

Is Antecedent Government Workable?

----Evidence from Chinese

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1. Motivation:

The aim of this paper is to show that antecedent government can replace theta government and lexical government by reexamining Huang's (1982) data within the Barriers framework (Chomsky 1986). Assuming that lexical government is a relevant condition of the ECP, Huang (1982) claims that Chinese does not have a subject/object asymmetry because Infl in Chinese, unlike English, is a lexical governor. Consequently, we can then explain why an empty subject in Chinese is always properly governed; hence, the ECP is not violated. The present study, however, argues that antecedent government can be the only condition on empty categories and Huang's assumption that Chinese Infl is a lexical governor can be reduced to a parametric variance between Chinese and English in Barriers, which I claim is the Reindexing Principle. To begin with, in section 2, I will state the present assumptions and main claims made in the present approach. Section 3 reanalyzes the data by using the Reindexing Principle. Some problems with Huang's assumption are discussed in section 4. I will summarize some main points of the proposed theory in section 5.

2. Theoretical backgrounds:

2.1. Main assumptions:

First, I assume that the ECP is examined locally in the proposed theory. This idea comes from Lasnik and Saito (1984): if an empty category is properly governed, then it is assigned a [+r] feature. A sentence with an empty category which has a [-

r] feature is ungrammatical. They further assume that it is not permissible to reassign a [r] feature.

Second, I postulate a restriction on wh-movement, the Strict Cyclicity Condition, as in (1):

- (1) No rule can apply to a domain dominated by a cyclic node A in such a way as to affect solely a proper subdomain of A dominated by a node B which is also a cyclic node (Radford 1988).

A cyclic node is assumed to be an S, which in current terms is equal to an IP. This condition, which will play a crucial role in determining whether a wh-adjunct may have wide scope over a wh-argument.

2.2. Main claims:

The first claim concerns a reduction of the definition of the ECP, namely that antecedent government can replace lexical government and theta government. In Chomsky (1981), the ECP states that any non-pronominal element must be properly governed. Proper government is defined disjunctively, as is stated in (2):

(2) Proper Government: (1981)

An empty category must be governed by either

- (i) a lexical head (lexical government) or
- (ii) a co-indexed element in a c-command position (antecedent government)

In Chomsky (1986), the notion of proper government is defined in (3):

- (3) X antecedent governs Y iff X is coindexed with Y and X c-commands Y.

Huang (1982) explains the fact that Chinese lacks a subject /object asymmetry by means of lexical government because both subjects and objects are always properly governed: the former by a lexical Infl, and the latter by a lexical verb. Moreover, if someone wants to substitute theta government for lexical government, he may have to say that the nonexistence of a subject/object asymmetry in Chinese is due to a subject being theta-governed by Infl and an object by a verb. In this paper, I intend to

allow only antecedent government. Therefore, the conditions of proper government is redefined as follows:

(4) X properly governs Y iff X antecedent governs Y.

Chomsky (1986) has in fact speculated on the possibility of dispensing with theta government. The aim of this paper is to support this version (i.e., Chomsky 1986) of the ECP by providing a unified analysis of Chinese data along this line.

The second claim relates to the types of Infl. I claim that Infl is functional across languages. This means that in the present framework, there is no lexical Infl in a language. Consequently, an empty subject in Chinese can only be antecedent governed, rather than lexically governed, and the same restriction will apply to the empty subject in English. However, with the first two claims that I make, the subject trace then cannot be antecedent governed under the conventional assumptions in two cases. In the first case, if a complementizer is present, then we get a minimality barrier. In the second case, if two wh-words move to Spec of CP, a wh-subject under a branching Spec cannot antecedent govern its trace. Therefore, to handle the problematic cases, I will propose the Reindexing Principle.

The third claim is the Reindexing Principle, which is an adoption of Lasnik and Saito's (1984) Comp Indexing Principle to the Barriers framework. In Lasnik and Saito (1984), at SS an element under Comp will percolate its index to Comp, if that is the only element dominated by Comp. This means that in (5), the trace of Y cannot be antecedent governed since Comp has a different index:

(5) Comp Indexing Principle:

.....[comp_i X_i Y_j] t_j.....

Lasnik and Saito's index percolation mechanism to Comp provides a clue to the analysis that I am going to propose for Chinese. In current terms, a wh-phrase is assumed to move to Spec of CP (Chomsky 1986). I will use Lasnik and Saito's percolation mechanism to assign the index of the wh-phrase to the Spec of CP; hence, allowing

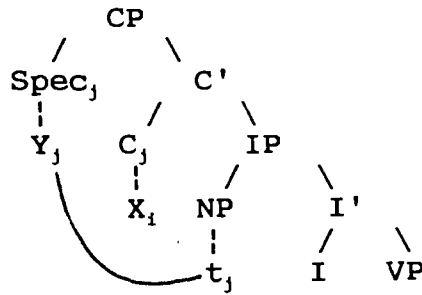
antecedent government. I will further assert that (6) is a relevant condition on index percolation:

(6) Percolation Principle¹

Only an XP which has a theta role can percolate its index to Spec of CP, after XP movement.

(6) may sound stipulative, but it actually follows from the existing difference between referential NPs and nonreferential ones. In addition to index percolation, it is known that when a complementizer is present, C' will always be a minimality barrier. To void the minimality barrier, the Reindexing Principle is proposed to allow the index of Comp to change into that of Spec of CP:

(7)

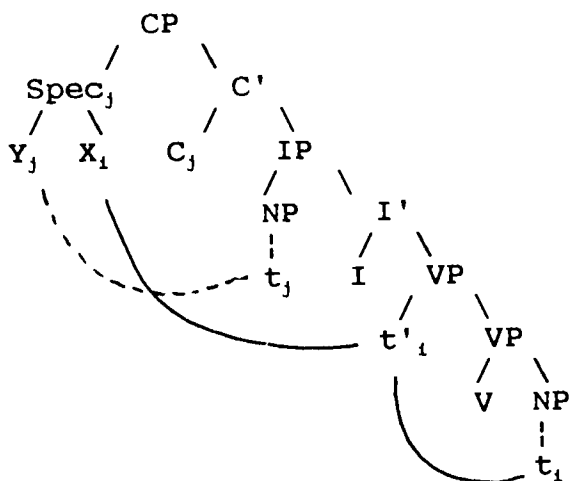


Therefore, Comp can serve as an antecedent for the wh-trace after Reindexing takes place. With regard to the cooccurrence of two wh-phrases, in (8) Reindexing will permit the index of Spec of CP to change into that of the second wh-phrase when it

¹The index percolation rule is a stipulation. It only states that an element which is originally generated in theta position is allowed to percolate its index up to Spec of CP. Each loop of wh-movement forms a theta-chain. As long as the original position is a theta position, the element in that position can percolate its index, regardless of whether or not that element may be moved to a theta-bar position (for example, adjunction to VP) in the second loop.

moves into the Spec of CP:²

(8)



The last claim in this paper is a modification of Chomsky's (1986) minimality barrier condition, which says that X cannot antecedent govern t_i if Z is a closer governor of t_i in $[X_i \dots [Z \dots t_i]]$. I will claim that Z can be reanalyzed as two types of elements. First, Z may be a phonetically realized element, such as that in English. Second, Z may be a trace, which is not realized in PF. If Z is a trace, its immediate projection can be a minimality barrier, only when its index is allowed to percolate up to Comp or Spec of CP. If its index fails to percolate up by some restriction, then the immediate projection of Z is never a minimality barrier. The minimality barrier condition is redefined as follows:

(9) Minimality Barrier Condition (MBC):

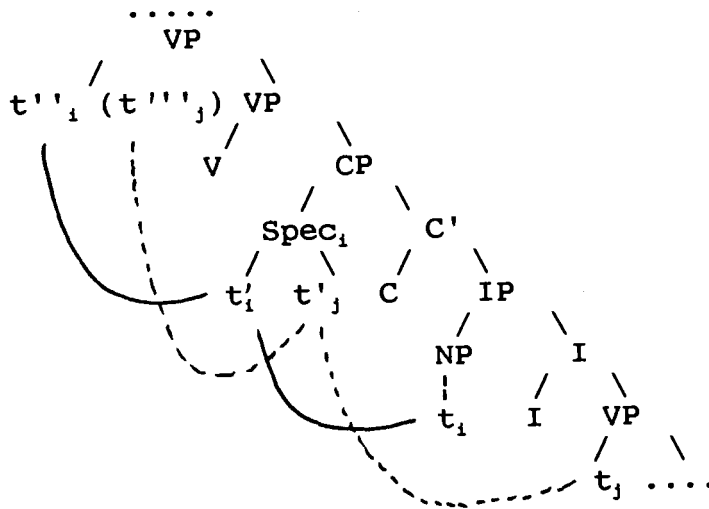
²The standard assumption about Spec-Head Agreement is that when Spec and Head disagree on some feature, Spec changes to agree with Head, not vice versa. However, in the present theory, Head needs to change to agree with Spec. Perhaps, Spec-Head Agreement is not a good term to be used here. The basic assumption is that Reindexing takes place to change the index which percolates at SS. That is to say, gen percolates its index at SS to Comp, which is a Head. Its index will change into that of a wh-argument when that wh-argument moves into Spec of CP. In this case, an index which percolates at SS regardless of whether or not it is a Head will be changed.

X is a minimality barrier for Y iff

- (i) X is visible, such as that, or
- (ii) X is invisible such that ...[spec_i X_i Y]...

To clarify the second condition of the MBC, in (10) antecedent government between t_j and t'_j is blocked because Spec_i is a minimality barrier since it has the index from t_i . However, the government relationship between wh_i and t'_i still holds because the immediate projection dominating t'_j is not a minimality barrier under the MBC:

(10)



3. A new approach:

3.1 No subject/ object asymmetry:

Huang (1982) explains the nonexistence of a subject/object asymmetry by assuming that an object in (11) and a subject in (12) are both lexically governed, namely, one by the lower verb and the other by the lexical Infl:

(11) Neijian shi [gen [ta mai sheme]] meiguan?³

that matter with he buy what unrelated

'lit. What he bought is unrelated to that matter?'

(12) Neijian shi [gen [shei lai] meiguan?

that matter with who come unrelated

'lit. Whose coming is unrelated to that matter?'

In the present framework, an object trace in (11) will be antecedent governed by its intermediate trace adjoined to VP, so proper government is satisfied, regardless of whether the intermediate traces are properly governed, since they are traces of an argument. Subjects can be antecedent governed as well in the present system. A subject trace will be antecedent governed by the lower C, rather than the lower Spec of CP, after Reindexing takes place.

It seems then that once Reindexing applies, traces of subjects and objects will always be properly governed. A question immediately arises as to how to account for the existence of an argument/ adjunct asymmetry in Chinese. In Huang (1982), an adjunct is never lexically governed; hence, if a complementizer appears, then antecedent government between an adjunct and its trace will not hold. That is the reason why in (13) weisheme can only modify the lower verb lai, rather than the matrix verb:⁴

(13) Neijian shi [gen [ta weisheme lai] meiguan?

that matter with he why come unrelated

'Why he came is unrelated to that matter.'

*'For what reason unrelated to that matter did he come?'

³Many scholars have argued about the status of the complementizer gen in Chinese. Some claim that gen indeed is a preposition (comment from Tom Ernst and Jim McCawley); for example, a sentence with gen cannot be a sentential complement, as in (i): (i) ?[Gen ta lai] hen hao.

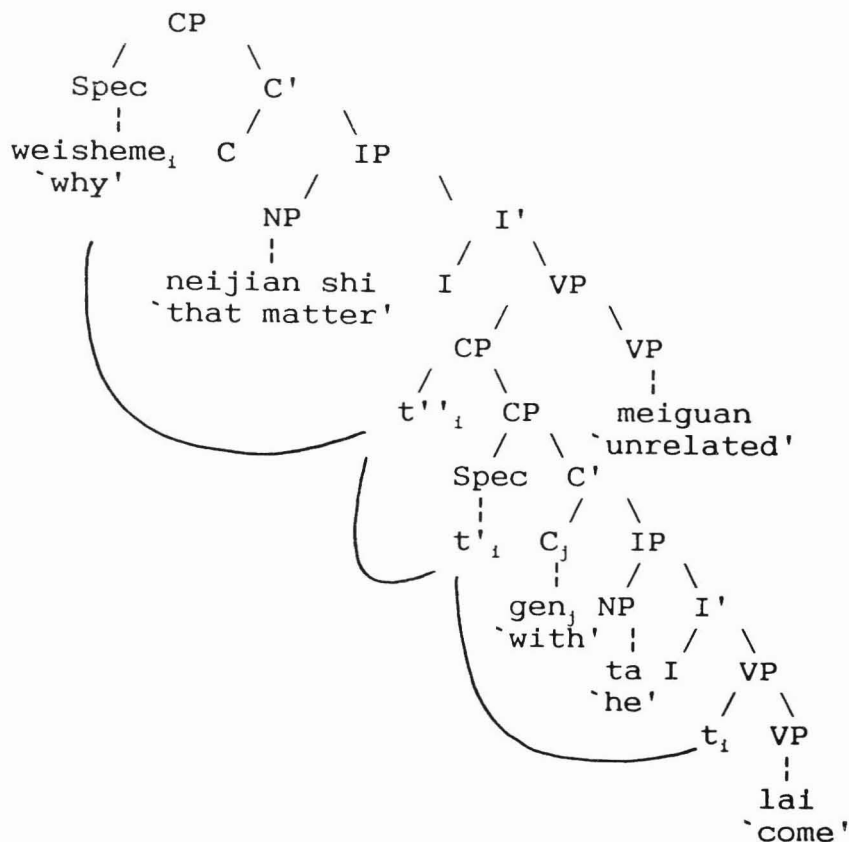
with he come very good.'

'To come with him is very good.'

Indeed (i) is problematic. Some native speakers accept it; some don't. In this paper, I will simply assume that gen is a complementizer. Any one that claims that gen is a preposition may have other explanations for the nonexistence of certain asymmetries in Chinese.

Similarly, the present study will make the same prediction by assuming antecedent government. Since weisheme is an adjunct, which never carries a theta role, its index will not percolate to the embedded Spec of CP in (4):

(4)



When weisheme moves out of its own IP at LF, the ECP will be violated because gen will be a minimality barrier creator. Since the index of weisheme is not permitted to percolate up to Spec, after Spec-Head Agreement is applied, the index of Comp is unable to change from *j* into *i*. This approach predicts that an adjunct will never be antecedent governed when it moves out of its own clause. So, weisheme

⁴The adjunct problems in Huang (1982) are not clearly addressed. With his assumption of lexical Infl, I assume that if Infl properly governs its subject, then structurally Infl will govern adjuncts as well. Huang, then, claims that the semantic relation between Infl and its subject is closer than that between Infl and adjuncts.

cannot modify the matrix verb. However, since the original trace of weisheme is never antecedent governed, weisheme cannot modify the lower verb, either. In order to solve this problem, I propose (15) as an adjunct interpretation rule:

(15) Adjunct Interpretation Rule:

An adjunct can be interpreted iff it moves to another adjoined position at LF.

The adjunct interpretation rule as in (15) only allows weisheme to move to another adjoined position. Consequently, weisheme will first adjoin to the lower IP. When weisheme adjoins to the lower IP, its immediate trace will antecedent govern the original trace. Hence, a reading that weisheme modifies the lower verb is acquired. When weisheme further adjoins to CP, gen will act as a minimality barrier creator and antecedent government will not be satisfied. Thus, weisheme cannot have an upper clause reading in Chinese.

3.2 No superiority effect:

Sentence (16) is a typical sentence of superiority effects. According to Huang (1982), both shei and sheme are lexically governed. Hence, Chinese does not exhibit superiority effects:

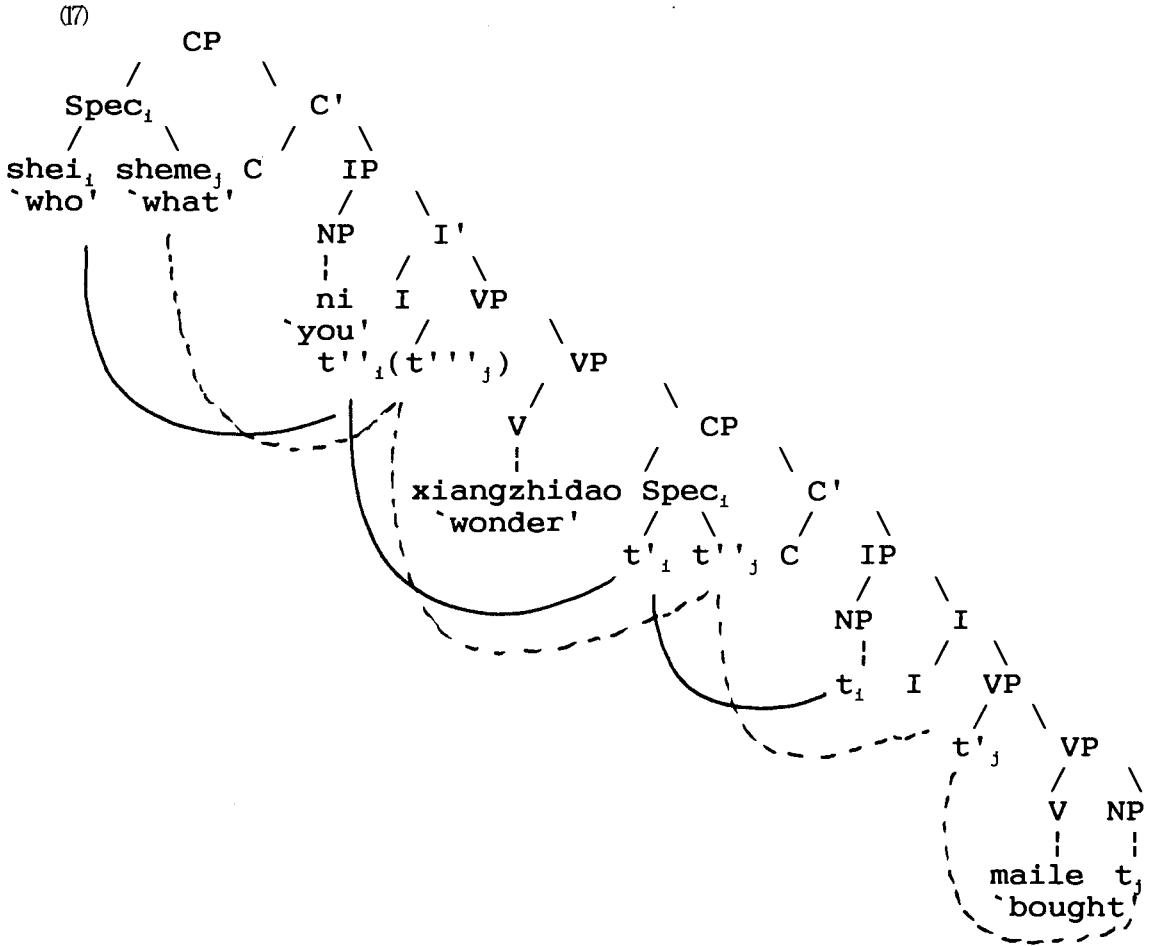
(16) Ni xiangzhidao shei mai le sheme?

you wonder who buy Asp what

'Who do you wonder buy what?'

'What do you wonder who bought?'

In Lasnik and Saito (1984), a [r] feature is assigned to an argument at SS, to an adjunct at LF. However, assuming that Chinese does not have wh-movement at SS, we need to assign [r] features to both an argument and an adjunct at LF. Structure (17) will be the LF representation of (16):



Though Chinese Infl is assumed to be functional, the adjoined VPs in (17) are not barriers, according to Chomsky (1986) and May (1985). Since wh-movement is $X^{\max}$ movement, the Adjunction Constraint, which says that an XP has to adjoin to a non-argument, will allow a wh-trace to adjoin to VP, which is a non-argument in this case. In (17), the object trace t_j is antecedent governed by t'_j because no barrier is crossed. When t'_j adjoins to VP, it is antecedent governed by the intermediate Spec_j, because the adjoined VP is not a barrier, and IP by definition (Chomsky 1986) is not a barrier either. In view of the Strict Cyclicity Principle, shei, which sits in Spec of IP, has to move after sheme moves to an upper cycle. When shei moves to Spec of CP, Spec_j changes into Spec_i, which antecedent governs t_i .

After both t_i and t_j are assigned $[+r]$ features, we expect to have a pair reading with shei and sheme in the intermediate Spec of CP. The prediction is correct. Before shei and sheme move to the matrix Spec of CP, either of them can first adjoin to the matrix VP. If sheme moves first and shei moves afterward, then antecedent government will not hold under the MBC, which claims that t'_i will be a minimality barrier creator because its index is the same as that of Spec of CP. In order not to violate the MBC, shei needs to first adjoin to the matrix VP because t''_j will not be a barrier under the MBC since its index has changed. Consequently, if shei moves to the matrix Spec of CP, then the matrix Spec_i will antecedent govern t'_i . The reading will be that shei has wide scope over sheme in the immediate Spec of CP. However, if in (17) shei first moves to the intermediate Spec of CP, then it will produce a reading in which sheme has wide scope over shei.

Similarly, if the wh-movement starts first with the other wh-word from the embedded clause, then the reading will be different. That is, if shei first moves to the intermediate Spec of CP, then the pair reading will be the same. However, the movement will produce another reading, in which sheme will have wide scope over shei. Consequently, if both shei and sheme move to the matrix Spec of CP, then a pair reading in the matrix clause will be possible, since both t'_i and t'_j will be antecedent governed.

To sum up, with the Reindexing Principle, we correctly predict that Chinese does not have superiority effects because both a subject and an object can be properly governed by Spec of CP, which serves as an antecedent.

3.3 No *that-trace* effect:

A number of scholars have raised issues about whether a complementizer is really a minimality barrier creator (see Rizzi 1990 and Shlonsky 1988). Rizzi claims that the complementizer that in English is not a minimality barrier creator and redefines the conditions of proper government. Shlonsky proposes that in Hebrew a complemen-

tizer se[✓] undergoes cliticization; therefore, se[✓] is never a minimality barrier. Scholars have different views about whether or not Chinese has complementizers. In this section, I distinguish two types of complementizers in Chinese: one is of the gen type (cf. Huang 1982) and the other is of the de type. I have determined that the first type never undergoes cliticization. The second type, however, will cliticize onto a matrix verb to form a complex verb (see Li 1990).

As we know so far, when a wh-argument moves to Spec of CP, Reindexing will take place. Thus, if gen in (18) has an index *j* at SS, then at LF, it will acquire the same index that the moved wh-argument has. Therefore, a subject trace in Chinese will be antecedent governed regardless of whether gen is present:

(18) Neijian shi [gen [shei baoyuan]] youguan?

that matter with who complain related

'lit. Whose complaint has something to do with that matter?

Since the whole discussion of the gen type has been given in section 3.1, I will concentrate on the discussion of the de type, as in (19) in this section:

(19) Ta ku de shei hen shangxin?⁴

he cry DE who very sad

'Who is sad because of his crying?'

Many researchers have worked on sentences like (19) based on a predication theory (see Chao 1948, Tai 1973, Li & Thompson 1981, Mei 1987 & 1990, and Huang 1987).

Following Huang (1988), I adopt the Secondary Predication Theory (See Rothstein

⁴Chinese is a pro-drop language. A sentence with a missing subject and a missing object is commonly found, such as (i):

(i) EC1 diao dao le EC2 ma?

catch get Asp Question-marker

'Did (you) catch (anything)?'

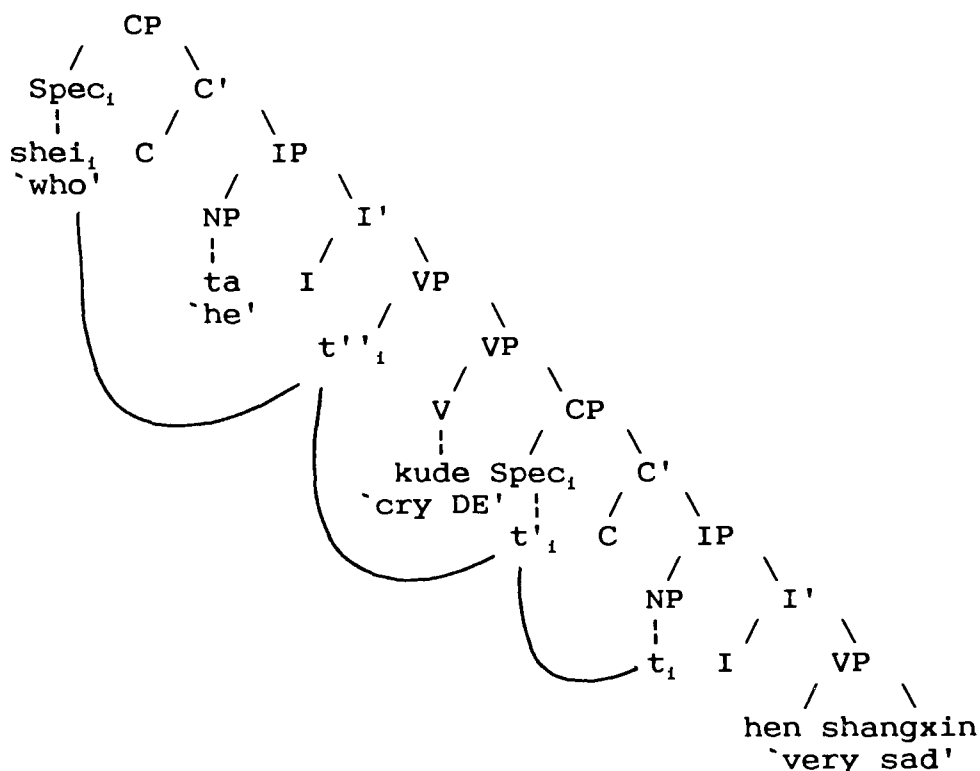
Hence, a sentence like (ii) is generally understood with a *pro* in the subject position of the de complement:

(ii) Ta ku de pro hen shangxin.

He cry DE EC very sad

1983 as well) in claiming that the main verb in (19) is ku. The LF representation of (19) is (20):

(20)



Following Li (1990), I assume that de undergoes cliticization in (20), so t_1 will be antecedent governed by the lower Spec of CP. Since kude L-marks the lower CP, t''_1 antecedent governs t'_1 . Antecedent government still holds between t''_1 and the matrix Spec of CP. Since all the traces are assigned $[+r]$ features, the ECP is not violated in (20).

4. Problems with the lexical Infl assumption:

Hunag's assumption is incompatible with certain aspects of the Barriers framework because (i) Chomsky (1986) reduces lexical government to antecedent government and (ii) direct theta-marking is a prerequisite for L-marking. With regard to (i), Huang's analysis does not work because a subject trace in Chinese has to be properly

governed by its antecedent rather than by Infl. That is to say, even though Huang assumes that Infl in Chinese is lexical, he still needs to address the question of antecedent government between a subject trace and its antecedent. The proposed theory suggests that a subject trace will be antecedent governed by Spec, which shares the same index with the subject trace.

The second aspect (i.e., L-marking), as stated in (21), is a strict condition in Chomsky (1986). A subject in English is not directly theta-marked, so it will never be L-marked regardless of whether Infl in English is lexical or functional:

- (21) X L-marks Y iff X directly theta-marks Y and that X is lexical.

If a subject is not L-marked, then it will be a barrier. Consequently, any extraction out of a subject will cause ungrammaticality. In (22), the subject NP story of... is not directly theta-marked by Infl; hence, the subject NP is a barrier. Any extraction out of this NP will violate the CED:

- * (22) What_i are stories of t_i easy to understand?

A Chinese sentence which corresponds to (22) is (23). Sentence (23), unlike (22), is grammatical. Huang assumes that Infl in Chinese is lexical, so any extraction out of a subject NP is permissible:

- (23) Sheme de gushi hen rongyi dong?
 what Poss story very easy understand
 'Stories of what are easy to understand?'

The grammaticality of (23) will be a problem in Barriers because the subject NP is not directly theta-marked by Infl. Therefore, even though we assume that Infl in Chinese is lexical, the subject NP will be a barrier since theta-marking is not satisfied.

In order to solve this problem, we have to either adopt the Reindexing Principle or redefine (22) as (24):

- (24) X L-marks Y iff X theta-marks Y and that X is lexical.

If (24) is sufficient for L-marking, then this means that Chinese does not distin-

guish direct theta-marking from indirect theta-marking. If an element is theta-marked somehow by a lexical category, then it is L-marked as well. As a result, both subjects and objects in Chinese are L-marked.

Condition (24) seems to solve the problem of (23). But one has to say that L-marking is parametrized. In English, L-marking requires a distinction between direct and indirect theta-marking; however, in Chinese, L-marking does not require this distinction. This kind of theta-marking in Chinese is not independently motivated. Sentence (25) shows that Chinese does have a distinction between direct theta-marking and indirect theta-marking:

(25) Wo da le ta.

I beat Asp he

'I beat him.'

In (25), the verb assigns a patient theta role to its object, and the VP compositionally assigns an agent theta role to the subject. The patient and agent theta roles are distinctive in Chinese. Therefore, (24) is not independently motivated.

One might suggest that a subject in Chinese gets a theta role from Infl, rather than from VP. This approach is ad hoc because one does not want to have an Infl which sometimes assigns an agent theta role, and sometimes assigns an experiencer theta role to a subject. In other words, such an approach will have difficulty in defining the nature of the theta role that Infl assigns (D. Wible, personal communication).

To conclude, the Reindexing Principle explains why Chinese lacks certain asymmetries. I have shown that the Reindexing Principle is more independently motivated than any other possible revisions of Huang's approach.

5. Conclusion:

In this paper, I have discussed the problems with Huang's assumption in the Barriers framework. I assume that Chinese Infl is functional and antecedent government can replace lexical government. I have proposed the Reindexing Principle as a

new parameter to explain why Chinese lacks certain asymmetries that one may find in English. The full range of the English counterparts can be found in Chen (1989). To sum up, this paper intends to show that once the Reindexing principle is adopted, the LF facts in Chinese can be explained by antecedent government alone.

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先行詞管轄可行乎？ ——中文的見証

陳純音

本文旨在探討管轄約束理論（ Government & Binding Theony ）中先行詞管轄（ Antecedent Government ）的可行性。全文以分析中文語料為主，評估杭士基（ Chomsky 1986 ）理論下，黃正德教授（ 1982 ）對中、英問句空詞（ empty category ）的分析。本文提出「再指引法則」（ Reindexing ）取代黃教授之詞義管轄（ Lexical Government ），並強調中文問句中空詞的特異性可在先行詞管轄下瞭解無疑。