidence
 ‘Zhangsan knew that Lisi thought that Wangwu had no confidence in himself’

Based on these ‘four restrictions’, Tang proposes that the limited cases of long-distance *ziji* are derived from the optional **Feature-copying Rule** and the **Reindexing Rule**, given in (12a) and (12b) respectively:

- (12) a. **Feature-copying Rule (optional)**
 The pro in a pro-*ziji* anaphoric reflexive may transfer its features (such as person, number, gender) to -*ziji* after the application of Binding Theory, thus turning -*ziji* into a long-distance reflexive.
- b. **Reindexing Rule (iterative and obligatory)**
 Reindex the long-distance reflexive (that is, one to which Binding Theory has applied) with the potential NP of the next higher governing category.

According to Tang, the Feature-copying Rule may apply to pro-*ziji*, but not to pronoun-*ziji*, because a pronoun in pronoun-*ziji* has its own inherent features, while pro in pro-*ziji* does not, since its reference is determined by context. Thus, if the reflexive is a pronoun-*ziji* such as *taziji*, the optional Feature-copying Rule will not apply, and the Reindexing Rule, whose application is dependent on the previous application of the Feature-copying Rule, does not apply either. The consequence is that, as predicted by the Binding Theory, *taziji* must be bound to the local c-commanding NP. For *ziji*, there are two possibilities: if the optional rule of feature-copying does not apply, then *ziji* remains a local reflexive, and must refer to the local binder; if feature-copying takes place, the pro prefix should be able to transfer its features, then *ziji* will become a long-distance reflexive. Feature-copying will trigger the iterative obligatory reindexing rule, which requires a long-distance reflexive to be

reindexed with the next minimal subject until no such subject remains. Thus, the antecedent to a long-distance reflexive is always expected to be the highest animate antecedent, and the Maximality Effect is explained. This also provides an explanation for the Blocking Effect in sentences like (10a) and (10b): the features of *ziji* are fixed after *pro-ziji* is locally bound. Therefore, in (10a) long-distance binding is barred, since the third person long-distance antecedent does not match the first or second person *pro* prefix in features. In (10b), although the matrix subject *Zhangsan* matches the *pro* prefix in features, the reindexing of *ziji* with the intermediate subject *wo/ni* ‘I/you’ violates the feature-matching requirement. In Tang’s analysis, obligatory iterative application also accounts for the impossibility of long-distance binding of *ziji* to the intermediate subject *Lisi* in (11), even though the latter matches the *pro* prefix in features. That is, since the Reindexing Rule applies iteratively up to the last cycle, the resulting coreference reading in (11) is that *ziji* can refer to the matrix *Zhangsan*, but not *Lisi*.

In short, in Tang’s analysis, a pronoun-*ziji* has to be locally bound, while *pro-ziji* can be either locally bound or long-distance bound. When *pro-ziji* is long-distance bound, the optional Feature-copying Rule applies and triggers the Reindexing Rule. The result is that the interpretation of anaphors falls under two distinct principles: local reflexives are subject to Binding Theory, and long-distance reflexives are subject to the Reindexing Rule.

While Tang’s paper provides a detailed survey of *ziji*’s distribution, there is some question about the generality of the conditions proposed. As we shall see in section 3.2 (Battistella) and in Chapters 5 and 7, there are some constructions where the Blocking Effect and the Maximality Effect systematically fail to apply. Tang’s analysis also leaves a number of questions unanswered. First of all, sub-commanding may fail to apply to sentences such as (13) below:

- (13) a. Lingdao_i de hua dui ziji_{i+j} guli hen da
 leader ’s words to self encouragement very big
 ‘The leader’s words are a great encouragement to him’

- b. Ta_i zheyang zuo shi xiang gei ziji_i yixie yanse kankan
 he so do is want give self some facial expression see
 ‘What he did to me shows that he wanted to make it hot for me’
- c. Ta_i de xin xie dao zheci yundong shi dui ziji_i zui da de kaoyan
 he 's letter write say this movement is to self most big test
 (Lit) ‘His letter wrote that this movement was a big test for himself’
- d. Li jiangjun_i linzhong xie de shi anshi erzi, zhangda le
 general before-death write DE poem hint son grow-up ASP
 yao wei ziji_i baochou
 should for self revenge
 ‘The poem written by General Li on his death bed hinted that as soon as his son grew up, he should take his revenge (on the killer)’

According to Tang, *ziji* in (13a) is sub-c-commanded by *lingdao* ‘leader’, contained in the subject NP. In that case, it should be bound by *lingdao*, and *ziji* in (13b) should be sub-commanded by, and bound to, *ta*, contained in the subject NP. This prediction is incorrect. *Ziji*, in both (13a) and (13b), should refer to the speaker. According to Huang and Tang, “a sub-commander cannot, in general, be a long-distance binder” (p.267), however, *ziji* in (13c) does refer to *ta* in the subject NP of the matrix clause, and *ziji* in (13d) refers to *Li Jiangjun* ‘General Li’ in the subject NP of the root clause. Thus, the prediction incorrectly rules out sentences like (13a)-(13d).

Secondly, as noted by Battistella (1989) and Huang and Tang (1991), there is no evidence to show why Tang’s Feature-copying Rule can turn a local reflexive into a long-distance one, and why feature-copying triggers reindexing. There is also no explanation for why reindexing mimics the effects of sub-command binding (ie subject orientation).

- (14) a. Zhangsan_i shuo Lisi_j yinggai baozhong ziji_{i/j}
 Zhangsan say should take care self
 ‘Zhangsan said that Lisi should take care of himself’

- b. Zhangsan_i shengpa ni_j genzong ziji_{i/*j}
 worry you go-in-hot-pursuit-of self
 ‘Zhangsan worried that you would go in hot pursuit of him’

According to Tang, in (14a), *ziji* is a locally bound anaphor. Pro in *pro-ziji* should transfer its features to *-ziji* after the application of the Binding Theory, then turning *-ziji* into a long-distance reflexive. Once the Feature-copying Rule applies, then the Reindexing Rule is obligatory, and it should work its way up the root clause, therefore, *ziji* in (14a) should be bound to *Zhangsan*. However, this prediction is completely wrong. Similarly, in (14b), if pro in *pro-ziji* transfers its features to *ziji*, after the application of the Binding Theory, thus turning *-ziji* into a long-distance reflexive, it should work its way up to the root clause after the reindexing rule applies. Thus, we need to know what are the features of the pro, and how to account for the Blocking Effect in this case.

Furthermore, if *ziji* in *pro-ziji* can undergo the Feature-copying Rule, why does *ziji* in the pronoun *taziji* not undergo this rule as well?

3.2 BATTISTELLA’S PROPOSAL

In his (1989) paper, Battistella analyses the binding of *ziji* within the ‘movement-to-Infl’ framework developed in Chomsky (1986a) and Lebeaux (1985). He claims that this approach allows a particularly elegant account of subject orientation in which the reflexive anaphor is moved to INFL position at logical form (LF). Long-distance binding is, in turn, analysed as INFL-to-INFL movement at LF. In addition, he argues that the blocking effect on Chinese reflexivisation and sub-command condition proposed by Tang (1989) can be accommodated very naturally in this approach, thereby providing further support for it.

Battistella assumes that both the empty category principle (ECP) and Principle A of the Binding Theory are relevant to the description of the interpretive properties of

reflexives: the ECP to the trace of the moved reflexive and Principle A to the reflexive itself.

He argues that the S-structures in (15) yield the corresponding LF structures in (16) by means of movement of *ziji* to INFL:

- (15) a. Zhangsan_i hen ziji_i
 hate self
 ‘Zhangsan hates himself’
 b. Zhangsan_i shuo [ziji_i xiawu lai]
 say self afternoon come
 ‘Zhangsan said he himself will come this afternoon’
- (16) a. [Zhangsan ziji-INFL hen e]
 b. [Zhangsan ziji-INFL shuo [e xiawu lai]]

(15b), where *ziji* moves from the position of subject of the tensed clause, does not violate the ECP. The reason is that Chinese does not exhibit tensed-S/AGR effects (for detail, see Chomsky 1986a: 176 and Huang 1982: Ch 6). In particular, Chinese appears to treat subject empty categories as though they were properly governed.

Following Pica (1987), Battistella claims that the movement of *ziji* is an instance of X^0 movement (where $ziji = N^0$). As Chomsky observes, the movements of X^0 categories will be substitution rather than adjunction, and the choice of landing site will follow from some version of the structure-preserving hypothesis (Emonds 1976). The choice of INFL as the landing site for *ziji* can be explained under the assumption that the features of INFL (which include the AGR features) are sufficiently nominal to satisfy the structure-preserving requirement. The movement of *ziji* to INFL will be head to head, as required by the theory of movement developed in Travis (1984), but that movement will ‘skip over’ the head of VP on its way to INFL. He gives two reasons why this might happen: first, V, as a lexically filled item, cannot be replaced by *ziji*

under a substitution operation; second, it may be that V and INFL do not have the requisite feature similarity for structure-preserving movement to take place.

Ziji-movement can yield representations such as those in (17b)-(17d):

- (17) a. [NP INFL.... [NP INFL.... [NP INFL V *ziji*]]]
 b. [NP INFL.... [NP INFL [NP *ziji*-INFL V e]]]
 c. [NP INFL.... [NP *ziji*-INFL.... [NP e-INFL V e]]]
 d. [NP *ziji*-INFL.... [NP e-INFL.... [NP e-INFL V e]]]

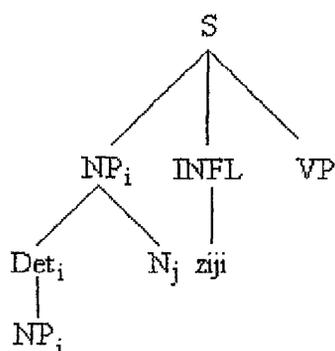
Since the position of *ziji* at LF will depend on how many iterations of INFL-to-INFL movement take place, antecedent choice at LF indirectly depends on the application of movement, but the only c-commanding antecedent in the LF governing category of *ziji* will be its antecedent. He emphasises that INFL-to-INFL movement must be cyclic, and that subjacency effects are not a factor in Chinese, since Huang (1982) argues that in Chinese, subjacency effects do not obtain at the level of logical form, with the consequence that *ziji* can move freely from INFL of the embedded clause, or even from the relative clause S to INFL of the next clause.

He then gives an explanation for the blocking effect within the movement-to-INFL framework. He proposes that *ziji* moves to INFL and the fact that INFL and the subject are the locus of grammatical agreement rules in Universal Grammar gives the result that subjects of clauses between *ziji* and its long-distance antecedent agree in person features. His basic idea is that when *ziji* moves to INFL position, *ziji* or its trace behaves like the node AGR, and as a consequence, some agreement-checking rule or convention will apply between a trace in INFL and the subject of its clause. The blocking effect will arise in the following way. When *ziji* occurs in the matrix clause at LF, the subject of each clause that it has passed through will have its trace in INFL. Consequently, the subjects of each of these clauses must agree with one another, since agreement will obtain between each subject and the AGR-like features of the trace of *ziji* in INFL. The actual antecedent - the root subject - will agree with

the overt occurrence of *ziji* in its INFL, as a consequence of binding, so the root subject will agree with the traces in each clause and their subjects.

Battistella argues that the movement-to-INFL hypothesis offers a possible solution to Tang's sub-commanding cases. He encodes the ability of a determiner to antecede if the determiner's index is somehow assigned to the subject NP which contains it and which c-commands *ziji*, that is, if there is an indexed structure like that in (18):

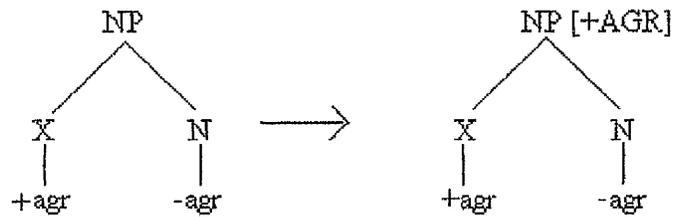
(18)



Following Chomsky (1986b: 24), he takes agreement to be a relation holding between a head X, Spec of X and a maximal projection XP of X, where Det is a Spec of N. He assumes that inanimate Ns in Chinese lack agreement features. In the absence of agreement features on its inanimate N head, the maximal projection NP may receive agreement features from another daughter which does have agreement features, that is from some daughter which is an animate NP or agrees with one. In (18), Det, being animate, will have features to share with the maximal projection NP dominating it. If Det does assign animate agreement features to its containing NP, this will permit the NP node, identified as Det rather than N, to antecede the occurrence of *ziji* in the INFL of the main clause.

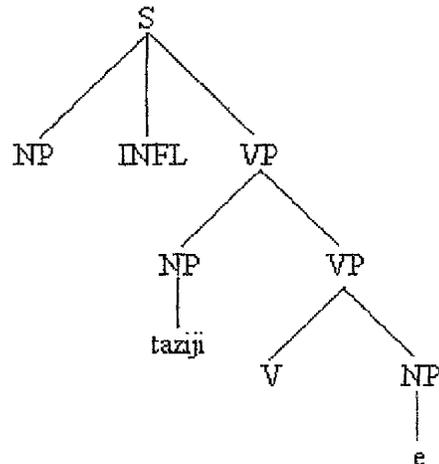
He proposes that the exceptional agreement stipulation can be formulated as a straightforward language-particular rule like (19). In this rule, [+agr] represents agreement features percolated from an animate NP and [-agr] represents the lack of agreement features on inanimate NPs. Since N is optional, (19) also covers the case where features percolate to NP from a sentence it exhaustively dominates.

(19)



In this analysis, a compound reflexive such as *ta-ziji* should move at LF, but does not move into INFL position, because *ta-ziji* is a phrasal node rather than a lexical one. Instead, when the compound reflexive undergoes LF movement, it is Chomsky-adjoined to the VP, yielding a structure like (20):

(20)



Battistella's proposals can be summarised as follows: in Chinese, but not in English, reflexive anaphors move at the level of LF from their S-structure positions. *Ziji* moves into INFL; compounds like *ta-ziji* are adjoined to the category VP. By virtue of its position in INFL, *ziji* may move from INFL to INFL, subject to the Maximality Effect. Subject orientation is due to the fact that at LF the subject of a clause is the only c-commanding antecedent for a reflexive in its governing category. At LF, the trace of *ziji* in INFL is indistinguishable from AGR. In the derivation from S-structure to LF, a principle of agreement coindexes the AGR node⁽³⁾ of a clause with its subject. In cases of long-distance anaphora, this results in a succession of subject-trace pairs, from which the blocking effect follows. Inanimate Ns do not assign agreement features to

INFL. Agreement features can be obtained in accordance with rule (19), which allows animate subjects contained in inanimate subjects to be antecedents for reflexives in the matrix clause.

However, the INFL-movement theory is faced with important difficulties. Firstly, Battistella does not explain why the compound reflexive *taziji*, as well as *himself* in English, cannot adjoin successive-cyclically in LF, also giving rise to long-distance binding. Secondly, a more serious problem concerns the blocking effects. According to Battistella, blocking effects follow partially from the fact that INFL is the locus of agreement. Notice, however, that the potential blockers of long-distance bound *ziji* may be local sub-commanders and experiencer non-subjects, but not matrix subjects.

- (21) a. Zhangsan_i shuo [[ni_j zuo de chunshi] hai le ziji_{i+j}]
 say you do DE silly-thing hurt ASP self
 ‘Zhangsan said that the stupid things you had done hurt you’
- b. Zhangsan_i dui ziji_j zibaoziqi de taidu shi ni daweishiwang
 to self give-oneself-up DE attitude make you disappoint
 de xiaoxi shi Weiling hen fanna
 DE news make very upset
 ‘The news that you were very disappointed by Zhangsan’s attitude of giving himself up as hopeless upset Weiling’

In (21a), the blocker is the subject NP contained in the higher subject NP, and in (21b) it is the inner experiencer *ni* ‘you’. It is thus unlikely that the blocker effects have to do with subject-INFL agreement in the way outlined by Battistella.

Thirdly, since in the INFL-movement theory the movement of *ziji* in LF is a case of head movement, the traces left by *ziji* are subject to antecedent-government (see Chomsky 1986b). While this has the consequence that the movement must be successively cyclic, it also incorrectly rules out certain acceptable cases of long-distance bound *ziji*.

- (22) a. Zhangsan_i shuo [ruguo Lisi_j piping ziji_{ij}], ta jiu bu qu
 say if criticise self he then not go
 ‘Zhangsan said that if Lisi criticised him/himself, then he would not go’
- b. Zhangsan_i bu xihuan [neige piping ziji_{ij} de ren_j]
 not like that criticise self DE person
 ‘Zhangsan did not like the person who criticised him/himself’

According to Huang and Tang, INFL-movement cannot cross barriers, and movement of a phrase whose trace needs to be antecedent-governed cannot cross any singular barrier (for detail, see Huang and Tang 1991). Since *ziji* moves by INFL-movement, and the traces left by *ziji* are subject to antecedent-government, *ziji* cannot be long-distance bound in an adjunct clause or complex NP. However, as we see in (22a) and (22b), this prediction is wrong.

3.3 COLE, HERMON AND SUNG’S PROPOSAL (1990, 1994)

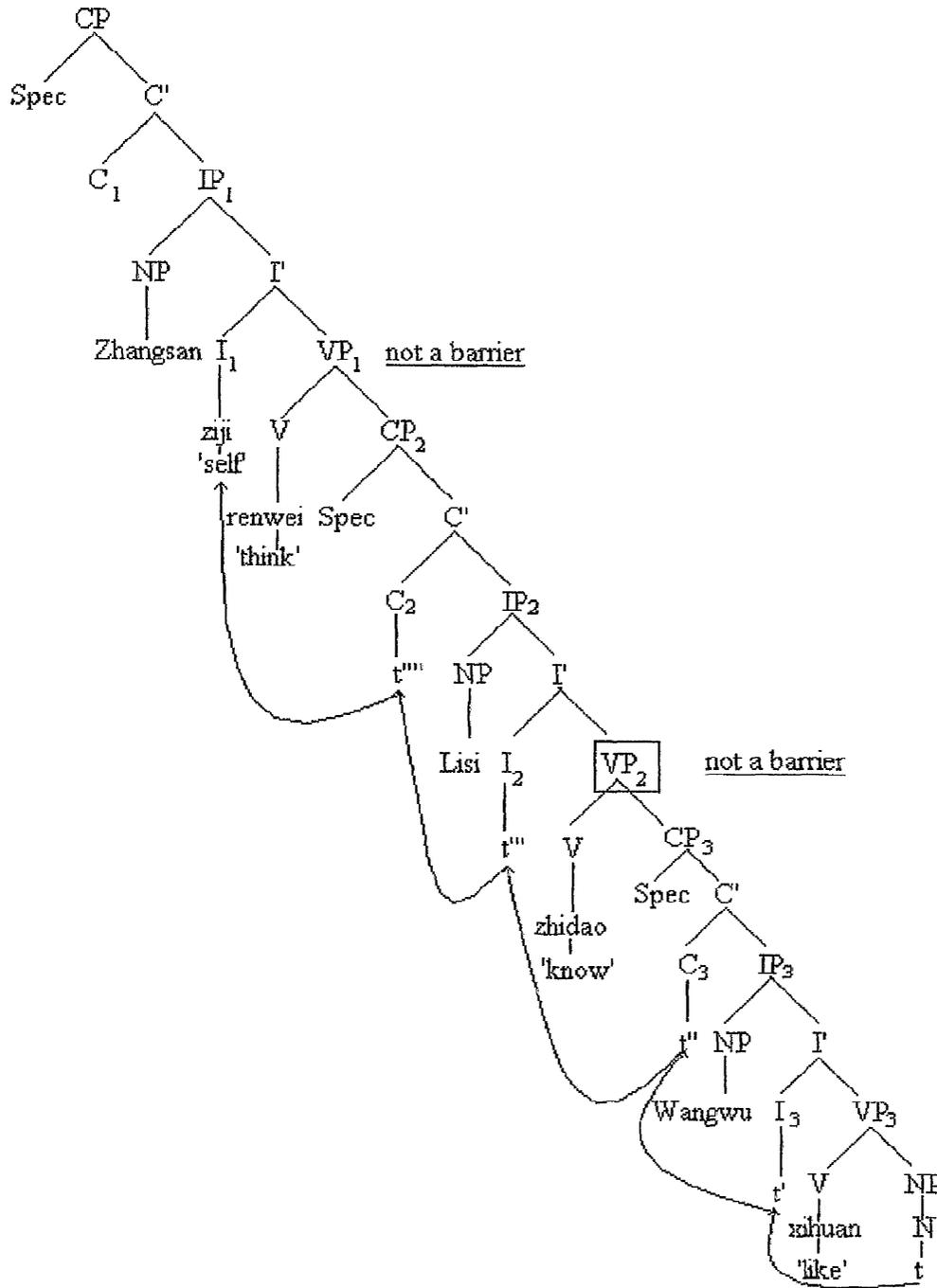
Following Battistella (1989), Cole, Hermon and Sung (hereafter CHS) (1990) and Cole and Sung (1994) also take the INFL-to-INFL head movement approach for *ziji* in Chinese. They assume that all apparent LDB reflexives involve head to head movement. Based on the Barriers framework (Chomsky 1986a) and work on head movement by Pollock (1989) and others, CHS assume that X^0 movement can adjoin to X^0 positions and X^{\max} elements can adjoin to X^{\max} positions. All movement is subject to the usual conditions, including the Head Movement Constraint. Following the approach in Chomsky (1986a), they also assume that non-L-marked maximal projections constitute barriers to antecedent government (with the exception of IP, which is a blocking category, but not a barrier).

CP and NP complements of V are not barriers, because V is a lexical, rather than a functional projection, and hence, V L-marks its complements. In contrast, subjects of CPs in English are barriers. They are not L-marked by V, nor are they L-marked by INFL, since in English INFL is functional, rather than lexical. Similarly, VP in English

is a barrier. This is because VP is not lexically governed, and therefore is not L-marked by INFL.

CHS assume that the ECP can be satisfied by either lexical or antecedent government. If INFL is lexical in Chinese (unlike in English), it will properly govern the subject of its clause.

(23)

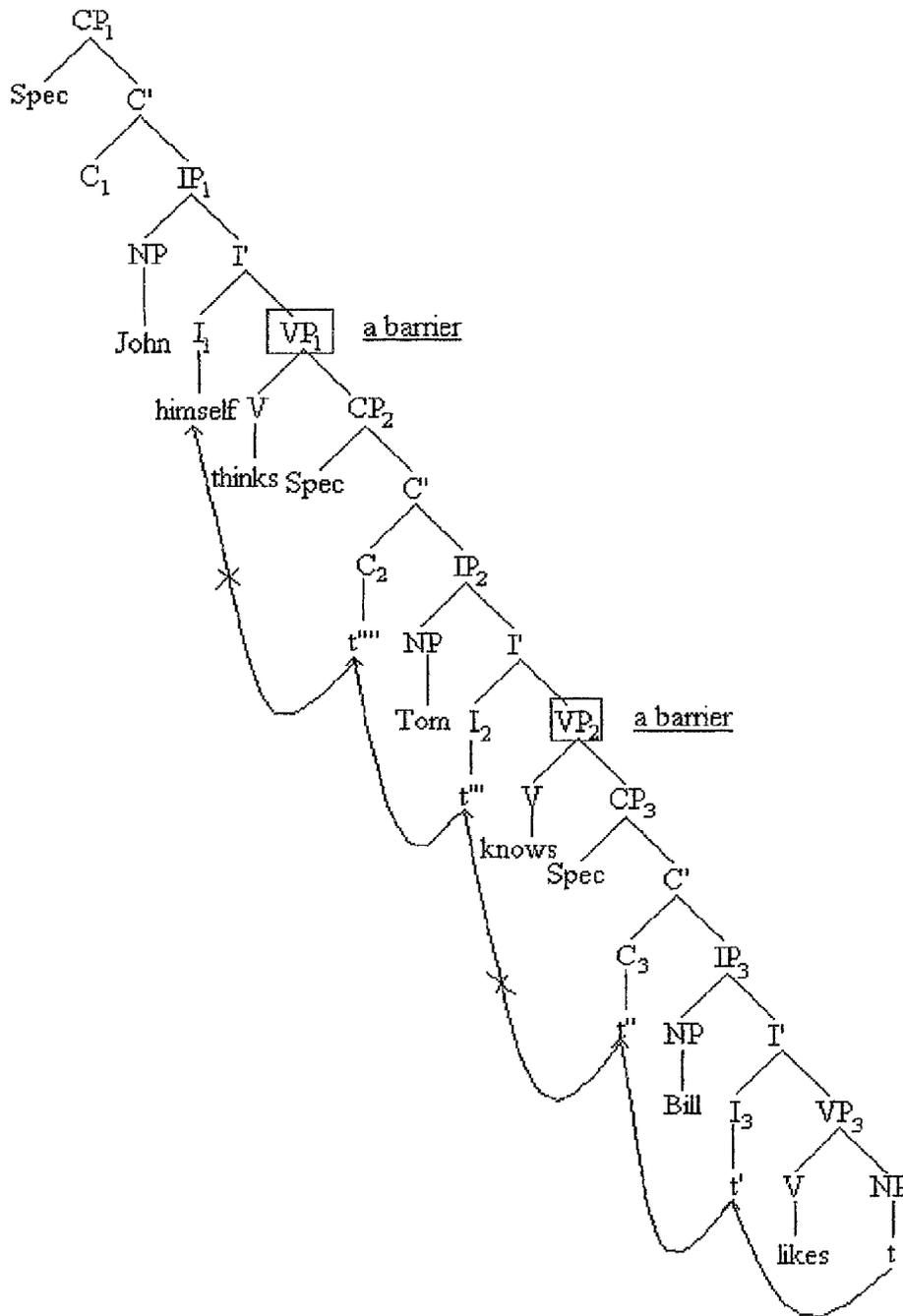


Turning to the ECP, the movement of *ziji* from the initial position to the INFL of its own clause is well-formed because the trace left in object position is lexically governed by the verb *xihuan* in CP₃. Thus, it is irrelevant whether VP₃ is a barrier or not. Movement from I₃ to C₃ is also well-formed, because no barriers intervene, so the trace in Comp antecedent-governs the trace adjoined to I₃. Movement from C₃ to I₂ crosses VP₂, but in Chinese, INFL is lexical, and therefore VP is L-marked and is not a

barrier. As a result, the trace adjoined to C_3 is properly governed by antecedent government. The same principles apply to subsequent instances of movement from Comp to INFL and INFL to Comp. Thus, all the traces are properly governed, and (23) is well-formed in Chinese.

On the other hand, in CHS's theory, languages like English are predicted to lack long-distance reflexives. Their explanation is in terms of the ECP: the movement of the reflexive to the INFL of its own clause is well-formed in English (as in (24)), just as it is in Chinese, because the trace left in object position is lexically governed by the verb of CP. Movement from I_2 to Comp is also well-formed, just as in Chinese, but movement from Comp to I_1 , unlike the analogous movement in Chinese, is ill-formed. Just like t'' in the Chinese example (23), this trace is not lexically governed, and so must be antecedent-governed. For this to be possible, no barrier may intervene between t'' and t''' . However, in English, INFL is not lexical. Thus, INFL does not L-mark VP, and as a result, VP is a barrier. Thus, in English, long-distance reflexives are blocked by the ECP and, crucially, not by the Binding Theory.

(24)



As for the blocking effect, CHS assume that *ziji* is marked for phi-features. If *ziji* undergoes successive cyclic movement from INFL to INFL, it is reasonable to assume that each INFL must agree with *ziji* in phi-features at LF. Therefore, it is impossible for first or second person elements to intervene between *ziji* and its antecedent.

In their (1994) paper, Cole and Sung make a clear distinction between X^0 (monomorphemic) and XP (polymorphemic) reflexives, and claim that only the monomorphemic reflexive *ziji* can be long-distance bound. They assume that only the monomorphemic reflexive undergoes head movement; the polymorphemic reflexives undergo adjunction to VP and are not allowed to move to the Spec of CP or adjunct IP. Thus, the object reflexive in an embedded clause will move directly to the higher VP after the adjunction to its own VP, crossing one barrier - the lower CP. Since antecedent government is violated, an ECP violation occurs. Cole and Sung therefore conclude that the polymorphemic reflexives can only have a local antecedent.

Cole et al (1990) and Cole and Sung (1994) provide a plausible explanation as to why the long-distance reflexive *ziji* in Chinese is able to adjoin to INFL at LF, whereas English *himself* type reflexives cannot. CHS propose to account for this contrast by assuming that Chinese INFL is lexical and can L-mark, so that VP is not a barrier in Chinese, as it is in English. However, there are some problems arising: first, as Li (1993) points out, the locally subject-bound reflexive *zibun-zisin* 'self-self' in Japanese poses a problem for their underlying hypothesis, since *zibun-zisin* shows only one of the properties mentioned (ie subject-binding), and so runs against their fundamental hypothesis that subject-binding and LDB co-occur. The second problem with various X^0 movement analyses is to provide a plausible explanation for why the long-distance reflexive can adjoin to INFL at LF, whereas the polymorphemic reflexives cannot. CHS propose to account for this contrast by assuming that VP is a barrier in English, but not in Chinese. As a matter of fact, VP in English practically never blocks movement. Furthermore, in Chinese, the long-distance reflexive may actually cross a barrier.

- (25) Zhangsan_i [zai laoshi_j jiaodao ziji_i de shihou] cai qingxin guo lai
 at teacher call self DE time justwake up
 'Zhangsan only woke up when the teacher called his name'

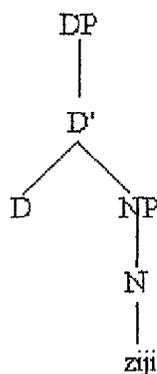
In (25), *ziji* is in the adverbial clause. There is at least one barrier to *ziji* referring to its antecedent. Thus, following CHS's proposal, LDB is impossible. This prediction, however, is incorrect.

3.5 LI'S ANALYSIS (1993)

In his (1993) paper, Li argues that long-distance binding and subject-binding should not be treated as two inseparable consequences of a single LF operation. While long-distance binding does indeed result from LF movement, subject-binding must be analysed separately. The contrast between long-distance binding and local binding can be accounted for by uniformly moving N^0 (the head of the reflexive) at LF, regardless of the actual form of the reflexive. The only constraints are those which are independently motivated, such as Lasnik and Saito's ECP and Li's theory of X^0 -binding.

Li gives the structure in (26) below for the simplex reflexive *ziji*:

(26)

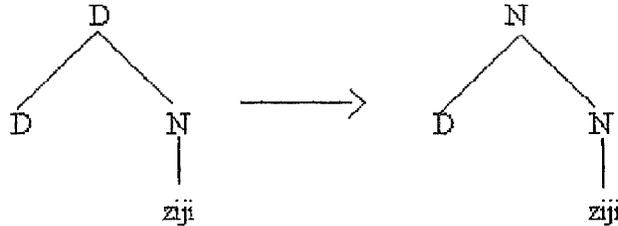


He proposes that N can move out of DP because of Spec-head agreement.

Suppose that N in (26) can also move to D as the first step, forming a D-N cluster. Since the DP contains nothing except the NP, Li hypothesises that D is empty of any content. Then, he assumes that moving N to D may virtually turn D into an N, since N is the only contentive element in the D position. This not only means that the whole

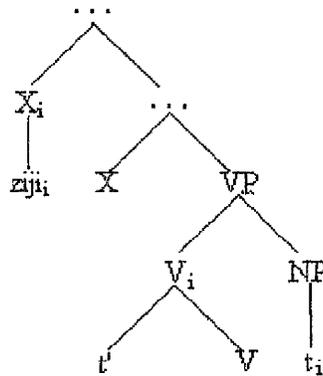
DP may function as an NP, but also that N-to-D movement may be regarded as N-to-N movement.

(27)



Therefore, it is possible for *ziji*, as a head N, to move out of the NP, and it can then move as in (28):

(28)



Ziji first adjoins to V, forming a cluster [_v *ziji* V], once the index of *ziji* percolates to the dominating V node. Since V_i c-commands t_i and NP is not a barrier, it will be marked [+y] when the movement is completed. Therefore, *ziji* in this position can move without limit, since the Subjacency Condition does not apply at LF. Depending on how far X is from V in (28), the intermediate trace of *ziji*, t'_i , may not be antecedent-governed. However, *ziji* is a noun, and can potentially be assigned a theta role. So if *ziji* was generated in a theta-position, its trace would be head-governed, and would thus automatically satisfy the ECP. It follows that *ziji* may undergo long-distance movement, making LDB possible.

For *himself*, Li proposes that *self*, once adjoined to the D *him*, cannot be separated from it. The relation between D and N resembles the relation between I and V: in

both cases, a functional head selects a lexical projection, and in both cases the lexical head moves to the functional head. Since V-I clusters are not separable, Li assumes that the D-N cluster cannot be separated either. If *self* cannot be separated from D through movement, it can never go beyond DP by itself, which in turn means that LDB is impossible.

In short, in Li's analysis, the LDB possibility of the simplex reflexive *ziji* results from the fact that only the monomorphemic reflexive has the ability to change its DP structure into an NP structure, because its Spec is empty, and so D is also void of any contents. Compound reflexives such as *taziji*, in which the Spec of DP is a lexical item, do not have this ability. After the change, *taziji* and *ziji* will have the following structures:

- (29) a. Taziji:
 [_{DP} [_{Spec} ta] [_{D'} [_D e] [_{NP} [_{N'} [_N ziji]]]]]]
 b. Ziji:
 [_{NP} [_{N'} [_N ziji]]]

Li's theory has serious problems. First of all, there is no evidence to show that a DP structure can be changed back into an NP if the DP is empty, and I am not sure that it is justified to assume that the theta role of the verb is assigned to an NP but not to the DP which dominates it, and that N, but not D, is in a theta position. Secondly, Li's claim concerning locality of complex reflexives such as *himself* and *taziji* is based on his analysis of Japanese *zibun-zisin*. He argues that *zibun-zisin* cannot be long-distance bound because it is a cluster. However, to our knowledge, the Chinese counterpart *ziji-benshen* 'self-self' can, indeed, be long-distance bound under certain circumstances, exemplified in (30):

- (30) Zhangsan_i zhidao zhe dei guai ziji-benshen_i
 know this should blame self-self
 'Zhangsan knew that this should be blamed on him'

Assuming the two complex reflexives have similar structures, (30) will contradict Li's analysis. According to him, "the fact *zibun-zisin* can only be bound locally is expected because *zisin*, as head of NP, moves to D and forms a D-SELF cluster." *Ziji-benshen* should have the same result, but, on the contrary, it has to refer to the matrix subject *Zhangsan*, which is the only animate subject there. Moreover, Li's analysis will incorrectly rule out a great number of sentences in which a complex reflexive such as *taziji* may be long-distance bound.

3.4 HUANG AND TANG'S PROPOSAL (1991)

Based on Tang's (1989) paper, and adopting Battistella's idea that the locality restrictions are to be expressed by successive-cyclic movement of *ziji* at LF, Huang and Tang argue that from the point of view of S-structure, *ziji* has only a local binder in its S-structure argument position, 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. They claim that the LF movement involved is simply A'-movement, more specifically IP-adjunction, perhaps as a case of QR.

Following Higgins (1973) and Barss (1986), Huang and Tang assume that the reference of *ziji* can be determined by Binding Theory applying at LF. On the other hand, they also assume that the Binding Theory must apply at S-structure (see Chomsky 1981, Barss 1986). Take (31) as an example.

- (31) a. Zhangsan_i shuo Lisi_j chang piping taziji_{i/j}
 say often criticise himself
 'Zhangsan said that Lisi often criticised himself'
- b. Zhangsan_i shuo, taziji_i, Lisi_j chang piping
 say himself often criticise
 'Zhangsan said that himself, Lisi often criticised'

Given that *taziji* may be IP-adjoined in the syntax, as in (31b), nothing seems to prevent the same element in (31a) from being IP-adjoined at LF. The fact that (31a)

does not allow *Zhangsan* to antecede *taziji* demonstrates that LF-movement does not alter the binding possibilities of *taziji*. The index of *taziji* that is licensed (or r-marked, extending Lasnik and Saito's 1984 terminology) by Principle A at S-structure remains in LF. Therefore, not only must Binding Theory apply at S-structure, but the following must also hold:

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

This means that Binding Theory, if it applies at LF, can affect only NPs whose indices have not already been licensed at S-structure with respect to specific binding principles. However, the bare reflexive not only lacks inherent reference, as the compound reflexive does, but also lacks phi-features (Chomsky 1981) like person, number and gender, in contrast to compound reflexives and normal pronouns. We assume that, since they have both sense and reference, all NPs must have both phi-features and referential features, if not inherent then by inheritance. A compound reflexive like *himself* has inherent phi-features, but must acquire its reference by inheritance. A bare reflexive has neither inherent phi-features nor inherent reference, and must rely on an antecedent for both these features. Therefore, it needs to pick up two indices, one for its phi-features and one for its reference, from some antecedent. Furthermore, since phi-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 phi-index and an R-index must receive the phi-index first. Within Huang and Tang's system, Binding Theory applies once at S-structure and again at LF, which means that a bare reflexive like *ziji* has its phi-index licensed at S-structure, and its R-index at LF. The fact that *ziji* does not have its R-index fixed until LF is responsible for its long-distance binding possibilities. Take the following sentence:

- (33) Zhangsan shuo Lisi chang piping ziji
say often criticise self
'Zhangsan said that Lisi often criticised Lisi/Zhangsan'

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

(34) Zhangsan_{($\phi(i)$, R(3))} shuo Lisi_{($\phi(i)$, R(2))} chang piping ziji_{($\phi(i)$, R(0))}

On the other hand, *Zhangsan* and *Lisi* each have inherent ϕ - and R-indices. Since *Zhangsan* and *Lisi* have the same ϕ -features (both being third person, masculine and 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*:

(35) Zhangsan_{($\phi(i)$, R(3))} shuo Lisi_{($\phi(i)$, R(2))} chang piping ziji_{($\phi(i)$, R(0))}

At 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, (35) will be licensed only if *ziji* is assigned the R-index of *Lisi*, R(2):

(36) [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 (35) is either (37) or (38):

(37) [Zhangsan_(i, 3) shuo [_{IP} ziji_(i, 0) [_{IP} Lisi_(i, 2) chang piping t_(i, 0)]]]

(38) [_{IP} ziji_(i, 0) [_{IP} Zhangsan_(i, 3) shuo [_{IP} Lisi_(i, 2) chang piping t_(i, 0)]]]

At LF, when Binding Theory applies again, (37) can be licensed if *ziji* is assigned the R-index either of *Zhangsan* or 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 sense of Barss (1986).

Similarly, (38) 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.

On the other hand, since the compound reflexive (in both Chinese and English) has an inherent ϕ -index, only its R-index need be subject to Principle A.

Huang and Tang maintain that their proposal also resolves the potential contradiction noted above between principle (32) 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 (32). The R-index is not yet determined 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.

Within this framework, the blocking effect can be explained in this way: a first pass of Principle A of the Binding Theory at S-structure assigns the ϕ -index of the local ϕ -binder to the reflexive *ziji*, preventing it from being R-bound by a higher NP that has a different ϕ -index, as in example (39), where the ϕ -index (j) of *ni* ‘you’ or *wo* ‘I’ is assigned at first pass to the reflexive *ziji*. After movement at LF, *ziji* may pick up the R-index of either *Zhangsan* or *ni/wo*, 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 (39) can only be indexed as (j, 4), directly bound or ‘chain bound’ by *ni/wo* at LF:

- (39) [Zhangsan_(j,3) shuo [ni/wo_(j,4) chang piping ziji_(j,0)]]
say you/I often criticise self
‘Zhangsan said that you/I often criticised yourself/myself’

The blocking effect leads Huang and Tang to assume that adjunction of *ziji* in LF must go successive-cyclically, and at each landing site, the ϕ -index of *ziji* must be directly bound by an NP in its governing category, under stipulation (40):

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

They argue that (40) essentially expresses the generalisation that while *taziji* exhibits 'reconstruction effects', the bare *ziji* does not. The reason they give is that the compound reflexive is not a true operator, and thus does not undergo reconstruction in LF, whereas (long-distance) *ziji* is a true operator, and must remain in operator position.

Then, on the assumption of (40), they explain the blocking effect as follows. 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, *ziji* cannot have a long-distance antecedent.

Huang and Tang claim that their theory predicts that, although long-distance *ziji* exhibits successive-cyclicity, it does not exhibit subjacency, CED or ECP effects.

To sum up, Huang and Tang suggest that both types of reflexives, *ziji* and *taziji*, undergo LF movement through IP-adjunction. They try to account for the long-distance binding and blocking effect of *ziji* by reference to two types of indices: a phi-index (ϕ -index) and a referential index (R-index). *Ziji* needs both indices, but *taziji* only needs the R-index. Binding Theory applies at both S-structure and LF; only indices determined at LF can be undone LF movement must be successive cyclic; at each landing site the ϕ -index of *ziji* must be directly bound by an NP in its governing category; and an anaphoric ϕ -index received by inheritance under binding can be retained only if it is directly bound. This analysis can handle the sub-commanding cases better than the previous analyses. It also allows for the possibility of long-distance binding of *taziji* when the local subject is an inanimate NP, and gives a much more reasonable account of the Blocking Effect.

However, Huang and Tang's analysis is not without its problems. Consider the sentences below:

- (41) a. Zhangsan_i baoyuan ni_j de erzi_k diaonan ziji_{i/*j/*k}
 complain your son make-difficult self
 'Zhangsan complained that your son made things difficult for him'
- b. Zhangsan_i yijing yishe dao ni_j zai genzong ziji_{i/*j}
 already realise you ASP follow self
 'Zhangsan has already realised that you are following him'

Following Huang and Tang's line, the ϕ -index for *Zhangsan* in (41a) is $\phi(i)$, and for *erzi* is $\phi(k)$, while in (41b), the ϕ -index for *Zhangsan* is $\phi(i)$ and for *ni*, $\phi(j)$. According to Huang and Tang, 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, therefore *ziji* in (41a) is expected to be bound to *erzi* 'son', and *ziji* in (41b) should go to *ni* 'you'. However, it is impossible for *ziji* to refer to *erzi* in (41a), or to have the same ϕ -index as *ni* in (41b). Otherwise, the sentences will be ruled out on semantic grounds.

Secondly, consider Huang and Tang's contention that the compound reflexive (in both Chinese and English) has an inherent phi-index, only its R-index needing to be subject to Principle A. When Binding Theory applies at S-structure, the R-index must be licensed, and remains fixed in LF. No long-distance binding is made possible by movement in LF. Now, consider these sentences:

- (42) Zhangsan_i zhidao youren_j zai gen taziji_i zuodui
 know somebody ASP with himself against
 'Zhangsan knew that somebody opposed him'
- (43) Zhangsan_i zhidao tahuo_j de maotou zhendui taziji_i
 know everybody 's spearhead direct himself
 'Zhangsan knew that everybody was attacking him'

In (42), *taziji* has inherent phi-index (i) (the same as the matrix subject *Zhangsan* and the embedded subject *youren* - third person and singular), and only the R-index need be licensed when Binding Theory applies at S-structure. Therefore, it is predicted that *taziji* should be bound to the local subject *youren* ‘somebody’ in (42) and to *tahuo* ‘everybody’, contained in the subject NP in (43), and should not be long-distance bound to the matrix subject *Zhangsan*. Thus, (42) and (43) are ruled out by Huang and Tang’s theory. However, they are, in fact, perfectly grammatical.

Furthermore, according to Huang and Tang, *ziji* can be long-distance bound because it has no phi-features. Therefore, their theory will predict that *ziji-benshen* can behave in the same way as *ziji* does, since *ziji-benshen* also has no phi-features, as illustrated below:

- (44) *Zhangsan*_i *shuo* *Lisi*_j *zhi* *guanxin* *ziji-benshen*_{+ij}
 say only care self-self
 ‘Zhangsan said that Lisi only cared about himself’

Huang and Tang may need to give some explanation for this.

3.6 SUMMARY

In the linguistics literature, there is a great number of proposals on Chinese reflexivisation within the Principles and Parameters framework, as well as outside it. For instance, Yan Huang (1991) gives a nice approach with a neo-Gricean pragmatics theory of the anaphora framework; recently, following the spirit of Baker (1995), which “makes a fundamental distinction between syntactic binding and discourse prominence”, Pan (1995) proposes to distinguish two different uses of non-contrastive *ziji*: one constrained by locality and compatibility conditions, while the other is a *dse* anaphor, regulated by self-ascription, which must be bound to the most prominent self-ascriber. However, in this chapter, in order to explore further GB tools with which to analyse Chinese reflexivisation, we have restricted the overview to several different

approaches within the Principles and Parameters framework: those of Tang (1989), Battistella (1989), Cole, Hermon and Sung (1990), Li (1993) and Huang and Tang (1991). As we have seen, Battistella proposes an INFL-to-INFL movement hypothesis, while Cole et al argue for a head movement hypothesis, which Li also follows; Tang and Huang and Tang propose the Reindexing Rule and the Feature-copying Rule. Although all these analyses account for a number of aspects of Chinese reflexivisation phenomena, they are limited to the data attested by Tang. There still remain a number of constructions containing reflexive *taziji* and *ziji* left unexamined. In the next chapter, we will look at some of these cases, taken from narrative prose or everyday Chinese, and present attempted treatments for them from a different perspective - the logophoric approach.

FOOTNOTES

⁽¹⁾ Following Huang (1982) and Mohanan (1982), Tang argues that an antecedent of anaphoric *ziji* must follow the principle below:

- (1) Subject orientation
The antecedent of a reflexive must be a subject.
- (2) Zhangsan_i gaosu Lisi_j ziji_{i/rj} de fenshu
tell self DE grade
'Zhangsan_i told Lisi_j his own_{i/rj} grade' (Tang)

(2) above is an examples for (1). In (2), *Zhangsan* is a subject, and *Lisi* is an object. *Ziji* can refer to the subject *Zhangsan*, but not to the object *Lisi*. Moreover, Tang argues that the antecedent of a reflexive must be animate.

- (3) [[Ta_i da le ni_j de] zhengju]_k bei ziji_{i/rj/rk} de baba faxian le
he beat ASP you DE evidence by self DE father find ASP
'The evidence that he beat you was discovered by his father'

In example (3), there are three NPs: *ta*, *ni* and *zhengju*. *Ziji*, however, can only refer to *ta*, not to the immediate NP *zhengju*, which is an inanimate NP.

⁽²⁾ The Maximality Effect means that only the matrix subject and the local subject, but not any intermediate subjects, can be antecedents, if all the intervening NPs agree in person features. However, as Xu (1993) points out, there is no reason why *ziji* should not be coindexed with the intermediate subject *Laonainai* in examples like (4):

- (4) Wo zhidao Laonainai hai mei mingbai maiyu de pian le ziji
I know granny still not realise fishmonger cheat ASP self
'I know that the old woman still has not realised that the fishmonger has cheated her'

⁽³⁾ The idea is that there is agreement in INFL. If a reflexive moves into INFL at LF, it will be bound by only the subject. See Pica (1987), Battistella (1987).

CHAPTER FOUR

LOGOPHORIC APPROACHES TO REFLEXIVISATION: AN OVERVIEW

4.0 INTRODUCTION

In the previous chapters, we discussed a number of proposals concerning long-distance binding of reflexives within the **Principles and Parameters** framework. The prominent properties of long-distance anaphora which have been discussed are **Subject-orientation**, the **Blocking Effect** and the **Maximality Effect**. The proposals presented in the previous chapters have been formulated to account for these facts, but in and of themselves, they shed no light on why these effects seem to hold in the first place.

This chapter introduces a different approach for the phenomenon of long-distance binding of reflexives, namely one based on the notion of logophoricity, which looks at the problem from a different perspective. According to this approach, reflexives are either bound in a local clause in a way that is structurally defined, or else they are long-distance bound. When a reflexive is long-distance bound, the clause which includes it must have a logophoric interpretation, ie it must be interpreted as representing either the thoughts or feelings of the entity standing as the antecedent of the reflexive, or as representing an utterance by or to that entity.

The term 'logophoricity' was introduced by Hagège (1974) in his 'Les pronoms logophoriques', and developed by Clements (1975). Hagège proposed that "pronouns which are always coreferential with the real or imagined author of a secondary discourse" are logophoric pronouns; in Clements' (1975) words, the antecedent of the logophoric pronoun must be the one "whose speech, thoughts, feelings or general state of consciousness are reported". Clements argues that in reporting "any real-world situation", there are, in general, two approaches that a speaker may take. On the one hand, he may choose to report the events under discussion subjectively, according to his own perception of them; in such a case, he himself assumes responsibility for the linguistic characterisation. On the other hand, he may choose to keep his distance from the events he is reporting, depicting them, as it were through the eyes of another person. In this case, he will cast his description of the events in terms which he assumes reflect the other person's perception of them, and select the linguistic forms appropriate for this purpose.

Cantrall (1969, 1974) was the first linguist to propose that wherever English anaphoric pronouns and pronominal pronouns alternate in the same structural context, the use of one type versus the other reflects a difference in narrative point of view. A good example of the kind of evidence he discussed is as follows:

- (1) a. The women were standing in the background, with the children behind them
- b. The women were standing in the background, with the children behind themselves

Cantrall argues that the sentences (1a) and (1b) do not have the same meaning: *the children* of (1b) are located *behind* the women **from the viewpoint of the women** - that is, behind the women's backs, and consequently in the foreground of the picture; by contrast, *the children* of (1a) may be located *behind* the women **from the viewpoint of the speaker**, therefore in the background of the picture and actually in front of the women. On the basis of evidence of this sort, Cantrall argues that whenever the choice of a third person anaphor or pronoun is not structurally conditioned, the anaphor option is always correlated with an internal point of view - that of a discourse protagonist, as opposed to the speaker.

A similar hypothesis is developed in Kuroda (1973) for the Japanese reflexive pronoun *zibun*, when it is bound outside its clause. Kuroda suggests that the reflexive option in such contexts is always correlated with the non-reportive narrative style, through which the author relates events 'from the inside', that is, on behalf of or from the point of view of some character, as opposed to the author's own point of view.

'Point of view' is also a central concept in Kuno's (1972, 1983, 1987) and Sells' (1987) analyses. In his (1983, 1987) paper, Kuno develops this theory and proposes a semantic constraint: whenever a reflexive pronoun is long-distance bound, the clause which includes it must be read as **logophoric**, ie representing either the thoughts or feelings of the entity standing as its antecedent, or an utterance transmitted by or to that entity. In other words, the antecedent of a LDB reflexive pronoun must be interpreted in discourse as a **subject of consciousness**. Recently, Zribi-Hertz (1989) has argued that locally bound reflexives and long-distance reflexives belong to different grammars: the former to 'sentence grammar' (a clause-bound reflexive is bound by a c-commanding phrase within its minimal clausal category), and the latter to 'discourse grammar' (a LDB reflexive is bound to the minimal subject of consciousness) (see Zribi-Hertz 1989 for details).

In this chapter, I have chosen three important representative works from the literature of the logophoric approach: analyses by Kuno (1972), Zribi-Hertz (1989) and Sells (1987), which may give some insight into the Chinese data. I will introduce Kuno's proposal in Section 4.1; Zribi-Hertz's analysis will be introduced in Section 4.2, and that of Sells in Section 4.3. Section 4.4 is a summary.

4.1 KUNO'S PROPOSAL (1972)

4.1.1 Direct discourse analysis

In 'Pronominalisation, reflexivisation and direct discourse', Kuno (1972) investigates some cases which violate the generalisation on the coreferentiality of pronouns, and proposes a Direct Discourse analysis.

Compare sentence (2c) with (3c) below:

- (2) a. John_i expects that he_i will be elected
- b. That he_i will be elected is expected by John_i
- c. * That John_i will be elected is expected by him_i
- (3) a. John_i denied that he_i was sick
- b. That he_i was sick was denied by John_i
- c. ? That John_i was sick was denied by him_i

Kuno argues that although (3c) is awkward, it is not ungrammatical, and it is much better than (2c), even though the two sentence patterns are the same.

He proposes that there is a difference between verbs such as *expect*, *claim*, *know*, *think*, *request* on the one hand and verbs such as *deny*, *forget*, *be unaware (of)* on the other, such that the content of the complement clause of the former type, but not of the latter, represents 'more or less' the direct discourse of the matrix subject. He argues that the content of John's claim in (2) is 'I will be elected'. (2a) can be thought of as synonymous with (4), although the latter, as it is, does not constitute a grammatical sentence:

- (4) John expects, 'I will be elected'

On the other hand, such a representation is not adequate for (3):

(5) * John denied, 'I am sick'

What John *denied* or *forgot* is not John's own direct discourse or feeling, but somebody else's direct discourse, saying or rumour, or some abstract fact. The content of (3a) is more adequately represented as (6):

(6) John denied (the rumour/saying) that John was sick

Under the analysis of pronominalisation current at that time, Kuno hypothesised that the difference between the deep structure of the sentences in (2) and (3) is the same as the differences between (5) and (6). He assumes that the first person pronoun *I*, the subject of the complement sentences in (2a) and (2b), becomes *he* by a transformation which he calls Indirect Discourse Formation. Since the subject of the complement clauses in these sentences is a pronoun from the beginning, it can never be realised as *John* in (2c).

He hypothesises that all verbs which can take a sentential complement will be marked in the lexicon with respect to whether the complement represents a direct discourse (or feeling) of the matrix subject or of someone else. The personal pronoun *I*, which is coreferential with the matrix subject, will be acceptable only for the former type.

4.1.2 Direct discourse and reflexivisation

Kuno extends this analysis to the process of reflexivisation. He gives two sets of sentences:

- (7) a. As for myself, I won't be invited
b. ? As for yourself, you won't be invited
c. * As for herself, she won't be invited

- (8) a. John told Mary that as for himself, he wouldn't be invited
b. ? John told Mary that as for herself, she wouldn't be invited
c. * John told me that as for herself, she wouldn't be invited

According to his Direct Discourse (direct feeling) analysis, (8a), (8b) and (8c) contain in their deep structures (7a), (7b) and (7c) respectively. This accounts for the

decreasing degree of acceptability of the three sentences in (8). (8b) is not as good as (8a), but not as unacceptable as (8c) either.

Compare the sentences in (8) with those in (9):

- (9) a. ? John heard from Mary that as for himself, he wouldn't be invited
 b. John heard from Mary that as for herself, she wouldn't be invited

Why is (9a) marginal, while (8a) is perfectly grammatical, in spite of the fact that both have the emphatic reflexive *himself* coreferential with the matrix sentence subject *John*? Why is (9b) grammatical, although slightly awkward (at least better than (9a)), while (8b) is marginal, despite the fact that in both sentences, *herself* is coreferential with the matrix indirect object *Mary*? Kuno's answer is that (9a) and (9b) are derived from (10a) and (10b) respectively:

- (10) a. John heard from Mary, '?As for yourself, you won't be invited'
 b. John heard from Mary, 'As for myself, I won't be invited'

Kuno also gives an account for the discourse fragment in (11), cited by Fraser (1970):

- (11) John was worried about what Sheila should do. As for himself, he knew the best plan of attack

He assumes that it is not the case here that the narrator is reporting on what John knew. Rather, (11) is the direct representation of John's own point of view, as if he were the narrator himself, without the narrator's mediating interpretation.

4.1.3 Direct discourse and *zibun*

Kuno also applies his theory to Japanese reflexive *zibun*. *Zibun*, however, has no phi-features, just like Chinese *ziji*. (12a)-(12d) illustrate that *zibun* can refer to first or third person, singular or plural, male or female antecedents.

- (12) a. Boku 'I' }
 b. John } wa zibun o keibetusite-iru
 c. Mary } NM self NM despising-is
 d. John to Mary (J and M) }

Zibun may be either locally or long-distance bound. Some typical examples of LD binding are given in (13):

- (13) a. John_i wa [zibun_i ga kaita] tegami o yaburi suteta
 NM self NM wrote letter tearing-threw
 'John tore to pieces and threw away the letter that he had written'
- b. John_i wa [Mary ga zibun_i o damasita] koto o urandeiru
 NM NM self deceived that vengeful
 'John is vengeful of the fact that Mary deceived him'

It is not the case, however, that *zibun* can be used without any restriction in subordinate clauses. The following sentences are ungrammatical, on the intended interpretation.

- (14) a. * John wa, [Mary ga zibun omiwa toki ni wa] byooki desita
 NM NM self saw time at NM sick was
 yo
 I-am-telling-you
 (Lit) 'I am telling you that John was sick at the time when Mary saw himself'
- b. * John wa, [Mary ga zibun ni ai ni kita toki] moosinde-imasita
 NM NM self with meet to came when dead-was
 (Lit) 'John, when Mary came to see himself, was already dead'

Comparing (13) and (14), Kuno proposes that the ungrammaticality of (14) is due to the style of address: **reportive vs non-reportive**.

Reportive and non-reportive styles were first described in Kuroda (1973). Reportive style narratives are those in which a single narrator presents his point of view. For example, (15), as part of a reportive style narrative, represents the narrator's judgement of the situation, conveying the meanings in (16):

(15) John was hungry. Mary was hungry.

(16) I tell you that John was hungry. I tell you that Mary was hungry.

(15) as part of a non-reportive style narrative represents not the narrator's point of view, but *John* and *Mary*'s. There is no narrator present as an interpreter of the situation. (17) directly represents *John*'s and *Mary*'s internal feeling:

feeling, as if preceded by an understood 'he is/was aware of', 'he feels/felt', where *he* refers to the matrix subject.

- (21) a. John_i wa zibun_i ga komatta toki dake, boku ni denwa o
 self troubled-is when only I to call
 kakete-kuru
 make
 'John calls me up only when he is in trouble'
- b. * John_i wa, zibun_i ga sinda toki, issen mo motte-imasen
 self died when a penny have-not
 'John_i didn't have a penny when he_i died'

Kuno argues that (21a) is grammatical because it makes sense to say, 'John calls me up only when *he is aware that* he is in trouble', while (21b) is ungrammatical because it does not make sense to say, 'John did not have a penny when *he was aware that* he died'. He assumes that a sentence containing *zibun* in constituent sentences will be grammatical if the referent of the matrix sentence can *be aware of* the actions or state represented by the constituent sentences.

In the non-reportive style, Kuno proposes that there are two types of past tense sentences. The first type is for describing the ordinary sequence of events. The second type is for someone recalling what happened in the past. For example, (22) is ambiguous, having the two readings shown in (23):

- (22) John_i wa, Mary ga zibun_i ni ai-tai toki ni wa itumo atte-yatta
 self to meet-want then always saw her
 'John saw Mary whenever she wanted to see him'
- (23) a. John: "Boku wa Mary ga boku ni ai-tai toki ni wa itumo
 I I to meet-want then always
 atte-yaru"
 see her
 'I see Mary whenever she wants to see me'
- b. John: "Boku wa Mary ga ni ai-tai toki ni wa itumo atte-yatta"
 I to see-want when always saw her
 'I saw Mary (as I recall) whenever she wanted to see me'

In (23a) the main verb is in the present tense. It is changed to the past tense, as in (22), when (23a) undergoes narrativisation. On the other hand, the main verb in (23b) is in the past tense. This sentence represents *John's* internal feeling about a state in the past, representing *John's* recollection of what he used to do. Kuno names (24) in the latter interpretation of (22) recollective, and the former interpretation non-recollective.

Kuno argues that reflexivisation works in more or less the same way in reportive and non-reportive styles. *Zibun* in a constituent clause can be coreferential with the matrix sentence subject only when the referent of *zibun* either is aware of the action or state represented by the constituent clause at the time it took place (in the non-recollective type) or has come to be aware of it later (in the recollective type).

- (24) a. * John_i wa Mary ga zibun_i ni ai-tai toki ni wa, itumo ryokoo-tyuu
 self to meet-want when always out-of-town
 datta
 was
 'John was always out of town when Mary wanted to see him'
- b. Boku wa Mary ga boku ni ai-tai toki wa, itumo ryokoo-tyuu
 I I to meet-want when always out-of-town
 datta
 was
 'I (now I regret) was always out of town when Mary wanted to see me'

(24a) is ungrammatical as a non-recollective non-reportive sentence, because *John*, being out of town, is not supposed to *be aware of* the fact that Mary wants to see him. On the other hand, the same sentence is grammatical as a recollective non-reportive sentence if John has found out about this situation later, and speaks (or feels) as in (24b).

Kuno gives the following rules for *zibun* in Japanese:

(25) Generalisations

- i. *Zibun* in a simple sentence must be coreferential with the subject of the sentence;
- ii. *Zibun* in a constituent clause (A) is coreferential with a noun phrase (B) of the matrix sentence:

- a. If A represents an action or state that the referent of B is aware of at the time it takes place (in the reportive style and the non-recollective non-reportive style); or
- b. If A represents an action or state that the referent of B has later come to be aware of, and is now reflecting upon (in the recollective non-reportive style).

In short, Kuno shows that two apparently unrelated phenomena - a subset of pronominalisation in English and a subset of reflexivisation in Japanese - can, in fact, be accounted for by his theory, namely "by marking, in some fashion or other, who did, or did not, feel directly (or who was not aware of) what is represented by the constituent sentence." In other words, point of view is essential, and whether a sentence can contain a pronoun or a reflexive depends on whose point of view has been chosen.

4.2 ZRIBI-HERTZ'S PROPOSAL (1989)

Kuno's hypothesis, however, has not been readily integrated into the generative literature dealing with anaphora, since it is a semantic approach. In 'Anaphor binding and narrative point of view: English reflexive pronouns in sentence and discourse', Zribi-Hertz (1989) tries to argue that logophoric notions are important and should coexist with structural accounts of anaphoric interpretation. She offers a detailed survey of occurrences of English reflexive pronouns which are marked with respect to the Binding Theory of generative grammar. She argues that "through a large corpus of attested examples found in contemporary non-linguistic prose, English reflexive pronouns violate Principle A of the Binding Theory in a productive way." She proposes a grammar for these violations, in which she claims to draw a clear-cut line between syntax and discourse, showing Principle A to be (a) essentially correct for English, if it is clearly defined as a theory of sentence-internal, discourse-independent anaphora, but also (b) crucially incomplete, since it ignores a whole component of the grammar of reflexives, thus failing to account for an open set of data.

4.2.1 Sentence grammar

Firstly, following the Binding Theory, Zribi-Hertz decomposes Principles A and B into five distributional tests in (26i-v), and adds (26vi), which seems to be commonly regarded as relevant, although it is not subsumed by Principles A and B. The

structural constraints for anaphoric reflexives (in her terms, A-pronouns) and pronominals (in her terms, P-pronouns) given by her is shown below:

(26) Structural constraints:

- i. DEIXIS: A pronominal pronoun (hereafter P-pronoun), as opposed to an anaphoric pronoun (hereafter A-pronoun), need not have any antecedent in either sentence or discourse; specially, a pronominal may be used deictically:
 - a. Wash him!
 - b. * Wash himself!
- ii. SENTENCE GRAMMAR: An A-pronoun always has an antecedent within its sentence; a P-pronoun may have an antecedent in a separate sentence.
 - a. John_i arrived yesterday. Everybody came to meet him.
 - b. * John_i arrived yesterday. Everybody came to meet himself.
- iii. C-COMMAND: An A-pronoun, as opposed to a P-pronoun, is always c-commanded by its antecedent:
 - a. John_i's brother hates him_i
 - b. * John_i's brother hates himself_i
 - c. John's brother_i hates himself_i
- iv. CLAUSE-BOUNDNESS (1): Only an A-pronoun, as opposed to a P-pronoun, may occur within the same minimal governing category as its antecedent.
 - a. John_i hates himself_i
 - b. * John_i hates him_i
- v. CLAUSE-BOUNDNESS (2): An A-pronoun may only occur within the same minimal governing category as its antecedent.
 - a. John_i thinks that Paul hates him_i
 - b. * John_i thinks that Paul hates himself_i
 - c. John thinks that Paul_i hates himself_i
- vi. SPLIT ANTECEDENT: A P-pronoun, as opposed to an A-pronoun, may have a split antecedent whose two components bear two distinct theta-roles:
 - a. John_i spoke to Mary_j about them_{i+j}
 - b. ?* John_i spoke to Mary_j about themselves_{i+j}

Zribi-Hertz points out that "in general, these tests reveal the occurrence of A-pronouns to be syntactically more restricted than that of P-pronouns."

4.2.2 The grammar of English long-distance bound reflexives

Zribi-Hertz surveys the well-known problematic sentences within which anaphoric and pronominal pronouns alternate in picture NPs, genitive positions, some PPs and emphatic contexts (which were mentioned in Chapter 2), plus a number of other sentences which seem to be beyond structural constraints. She proposes to portray discourse grammar as a part of linguistic theory which deals with grammatical constraints bearing on the combination of sentences within a coherent paragraph. Assuming 'discourse grammar' to be the linguistic component of what is commonly known as 'pragmatics', categories relevant to discourse grammar may include such concepts as topichood, dominance, restrictiveness and empathy, or point of view, all of which bear on the actual well-formedness of discourse and have some connection with sentence grammar.

4.2.2.1 LDB reflexives and the subject of consciousness

Zribi-Hertz gives the following discourse principle for English:

- (27) In English, a reflexive pronoun may occur in violation of the structural constraints iff it refers back to the minimal subject of consciousness.

The concept 'subject of consciousness' (hereafter SC) is essentially similar to Kuno's 'logophoricity': SC is a category of discourse grammar. It is a semantic property assigned to a referent whose thoughts or feelings, optionally expressed in speech, are conveyed by a portion of the discourse. SC is thus generally understood as [+ human]. Zribi-Hertz also gives a definition of the minimal SC:

- (28) Minimal SC = either (a) or (b):
- a. The nearest available NP or combination of NPs (split antecedent) which occurs in discourse to the left of the pronoun, and is read as logophoric;
 - b. The speaker or the addressee, or a group including either one or both (cf plural pronouns), whether or not explicitly mentioned in discourse.

She argues that the definition in (28) predicts that the occurrence of third-person LDB reflexives is more restricted than that of first- and second-person ones, for two reasons: first, the antecedent of a third-person LDB reflexive must actually occur in discourse,

while that of a first- or second-person LDB reflexive may remain implicit; and second, only certain third-person NPs are interpreted as logophoric and are thus possible antecedents for third-person LDB reflexives. The speaker and addressee of a discourse, by contrast, are a priori read as logophoric, and they are, therefore, always possible antecedents for first- or second-person LDB reflexives.

4.2.2.2 LDB reflexives and opacity

Zribi-Hertz proposes a domain of point of view (hereafter DPV) to explain why tense and/or subject are opaque for anaphoric type pronouns in some sentences, but transparent in others. DPV is defined as a portion of discourse which involves one and only one narrative point of view.

- (29) In English, a reflexive pronoun may occur in violation of the constraints iff it is not separated from its antecedent by a domain-of-point-of-view boundary.

She divides the narrative point of view into two types: the objective and the subjective point of view. In the objective point of view, the author or speaker intends or pretends to state facts 'objectively', to describe things as they are in 'reality', that is, prior to all human gazes and consciousness. Samples of the objective point of view may be found typically in legal documents, scientific descriptions, and certain types of philosophical or journalistic essays. A subjective point of view, by contrast, typically involves a subject of consciousness that serves as a filter for the presentation of the facts. A subjective account explicitly develops a partial, personal and thus subjective view of things. The author of a subjective discourse may give his/her own picture of events or that of some other person who is chosen as SC. While the objective point of view is unique in any discourse, a single discourse may distinguish as many subjective points of view as it involves subjects of consciousness. The difference between subjective discourse and the objective point of view is that the former includes an SC, while the latter does not. Zribi-Hertz's subjective discourse and objective point of view correspond to Kuno's (1972) reportive and non-reportive styles.

Zribi-Hertz proposes the generalisation in (30) and uses it as the basis for Principle (31):

- (30) a. In English a DPV minimally coincides with a clausal category.
b. A clausal category (hereafter, CC) is any phrase of the form Subject-Predicate, where a subject is understood to be either lexical or null.

(31) A CC stands as an opaque domain for A-type anaphora iff it embodies in discourse an independent DPV; otherwise, it is transparent for A-type anaphora.

Principle (31) must be completed by the definitions in (32) and (33):

(32) A DPV is

- a. Objective, if it describes facts as if they are part of objective reality, and
- b. Subjective, if it describes facts as filtered by a subjective consciousness.

- (33) a. An objective DPV formally corresponds to a CC which does not include an SC and does not fall under the scope of an exterior SC within the discourse.
- b. A subjective DPV formally corresponds to a CC or sequence of CCs that include(s) one and only one SC.

Zribi-Hertz assumes that hypotheses (30)-(33) implicitly contain yet another generalisation, expressed in (34):

(34) A CC becomes transparent for A-type anaphora iff it falls under the semantic scope of an SC within the same discourse.

4.3 Sentence-grammar vs Discourse-grammar

Zribi-Hertz argues that, while Principle (29) applies only to LDB reflexives, Principle (33) actually applies to all occurrences of reflexive pronouns, whether CB (clause bound) or LDB (long-distance bound), and may, for that reason, be regarded as the defining property of reflexive A-pronouns.

She also argues that an LDB reflexive is always bound by an SC, but that this constraint does not extend to CB reflexives.

She then proposes that a [+ human] reflexive pronoun may (in English) be bound within an objective DPV iff it is clause-bound - namely, if it abides by the structural constraints. Whenever the binding of a reflexive pronoun violates any of these structural constraints, that reflexive is LDB, and it therefore follows the discourse

principles (29) and (33), which require that the minimal DPV of the pronoun be a subjective one.

In this analysis, the structural constraints are valid within the sphere of sentence grammar. In other words, these constraints set the binding conditions for English reflexives within a simplex sentence structure in the absence of any further discourse environment. The general properties of English reflexive pronouns (both CB and LDB) may thus be expressed as in (35):

(35) Table

Reflexive: a reflexive is bound within its minimal DPV	Discourse: An LDB reflexive is bound by the minimal SC
	Sentence: A CB reflexive is bound by a c-commanding phrase within its minimal CC

Table (35) indicates that the defining property of reflexives pertains to discourse grammar, of which sentence grammar is a specific subdomain. The binding conditions might actually draw their motivation from discourse. Discourse and sentence constraints appear in table (35) as two complementary orders of principles: the discourse principle comes into play when the structural constraints cease to be relevant; and the sphere of action of sentence grammar appears to be delimited not so much by linear sentence boundaries as by the c-command relation. Thus, the anaphoric relation turns out to pertain to discourse grammar, although it takes place between two sentence boundaries.

Zribi-Hertz's descriptive hypothesis suggests that structural constraints such as the binding conditions might actually draw their motivation from discourse. Reflexive pronouns serve the INTERNAL narrative point of view, and they are bound within some structural domain. Therefore, any structural theory of anaphora must be completed by discourse principles.

4.3 SELLS (1987)

Unlike Zribi-Hertz, in his 'Aspects of Logophoricity', Sells (1987) assumes that the distribution of clause-bound reflexives is basically governed by syntactic properties, and that long-distance reflexives are sensitive to logophoric factors. He presents a formal reconstruction of the fundamental aspects of logophoricity within the Discourse

Representation Structures framework developed by Hans Kamp (1981). His account extends Kamp's analysis of verbs of propositional attitude, in that it augments the representation by introducing the notions of 'source', 'self' and 'point of view' (or PIVOT, in his terms) and relates them to certain other entities in the discourse.

4.3.1 Three primitive 'roles' in discourse

Sells argues that no unified notion of logophoricity exists, and that instead there are three more primitive 'roles' in discourse, the 'source', the 'self' and the 'pivot'.

(36) Three primitive roles:

SOURCE: one who is the intentional agent of the communication.

SELF: one whose mental state or attitude the content of the proposition describes.

PIVOT: one with respect to whose (space-time) location the content of the proposition is evaluated.

In simple terms, the source is the one who makes the report (for example, the speaker). The self represents the one whose 'mind' is being reported; and the pivot represents the one from whose point of view the report is made.

These roles define different discourse environments, depending on the specification of each - namely, whether each role is predicated of a sentence-internal reference or of the external speaker. The basic idea of the analysis is that "logophoric pronouns will link to some NP in virtue of the fact that it is associated with a particular role; such information about roles will be represented in the discourse structure". The combinations of the possibilities of role specifications given by Sells are shown in table (37):

(37) Discourse environments

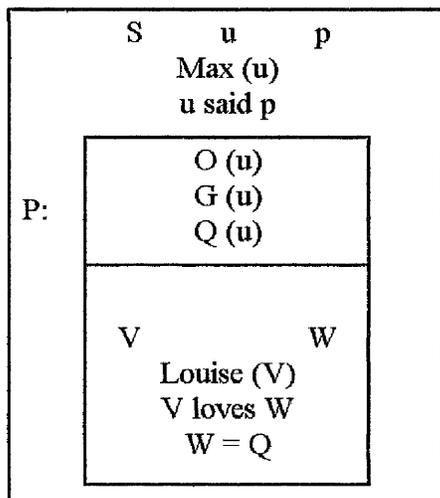
	Direct speech	3POV	Psych-verb	Logophoric verb
Source	external	external	external	internal
Self	external	external	internal	internal
Pivot	external	internal	internal	internal

Here, 3POV means third person point-of-view.

These roles define different discourse environments, depending on the specification of each - namely, whether each role is predicated of a sentence-internal referent or of the external speaker. The basic idea of the analysis is that 'logophoric' pronouns will link to some NP by virtue of the fact that it is associated with a particular role.

Moving on to the representation of anaphora, pronouns introduce markers that are set equal to other markers already in the discourse structure. Sells gives an example of role-oriented anaphora and demonstrates how his theory works. In (38), since *Max* is interpreted as realising all three role-predicates in the embedded clause, it is impossible to tell which one the pronoun is taking as its antecedent. He represented the anaphora as **Pivot** in each case for uniformity in these particular examples.

(38) Max_i said that Louise loved him_i



Here, S represents the 'external speaker'; O represents **SOURCE**; G represents **SELF**; Q represents **PIVOT**. The set of markers (u, v,) represent individuals, while the set of markers (p, q,) represent propositions.

The interpretation of the anaphoric link in (38) is that w (the pronoun) takes as its antecedent whichever marker **PIVOT** is the predicate of (that is, individual u); w links to u by virtue of u's having the property of being a **PIVOT** with respect to the embedded clause. Now, in English, pronouns and reflexive pronouns may (but need not) link to role-predicates; hence, the anaphoric link w = u would also be possible for this example. Intuitively, the first case represents the situation where the speaker

reports what Max actually said (“*Louise loves me*”), whereas in the second case the speaker is reporting the simple fact of the matter (“*Louise loves Max*”).

4.3.2 Logophoric Binding

Sells discusses certain semantic aspects of role-oriented anaphora. He proposes that whenever a role-predicate is involved in anaphora, the interpretation of that anaphora is always variable-binding. He claims that in Japanese, non-clause-bounded *zibun* can in some cases apparently be ambiguous. He illustrates this as follows:

- (39) a. Taroo_i dake ga [Yosiko ga zibun_{ij} ni toohyoosita node]
 only SUBJ SUBJ self OBJ vote because
 kanasigatta
 sad (verb)
 ‘Only Taroo was sad because Yosiko voted for him’
- b. Taroo_i dake ga [Yosiko ga zibun_i ni toohyoosita node]
 only SUBJ SUBJ self OBJ vote because
 kanasikatta
 sad (adj)
 ‘Only Taroo was sad because Yosiko voted for him’

According to Sells, (39a) is ambiguous, but (39b) is not. The reason is that the verb form *kanasigatta* in (39a) indicates an internal ‘PIVOT’, whereas the adjective *kanasikatta* in (39b) specifies an internal ‘SELF’. He argues that the binding of the ‘SOURCE’ or ‘SELF’ is a case of variable binding, and is therefore ‘pivot-oriented binding’. The key fact of (39a), he assumes, is the ambiguity as to what is the ‘PIVOT’: either *taroo* is the antecedent by virtue of being a ‘PIVOT’ in the superordinate clause, or it is the antecedent by virtue of having been identified as ‘PIVOT’ within the adverbial clause. In contrast, in (39b) the predicate lexically specifies the orientation of its *self*-role in the adverbial clause, and so the binding must be mediated through that role-predicate. Therefore, the essence of the semantic ambiguity in (39a) is the ‘scope’ of the ‘PIVOT’ - in (39a) it is the embedded clause, while in (39b) it is the matrix clause.

In short, Sells proposes discourse structures with three primitive roles in discourse. He also argues that it is in general a lexical property of matrix verbs that they orient the role-predicate in the way in which he suggested, independently of questions of usage of such verbs in particular contexts.

4.4 SUMMARY

Kuno (1972), Zribi-Hertz (1989) and Sells (1987) have several aspects in common: all of them assume that (a) a reflexive in English is, in general, structurally clause-bound; when it is long-distance bound to its antecedent, it must be logophoric; (b) point of view is the key for long-distance anaphoric binding; (c) the lexical specification of matrix verbs plays an important role in long-distance binding.

As pointed out by Wayne Harbert (1995), the study of the behaviour of logophorics is in its early stages. There are still a number of outstanding problems in their analysis. In particular, if the conditions imposed on their antecedents are a part not of the theory of syntax but of the theory of discourse, then we would expect them to be expressed exclusively in terms of the notions appropriate to that theory, not in terms of syntactic notions. It is not clear that this is true in all cases. In some of the languages studied, there are facts which suggest that the relation between logophoric pronouns and their antecedents must satisfy certain logophoric structural conditions when the latter do occur in the same sentence. Therefore, it is not clear at this point that the antecedent requirements of these forms can be claimed to fall wholly outside of the syntactic theory of binding.

In later chapters, we will look at another aspect determining possible anaphoric binding patterns - the nature of the verb in the anaphor's local clause - and then we shall try to find an explanation connecting the logophoric phenomena to the syntactic theory.

CHAPTER FIVE

VERBAL SELECTION, POINT OF VIEW AND REFLEXIVE BINDING

5.0 INTRODUCTION

Having overviewed the Binding Theory and Logophoric Theory, we see that the Binding Theory is the module of the grammar that will be responsible for assigning an appropriate interpretation to the NPs in argument positions in a sentence, especially providing certain locality constraints on the interpretation of reflexives, and that logophoric considerations further determine possible antecedents for long-distance reflexives. The purpose of this chapter is to explore the claim that the interpretation of reflexive binding is determined not only by structural constraints and logophoric considerations, but also by the properties of the reflexive itself and the lexical properties of the governing verb, and to show how these three sets of factors interact in defining the reflexive interpretation. However, this chapter only provides an overview of the phenomena of verbal selection and initial classification of verbs. A formulation and further discussion of the interaction of these factors will be presented in Chapter 7.

Following Jespersen (1933) and Gleason (1965), Reinhart and Reuland point out in their (1991) paper that “a reflexive pronoun is used in the object position (to avoid ‘repetition of the subject’) **when the verb expresses a reflexive relation**” (p 288). This statement indicates that verbs play a very important role in reflexivisation. Following their line, this chapter offers a survey of occurrences of English and Chinese verbs in reflexive binding. Through a large corpus of attested examples found in contemporary nonlinguistic prose, we can see that different kinds of English verbs, as well as Chinese verbs, play different roles in reflexivisation. In this chapter, I shall argue that transitive governing verbs, especially those in a local governing position, lexically specify the reference of the reflexive in object position. For instance, *behave* in English requires a reflexive as its object; *persecute* under normal circumstances requires its object to be disjoint with its subject. This requirement of the verb is referred to in our terms as **verbal selection**. Verbal selection places lexical constraints on the possible interpretation via theta role assignment. Williams (1994) proposes that “Binding Conditions are part of theta theory in the first place”. Following the spirit of his proposal, I argue that different verbs may assign different theta roles to their objects: Group 1 verbs can only assign an anaphoric theta role to their objects; Group 2 verbs under normal circumstances can assign a disjoint theta role, and Group 3 verbs can

assign either an anaphoric or a disjoint theta role. If a verb can assign an anaphoric theta role to its object, it may allow the argument of the reflexive NP to move at LF in order to link with the agent, but there is no movement involved for the reflexive verbs governed by verbs which assign a disjoint theta role. We will discuss this point further in Chapter 7.

In this chapter, I shall discuss the relation between verbal selection and reflexive binding, but I will ignore here the emphatic and generic uses of *ziji* and *taziji*, and of *ziji-benshen*, which will be discussed in Chapter 8.⁽¹⁾

This chapter is organised in the following way: Section 1 introduces the notion of verb selection on reflexives. In Section 2, I discuss the classification of verbs in Chinese and the verb selection possibilities. Section 3 explores the interaction between verb selection and long-distance bound reflexives. The unbound reflexive and verb selection will be discussed in Section 4. Section 5 will explore the relation among verbal selection, point of view and theta role assignment. Section 6 is a conclusion, which points out the interaction between verb selection and logophoricity - the semantics of the verb.

5.1 VERBAL SELECTION AND BINDING POSSIBILITIES

5.1.1 Verbal selection in English

As shown in the previous chapters, the Binding Theory of Chomsky (1981) states that a reflexive must be c-commanded by and coindexed with the local subject to avoid violating Principle A; on the other hand, a pronominal must be disjoint with (ie not coindexed with) the local subject, otherwise it violates Principle B. Complex reflexives such as *himself* in English are regarded as a typical case for Principle A of the Binding Theory, which correctly predicts that *himself* must be locally bound to its antecedent. On the other hand, English *him* is a pronominal, and must be free in its governing category. However, as many linguists (Reinhart and Reuland 1991, Williams 1994, among others) find that verbs have special requirements concerning the referential possibilities of their arguments. In his book (1994), Williams points out that a sentence like (1a) differs from (1b) due to the local verb's special property.

- (1) a. * John_i took his_i picture
b. John found his wallet

Although (1a) and (1b) are structurally identical, coreference is allowed in (1a), but not in (1b). The difference is that the verb *take* has the special property of requiring its agent argument to control the agent argument of its complement. If we replace *his* in (1a) by an anaphor, *his own*, then the structure in (1c) becomes good:

- c. John_i took his own_i picture

This kind of special property of verbs is not easily accounted for by the conditions of the Binding Theory.

Consider the following sentences:

- (2) a. John_i behaves himself_i
b. * John behaves him
- (3) a. John_i has proved himself_i
b. * John has proved him
- (4) a. John_i disported himself_i
b. * John disported him

The object in the A set of (2)-(4) cannot be distinct in reference from the local subject *John*. If the object in these sentences is realised as the pronoun *him*, as in (2b), (3b) and (4b), the result is ungrammatical, even though the pronoun is disjoint with the local subject. In a similar way, *enjoy*, *perjure* and *exert* also require their objects to be identical to their local subjects if their objects are human NPs. If the objects of verbs of this kind are third person pronouns, the sentences will be odd.

On the other hand, in English some verbs are lexically specified as not allowing reflexives as objects:

- (5) a. John_i persecutes him_j
b. ? John persecutes himself
- (6) a. John_i blackmails him_j
b. ? John blackmails himself

- (7) a. John_i substituted for him_i as principal
 b. ? John substituted for himself as principal

Set A of sentences (5)-(7) are well-formed, since the pronouns and R-expressions are free, and Principle B is satisfied. Set B, however, under normal circumstances are odd, even though the reflexives are coindexed with and c-commanded by their subjects, thereby satisfying Principle A of the Binding Theory. We can find a number of verbs which cannot have anaphoric NPs as their objects, for example: *adopt, abduct, father, give birth, decapitate, marry, indoctrinate, listen, ignore, raise, disturb, turn... adrift* and so on. The oddity of the sentences (2b)-(7b) suggests that there is a kind of semantic/pragmatic limitation at work. Consider the following sentences:

- (8) a. John_i should put himself_i in her/Mary's shoes
 b. * John_i should put him_j/Bill in Mary's shoes

Put oneself in somebody's shoes in (8) is an idiomatic expression which has the special meaning of 'consider something from somebody's point of view'. Now, (8a) is perfectly grammatical, but (8b) is odd, even though Principle B or C of the Binding Theory is satisfied, since *him* or *Bill* can be free in its governing category. The complex predicate in (8a) requires an anaphoric reflexive to be the object of the verb *put* and a pronoun or R-expression to be the possessive of the object NP of the locative preposition. It is impossible for a pronoun to replace the reflexive in the same environment, as in (1a) and (1b). I assume that in a similar way, the verbs in (2)-(7) have special semantic and syntactic requirements. Thus, we may classify the verbs of English into at least two groups, in accordance with the verb's property of whether or not a verb can assign an anaphoric theta role to its object:

- (9) a. Group 1
 Verb requires its object to coindex with its subject
 VERB (SUBJECT NP_i + OBJECT NP_{i/*j})
 b. Group 2
 Verb requires its object NP to be disjoint with its subject
 VERB (SUBJECT NP_i + OBJECT NP *_{i/j})

Now, if we apply this classification to (2)-(7), both the grammaticality of the A set and the oddity of the B set are easily explained: the verbs in (2)-(4) are Group 1 verbs, which require their objects, if Human NPs, to coindex with their local subjects, with the consequence that the A set are grammatical, since the objects are reflexives, and the B

set are odd because the objects are pronominals. The verbs in (5)-(7) are Group 2 verbs, which require their objects to be disjoint with their local subjects, so that the A set of (5)-(7) are grammatical, since the pronominals are the objects of the verbs in these sentences, but the B set are odd, since the reflexives occur in object position of the verbs. However, the classification is not yet complete. Consider the following sentence:

- (10) a. John_i likes himself_i
 b. John_i likes him_{*i/j}

The verb *like* has no requirement for its object NP; it can take either an anaphoric reflexive or a pronoun. Therefore, we might distinguish a further group for such verbs:

- (9) c. Group 3
 Verb has no special requirement on its object NP
 VERB (SUBJECT NP_i + OBJECT NP_{i/j})

This completes the classification of English verbs.

Looking at English verbs, however, we find that most verbs are Group 3 verbs, taking either anaphoric reflexives or pronominals as their objects. Since most verbs have no special requirement on their object NPs, and the reflexives in English are complex reflexives (for detail, see Reinhart and Reuland 1991 and our discussion in Chapter 7), the classification of verbs seems not to be very significant in English. However, in Chinese, verbal selection does play an important role. We shall discuss this in the next section.

5.1.2 Verbal selection in Chinese

As has been shown in Chapter 1, there are three distinct kinds of reflexive in Chinese: simplex reflexive *ziji* 'self', complex reflexive such as *taziji* 'himself', and complex reflexive (in our terms, double reflexive construction) *ziji-benshen* 'self-self'. As is well discussed in the literature (for instance, Huang and Tang 1991, Tang 1989, among others), *ziji* is a LDB reflexive, while *taziji* must be locally bound. However, *ziji-benshen* has been left out of discussion in the theoretical linguistics literature. *Ta*, as a third person pronoun, should always be free in its governing category. In this section, we will take *ziji*, *taziji* and *ziji-benshen* as reflexives and *ta* as a pronominal to test the verbs of Chinese.

Let us start from the CIYI BIANXI (A DICTIONARY OF SYNONYM DISCRIMINATION). In order to distinguish one word from another, CIYI BIANXI classifies verbs into three distinct groups: *zizhi*, *tazhi* and *zhongxing*. *Zizhi* means that the verb can only apply to oneself, not somebody else; in other words, this kind of verb is lexically specified as not allowing its object to be distinct in reference from the subject if both subject and object are human NPs. *Tazhi* means that a verb can only apply to somebody else, never to oneself; in other words, they are lexically specified as not allowing reflexives as their objects. *Zhongxing* means that it can apply to either oneself or somebody else, and verbs of this kind have no requirement on their objects. Following the dictionary, I formulate this as follows:

(11) A classification of verbs based on object selection

a. Group 1 - *zizhi* verbs (obligatory reflexives)

A verb requires its object Human NP to be coindexed with its local subject:

VERB (SUBJECT NP_i + OBJECT [+ human] NP_{i/*j})

b. Group 2 - *tazhi* verbs (obligatory disjoint)

A verb requires its object Human NP to be disjoint from its local subject:

VERB (SUBJECT NP_i + OBJECT [+ human] NP_{*i/j})

c. Group 3 - *zhongxing* verbs

A verb has no special requirement on its object NP

VERB (SUBJECT NP_i + OBJECT NP_{i/j})

Actually, this classification is identical with the English classification in (9), but in Chinese, it is more strict. The effects of this classification are illustrated in the next three sections with respect to local reflexives in 5.2, long-distance bound reflexives in 5.3 and sentence-free reflexives in 5.4.

5.2 VERBAL SELECTION AND LOCALITY

As shown in (11a-b), a verb may have a special requirement on its object, determining what kind of NP this object may be. Examples (12a-c) and (13a-c) below illustrate the acceptability of the different reflexive forms for objects of Group 1 verbs. (12d) and (13d) show that the pronominal cannot appear in the same environment.

- (12) a. Zhangsan_inuli kezhi taziji_i
 hard restrain himself
 ‘Zhangsan restrains himself hard’
- b. Zhangsan_inuli kezhi ziji_i
 hard restrainself
 ‘Zhangsan restrains himself hard’
- c. Zhangsan_inuli kezhi ziji-benshen_i
 hard restrainself-self
 ‘Zhangsan restrains himself hard’
- d. * Zhangsan_ikezhi ta_j/Lisi
 restrain him
- (13) a. Zhangsan_idao chu xuanyao taziji_i
 everywhere show-off himself
 ‘Zhangsan shows himself off everywhere’
- b. Zhangsan_idao chu xuanyao ziji_i
 everywhere show-off self
 ‘Zhangsan shows himself off everywhere’
- c. Zhangsan_idao chu xuanyao ziji-benshen_i
 everywhere show-off self-self
 ‘Zhangsan shows himself off everywhere’
- d. * Zhangsan_idao chu xuanyao ta_j/Lisi
 everywhere show-off him

(12a-c) and (13a-c) are all grammatical, but Set D in (12)-(13) are not. It is clear that the verbs *kezhi* ‘restrain’ and *xuanyao* ‘show-off’, just like the verbs *behave*, *prove*, *disport* and *perjure* in English, require their objects to be identical with their local subjects, and cannot be distinct in reference from the local subject, here *Zhangsan*. In Set D of (12)-(13), the pronoun *ta* is in the object position. If the pronoun is coindexed with the subject *Zhangsan*, it will violate Principle B of the Binding Theory. If, on other hand, it is not coindexed with the subject, it cannot meet the requirement of the verb. This is why these sentences are odd. It seems to us that Group 1 *zizhi* verbs can only assign anaphoric theta roles to their objects if the objects are human NPs.

Under normal circumstances, Group 2 *tazhi* verbs in Chinese, like English *persecute*, *blackmail*, *discriminate* and *substitute*, require their object DPs/NPs to be disjoint with their subjects, as in the examples below:

- (14) a. Zhangsan_i yizhi ta_j/Lisi
 restrain him
 ‘Zhangsan restrains him/Lisi’
- b. * Zhangsan_i yizhi taziji_i
 restrain himself
- c. * Zhangsan_i yizhi ziji_i
 restrain self
- d. * Zhangsan_i yizhi ziji-benshen_i
 restrain self-self
- (15) a. Zhangsan_i eyufengcheng ta_j/Lisi
 flatter him
 ‘Zhangsan flatters him/Lisi’
- b. * Zhangsan_i eyufengcheng taziji_i
 flatter himself
- c. * Zhangsan_i eyufengcheng ziji_i
 flatter self
- d. * Zhangsan_i eyufengcheng ziji-benshen_i
 flatter self-self

Like (5)-(7) in English, (14a) and (15a) in Chinese are fine, but the set (b-d) in (14) and (15) are not. According to Principle A of the Binding Theory, the latter should not be ruled out, since the reflexives are bound to their antecedents in their governing categories, yet all are ungrammatical. The reason is that Chinese verbs such as *yizhi* ‘restrain’, *eyufengcheng* ‘flatter’ and *fuyang* ‘raise’ all require their object human NPs to be disjoint with their subjects.

As in English, Group 3 verbs in Chinese have no requirement on their object NPs:

- (16) a. Zhangsan_i piping ziji_i
 criticise self
 ‘Zhangsan criticised himself’
- b. Zhangsan_i piping taziji_i
 criticise himself
 ‘Zhangsan criticised himself’
- c. Zhangsan_i piping ziji-benshen_i
 criticise self-self
 ‘Zhangsan criticised himself’

- d. Zhangsan_i piping ta_j
 criticise him
 ‘Zhangsan criticised him’

To give more examples, *mainong* ‘parade’ and *baozhong* ‘take care of’ are Group 1 *zizhi* verbs, which can only have a reflexive as object; *eyu* ‘to adulate’, *quanjie* ‘to advise’ and *jiaohui* ‘to teach’ are Group 2 *tazhi* verbs, which will never have a reflexive such as *taziji* as their objects; and *xihuan* ‘like’ and *xiangxin* ‘believe’ are Group 3 verbs, and have no special requirements on their objects.

Verbal selection between these three groups may be unimportant for English, but it is very important for Chinese, because, unlike English, which has only complex reflexives, Chinese has both complex and simplex reflexives, and the simplex reflexive is assumed to have a long-distance nature. In the next section, we shall see the difference between the complex and simplex reflexives and how verbal selection affects them.

5.3 VERB CLASSIFICATION WITH LDB REFLEXIVES

According to our previous observations, the double reflexive *ziji-benshen*, complex reflexives like *taziji* and the simplex reflexive *ziji* can all be long-distance bound. It is obvious that there are more examples of LDB *ziji* than there are of either LDB *taziji* or *ziji-benshen*. In this section, I shall explore in what verbal contexts a reflexive can be long-distance bound.

5.3.1 Reflexives Governed by a Group 1 verb

In the last section, we saw that Group 1 *zizhi* verbs require their object NPs to be identical in reference to their local subject NPs. Now, let us see whether the reflexive governed by a Group 1 *zizhi* verb can be long-distance bound or not.

- (17) Zhangsan_ishuo Lisi_j dao chu xuanyao taziji*_i
 say everywhere show-off himself
 ‘Zhangsan said that Lisi was making a display of him everywhere’

- (18) Zhangsan_ishuo Lisi_j dao chu xuanyao ziji*_i
 say everywhere show-off self
 ‘Zhangsan said that Lisi was making a display of him everywhere’

- (19) Zhangsan_ishuo Lisi_j dao chu xuanyao ziji-benshen*_i
 say everywhere show-off self-self
 ‘Zhangsan said that Lisi was making a display of him everywhere’

Even though *ziji* is potentially a LDB reflexive (see Tang 1989, Huang and Tang 1991, Battistella 1989, Cole et al 1990 and Li 1993), *ziji* in (17), *taziji* in (18) and *ziji-benshen* in (19) governed by a Group 1 *zizhi* verb can all only be locally bound, otherwise the sentences will be ungrammatical.

5.3.2 Reflexives governed by a Group 2 verb

Let us examine the data in which reflexives are governed by Group 2 *tazhi* verbs. In (20)-(22), I have chosen three distinct kinds of local subject: the indefinite pronoun *youren* ‘somebody’ in the A set, the name of a person with a different gender from the matrix subject in the B set, and the name of a person with the same gender as the local subject in the C set.

- (20) a. Zhangsan_izhidao youren_j zai genzong taziji_i
 know somebody ASP go-in-hot-pursuit himself
 ‘Zhangsan knew that somebody was in hot pursuit of him’
 b. Zhangsan_izhidao Weiling_j zai genzong taziji_i
 know ASP go-in-hot-pursuit himself
 ‘Zhangsan knew that Weiling was in hot pursuit of him’
 c. Zhangsan_izhidao Lisi_j zai genzong taziji_i
 know ASP go-in-hot-pursuit himself
 ‘Zhangsan knew that Lisi was in hot pursuit of him’
- (21) a. Zhangsan_izhidao youren_j genzong ziji-benshen*_i
 know somebody go-in-hot-pursuit self-self
 ‘Zhangsan knew that somebody was in hot pursuit of *him’
 b. Zhangsan_izhidao Weiling_j genzong ziji-benshen*_i
 know go-in-hot-pursuit self-self
 ‘Zhangsan knew Weiling was in hot pursuit of *him’
 c. Zhangsan_izhidao Lisi_j genzong ziji-benshen*_i
 know go-in-hot-pursuit self-self
 ‘Zhangsan knew Lisi was in hot pursuit of *him’

- (22) a. Zhangsan_i zhidao youren_j genzong ziji_i/*_j
 know somebody go-in-hot-pursuit self
 ‘Zhangsan knew that somebody was in hot pursuit of him’
- b. Zhangsan_i zhidao Weiling_j genzong ziji_i/*_j
 know go-in-hot-pursuit self
 ‘Zhangsan knew Weiling was in hot pursuit of him’
- c. Zhangsan_i zhidao Lisi_j genzong ziji_i
 know go-in-hot-pursuit self
 ‘Zhangsan knew Lisi was in hot pursuit of him’

The results are: the reflexive *taziji* in (20a) and (20b) is not allowed to be identical to the local subject, but can refer to the matrix subject. However, (20c) is odd. The oddness of (20c) shows that if the local subject has the same phi-features as the reflexive *taziji*, LDB is not possible, but if the local subject is clearly different from the matrix subject in gender, such as the female name *Weiling*, or does have clear phi-features, such as *youren* ‘somebody’, LDB is permitted. (21a-c) are all unacceptable. In (22), if the reflexive refers to the matrix subject, the sentences are fine, otherwise not.

The data suggest that *ziji-benshen* ‘self-self’ is a typical locally bound anaphor associated with locality. The local binding is compulsory. However, Group 2 verbs do not allow their objects to be identical to the local subject, so the report must be made by somebody else outside of the clause. This conflict explains the oddity of the sentences in (21). *Taziji* ‘himself’, when governed by a Group 2 verb, may refer to the matrix subject if the local subject is an indefinite human pronoun or a person with different gender, because it meets the requirement of Group 2 verbs which needs an object NP to be disjoint with the local subject. If the local subject does not have any phi-features, like *youren* ‘somebody’, or if its phi-features (eg gender) are different, then it is impossible for *taziji* to be locally bound. *Taziji*, however, needs an antecedent. Thus, it can only refer to the matrix subject. If *taziji* refers to the matrix subject, then both requirements (of the verb and of the anaphor) will be satisfied, and the sentence is grammatical, as in (20a-b). However, (20c) is unacceptable. In (20c), the local subject has the same phi-features as the matrix subject. *Taziji* as an anaphor will certainly choose the nearest potential antecedent and coindex with the local subject *Lisi*. Even if *taziji* does not coindex with *Lisi*, there is no evidence that it is disjoint with the local subject, as the verb requires. Thus, sentence (20c) cannot meet the requirements of the verb, and must be ruled out. (The oddity of (20c) and (21) will be discussed further in Chapter 7.)

Let us now consider (22). *Ziji* is able to undergo LDB (we shall discuss why and how in Chapter 7). Since the local verb does not allow the report to be made from the point of view of the local subject, *ziji* then refers to the matrix subject, thus the verb's requirement is satisfied and the sentences are well-formed.

In short, if the local verb belongs to Group 2, reflexives of the *ziji-benshen* type cannot appear as its object; *taziji* can be LDB to the subject of the matrix clause if and only if the local subject differs from the higher subject in phi-features (especially in gender or person); and *ziji* type reflexives must be LDB to the higher subject.

5.3.3 Group 3 verbs and long-distance bound reflexives

Let us consider whether there is a possibility for *ziji*, *taziji* and *ziji-benshen* to be LDB if they are governed by Group 3 verbs. In this section, I have chosen four different kinds of NPs as local subjects: an indefinite human pronoun such as *youren* 'somebody', a person's name with a different gender from the matrix subject, a non-human pronoun such as *zhe* 'this' and a person's name whose gender is the same as the subject in the higher clause.

- (23) a. Zhangsan_i zhidao youren_j zai piping taziji_i
 know somebody ASP criticise himself
 'Zhangsan knows that somebody is criticising ?him'
- b. Zhangsan_i zhidao Weiling_j zai piping taziji_i
 know (female) ASP criticise himself
 'Zhangsan knows that Weiling is criticising ?him'
- c. Zhangsan_i zhidao zhe_j shi zai piping taziji_i
 know this is ASP criticise himself
 'Zhangsan knows that this is criticising him'
- d. Zhangsan_i zhidao Lisi_j zai piping taziji*_i
 know ASP criticise himself
 'Zhangsan knows that Lisi is criticising himself'

The data suggest that if the local verb is a Group 3 verb, it is hard for *taziji* to be LDB, even if the local subject is *youren* in (23a) and *Weiling* in (23b), which do not have the same phi-features as the matrix subject. (23c) is grammatical, because the local subject does not have any phi-features at all, and (23d) is ungrammatical. Since Group 3 verbs have no clear requirement on their object NPs, and *taziji* is associated with locality, if

there is no clear evidence for *taziji* to be disjoint with the local subject, as in (23a) and (23b), the sentences will be bad; sentences like (23d) will be worse. However, when the local subject is an inanimate NP, as in (23c), the sentence will be perfectly grammatical.

Let us now examine sentences with *ziji-benshen* governed by a Group 3 verb.

- (24) a. Zhangsan_i zhidao youren_j zai piping ziji-benshen_?_i
 know somebody ASP criticise self-self
 ‘Zhangsan knows that somebody is criticising *him’
- b. Zhangsan_i zhidao Weiling_j zai piping ziji-benshen*_i
 know (female) ASP criticise self-self
 ‘Zhangsan knows that Weiling is criticising *him’
- c. Zhangsan_i zhidao zhe shi zai piping ziji-benshen_i
 know this is ASP criticise self-self
 ‘Zhangsan knows that this is criticising him’
- d. Zhangsan_i zhidao Lisi_j zai piping ziji-benshen*_i
 know ASP criticise self-self
 ‘Zhangsan knows that Lisi is criticising *him’

(24a) is bad, (24b) is worse, and (24d) is the worst. However, (24c) is perfectly grammatical. Suppose that the Group 3 verb allows its object to be disjoint with its local subject, there must be evidence to show that this is the case. (24c) is a good example, since it contains an inanimate NP *zhe* in the embedded subject position, so it is impossible for *ziji-benshen* to coindex with it, and the only eligible antecedent is the matrix subject. However, *youren* in (24a) is a Human NP, even though it has no clear phi-features, so it is hard to prove that the embedded object *ziji-benshen* is disjoint with it. *Weiling* in (24b) has phi-features, but differs from the matrix subject in gender. This sentence is worse than (24a), since *ziji-benshen* has no phi-features but has a locally bound nature and normally refers to the local subject. In (24d), *Lisi* has the same phi-features as the matrix subject has, and this sentence is the worst of the four. It is impossible for *ziji-benshen* to be long distance bound.

Let us now turn to *ziji*. As is well-known, it is no problem for *ziji* to be long distance bound when it is governed by a Group 3 verb.

- (25) a. Zhangsan_i zhidao youren_j zai piping ziji_i
 know somebody ASP criticise self
 ‘Zhangsan knows that somebody is criticising him’
- b. Zhangsan_i zhidao Weiling_j zai piping ziji_i
 know ASP criticise self
 ‘Zhangsan knows that Weiling is criticising him/herself’
- c. Zhangsan_i zhidao zhe_j shi zai piping ziji_i
 know this is ASP criticise self
 ‘Zhangsan knows that this is criticising him’
- d. Zhangsan_i zhidao Lisi_j zai piping ziji_i
 know ASP criticise self
 ‘Zhangsan knows that Lisi is criticising him’

The data above suggest that *ziji* can be long-distance bound to the subject in the higher clause, since Group 3 verbs have no special requirement with respect to binding to their objects. In other words, the Group 3 verb allows a reflexive to be interpreted either with the local subject or with a subject outside the clause.

5.3.4 Verbs in the higher clause and reflexive binding

Having discussed local verbs in reflexive binding, let us now discuss verbs in the higher clause. The interesting fact is that when a reflexive can be long-distance bound to the subject of a higher clause, it does not mean that there is only one higher subject. Sometimes, there may be two or more subjects in higher clauses. In this case, how do we choose the right subject as its antecedent? In this section, I shall investigate how the verbs in the higher clauses determine the interpretation of reflexives.

Compare (26a) with (26b):

- (26) a. Zhangsan_i zhidao Lisi_j yishe dao Wangwu_k genzong ziji_i/*j/*k
 know realise go-in-hot-pursuit-of self
 ‘Zhangsan_i knew that Lisi_j realised that Wangwu_k was in hot pursuit of him_j’
- b. Zhangsan_i yishe dao Lisi_j zhidao Wangwu_k genzong ziji_i/*j/*k
 realise know go-in-hot-pursuit-of self
 ‘Zhangsan_i realised that Lisi_j knew that Wangwu_k was in hot pursuit of him_i/*j/*k’

In (26a) and (26b), the verb in the embedded clause is a Group 2 verb. The local verb determines that the reflexive *ziji* must not be locally bound, but cannot determine which subject in the higher clause *ziji* should refer to, since there are two higher subjects: *Zhangsan* and *Lisi*. The only difference is that in (26a) *yishe dao* ‘realise’ is the intermediate verb and *zhidao* ‘know’ is the root verb, while in (26b), *zhidao* is the intermediate verb and *yishe dao* is the root verb. The result is that *ziji* in (26a) has to refer to the intermediate subject *Lisi*, while in (26b) it can refer to *Zhangsan*. I assume that *yishe dao* ‘realise’ is an achievement verb and that such verbs demand subject-consciousness and attract reflexives, whereas stative verbs, such as *zhidao* ‘know’, do not. Further examples that behave like *yishe dao* are *juecha dao* ‘perceive’, *xiangdao* ‘think of’, and *mingbai dao* ‘understand’.

5.3.5 Blocking Effect

5.3.5.1 First and second person blocking LDB

As seen in Chapter 3, Huang and Tang (1991) take the Blocking Effect to mean that a remote NP can antecede *ziji* only if it agrees with the local NP in the governing category of *ziji* (p 263). I repeat the example given by Huang and Tang:

- (27) *Zhangsan_irenwei [wo_jhai le ziji_i/*_j]*
 think I hurt ASP self
 ‘Zhangsan thought that I had hurt myself/*him’

Yu (1992) and Xu (1993) independently present similar kinds of problematic sentence for the Blocking Effect, as shown below:

- (28) *Zhangsan_ipa [wo_jchaoguo ziji_i/*_j]*
 worry I surpass self
 ‘Zhangsan worried that I would surpass him/*myself’

- (29) *Haizi_ipa [ni_jzeguai ziji_i/*_j, duo le qilai]*
 child worry you reproach self hide ASP up
 ‘The child worried that you would reproach him/her, and hid’

This issue may be solved through the classification of the verbs. In (27), we can clearly see the Blocking Effect at work: the first person pronoun *wo* ‘I’ intervenes between *ziji* ‘self’ and its potential antecedents *Zhangsan* and *Lisi*, so that the reflexive

ziji can only refer to *wo*, which is the local subject, and LDB is blocked. In (28) and (29), however, there is no Blocking Effect. Comparing (27) with (28) and (29), the main difference is that in (27), the local governing verb *hai* ‘hurt’ is a Group 3 verb, while the governing verb *chaoguo* ‘surpass’ in (28) and *zeguai* ‘reproach’ in (29) are Group 2 verbs. Since Group 2 verbs require their object to be disjoint from their subject, the gender or person of the local subject does not block coreference. However, reflexives governed by Group 3 verbs are subject to the Blocking Effect, since Group 3 verbs have no special requirement on their objects.

5.3.5.2 Intensifying *ziji* and the Blocking Effect

Tang (1989) discusses the distribution of *ziji*. She proposes that there is an ‘intensifying’ *ziji* (for details see Tang 1989), which occurs in non-argument position, between an auxiliary verb and a main verb and functions as an adverbial. Moreover, intensifying *ziji* may be related to both animate and inanimate nouns. For example:

- (30) Lisi_i nenggou ziji piping ziji_i
 can self criticise self

The first *ziji* in (30) is an intensifying (ie adverbial) *ziji*, which is in non-argument position, since it occurs between an auxiliary verb *nenggou* ‘can’ and the main verb *piping* ‘criticise’, while the second *ziji* is an anaphor in an argument position, which is an object.

According to my early observations (1992), intensifying *ziji* may block the coreferential relation between anaphoric *ziji* and its antecedent outside the local clause. Here, we mainly discuss how to explain this through verbal selection. Consider the following sentences:

- (31) a. Zhangsan_i zhidao Lisi_j zai nuli kezhi ziji_{*i/j}
 know ASP hard restrain self
 ‘Zhangsan knew that Lisi was restraining himself hard’
 b. Zhangsan_i zhidao Lisi_j zai nuli ziji kezhi ziji_{*i/j}
 know ASP hard self restrain self
 (Lit) ‘Zhangsan knew that Lisi himself was restraining himself hard’
 c. Zhangsan_i shuo Lisi_j ziji zhidao Wangwu_k zai kezhi ziji_{*i/*j/*k}
 know self know ASP restrain self

- (32) a. Zhangsan_i zhidao Lisi_j zai genzong ziji_i/*_j
 know ASP go-in-hot-pursuit-of self
 ‘Zhangsan knew that Lisi was in hot pursuit of him’
- b. Zhangsan_i zhidao Lisi_j zai ziji genzong ziji*_i/*_j
 know ASP self go-in-hot-pursuit-of self
 ‘Zhangsan knew that Lisi himself was in hot pursuit of him’
- c. Zhangsan_i shuo Lisi_j ziji zhidao Wanger_k zai genzong
 say self know ASP go-in-hot-pursuit-of
 ziji*_i/_j/*_k
 self
 ‘Zhangsan said that Lisi himself knew that Wanger was in hot pursuit of
 him’
- (33) a. Zhangsan_i zhidao Lisi_j zai piping ziji_i/_j
 know ASP criticise self
 ‘Zhangsan knew that Lisi was criticising himself/hi’
- b. Zhangsan_i zhidao Lisi_j zai ziji piping ziji*_i/_j
 know ASP self criticise self
 ‘Zhangsan knew that Lisi was criticising himself’
- c. Zhangsan_i shuo Lisi_j ziji zhidao Wanger_k zai piping ziji*_i/_j?_k
 say self know ASP criticise self
 ‘Zhangsan said that Lisi himself knew that Wanger was criticising
 him/?himself’

In (31)-(33), the verbs in the A set are not modified by an intensifying *ziji*; while the local verb in the B set and the verb in the C set are. (31b) is a little odd. I assume that if intensifying *ziji* modifies a verb, the verb can determine that the report must be made from the point of view of its external argument. Since the Group 1 verb *kezhi* ‘restrain’ determines that the report is made from the local subject’s point of view, the modification is not necessary, thus (31b) is a little odd, but it is grammatical. (31c), on the other hand, is very odd. The reason is that when intensifying *ziji* modifies the intermediate verb *zhidao* ‘know’, it requires the subject followed by *ziji zhidao* ‘self-know’ to be the antecedent of the reflexive. However, the local verb *kezhi* ‘restrain’ is a Group 1 verb, which requires that the reflexive must be locally bound to the local subject, so there is a clash. (32b) is odd, but (32c) is fine. The reason is that when intensifying *ziji* modifies the local verb *genzong* ‘go in hot pursuit of’, it requires its subject to be the antecedent of a reflexive, but the verb *genzong* itself requires its subject not to be the antecedent of a reflexive, thus there is a contradiction, and the sentence is ruled out. (32c) is grammatical because both the local verb and the verb

modified by intensifying *ziji* require the reflexive to refer to the subject from the point of view of the subject *Lisi*.

Let us now consider (33). Both (33b) and (33c) are grammatical. In (33b), the local verb is a Group 3 verb which does not have any special requirement. If there is no intensifying *ziji*, the anaphor *ziji* may refer either to the local subject *Lisi* or to the matrix subject *Zhangsan*, as in (33a); while if intensifying *ziji* modifies the local verb *piping* 'criticise', the anaphoric reflexive *ziji* must refer to the local subject. (33c) is also fine. When intensifying *ziji* is attached to the verb in the middle clause, requires the subject of the middle clause to be the antecedent of the reflexive, and the local verb has no requirement, thus the sentence is perfectly grammatical. On the other hand, since intensifying *ziji* emphasises that the report is made from the point of view of the subject of the intermediate clause, it is impossible for the anaphoric reflexive *ziji* to be coindexed with the subject of the root clause, resulting in a Blocking Effect.

To return to the problematic sentences in (28) and (29), presented by Yu and Xu, the local verbs *chaoguo* 'surpass' in (28) and *zegui* 'reproach' in (29) are Group 2 verbs, which determine that the report must not be made from the local subject's point of view, while the verbs in the intermediate clause are mental process verbs, which determine that the report is made from the point of view of its external agent (ie the matrix). Thus, the Blocking Effect does not apply to such sentences, and the sentences are grammatical.

5.4 VERBAL SELECTION AND SENTENCE-FREE REFLEXIVES

Yu (1988b, 1992) argues that both *taziji* and *ziji* can be free in an entire sentence. In this section, I will discuss whether reflexives governed by different groups of verbs can be free in sentences. When and how can a reflexive governed by a verb be free in an entire sentence? As a matter of fact, most sentence-free reflexives are not governed by verbs. In other words, they are not in the grid of the main verb (we shall discuss this in Chapter 8). Sentence-free reflexives governed by verbs are not very common, but we do find some cases, mostly in sentences with *ziji*, with just a few examples using *taziji* and *ziji-benshen*. We shall discuss each of these reflexives in turn.

5.4.1 Sentence-free *ziji*

We cannot find any examples of *ziji* governed by a Group 1 verb being free in an entire sentence. However, we do find some cases in which *ziji* is free when governed by a Group 2 or Group 3 verb.

- (34) a. Youren zai genzong ziji. Guniang de diliu ganguan gaosu ta,
 somebody ASP watch self girl 's sixth organ tell her
 ta yinggai like shuidiao ta
 she should immediately throw away him
 'Somebody is watching her. The girl's sixth sense tells her that she
 should immediately escape from him'
- b. "Zhao yuanzhang weishenme zheyang kuazan ziji ne?"
 President why thus praise self PER
 'Why does President Zhao praise me like that?'

Ziji in (34a) refers to a female detective in '*Xiaotou de liangxin faxian*' 'The thief's regret' in *NUZI WENXUE* 'WOMEN'S LITERATURE'. *Ziji* in (34b) refers to Dr Lu in *REN DAO ZHONGNIAN* 'PEOPLE IN MIDDLE AGE'. *Genzong* 'go-in-hot-pursuit' in (34a) and *kuazan* 'praise' in (34b) are Group 2 verbs, which require their objects to be disjoint with their local subjects. However, there is no antecedent in the sentence for the reflexive. Since a reflexive is always dependent, its reference must be outside the sentence. In (34a), there is a referent, *guniang*, in the context, which is followed by a description to indicate that it is an antecedent: *guniang de diliu ganguan gaosu ta* 'the girl's sixth sense told her'. (34b) is a quotation and an interrogative sentence. The antecedent must be the protagonist in the story or the speaker/thinker.

Ziji can also be sentence-free when governed by a Group 3 verb.

- (35) a. "Baba weishenme lao shi piping ziji ne?" Xiao Gang xiang
 Daddy why always criticise self little think
 lai xiang qu xiang bu dong
 come think go think not understand
 "Why is Father always criticising me?" Little Gang thought it over again
 and again, but he could not understand

The examples attested above are all quotations.

5.4.2 Sentence-free *taziji*

We find a few examples of sentence-free *taziji* governed by a Group 3 verb, such as *gui* ‘blame’ and *sui* ‘let’, where the local subject is inanimate, as in (36) below, or is an NP with different phi-features from those of *ta* in *taziji*, as in (37).

(36) Zhe dou dei guai taziji
this all should blame himself
‘This should be blamed on him himself’

(37) Ni jiu sui taziji ba
you just let himself ASP
‘You just let him do as he likes’

5.3.3 Sentence-free *ziji-benshen*

Ziji-benshen may also be free in an entire sentence when it is governed by a Group 3 verb and the local subject is an inanimate NP:

(38) Zhe dei guai ziji-benshen
this should blame self-self
‘This should be blamed on me myself/ him himself’

In (38), *ziji-benshen* is governed by the local verb *guai*, which is a Group 3 verb, and cannot refer to the local subject, which is a non-human pronoun. Thus, it can only refer to an entity in discourse.

5.5 VERBAL SELECTION, POINT OF VIEW AND THETA ROLE ASSIGNMENT

5.5.1 Verbal selection and the Point of View hypothesis

We have discussed verbal selection and reflexive binding. We can see that when a Group 1 verb governs a reflexive, the reflexive must be locally bound, no matter whether the reflexive is complex or simplex. When a Group 2 verb governs a reflexive, not all reflexives can be long-distance bound: *ziji* can be long-distance bound, as can *taziji* under certain circumstances, but long-distance binding of *ziji-benshen* is ruled out. When a Group 3 verb governs a reflexive, *ziji* may be either locally bound or long-

distance bound, while *taziji* and *ziji-benshen* are normally locally bound, but may be long-distance bound under certain circumstances.

Kuno (1972) proposes a semantic constraint to the effect that whenever a reflexive is long-distance bound, the clause which includes it must be read as logophoric, ie as representing either the thoughts or feelings of the entity standing as its antecedent, or an utterance transmitted by or to that entity. In other words, the antecedent of a long-distance bound reflexive pronoun must be interpreted in discourse as a SUBJECT OF CONSCIOUSNESS. Zribi-Hertz (1989) develops this theory and proposes that both clause bound and non-clause bound reflexives are subject to point of view. However, what causes the report to be made from the point of view of the local subject or the higher subject, and how is this choice made? My proposal of verbal selection is an amendment to this theory.

I assume that verbal selection, interacting with the semantics of the verb, determines point of view. Notice that Group 1 verbs require their objects to coindex with the local subject, so the report can only be made from the point of view of the local subject, not of somebody else; Group 2 verbs do not allow their object NPs to be identical to the local subject NPs, so the report must not be made from the local subject's point of view; and Group 3 verbs have no special requirement, so that the report may, but need not necessarily, be made from the local subject's point of view. When reflexives are long-distance bound or sentence-free, if there is an antecedent in the sentence or discourse, there will normally be a verb present to indicate from whose point of view the report is made. With our analysis, the Blocking Effect can only involve Group 3 verbs, since these verbs allow a reflexive to be either locally bound or long-distance bound. When a Logophoric Subject such as first or second person intervenes, this makes it clear that the report is made from the logophoric subject's point of view. This point will be discussed further in Chapter 8.

The verb classification proposed above allows for a more systematic description and prediction of the possible patterns of local and non-local anaphoric interpretation which can arise when particular verbs are selected.

5.5.2 Verbal selection and theta role assignment

Williams (1994) argues that binding conditions are part of theta theory in the first place, including the binding theory, which operates in terms of command and determines the

coreference possibilities of theta roles, and the Leftness Condition of anaphoric dependence, a relation only incidentally related to coreference.

He defines theta binding along the following lines:

- (39) X is θ -bound if there is a theta role c-commanding X and coindexed with X.
- (40) A θ -anaphor is a theta role assigned to an anaphor.
A θ -pronoun is a theta role assigned to a pronoun.
A θ -R-expression is a theta role assigned to an R-expression.

Then, he rewrites the binding theory as follows:

- (41) The θ -binding theory
- A. A θ -anaphor must be θ -bound in some domain.
 - B. A θ -pronoun must be θ -free in some domain.
 - C. A θ -R-expression must be θ -free.

Following Higginbotham (1983), Williams assumes that the verbal theta role is like a pronoun (or anaphor), and it takes the NP it is assigned to under theta role assignment as its antecedent. Following their line, I assume that Group 1 verbs can assign anaphoric theta roles to their object NPs, while Group 2 verbs assign disjoint theta roles, and Group 3 verbs can assign either anaphoric or pronominal theta roles to their object NPs.

With this assumption, we may give a suitable explanation for the interpretation of reflexives. For instance, because Group 1 verbs can only assign an anaphoric theta role to a [+human] NP, a reflexive governed by a Group 1 verb must be locally bound. Thus, the report can only be made from the point of view of the local subject. In this case, it is impossible for a reflexive to be long-distance. Group 2 verbs can only assign a disjoint theta role to their object DP/NP. In this case, a reflexive like *ziji* can only refer to the high subject if there is one, *taziji* may be long-distance bound under certain circumstances, and long-distance binding of *ziji-benshen* must be ruled out. A Group 3 verb can assign either an anaphoric theta role or a disjoint theta role to its object, so *ziji* can be either locally or long-distance bound. If *ziji* is long-distance bound, the antecedent is normally followed by a mental process verb. For *taziji* and *ziji-benshen*, if the verb has an inanimate NP as its local subject, it cannot assign an anaphoric theta

role to it, thus it may be long-distance bound. For the same reason, a reflexive can be sentence free if it cannot receive an anaphoric theta role.

Thus, we have seen that verbal selection may decide which kind of theta role a verb can assign to its object.

5.6 SUMMARY

So far, we have discussed the classification of verbs and sub-divided the transitive verbs of Chinese into three groups: Group 1 verbs, which require their objects to be identical to their local subjects; Group 2 verbs, which require their objects to be disjoint with their local subjects; and Group 3 verbs, which allow their objects to be either identical to or disjoint with their local subjects. This is consistent with theta role assignment, since Group 1 verbs can only assign an anaphoric theta role to their object NP; Group 2 verbs can only assign a disjoint theta role, and Group 3 verbs can assign either an anaphoric or a disjoint theta role to their object NPs. When a verb assigns an anaphoric theta role to its object NP, it determines that the report is made from the point of view of the local subject. When a verb assigns a disjoint theta role to its object NP, it determines that the report must be made from the point of view of somebody outside of the clause. When a reflexive is long-distance bound, the verb in the higher clause may determine from whose point of view the report is made.

However, we have not yet given an explanation as to why different types of reflexives governed by the same verb will have different interpretations. This question will be discussed in Chapter 7.

In the next chapter, we shall see whether or not verbal selection can apply to the reflexive clitic.

FOOTNOTES

(1) In Chinese, *ziji*, *taziji* and *ziji-benshen* can all be emphatic as well as generic.

I Emphatic

- a. Zhangsan ziji ye zheyang shuo
self also so say
- b. Zhangsan taziji ye zheyang shuo
himself also so say
- c. Zhangsan ziji-benshen ye zheyang shuo
self-self also so say
'Zhangsan himself also said so'

II Generic

- a. Zhangsan zhi kaolu ziji de liyi
only consider self DE benefit
- b. Zhangsan zhi kaolu taziji de liyi
only consider himself DE benefit
- c. Zhangsan zhi kaolu ziji-benshen de liyi
only consider self-self DE benefit
'Zhangsan only considers his own benefit'

In (I) and (II), the translations of sentences (a), (b) and (c) are the same.

CHAPTER SIX

CHINESE REFLEXIVE CLITICS

6.0 INTRODUCTION

In the last chapter, I discussed the relationship between verbal selection and the interpretation of the reflexive pronouns *ziji*, *taziji* and *ziji-benshen* governed by the verb in object position. We now turn to the case of reflexive compound verbs and reflexive-verb idiomatic constructions, in which a reflexive element precedes a verb.

As pointed out by Faltz (1985), the lexical entry of a verb in Japanese may contain a reflexive element. This phenomenon also occurs in Chinese. Chinese has reflexive compound verbs such as *zisha* 'to commit suicide' and *zizhe* 'to reproach oneself', and there is also a kind of reflexive-verb idiomatic construction exemplified by *ziwo-jieshao* 'to introduce oneself'. In traditional Chinese grammar, *zisha* is classified as a compound verb consisting of a reflexive morpheme *zi* and a transitive verbal morpheme, while *ziwo-jieshao* is classified as a word-cluster consisting of a disyllabic reflexive *ziwo* and a disyllabic transitive verb.

In this chapter, we argue that the properties of the verbs also affect the interpretation of the reflexive element in reflexive compound verbs and reflexive-verb constructions. Moreover, we also discuss the locality of the element in these reflexive constructions and give an explanation for this phenomenon. (In Chapter 7, we will go further in our discussion of this issue.)

This paper is organised as follows: Section 6.1 is an introduction to the reflexivisation system in Classical Chinese. Reflexive *zi + verb* compound verbs in modern Chinese are studied in Section 6.2, while Section 6.3 discussed *ziwo + verb* constructions. In section 6.4, we propose that *zi* in *zi + verb* compound verbs may be put down to morphological compounding. In Section 6.5, I propose that *zi* in Classical Chinese and *ziwo* in *ziwo + verb* constructions have undergone LF movement in a similar way to

clitics in Romance languages. Section 6.6 draws out some consequences of this proposal.

6.1 CLASSICAL CHINESE VS MODERN CHINESE

6.1.1 The evolution of the Chinese reflexive *zi*

As we discussed in Chapter 1, the reflexivisation system of Modern Chinese developed from the reflexivisation system of Classical Chinese, and has inherited some of its properties. In this chapter, we discuss one kind of reflexive, namely *zi*. For convenience, I shall introduce it briefly below.

In Classical Chinese, every character represents a syllable, a morpheme and a word with independent meaning. For instance, 休 can be pronounced as *xiu*. This is a morpheme, but is also a word in its own right, meaning 'to have a rest' or 'to stop'.

Classical Chinese had three distinct reflexives, *ji*, *shen* and *zi*.⁽¹⁾ Here, we are only interested in *zi* 'self'. *Zi* appears in the 'I CHING' (approx 770 BC). Faltz (1985) claims that reflexives in most languages mean 'body', 'head' or 'part of body', and this was clearly the case with the Chinese reflexive *zi*. In the seal script of the Qin dynasty (approx 200 BC), the character *zi* kept its original shape '𠄎', which was a 'nose'. In the Song or Yuan Dynasty (approx 960-1380 AD), colloquial Chinese writings appeared. In 'SONG YUAN HUA BEN' (A Text of Stories in Song and Yuan Folk Literature), the disyllabic reflexive *ziji* appeared, but as far as I can tell, *ziji* was allowed only in a subject or possessive position. In the Ming and Qing Dynasty (1368-1911), colloquial Chinese in folk literature (in written form) became increasingly popular. Reflexive *ziji* started to occur in object position during this period, for instance, in the novel 'DREAM OF THE RED MANSION'. At the same time, *zi* + *verb* constructions developed into compound verbs. After the New Cultural Revolution, in the early 1920s, written Chinese evolved into the fully colloquial form of Chinese which is spoken today. In Modern Chinese, reflexives are well developed, and, indeed, the reflexivisation system has become more complex.

Zi + *verb* reflexive compound verbs and *ziwo* + *verb* reflexive-verb idiomatic constructions have been very widespread in colloquial Chinese in Mainland China since 1949.

6.1.2 *Zi* in Classical Chinese

Zi was the reflexive in literary classical Chinese, according to Wang (1947), Gao (1957) and Chao (1968), among others. According to Gao (1957), *zi* could be in subject position as well as in object position.

- (1) a. “Zi zhi yu?” yue, “Fou! Yi shu yi zhi.”
 Self weave PER answer no with grain exchange it
 “‘Did you weave it yourself?’” (Pro) answers: “No, I exchanged grain for it.” (MENGZI: ‘Lilou’)
- b. Bixia xinger she qian zhi, zi ji er si
 majesty lucky remit change him self ill then die
 ‘Luckily, Your Majesty remitted and demoted him, he himself fell ill and died’ (HANSHU: ‘Jiayi Zhuan’)
- (2) a. Gong_i ze zi_i shang, gui he neng shang gong
 You self hurt ghost how can hurt you
 ‘It is you who hurt yourself, how can a ghost hurt you?’ (ZHUANGZI: ‘Da Shen Pian’)
- b. Fu ren_i bi zi_i wu, ran hou ren wu zhi
 people must self insult thus after people insult him
 ‘People must insult themselves first, before others can insult them’
 (MENGZI: ‘Li lou’)

Sentences (1a) and (1b) show that the reflexive *zi* could occur in the initial position in the sentence, which is assumed to be a subject position, while (2a) and (2b) show that it could also occur in an object position. However, Wang (1947), followed by Yang and

He (1992), disagreed that *zi* can occur in a subject position, claiming that “*zi* is, in fact, an anaphoric pronoun in an object position. It occurs neither in a subject position, nor in a goal position.”⁽²⁾ According to Wang (1947), “*zi* can be interpreted as meaning that the action in question affects oneself alone and not others, or the action was made by oneself not somebody else.” He gave the following illustration:

(3) Guo_i bi zi_i fa er hou ren fa zhi
 country must self attack then people attack it
 ‘A country must attack itself first, before others attack it’ (ie a country will be attacked if it shows its own weakness and gives others the chance to attack’)
 (MENGZI: ‘Li lou’)

(4) Dasima Jiu_i, Zhangshi Yi_j, Saiwang Xin_k jie zi_{i+j+k} jing Fa shui shang
 all self kill river on
 ‘Dasima Jiu, Zhangshi Yi and Saiwang Xin all committed suicide on the Fa River’ (SHIJI ‘Xiangyuben ji’)

(5) Junzi_i yi zi_i qiang bu xi
 gentleman YIself strong not stop
 ‘A gentleman should himself constantly strive to become stronger’

Zi is actually an object of the local verb *fa* ‘attack’ in (3) and of *jing* ‘kill’ in (4). Since the verb *qiang* is an intransitive verb, *zi* in (5) may be assumed to be an adverbial. In fact, it is difficult to distinguish *zi* in subject position from *zi* in an adverbial position⁽³⁾ in a sentence such as (1), since Chinese is a pro-drop language. One might argue that the subject is, in fact, a ‘pro’, referring to the second person *ru* or *jun* (formal form), as in (6):

(6) “Ru zi zhi zhi yu?” Yue: “Fou, yi shu yi zhi.”
 you self weave it answer no with grain change it
 “‘Did you yourself weave it?’ Answer: ‘No! I exchanged grain for it.’”

(6) is grammatical. In (1), however, *zi* does look like a subject. This is reminiscent of the problem of sentence-initial *ziji*, discussed by Tang (1989). However, the issue will not be taken up here; I leave the question for future research.

What interests me is that *zi* can occur as an object, and that when it does, it must precede the verb (see Wang 1957, Gao 1957 and Chao 1968). Example (3), repeated in (7), shows that *zi*, although it is actually an object, is in a pre-verbal position:

- (7) Guo_i bi zi_i fa er hou ren fa zhi
country must self attack then people attack it
'A country must attack itself first, before others attack it'

In short, *zi* was a reflexive in Classical Chinese. It first appeared in 770 BC. As the object of a verb, it precedes the verb and refers to the local subject.

6.1.3 Verbal selection with reflexive *zi*

Just like Modern Chinese verbs, the transitive verbs in Classical Chinese can also be sub-divided into three groups: Group 1 *zizhi* verbs, Group 2 *tazhi* verbs and Group 3 *zhongxing* verbs. Since *zi* cannot be LDB in Classical Chinese, we shall ignore the Group 1 verbs, and only discuss what will happen if it is governed by a Group 2 or Group 3 verb, as shown in (8):

- (8) a. Group 2 verb
Kua Fu zhu ri
chase sun
'Kua Fu chased the sun' (SHANHAIJING)
- b. Group 3 verb
Ning xin du, wu zi xin ye
would like trust measure not self trust PER
'I would like to trust the measure rather than myself' (HANFEIZI)

As in Modern Chinese, Group 3 verbs can have reflexive *zi* as their objects, but Group 2 verbs cannot. In other words, Group 2 verbs require their object not to be identical to their local subjects, otherwise the sentence is ungrammatical, as in (9):

(9) * Kua Fu zi zhu

The ungrammaticality of (9) shows that Group 2 verbs determine that the report is made outside of the clause from the speaker's point of view. *Zi* in Classical Chinese is associated with locality and, unlike *ziji*, cannot be long-distance bound, even though, in common with *ziji*, it has no phi-features. Wang (1947) proposed that *zi* must always refer to the local agent, while *ji* might be long-distance bound.

- (10) a. Xian_i kong tianxia xueshi_j shan ji_{i/*j}, bing zhi
 worry world scholar laugh self hate him
 'Xian worried that scholars all over the country would laugh at him, so he hated him' (HANSHU 'Ning xin zhuan')
- b. Xian_i kong tianxia xueshi_j zi_i shan, bing zhi
 worry world scholar self laugh hate him

In (10a), *ji* is governed by a Group 3 verb, and it can be long-distance bound to the matrix subject *Xian* (but not to the local subject *tianxia xueshi* 'the scholars of the world', because the subject of *bingzhi* is a pro, which must refer to *Xian*, therefore if *ji* refers to the local subject, the sentence will be ruled out on semantic grounds). However, when *zi* replaces *ji* in (10b), the sentence will be ruled out: it is impossible for the hearer to get the same reading as for *ji* in (10a). The reason is that if *zi* refers to the local subject, it will be ruled out on semantic grounds, just as with *ji* if it refers to the local subject in (10a). If *zi* refers to *Xian*, the sentence is still ruled out, since *zi* is associated with locality. We shall put the question on one side for a moment and come back to discuss it later.

6.2 REFLEXIVE COMPOUND VERBS IN MODERN CHINESE

6.2.1 What is a compound?

It is well-known that Chinese has undergone historical changes. Nowadays, most Chinese words are compounds (even though we still have monomorphemic words). A **compound** is a word consisting of two or more characters/morphemes with individual sounds, which may be unable to appear independently, and its meaning depends upon the whole compound word. For instance, *li* in Classical Chinese had the independent meaning of (i) texture, grain; (ii) reason, truth; (iii) science; (iv) to manage; and so on. In modern Chinese, it must be incorporated into a bisyllabic word such as *chuli* 'deal with', 'dispose of', 'handle'; *guanli* 'manage', 'run'; *zhili* 'administer', 'govern', 'bring under control'; *zhuli* 'assistant'; *zhenli* 'put in order', and so on. Compare the pair of sentences in (11) and (12):

(11) In Classical Chinese

Ri li wan ji
day deal with ten thousand document
'Every day, (he) had to deal with ten thousand documents'

(12) In Modern Chinese

Meitian yao chuli shangwan jian wenjian
every day need deal with more than ten thousand CL document

(11) is a sentence in Classical Chinese, which has the exact same meaning as sentence (12) in Modern Chinese. However, *li* is a monosyllabic word with an independent meaning in Classical Chinese, while in Modern Chinese, as in (12), it becomes a morpheme in a bisyllabic word and its meaning is decided by the whole bisyllabic word in which it occurs.

There are five distinct ways of combining morphemes to produce a compound word, as follows (for detail, see Liu Y H, 1984):

- (13) a. *Lianhe she* ‘coordinative formula’, which consists of two morphemes which have similar morphological features.
Eg *bangzhu* ‘help’. *Bang* and *zhu* have the same meaning, ‘help’, and both are verbs in Classical Chinese.
- b. *Pian-zheng she* ‘modification formula’, which consists of a modifier morpheme together with the morpheme which it modifies.
Eg *niaohan* ‘get a bird’s-eye view’. *Niao* means ‘like a bird’, and *han* means ‘look’. *Niao* modifies *han*.
- c. *Dong-bing she* ‘verb-object formula’, consisting of a verbal morpheme with a noun morpheme as its object.
Eg *guzhang* ‘clap one’s hands’. *Gu* is a verbal morpheme meaning ‘beat, clap, make a sound’ and *zhang* is the object, meaning ‘hands’.
- d. *Buchong she* ‘complemental formula’, consisting of a verbal morpheme and a modifier which complements it. The modifier must follow the verbal morpheme.
Eg *shuoming* ‘explain’. *Shuo* is a verbal morpheme meaning ‘say’, while *ming* is a modifier, meaning ‘clear’.
- e. *Zhuwei she* ‘subject-verb formula’. *Zhu* means ‘subject’ and *wei* means ‘predicate’ or verb.
Eg *xinteng* ‘love dearly’. *Xin* functions as a subject, meaning ‘heart’, while *teng* functions as a predicate, meaning ‘be fond of’ or ‘love’.

Here, we are only interested in (13c), since such formulae retain the structure of a verb governing an NP. We try to find out what will happen if there is a reflexive functioning as an object morpheme in a *dongbing she* ‘verb-object formula’. This issue will be the subject of the next section.

6.2.2 Reflexive compound verbs

Having introduced what a compound is, in this section we concentrate on the issue of *zi* contained as a morpheme in compound verbs. Consider the following sentences:

- (14) a. Zhangsan_i laoshi zikua
 often self-praise
 ‘Zhangsan often sings his own praises’
- b. * Zhangsan laoshi zizou
 often self-go
- c. * Zhangsan laoshi kuazi
 often praise-self
- d. * Zhangsan laoshi zizhui
 often self-chase
- e. * Zhangsan_i laoshi zikua Lisi_j
 often self-praise
- f. * Zhangsan_i shuo Lisi_j laoshi zi_ikua
 say often self-praise

The compound verb *zikua* in (14a) contains the reflexive morpheme *zi* and a verbal morpheme *kua* ‘praise’, which is transitive. In Modern Chinese, it is possible to say *Ta changchang kua ziji* ‘He often sings his own praises’, *Zhangsan changchang kua ta de erzi* ‘Zhangsan often sings his own son’s praises’. If an intransitive verb such as *zou* ‘to go’ (as in (14b)) is used, the sentence will be odd. It is also impossible for *zi* to follow the verbal morpheme *kua*, as in (14c). A Group 2 verb cannot function as the verbal morpheme in a compound verb of this type. (14d) is odd because of *zhui* ‘chase’, which is a Group 2 verb. (14e) shows that as soon as *zi* is incorporated into the verb, the entire compound verb will function as an intransitive verb, and be unable to take an object. Even though *zi*, in common with *ziji*, has no phi-features, it must refer to the local subject. From (14), we can see that this type of compound has the properties listed in (15) below:

- (15) a. A reflexive compound verb is a verb consisting of a reflexive morpheme and a transitive verbal morpheme, excluding Group 2 verbs.
- b. An entire reflexive compound verb functions as an intransitive verb.

- c. In a reflexive compound verb, the reflexive morpheme *zi* must precede the verbal morpheme.
- d. The reflexive morpheme *zi* in the reflexive compound verb may only refer to the local subject.

According to Wang (1947), the meaning expressed by a reflexive compound verb can also be expressed using the construction: ‘...*ziji* + verb + *ziji*...’. This formula emphasises that *zi* + *verb* must be locally bound.

- (16) a. Ta_i zi_isha le
 he self-kill ASP
 ‘He killed himself’
- b. Ta_i ziji sha le ziji_i
 he self kill ASP self
 (Lit) ‘He himself killed himself’ (He committed suicide)
- (17) a. Zhangsan_i laoshi zi_ikua
 often self-praise
 ‘Zhangsan often sings his own praises’
- b. Zhangsan_i laoshi ziji kua ziji_i le
 often self praise self ASP
 (Lit) ‘Zhangsan himself often praises himself’

As discussed in the last chapter, *ziji* may refer to an entity outside the local clause if it is governed by a Group 2 or 3 verb. However, if there is an intensifying *ziji* modifying the local verb, anaphoric *ziji* must refer to the local subject, in which case the logophoric interpretation of anaphoric *ziji* is impossible. The formula given by Wang (1947) emphasises that the anaphoric reflexive morpheme *zi* contained in the reflexive compound verb must refer to the local subject.

6.2.3 *Zi + verb* in Classical Chinese vs *zi + verbal morpheme* in Modern Chinese

From the interpretations in (16) and (17), it seems reasonable to assume that the reflexive compound verb has inherited the properties of the reflexive *zi + verb* construction in Classical Chinese. In other words, the compound retains the classical structure. It is clear for a native speaker that if s/he wishes to make his/her writing shorter and more elegant, s/he can use more classical words in his/her sentences, just as some English speakers like to use some French in their speech or writing. In addition, the position of *zi* before the verb may impose locality restrictions (we shall discuss this in a later section). This point may also be supported by the following:

- (18) a. Zhezhong ren_i zishi shen gao
 this-kind man self-see very high
 ‘This kind of people think very highly of themselves’ (MAO
 ZEDONG’S WORKS)
- b. * Zhezhong ren zikan shen gao
 this-kind people self-see very high
- (19) a. Ta_i zisi bu shi shang daxue de liaozhi
 he self-think not is go university DE material
 ‘He thought that he was not the sort of person who could enter the
 university’
- b. * Ta zixiang bu shi shang daxue de liaozhi
 he self-think not is go university DE material

(18a) and (19a) are perfectly grammatical, but (18b) and (19b) are odd, even though their meanings are identical to (18a) and (19a). The crucial difference between the A set and the B set in (18) and (19) lies in the verbal morphemes: *kan* ‘see’ and *xiang* ‘think’ in the B set are more colloquial than *shi* and *si* in the A set, which normally occur in the more classical written form. We may thus assume that *zi* can only occur in a reflexive compound verb if it consists of a classical verbal morpheme. From this

point of view, I assume that *zi* in reflexive compound verbs inherits its properties from Classical Chinese.

Of course, there is a difference: according to traditional grammarians, in Classical Chinese, *zi* and the verb which governs it form a construction of two independent words, while the Modern Chinese *zi* + *verbal morpheme* compound verb form is one word. Therefore, for *zi* in Classical Chinese the boundary is the clause, while in Modern Chinese the boundary is the word.

6.3 *Ziwo* + bisyllabic verb construction

6.3.1 What is the *ziwo* + *verb* construction?

Another interesting issue in Modern Chinese is the reflexive construction containing the reflexive *ziwo*, which Chao (1968) says is “also used for ‘ego’ in describing kinship relations at present day” and a bisyllabic verb. It differs from the reflexive compound verb *zi* + *verbal morpheme* in that the verbal morpheme in the latter is a syllable, not an independent word, while in the *ziwo* + *verb* idiomatic construction, the verb is made up of two syllables and has an independent meaning and a grammatical and syntactic function. However, these two forms do have some common properties: both *zi* in *zi* + *verb* and *ziwo* in *ziwo* + *verb* precede the verb; also the verbs themselves in both are basically transitive, but lose the ability to take a direct object when forming part of either type of compound.

This property of the *ziwo* + *verb* construction is illustrated in the following examples:

- (20) a. Ta, ziwo, jiantao le yifan
he self-examine ASP once
‘He examined himself’
- b. * Ta jiantao ziwo le yifan
he examine-self ASP once

- c. * Ta ziwo jiantao le Lisi
he self-examine ASP
- d. * Ta ziwo zoulai le
he self-come ASP
- (21) a. Zhangsan, ziwo, jieshao le yifan
self-introduce ASP once
'Zhangsan introduced himself'
- b. * Zhangsan jieshao ziwo le yifan
introduce-self ASP once
- c. * Zhangsan ziwo jieshao le Lisi yifan
self-introduce ASP once
- (22) a. Lisi, jieji ziwo-biaobang
get-chance self-boost
'Lisi got the chance to sing his own praises'
- b. * Lisi jieji biaobang ziwo
get-chance boost-self
- c. * Lisi jieji ziwo biaobang Zhangsan
get-chance self-boost

The A set of (20)-(22) are fine. In the B set, *ziwo* follows the verb, and these sentences are odd. In the C set, the *ziwo + verb* construction takes an object, and the sentences are ruled out. (20d) is also ungrammatical, since the verb in the *ziwo + verb* construction is intransitive.

Ziwo obligatorily precedes the verb of which it is the object, as does *zi* in Classical Chinese. To my knowledge, there is only one exception, from MAO'S WORK, in which *ziwo* follows the verb:

- (23) Zhishifenzi xihuan biaoxian ziwo
intellectual like show-self
'Intellectuals like to show off'

Putting aside this exceptional case, we can summarise the *ziwo* + *verb* idiomatic construction as follows:

- (24) a. *Ziwo* + *verb* is a reflexive-verb idiomatic construction.
- b. Both *ziwo* and the verb in *ziwo* + *verb* are bisyllabic, and have independent meaning and grammatical functions.
- c. The reflexive *ziwo* must precede the verb and refer to the local subject.
- d. The verb in *ziwo* + *verb* constructions must be transitive.
- e. *Ziwo* + *verb* constructions cannot take a direct object.

6.3.2 Verbal selection with *ziwo* + *verb* construction

Having discussed the properties of the *ziwo* + *verb* construction, let us now examine how verbal selection is involved in this construction.

Consider the following sentences:

- (25) Zhangsan_i daochu ziwo_i xuanyao
everywhere self show-off
'Zhangsan shows off everywhere'

- (26) * Zhangsan zai ziwo-genzong
ASP self go-in-hot-pursuit-of

- (27) Zhangsan_i ziwo_i piping le yifan
self criticise ASP once
'Zhangsan criticised himself once'

In (25), the local verb is a Group 1 verb, and the sentence is fine. So is (27), where the local verb is a Group 3 verb. However, (26) is ungrammatical, because of the Group 2 verb which serves as the local verb. As we have seen, *ziwo* must be locally bound to the local subject, while Group 2 verbs require that their object be disjoint from the local

subject. Therefore, the two items clash, showing that *ziwo* + *verb* constructions must obey the verb selection rule.

6.3.3 Verb + *ziji* vs *ziwo* + verb

In this section, we are going to discuss the differences between constructions consisting of a verb followed by the reflexive *ziji* and of *ziwo* followed by a verb.

As shown in (22) and (24), *ziwo* normally precedes the verb which takes it as an object, but *ziji* does not:

- (28) a. Weiling_i zhineng ziwo_i xinshang
 only-can self admire
 (Lit) 'Weiling can only herself admire herself'
- b. * Weiling_i zhineng ziji_i xinshang

Comparing (28a) and (28b), first, we see that there is a big difference between anaphoric *ziji* and *ziwo*, which is that anaphoric *ziji* will not be allowed to precede the verb, while *ziwo* is not allowed to follow it. If one sees a sentence like (28b), one will assume that the *ziji* is no longer anaphoric, but may be an adverbial. This can be checked by adding an object: *Weiling zhineng ziji xinshang zhefu hua le* 'Weiling herself can only appreciate this picture alone'. It is clear that *ziji* is no longer an object of *xinshang* 'appreciate, admire'. *Ziji*, as an adverb preceding a verb, also differs from *ziwo* preceding the verb.⁽⁴⁾ I am not going to discuss this here.

Secondly, *ziji* in *verb* + *ziji* constructions can have a logophoric usage. This is not possible for *ziwo* + *verb* constructions, where *ziwo* can only be locally bound to the local subject.

- (29) a. Lingdao de hua shenshen de gandong le ziji
 leader 's words deeply DE touch ASP self
 (Lit) 'The leader's words deeply touched me'

- b. *Lingdao de hua shenshen de ziwo gandong
 leader 's words deeply DE self-touch

In (29a), the object is *ziji*, which must refer to a speaker outside the clause; in (29b), where *ziwo* replaces *ziji*, the sentence is ungrammatical. The reason is that *ziwo* cannot be used logophorically.

Thirdly, Group 2 verbs cannot govern *ziwo*, but may govern *ziji*:

- (30) a. (Ta zhidao) youren zai genzong ziji
 he know somebody ASP go-in-hot-pursuit-of self
 'He knows that somebody is in hot pursuit of me'
- b. * (Ta zhidao) youren zai ziwo genzong
 he know somebody ASP self go-in-hot-pursuit-of

In (30a), *ziji* is governed by the Group 2 verb *genzong*, and the sentence is fine, since *ziji* can refer to the entity in the matrix clause, or, in a simple clause, to an entity in discourse. (30b), however, is ungrammatical. Because the local verb requires *ziwo* as its object to be disjunctive with the local subject, while *ziwo* is associated with locality, there is conflict, thus the sentence is ruled out.

In short, *ziwo* and *ziji* are both reflexives without phi-features, but they differ from each other in the following ways: first, *ziji* as an anaphoric element must follow the verb which governs it, while *ziwo* must precede the verb; secondly, *ziji* can be governed by a Group 1, 2 or 3 verb, while *ziwo* can only be governed by a Group 1 or 3 verb, and not by a member of Group 2; thirdly, *ziji* can be long-distance bound, or even sentence-free, while *ziwo* must be locally bound. The data show that *ziwo* is associated with locality. We shall discuss why this is so later in this chapter.

6.4 A morphological analysis of *zi + verbal morpheme* reflexive compound verbs

In this section, we return to reflexive compound verb made up of *zi + verbal morpheme*.

In traditional Chinese grammar, *zi + verb* forms a word. According to the lexicalist hypothesis, there is a rule in the language that involves the compounding of a noun with a verb, in such a way that the noun 'qualifies' one of the theta roles of the verb. According to this analysis, in *zi + verb* compound verbs, *zi* can receive an anaphoric theta role from the verb, as in *lifa* 'to have a haircut', consisting of *li* 'cut' and *fa* 'hair', where *fa* receives the theta role of theme from the verb. As soon as the noun morpheme has received the theta role from the verb, the verb becomes intransitive.

With this analysis, two things must be explained: first, *zi + verbal morpheme* reflexive compound verbs inherit the properties of Classical Chinese, and the verbal morpheme must be a more literary word. Why is this so? Secondly, why does *zi* precede the verb?

I do not intend to deal with this issue further here, but leave it open for the moment.

6.5 LOCALITY - INTERPRETATION OF REFLEXIVE BY MOVEMENT A MOVEMENT HYPOTHESIS FOR *ZI* IN CLASSICAL CHINESE AND *ZIWO* IN MODERN CHINESE

6.5.1 Reflexive clitic in French and other languages

Before going further to discuss the movement of *zi* in Classical Chinese and *ziwo* in Modern Chinese, let us look at clitic movement in some Romance languages. Many Romance languages, including French, have reflexive verbs, as shown below:

- (31) Il_i se_i $haît$
he self hate
'He hates himself'

(32) Jean_i se_i donne l'argent
self give the money
'John gives himself the money'

(33) Jean_i s_i'achète le livre
self-buy the book
'John buys himself the book'

In the French sentences (31)-(33), the clitic *se* is incorporated into and precedes the verbs *haït* 'hate', *donne* 'give' and *achète* 'buy', turning them into reflexive verbs. Sentences (31)-(33) will be understood as reflexive constructions, with the reflexive as object of the verb. Kinyarwanda, an African language, seems to have similar constructions:

(34) Yoheeani_i yiiguse na Bill
3sg+past+R_i+by+ASP with
'Yoheani bought himself from Bill'

The reflexive verb consists of two morphemes: the regular verb morpheme and a reflexive morpheme. Once the reflexive morpheme is incorporated into the verb, the verb will be understood as a reflexive verb and the sentence interpreted as a reflexive construction, with the reflexive in the object position of the verb.

The reflexive element in such constructions has been called a reflexive clitic, and must be cliticised to the verb. Following Lebeaux (1985), Chomsky (1986a) discusses Romance languages, speaking of "a reflexive clitic binding a trace in the object position...." (p 175). Following Chomsky, it can be assumed that the French sentences in (31)-(33) have the following structures:

(35) Il se haït e
he self hate
'He hates himself'

(36) Jean se donne l'argent e
 self give the money
 'John gives himself the money'

(37) Jean s'achète le livre e
 self-buy the book
 'John buys himself the book'

In (35), (36) and (37), corresponding to (31), (32) and (33) respectively, there is a reflexive chain $\langle se, e \rangle$. The clitic *se* moves from object position to an adjoined position, adjoined to the head of VP. As a result, *se* itself c-commands its trace, with the consequence that *se* must be bound to the local subject.

6.5.2 Movement of the reflexive *zi* in Classical Chinese

Let us now consider *zi* in Classical Chinese. If we assume that there is reflexive movement, we will have structures like that in (35):

(38) a. Fen cai bi duo zi yu
 distribute money surely more self give
 'When distributing the money, he surely left more for himself'
 b. Fen cai bi duo zi yu e $\langle zi, e \rangle$

There is reason for arguing that the structure for (38a) given in (38b) is the correct one. Recall the reflexive *ji* in the previous section. Given that word order in Chinese is SVO, *ji* must occur in object position (except in negative sentences, in which *ji* and *shen* also have to precede the verb⁽⁵⁾), and one would likewise expect *zi* to follow the verb. However, as we have seen, *zi* precedes the verb. This positioning is impossible without movement, which should be analogous to clitic movement in the Romance languages. We follow the further, standard assumption that Universal Grammar includes a principle stating that when an element moves, it leaves behind a trace, a

category with no phonetic features that is bound by the moved element so that the projection principle is satisfied. Thus, we may conclude that the reflexive *zi* and its trace form a 'reflexive chain'.

(39) Reflexive chain

A reflexive chain is generated by movement of a reflexive element. It has all the properties of the head of the chain.

Since there is a chain, the trace must be governed. In (38), the reflexive element *zi* binds the trace, so Principle A is satisfied.

6.5.3 Movement of *ziwo* in the *ziwo* + *verb* idiomatic construction

If our analysis for *zi* in Classical Chinese is correct, we will expect that the movement hypothesis is also true for *ziwo* + *verb* constructions. Suppose we have a sentence like (40):

- (40) a. Zhangsan_i ziwo_i jieshao le yifan
 self introduce ASP once
 'Zhangsan introduced himself'
 b. Zhangsan ziwo jieshao le e yifan <*ziwo*, e>

Here, the object of the verb *jieshao* 'introduce' should be *ziwo*. Since *ziwo* has moved, there must be an empty category in the object position (similarly to *zi* movement), with *ziwo* binding it.

Furthermore, *ziwo* in the compound construction absorbs the verb's theta role, so that this can only be assigned to the reflexive chain.

6.5.4 The locally bound nature of *zi* in *zi + verb* and *ziwo* in *ziwo + verb*

Like the reflexive pronoun *ziji*, *zi* in Classical Chinese and modern *zi + verb* compound verbs, and *ziwo* in the *ziwo + verb* construction have no phi-features. Unlike *ziji*, they cannot be long-distance bound:

- (41) a. Wo/ni/ta/women/nimen/tamen ziwo jieshao le yifan
 I/you/he (she)/we/you/they self introduce ASP once
 ‘I/you/he (she)/we/you/they introduced myself/yourself/himself (herself)/
 ourselves/yourselves/themselves’
- b. Wo/ni/ta/women/nimen/tamen zisha le
 I/you/he (she)/we/you/they self-kill ASP
 ‘I/you/he (she)/we/you/they committed suicide’
- (42) a. Zhangsan_i shuo Lisi_j ziwo_ij jieshao le yifan
 say self introduce ASP once
 ‘Zhangsan said that Lisi had introduced himself’
- b. Zhangsan_i shuo Lisi_j zi_ij sha le
 say self kill ASP
 ‘Zhangsan said that Lisi had killed *him/himself’
- c. Zhangsan_i shuo Lisi_j jieshao le ziji_j yifan
 say introduce ASP self once
 ‘Zhangsan said that Lisi had introduced him/himself’

(41) shows that *zi* and *ziwo* have no phi-features. (42) shows that *zi* in *zi + verb* and *ziwo* in *ziwo + verb* constructions may not be long-distance bound, but *ziji* in (42) can.

It could be argued that in some cases involving infinitive clauses, such as (43)-(44), *zi* or *ziwo* can, in fact, be nonlocally bound:

- (43) [Zhaxie shibing dou xiang [zisha]]
 these soldier all want self-kill
 ‘These soldiers all wanted to commit suicide’

- (44) [Wanger_i gaosu Lisi_j mingtian qu [zishou]_i]
 tell tomorrow go self-confess
 ‘Wanger told Lisi that he would go and confess to his own crimes tomorrow’
- (45) [Zhexie shibing_i dou zhunbei qu [ziwo_i jiantao]_i]
 these soldier all prepare go self examine
 ‘These soldiers all prepared to examine themselves’
- (46) [Wanger_i gaosu Lisi_j mingtain qu [ziwo_i jiantao]_i]
 told tomorrow go self examine
 ‘Wanger told Lisi that he would go to examine himself tomorrow’

However, if we assume that there is a PRO/pro in the local subject position, it turns out that *zi* or *ziwo* must be coindexed with this:

- (47) [Zhexie shibing dou xiang [PRO zisha]_i]
 (48) [Wanger gaosu Lisi [pro mingtian qu zishou]_i]
 (49) [Zhexie shibing dou zhunbei [PRO ziwo jiantao]_i]
 (50) [Wanger gaosu Lisi [pro mingtian qu ziwo jiantao]_i]

On this analysis, it is clear that despite appearances, *zi* and *ziwo* must, in fact, be locally bound in infinitival clauses.

6.5.5 An explanation of locality effects with *zi* and *ziwo*

Having discussed the properties of *zi* and *ziwo*, we must now give an explanation for the observed locality effects. In Romance languages, a clitic must be locally bound, and so, it seems, must the reflexive elements *zi* and *ziwo*. Why is this?

We assume that all adjunct elements must be licensed, so that after a reflexive element moves to its adjoined position, it must be licensed by the local subject and thus get the same index as that subject. Huang and Tang (1991) argue that “the indices licensed by

the binding theory at S-structure cannot be undone in LF” (p 274). Therefore, the reflexives *zi* and *ziwo* will not undergo further LF movement, with the result that *zi* and *ziwo* have to be locally bound.

Now, as we mentioned earlier, the reflexive trace is bound by its reflexive head, and the head will have the same index as the local subject. Therefore, the trace, too, has the same index as the local subject.

6.6 CONCLUSION

We have argued that *zi* in Classical Chinese and *zi + verb* compound verbs in Modern Chinese, and *ziwo* in *ziwo + verb* constructions in Modern Chinese, both move in a way analogous to clitic movement in the Romance languages, since they appear cliticised to the verb. If the reflexive element moves and realises at S-structure the indices licensed by the binding theory at that level, this cannot be undone in LF, so it is impossible for *zi* and *ziwo* to move again at LF, resulting in their locally bound nature.

⁽¹⁾ Yang and He (1992) claim that *ji* appeared in SHANG SHU. *Ji* must follow the verb which governs it, and can be LDB.

⁽²⁾ ‘Goal’ for Wang (1947) means the object of a preposition such as *weile* ‘for’.

⁽³⁾ *Zi* could precede an intransitive verb, in which case it might act as an adverbial, which we may call the reflexive clitic adverbial. In this case, the adverbial *zi + verb* can take a direct object.

⁽⁴⁾ *Ziwo + verb* vs *ziji + verb*

In Chinese, emphatic *ziji* can precede a verb which it modifies, in the same form as *ziwo + verb*. In order to avoid confusion, we may distinguish the two in the following way: *ziji + verb* is an adverbial + verb construction, but *ziwo + verb* is an object + verb construction. Consider the following sentences:

- (1) a. Zhangsan shuo Lisi yinggai ziji qu
 say should self go
 ‘Zhangsan said that Lisi should go there himself’
 b. Zhangsan shuo Lisi ziji yigan qu
 say self should go
 ‘Zhangsan said that Lisi himself should go there’
- (2) a. Zhangsan shuo Lisi yinggai ziwo jiantao
 say should self criticise
 ‘Zhangsan said that Lisi should criticise himself’
 b. * Zhangsan shuo Lisi ziwo yigan jiantao
 say self should criticise

As shown in (1), a modal verb may intervene between *ziji* and the verb, but this is not so for *ziwo* + *verb*, as shown in (2).

Moreover, whereas the verb in *ziji* + *verb* can be either transitive or intransitive, the verb in *ziwo* + *verb* must be transitive. For instance:

(3) Zhangsan ziji lai
self come
'Zhangsan comes alone'

(4) * Zhangsan ziwo lai
self come

In (3) and (4), *lai* is an intransitive verb, and *ziwo* may not precede it, while *ziji* may.

Furthermore, the verb in an adverbial phrase *ziji* + *verb*, if transitive, can take any direct object, while the verb in a *ziwo* + *verb* compound can only take *ziwo* as direct object:

(5) a. Zhangsan shuo Lisi ziji jieshao le ziji de chengjiu
say self introduce ASP self DE achievement
'Zhangsan said that Lisi himself introduced his own achievement'
b. * Zhangsan shuo Lisi ziwo jieshao le ziji de chengjiu
say self introduce ASP self DE achievement

With these facts in mind, we conclude that *ziji* in *ziji* + *verb* is an adverbial, or emphatic element, while *ziwo* in *ziwo* + *verb* is an object.

⁽⁵⁾ In Classical Chinese, when *ji* and *shen* are objects, they normally follow the verb. They may, however, precede the verb if they are in a negative sentence. We assume that in this case, the presence of negation somehow forces the reflexive to move.

CHAPTER SEVEN

LOCALLY BOUND REFLEXIVES, THEIR INTERNAL STRUCTURES, AND MOVEMENT HYPOTHESIS

7.0 INTRODUCTION

In the last two chapters, I proposed that verbal selection plays an important part in reflexive binding. On the other hand, I also note that different kinds of reflexives governed by verbs of the same group may have different binding options. Why is this, and how can we capture it? In order to answer these questions, in this chapter, we shall discuss the internal structures of *ziji*, *taziji* and *ziji-benshen*, and find out how verbal selection interacts with the internal structures of the reflexives to determine possible anaphoric readings for the reflexives within the LF movement framework.

Pica (1987) and Reinhart and Reuland (1991) discussed the internal structure of reflexives. In their theory, a complex reflexive such as English *himself* is an NP, where the pronoun *him* is a determiner and the *self* element is the head noun. A simplex reflexive such as *seg* in Icelandic may occur in the determiner position, like a pronoun. Following the spirit of these analyses, I propose that every verb has two arguments: an external argument (ie the subject of the clause) and an internal argument (ie the object). Group 1 verbs require their two arguments to be identical, while Group 2 verbs require their two arguments to be disjoint from each other. I also assume that each kind of reflexive has two different structures: an anaphoric structure and a logophoric structure. The different structures are determined by the head of the reflexive: every reflexive head projects two arguments, and if one of these two arguments is unlinked (ie not saturated), it is an anaphoric structure, while if both arguments are linked (ie saturated), it is a logophoric structure. The anaphoric structure is responsible for LF movement: because one of its arguments is unlinked, the head of the reflexive NP must move and adjoin to V in order for that argument to link with the external argument of the verb. The logophoric structure is responsible for long-distance binding or sentence-free interpretation: since both arguments of the head of the reflexive are linked, there is

no movement involved, but there is a *pro* in the head position of the reflexive DP, which is subject to control theory. Whether a reflexive has an anaphoric structure or a logophoric structure is determined by the verb which governs it. If the verb belongs to Group 1, it requires the reflexive to have an anaphoric structure; if it belongs to Group 2, it requires the reflexive to have a logophoric structure. This kind of requirement is consistent with theta role assignment: Group 1 verbs can only assign an anaphoric theta role to their objects, so a reflexive in the object position must have an anaphoric structure; Group 2 verbs can only assign a disjoint theta role to their objects, so reflexives in their object position must have a logophoric structure.

This chapter is organised as follows: Section 1 discusses the internal structures of the reflexives, and proposes that the local, long-distance and sentence-free interpretations of the 'same' reflexive are actually the consequence of that reflexive having two possible internal structures. The differences in these structures will have the result that local reflexives undergo LF movement to the head of the V projection, while long-distance reflexives do not move. Section 2 shows how these structures interact with verbal selection to give us the complex patterns observed in Chapter 5. In Section 3, we will consider in more detail how the internal structures and movement requirements of the different reflexives interact with verbal selection to give us these complex patterns. Section 4 discusses the internal structure of reflexive clitic *zi* and *ziwo*. Section 5 is a conclusion.

7.1 THE INTERNAL STRUCTURES OF THE REFLEXIVES PROPOSED BY REINHART AND REULAND (1991)

In Chapter 2, I introduced Reinhart and Reuland's (1991) proposals that reflexives have complex internal structures. Here, we are going to adopt part of their proposal, so I shall begin by reviewing their proposal. In their paper, Reinhart and Reuland assume, with Higginbotham (1983) and Abney (1987), that the canonical structure of NPs is as in (1) below, where the determiner is viewed as saturating, or discharging, the argument in the N-grid.

(1) $[_{NP/DP} \text{Det}_i [_{N'} \dots N (x_i) \dots]]$

The notation NP/DP is used by Reinhart and Reuland in order to remain neutral between Higginbotham's NP and Abney's DP, but distinguishing between DP and NP as its complement will become crucial in our analysis later, for instance in (30) and (31).

They also assume that pronominals occur in determiner position, although in the case of simplex pronominals nothing hinges on this.

(2) Pronoun

$[_{NP/DP} \text{Pron} [_{N'} \dots e \dots]]$

As for anaphoric expressions, they assume that simplex reflexives like Norwegian *seg* differ from pronouns in that they lack (a complete specification for) phi-features (number, gender, person; see Chomsky 1981) and hence do not project an argument that can be interpreted independently. This lack of phi-features is taken to be the property responsible for their defective nature, which forces them to move. They are also in the head position of their projection, and are structurally identical to pronouns.

(3) SE-anaphor (Simplex Expression)

$[_{NP} \text{SE} [_{N'} \dots e \dots]]$

In the case of SELF-anaphors such as English *himself*, *self* is an N, rather than a determiner. Following Pica (1987), they claim that *SELF* has the lexical structure of a relational noun, ie its grid has two arguments, as in (4):

(4) SELF $\langle y, x \rangle$

Semantically, Reinhart and Reuland view *SELF* as an identity relation (identifying x and y). Combining *SELF* with a pronoun determiner, the structure will be as in (5):

- (5) a. Himself
 b. $[_{NP} \text{him/SE } [_{N'} \text{SELF } \langle y, x \rangle]]$
 └──────────────────┘

The pronoun in (5b) discharges one of the argument positions in the grid. However, the NP still contains one unsaturated argument (the second argument of self). *SELF* in (5b) expresses an identity relation between *him* and another argument, which needs to be found. This missing argument is responsible for the defective nature of *SELF*-NPs.

Reinhart and Reuland argue that these two types of anaphor differ in their grammatical functions. *SELF*-anaphors function as reflexivers, while *SE*-anaphors lack this function.

I assume that their proposal for locally bound *himself* is basically correct, but they may need to consider an internal structure for long-distance bound *himself* to show what differences there are between locally bound *himself* and long-distance and sentence-free *himself*, since in the literature a large corpus of attested examples of these latter have been found (for details, see Zribi-Hertz 1989). In the next section, we shall propose internal structures for the various Chinese reflexives, and argue that the structures for the local and non-local readings, for example, of *ziji*, must be distinct.

7.2 MY PROPOSAL OF INTERNAL STRUCTURES OF CHINESE REFLEXIVES

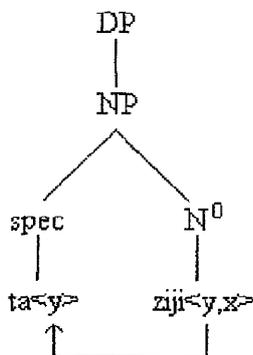
7.2.1 The internal structure of *taziji*

Following Reinhart and Reuland's (1991) proposal that the reflexives have internal structures and arguments to be saturated, I assume that locally bound *taziji* has the same internal structure as *himself* in English, as in (7), and I further assume that NP as usually understood is actually a DP, in the sense of Abney (1987), headed by a determiner or pronominal (D) and selecting an NP (the old N') as a complement. The pronoun *ta* in *taziji* must be a specifier of the reflexive NP, while *ziji* is the head N⁰ of

the reflexive NP. We assume that the DP above it is vacuous, although nothing much depends on it. Given a sentence as in (6), the internal structure of the reflexive *taziji* will be as in (7):

- (6) Zhangsan_i nuli kezhi taziji_i
 hard restrain himself

- (7) a. [DP [NP ta <y> [N⁰ ziji <y, x>]]]
 b. Tree diagram

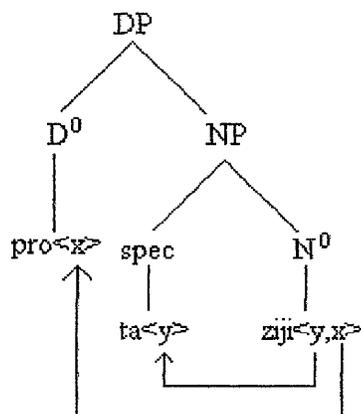


The head of DP is actually marginal here; it is not necessary to fill anything in. In the reflexive NP, the grid of *ziji* has two arguments <y, x>, of which <y> links to the specifier *ta<y>* in the same reflexive NP. Since the pronoun *ta* in *taziji* has some phi-features, the argument <y> is saturated. However, the argument <x> is still unlinked and unsaturated. The missing argument <x> makes the reflexive NP defective, and forces the reflexive to move at LF. When the reflexive NP receives an anaphoric role, its head, *ziji*, is allowed to link the argument <x> with the external argument of the verb. As soon as the argument of *ziji* is linked to the external argument of the verb, *ziji* is required to have the same phi-features as the external argument of the verb (ie the local subject). This is why *taziji* must be locally bound.

Let us consider the structure for non-locally bound *taziji*. Suppose that a Group 2 verb is the local verb. As we discussed in Chapter 5, a Group 2 verb requires its two arguments to be disjoint from each other, as in example (8). In this case, the internal structure of *taziji* must be different from the structure in (7). We can represent it as in (9):

- (8) Zhangsan_i yishedao youren_j zai genzong taziji_i
 realise somebody ASP go-in-hot-pursuit-of himself
 ‘Zhangsan realises that somebody is in hot pursuit of him’

- (9) a. [DP pro<x> [NP ta<y> [N^o ziji<y, x>]]]
 b. Tree diagram



When the Group 2 verb *genzong* is the local verb, as in (8), it can only assign a disjoint theta role to its object. Due to its dependent nature, a reflexive cannot receive a disjoint theta role. Assuming that there is a *pro* in the D position, the *pro* as the head of DP can receive the theta role and must be disjoint from the subject, satisfying the verbal requirement. Turning now to *ziji*, which has two arguments <y, x>, the argument <y> can link to the pronoun *ta* in the specifier of the reflexive NP, while the argument <x> can link to the determiner *pro*<x>. Since both pronoun *ta* and *pro* are assumed to have phi-features, both arguments of *ziji* are satisfied and *ziji* is saturated. On the other hand, since the *pro* receives a disjoint theta role, it is impossible for it to have the same phi-features as the local subject has. In other words, it must be disjoint from the local subject, but can refer to the higher subject in a complex sentence or to some entity in the discourse in a simple sentence. Thus, the long-distance and sentence-free readings are possible.

7.2.2 The internal structure of *ziji-benshen*

Let us now consider the internal structure of anaphoric *ziji-benshen*.

- (10) Ni liang dou yinggai piping ziji-benshen
 you two all should criticise self-self
 'Both of you should criticise yourselves'

(10) is an example of locally bound *ziji-benshen*. Reinhart and Reuland (1991) do not give any structure for a reflexive such as *ziji-benshen* in Chinese, *zibun-zisin* in Japanese and *cake-casin* in Korean. There are several possible ways for us to analyse the structure of *ziji-benshen*. First, both *ziji* and *benshen* could be in the determiner position, in the same way as the *SE* reflexive given by Reinhart and Reuland. This possibility is illustrated below:

- (11) [_{NP} ziji-benshen [_{N^o} ...e...]]

The problem with (11) is that Reinhart and Reuland give the internal structure of simplex reflexives which explains their long-distance nature. As we have seen, *ziji-benshen* is a typical locally bound reflexive. Obviously, (11) cannot be the correct structure for *ziji-benshen*, since we could not expect *ziji-benshen*, in general, to be long-distance bound. We would propose an alternative internal structure as in (12), where *ziji* is in the specifier position of the reflexive NP, while *benshen* is the head of the reflexive NP.

- (12) [_{NP} ziji<y> [_{N^o} benshen <y, x>]]

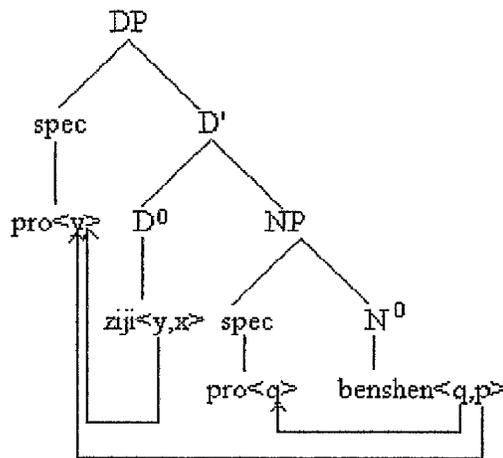
The problem here is that the *ziji* of *ziji-benshen* has no phi-features. According to Reinhart and Reuland (1991), it is impossible for *ziji* in the specifier position of an NP to discharge one of the arguments of the reflexive NP *benshen*, since it has no phi-features at all. We thus have to abandon the structure in (12), and instead choose the structure given in (13) below.

In (13), we assume that *ziji* is the head of the DP, and *benshen* is the head of the NP. The head of the reflexive NP *benshen* can project two arguments <q, p>, and the head

of the DP *ziji* can also project two arguments $\langle y, x \rangle$. We further assume that there is a specifier in the DP and a specifier in the NP, and both of these are *pro*. Therefore, *benshen* is saturated in the reflexive NP by linking its two arguments $\langle q, p \rangle$ to the specifier *pro* $\langle q \rangle$ in the same NP, and the specifier *pro* $\langle y \rangle$ in the DP. Thus, the arguments of *benshen* are saturated. Let us consider *ziji* in *ziji-benshen*. One of its arguments, $\langle y \rangle$, is assumed to link with the specifier *pro* $\langle y \rangle$, but there is still one argument $\langle x \rangle$ missing. The missing argument is waiting to be linked to an external human NP until a verb can assign an anaphoric theta role to it. When the missing argument of *ziji* can link to the external argument of the VP, *ziji* is saturated. In that case, *ziji-benshen* has an anaphoric reading.

(13) a. $[[_{DP} \text{pro}\langle y \rangle [_{D} \text{ziji}\langle y, x \rangle [_{NP} \text{pro}\langle q \rangle [_{N^0} \text{benshen}, \langle q, p \rangle]]]]]$

b. Tree diagram

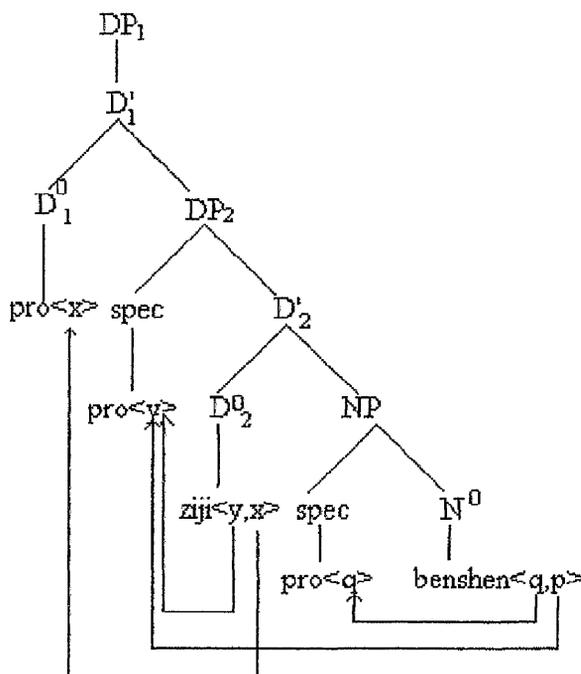


For non-locally bound *ziji-benshen*, the structure will be as in (15), where there is a higher DP (DP₁) headed by a *pro*, which then saturates the remaining argument of *ziji*.

(14) Zhangsan_i xiang zhe_j dei yuan ziji-benshen_i
 think this should blame self-self
 ‘Zhangsan thought that it should be blamed on him’

(15) a. $[[_{DP1} \text{pro}\langle x \rangle [_{DP2} \text{pro}\langle y \rangle [_{D} \text{ziji}\langle y, x \rangle [_{NP} \text{pro}\langle q \rangle [_{N^0} \text{benshen} \langle q, p \rangle]]]]]]]$

b. Tree diagram



In (14), *benshen* is saturated, as in (13), by linking its two arguments to $pro\langle q \rangle$ in the specifier position of the reflexive NP and $pro\langle y \rangle$ in the specifier position of the DP. However, *ziji* is not saturated if only one of its arguments is linked to the specifier of the DP. When the local verb can only assign a disjoint theta role to the object DP, due to the fact that the local subject is an inanimate NP (according to Williams, c-command is actually a theta command relationship, and if this is broken, it is impossible to assign an anaphoric theta role), the reflexive element *ziji* cannot receive an anaphoric theta role. In this case, there is only one possibility for linking if there is an element in the head position of a higher DP which may receive the disjoint theta role. This leads us to assume that there is a $pro\langle x \rangle$ in the head of DP_1 . Since there is a $pro\langle x \rangle$ in DP_1 , the second argument $\langle x \rangle$ of *ziji* can be satisfied.

The question is whether it is possible to have a higher DP at all. Let us look at the sentences in (16):

- (16) a. Zhe dei guai [Zhangsan ta ziji-benshen]
 this should blame him self-self
 'This should be blamed on Zhangsan himself'

- b. Zhe dei guai [Zhangsan ziji-benshen]
 this should blame self-self
 ‘This should be blamed on Zhangsan himself’
- c. Zhe dei guai [ta ziji-benshen]
 this should blame him self-self
 ‘This should be blamed on him himself’
- d. Zhe dei guai ziji-benshen
 this should blame self-self
 ‘This should be blamed on oneself/me myself’

In (16a), *ziji-benshen* is preceded by *Zhangsan* and *ta*; in (16b), it is preceded by *Zhangsan* alone, in (16c) by *ta* alone, and (16d) contains bare *ziji-benshen*. All of these sentences are well-formed. The difference is that in (16a) and (16b), *ziji-benshen* emphasises *Zhangsan*; in (16c), it emphasises any third person; and in (16d), *ziji-benshen*, in general, is assumed to emphasise the first person, but under certain circumstances may also emphasise somebody who is the topic of the sentence. The data suggest that there is, in fact, a *pro* in the higher D position.

If our assumption is correct, then under the appropriate circumstances, both the long-distance and sentence-free readings of *ziji-benshen* are possible.

7.2.3 The internal structure of the simplex reflexive *ziji*

Let us now turn to the simplex reflexive *ziji*. As discussed in Chapter 5, if *ziji* is governed by a Group 1 verb, it can only be locally bound.

- (17) Zhangsan_i zhidao Lisi zai nuli kezhi ziji_i
 know ASP hard restrain self
 ‘Zhangsan knew that Lisi was restraining himself hard’

Reinhart and Reuland assume that pronominals occur in determiner position, although in the case of simplex pronominals nothing hinges on this. In this sense, SE-anaphors

(simplex expression reflexive) are structurally identical to pronouns. According to them, the Chinese simplex reflexive *ziji* in (17) should have the following structure:

(18) [NP/DP *ziji*...]

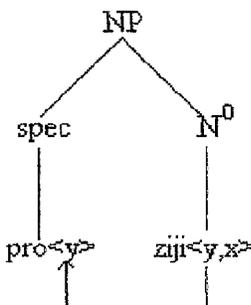
If this structure were the only possible one for *ziji*, we would expect that *ziji* must always be long-distance bound to its antecedent. We would then have to give an explanation for the locally bound *ziji* in (17). Moreover, we would have to give evidence that *ziji* in *taziji* differs from the simplex reflexive *ziji*. This is not easy to do. Instead, the easiest solution for us is to find the structure for locally bound *ziji* first. Since *ziji* governed by a Group 1 verb, in common with the element *ziji* in *taziji*, must be locally bound, we provisionally propose the structure in (19) for locally bound *ziji*:

(19) [NP [N⁰ *ziji*<y,x>]]

Then, following Reinhart and Reuland, we assume that the simplex reflexive *ziji* in the N⁰, just like *ziji* in *taziji*, also projects two arguments, <y> and <x>. The problem is that in a simplex reflexive, unlike in *taziji*, the specifier position is empty. However, Chinese is a pro-drop language, in which the subject and the determiner can be easily dropped. For instance, if A asks B: “Have you been to China?” B answers: “*quguo*” ‘have been’. It is not necessary to repeat the subject and the locative phrase *China* to form a grammatical sentence. If A asks B: “Where is my book?”, B can answer: “*Shu? Wo gezai zhentou bian*” ‘Your book? I put it beside my pillow’. It is not necessary to use the determiners *your* and *my*. Assuming that every predicate can project two arguments, *quguo* ‘have been’ will take two arguments, and the dropped subject/determiner should be considered a pro (for detail see Huang 1987). Assuming that there is a pro in the specifier position of the reflexive NP, the problem is solved, as in (20):

(2) a. [NP pro<y> [N⁰ *ziji*<y, x>]]

b. Tree diagram



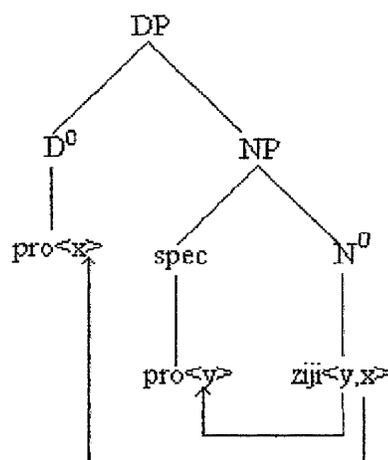
This structure is exactly equivalent to the structure of *taziji*. One of the arguments of *ziji* links to the *pro*<y> in the specifier position, which has some phi-features, and is saturated; the other one has not yet been linked. When the governing verb assigns an anaphoric patient theta role to the NP, *ziji* as the head of the NP receives this theta role and links to the external argument of the verb. This is why *ziji* has to be locally bound. Consider non-locally bound *ziji*, whose structure will be similar to non-locally bound *taziji*.

- (21) Zhangsan_i zhidao Lisi_j zai genzong ziji_{i'}_j
 know ASP follow self
 'Zhangsan knows that Lisi is following him'

Sentence (21) contains an example of long-distance bound *ziji*. As a Group 2 verb, *genzong* can only assign a disjoint theta role to its object NP. The head of the NP is an anaphoric *ziji*, which cannot receive the theta role, but this does not stop the verb assigning a disjoint theta role to the head of the DP, which could be a *pro*, giving the structure in (22):

- (22) a. [DP pro<x> [NP pro<y> [N^o ziji<y,x>]]]

b. Tree diagram



One of the arguments of *ziji* is linked to *pro*<*y*> in the specifier position of the reflexive NP, while the other argument is linked to the head of the DP *pro*<*x*>. Since *pro* is assumed to have some phi-features, *ziji*'s arguments are saturated, and it behaves as an emphatic reflexive. In this case, as the head of the DP, *pro*<*x*> can refer to the higher subject or to an entity in discourse, and long-distance binding and sentence-free interpretation are possible.

7.2.4 Pro-drop in Chinese

Assuming that there is a *pro* either in the head position of a DP or in the specifier position of an DP/NP, how can we get the expected reading? In this section, we shall discuss the properties of *pro*.

In the work of Chomsky (1982), PRO is assumed to be a pronominal anaphor, while *pro* is a pure pronominal. According to Chomsky, the distribution of *pro* is assumed to be determined by the principle of 'recoverability' or 'identification hypothesis'. The idea is that a pronoun may be dropped from a given sentence only if certain important aspects of its reference can be recovered from other parts of the sentence. For instance, in a language like Italian or Spanish, the subject of a finite clause may be dropped, since the verb is well-marked with person, gender and number by tense/

agreement, and is easily recoverable. Turning to Chinese, Chinese does have some verbs which are marked semantically, for instance:

- (23) a. (Weiling was in labour all day yesterday, and felt awful...)
Jintian shangwu zongyu fenmian le
today morning at last give-birth ASP
'pro (she) eventually gave birth this morning'
- b. (Wangying is a very intelligent girl, who studied very hard when young)
Shiyi sui jiu jin le nüzi xuexiao
eleven year just enter ASP girl school
'pro (she) went to a girls' school when she was just eleven'

In (23a), there is a thematic agreement: *fenmian* 'give birth' is thematically marked with female, singular and third person, thus the missing subject is recoverable. In (23b), the whole predicate indicates that the subject must be a female singular and third person. However, most Chinese verbs are not marked for tense/agreement.

- (24) Zhangsan shuo [pro hen xihuan Lisi]
say very like
'Zhangsan said that he liked Lisi very much'

In (24), there is no predicate indicating the phi-features of the missing subject, yet a native speaker would understand that the pro refers to *Zhangsan*. Huang (1991) gives a Generalised Control Rule for pro:

(25) Generalised Control Rule

An empty pronominal is controlled in its control domain (if it has one).

- (26) A is the control domain for B iff it is the minimal category which satisfies both (a) and (b):
- a. A is the lowest S or NP that contains (i) B, or (ii) the minimal maximal category containing B.

- b. A contains a SUBJECT accessible to B.

(25) and (26) specify the environments in which *pro* must have a local, unique, non-arbitrary antecedent. If *pro* does not have a control domain, then it need not be controlled in this fashion. In the latter case, a *pro* may have long-distance or split antecedents, or its reference may be arbitrary or determined by pragmatic considerations. Huang argues that his theory predicts that a *pro* is allowed in Chinese if it has a higher category as its control domain and is properly controlled in that domain, or if it has no control domain at all (for details, see Huang 1989).

In this thesis, we do not intend to discuss control theory in great detail. What we are interested in is to give an account for the *pro* in our proposal. Let us recall the internal structures of the reflexives, given in the previous section. In the anaphoric expression of *taziji*, there is no *pro* involved, but there is one for logophoric *taziji*: [_{DP} *pro* [_{NP} *ta* [_{N°} *ziji*]]]. If we assume that *pro*, as head of DP, is recoverable, since the predicate *taziji* has phi-features, it must be third person, singular and male/female, and refer to an NP in a higher domain with the same phi-features as *ta* has. I illustrate this as follows:

(27) [_{IP} Zhangsan [_{VP} zhidao [_{CP} [_{IP} zhi [_{VP} shi zai piping [_{DP} *pro* [_{NP} *ta* [_{N°} *ziji*]]]]]]]]]]]

Let us now consider the anaphoric expressions *ziji* in (28) and *ziji-benshen* in (29):

(28) [Zhangsan nuli kezhi [_{NP} *pro* [_{N°} *ziji*]]]
 hard restrain self
 ‘Zhangsan restrains himself hard’

(29) [Zhangsan nuli kezhi [_{DP} *pro* [_{D°} *ziji* [_{NP} *pro* [_{N°} *benshen*]]]]]]]

In (28) and (29), there is no control domain for the *pro* in the reflexive NP or DP. However, the entire sentence is a control domain for it, since the verb in the entire sentence requires its object to be identified with the local subject, and the local subject is an accessible SUBJECT for *ziji* or *ziji-benshen*. Thus, the *pro* in the specifier

position of NP in (28) and that in the specifier position of DP in (29) has the local subject as its antecedent. The *pro* in the specifier position of the reflexive NP *benshen* should be considered to have a control domain in the reflexive DP, since the *pro* in the specifier of the DP has an antecedent, and can thus be the antecedent of the *pro* in the reflexive NP. Let us now look at logophoric reflexives.

(30) [Zhangsan_i zhidao youren zai genzong [DP *pro* [NP *pro* [N^o ziji_i]]]]
 know somebody ASP go-in-hot-pursuit-of self
 ‘Zhangsan knows that somebody is in hot pursuit of him’

(31) [Zhangsan_i zhidao zhe shi piping [DP₁ *pro* [DP₂ *pro* [D ziji [NP *pro* [N^o benshen_i]]]]]]]
 know this is criticise self
 self
 ‘Zhangsan knows that this is a criticism of him’

In (30) and (31), the *pro* in the head of DP has no control domain in its own DP or in the local clause. The only possibility is for *pro* to refer to the highest subject, *Zhangsan*. Now, for the *pro* in the specifier position of the NP in each of these sentences, there is a control domain which is the DP or S. Thus, these sentences will have logophoric readings.

To sum up, I assume that there are two distinct internal structures for each kind of reflexive and these different internal structures determine their natures: anaphoric or logophoric. For the anaphoric reflexives, there must be one argument in the head of the reflexive NP which is unlinked, thus not saturated. For the logophoric reflexives, there is no argument which is not saturated. The question is, how can we get the anaphoric reading when the internal structure is anaphoric? We will discuss this issue further and demonstrate how to get the anaphoric reading and the logophoric reading with the movement hypothesis in the next section.

7.3 MOVEMENT HYPOTHESIS

7.3.1 Verbal selection and movement

Following Higginbotham (1985), Reinhart and Reuland (1991) assume that (32a) is the general format of the thematic grids (for detail see Higginbotham 1985), so the grid of clause-bound reflexives can be represented as in (32b), where this notion means that the two arguments of the verb must be variable bound by the same operator.

- (32) a. V <x,y>
b. V <x,x>

We also follow Williams' (1994) proposal that "theta-theoretic elements turn up in the statement of the binding conditions; binding conditions are part of theta theory in the first place" (p 207), and "the relation of a theta role to the NP is assigned as a linking relation" (p 216). Then, we assume that (32a) is for the verbs which can only assign a disjoint theta role to their objects, while (32b) is for the verbs which can only assign an anaphoric theta role.

Let us now recall the classification of verbs. In Chapter 5, we showed that a Group 1 verb requires its subject to be identical to its object. The formula we gave was as follows:

- (33) Group 1 verb
Verb <subject_i, object_i>

This requirement of the verb meets the requirements of reflexivisation. So, any Human NP in object position should be identical to the subject, otherwise the sentence will be ruled out.

Now, consider Group 2 verbs.

- (34) Group 2 verb
Verb <subject_i, object_j>

This requirement of the verb rules out the possibility of reflexivisation.

Group 3 verbs do not have any particular requirement:

- (35) Group 3 verb
Verb <subject_i, object_i>/<subject_i, object_j>

Since there are two possibilities, reflexivisation is possible if both the local subject and object have the same phi-features. Otherwise, the verb can assign a disjoint theta role to its object NP/DP.

As we discussed in Section 7.2, every reflexive has two alternative structures: one for the anaphoric reading and the other for the logophoric reading; the theta role assignment of the verb determines the structure of the reflexive, and the head of the reflexive has the chance to move and adjoin to the head of the VP to allow successful reflexivisation. In the next section, we will demonstrate this.

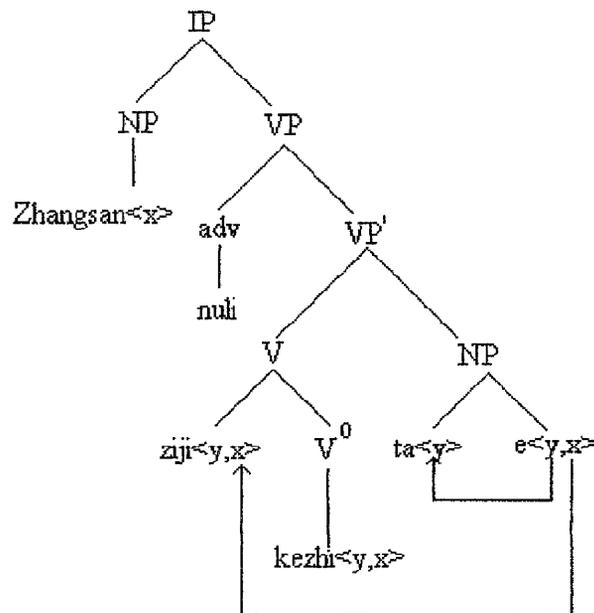
7.3.2 Movement and complex reflexives

7.3.2.1 Group 1 verbs

Let us examine the data in which a Group 1 verb is the governing verb. (36) is an example of a sentence where *taziji* is governed by a Group 1 verb.

- (36) a. Zhangsan_i nuli kezhi taziji
 hard restrain himself
 ‘Zhangsan restrains himself hard’

b. Tree diagram

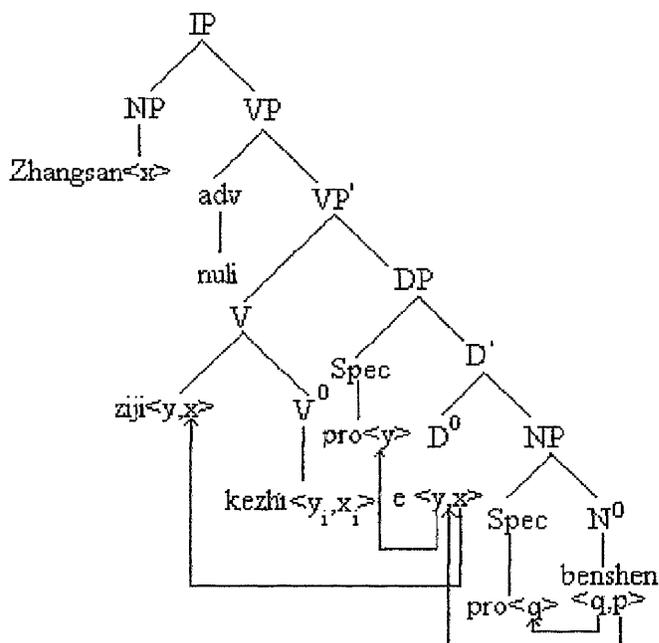


In (27b), the verb *kezhi* ‘restrain’ is a Group 1 verb, which requires its subject NP and its object NP to be identical, ie $y = x$. It can assign an anaphoric theta role to the object NP, which will have an anaphoric structure: *ziji* in *taziji*, as the head of the anaphoric reflexive, will move and adjoin to the head of the VP, since this movement is permitted by the local governing verb. After the movement at LF, the unlinked argument of *ziji* has been linked with the external argument of the verb, ie the local subject. Thus, the requirements of both the verb and the reflexive are satisfied, and there is no need for further movement.

Let us now consider *ziji-benshen*:

- (37) a. Zhangsan nuli kezhi ziji-benshen
 hard restrain self-self
 ‘Zhangsan restrains himself hard’

b. Tree diagram



In (37b), when the governing verb assigns an anaphoric theta role to the object DP, the reflexive should have an anaphoric structure. *Ziji*, as head of the reflexive DP, is allowed to receive the theta role and to adjoin to the head of the VP at LF. The *pro*<*y*> in the DP has the clause as its control domain and the local subject as its antecedent, and *ziji* is saturated by linking its missing argument with the external argument of the VP. Then, both the verb and the reflexive are satisfied, and there is no further movement. This is why *ziji-benshen* must be locally bound.

7.3.2.2 Group 2 verbs

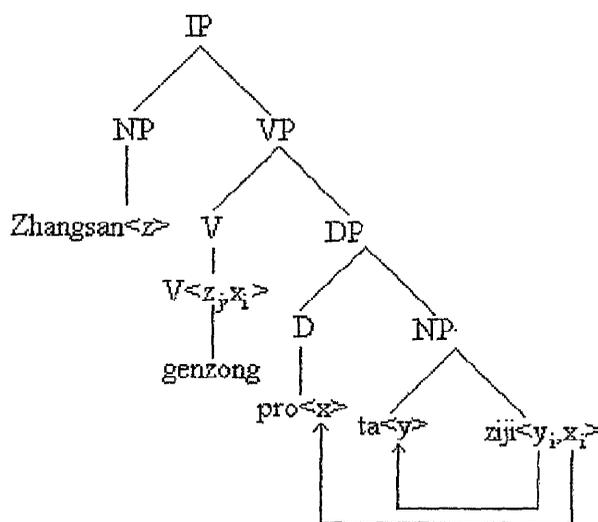
Let us now consider Group 2 verbs. As mentioned before, Group 2 verbs require their subject and object to be disjoint. This requirement normally makes a simplex sentence odd. We are going to give an explanation for this by the movement hypothesis.

Let us first consider *taziji*. (38b) shows that movement of reflexive *ziji* at LF is banned. As shown in (38b), a Group 2 verb requires its two arguments to be disjoint from each other, in other words, it can only assign a disjoint theta role to its object NP, with the consequence that *pro*, as the head of the object DP *taziji*, can receive this theta role. As discussed in the previous section, *pro* must not have the same phi-features as the

features as the local subject *Zhangsan*. On the other hand, it has been identified as having third person, male and singular phi-features by the predicate *taziji*. Since these features are the same as those of the local subject, there is a conflict. The verbal requirement has not been met, and the sentence is ruled out.

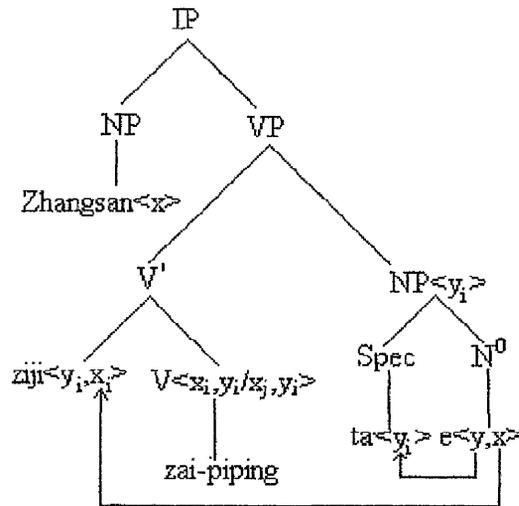
- (38) a. * *Zhangsan_i genzong taziji_i*
 go-in-hot-pursuit-of himself

b. Tree diagram



Let us turn now to *ziji-benshen*, of which (39) is an example. In (39b), the verb *genzong* 'go in hot pursuit of' is a Group 2 verb, which can only assign disjoint theta roles to its subject and object. In this case, the reflexive can only have a logophoric structure. Since there is a *pro* in the head of DP_1 , it is impossible for *ziji* to move out and adjoin to the VP, thus the anaphoric reading is not available. On the other hand, *benshen* has its arguments saturated by linking to $pro\langle p \rangle$ and $pro\langle y \rangle$, and *ziji* is also saturated, with its arguments linking to $pro\langle y \rangle$ in the specifier position of DP' and $pro\langle x \rangle$ in the head of DP. Thus, there is no LF movement necessary. However, the requirement of the verb for its object NP to be disjoint with its subject NP is not yet satisfied. It is difficult to say that $pro\langle x \rangle$ is disjoint with its local subject, since there is a SUBJECT in the local clause for the *pro*, in accordance with the control theory. This means that there is a conflict, and the sentence is ungrammatical.

b. Tree diagram

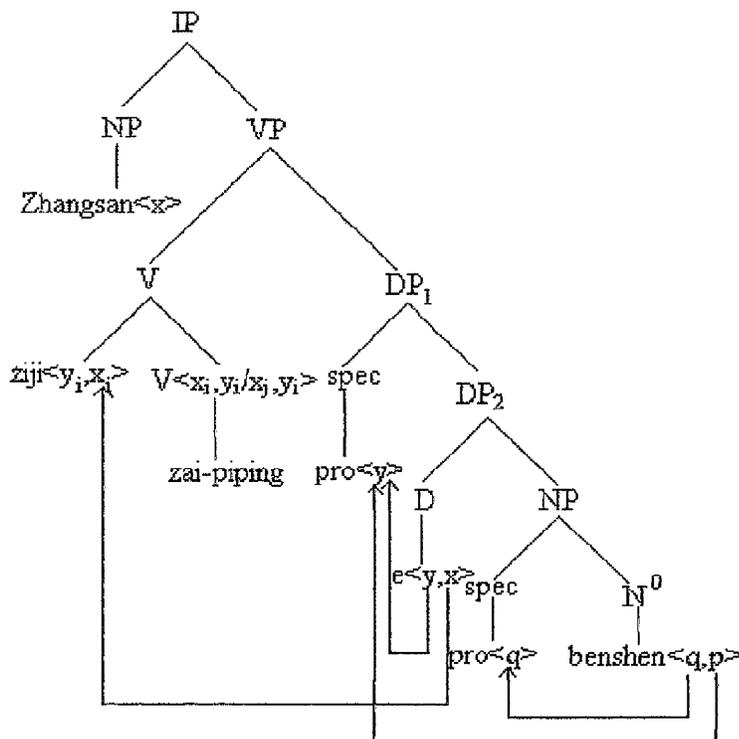


(40b) shows that the verb *piping* ‘criticise’ has two options: one is $V\langle x_i, y_i \rangle$, while the other is $V\langle x_j, y_i \rangle$. In this case, *ziji* in *taziji* may move and adjoin to the head of the VP in the same way as when *taziji* is governed by a Group 1 verb. The consequence is that *taziji* has to be locally bound. There is another possibility, namely that the head of the VP may require its two arguments to be disjoint from each other, in which case the logophoric structure of *taziji* will be chosen, involving a *pro* as head of the DP. Since *taziji* is a predicate of the D, it identifies that the *pro* has the phi-features third person, singular and male. It is then hard to see the *pro* as disjoint with *Zhangsan*, which is assumed to have the same phi-features, so the sentence will be odd. The consequence is that if a reflexive is governed by a Group 3 verb in a simple clause, it is normally locally bound.

The same is true for *ziji-benshen*, as in example (41):

- (41) a. Zhangsan_i zai piping ziji-benshen
 ASP criticise self-self
 ‘Zhangsan is criticising himself’

b. Tree diagram



(41b) shows that the governing verb *piping* ‘criticise’ may also have two options: $V\langle x_i, y_i \rangle$ and $V\langle x_j, y_i \rangle$. With the former option, the structure will be as in (41b), which is the locally bound case. The movement is allowed, and *ziji* in *ziji-benshen* moves to adjoin to the head of the VP in the same way as when *ziji-benshen* is governed by a Group 1 verb, with the consequence that *ziji-benshen* is locally bound. The other option for the verb is $V\langle x_j, y_i \rangle$. However, using this option the sentence will be odd, since on the one hand the local clause is the control domain, so $pro \langle y \rangle$ should refer to the local subject, but on the other hand the verb requires it to be disjoint with the local subject, so there is a conflict. Thus, if the reflexive *ziji-benshen* is governed by a Group 3 verb, the sentence normally has only one reading, with *ziji-benshen* obligatorily bound to the local subject.

So far, we have discussed the movement of complex reflexives at LF. We have seen that when a Group 1 verb governs a complex reflexive such as *taziji* or *ziji-benshen*, *ziji* can easily move to adjoin to the head of the VP at LF; when a Group 2 verb is the governor, movement at LF is banned; and when a Group 3 verb governs a complex reflexive, movement at LF is possible for *ziji* in *taziji* and *ziji-benshen*, but it is hard to

obtain a logophoric reading, so that the sentence will normally be counted as a case of local binding.

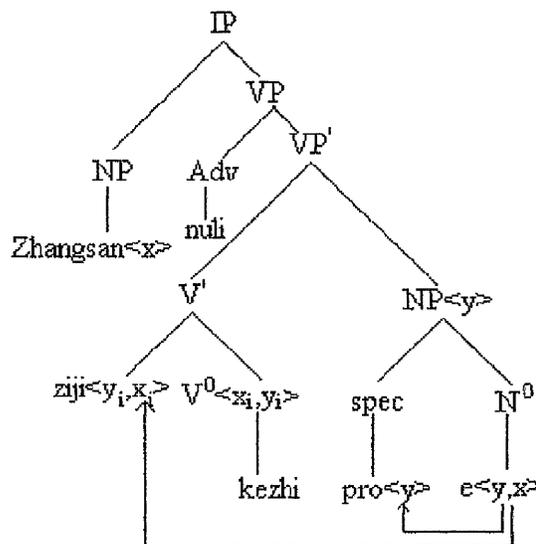
7.3.3 Movement and *ziji*

7.3.3.1 Group 1 verbs and *ziji*

Let us now turn to the simplex reflexive *ziji*. As discussed earlier, a Group 1 verb requires its two arguments (local subject and object) to be identical, and can only assign an anaphoric theta role to its object NP/DP. *Ziji* is also ready to move, because one of its arguments is unlinked. When the verb assigns an anaphoric theta role to the object NP, it gets the chance to move and adjoin to the head of the VP. The pro <y> in the specifier position of the reflexive NP is assumed to take the local subject as its antecedent, in accordance with Huang's proposal. Thus, both the reflexive and the verb are satisfied. The consequence is that there is only an anaphoric reading available for the sentence, as in example (42).

- (42) a. Zhangsan_i nuli kezhi ziji_i
 hard restrain self
 ‘Zhangsan restrains himself hard’

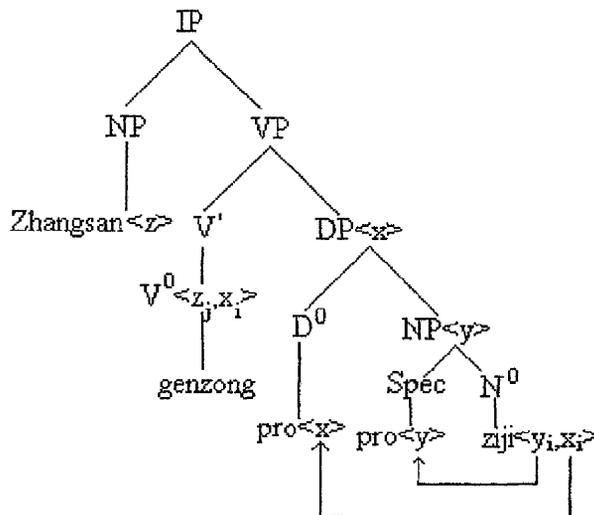
b. Tree diagram



7.3.3.2 Group 2 verbs and *ziji*

Let us consider the sentence in (43):

- (43) a. Zhangsan_i zai genzong ziji_{i/vj}
 ASP go-in-hot-pursuit-of self
 'Zhangsan was in hot pursuit of me'
- b. Tree diagram

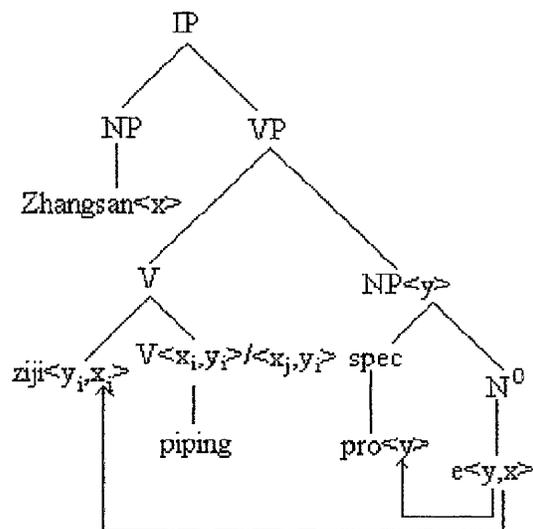


In a simple sentence like (43), the head of the reflexive NP cannot move and adjoin to the head of the VP, because (i) there is a *pro* in the head of the object DP, so *ziji* cannot move and adjoin to the head of the VP by head-to-head movement; (ii) the verb requires disjoint arguments, and so does not allow an anaphoric element to adjoin the VP. Thus, the sentence will not have an anaphoric reading. It may, however, have a logophoric reading under certain circumstances, which we will discuss in the next chapter.

7.3.3.3 Group 3 verbs and *ziji*

If *ziji* is governed by a Group 3 verb in a simple sentence, it normally refers to the local subject. Consider the following simple sentence:

- (44) a. Zhangsan_i piping ziji_{i/yj}
 b. Tree diagram



(44b) shows that the head of the VP may have either $\langle x_i, y_i \rangle$ or $\langle x_j, y_i \rangle$, which means that the two arguments can be either identical to or disjoint from each other. When a Group 3 verb assigns an anaphoric theta role to the object NP, *ziji* can move and adjoin to the head of the VP in the same way as when it is governed by a Group 1 verb. Thus, the sentence can have an anaphoric reading. (44b) is a structure at LF. When the Group 3 verb assigns a disjoint theta role to its object NP/DP, the reflexive is assumed to have a logophoric structure. Since there is a *pro* in the head of the DP, the verb will require it to be disjoint from the local subject on the one hand; however, the *pro* must be controlled in its control domain, and is thus expected to take the local subject as its antecedent, so there is conflict, with the consequence that in a simple sentence *ziji* is normally assumed to be bound by its local subject, unless the *pro* refers to the speaker or thinker (we will discuss this in the next chapter).

So far, we have discussed movement at LF. We should now give an account of how our theory explains the Blocking Effect. Since we assume that the logophoric reading (ie long-distance bound, or free in an entire sentence) of reflexives is a result of coindexation of *pro* in the D position of the object with its antecedent, while the anaphoric reading is the result of movement at LF, the Blocking Effect must be a consequence of assigning a controller for the *pro* in the internal structure of the reflexive. It is not, as has been proposed in some other analyses, related to the long-

distance movement and reindexing of reflexives. To illustrate our proposal, consider first (45), where the long-distance interpretation is not blocked by the Blocking Effect.

- (45) a. Zhangsan shuo Lisi piping ziji
 say criticise self
 ‘Zhangsan said that Lisi criticised him/himself’
- b. [IP Zhangsan_i [VP shuo [CP [IP Lisi [VP piping [DP pro_i [NP pro [N^o ziji]]]]]]]]]]
- c. [IP Zhangsan [VP shuo [CP [IP Lisi_i [VP ZIJI_i & piping [NP pro [N^o e]]]]]]]]

(45a) has two readings: a long-distance reading in (45b) and a locally bound reading in (45c). If *piping* ‘criticise’ assigns an anaphoric theta role to the object NP, *ziji*, as the head of the reflexive NP, can adjoin to the head of the VP, as in (45c); if, on the other hand, the verb assigns a disjoint theta role to the object NP/DP, the head of the DP, which is a *pro*, must be disjoint with *Lisi* and refers to *Zhangsan* in the higher domain, as in (45b). In this case, *ziji* does not arise, but rather, the *pro* in the reflexive is coindexed with (controlled by) *Zhangsan*. (46) is a sentence where the Blocking Effect has been argued to operate.

- (46) a. Zhangsan shuo ni piping ziji
 say you criticise self
 ‘Zhangsan said that you criticised yourself’
- b. * [IP Zhangsan_i [VP shuo [CP [IP ni [VP piping [DP pro_i [NP pro [N^o ziji]]]]]]]]]]
- c. [IP Zhangsan [VP shuo [CP [IP ni [VP ZIJI & piping [NP pro [N^o ziji]]]]]]]]

(46a) has two potential readings: (46b) and (46c). (46c) is fine. Let us now look at (46b), which is ungrammatical, presumably because the second person subject *ni* intervenes between the reflexive and the higher subject *Zhangsan*. In our analysis, the reason why the reflexive *ziji* must be coindexed with the lower subject are: first, that *ziji* has no phi-features, therefore, there is no reason to assume the verb cannot assign an anaphoric theta role to it, so *ziji* has to be bound by the local subject *ni* ‘you’; and secondly, a first or second person in subject position is interpreted as the logophoric subject, thus there is a logophoric structure for *ziji*, and the first or second person

should certainly become the controller for *pro*. The claim that the Blocking Effect is not the result of reindexation under identity of phi-features, but rather that first and second person subjects are preferential controllers for *pro*, is further illustrated in (47), which involves uncontroversial *pro* elements.

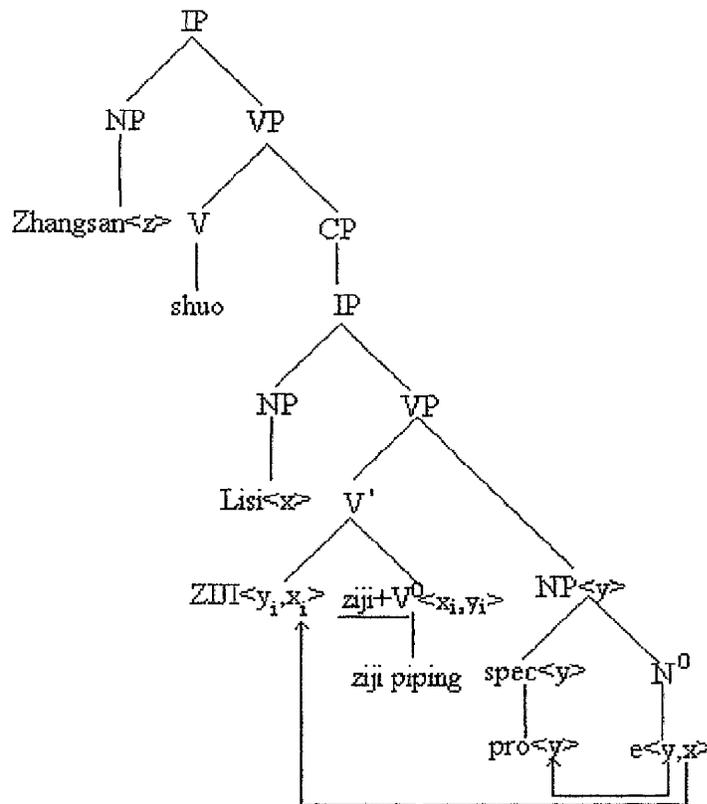
- (47) a. Zhangsan shuo Lisi zhidao (*pro*) mingtian qu Beijing
 say know tomorrow go Peking
 ‘Zhangsan says Lisi knows that *pro* (Z or L) will go to Peking
 tomorrow’
- b. Zhangsan shuo ni zhidao (*pro*) mingtian qu Beijing
 say you know tomorrow go Peking
 ‘Zhangsan says that you know you will go to Peking tomorrow’

In (47a), the *pro* can refer to either *Zhangsan* or *Lisi*, while in (47b), it can only refer to *ni* ‘you’. The reason is that a *pro* can choose either the matrix clause or the local clause as its control domain; however, when the local subject has different phi-features from the matrix subject, the *pro* is obliged to choose the nearest antecedent.

We can also explain why a reflexive governed by a Group 3 verb must be locally bound if there is an intensifying *ziji* modifying the local verb. When intensifying *ziji* modifies a Group 3 verb, the verb is turned into a Group 1 verb, which means it can only assign an anaphoric theta role to its object, and the logophoric reading is abandoned.

- (48) a. Zhangsan_i shuo Lisi_j zai ziji piping ziji_{i/j}
 say ASP self criticise self
 ‘Zhangsan said that Lisi was criticising himself’

b. Tree diagram



To sum up, the simplex reflexive *ziji* is the head of the reflexive NP and has *pro* in the NP's specifier position. *Ziji* projects two arguments, one of which has been linked to its specifier *pro*. It can receive an anaphoric theta role, but not a disjoint theta role. As soon as it receives an anaphoric theta role, *ziji* is ready to move and adjoin to the head of the verb in order to link its missing argument with the external argument of the verb. Since the verb requires its two arguments to be identical, this movement is allowed. When *ziji* adjoins to the head of the verb, both verb and reflexive are satisfied, and no further movement takes place. Where a local verb can only assign a disjoint theta role to its object, as in the case of a Group 2 verb, the head of the DP in the object position can receive the theta role. In this case, one argument of *ziji* links to its specifier *pro* in the same NP, while its other argument will link to the *pro* in the D position, again satisfying both verb and reflexive. Thus, there is no movement at LF in this case. Long-distance binding is actually produced by coindexation of *pro*. Being empty, this *pro* itself needs to be coindexed by some element in the sentence. We take this coindexation to be effected by control theory in this case. In most cases, the controller

is the NP interpreted as the logophoric subject, and this is what gives rise to the logophoric reading. Long-distance binding is actually a logophoric fact.

7.4 THE INTERNAL STRUCTURES OF THE CLITIC REFLEXIVES AND MOVEMENT HYPOTHESIS

Having discussed reflexive NPs in the object position, let us now return to the clitic reflexive element.

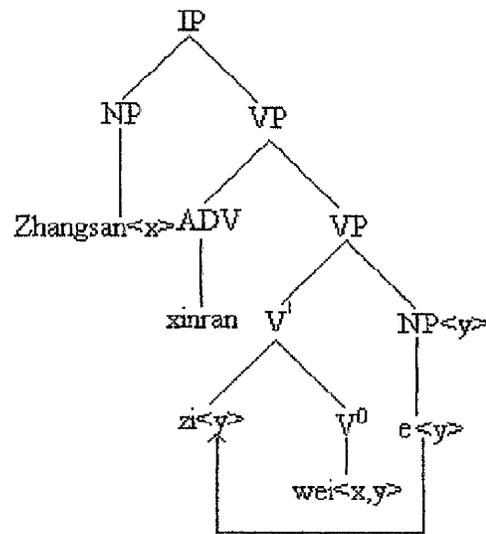
As is shown in modern Chinese in the previous chapters, apart from *ziji* and *ziji-benshen*, we find the forms *taziji*, *Zhangsan-ziji*, *taziji-benshen* and *Zhangsan-ziji-benshen*, and even *Zhangsan taziji-benshen*. However, *zi* in Classical Chinese is a monosyllabic word, since there were very few bisyllabic words in Classical Chinese. Following the classical grammar, nobody nowadays says *tazi* or *Zhangsan zi*. There is also no evidence to suggest that *ziwo* in modern Chinese can be modified by a possessive pronoun or a proper name, such as *ta ziwo* or *Zhangsan ziwo*. These facts lead us to assume that they are generated in the D position of the DP.

- (49) a. [NP *zi*]
b. [NP *ziwo*]

Due to their position, *zi* and *ziwo* do not project two arguments, as *ziji* does. When a Group 1 or 3 verb governs *zi* or *ziwo*, the reflexive clitic receives an anaphoric theta role and moves to adjoin to the verb. It is structurally realised in the sentence.

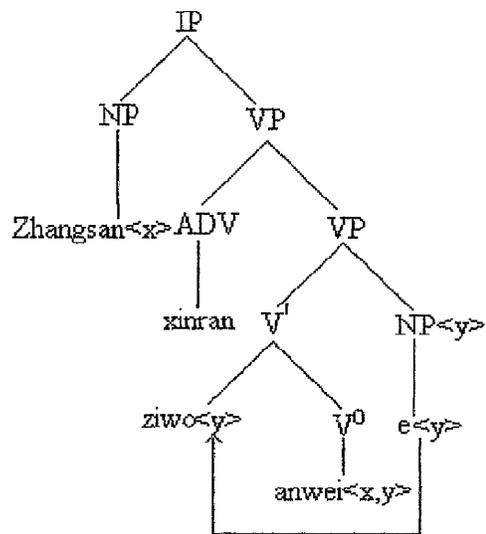
- (50) a. Zhangsan_i xinran *zi*_i wei
 happy self console
 ‘Zhangsan happily consoled himself’

b. Tree diagram



- (51) a. Zhangsan_i xinran ziwo_i anwei
 happily self console
 'Zhangsan happily consoled himself'

b. Tree diagram



Both *zi* in *ziwei* and *ziwo* in *ziwo anwei* are heads, and there is no specifier for them, in accordance with traditional grammar. In this case, *zi* and *ziwo* have to move and adjoin to the head of VP. Comparing *zi* in *ziwei* and *ziwo* in *ziwo anwei* with *ziji* movement at LF in *pro + ziji*, *taziji* and *ziji-benshen*, one of the arguments of *ziji* is linked with the specifier of the reflexive NP, thus tied in the object position, and it is impossible for *ziji*

to be structurally realised before the verb; *zi* and *ziwo*, on the other hand, are left adjoined to the verb.

This assumption is also proven by the fact that *zi* in *zi + verb* and *ziwo + verb* cannot be long-distance bound, as *ziji* can in *pro + ziji*. As discussed in the previous section, when the local verb is a Group 2 verb, the fact that *ziji* can be long-distance bound or sentence free is the result of the assumption that the two arguments of *ziji* are linked with a *pro* in the head of DP and a *pro* in the specifier position of the reflexive NP. If the structure of *zi* or *ziwo* is the same as that of *ziji*, where the local verb is a Group 2 verb, we will expect that *zi* or *ziwo* can be long-distance bound as well, but this is not the case. *Zi* and *ziwo* cannot precede a local Group 2 verb.

In short, reflexive clitic *zi* and *ziwo* must have a different internal structure from *ziji*. Due to the differences in structure, the reflexive clitics can only be cliticised by verbs of Group 1 or 3.

7.5 CONCLUSION

In this chapter, I have discussed the internal structures of the reflexive pronouns *ziji*, *taziji* and *ziji-benshen* and the reflexive clitics *zi* and *ziwo*. The interpretation of reflexive binding is determined by verbal selection (or verbal theta role assignment) and the internal structure of the reflexive itself. I conclude by giving a definition of reflexivity.

(46) Reflexivity for simplex reflexive *ziji*

A simplex reflexive must be locally bound iff it is in an object position and governed by a Group 1 or Group 3 verb (especially if the verb is modified by an intensifying *ziji*), and there is an accessible SUBJECT.

(47) Reflexivity for *taziji*-type reflexives

A *taziji* type of reflexive must be locally bound iff it is in an object position and governed by a Group 1 or 3 verb, and there is an accessible SUBJECT available.

(48) Reflexivity for *ziji-benshen*-type reflexives

A *ziji-benshen* type of reflexive is locally bound iff it is in an object position and governed by a Group 1 or 3 verb, and there is an accessible SUBJECT.

As a matter of fact, Group 1 verbs can only assign an anaphoric theta role to their objects, while Group 3 verbs can also assign an anaphoric theta role. We may revise our definitions as follows:

(49) Reflexivity

An anaphoric reflexive must be bound in its governing category.

(50) Governing Category

β is a governing category for α iff β is the minimal category containing α , a governor of α , which can assign an anaphoric theta role to α , and an accessible SUBJECT.

So far, we have discussed the anaphoric reading of reflexives. In the next chapter, I will discuss further the logophoric reading (ie long-distance binding or sentence-free readings) of reflexives.

CHAPTER EIGHT

LOGOPHORIC EXPRESSION OF REFLEXIVES

8.0 INTRODUCTION

In Chapter 5, following Higginbotham (1983) and Williams (1994), I proposed a classification of verbs in accordance with their theta role requirements; and following Pica (1987) and Reinhart and Reuland (1991), and considering the special properties of the Chinese language, I proposed in Chapter 7 two distinct internal structures for each type of reflexive: one underlying the anaphoric reading, while the other yields a logophoric reading. I argued that the interpretation of reflexives is determined not only by verbal selection and theta role assignment, but also by the internal structure of the reflexives: a reflexive can have an anaphoric internal structure if and only if the local verb can assign an anaphoric patient theta role to it; otherwise, it must have a logophoric internal structure. I also argued that the anaphoric reading was a result of the movement of the head of the reflexive NP at LF, while the logophoric reading (*ie non-c-commanding*, long-distance bound and sentence-free reflexives in the literature) was the result of coindexation of the head of the reflexive DP *pro* with an element in the higher clause or in discourse.

In this chapter, we will discuss logophoric reflexives further, and explore how the reflexives can have logorophic expressions. In the literature, the term 'logophoric reflexives' refers to complex reflexives not c-commanded by their antecedent, long-distance bound complex reflexives and sentence-free complex reflexives. Long-distance simplex reflexives are not counted as logophoric (for details, see Zribi-Hertz 1989 and Reinhart and Reuland 1991). In this chapter, however, I shall argue that the non-local interpretation of reflexives is always logophoric in nature. Long-distance simplex reflexives are therefore also subject to logophoricity. I propose that logophoricity is the result of coindexation of the *pro* in the reflexive DP with the logophoric SUBJECT in the sentence or in discourse. A reflexive must have a logophoric structure if it cannot receive an anaphoric theta role from the local verb.

Thus, not only can the reflexives governed by Group 2 or 3 verbs (under certain circumstances be logophoric, but so can any reflexives in a non-theta grid of a local verb (for example, the reflexives in a possessive position or in the initial position in a sentence). A logophoric reflexive must be bound in a logophoric domain, and is subject to discourse grammar.

This chapter is organised as follows: 8.0 is an introduction. The conditions for logophoric *taziji* are discussed in Section 8.1, and the conditions for logophoric *ziji-benshen* in Section 8.2. In Section 8.3, I argue that long-distance *ziji* is logophoric in nature, and discuss the conditions for logophoric *ziji* (long-distance and sentence-free *ziji*). Section 8.4 proposes a condition depending on which logophoric *ziji*, *taziji* and *ziji-benshen* have logophoric antecedents.

8.1 LOGOPHORIC *TAZIJ*

In Chapter 5, we discussed verbal selection and *taziji* in object position, and pointed out that under certain circumstances, *taziji* can be logophoric. In Chapter 7, I proposed a logophoric structure for *taziji*: [_{DP} pro [_{NP} ta [_{NP} *ziji*]]]. When a verb fails to assign an anaphoric theta role to a reflexive in object position, the reflexive will have a logophoric structure.

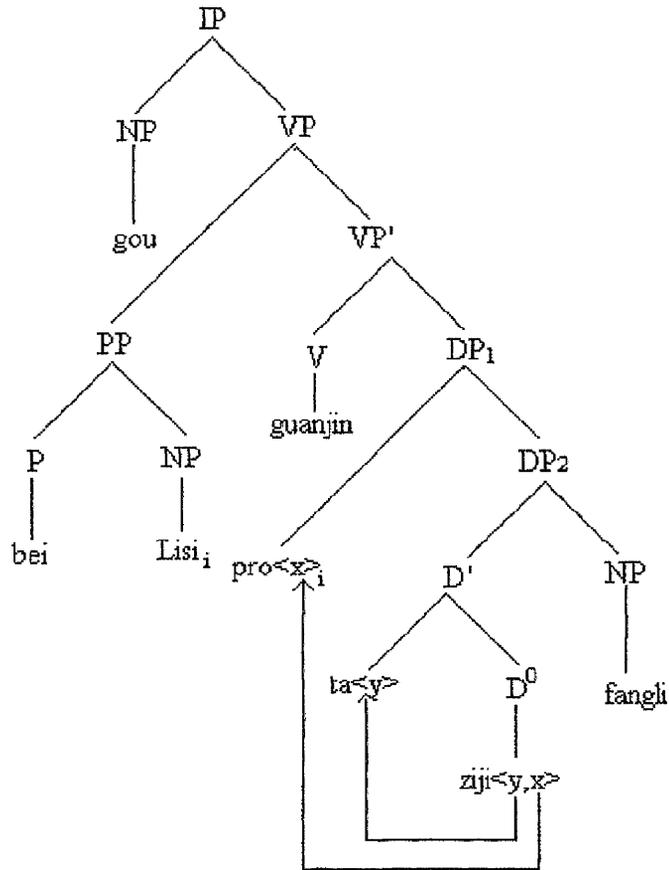
In this section, we will discuss further how to obtain a logophoric reading. In Chapter 7, we left possessive *taziji* aside. In this chapter, we shall also discuss this issue.

8.1.1 The antecedent of *taziji* can violate the c-command constraint

As we have seen, Principle A of the Binding Theory requires an anaphoric reflexive to be coindexed with and c-commanded by its antecedent. However, we find some cases in which *taziji* is not c-commanded by its antecedent at all. For example:

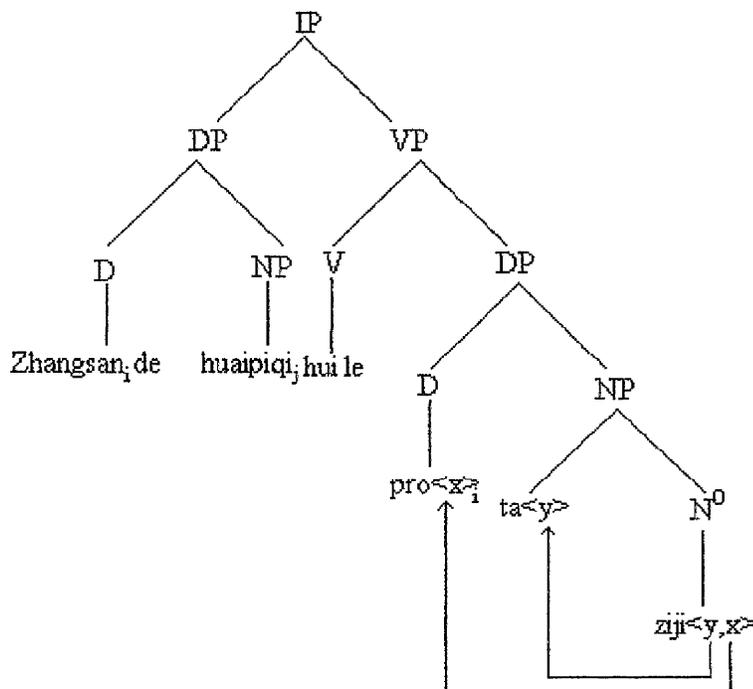
- (1) a. Gou [bei Lisi_i] guanjin taziji_i fangli
 dog BY lock in himself room-in
 'The dog was locked in his own room by Lisi'

b.



- (2) a. [Zhangsan_i de huaipiqi] hui le taziji_i
 DE bad-temper destroy ASP himself
 ‘Zhangsan’s bad temper destroyed him’

b.



Taziji in (1) refers to *Lisi*, which is the object of the preposition *bei* and does not c-command *taziji*, and the verb *guanjin* ‘lock in’ can only assign a disjoint theta role to *taziji*, because *taziji* does not occur in the theta grid of the verb, since it is a possessive of the object NP. Supposing that *taziji* can have a theta role assigned by the NP *fangli* ‘room’, this will not be an anaphoric theta role either, due to the leftness condition. Thus, *taziji* can only have a logophoric structure, as in (1b), in order to satisfy the verb’s requirements. *Ziji* in *taziji* is also saturated by linking its two arguments with *pro* in D of the reflexive DP and *ta* in the reflexive NP. *Pro*, as the head of the reflexive DP, can refer to *Lisi*, and the sentence is perfectly grammatical. In (2), the local verb is a Group 3 verb. However, it cannot assign an anaphoric theta role to *taziji*, due to the fact that an inanimate NP is the local subject. So, *taziji* can only have a logophoric structure in order to receive the disjoint theta role. As shown in (2b), the D in the reflexive DP is a *pro*, and this can refer to the nearest human NP *Zhangsan*, which is the D of the subject DP. (2) is a typical case of the sub-commanding proposed by

Tang (1989). In my analysis, it is the result of coindexation of the pro in the reflexive DP with the possessive of the subject DP.

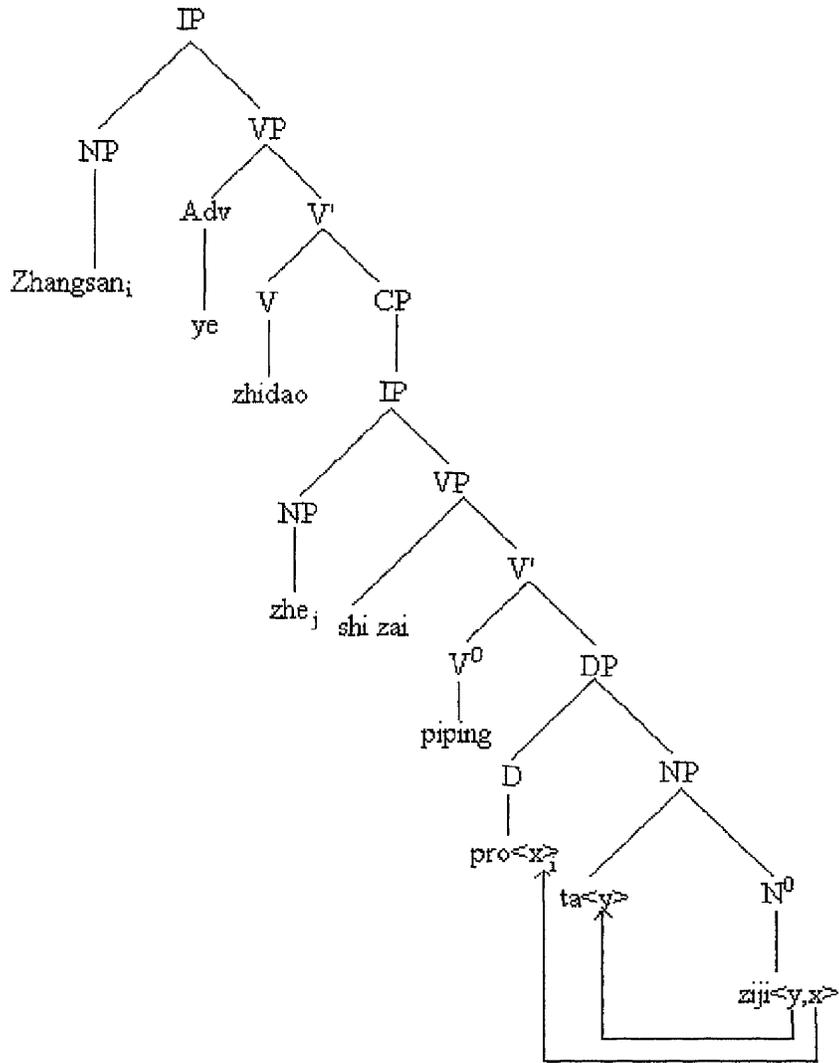
Examining the data, we can see that *taziji* can fail to be c-commanded by its antecedent only if *taziji* itself is not in the theta grid of the local verb, or if it is in the theta grid of the local verb, but the verb cannot assign an anaphoric theta role to it. In any case, non-c-commanding *taziji* can never receive an anaphoric theta role from the local verb, which explains why *taziji* is logophoric.

8.1.2 Long-distance bound *taziji*

Taziji can be long-distance bound, as in (3) and (4):

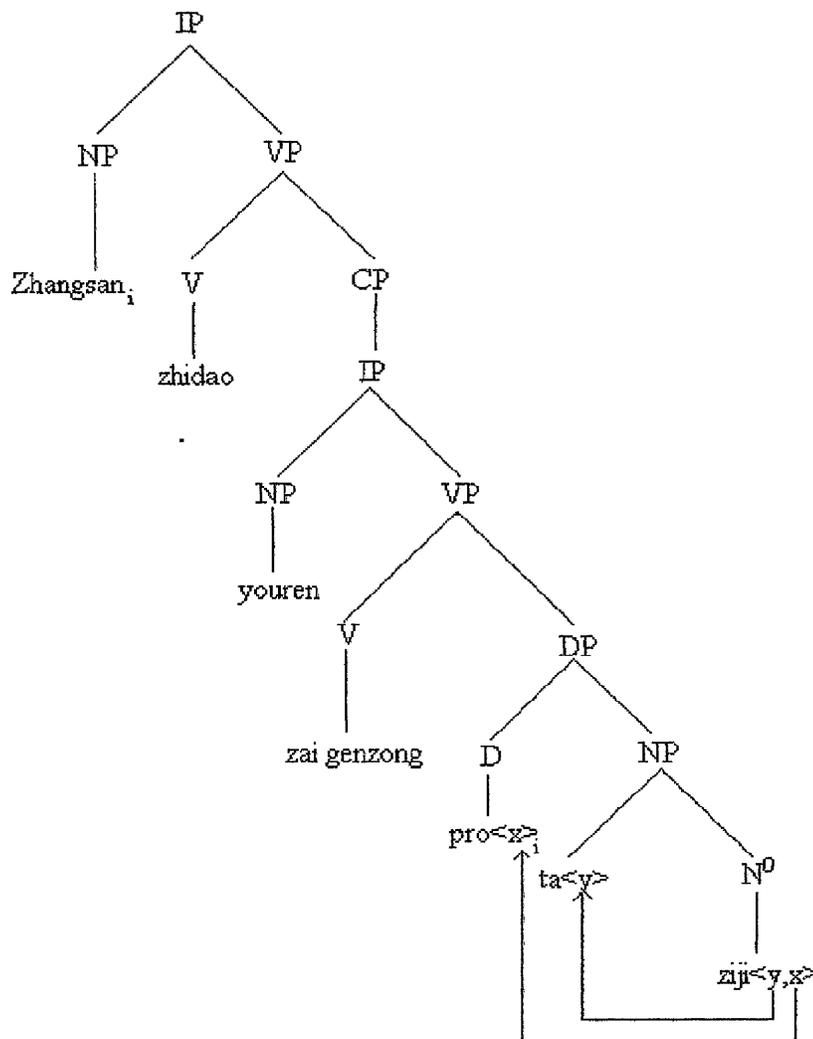
- (3) a. [Zhangsan_i ye zhidao [zhe shi zai piping taziji_i]]
 also know this is ASP criticise himself
 ‘Zhangsan also knows that this is criticising him’

b.



- (4) a. Zhangsan_i zhidao youren zai genzong taziji_i
 know somebody ASP follow himself
 'Zhangsan knows somebody is in hot pursuit of him'

b.



In (3), the local verb *piping* is a Group 3 verb. However, the local subject is an inanimate NP, so it is impossible for the verb to assign an anaphoric theta role to its object DP/NP. *Taziji* can only have a logophoric structure because it cannot receive an anaphoric theta role. In (4), the local verb is a Group 2 verb, which can only assign a disjoint theta role to its object DP/NP. Thus, *taziji* can have a logophoric structure.

Since there is a *pro* in the head position of DP in (3) and (4), the *pro* must be controlled if there is a control domain for it. In (3), the local subject is an inanimate NP

and as such, it is not eligible to be a controller, while the matrix subject is eligible. Thus, *taziji* seems to be long-distance bound. In (4), the local subject has no clear phi-features, as *ta* in *taziji* has, thus it cannot be a controller for the *pro*, since the phi-features of *pro* must be consistent with the *ta* in *taziji*. The consequence is that the *pro* must be controlled by the matrix subject.

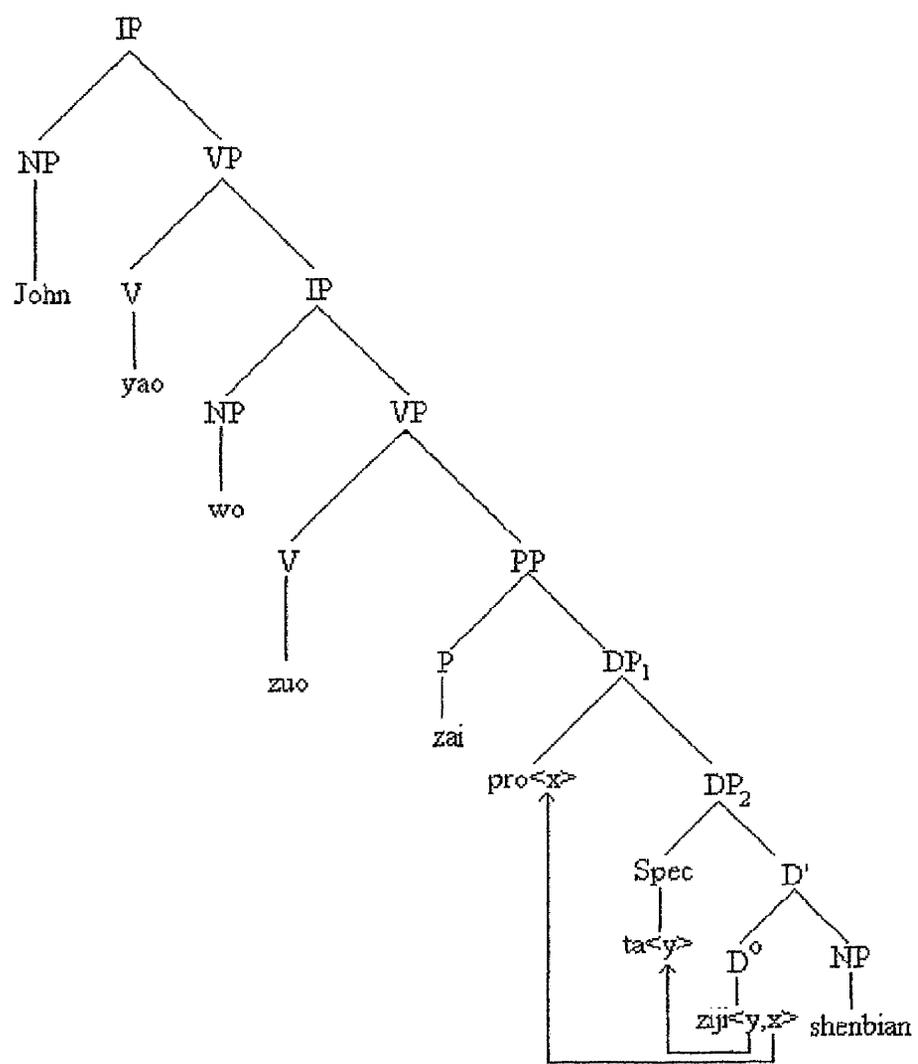
If the local subject is changed to a third person singular, then the structure in (3) will be ruled out, because the *pro* in the reflexive DP may have the local subject as its controller, but the verb requires it to be disjoint with the local subject. Thus, there is conflict, and the sentence is bad. If the local subject has the same phi-features that *ta* in *taziji* has, the reflexive cannot have a logophoric structure, because there is no reason to assume that there is a *pro* in the reflexive DP, since the verb can assign an anaphoric theta role to the reflexive NP. In consequence, there is only an anaphoric reading.

As a matter of fact, if *taziji* itself is in the initial position in the embedded clause, or a possessive, or the local verb is intransitive and *taziji* is the object of a preposition relating to the verb, *taziji* may have a logophoric structure and long-distance binding is possible. Consider the following sentence:

- (5) a. [John_i yao [wo zuo [zai taziji_i shenbian]]]
 want I sit at himself side
 ‘John wants me to sit at his side’

In (5a), the local verb *zuo* is intransitive, and *taziji* is a possessive of the object of the preposition *zai* ‘at’. An intransitive verb will not assign an anaphoric theta role to *taziji*, and nor can the preposition. Moreover, *taziji* is in the possessive position of the object, and the NP *shenbian* ‘body-side’ cannot assign an anaphoric theta role to it either. In this case, *taziji* can only have a logophoric structure, as in (5b), where the *pro* in the D is assumed to be controlled by *John*, not by the first person, due to the difference in phi-features.

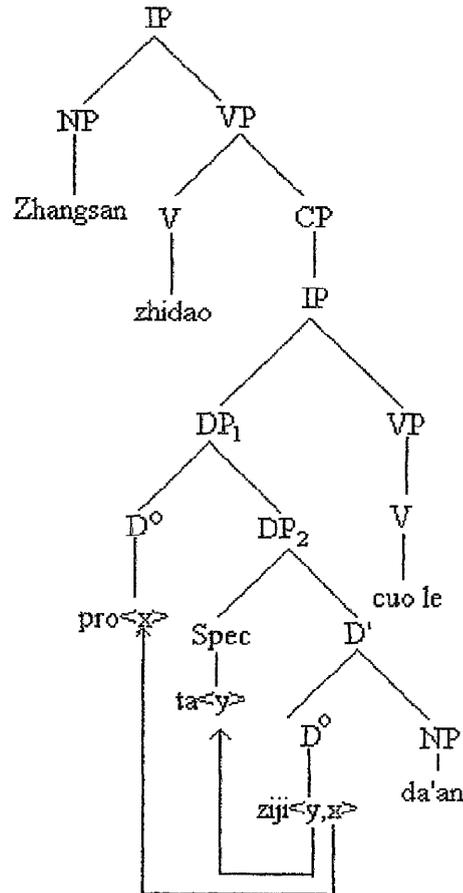
(5) b.



(6) is another example. In (6), *taziji* itself is contained in the embedded subject NP.

- (6) a. [Zhangsan_i zhidao [taziji_i de da'an cuo le]]
 know he-self 's answer wrong ASP
 'Zhangsan knew that his own answer was wrong'

b.



In (6), the local predicate *cuo le* 'wrong' cannot assign an anaphoric theta role to the embedded subject at all. Moreover, *taziji* is contained in the subject NP. In this case, *taziji* can only have a logophoric structure, so the *pro* in the reflexive DP can be controlled by the matrix subject *Zhangsan*. In fact, *taziji* itself can be in an embedded subject position:

- (7) [Zhangsan zhidao [taziji neng jiejie zhege wenti de]]
 know he-self can solve this problem
 'Zhangsan knew that he himself could solve this problem'

Tang (1989) argued that if *taziji* is in the embedded subject position, there are two possible structures for *taziji*: an anaphoric structure and a logophoric one (for detail, see Tang 1989). One may follow Tang in giving an anaphoric reading for (7), but I would like to argue that there is actually only a logophoric reading. There are three

reasons for this: first, it is a finite clause, and the verb *zhidao* ‘know’ cannot cross the sentence boundary to assign an anaphoric theta role to its embedded subject; secondly, the local verb *jiejue* ‘solve’ is prohibited by the Leftness Condition from assigning an anaphoric theta role to *taziji*; thirdly, like *ta*, *taziji* can refer to either *Zhangsan* or somebody else, and if we change the matrix subject to a first or person person NP, the sentence is still perfectly grammatical.

- (8) [Wo/Ni zhidao [taziji neng jiejue zhege wenti de]]
 I/you know he-self can solve this problem
 ‘I/you knew that he himself could solve the problem’

For the reasons given above, *taziji* in the embedded subject position in (7) is actually unable to receive an anaphoric theta role. Thus, we have reason to assume that in such a position *taziji* can only have a logophoric structure. If *taziji* has a logophoric structure, the pro in the reflexive DP can be controlled by the matrix subject, and long-distance binding is possible.

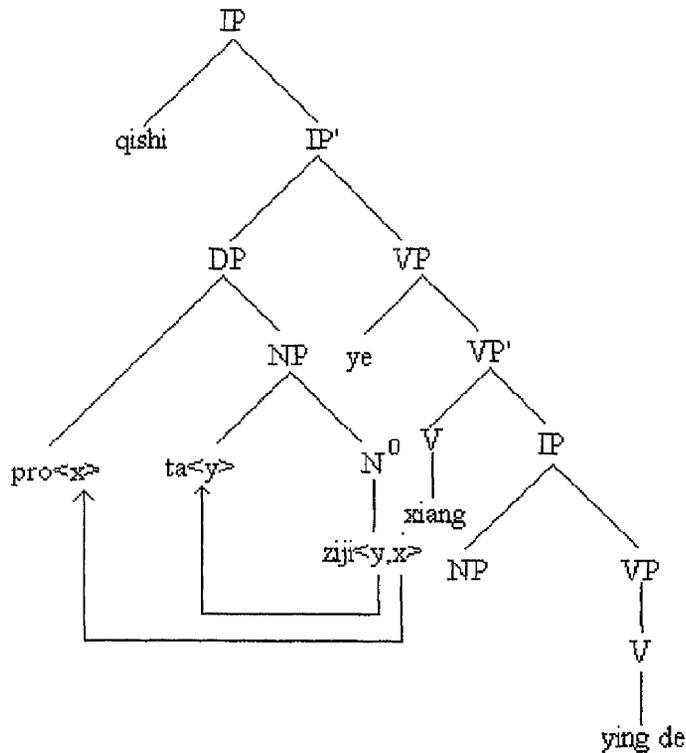
In short, *taziji* may have a logophoric structure when the local verb cannot assign an anaphoric theta role to it, in which case the pro in the reflexive DP can refer to the matrix subject, and long-distance binding is possible.

8.1.3 Sentence-free *taziji*

In Yu (1992), I argued that *taziji* may be free, not just in its governing category, but in an entire sentence. Here, I am going to explore how we can get the sentence-free reading. I find that in most sentence-free cases, *taziji* is in initial position in a sentence, or is a possessive or the object of a preposition.

- (9) a. Qishi, taziji ye xiang ying de
 in fact himself also want win DE
 ‘As a matter of fact, he himself also wanted to win’

b.



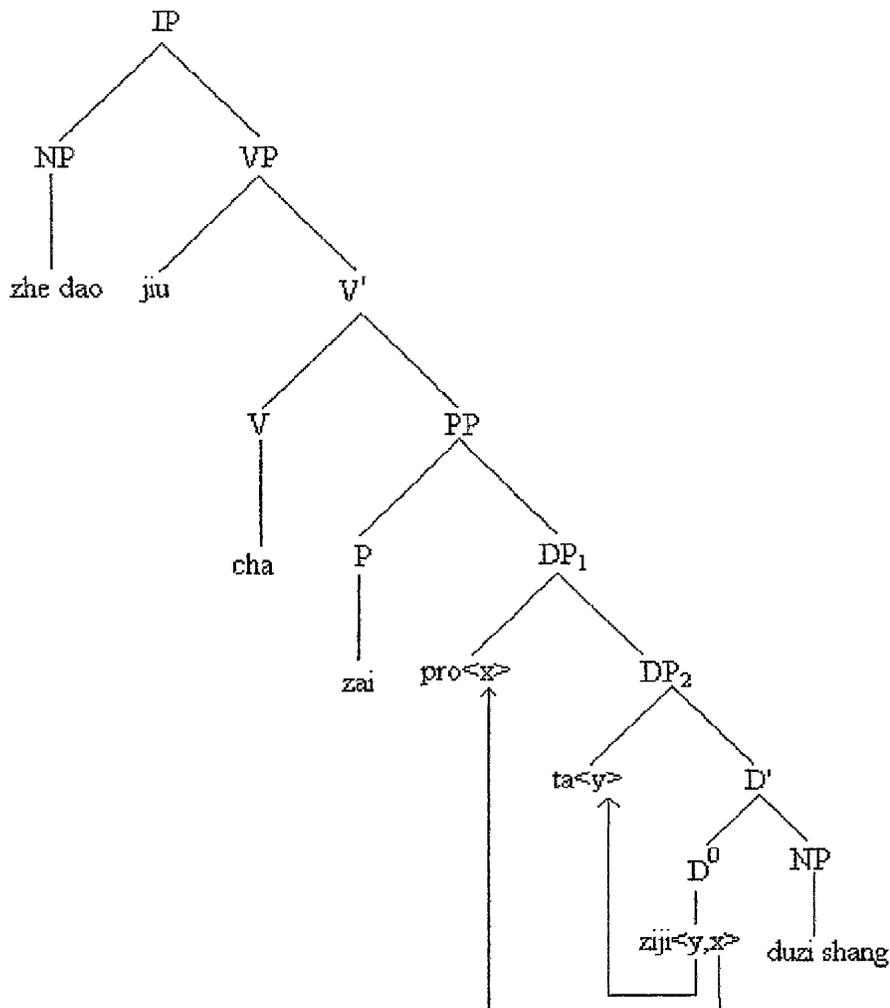
In (9), *taziji* is not governed by the verb *xiang* ‘want’. Instead, the local verb can only assign an agent theta role to the subject. Since *taziji* cannot receive an anaphoric theta role, but also cannot receive an agent theta role, it will have a logophoric structure, where the *pro* in the reflexive DP, which can be arbitrarily controlled (we discuss this point later), receives the agent theta role to satisfy the theta role assignment of the verb.

Taziji can also be sentence free when contained in an object.

- (10) a. Jingcha jiangding le, ... zhe dao jiu cha zai taziji de duzishang
 police examine ASP this knife just thrust in himself DE stomach
 ‘The police have made their investigations. This knife was thrust into his own stomach’

In (10a), the verb *cha* cannot assign an anaphoric theta role to *taziji*, since the latter is contained in the PP, and the preposition *zai* 'into' is also unable to assign an anaphoric theta role. Moreover, the local subject is an inanimate NP. In this case, *taziji* can only have a logophoric structure. The *pro* in the reflexive DP cannot be controlled by the local subject, which is an inanimate NP, nor by the higher subject *jingcha* 'police', since this will be ruled out on semantic grounds. Therefore, it may be arbitrarily controlled.

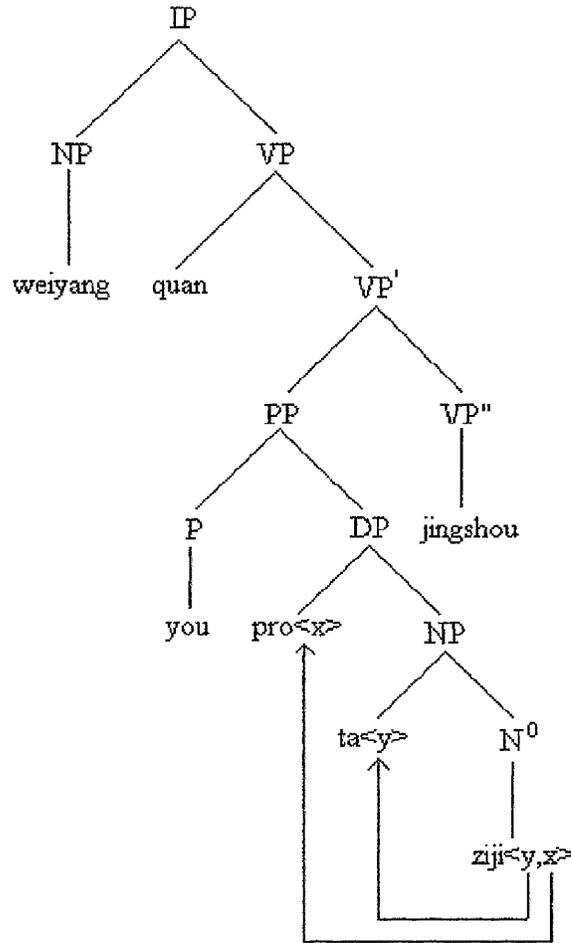
(10) b.



In fact, when *taziji* is in the object position of a preposition, it can also be free. Consider the following sentences:

- (11) a. Weiyang, quan you taziji jingshou
 feeding all by herself deal with
 '(Lit) Feeding all was done by her herself'
 ('As for feeding, everything was done by her herself') ('JINGGANG
 POXIA')

b.

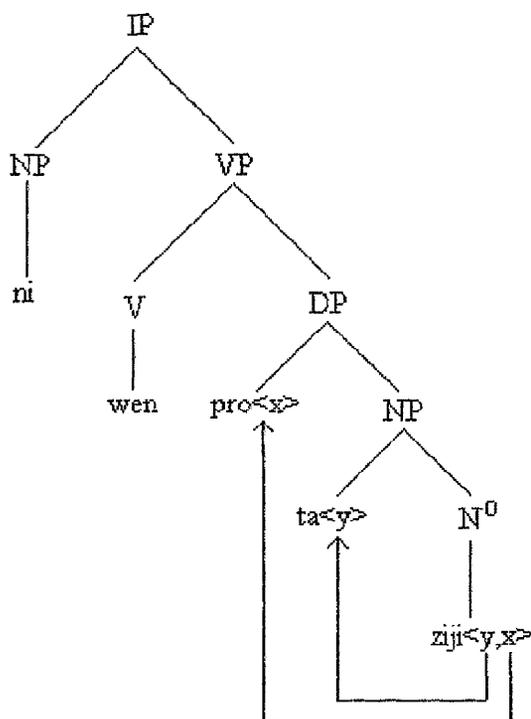


In (11a), *you* is a preposition analogous to *by* in English, and *taziji*, as its object, is not governed by the local verb *jingshou* 'deal with', which requires a non-human NP as its object. It is impossible for the verb *jingshou* to assign an anaphoric theta role to *taziji* in the PP, so *taziji* can only have a logophoric structure. The reference of *pro* in the reflexive DP must be in discourse.

We also find some cases where *taziji* in the object position of a verb is free in the entire sentence:

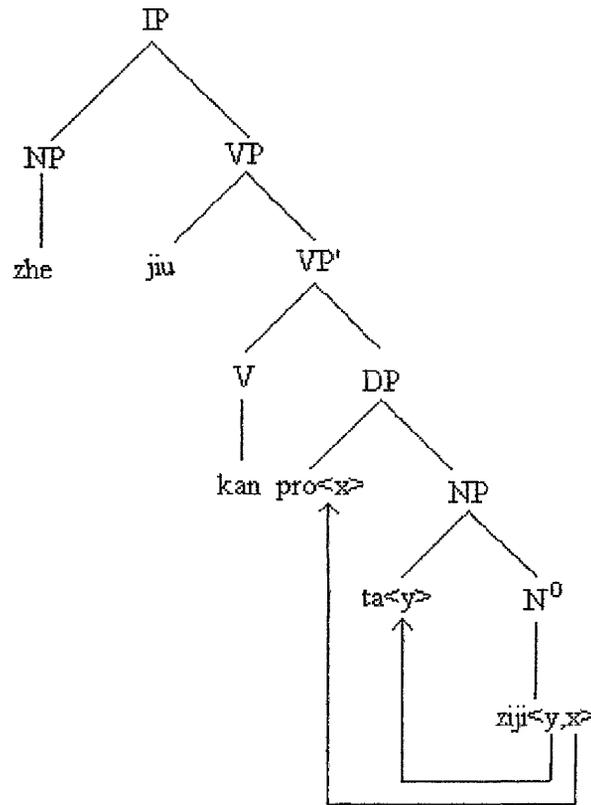
- (12) a. Ni wen taziji
 you ask himself
 'You ask him himself'

b.



- (13) a. Zhe jiu kan taziji le
 this just depend himself ASP
 'This depends upon him himself'

b.



In (12) and (13), the local verb is a Group 3 verb, which can assign either an anaphoric or a disjoint theta role to its object. However, the local subject is in the second person in (12) and an inanimate NP in (13), so it is impossible for the verb to assign an anaphoric theta role to its object, and *taziji* can only have a logophoric structure. The antecedent for the *pro* in the reflexive DP must be in discourse. The data suggest that *taziji* can have a logophoric structure if and only if the conditions in (14) below hold, in which case there must be a *pro* in the head position of the reflexive DP. The long-distance bound and sentence-free readings are made possible by coindexation of the *pro* with a non-local entity.

(14) Conditions for *taziji* to be long-distance bound

- A. *Taziji* is not in the theta grid of a verb:
 - a. *Taziji* is governed by a preposition, or
 - b. *Taziji* itself is in initial position in a sentence, or
 - c. *Taziji* is a possessive of an NP.

- B. *Taziji* is in the theta grid of a verb if and only if the local verb cannot assign an anaphoric theta role to *taziji*:
- a. The local verb is a Group 2 verb;
 - b. The local verb is a Group 3 verb, but the local subject does not have the same phi-features as *ta* in *taziji* has.

To sum up, *taziji* in Chinese may have two distinct structures: one is $[_{NP} ta [_{N^o} ziji]]$ and the other is $[_{DP} pro [_{NP} ta [_{N^o} ziji]]]$. The former is for the locally bound anaphor, in which the head of the reflexive NP *ziji* must move at LF if it can receive an anaphoric theta role, in order to link with its antecedent and to saturate itself and meet the requirement of the verb. The latter internal structure is for the logophoric reading. If the local governing verb cannot assign an anaphoric theta role to *taziji*, *taziji* will have the logophoric structure. In this case, the reflexive DP containing *taziji* will be headed by *pro*, and the *pro* may be subject to control. It can refer to the nearest NP which matches it in phi-features. Under these circumstances, *taziji* can be long-distance bound or free in the entire sentence. When *taziji* has a logophoric reading, it is subject to discourse grammar. We will discuss how to find its antecedent in Section 8.4.

8.2 LOGOPHORIC ZIJI-BENSHEN

Like *taziji*, *ziji-benshen* can be long-distance bound or free in the entire sentence. However, I have found that there are far fewer attested examples of long-distance and sentence-free *ziji-benshen* than there are of long-distance and sentence-free *taziji*.

As we discussed in Chapter 7, *ziji-benshen* also has two structures. When it is not locally bound, it has the following structure: $[_{DP1} pro<x> [_{DP2} pro<y> [_{D^o} ziji<y,x> [_{NP} pro<q> [_{N^o} benshen <q,p>]]]]]$. *Benshen* is saturated by linking its two arguments with $pro<q>$ and $pro<y>$; and *ziji* is saturated by linking to $pro<y>$ and $pro<x>$. Thus, there is no movement involved at LF. In this case, the interpretation of the reflexive is determined by the coindexation of the *pro* with its controller. We will apply the structure to all cases of long-distance and sentence-free *ziji-benshen*, to find out the conditions under which *ziji-benshen* may be logophoric.

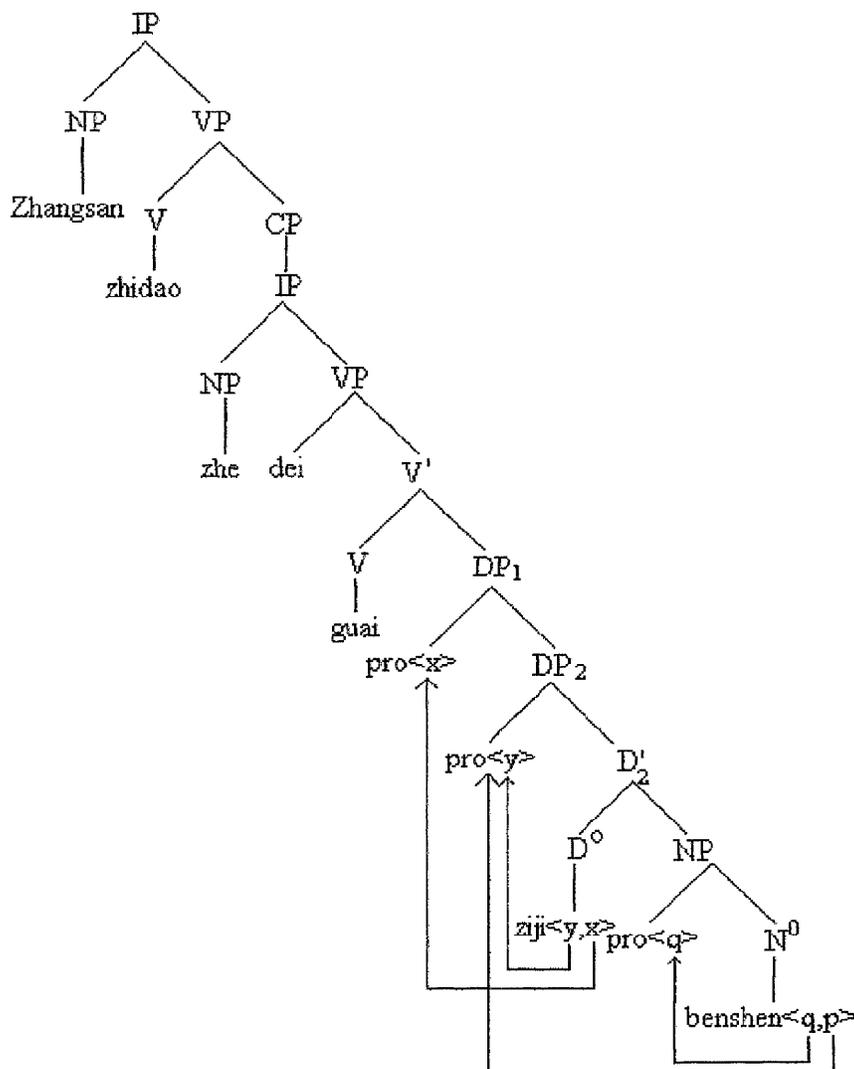
8.2.1 Long-distance bound *ziji-benshen*

In Chapters 5 and 7, we discussed *ziji-benshen*, a double reflexive construction which is, in general, clause-bound. As a matter of fact, *ziji-benshen* can be long-distance bound only under certain circumstances. Let us consider the following sentence.

- (15) a. [Zhangsan zhidao [zhe dei guai ziji-benshen]]
 know this should blame self-self
 ‘Zhangsan knew that he should be blamed for this’

In (15), *ziji-benshen* is in the theta grid of the local verb, which is a Group 3 verb. Recall that a Group 3 verb can assign either an anaphoric or a disjoint theta role to its object. However, in (12), the local subject is an inanimate NP, so it is impossible for *ziji-benshen* to receive an anaphoric theta role. Thus, *ziji-benshen* can only have a logophoric structure. The reflexive DP is headed by *pro*, which cannot be controlled by the inanimate NP, but it can be controlled by the matrix subject. The consequence is that the reflexive must be long-distance bound. (15b) shows the tree diagram for (15a):

(15) b.



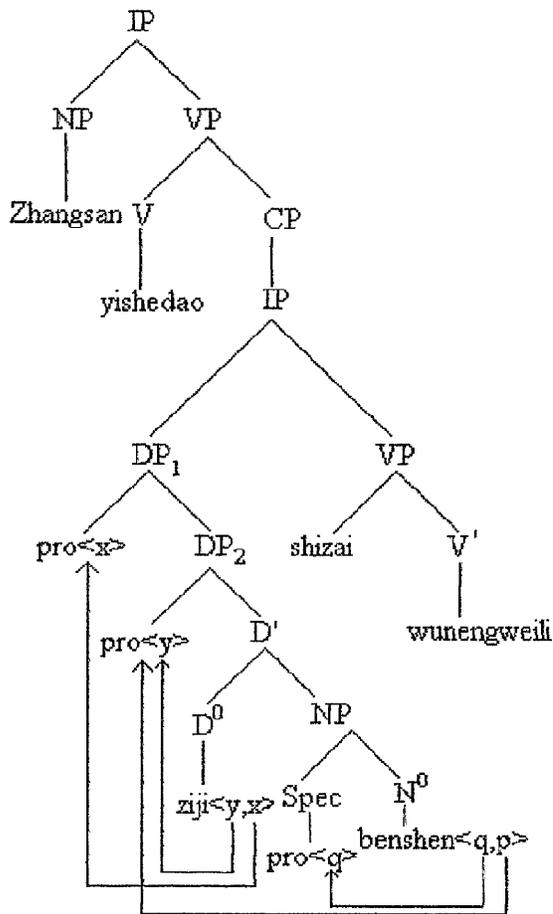
If we change the local subject into any human NP, the sentence will be odd. The reason is that the *pro* in the reflexive DP can be controlled by a human NP, since *ziji-benshen* has no phi-features, thus the verb can assign an anaphoric theta role to *ziji-benshen*, and there is no logophoric structure involved.

If *ziji-benshen* is in the initial of the embedded clause, then long-distance binding is possible.

- (16) a. Zhangsan yishedao [ziji-benshen shizai wunengweili]
 realise self-self really powerless
 ‘Zhangsan realised that he himself could do nothing about it’

In (16), *ziji-benshen* is in the initial position of the embedded clause. It is impossible for *yishedao* ‘realise’ to assign an anaphoric theta role to it, since it is a finite clause; the predicate *shizai wunengweili* ‘really powerless’ can assign a theta role to its left, but this theta role can only be that of agent, and cannot be anaphoric. Thus, *ziji-benshen* has to have a logophoric structure. This structure allows the *pro* in the reflexive DP to be controlled in the matrix clause.

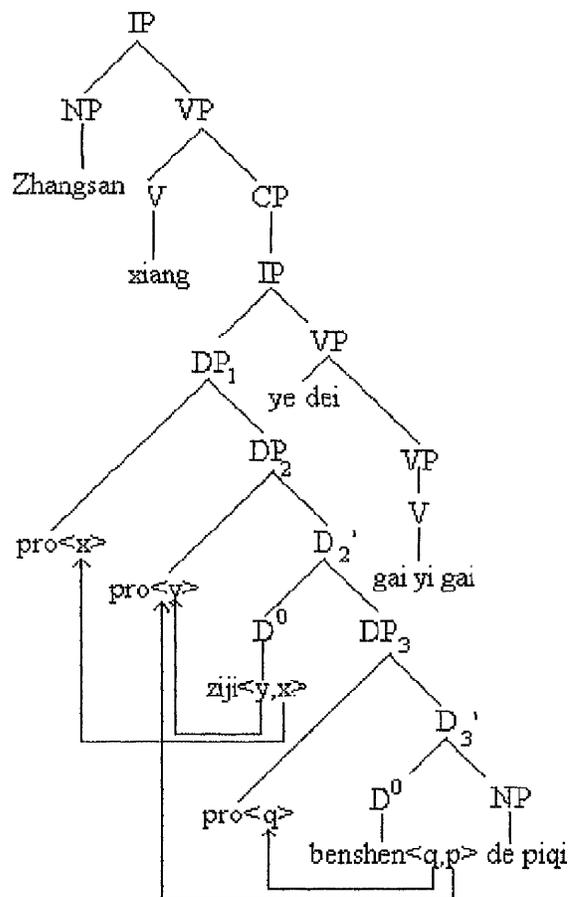
(16) b.



Ziji-benshen may also be long-distance bound if it is contained within the subject NP.

- (17) a. [Zhangsan xiang [ziji-benshen de piqi ye dei gai yi gai]]
 think self-self DE temper also should change onechange
 ‘Zhangsan thinks that his own temper should be changed a little as well’

b.



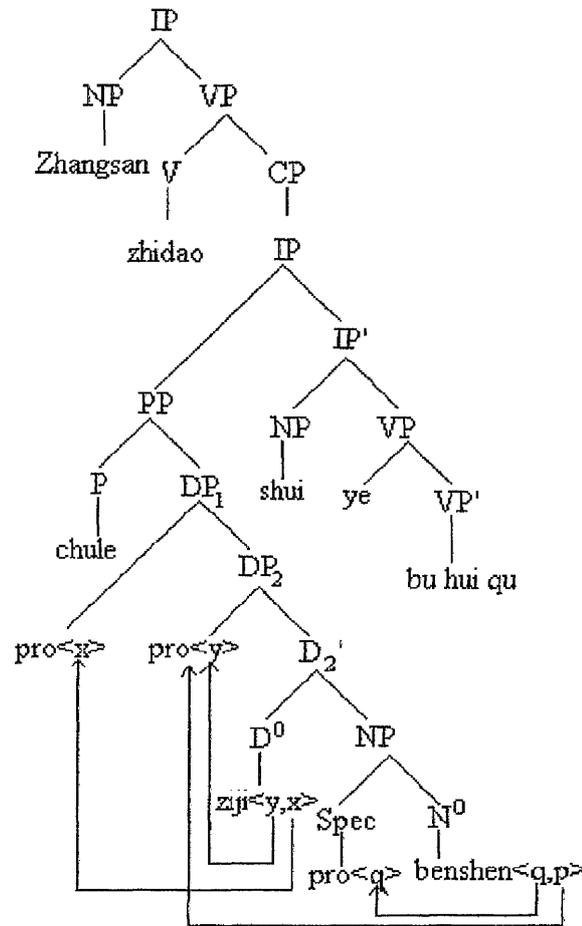
In (17), the matrix verb *xiang* ‘think’ cannot assign an anaphoric theta role to *ziji-benshen*, and nor can the local verb *gai yi gai* ‘change a little’, nor the NP *piqi* ‘temper’. Therefore, *ziji-benshen* can only have a logophoric structure. Since there is a *pro* present, the *pro* must be controlled by the matrix subject, thus we see a case of long-distance bound *ziji-benshen*. If *ziji-benshen* is contained in an embedded object DP, it can also have a logophoric structure, but in this case, the *pro* in the logophoric *pro-ziji-benshen* must be controlled by the local subject, not by the matrix subject.

Let us now look at (18). In (18), *ziji-benshen* is an object of the preposition *chu le* ‘apart from’, which adjoins to IP. In this case, none of the verbs in the sentence actually governs it, so there is no way for it to receive an anaphoric theta role from

either the matrix verb or the local verb. Since it is an object of a preposition, we might expect it to receive an anaphoric theta role from the preposition, but as a matter of fact, there is no possibility for a preposition to assign an anaphoric theta role to its object. The consequence is that the reflexive must have a logophoric structure:

- (18) a. [Zhangsan zhidao [chule ziji-benshen, shui ye bu hui qu
 know apart from self-self who also not will go
 'Zhangsan knows that apart from himself, nobody else will go']

b.

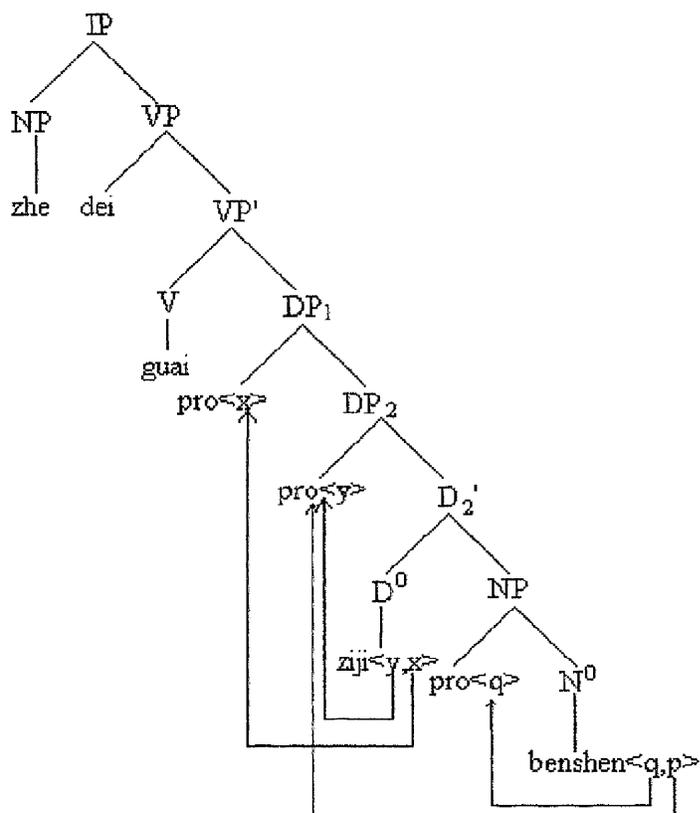


8.2.2 Sentence-free *ziji-benshen*

Ziji-benshen can be free in an entire sentence if the local subject is an inanimate NP and the local verb cannot assign an anaphoric theta role to it, or if *ziji-benshen* itself is in the initial position in the sentence. Consider the following sentences:

- (19) a. Zhe dei guai ziji-benshen
 this should blame self
 'This should be blamed on me/him'

b.

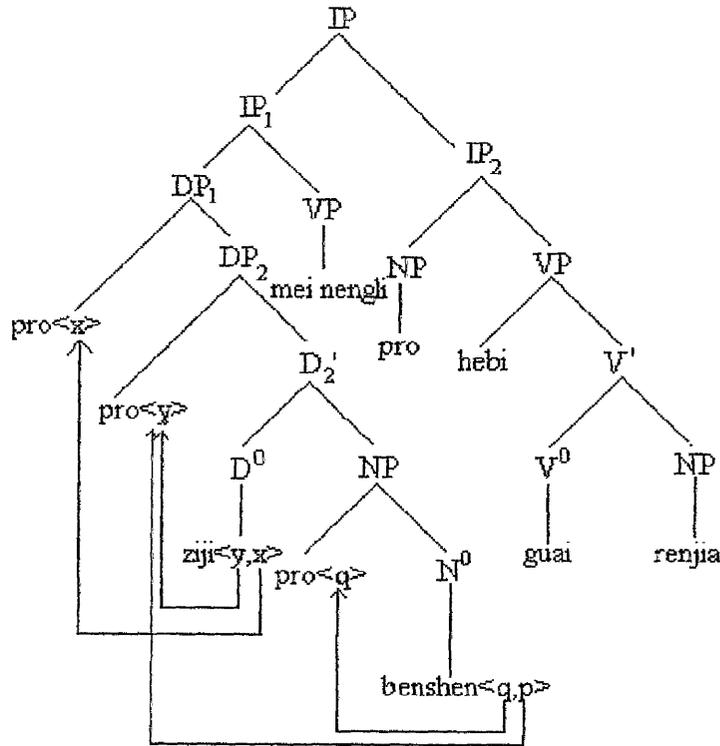


In (19), *guai* is a Group 3 verb, but since the local subject is an inanimate NP, it is impossible for the verb to assign an anaphoric theta role to the reflexive, so *ziji-benshen* can only have a logophoric structure, thus *pro* must be arbitrarily controlled. No human NP may replace the local subject, otherwise no logophoric structure will be involved.

When *ziji-benshen* is in the initial position in the sentence, in the subject position or a possessive of a subject NP, it must have a logophoric structure. Let us now consider sentence (20). In (20), *ziji-benshen* itself is in the initial position in the sentence, thus there is no possibility for it to receive an anaphoric theta role, and it must have a logophoric structure.

- (20) a. Ziji-benshen mei nengli, hebi guai renjia?
 Self-self no ability why blame others
 'I myself/he himself have/has no ability, why should I/he blame others?'

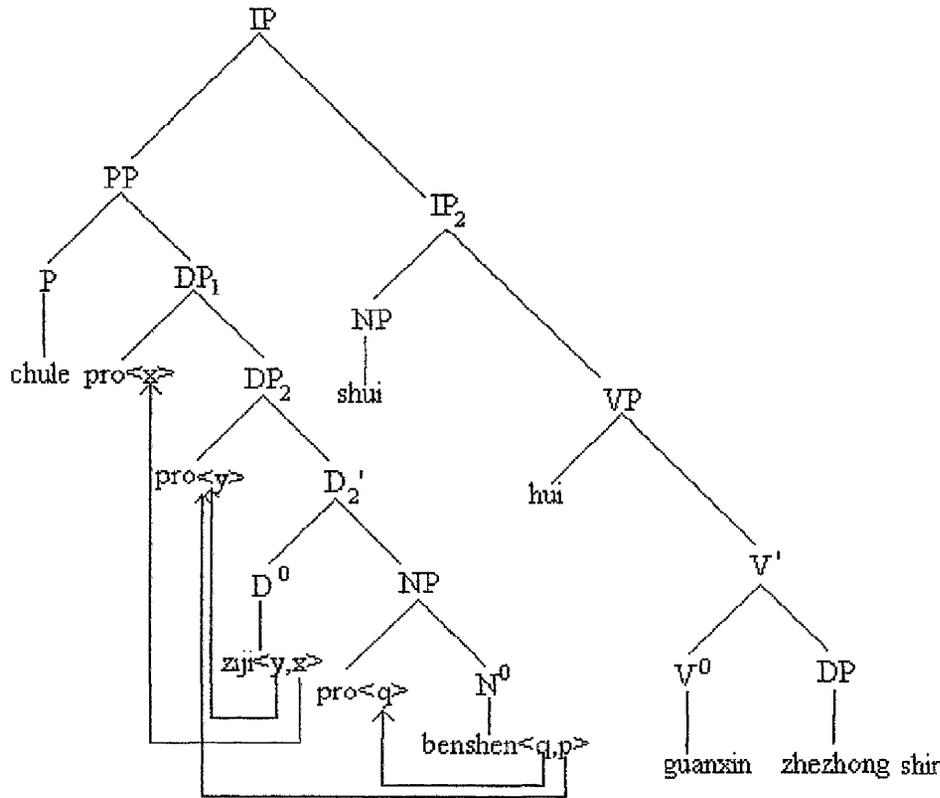
b.



(21) is a case where *ziji-benshen* is an object of the preposition *chule* 'apart from'. The local verb *guanxin* is a Group 3 verb, but it is impossible for *ziji-benshen* to receive an anaphoric theta role from the verb. Moreover, even if the verb could assign an anaphoric theta role to it, the sentence would be ruled out on semantic grounds. On the other hand, *ziji-benshen* is an object of the preposition *chule* 'apart from', which requires its object to be disjoint with the local subject. It is also impossible for *chule* to assign an anaphoric theta role to *ziji-benshen*. Thus, *ziji-benshen* can only have a logophoric structure, which I illustrate as follows.

- (21) a. Chule ziji-benshen, shui hui guanxin zhezhong shir
 apart self-self who would concern such matter
 'Apart from myself, who would be concerned about such a matter?'

b.



In short, *ziji-benshen* can be long-distance bound, or even free in an entire sentence under following circumstances:

(22) Conditions for logophoric *ziji-benshen*

- A. *Ziji-benshen* is in the theta grid of a verb, but the verb cannot assign an anaphoric theta role to it:
Ziji-benshen is governed by a Group 3 verb, but the local subject is an inanimate NP;
- B. *Ziji-benshen* is not in the theta grid of the local verb:
 - a. *Ziji-benshen* is in initial position in the sentence;
 - b. *Ziji-benshen* is governed by certain prepositions, such as *chu le* ‘apart from’;
 - c. *Ziji-benshen* is a possessive.

8.2.3 The difference between logophoric *taziji* and logophoric *ziji-benshen*

Having discussed logophoric *ziji-benshen* and logophoric *taziji*, we do find some differences between the two logophoric reflexives. Consider the two groups of sentences:

- (23) Zhangsan_i yao Weiling cuipang taziji_i (male)/^{*} ziji-benshen_i
want promote himself self-self
'Zhangsan wants Weiling to promote him'

- (24) Jingcha_i jiating le, ... zhe_j dao jiu cha zai taziji_k/ ziji-benshen_{*k} de
policeman examine ASP this knife just thrust in himselfself-self DE
duzishang
stomach
'The police have made their investigations. This knife was thrust into his own stomach'

- (25) Taziji/ ziji-benshen ye yinggai jianchajiancha
himselfself-self also should examine-examine
'He himself/you yourself should also himself/yourself'

(23)-(24) show that in the same environment, *taziji* may be logophoric, but *ziji-benshen* cannot; and in (25), their references are not the same. This difference is because *taziji* has some phi-features, while *ziji-benshen* does not. In (23), the verb cannot assign an anaphoric theta role to *taziji* (male), since the local subject is female; but the local verb can assign an anaphoric theta role to *ziji-benshen*. In (24), the local verb cannot assign an anaphoric theta role to either *taziji* or *ziji-benshen*, thus *taziji* can be sentence free, but for logophoric *ziji-benshen*, the pro must be controlled by *jingcha*, thus it is ruled out on semantic grounds. In (25), the local verb cannot assign an anaphoric theta role

to *taziji* or *ziji-benshen*, since they are in initial position in the sentence, but while *taziji* must refer to a third person in discourse, *ziji-benshen* normally refers to a first person, although under certain circumstances it can refer to a third person.

The difference can also be seen if both of them are governed by a Group 2 verb such as *genzong* ‘go-in-hot-pursuit-of’, and the local subject NP is *youren* ‘somebody’. In this case, *taziji* may be long-distance bound, but *ziji-benshen* must be ruled out.

- (26) Zhangsan_i zhidao youren_j zai genzong taziji_i*/ ziji-benshen_{*i}_j
 know somebody ASP go-in-hot-pursuit-of himself self-self
 ‘Zhangsan knows there is somebody in hot pursuit of him’

In (26), neither *taziji* nor *ziji-benshen* can receive an anaphoric theta role from the local verb, but *taziji*, and not *ziji-benshen*, may refer to the matrix subject NP. This is due to the logophoric structures of the two. *Taziji* has the logophoric structure [DP pro<x> [NP ta [N^o ziji<y,x>]]]. Since the local verb requires its object DP to be disjoint with its local subject, the pro must not be controlled by the local subject, but it can be controlled by the matrix subject, so long-distance binding is possible. Let us now consider *ziji-benshen*, which has the logophoric internal structure [DP₁ pro<x> [DP₂ pro<y> [D^o ziji<y,x> [NP pro<q> [N^o benshen<q,p>]]]]]. The pro<x> as the head of a reflexive DP may be disjoint with the local subject as the local verb requires, but the deep pro<q> has no reason not to be controlled by the local subject. However, pro<q> must be consistent with pro<x>, thus there is conflict, and the sentence is ungrammatical.

So far, we have discussed logophoric *taziji* and *ziji-benshen*. In the next section, we shall go further to discuss the simplex reflexive *ziji*.

8.3 LOGOPHORIC ZIJI

Having discussed logophoric *taziji* and *ziji-benshen*, let us now consider the simplex reflexive *ziji* in logophoric use. Here, we discuss this phenomenon in two parts: logophoric *ziji* in the common sense, such as sentence-free *ziji*, including those

instances of *ziji* which violate the blocking effect and subject orientation, which has been accepted as a logophoric use; and long-distance binding *ziji*, which is logophoric *ziji* in our terms.

In our analysis, both long-distance bound and sentence-free *ziji* should have the same logophoric structure: [_{DP} pro<x> [_{NP} pro<y> [_{N°} *ziji*<y,x>]]]. As we discussed in Chapter 7, if *ziji* is governed by a Group 2 or 3 verb and cannot receive an anaphoric theta role from the verb, it may have a logophoric structure. In this section, I explore further the notion that *ziji* in a non-theta grid of the verb may also have a logophoric structure.

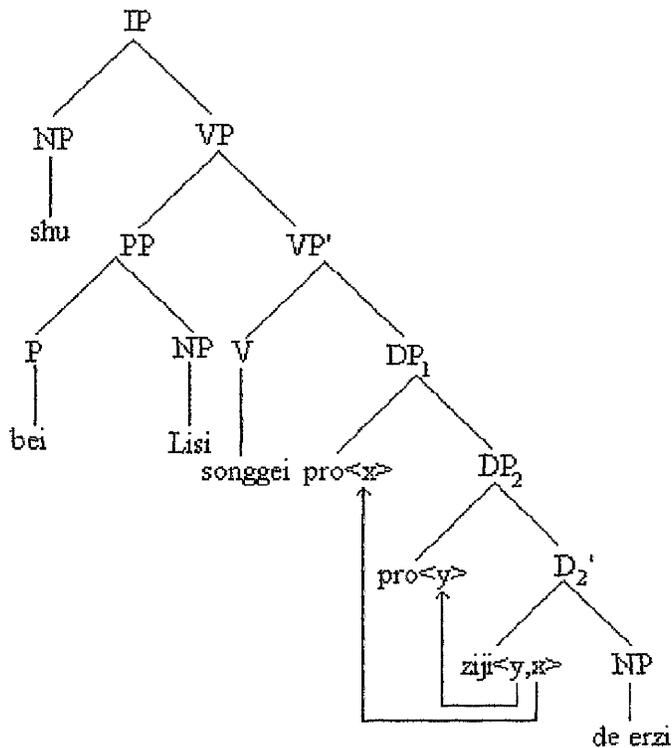
8.3.1 Non-subject-orientation

As is well-known, *ziji* has been widely discussed as a long-distance bound reflexive. Subject orientation has been recognised as one of its main properties. The blocking effect has been accounted for as an important principle for bare reflexives. However, Yu (1988b, 1992, 1994) and Xu (1992, 1993) present a great number of problematic sentences for the analyses given by Huang and Tang (1991) and Tang (1989).

In contrast to the claim that *ziji* may only be anteceded by subjects, in my (1992) paper, I gave some examples in which the antecedent of *ziji* is the object of a coverb, as the following two sentences illustrate:

- (27) a. Shu bei Lisi_i songgei ziji_i de erzi le
book by give-to self DE son ASP
'The book has been given by Lisi to his own son'

b.



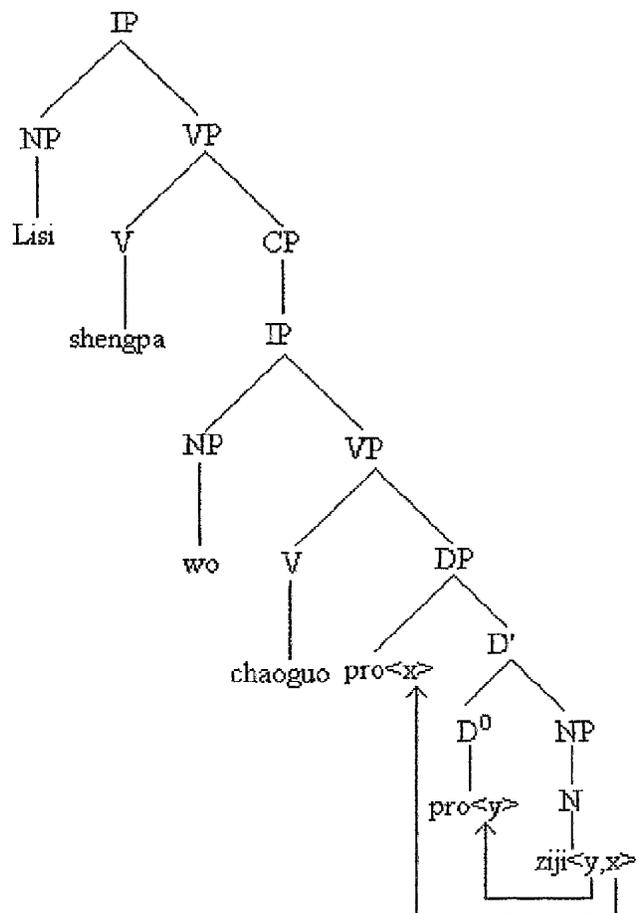
In (27), the antecedent *Lisi* is the object of the coverb *bei* ‘by’, the passive particle. The antecedent is not in the subject position and does not c-command *ziji*. Look at the verb *songgei* ‘give to’. It is a Group 2 verb, which cannot assign an anaphoric theta role to its object, but can assign a disjoint theta role, which is received by *erzi* ‘son’. The NP *erzi* cannot assign an anaphoric theta role to *ziji*. There is no way for the reflexive *ziji* to receive an anaphoric theta role. Thus, it can have a logophoric structure. Then, $pro\langle x \rangle$ in the reflexive DP can refer to *Lisi*.

(28) violates the Blocking Effect, since there is a first person pronoun *wo* ‘I’ present. The Feature-copying Rule cannot account for this. The verb *chaoguo* ‘surpass’ is also a Group 2 verb, which requires its object to be disjoint with its subject. *Ziji*, as the head of a reflexive, cannot receive an anaphoric theta role from the verb, with the consequence that it can only have a logophoric structure in order to receive the disjoint theta role. In the logophoric structure, $pro\langle x \rangle$ cannot be controlled by the local subject, due to the verb’s requirement, but it can be controlled by the matrix subject, so

the matrix clause is its control domain. Thus, the matrix subject is the controller, and the sentence is perfectly grammatical.

- (28) a. Lisi_i shengpa wo chaoguo ziji_i
 worry I surpass self
 'Lisi was afraid that I would surpass him'

b.



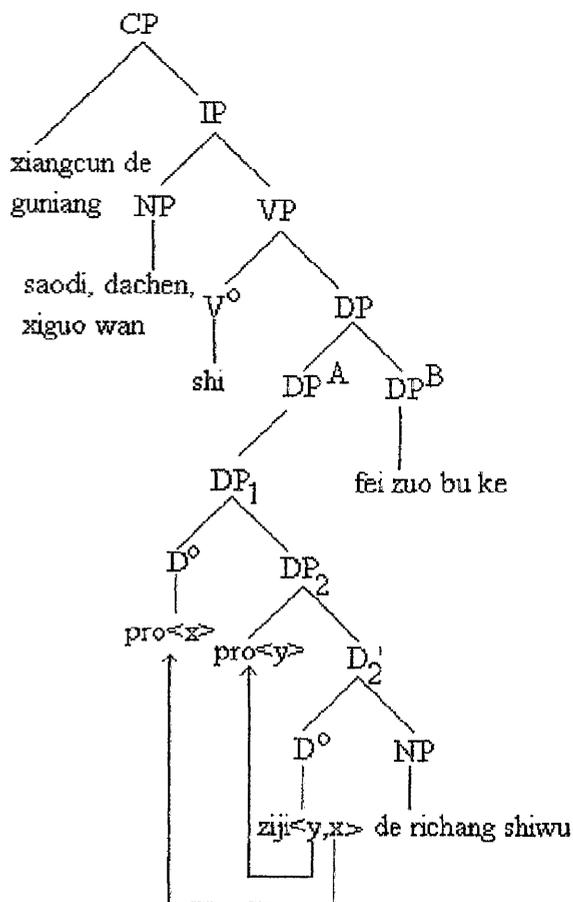
8.3.2 *Ziji* may not be A-bound

In the following sentences, *ziji* is anteceded by an NP in topic position. Since in Huang's (1982) view, the topic position is an A'-position, *ziji* in (29) is no longer A-bound.

Look at the verbs *shi* 'is' and *bufuze* 'has no responsibility'. Neither of these verbs can assign an anaphoric theta role to *ziji*. Since *ziji* cannot have an anaphoric theta role, it can only have a logophoric structure. It is clear that *zhe* 'this' cannot be a controller, since it is an inanimate NP. The only possible controller for *pro* in the reflexive DP is *Lao Jiao*. This is why *ziji* seems to be A'-bound. I assume that my analysis gives a perfect answer to this problem which has puzzled proponents of the movement hypothesis for long-distance bound *ziji*.

- (29) a. Xiangcun-de guniang, saodi, dachen, xi-guo-wan shi ziji-de
 village-'s girl sweep dust wash-dishes is self-'s
 richang shiwu, fei-zuo-bu-ke
 daily task, must-do
 'As for farmer girls, sweeping, dusting and doing the dishes is their
 everyday task, which they have no way of escaping'

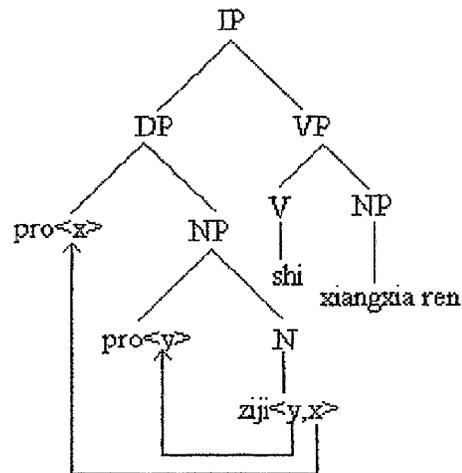
b.



8.3.3 Sentence-free *ziji*

As the following sentences testify, *ziji* may be free in the entire sentence. (30) is an example in which *ziji* is in the initial position in a sentence. This type of sentence often occurs in first person narrative proses, autobiography or diaries. In (30), since *ziji* is in initial position, it is impossible for the verb *shi* to assign an anaphoric theta role to it leftwards, thus *ziji* must have a logophoric structure.

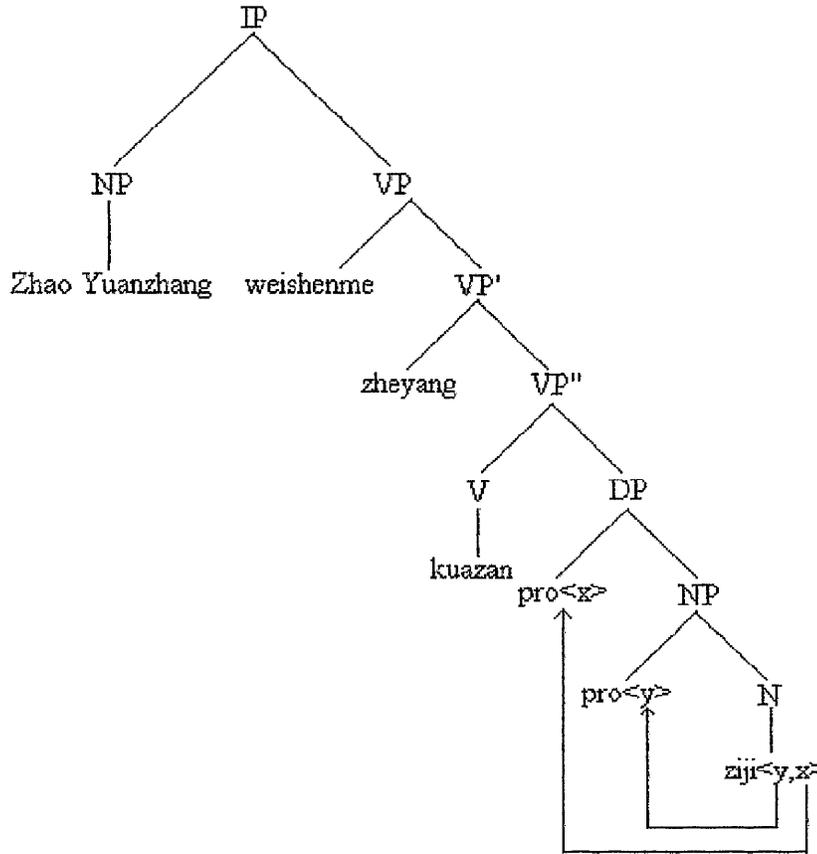
- (30) a. Ziji shi xiangxia ren
 self is countryside man
 ‘I myself am from the countryside’ (GUANGUAN DE PUPING)
- b.



Ziji in an interrogative sentence can be sentence-free, even though the local subject is a third person human NP, since the report is normally made from the thinker's or the speaker's point of view. Look at (31), which is a typical case:

- (31) a. Zhao yuanzhang weishenme zheyang kuazan ziji ne?
 President why so praise self PRT
 ‘Why should President Zhao praise her like that?’
 (Zhan Rong: REN DAO ZHONGNIAN)

b.



In (31), the local verb is *kuazan*, which is a Group 2 verb, requiring its object to be disjoint with its subject. Of course, it cannot assign an anaphoric theta role to the object *ziji*. Since *ziji* cannot receive an anaphoric theta role, it can only have a logophoric structure. Then, the *pro<x>* cannot be controlled by the local subject, but may refer to an entity in discourse. To my knowledge, *ziji* in this case should refer to Dr Lu, who is the protagonist in the story.

8.3.4 Long-distance *ziji* and the logophoric structure

Having discussed the traditional logophoric cases for *ziji* in the literature, in this section, I would like to argue that long-distance binding *ziji* is logophoric in nature, and there is no movement involved at LF.

reflexive *ziji* is much less natural here.” How can we account for it within the movement hypothesis? This is a problematic sentence for the long-distance movement hypothesis.

By assuming that long-distance bound *ziji* is logophoric in nature, we can solve all the questions above. Here, I only give an explanation for sentence (32), since I have answered the other questions above before. I assume that *jie* is a Group 2 verb, which requires its object to be disjoint with its local subject and cannot assign an anaphoric theta role to the reflexive, which can only have the logophoric structure [_{DP} pro<x> [_{NP} pro<y> [_{N^o} *ziji*<y,x>]]]. The pro<x> in the object DP can receive the disjoint theta role, therefore *ziji* will not refer to the local subject. In (32a), because the sentence indicates that the report is made from the point of view of *Xiaoyuanyuan* by using the achievement verb *yiwei* and the direction verb *lai*, the pro<x> can refer to *Xiaoyuanyuan*. In (32b), the achievement verb *yiwei* indicates that it is from *Xiaoyuanyuan*'s point of view that the report is made, but the direction verb *qu* indicates that the report is made from the point of view of somebody else. There is thus a conflict, and pro<x> cannot be controlled in this sentence. Since a pro, in general, is controlled by the nearest potential human NP if there is one, but in (32b) the pro<x> cannot be controlled, the sentence is ungrammatical.

In short, long-distance binding of a reflexive is a result of coindexation in the logophoric reading. The long-distance movement hypothesis cannot provide any explanation for this phenomenon.

8.3.5 The conditions for logophoric *ziji*

From the above data, we can give the conditions in (33) for logophoric *ziji*:

(33) Conditions for logophoric *ziji*

- A. *Ziji* is in the theta grid of a verb if and only if the local verb cannot assign an anaphoric theta role to it:
 - a. The local verb is a Group 2 verb; or

- b. The local verb is a Group 3 verb, but
 - i. The local subject is not first or second person; or
 - ii. The local verb is not modified by an intensifying *ziji*;
 - iii. The local subject is an inanimate NP.
 - iv. For some pragmatic reason the verb cannot assign an anaphoric theta role to it in the context.
- B. *Ziji* is not in the theta grid of the local verb if
 - a. *Ziji* is a possessive contained in an object or subject NP; or
 - b. *Ziji* is an object of a preposition.
 - c. *Ziji* is in the initial of the sentence.

8.4 THE DOMAIN OF THE LOGOPHORIC REFLEXIVES

Having investigated the distribution of logophoric reflexives *ziji*, *taziji* and *ziji-benshen*, several questions remain: is there any domain for logophoric *ziji-benshen*, *taziji* and *ziji*? What is this domain for the logophoric reflexives?

I assume that a reflexive, whether it is logophoric or anaphoric, must have an antecedent. In this section, we are going to discuss the conditions for finding an antecedent.

8.4.1 The difference among *ziji*, *taziji* and *ziji-benshen*

Having discussed the structures for logophoric *ziji*, *taziji* and *ziji-benshen*, we noticed that there are some differences among them. In this section, we shall explore whether or not their domains are the same.

Let us look first at sentences (34)-(35).

- (34) a. Lingdao_i de hua dui ziji_i de guwu hen da
 leader DE word to self DE encourage very big
 ‘The leader’s words are a big encouragement to me’ (the speaker)

- b. (Guniang_i turan tingdao yipian jiaobu sheng.) Zhe jiaobu
 girl suddenly hear one-CL footstep sound this footstep
 sheng_j xiang ziji_i zou lai
 sound to self walk come
 ‘(The girl heard the patter of footsteps. The footsteps came towards
 her’
- c. Ni_i wen ziji_{i/*j}
 you ask self
 ‘You ask yourself/ *himself’
- d. Ziji shi xiangxia ren
 self is countryside person
 ‘I am from the countryside myself’
- (35) a. Lingdao_i de hua dui taziji_{i/*j} guwu hen da
 leader DE words to himself encourage very big
 ‘The leader’s words are a big encouragement to him’
- b. (Guniang_i turan tingdao yipian jiaobu sheng.) Zhe jiaobu
 girl suddenly hear one-CL footstep sound this footstep
 sheng xiang taziji_i zou lai
 sound to herself walk come
 ‘(The girl heard the patter of footsteps.) The footsteps came towards
 her...’
- c. Ni_i wen taziji_{i/*j}
 you ask himself
 ‘You ask him himself’
- d. Taziji shi xiangxia ren
 himself is countryside person
 ‘He himself is a farmer’
- (36) a. Lingdao_i de hua dui ziji-benshen_{i/*j} guwu hen da
 leader DE word to self-self encourage very big

- b. (Guniang_i turan tingdao yipian jiaobu sheng.) Zhe jiaobu
 girl suddenly hear one-CL footstep sound this footstep
 sheng xiang ziji-benshen_i zou lai, ...
 sound to self-self walk come
 '(Suddenly, the girl heard the patter of footsteps.) The footsteps came
 towards her'
- c. Ni_i wen ziji-benshen_{i/*j}
 you ask self-self
 'You ask yourself/ *himself'
- d. Ziji-benshen shi xiangxia ren
 self-self is countryside person
 'He himself is from the countryside/ I am from the countryside'

In Set A of (34)-(36), *ziji* can be free, while in the same environment *taziji* and *ziji-benshen* are not allowed. In Set B, all three reflexives can be free. The references are the same, where *guniang* must be followed by the verb *tingdao* 'heard'. In Set C, *taziji* is allowed to be free, but *ziji* and *ziji-benshen* must be bound to the local subject. The reference of *taziji* must be in the topic. In Set D, *ziji* must refer to the speaker or thinker, but in certain contexts it may refer to someone in the topic position. *Ziji-benshen* behaves in the same way, but *taziji* must refer to the third person in any context.

The data suggest that there are common properties, but the three reflexives also have their own natures. Thus, we must find the individual domains for each of them.

8.4.2 Domain of *ziji*, *taziji* and *ziji-benshen*

As we have seen, a reflexive has a dependent nature, therefore there must be an antecedent for logophoric *ziji*, *taziji* and *ziji-benshen*. Consider the following sentences:

- (37) Ta_i buyuan zai wen na nüren_j yifu de secai, hengshu ta_k shi
 she not-will again ask that women clothes DE colour anyway he is
 man le ziji_{i/*j/*k} de goudang
 deceive ASP self DE behaviour
 ‘She would not ask what colour that woman’s clothes would be. Anyway, he
 (her husband) had deceived her’
 (Wang Tong Zhao: XIAO HONGDENGLONG DE MENG)

- (38) Wu Tian Xiang_i suiran jiamian zai lou shang, sixu qu ru dahai
 although doze in upstairs thinking just like big-sea
 botao. Ta_j (his wife) wanquan zhidao lingdao_k xunche ziji_{i/*j/*k}, bingqie
 wave she completely know leader rebuke self and
 pairen dingzhu ziji_{i/*j/*k} de shi
 order-people watch self DE matter
 ‘Wu Tian Xiang was very much perturbed even though he dozed in bed. She
 (his wife) knew completely that the leader had rebuked him and ordered
 somebody to keep a close watch on him’

In (37) and (38), logophoric *ziji* (ie the pro<x> in the reflexive DP) refers to the third person. Looking at the antecedents in (37) and (38), we find that there is a verb in each sentence to indicate that the report is made from the antecedent’s point of view: in (37), the verb is *bu yuan wen* ‘not willing to ask’, while in (38), the predicate is *sixu qu ru dahai botao* ‘his thinking just like the waves in the sea’ (he was very much perturbed). The vivid description indicates that the subject is the protagonist and the report is made from this subject’s point of view.

In the B set of (34)-(36), we can also see that the verb *tingdao* follows the antecedent of *ziji*, *taziji* and *ziji-benshen*, which is *guniang* ‘the girl’. Thus, we may give the following conditions for logophoric reflexives to find the logophoric SUBJECT.

- (39) A logophoric reflexive must have its logophoric SUBJECT.

(40) Conditions for a logophoric SUBJECT

- A. First and second person as a logophoric SUBJECT
 - a. A logophoric reflexive cannot have phi-features;
 - b. It is in first person prose, diary, autobiography and conversation;
 - c. There is no first or second person as local subject for *ziji*, and no human NP as local subject for *ziji-benshen*.
- B. Third person as logophoric SUBJECT
 - a. The logophoric SUBJECT must be a protagonist in a proposition topic, or
 - b. The logophoric SUBJECT must be followed by a verb or a predicate which vividly indicates that the report is made from that SUBJECT's point of view;
 - c. If the logophoric reflexive has phi-features, these must be the same as the phi-features of the logophoric SUBJECT;
 - d. First and second person must not intervene between *ziji* and its logophoric SUBJECT, and no human NP can intervene between *ziji-benshen* and its logophoric SUBJECT, and no NP with the same phi-features can intervene between *taziji* and its logophoric SUBJECT.

8.5 CONCLUSION

In this chapter, I argued that all long-distance bound and sentence-free reflexives are subject to logophoricity. A logophoric reflexive must have a logophoric structure. Whether a reflexive can have a logophoric structure is determined by the local verb: if a local verb cannot assign an anaphoric theta role to the reflexive, the reflexive can only have a logophoric structure. I propose that every logophoric reflexive has a unique reference, which may be called logophoric SUBJECT. A logophoric SUBJECT must be followed by a mental process verb or some predicate which vividly describes the subject, or it may be the speaker/thinker for the logophoric reflexive without phi-features. Within my analysis, the logophoric reading is a result of coindexation, and not

a result of movement at LF. If my analysis for Chinese reflexives is right, we may apply it to English reflexives. In Chapter 9, which is the conclusion and further discussion, I shall discuss this issue.

CHAPTER NINE

CONCLUSION AND IMPLICATIONS

9.1 CONCLUSION

The Chinese reflexivisation system is rather complicated. In the literature, Chinese reflexives can be divided into two distinct forms: the simplex reflexive *ziji* and the complex reflexives: pronoun-reflexive compounds such as *taziji*. Their properties are described below:

- (1) Simplex reflexive *ziji*
 - a. *Ziji* has three distinct usages in the literature: those of anaphoric *ziji*, which must refer to its antecedent; of emphatic *ziji*, which emphasises the NP which it follows; and intensifying *ziji*, which can modify a verb and can make the verb assign an anaphoric theta role to its object;
 - b. *Ziji* can be either locally-bound or long-distance;
 - c. When *ziji* is long-distance bound, it must be subject to subject orientation and the Blocking Effect.

- (2) Complex reflexives (pronoun-reflexive) such as *taziji*
 - a. *Taziji* has two usages: anaphoric *taziji* and emphatic *taziji*.
 - b. *Taziji* is normally locally bound.

I, however, have found that under certain circumstances, *ziji* may not be subject to the Blocking Effect, *taziji* can also be long-distance bound, and both *ziji* and *taziji* may even be free in an entire sentence; moreover, there is one more kind of complex reflexive in Chinese: the self-self double reflexive construction *ziji-benshen*. Its properties are as follows:

- (3) Complex reflexive (reflexive-reflexive) *ziji-benshen*
- a. *Ziji-benshen* has two usages: it can be an anaphor, and it can be an emphatic element.
 - b. When *ziji-benshen* is an anaphor, it is basically locally bound.
 - c. *Ziji-benshen* can be long-distance bound, or even free in an entire sentence, if and only if the local subject is inanimate.

Furthermore, there are two kinds of reflexive clitic in Chinese: *zi* and *ziwo*.

I observed this phenomena, and found a very interesting fact: whether a reflexive can be locally bound or long-distance or even sentence-free is determined by the local governing verb; on the other hand, I also noticed that when different types of reflexives are governed by the same verb, sometimes the results will be different.

In their (1991) paper, Reinhart and Reuland emphasise that “A typical statement is that a reflexive pronoun is used in the object position (to avoid ‘repetition of the subject’) when the verb expresses a reflexive relation (eg Jespersen 1933, Gleason 1965). That is, the heart of the phenomenon is taken to reside in the nature of the relation expressed by the verb” (p 288). Following their line, I investigated the relation between reflexives and verbs, and found that the interpretation of reflexives is determined by the interaction of verbal selection and the internal structure of the reflexives themselves, which have been discussed in Chapters 5 and 7.

In Chapter 5, I discussed the classification of transitive verbs. Transitive verbs in Chinese are divided into three distinct groups in accordance with the classification of verbs in the *TONGYI CI BLANXI* ‘A DICTIONARY OF SYNONYM DISCRIMINATION’:

- (4) The classification of transitive verbs
- a. Group 1 *zizhi* verbs ‘only applying to oneself. The verbs require their objects to be identical with the local subject:

Verb <subject NP_i, object (+ human) NP_j>

- b. Group 2 *tazhi* verbs ‘only applying to somebody else’. This type of verbs require their objects to be disjoint with their local subject:

Verb <subject NP_i, object (+ human) NP_j>

- c. Group 3 *zhongxing* verbs ‘neutralised’. This kind of verb has no special requirement. In other words, the objects of the verbs can be either identical to or disjoint with their local subjects.

Verb <subject NP_i, object NP_{ij}>

This classification of verbs is based on the verb’s ability to take an anaphor as its object. Verbal selection is consistent with theta role assignment: Group 1 verbs can only take reflexives as their objects; Group 2 verbs can only take pronouns (or proper names) and Group 3 verbs can take either reflexives or pronouns as their objects.

The internal structures of the reflexives are discussed in Chapter 7. Following the spirit of Reinhart and Reuland’s (1991) paper, I assume that every kind of reflexive has two distinct structures, as follows:

(5) *Taziji*

- a. [NP ta [N° ziji]]
b. [DP PRO [NP ta [N° ziji]]]

(6) *Ziji-benshen*

- a. [DP PRO [D ziji [NP pro [N° benshen]]]]
b. [DP₁ PRO [DP₂ PRO [D ziji] [NP pro [N° benshen]]]]]

(7) *Ziji*

- a. [NP pro [N° ziji]]
b. [DP PRO [NP pro [N° ziji]]]

The A set of structures in (5)-(7) are for the anaphoric readings. In other words, when a verb assigns an anaphoric theta role to the reflexive, it will have such a structure. The B set are for the logophoric reading. I assume that *ziji* in *taziji*, *ziji-benshen* and *pro-ziji* can project two arguments $\langle y, x \rangle$ in both the anaphoric structure and logophoric structure. In the anaphoric structure, one of the arguments is linked to the specifier of the reflexive NP, while the other is unlinked, thus the reflexive has an anaphoric nature. When a verb assigns an anaphoric theta role to the reflexive NP, the head of the reflexive NP is allowed to move and adjoin to the head of the VP at LF in order to link the unlinked argument to the external argument of the verb. Once the head of the reflexive NP moves and adjoins to the head of VP, *ziji* is saturated, and no further movement is required. When a verb assigns a disjoint theta role to its object DP/NP, it is impossible for the head of the reflexive NP to receive the theta role. In this case, there may be a *pro* in the head position of the reflexive DP. Since the DP has a head present, the unlinked argument of *ziji* may link with it. There is no possibility for *ziji* as the head of the reflexive NP to move out of the DP, and there is no movement involved at LF.

Reinhart and Reuland propose two structures for verbs, as in (8).

- (8) a. V $\langle x, y \rangle$
 b. V $\langle x, x \rangle$

I further assume that (8a) indicates that the verb can only assign a disjoint theta role to its object, while (8b) shows that the verb can assign an anaphoric theta role to its object. When the verb assigns the anaphoric theta role, the head of the reflexive which needs to link one of its arguments with an element outside the reflexive NP is allowed to move and adjoin to the head of the verb, since both the verb and the head of the reflexive NP require their two arguments to be identical. As soon as the head of the reflexive moves and adjoins to the verb, it is assumed to have linked with the external argument of the verb, so the reflexive is saturated, and no more movement is either required or permitted.

This analysis provides an explanation for why *ziji*, *taziji* and *ziji-benshen* can be locally bound.

In logophoric readings, I assume that there are also some differences among the three types of reflexives.

(9) Long-distance binding conditions

- a. *Taziji* type reflexives can be long-distance bound if governed by a Group 2 or Group 3 verb and if the local subject is inanimate or has different phi-features to the reflexive.
- b. *Ziji-benshen* type reflexives can be long-distance bound if and only if they are governed by a Group 3 verb and the local subject is inanimate.
- c. *Ziji* type reflexives can be long-distance bound if and only if they are not governed by a Group 1 verb or by a Group 3 verb modified by an intensifying *ziji* or the local subject is first or second person.

The difference can also be seen in the sentence-free reflexive cases:

(11) Sentence-free Conditions:

- a. *Taziji* can be free in an entire sentence if and only if it is in the initial position in the sentence or is a possessive; or if *taziji* is the object in a simple sentence and the local verb cannot assign an anaphoric theta role to it and the local subject cannot have the same phi-features as *ta* in *taziji*.
- b. *Ziji-benshen* can be free in an entire sentence if and only if it is in the initial position in the sentence or is a possessive of the subject NP; if it is in object position, the local verb must be one which cannot assign an anaphoric theta role to it and the local subject must be a non-human NP.
- c. *Ziji* can be free in an entire sentence if and only if it is in the initial position of a simple sentence, or a possessive of a subject NP; if it is in object position, the local subject must not be first or second person.

These differences are determined by the internal structures. For *taziji*, the pro in D position is easily recovered, since it has to be consistent with *ta* in *taziji*. For *ziji-benshen*, there are two different level pros (in DP level and NP level) which need to be coindexed. For *ziji*, there is only one level pro to be controlled. The internal structures determine that *ziji-benshen* and *taziji* should normally be locally bound; under certain circumstances, they may be long-distance, even sentence-free; *ziji* may be either anaphoric or logophoric.

I also explored conditions for *taziji*, *ziji-benshen* and *ziji* to find their logophoric SUBJECT:

- (11) A logophoric reflexive must have its logophoric SUBJECT.

- (12) Conditions for a logophoric SUBJECT
 - A. First and second person as logophoric SUBJECT, if
 - a. A logophoric reflexive has no phi-features
 - b. It is a first person account in prose, diary, autobiography or conversation
 - c. There is no first or second person as local subject for *ziji*, and there is no human NP as local subject for *ziji-benshen*.
 - B. Third person as logophoric SUBJECT
 - a. The logophoric SUBJECT must be a protagonist in a proposition topic, or
 - b. The logophoric SUBJECT must be followed by a verb or a predicate which vividly indicates that the report is made from the SUBJECT's point of view.
 - c. The logophoric SUBJECT must have the same phi-features as the reflexive has if the reflexive has any phi-features.
 - d. First and second person must not intervene between the logophoric SUBJECT and *ziji*, and no human NP can intervene between a logophoric SUBJECT and *ziji-benshen*. No NP with the same phi-features can intervene between the logophoric reflexive *taziji* and its logophoric SUBJECT.

I have given an account for the Blocking Effect. The Blocking Effect can only affect *pro*'s control. Because the controller is actually a logophoric SUBJECT of the logophoric reflexive *ziji*, if there is a first or second person pronoun which is assumed as a logophoric SUBJECT intervening between *ziji* and the subject in the higher clause, of course, *ziji* must move to refer to the logophoric SUBJECT. This analysis gives an explanation of subject orientation as well. Since *pro* is used to being controlled by a subject, it seems that *ziji* has the property of subject-orientation.

Anyway, the interpretation of reflexives in Chinese should be determined not only by syntax, but also by semantics, pragmatics and morphology.

9.2 IMPLICATIONS

I believe that my theory may apply to a language like English. In English, there are few Group 1 verbs. *Himself* is a typical locally bound anaphor. If *himself* is governed by Group 1 and 3 verbs, it is normally locally bound, just like *taziji* in Chinese. But when *himself* is not in the theta grid of the main verb, for example, if it is an object of a preposition, or if it is contained in a subject NP, or even if it is in the theta grid of the main verb, but the local subject is an inanimate NP, long-distance binding and sentence-free readings are possible. Examples are shown below:

- (13) a. John_i likes himself_i
b. John_i criticised himself_i
- (14) a. They_i thought that [pictures of themselves_i] would be on sale
b. John_i said that there was a picture of himself_i in the post office
c. John_i believes that the letter was sent to either Mary or himself_i
d. John_i thinks that Mary hates even himself_i
e. John_i thinks that Mary is in love with himself_i, not Peter

- f. John_i said to Mary that physicists like himself_i were a godsend
 - g. John_i told Mary that as for himself_i, he wouldn't have to move
 - h. Did he mean herself_i, she_i thought....
- (15)
- a. Her acquaintances in Northam, she_i thought, would have considered such affection unnatural, and probably perverted if not wholly insincere, and there was something in herself_i that could not help but suspect it....
 - b. Tell him_i, please, that we wish him no harm; but that it will be better for himself_i if he goes away from Germany at once.
 - c. He_i sat down at the desk and opened the drawers. In the top right-hand one was an envelope addressed to himself_i
 - d. Watched as he_i was by countless enemies at home and abroad, a single false step would have brought ruin and disgrace on himself_i

(14) and (15) are from Zribi-Hertz. The sentences in (14) are the long-distance bound cases, while (15) are sentence-free cases. My analysis predicts that (13) should be the locally bound cases, because in (13a) and (13b), the verb can assign an anaphoric theta role to its object, the reflexive NP. Following Reinhart and Reuland (1991), I assume that the structure for anaphoric *himself* should be $[_{NP} \text{him}\langle y \rangle [_{N^o} \text{self}\langle y, x \rangle]]$, therefore *self* projects two arguments, one of which links to the specifier *him* in the reflexive NP, while the other needs to be linked. When the verb assigns an anaphoric theta role to it, it gets the chance to move to adjoin to the head of the verb. As soon as it adjoins to V, it links to the external argument of the verb, and is saturated. Turning to (14) and (15), in all cases, the reflexive is not in the theta grid of the local verb. In (14a), the reflexive is contained in the embedded subject NP, where it cannot receive an anaphoric theta role from the verb because of the leftness condition. In (14f), *himself* is in subject position as well, however it is governed by a preposition, not by the verb. In (15g), *himself* is a topic, which cannot receive an anaphoric theta role from the local verb. In (14b), *himself* is contained in the object Picture NP, so the verb cannot assign an anaphoric theta role to it. *Himself* in (14c), (14d), (14e) and (14h) is in an object position, but the local subjects are inanimate NPs, or

human NPs with different phi-features from the pronoun in the pronoun-self compound. In (15a)-(15c), the local subject is an inanimate NP, which also cannot receive an anaphoric theta role. In these cases, the reflexive must have a logophoric structure. In Chinese, I assume that there is a pro in the head of the logophoric reflexive DP. However, as is well-known, there is no pro in English, since English is not a pro-drop language. Recall the solution developed by Jayaseelan (1988) for all English reflexives outside of their minimal governing category. He suggests that English reflexives must be systematically analysed as emphatic adjuncts. In other words, what is explicit in (16) is also claimed to occur in (17), whose syntactic representations would be those given in (18):

- (16) a. John himself would turn down the offer
 b. He himself would turn down the offer
- (17) a. John hates himself
 b. John thinks that Mary is in love with himself, not Peter
- (18) a. John_i hates [e_i himself_i]
 b. John_i thinks that Mary is in love with [e_i himself_i]...

Jayaseelan (1988) ignores the dependent nature of the reflexives and theta role assignment, and creates a superfluous empty category in a sentence like (18a) for no reason, which should be abandoned; but his structure may be correct for logophoric reflexives. Let us assume that there is an empty category in the head of DP, which should only be PRO when a reflexive cannot get an anaphoric theta role, as in (18b). The structure of the logophoric reflexive DP in (18b) may be as follows:

- (19) [_{DP} PRO<x> [_{NP} him<y> [_{N°} self<y,x>]]]
- | _____ |
- | _____ |

- B. *Taziji* can be associated to the theta grid of a Group 3 verb when the local subject is second person, but *himself* cannot.
- i. Nǐ wèn taziji
 - ii. * You ask himself
- C. *Taziji* can be a possessive in the initial position in a sentence, but *himself* cannot:
- i. Taziji de shenghuo shifēn púsù....
 - ii. * Himself's life is very simple....
- D. In some cases, *taziji* may occur without an antecedent in the same environment in which the first person reflexive can occur without one, but *himself* cannot:
- i. Zhè piān wénzhāng shì yóu wǒzìjǐ/taziji qīn bǐ xié de
 - ii. This paper was written by myself/ *himself

In (21), Set i is in Chinese and Set ii is in English. Their meanings are exactly the same, but the sentences in Set i are perfectly grammatical in Chinese, while the Set ii sentences are odd in English. I assume that *pro* is [+ pronominal, - anaphor], and can be controlled in its domain if there is any, or alternatively may have no control domain, in which case its interpretation falls into discourse grammar. *PRO*, on the other hand, is [+ anaphor, + pronominal], and must be controlled. The *pro* and *PRO* determine in which environments the logophoric reflexives in Chinese and in English can occur, and determine the interpretation of the logophoric reflexives.

If we assume that there is a *pro* in the head position of the DP for Chinese, but a *PRO* in the head position of the DP for English, the question arises: is it possible for a *pro* and a *PRO* to share the same category, since *pro* must be governed but *PRO* must be ungoverned?

Manzini (1991: 214) argues that “Binding theory, whether conceived of as unified with ECP or not, must be formulated so as to allow for parametrisation”. Following Manzini,

we assume that due to parametrisation in different languages, it is possible for *pro* to occur in the head position of the DP in Chinese and for PRO to occur in the head position of the DP in English.

Let us now consider the English sentence (20). First, the preposition *with* cannot govern the PRO. Secondly, there is no INFL in the DP. Therefore, there is no governor in the DP. Thus, the PRO in [DP PRO [NP him [N^o self]]] is ungoverned.

Let us now look at Chinese. We assume that there is a *pro* in the head position of the DP: [DP *pro* [NP *ta* [N^o *ziji*]]]. As is well-known, there is no clear tense system in Chinese. The *pro* is not governed in the DP. However, according to Huang (1987), the *pro* can be licensed by the higher subject. Thus, it is possible to assume that the *pro* is governed (for detail see Huang, 1987). In case there is no higher subject there, according to Huang (1987), there may be an empty topic in the sentence. The *pro* can be licensed by the empty topic, which must refer to an entity in discourse.

The above results apply only to Chinese and English. They may extend to other languages, but this is an area for further research. I am sure that the interpretation of the reflexives must be determined by the internal structure of the reflexives and the theta role assignment of the local verbs. If a reflexive is locally bound, it must be subject to sentence grammar. Long-distance reflexives are logophoric, but the structures in which the logophoric interpretation (mediated by control) is licensed will not be the same in different languages.

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