

Minimal disjointness*

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Abstract

In this work, we investigate the working of the concept of minimality through its manifestation in the pronominal system of Mandarin Chinese. We argue that a unified account of Chinese referential and bound pronouns can be provided by assuming that the relation between pronouns and available binders is constrained by a disjointness principle incorporating a minimality effect. Specifically, a pronoun needs to be not only A-free in a certain domain but also A'-free from the FIRST AVAILABLE A' binder in the smallest CFC containing a SUBJECT.

The account in this work sheds light on the proper treatment of anaphors. It is shown that two types of anaphors must be distinguished with respect to their raising possibilities at LF: long-distance anaphors, but not short-distance anaphors, need to be raised at LF.

Since the existence of a minimality effect for anaphoric binding has been used in the literature as evidence for partially or totally reducing anaphoric binding to government (the ECP) by assuming that anaphors raise at LF, the existence of a minimality effect constraining pronominal disjointness indicates that the concept of minimality is better viewed as a pervasive concept at work through distinct grammatical modules rather than an exclusive attribute of the government module.

In this work, we investigate the working of the concept of minimality through its manifestation in the pronominal system of Mandarin Chinese. We argue that a unified account of Chinese referential and bound pronouns can be provided by assuming that the relation between pronouns and their binders is constrained by a disjointness principle incorporating a minimality effect.

1. Locality requirements on pronouns

In Chinese, pronouns can be either coindexed with a name (referential pronoun) or bound by quantifiers (bound pronoun), as in (1) and (2) below:

- (1) Zhang_i shuo wo xihuan ta_i. (referential pronoun)
 say I like him
 ‘Zhang said that I liked him.’
- (2) Meigeren_i dou shuo wo xihuan ta_i. (bound pronoun)
 everyone all say I like him
 ‘Everyone said that I liked him.’

In contrast to English, where referential pronouns and bound pronouns have very similar distribution, the parallelism between these two types of pronouns breaks down in Chinese. Whereas a referential pronoun can occur in the subject position of an embedded clause (as illustrated in [3]), a bound pronoun cannot occur in such a context (as in [4]):

- (3) Zhang_i shuo ta_i de le jiang.
 say he get ASP prize
 ‘Zhang said that he got the prize.’
- (4) *Meigeren_i dou shuo ta_i de le jiang.
 everyone all say he get ASP prize
 ‘Everyone said that he got the prize.’

The sentences (1)–(4) discussed so far show that referential pronouns can occur in either the subject or the object position of the embedded clause and that bound pronouns occur only in the object position of the embedded clause. The fact that bound pronouns occur in the object but not subject position of the embedded clause might suggest that there is a subject/object asymmetry in the distribution of bound pronouns. However, this cannot be the case. A bound pronoun in the subject position of a more deeply embedded clause is possible, as illustrated in (5):

- (5) Meigeren_i dou yiwei ni shuo ta_i de le jiang.
 everyone all think you say he get ASP prize
 ‘Everyone thinks that you said that he got the prize.’

The relevant facts discussed so far are schematically represented in (6):

(6)	Contexts	RP	BP
a.	NP _i V [_S NP _i V NP]	+	*
b.	NP _i V [_S NP V NP _i]	+	+
c.	NP _i V [_S NP V [_S NP _i V NP]]	+	+

The fact that bound pronouns can occur in (6b)–(6c) but not in (6a) suggests that distance plays a role in the distribution of these bound

pronouns. More precisely, it is indicated in Huang (1982) that AGR does not exist in Chinese. With this in mind, consider the paradigm in (6a)–(6c). Let us discuss bound pronouns first. Assuming that bound pronouns must be free in the minimal domain of a subject, the opaque domain in which the bound pronoun must be free is the matrix clause in (6a) since AGR is missing in Chinese. In this opaque domain, the bound pronoun is not free; hence, the ungrammaticality of representation (6a). In representation (6b) and (6c), on the other hand, the bound pronoun is free in its opaque domain, the embedded clause which is the minimal domain containing a subject. Representations (6b)–(6c) are thus grammatical.

Next we turn to referential pronouns. The grammaticality of referential pronouns in (6a)–(6c) suggests that the notion of SUBJECT is not relevant for pronouns. Essentially, referential pronouns have to be free in the minimal clause or NP in which they occur. This is the case for referential pronouns in (6a)–(6c). This analysis of referential and bound pronouns can be extended to account for the behavior of resumptive pronouns. Space limitations prevent us from discussing resumptive pronouns.

Before leaving the discussion of the paradigm (6), one further clarification is necessary. We have said so far that bound pronouns must be free in the minimal clause or NP containing a SUBJECT and that referential pronouns must be free in the minimal domain in which they occur. However, we did not specify the type of disjointness requirements that each of these pronouns obeys. Along the lines of Aoun and Hornstein (1986), we would like to suggest that the distinction between bound and referential pronouns may be understood in light of the following considerations: bound pronouns must seek a c-commanding antecedent. The antecedent is quantificational and at LF, after the application of quantifier raising (May 1977), will be in an A' position. Thus, bound pronouns seek an A' binder. We would like to argue that bound pronouns must be A'-free in the minimal domain containing a SUBJECT and that referential pronouns must be free in the minimal clause or NP in which they occur. Notice that the A'-disjointness requirement for referential pronouns is trivially satisfied since they do not have an A' binder. In brief, we are suggesting that pronouns, whether bound or referential, obey the following disjointness requirement:

- (7) a. The A-disjointness requirement:
A pronoun must be A-free in the least complete functional complex (CFC) in which it occurs (see Chomsky 1986).
- b. The A'-disjointness requirement:
A pronoun must be A'-free in the least CFC containing a SUBJECT and the pronoun.

A confirmation of this analysis is provided by the behavior of anaphors in Chinese. As discussed by Y.-H. Huang (1985), Tang (1989), and Battistella (1989), Chinese has two types of anaphors: a short-distance anaphor *ta-ziji* 'himself' and a long-distance anaphor *ziji* 'self'. Sentences in (8) illustrate their distribution:

- (8) a. Zhang_i hen xihuan ziji_i/taziji_i.
'Zhang likes self/himself.'
- b. Zhang_i hen xihuan ziji_i/taziji_i de mama.
'Zhang likes self/himself's mother.'
c. Zhang_i shuo ziji_i/taziji_i xihuan.
'Zhang said that self/himself liked (it).'
d. Zhang_i dui ziji_i/taziji_i shuo ta xihuan.
'Zhang said to self/himself that she liked (it).'
e. Zhang_i renwei Mali xihuan ziji_i/*taziji_i.
'Zhang thinks that Mary likes self/himself.'
f. Zhang_i zhidao Mali renwei ziji_i/*taziji_i xihuan.
'Zhang knows that Mary thinks that self/himself likes (it).'

Following Lebeaux (1983) and Chomsky (1986), who claim that anaphors are moved at LF, Battistella (1989) suggests that anaphors raise at LF in Chinese. With this in mind, consider the sentences in (9), where the coindexing between the name, the long-distance anaphor, and the pronoun is not acceptable:

- (9) a. Zhang_i zhidao *ziji_i xihuan ta_ide nüpengyou.
'Zhang knows that self likes his girlfriend.'
b. Zhang_i shuo *ziji_i jue de ta_i hen youqian.
'Zhang said that self felt he was rich.'
c. Zhang_i dui *ziji_i shuo ta_i hen youqian.
'Zhang said to self that he was rich.'

The unacceptability of (9) is what we expect, given the A'-disjointness requirement on pronouns. After the anaphor *ziji* is raised to an A' position at LF, (9c) would have the representation in (9'c):

- (9') c. [_{S'1} Zhang_i *ziji_i dui x_i shuo [_{S'2} ta_i hen youqian]].
'Zhang said to self that he was rich.'

In this representation, the domain where the pronoun in the subject position of the embedded clause must be A'-free is the matrix clause. This clause is the minimal clause containing a SUBJECT. Thus, the pronoun in (9') has to be A'-free in the matrix clause. However, it is A'-bound by the raised anaphor. Therefore, sentence (9c) is unacceptable because of the failure of the pronoun to meet the A'-disjointness requirement.

This analysis predicts that a pronoun can be bound by a long-distance anaphor *ziji* in case a subject intervenes between the pronoun and the long-distance anaphor. This prediction is fulfilled as illustrated in (10).

- (10) a. [Zhangsan_i dui *ziji*_i shuo [α Mali bu hui xihuan ta_i]].
 to self say Mary not will like him
 ‘Zhangsan told self that Mary would not like him.’
 b. [Zhangsan_i dui *ziji*_i shuo [α Mali zhidao [ta_i hen ben]]].
 to self say Mary know he very stupid
 ‘Zhangsan told himself that Mary knew that he was stupid.’

The domain where the pronoun must be A'-free is the clause α in (10). *Ziji* is outside the domain α , hence the acceptability of (10).

2. Minimal disjointness

We have indicated so far that pronouns in Chinese obey two disjointness requirements. Next we would like to argue that the A'-disjointness requirement must incorporate a minimality effect. Specifically, we would like to argue that

- (11) A pronoun must be free from the MOST LOCAL A' binder in the smallest CFC containing the pronoun and a SUBJECT.
 ‘the most local A' binder’ is defined as follows: A is the most local A' binder of B iff there is no C such that C is an A' binder and A c-commands C, C c-commands B.

To substantiate the proposal in (11), we start by noting that sentences such as (4) improve when a modal occurs between the quantifier and pronoun:

- (12) Meigeren_i dou shuo ta_i *hui* de jiang.
 everyone all say he will get prize
 ‘Everyone said that he would get the prize.’

Not only would a modal improve the acceptability of a bound pronoun in (4), so also would WH words such as *shi-bu-shi* ‘whether’, *weishenme* ‘why’, *shei* ‘who’, *shenme* ‘what’ in (13):

- (13) a. Meigeren_i dou xiang-zhidao shi-bu-shi ta_i de-le jiang.
 everyone all want-know be-not-be he got prize
 ‘Everyone wonders whether he got the prize.’
 b. Meigeren_i dou xiang-zhidao ta_i weishenme de jiang.
 everyone all want-know he why get prize
 ‘Everyone wonders why he got the prize.’

- c. Meigeren_i dou xiang-zhidao ta_i gen shei fen jiangpin.
everyone all want-know he with whom share prize
'Everyone wonders with whom he shared the prize.'
- d. Meigeren_i dou xiang-zhidao ta_i de-le shenme jiangpin.
everyone all want-know he got what prize
'Everyone wonders what prize he got.'

The contrast between the sentence in (4) on the one hand and (12)–(13) on the other is not accounted for by the disjointness requirement formulated in (7). We show below that this contrast and other similar contrasts can be accounted for by incorporating the notion of minimality to the disjointness requirement, as in (11).

Note that what is common to the sentences in (12)–(13), in contrast to the unacceptable sentence (4), is that these sentences contain operators such as modals and WH words which are subject to raising at LF. (Following Huang [1982], we assume that *shi-bu-shi*, an A-not-A question form, undergoes raising at LF.) The LF representations of (12)–(13) will be (14)–(15):

- (14) Meigeren_i [x1_i dou shuo [hui_j [ta_i x2_j de jiang]]].
'Everyone said that he would get the prize.'
- (15) a. Meigeren_i [x1_i dou xiang-zhidao [shi-bu-shi_j [x2_j ta_i de-le jiang]]].
'Everyone wonders whether he got the prize.'
- b. Meigeren_i [x1_i dou xiang-zhidao [weishenme_j [ta_i x2_j de jiang]]].
'Everyone wonders why he got the prize.'
- c. Meigeren_i [x1_i dou xiang-zhidao [shei_j [ta_i gen x2_j fen jiangpin]]].
'Everyone wonders with whom he shared the prize.'
- d. Meigeren_i [x1_i dou xiang-zhidao [shenme jiangpin_j [ta_i de-le x2_j]]].
'Everyone wonders what prize he got.'

If we compare the LF representations in (14)–(15), which are acceptable, with the LF representation in (9), which is unacceptable, we notice that the difference in acceptability may be traced back to the existence of an operator intervening between the QP and the bound pronoun: in (14)–(15), but not in (9), there is an operator intervening between the QP and the bound pronoun.

A confirmation of this observation is provided by the negation and negative-polarity items. Sentences with negation and negative-polarity items pattern with sentences with modals and questions words (12)–(13). The occurrence of negation and a negative-polarity item in a higher clause improves the acceptability of a pronoun, as in (16) below:

'Everyone did not tell anyone that he got the prize.'

Assuming that the negative-polarity item is raised at LF as suggested by Kurata (1986) or that negation is in an A' position at LF, an A' binder will intervene between the pronoun and the QP in (16).

We have argued so far that in Chinese, pronouns obey an A'-disjointness requirement as well as an A-disjointness requirement. We have furthermore suggested that the A'-disjointness requirement incorporates a minimality effect in (11): in case a distinct A' binder intervenes between the pronoun and the quantificational antecedent, the pronoun can be bound to this quantificational antecedent. Of course, we expect the occurrence of a modal, negation, or WH word not to facilitate the bound-pronoun interpretation in case the modal, negation, or WH element does not intervene between a QP and its bound pronoun. This expectation can be tested in the contexts such as (18a)–(18b), where the modal, negation, and WH element do not intervene between the QP and the pronoun:

- (17) a. modal/negation/WH word ... QP_i ... pronoun_i
 b. QP_i ... pronoun_i ... modal/negation/WH word

In other words, we should expect sentences of the context in (17a)–(17b) to be less acceptable than sentences of the context in (18) if the minimal disjointness requirement just discussed is correct.

- (18) QP_i ... modal/negation/WH word ... pronoun_i

Although the judgments become more subtle, a contrast is still found between sentences (19a)–(19b) and (19c):

- (19) a. *[Wo *hui* zhidao [meigeren_i dou shuo [ta_i de-le jiang]]].
 'I will know that everyone says that he got the prize.'
 b. *[Meigeren_i dou shuo [ta_i zhidao [wo *hui* de jiang]]].
 'Everyone said that he knew that I would get the prize.'
 c. [Meigeren_i dou shuo [ta_i *hui* zhidao [wo de jiang]]].
 'Everyone said that he would know that I got the prize.'

A bound-pronoun interpretation is possible in (19c) but less likely in (19a)–(19b).

This contrast is predicted by the minimal-disjointness requirement on pronouns: consider the LF representations of sentences in (19), as in (20) below:

- (20) a. *[Wo *hui*_j x_{1j} zhidao [meigeren_i x_{2i} dou shuo [ta_i
 I will know everyone all say he
 de-le jiang]]].
 got prize

- b. [Meigeren_i [x1_i dou shuo [_{s'1} ta_i zhidao [_{s'2} hui_j
 everyone all say he know will
 [wo x2_j de jiang]]]]
 I get prize
- c. [Meigeren_i [x1_i dou shuo [_{s'1} hui [_{s1} ta_i x2_j
 everyone all say will he
 zhidao [_{s2} wo de jiang]]]]
 know I get prize

As mentioned, modals undergo raising at LF. In (20a), the modal is raised within the matrix clause. In (20b), the modal is not raised beyond its clause, the most embedded one, since modals have scope only over the clause in which they occur and cannot be raised beyond their clause. In (20c), the modal is also adjoined to the S node of the clause in which it occurs. In these representations, the modal only comes to intervene between the pronoun and the coindexed QP in (20c). That is, the most local A' binder for the bound pronoun is the raised QP in (20a)–(20b), but the modal is the most local A' binder for the bound pronoun in (20c). The pronoun is thus A'-free from the most local A' binder in (20c) but not (20a)–(20b).

The contrast between (20a)–(20b) on the one hand and (20c) on the other thus provides support for the proposal that pronouns obey a disjointness requirement sensitive to minimality.

Negation and WH words behave the same way as modals with respect to the contrast between (a)–(b) and (c) in (18):

- (21) a. *[Shei zhidao [meigeren_i dou shuo [ta_i de-le jiang]]]?
 'Who knows that everyone said that he got the prize?'
 b. *[Meigeren_i dou shuo [ta_i xiang-zhidao [shi-bu-shi wo de-le jiang]]].
 'Everyone said that he wondered whether I got the prize.'
 c. [Meigeren_i dou xiang-zhidao [shi-bu-shi ta_i de-le jiang]].
 'Everyone wonders whether he got the prize.'
- (22) a. *[Wo bu zhidao [meigeren_i dou shuo [ta_i de-le jiang]]].
 'I do not know that everyone said that he got the prize.'
 b. *[Meigeren_i dou shuo [ta_i zhidao [wo mei de jiang]]].
 'Everyone said that he knew that I did not get the prize.'
 c. [Wo zhidao [meigeren_i dou mei gaosu renhe ren [ta_i de-le jiang]]].
 'I know that everyone did not tell anyone that he got the prize.'

In (21a), *shei* is in the matrix clause. In (21b), the WH word *shi-bu-shi*

'whether' cannot be raised beyond the clause subcategorized by 'wonder'. In (21c), *shi-bu-shi* intervenes between the QP and the bound pronoun. The minimal-disjointness requirement is satisfied in (c) but not in (a)–(b). The bound-pronoun interpretation is thus more acceptable in (c) than in (a)–(b). Similarly, the negation or the raised negative-polarity item intervenes between the QP and the bound pronoun in (22c) but not in (22a)–(22b). The contrast between (a)–(b) on the one hand and (c) on the other in (21)–(22) provides further support for the claim that pronouns obey the minimal-disjointness requirement.

We have said so far that an A' binder intervening between a pronoun and a quantificational element allows this pronoun to be bound by the quantificational element. Our analysis predicts that if a deeply embedded WH word is raised at LF so as to intervene between a pronoun and an A' antecedent, the pronoun can be bound by this quantificational antecedent. This prediction is born out, as shown by sentence (23c):

- (23) a. *[Meigeren_i dou zhidao [ta_i caidao [shei de-le jiang]]].
 'Everyone knows that he guessed correctly who got prize.'
 b. [Meigeren_i dou zhidao [ta_i gen shei fen jiangpin]].
 'Everyone knows with whom he shared the prize.'
 c. [Meigeren_i dou shuo [ta_i xiangxin [shei de-le jiang ne]]].
 'Who did everyone say that he believed got the prize?'

Notice first that the contrast between (23a) and (23b) is not surprising. The WH element *shei* intervenes between the QP and the pronoun at LF in (b) but not in (a), as shown in the LF representations of these two sentences:

- (24) a. *[Meigeren_i [x1_i dou zhidao [_{s,1} ta_i caidao [_{s,2} shei_j [x2_j de-le
 everyone all know he guess who got
 jiang]]]]].
 prize
 b. [Meigeren_i [x1_i dou zhidao [_{s,1} shei_j [ta_i gen x2_j fen
 everyone all know this he with share
 jiangpin]]]].
 prize

The fact that (23c) patterns with (23b) rather than (23a) is more surprising. This fact, however, is straightforwardly accounted for by our analysis. Note that the WH word *shei* in (c) has matrix scope; that is, it must be raised from its base position to the matrix COMP, leaving traces in the intermediate COMP position:

- (24) c. [_{s'1} shei_j [_{s1} meigeren_i [_{s1} x1_i dou shuo [_{s'2}x2_j [_{s2} ta_i
 who everyone all say
 xiangxin [_{s'3} x3_j [_{s3} x4_j de-le jiang ne]]]]?
 believe got prize Q-marker

Since intermediate traces in COMP independently can function as A' binders, the most local A' binder for the pronoun in (c) is the intermediate trace of *shei* in the COMP position of S'2, x2. The pronoun in this representation is thus free from its most local A' binder, and sentence (23c) is acceptable. Thus, the fact that (23c) patterns with (23b) rather than (23a) is directly accounted for by incorporating the minimality requirement in the formulation of the A'-disjointness requirement.

The previous discussion shows that the domain where modals, WH elements, and negation can be raised interacts with the interpretation of pronouns and that this interaction is accounted for by the minimal-disjointness requirement on pronouns. This leads us to expect that QPs should behave the same as modals and WH elements, since they are all subject to raising at LF. The data with QPs, however, are less clear than those with modals and WH words. Speakers vary with respect to the possibility of bound-pronoun interpretation in the following instances:

- (25) a. Meigeren_i dou shuo ta_i de-le jiang.
 'Everyone said that he got the prize.'
 b. Meigeren_i dou dui *liangge ren* shuo ta_i de-le jiang.
 'Everyone said to two people that he got the prize.'
 c. Meigeren_i dou dui wo shuo ta_i de-le jiang.
 'Everyone said to me that he got the prize.'

Some speakers do not find a distinction between the possibilities of bound-pronoun interpretation in these sentences; some find (b) to be better than (a) and (c); still others find (b) and (c) to be better than (a). To the extent that there exist speakers who find (b) to be better than (a) and (c), the contrast can be accounted for by assuming quantifier raising and the minimal-disjointness requirement.

Before concluding, we would like to explore some of the consequences of the analysis proposed in this work. Recall that as a consequence of the raising of the anaphor *ziji*, the pronoun in the sentences in (9) will be A'-bound by the raised anaphor and thus fail to meet the A'-disjointness requirement. Furthermore, we argued that the A'-disjointness requirement is sensitive to a minimality effect. This leads us to expect that the sentences in (9) would improve in case an A' binder intervenes between the anaphor and the pronoun. This is indeed the case, as illustrated in the sentences in (26), which minimally contrast with (9), repeated for convenience.

- (9) a. Zhang_i zhidao *ziji_i xihuan ta_ide nǚpengyou.
 'Zhang knows that self likes his girlfriend.'
 b. Zhang_i shuo *ziji_i jue de ta_i hen youqian.
 'Zhang said that self felt he was rich.'
 c. Zhang_i dui *ziji_i shuo ta_i hen youqian.
 'Zhang said to self that he was rich.'
- (26) a. Zhang_i zhidao ziji_i hui xihuan ta_ide nǚpengyou.
 'Zhang knows that self will like his girlfriend.'
 b. Zhang_i shuo ziji_i jue de ta_i hui hen youqian.
 'Zhang said that self felt he would be rich.'
 c. Zhang_i dui ziji_i shuo ta_i hui hen youqian.
 'Zhang said to self that he would be rich.'

Another consequence of our analysis has to do with the raising of anaphors. Note that the account of (9) provides direct testing grounds for whether or not short-distance anaphors have to raise at LF. If short-distance anaphors have to raise at LF like long-distance anaphors, we would expect them to enter into A' disjointness with pronouns. On the other hand, if short-distance anaphors do not raise at LF, we would not expect such an A'-disjointness effect. It turns out that replacing the long-distance anaphor with the short-distance anaphor in (9) makes the sentences acceptable:

- (27) a. Zhang_i zhidao taziji_i xihuan ta_ide nǚpengyou.
 'Zhang knows that himself likes his girlfriend.'
 b. Zhang_i shuo taziji_i jue de ta_i hen youqian.
 'Zhang said that himself felt he was rich.'
 c. Zhang_i dui taziji_i shuo ta_i hen youqian.
 'Zhang said to himself that he was rich.'

The contrast between the acceptability of (27) and the unacceptability of (9) clearly indicates that short-distance anaphors, contrary to long-distance anaphors, do not have to raise at LF.¹

3. Conclusion

Summarizing, we have argued in this paper for the existence of two types of disjointness requirements regulating the interpretation of pronominals: an A-disjointness requirement and an A'-disjointness requirement. We also argued that the A'-disjointness requirement incorporates a notion of minimality. In its opaque domain, the pronoun must be free from the first available A' binder.² This intervening A' binder may be, for instance, a

modal, a WH word, or a negation. The fact that minimality plays a role in the formulation of the disjointness condition is not surprising. Recently, anaphoric relations have also been shown to obey a very similar minimality effect. Along the lines of Chomsky (1986), it is possible to suggest that anaphors in Chinese must be bound by the first potential antecedent. Short-distance anaphors, which we argued need not raise at LF, have to be bound by the first available antecedent in subject position, as illustrated in (28):

- (28) a. Zhang, baba_i xihuan taziji_i.
 'Zhang, father_i likes himself_i.'
 b. *Zhang_i, baba xihuan taziji_i.
 'Zhang_i, father likes himself_i.'
 c. Zhang_i, gongzuo haile taziji_i.
 'Zhang_i, work hurt himself_i.'

As for long-distance anaphors, we provided evidence that they have to raise at LF. Notice that as a consequence of the raising process, these anaphors satisfy the minimality requirement. After raising, they will be bound by the first available antecedent in subject position. To illustrate, consider sentence (29):

- (29) [Zhang shuo [Mali renwei [ziji zui congming]]].
 'Zhang said Mary thought self is most clever.'
 a. [Zhang shuo [Mali ziji_i renwei [x_i zui congming]]].
 b. [Zhang ziji_i shuo [Mali renwei [x_i zui congming]]].

In case the anaphor *ziji* is raised to the minimal clause containing *Mali* as in (a), it will be bound by *Mali*. In case the anaphor is raised to the minimal clause containing *Zhang*, it will be bound by *Zhang*.

So far we have illustrated the existence of a minimality requirement at work for the A'-disjointness requirement and for the binding of anaphors. It is well known that minimality does not affect A disjointness. This is illustrated in the Chinese sentence in (30), where the pronoun *ta* has to be disjoint from both *Zhang* and *Mali*:

- (30) Zhang dui Mali baoyuan ta.
 to complain him
 'Zhang complained to Mary about him.'

One may wonder why minimality does not play a role for A disjointness. We know since the work of Lasnik (1976, 1981) that coreferential pronouns do not look for an antecedent to be coindexed with. Bound pronouns, on the other hand, seek a c-commanding A' antecedent. In our presentation, we suggested that the specific behavior of bound pronouns

results from the tension between two requirements: a positive requirement to seek an A' binder and a disjointness requirement. With this in mind, it is possible to surmise that only elements that seek an antecedent (that is, anaphors and bound pronouns) obey a minimality effect.

Concluding, extraction processes and, as mentioned earlier, anaphoric relations have recently been shown to obey a very similar minimality effect. This effect prohibits a direct relation between an antecedent and its trace or an anaphor across some intervening element, be it a governor or a closer antecedent.³ The existence of this minimality effect has been used as evidence for partially or totally reducing anaphoric binding to government theory by assuming that anaphors raise at LF. In this work, we have argued for the existence of a minimality effect constraining pronominal disjointness. To the extent that this effect cannot be traced back to LF extraction or government, we hope to have shown that the concept of minimality is to be viewed as a pervasive concept at work through distinct grammatical modules rather than an exclusive attribute of the government module.

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Notes

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- 1. The facts discussed in (27) are compatible with the assumption that short-distance anaphors optionally raise at LF.
- 2. Two interesting points are raised by the reviewer which need clarifications here. First, it is pointed out that this account would lead us to expect the following Spanish sentence to be acceptable, although it is in fact not grammatical (Montalbetti 1984):
 - (i) Muchos estudiantes creen que ellos son inteligentes.
 many students believe that they are intelligent

Since Spanish has AGR, the least CFC containing the pronoun and a SUBJECT would be the embedded clause, in which it would be A'-free. Thus, under the A'-disjointness requirement proposed in this paper (7b), sentence (i) should be acceptable. A priori, bound pronouns in Spanish do not seem to behave the same as in Chinese. For instance, further embedding of the pronoun does not make the sentence grammatical (see Montalbetti 1984: 91)

- (ii) Muchos estudiantes dijeron que Maria piensa que ellos son inteligentes
 'Many students said that Mary thinks that they are intelligent.'

We discuss the behavior of Spanish bound pronouns in a forthcoming work.

The other point raised by the reviewer concerns the behavior of empty categories. The following Chinese sentence is acceptable, where the empty category has a bound interpretation:

- (iii) Meigeren_i dou shuo [e_i de-le jiang]
 everyone all say get ASP prize

If the empty category were an empty pronoun, it is not clear what the distinction between empty pronouns and overt pronouns is with respect to their distribution.

The problem with the acceptability of (iii) would arise only if the empty category in (iii) must be a *pro*. There is, however, no evidence that this empty category must be a *pro*. First, if we assume with Huang (1987) that the domain where a *pro* in the embedded subject position is the embedded clause (for definitions, see Huang 1987), this empty category must be free in reference. It can only be coreferential with another NP in the matrix clause by coincidence. The existence of a bound reading in (iii) suggests that this empty category is not a *pro*. Instead, it is possible to suggest that this empty category is an anaphor, if we follow Sportiche's claim that each overt element must have a nonovert counterpart. The existence of overt anaphors thus suggests the existence of a nonovert anaphor. Since an anaphor in the embedded subject position can be coindexed with the matrix subject in Chinese, as in (iv), a nonovert anaphor is a very likely candidate for the empty category in (iii):

- (iv) Ta_i shuo ziji_i hen hao.
 he said self very good
 'He said that himself is very good.'

3. Rizzi (1987) argues that 'minimality effects are exclusively triggered by potential governors of the different kinds: heads for head government, A and A'-specifiers for antecedent government in A and A'-chains respectively' (1987: 7). The minimality effect we have been assuming is naturally expressed in this relativized approach to minimality and may thus be viewed as providing independent support for it.

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