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Received October 19, 1995
Revised February 24, 1998

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DERIVING THE BEI-CONSTRUCTION IN MANDARIN CHINESE*

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This article proposes that the *bei*-construction, a typical passive construction in Mandarin Chinese, is not derived in a uniform fashion; rather, three types of *bei*-sentences must be recognized. The main distinction is made between those involving A-movement, like English passives, and those involving a null operator, like the *tough*-construction and the Complement Deletion Construction in English. The third type involves a lexical passive compound verb. Support for this claim comes from investigation of the facts regarding licensing of a post-verbal overt pronominal object, locality effects, the occurrence of the particle *shuo* in the *bei*-construction, and the intervention of adverbs within the *bei*-V sequence. This article also shows the problems in previous analyses that derive the *bei*-construction from the same underlying structure.

1. INTRODUCTION

This article studies a typical passive construction in Mandarin Chinese, namely the *bei*-construction, and aims to provide a proper analysis of its derivation. Previous analyses of this construction all adopt an approach under the null hypothesis that *bei*-sentences are derived from the same underlying structure. This prevailing view, however, gives rise to quite a few problems and fails to provide an adequate analysis of the *bei*-construction. Contrary to this uniform approach, I will argue that the *bei*-construction in Chinese is not derived in a uniform fashion. Three types of *bei*-sentences must be recognized, based on how the *bei*-construction is derived. The main distinction is made between *bei* passives with and without lexical logical subjects. The former involve a null operator, like the *tough*-construction and the Complement Object Deletion Construction in English, and the latter involve A-movement, which Cheng, Huang, Li and Tang (1993, henceforth CHLT) argue to be on a par with the *get*-passive in English. I will propose that *bei* is a verb and that these two types of passive result from two *bei*'s with different selectional properties. The third type of passive involves a lexically derived *bei*-V compound (see Reynolds (1995)) on a par with other V-V compounds in Mandarin. This analysis will be shown to account nicely for the otherwise mysterious properties of the *bei*-construction, including licensing of the post-verbal overt object pronoun, locality effects, the occurrence of the particle *shuo*, and the intervention of adverbial elements within the *bei*-V sequence, among others.

This article is organized as follows. Section 2 presents the basic facts of the *bei*-construction in Chinese and discusses the inadequacy of the previous analyses. Section 3 shows the consistent structural differences between *bei*-sentences with and without the lexical logical subject, suggesting that they involve A'-dependency and A-movement, respectively. In section 4, I present and motivate an analysis of structures of the three types of passive.

2. PROPERTIES OF THE *BEI*-CONSTRUCTION IN CHINESE AND PREVIOUS ANALYSES

2.1. *The A-movement Approach*

The *bei*-construction refers to sentences containing the morpheme *bei* and is regarded as a typical passive construction in Chinese.¹ For the purpose of this article, a passive sentence is the counterpart of an active sentence, in which the patient argument of the transitive verb appears as the grammatical subject, while the agent argument of the transitive does not appear overtly in an argument position. This change in grammatical function between active and passive sentences can be illustrated by English examples in (1).

- (1) a. Mary criticized John.
 b. John was criticized by Mary.
 c. John was criticized.

The active sentence (1a) has the agent NP *Mary* and the patient NP *John* in the subject and the object position, respectively. In the passive sentences (1b, c), on the other hand, the subject position is occupied by the patient NP, while the agent NP is either introduced by the preposition *by* (1b) or not overtly present (1c). A similar grammatical function change can be observed between the *bei*-construction (2) and its active counterpart (3) in Mandarin Chinese.

- (2) a. Zhangsan bei Lisi piping-le.
 Zhangsan BEI Lisi criticize-ASP
 'Zhangsan was criticized by Lisi.'
 b. Zhangsan bei piping-le.
 Zhangsan BEI criticize-ASP
 'Zhangsan was criticized.'

- (3) Lisi piping-le Zhangsan.
 Lisi criticize-ASP Zhangsan
 'Lisi criticized Zhangsan.'

Like the English passives in (1b, c), the *bei*-sentences in (2) contain patient NPs that occur in the grammatical subject position. The agent NP, on the other hand, is either introduced by *bei* (2a) or not overtly present (2b). For convenience, passives with an overt logical subject,² such as in (1b) and (2a), will be referred to as the "long passive", and those without, such as in (1c) and (2b), will be referred to henceforth as the "short passive".

Given the similar grammatical function change between active and passive sentences in English and Mandarin Chinese, it thus appears plausible to extend the analysis of the English passive to the *bei*-construction in Chinese to a certain extent. This is the line of reasoning pursued by Huang (1982) and A. Li (1985, 1990). In the principles-and-parameters framework adopted in this article, it is in general agreed (see for example, Chomsky (1981, 1986b), Jaeggli (1986), Roberts (1987), Baker et al. (1989), among others) that the English passive involves A-movement, as illustrated in (4).

- (4) [_S John_i was criticized t_i (by Mary)]

The complement NP *John* of the passive verb is forced to move to the subject position by the Case filter, given the assumption that the passive verb has lost its Case-assigning ability in a passive sentence due to the presence of the passive morpheme. The passive morpheme is also assumed to be responsible for the "suppression" of the subject theta-role of the passive verb. The "suppressed" subject theta-role is realized as an implicit argument associated with an optional adjunct *by*-NP.

Turning to the *bei*-construction in Mandarin Chinese, given the fact that the subject position in the *bei*-construction is also occupied by the patient argument NP as in the English passive construction, it seems plausible to analyze the subject of the *bei*-construction as derived by A-movement from the complement position of the passive verb such as in (5).

- (5) [_S Zhangsan_i bei (Lisi) piping-le t_i]
 Zhangsan BEI Lisi criticize-ASP

'Zhangsan was criticized (by Lisi).'

The A-movement approach to the derivation of the *bei*-construction, however, runs into problems with the non-gapped (Feng (1990)) and the non-local passive (Feng (1990), Y. Li (1991a)). The former refers to *bei*-

passives containing an overt logical object pronominal which is co-indexed with the subject of the *bei* clause in the complement position of the "passivized" verb, as illustrated in (6).

- (6) ?Zhangsan₁ bei wo piping-le ta₁ yidun
Zhangsan BEI I criticize-ASP he once

'Zhangsan was criticized once by me.'

In spite of their marginality, many people find such sentences basically acceptable.³ Under the A-movement analysis, the overt pronominal *ta* 'he' in (6) must be taken as alternating with the A-trace in a gapped passive. This account contradicts the general agreement that A-movement does not allow a pronominal in place of its trace, as shown by the ill-formedness of (7). Since the gap in the *bei*-sentence may alternate with an overt pronoun, it does not behave like a typical A-trace.⁴

- (7) *John was criticized *him* once.

The non-local passive in (8a), on the other hand, also poses problems for the A-movement analysis because in the structure illustrated in (8b) the gap associated with the subject of the *bei* clause is contained in the complement clause of a "passivized" object control verb.

- (8) a. Lisi bei Zhangsan pai wo zhua-zou-le
Lisi BEI Zhangsan sent I catch-ASP

'Lisi was affected by Zhangsan's sending me to catch him.'

- b. [Lisi₁ bei Zhangsan pai wo₂ [_{CP} PRO₂ zhua-zou-le [e]₁]]]

Under the A-movement analysis, it is not clear why the presumed NP trace can be separated from its antecedent by an intervening subject. It is well known that A-movement is strictly local (Chomsky (1986a), Cinque (1990), Rizzi (1990), Lasnik and Saito (1992), Manzini (1992), among others). Thus, so-called "super-raising", crossing an intermediate subject, as in (9), is ill-formed.

- (9) *John₁ appears that [it is likely [t₁ to win]]

The locality effect displayed by A-movement can be achieved in several ways. Chomsky (1982) suggests that the A-trace is constrained by the Binding Condition A. Rizzi (1990), on the other hand, provides an account by relativized minimality. Whatever is the reason, A-movement must be strictly local. The locality behavior of A-movement thus casts doubt on the A-movement analysis of the non-local passive in (8) because the

movement crosses the intervening PRO subject, violating locality conditions on A-movement. If brief, the a-movement approach cannot easily account for the non-gapped and the non-local *bei*-sentences.

2.2. The A'-Dependency Approach

In order to provide an account accommodating these passives, the A'-dependency approach is motivated. This approach was first formulated by Feng (1990) and later modified and amended by Chiu (1993) and Ting (1993). The essence of this approach is that the derivation of the *bei*-construction involves an A'-configuration like that of the *tough*-construction in English (10).

- (10) The book₁ is tough [_{CP} Op₁ [(for us) to read t₁]]
(Chomsky (1981))

These analyses, despite variation among them, all assume that *bei* is a verbal category taking a clausal complement containing a null operator, as illustrated in (11).

- (11) [_{IP} Zhangsan₁ [_{VP} bei [_{XP} Op₁ . . . Lisi piping-le . . . t₁]]]
Zhangsan BEI Lisi criticize-ASP

The non-gapped passive and the non-local passive in Chinese are now naturally accounted for under the A'-dependency approach. A'-movement is known to be non-local. Furthermore, an operator in an A'-position may bind a pronominal (see Sells (1984), Engdahl (1985), Demirdache (1991), among others for discussion).⁵ These two characteristics of an A'-configuration are illustrated by relative clauses in (12a) and (12b), respectively.

- (12) a. Zhe jiushi [[[Zhangsan pai wo zhua-le t₁ huilai]
this is Zhangsan send I catch-ASP back
de Op₁] neige nanren₁]
DE that man
'This is the man that Zhangsan sent me to catch back.'
- b. ?Zhe jiushi [[[Zhangsan piping-le ta₁ yidun] de Op₁]
this is Zhangsan criticize-ASP he once DE
neige nanren₁]
that man
'This is the man that Zhangsan criticized him once.'

The parallelism between relative clauses and the *bei*-construction is

obvious: in both instances, an overt pronominal may take the place of the gap, and there is a non-local relation between the gap and the co-indexed NP. The A'-dependency analysis of the *bei*-construction is thus supported. Appealing as it appears, however, this approach, is inadequate in that it does not account for the obligatory presence of the logical subject immediately preceded by *bei* in these passives. The fact that the non-gapped and the non-local passives require a lexical logical subject immediately preceded by *bei* is shown by the ill-formedness of (13a) and (13b), observed by Feng (1990) and Y. Li (1991a), respectively.

- (13) a. *Zhangsan₁ bei piping-le ta₁ yidun.
Zhangsan BEI criticize-ASP he once
'Zhangsan was criticized once.'

- b. *Lisi bei pai wo zhua-zou-le.
Lisi BEI send I catch-away-ASP

'Lisi was affected by someone's sending me to catch [him] back.'

Under Chiu's (1993) and Ting's (1993) analysis, the non-overt logical subject in the short passive is represented as a *pro*. As their theories stand, it is not immediately clear how the non-overt pronoun would block the proposed A'-dependency relation in the non-gapped and the non-local *bei*-sentences, as roughly represented in (14).

- (14) [_{IP} Zhangsan₁ [_{VP} bei [_{XP} Op₁ . . . *pro* piping-le . . . ta₁]]]
Zhangsan BEI criticize-ASP he
[_{IP} Zhangsan₁ [_{VP} bei [_{XP} Op₁ . . . *pro* pai wo₂]
Zhangsan BEI send I
[[PRO₂ zhua-zou-le [e]₁]]]
catch-away-ASP

To account for the obligatory presence of the lexical subject in the non-gapped passive, Feng (1990) claims that passives with and without a lexical logical subject have different structures. While the long passive is bi-clausal, the short passive becomes mono-clausal as a result of a transformational rule in (15). This rule reanalyzes *bei* and the following element as a compound. If the following element is a transitive verb, it will lose its Case-assigning ability after this reanalysis process.

- (15) Bei X . . . Y . . . ⇒ Bei-X . . . Y . . .
(= Feng (1990) 3.14, p. 9))

Given the rule in (15), short passive is transformed from a bi-clausal (16a) to a mono-clausal (16b).

- (16) a. Zhangsan₁ [bei [Op₁ [e₁ da-le e₁]]]
Zhangsan BEI hit-ASP
(= Feng (1990) 3.16, p. 10)
b. Zhangsan₁ [[bei-da] e₁]
Zhangsan BEI-hit
(= Feng (1990) 3.17, p. 10)

Under this analysis, the short passive does not license an object pronoun because it can't get assigned Case by the *bei*-V string in (17).

- (17) *Zhangsan₁ [[bei-da]-le ta₁]
Zhangsan BEI-hit-ASP he
(= Feng (1990) 3.11, p. 10)

In brief, Feng's (1990) account of the obligatory presence of the lexical logical subject falls into two respects. First, he recognizes the structural difference between passives with and without the lexical logical subject and derives this difference by a transformational rule that alters a bi-clausal structure into a mono-clausal one. Furthermore, in passives without a lexical logical subject, *bei* crucially forms a compound with the following element, usually a verb. After the compounding process, a transitive verb can no longer assign Case. This explains the impossible occurrence of the post-verbal object pronoun in the short passive. This analysis is insightful in that it recognizes that the long and the short passive have different structures. However, it is theoretically problematic to account for this structural difference by a structure-altering rule in the principles-and-parameters framework. I will argue in section 4 that this structural difference is not derived by a transformational rule but rather follows from two lexically different *bei*'s. With respect to the second aspect of Feng's account, I will show below that the compounding rule for deriving the short passive is empirically problematic. In fact, it will be argued in section 4 that the short passive with a free verbal morpheme does not involve any generally assumed type of compounding.

Consider examples in (18), which show that *bei* and the following verb may be separated by a manner adverb (18a), a subject-oriented adverb (18b), or a PP (18c).

- (18) a. Zhangsan bei *henhende* piping-le yidun.
Zhangsan BEI severely criticize-ASP once
'Zhangsan was severely criticized once.'

- b. Zhangsan bei *guyi* piping-le yidun.
Zhangsan BEI deliberately criticized-ASP once
'Someone deliberately criticized Zhangsan once.'
- c. Neizhi chuan bei *cong hai-li* lao chu-lai-le.
that ship BEI from sea-inside dredge out-ASP
(= Feng (1990) 2.5, p. 4)
'That ship was dredged out of the sea.'

Given the reanalysis rule proposed by Feng (1990), *bei* should form a compound with the following adverb or PP in these instances, and the Case-assigning ability of the verb shouldn't be affected. If this is correct, then an object pronoun is expected to be licensed in short passives such as (18). This prediction, however, is not borne out, as evidenced by the ill-formedness of (19). The reanalysis rule is thus not empirically adequate in addition to its theoretic weakness.

- (19) *Zhangsan_i [bei henhende] piping-le ta_i yidun.
Zhangsan BEI severely criticize-ASP he once
'Zhangsan was severely criticized once.'

Summarizing this section, the *bei*-construction in Mandarin Chinese has the following properties. Consider the word order string in (20).

- (20) NP1 . . . bei (NP2) . . . V . . . NP3

Like English passives, the "passivized" verb is transitive, the internal argument of this verb occurs as the grammatical subject of the passive clause, i.e., NP1 in (20) and the external argument NP2 is either introduced by *bei* or does not occur. When the external argument does not occur, *bei* remains obligatory. In this case, *bei* and the "passivized" verb need not be adjacent and may be separated by certain adverbial elements. The complement position of the "passivized" verb, i.e., NP3, may be left empty or be occupied by an overt pronominal co-indexed with NP1. This is referred to as the "non-gapped passive" in Mandarin Chinese. Furthermore, when the "passivized" verb is an object control verb, NP3 may be contained in its complement clause. This is referred to as the "non-local passive" in Mandarin Chinese. These two types of passives crucially require the lexical subject preceded by *bei*, i.e., NP2 in (20).

We have argued that none of the previous analyses accounts for all the properties of the *bei*-construction noted above. It is certainly desirable if all these properties can be consistently explained. In the rest of this article,

pursuing the insight of Feng (1990) that *bei*-sentences with the without the lexical logical subject have different structures, I will argue that they start out with two verbal *bei*'s with different selectional properties. As a result, the long passive has an A'-configuration involving a null operator similar to the *tough*-construction in English whereas the short passive involves A-movement, which, adopting CHLT's (1993) suggestion, is on a par with *get*-passives in English. In the next section, I will first establish this A vs. A' structural distinction between the short and the long passive. In section four, I will provide a plausible analysis of their internal structures.

3. THE A/A' DISTINCTION BETWEEN SHORT AND LONG PASSIVES

I will argue that the short passive involves A-movement. The long passive, on the other hand, involves an A'-configuration containing a null operator, which binds a variable or an overt pronoun.

3.1. The Licensing of the Post-Verbal Object Pronoun and Non-Local Passivization

Recall that non-gapped and non-local passives require a lexical logical subject preceded by *bei*. That is, only those *bei*-sentences in the form of the long passive allow the internal argument position of the "passivized" verb, i.e., NP3 in (20), to be occupied by an overt pronominal or to be contained in the complement clause of the "passivized" control verb. Consider the examples with the relevant structures given in (21).⁶

- (21) a. [_{IP} Lisi_i bei . . . Zhangsan . . . [_{VP} piping-le ta_i
Lisi BEI Zhangsan criticized-ASP he
yidun]]
once
- b. [_{IP} Lisi_i bei . . . Zhangsan . . . [_{VP} pai wo₂ [_{IP} PRO₂
Lisi BEI Zhangsan send I
zhuo-zou-le [e]₁]]]]
catch-away-ASP

Following the general assumption concerning structures involving an object control verb in the principles-and-parameters framework, I assume that the verb *pai* 'send' in (21b) is a two-place predicate, taking both the object NP *wo* 'I' and an infinitive CP with a PRO subject as complement.

As reviewed in the previous section, the *bei*-passives in (21) are naturally accounted for under the A'-dependency approach by pursuing the parallelism between them and the relative clauses in (22).

- (22) a.? [Zhe jiushi [_{NP} [_{CP} [Zhangsan piping-le ta₁ yidun] this is Zhangsan criticize-ASP he once
de Op₁] ren₁]]
DE person

'This is the person that Zhangsan criticized him once.'

- b. [Zhe jiushi [_{NP} [_{CP} [Zhangsan [_{VP} pai wo₂ [_{CP} [_{IP} PRO₂ this is Zhangsan send I
zhua-zou t₁]]]] de Op] ren₁]]
catch-away DE person

'This is the person that Zhangsan sent me to catch.'

Relative clauses are generally analyzed as involving an A'-configuration. As illustrated in (22), the operator in an A' position may bind an overt pronoun in (22a), and the A'-movement of the relative operator in (22b) is legitimate since no barrier is crossed in the sense of Chomsky (1986a). Similar properties exhibited in the *bei*-constructions in (21) suggest that they also involve an A'-structure. More specifically, I propose that the post-verbal object pronoun in (21a) is bound by an operator in an A'-position and that the EC contained in the complement clause of a control verb is left by null operator movement, as in the relative clauses in (22).⁷ Under this analysis the markedness of the non-gapped passive can now be treated on a par with that of the relative clause containing an A'-bound pronoun in (22a).⁸

On the other hand, given this line of reasoning, the short passive must not involve an A'-configuration but is most likely to be derived by A-movement. Recall that in contrast to the long passive, the short passive does not allow the gap at issue to be occupied by an overt pronoun or to be contained in the complement clause of the "passivized" control verb. The examples with the relevant structures are given in (23).

- (23) a. [_{IP} Lisi₁ bei . . . [_{VP} piping-le ta₁ yidun] Lisi BEI criticize-ASP he once
b. [_{IP} Lisi₁ bei . . . [_{VP} pai wo₂ [_{CP} [_{IP} PRO₂ Lisi BEI send I
zhua-zou-le [e]]]]
catch-away-ASP

If the short passive also involves an A'-configuration, the post-verbal pronoun *ta* 'he' in (23a) and the EC contained in the complement clause of the control verb should be licensed as those in (21a, b), contrary to fact, suggesting that the short passive does not involve an A'-configuration. The ill-formedness of (23a, b), in contrast, follows from the analysis that the short passive is derived by A-movement. As discussed earlier, it is well-known that A-movement does not allow its trace to alternate with an overt pronoun. If the short passive is derived by A-movement, then it follows that the post-verbal object pronoun is not licensed because, unlike an A'-trace, an A-trace does not alternate with an overt pronoun. Furthermore, the fact that the short passive does not allow the gap at issue to be contained in the complement clause of the control verb as in (23b) also follows. Unlike A'-movement, A-movement is known to be local. Under the A-movement analysis of the short passive, the A-trace in (23b) would be too far away from its antecedent, namely the NP *Lisi*, given whatever locality condition on A-movement.

In summary, it has been argued that the long passive involves an A'-configuration, whereas the short passive involves A-movement. This structural distinction is supported by the facts that the former exhibits A'-properties such as allowing the gap at issue to be occupied by a pronoun or to have a non-local relation with its antecedent, and that the gap in the latter exhibits NP-trace properties such as the incapability of being filled by a pronoun and the requirement of being locally bound by its antecedent. This A-A' structural distinction between the short and the long passive in Mandarin is further supported by the distribution of the particle *suo* in these two types of passives.

3.2. The Licensing of the Particle *Suo*

The long passive allows the occurrence of *suo* (24a) whereas the short passive does not (24b).

- (24) a. Zhangsan bei *Lisi suo* piping.
Zhangsan BEI Lisi SUO criticize
'Zhangsan was criticized by Lisi.'
b.*Zhangsan bei *suo* piping.
Zhangsan BEI SUO criticize
'Zhangsan was criticized.'

The particle *suo* is analyzed by Chiu (1993, 1995) as a head of an accusative Case projection, and its overt occurrence is triggered by syntactic

movement. Contra this analysis, Ting (1995, 1996) argues that *shuo* is a resumptive pronominal clitic. Putting aside the choice between the two analyses, it suffices for the purpose of the argumentation here to note that *shuo* is licensed only in the context of a null operator. This observation is supported by the fact that *shuo* is allowed in a relative clause (25b) but not in a non-relative clause, such as (26a).

- (25) a. [Lisi mai de] neixie shu (= Chiu (1993) 2a, p. 78)
 Lisi buy DE those book
 b.? [Lisi *shuo* mai de] neixie shu (= Chiu (1993) 2b, p. 78)
 Lisi *SUO* buy DE those book
 'those books that Lisi bought.'

- (26) *Lisi *shuo* mai neixie shu.
 Lisi *SUO* buy those book
 'Lisi bought those books.'

Given this description of *shuo*, its occurrence in the long passive in (24a) suggests that the derivation of the long passive involves a null operator whereas the short passive (24b) does not. The contrast that the long passive, but not the short passive, licenses the particle *shuo* thus supports the analysis that the former involves an A'-configuration whereas the latter involves A-movement.^{9, 10, 11}

In summary, the licensing of the object pronoun and non-local passivization suggests that the long passive involves an A'-configuration. The licensing of the particle *shuo* in the long passive further indicates that the A'-configuration in the long passive involves a null operator, given that *shuo* is licensed only in the context of a null operator, such as relative clauses. In fact, evidence based on locality suggests that the null operator in the long passive behaves like the one in the English *tough*-construction in (27).

- (27) The book_i is tough [OP_i to read t_i].

3.3. The Tensedness Effect in the Long Passive

It is observed by Y. Li (1991a) that non-local passivization is possible only from within infinitive clauses (28a, b) but not from within a finite clause (28c).

- (28) a. Zhege shusheng_i bei guanfu rang
 this scholar BEI local-government make
 [_{IP} shibingmen dasi-le [e]_i]
 soldiers kill-ASP
 'This scholar was affected by the local-government making soldiers kill [him].'
 b. Zhege shusheng_i bei guanfu pai
 this scholar BEI local-government make
 shibingmen₂ [_{CP} [_{IP} PRO₂ dasi-le [e]_i]]
 soldiers kill-ASP
 'This scholar was affected by the local-government making soldiers kill [him].'
 c.*Zhege shusheng_i bei guanfu renwei
 this scholar BEI local-government think
 [_{CP} [_{IP} shibingmen dasi-le [e]_i]]
 soldiers kill-ASP

'This scholar was affected by the local-government's thinking that soldiers killed [him]

As observed by Stowell (1987), the null operator construction in English also exhibits a type of tensedness effect, as illustrated in (29).

- (29) a. This book is tough [OP_i [PRO to read [e]_i]]
 b. This car is easy [OP_i [PRO to believe [_{IP} Betsy to have fixed [e]_i]]]
 c.?? This car is easy [OP_i [PRO to believe [_{CP} [_{IP} Betsy fixed [e]_i]]]]
 (Stowell (1987), p. 477)

In (29a, b), the null operator movement from within an infinitive clause is well-formed whereas it is ill-formed from within a finite clause as in (29c). This behavior of the null operator clearly contrasts with that of an overt *wh*-operator, which can move either from the infinitive complement clause or finite complement clause, as illustrated by the contrast between (29c) and (30c).

- (30) a. What do you read t_i
 b. What_i do you believe [John to have fixed t_i]
 c. What_i do you believe [t_i' [that John fixed t_i]]

This contrast between overt versus non-overt operator movement leads

Stowell (1987) to conclude that the null operator must play a role in rendering the marginality of the movement out of the finite clause in (29c).¹²

Turning to the *bei*-constructions, we find that a similar tensedness effect arises when the gap is contained in the tensed complement clause, as in (28c). In contrast, the sentences are well-formed when the gap is contained in an infinitive complement clause, whether it is an IP (28a) or CP (28b).¹³

The parallelism of the locality between the null operator construction and the *bei*-construction in Chinese suggests that they should be given the same treatment. The tensedness paradigm in the *bei*-constructions thus further supports the involvement of a null operator in the long passive.¹⁴

In brief, the fact that the non-local passive without the overt logical subject preceded by *bei* in (23b) is ungrammatical can be attributed to the anaphoric property of the NP-trace. On the other hand, the non-local passive with the overt logical subject preceded by *bei* in (21b) is grammatical because it is an A'-trace and is not subject to locality conditions required of an A-trace. Furthermore, the same type of tensedness effect observed in the long passive and the *tough*-construction suggests that they should be treated on a par and supports the analysis that a *bei*-passive with an overt logical subject involves a null operator.

Summarizing this section, it has been established that the long passive in Mandarin, like the *tough*-construction in English, involves a null operator, whereas the short passive involves A-movement. Given this conclusion, there can be various ways to implement this structural distinction between the long and the short passives in Mandarin. In the next section, I will first discuss the status of the passive morpheme *bei* and argue for the existence of the third type of passive, namely lexical *bei*-V compounds. I will then provide a plausible analysis of their internal structures in the current theoretic framework.

4. THE INTERNAL STRUCTURES OF THE *Bei*-CONSTRUCTIONS PROPOSED

4.1. *The Categorical Status of the Morpheme Bei*

To posit the structures of the *bei*-constructions, one important task is to determine the status of the passive morpheme *bei*. In the literature, there have been three types of category proposed for it, i.e., preposition, verb, and inflectional feature like the passive morpheme *-en* in English.

Bei is treated as a preposition, on a par with the English *by*, by Li and Thompson (1981) and Cheng (1986), among others. *Bei* behaves like a preposition in that its position in the clause is on a par with that of a

preposition. The *bei*-NP sequence occurs to the left of the predicate like a PP *dui pengyou* 'to friend' in (31).

- (31) Zhangsan zongshi *dui pengyou* hen youshan.
Zhangsan always to friend very friendly
'Zhangsan is always nice to friends.'

The preposition analysis of *bei*, however, runs into three problems. First, consider *bei* in the short passive. It does not behave like a preposition in this case because it is not followed by an NP, as given in (2b), repeated here as (32). Since a preposition in Mandarin Chinese does not allow stranding, as shown in (33), the fact that *bei* need not be followed by an NP suggests that it should not be treated as a preposition in the short passive.

- (32) Zhangsan bei piping-le.
Zhangsan BEI criticize-ASP
'Zhangsan was criticized.'

- (33) *Zhangsan dui hen youshan.
Zhangsan to very friendly
'Zhangsan is very friendly to ____.'

Even in the long passive, the *bei*-NP sequence does not behave like a true prepositional phrase.¹⁵ True prepositional phrases in Chinese can occur in a pre-subject position, but the *bei*-NP sequence cannot. The contrast is shown in (34).

- (34) a. *Dui pengyou*, Zhangsan zongshi hen youshan.
to friend Zhangsan always very friendly
'Zhangsan is always nice to friends.'

- b. **Bei Lisi*, Zhangsan piping-le.
BEI Lisi Zhangsan criticize-ASP

Furthermore, as noted by A. Li (1990) and Chiu (1993), the NP preceded by *bei* has properties of an argument. For example, the NP preceded by *bei* can bind a subject-oriented anaphor (35a), but an NP in an adjunct PP cannot (35b). This contrast thus indicates that the *bei*-NP sequence is not an adjunct.

- (35) a. Akiu₁ bei Lisi₂ jieshao gei [ziji]_{1/2} de erzi
Akiu BEI Lisi introduce to self DE son
(= Chiu (1993) 15a, p. 88)
'Akiu was introduced to self's son by Lisi.'

- b. Akiu₁ *gen* Lisi₂ taolun [ziji]_{1/2} de jingyan
 Akiu with Lisi discuss self DE experience
 (=Chiu (1993) 15b, p. 88)
- 'Akiu discussed his own experience with Lisi.'

In brief, while the position of *bei* in the clause is on a par with that of a preposition, it does not behave like a true preposition. Another possibility to consider is that it is an inflectional element like the English passive morpheme *-en*. This line of analysis is pursued by Goodall (1992) for all *bei*-sentences and by Lü et al. (1980) and Feng (1990) for *bei*-sentences without the lexical logical subject. The approach taken by Lü et al. (1980) and Feng (1990) appears plausible in particular because in the short passive, *bei* always occurs right before the "passivized" verb. It thus appears reasonable to assume that *bei* "attaches" to the verb in this case, like the morpheme *-en* attaching to the verb in English. But this assumption runs into problems when the verb is modified by adverbial elements in the short passive, as in (18). In these examples, *bei* is not adjacent to the verb. If it is indeed a Chinese counterpart of the morpheme *-en* in English, it is not clear why it does not need to attach to the verb in these instances. Thus *bei* should not be treated like *-en* in English either.¹⁶

Having ruled out the possibilities for *bei* as a preposition or an inflectional affix, I now pursue the option that *bei* is a verbal category. This line of analysis is addressed by Feng (1990) (for the long passive), Y. Li (1991a), Chiu (1993) and Ting (1993). *Bei* used to be a verb denoting "to receive, to suffer," in classical Chinese, as illustrated in (36) (see Peyraube (1989), Zhang (1991), and references cited there).

- (36) Zu bei wu xing.
 finally suffer five punishment
 (Shi Ji, quoted from Peyraube (1989), p. 348)
- '(He) finally suffered the five punishments.'

It is not easy to show that *bei* remains a verbal category in Modern Chinese, however. A. Li (1990) argues that *bei* is not a verb in modern Chinese because it does not exhibit any of the properties typical of verbs in Mandarin Chinese, such as taking an aspect marker, occurring in the A-not-A form, or being able to serve as a simple answer to a question. This argument against the verbal status of *bei*, however, is valid only if all verbs in Mandarin Chinese exhibit the properties noted above. In fact, there are verbs that do not show any of those properties. The causative verb *shi* 'make' is one of them, as illustrated in (37a, b, c).

- (37) a. *Zhege xiaoxi shi-le Zhangsan hen kaixin.
 this news make Zhangsan very happy
 'This piece of news made Zhangsan happy.'
- b. *Zhege xiaoxi shi-bu-shi Zhangsan hen kaixin?
 this news make-not-make Zhangsan very happy
 'Did this piece of news make Zhangsan happy?'
- c. *Shi. (As an answer to 37b)
 'make.'

Given the behavior of *shi* 'make' in (37), the fact that *bei* fails to exhibit verbal properties noted by A. Li (1990) thus cannot be taken as evidence against *bei* as a verb since there are verbs such as *shi* also not showing those properties. However, if *bei* is indeed a verb, it remains mysterious why *bei* does not show those verbal properties, as most verbs do. Pursuing the analysis that *bei* is a verb, we may deal with the mystery by reinterpreting Li and Thompson's (1981) claim that *bei* belongs to the class of co-verbs in Mandarin Chinese. According to them, co-verbs including *gen* 'with', *cong* 'from', *chao* 'facing', *yan* 'along', *li* 'be apart from' were verbs at earlier stages of the language and are becoming prepositions in modern Chinese. Some of them may have more verbal properties than the others, depending on the pace of the transition. Let us assume that *bei* is a verb in modern Chinese and that since it is undergoing the process of turning from a verb to a preposition, it does not behave like most verbs in modern Chinese.

The syntactic behavior of the *bei*-passives also supports the verbal status of *bei*. First consider the non-gapped passive, repeated in (38).

- (38) ?Zhangsan₁ bei wo piping-le ta₁ yidun.
 Zhangsan BEI I criticize-ASP he once
 'Zhangsan was criticized once by me.'

As pointed out by Feng (1990), the occurrence of the post-verbal pronominal suggests that this sentence is bi-clausal. As required by the Binding Condition B, a pronoun should be free in its governing category. If (38) is mono-clausal, then the pronoun *ta* 'he' would be bound in its governing category and give rise to a Binding Condition B violation. Since (38) is not as bad as a typical Binding Condition B violation (39), it must be bi-clausal.¹⁷ The question arises what the matrix predicate is in (38).

- (39) *Zhangsan₁ xihuan ta₁.
 Zhangsan like he
 'Zhangsan likes himself.'

Given no other candidate, it appears natural to assume that *bei* is the matrix predicate in the non-gapped passive (38). The assumption that *bei* is a verb is also more compatible with other *bei*-passives than treating *bei* as a preposition. For example, it has been argued that *bei* cannot be a preposition in the short passive since prepositions in Mandarin Chinese must be followed by an NP.¹⁸

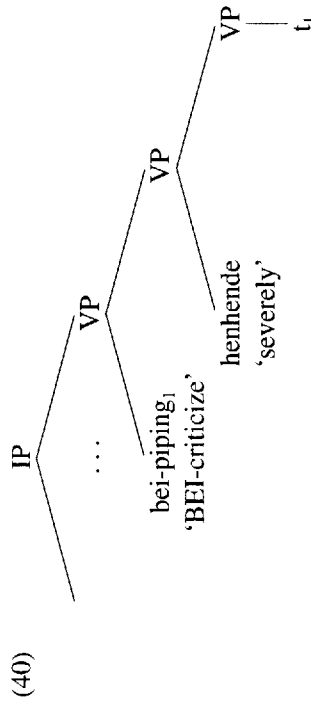
Under the assumption that *bei* is a verb, how are the long passive and the short passive in Mandarin Chinese derived? Recall that it has been shown in section 3 that the long passive involves an A'-configuration with a null operator whereas the short passive involves A-movement. I will propose that the two types of passives result from two *bei*'s, say, *bei*1 and *bei*2. Both of them are verbal categories but have different lexical properties: the short passive has *bei*1 selecting a VP whereas the long passive has *bei*2 selecting an IP.¹⁹

4.2. *The Structure of the Short Passive*

In this section, I discuss the structure of the short passive in Mandarin Chinese. First, I argue that the *bei*-V sequence in the short passive (with some limited exceptions derived in the lexicon, which will be referred to as lexical compound passives) is not a lexical complex, i.e., it is not formed by attaching *bei* to the adjacent verb. Rather, *bei* selects a VP. The "passivized" verb is the head of the VP governed by *bei*. Given the conclusion reached in section 3 that the short passive in Mandarin involves A-movement, I will then adopt CHLT's (1993) claim that it is on a par with the *get*-passive in English.

The passive verbal form *V-en* in English is a lexical complex and has been assumed to be derived in the lexicon (Bresnan (1982), Chomsky (1995)) or in the syntax (Baker et al. (1989)), depending on where the bound morpheme *-en* attaches to the verb. If the *bei*-V sequence such as *bei-piping* 'bei-criticize' in the Mandarin short passive is a lexical complex, it is reasonable to assume that the sequence is derived either lexically or syntactically. I will show that neither of these options is possible. Under the syntactic approach (e.g., Baker (1988)), the *bei*-V sequence may be derived by adjoining the head of VP governed by *bei* to *bei* by X⁰ movement, as required by certain morphological considerations. The syntactic incorporation approach, however, is not supported by the word order facts with respect to adverbial elements modifying the "passivized" verb. Following Tang (1990) and Bowers (1993), we assume that manner adverbials are adjoined to VP. Given the incorporation analysis, it is then expected that when the verb is modified by manner adverbs in the short passive, the former

should be followed by the latter after the X⁰ movement takes place, as illustrated in (40). This prediction is contrary to fact, as shown by the ill-formed (41), thus indicating that the *bei*-V sequence cannot be derived by Baker-type incorporation.



- (41) *Zhangsan bei piping-le henhende.
 Zhangsan BEI criticize-ASP severely
 'Zhangsan was severely criticized.'

Alternatively, under the lexical approach, the *bei*-V sequence may be formed in the lexicon and then fed into syntax as a whole. The lexical approach along this line is adopted by Reynolds (1995) for those *bei*-V sequences involving a bound verbal morpheme such as in (42).

- (42) bei bu 'to be arrested'
 bei fu 'to be captured.'
 bei qie 'to be stolen'
 bei dong 'to be passive'
 bei hai 'to be killed'
 bei po 'to be forced to ...'

I will argue that while the lexical approach is correct for those sequences involving a bound verbal morpheme, it is incorrect for those involving a free verbal morpheme. A crucial contrast between them is that the *bei*-V sequence with a free verbal morpheme allows intervention between *bei* and the verb (43a) whereas that with a bound verbal morpheme does not (43b).

- (43) a. Zhangsan bei *mimi* daibu-le
 Zhangsan BEI secretly arrest-ASP
 'Zhangsan was arrested secretly.'
 b. *Zhangsan bei *mimi* bu-le.
 Zhangsan BEI secretly arrest-ASP
 'Zhangsan was arrested secretly.'

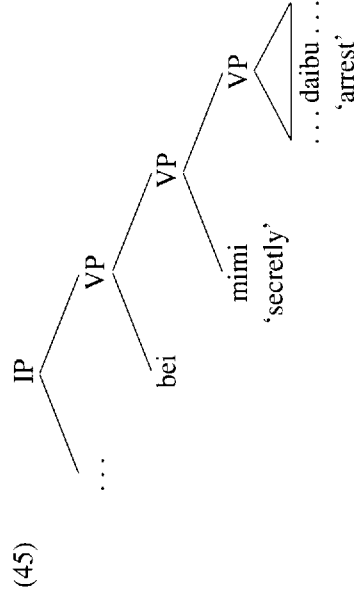
The ill-formedness of (43b) supports the analysis that the *bei-bu* 'BEI-arrest' sequence is a lexical compound. In general lexical operations feed syntactic ones. Thus, V-V compounds which are argued to be derived in the lexicon by Y. Li ((1990a) and subsequent works) cannot contain a manner adverb modifying the second component of the compound, as evidenced by the ill-formed (44).

- (44) * Zhangsan da-yianzhongde-shang-le Lisi.
Zhangsan hit-seriously-wounded-ASP Lisi

'Zhangsan hit Lisi and as a result Lisi was seriously wounded.'

The verb *bu* 'arrest' in (43b) is modified by the manner adverbial *mimi* 'secretly'. If *bei-bu* is analyzed as a lexical compound, the ill-formedness of (43b) can be treated on a par with that of (44).

Given this line of reasoning, the sequence *bei-daibu* is highly unlikely to be derived in the lexicon since it allows the adverbial *mimi* 'secretly' to occur between the two elements in (43a). If the *bei-daibu* sequence were a lexical compound like *bei-bu* 'bei-arrest', (43a) would be impossible, contrary to fact. In contrast, the well-formedness of (43a) follows from the claim that *bei* selects a VP in the short passive. Under this analysis, the intervening adverb *mimi* 'secretly' between *bei* and the "passivized" verb is actually adjoined to the VP headed by the verb *daibu* 'arrest', as illustrated in (45). This naturally explains why a productive *bei-V* sequence can be separated by adverbial elements.²⁰



In brief, the lexical passives such as those in (42) noted by Reynolds (1995) have a bound verbal morpheme attaching to *bei*. Since this bound verbal morpheme always comes from classical Chinese,²¹ these lexical passives are limited in number. The unproductivity of the lexical passives, in turn, lends further support to our A-movement analysis of the separable short passives, whose formation is entirely productive.

The question that arises now is in what structure this A-movement takes

place. CHLT (1993) argues that it is on a par with the *get*-passive in English and that the subject of *bei* is base-generated. Ting (1995), on the other hand, claims that the subject of the short passive in Mandarin Chinese is derived by A-movement in a similar fashion to that generally assumed for English *be*-passives since Chomsky (1981). I will adopt CHLT's analysis in this article.

The argument provided by CHLT is based on the fact that *be*-passives in English cannot take an agent-oriented adverb whereas *get*-passives can. As shown in (46), the subject position of *be*-passive in English is completely non-thematic and cannot take an agent-oriented adverb, in contrast to *get*-passives in English.

- (46) a. *John was hit intentionally.
b. John got hit intentionally.

The short passive in Mandarin may occur with an agent-oriented adverb (47). In this respect, it behaves like the *get*-passives, but not the *be*-passives, in English.

- (47) Zhangsan guyi bei da-le
Zhangsan intentionally BEI hit-ASP
'Zhangsan got hit intentionally.'

As further support, note that the short passive also behaves like the *get*-passive but not the *be*-passive, in that both of them do not allow a "passivized" stative verb, in contrast to the *be*-passives. The contrast is illustrated in (48).²²

- (48) a. John was loved.
b. *John got loved.
c. *Zhangsan bei ai-le.
Zhangsan BEI love-ASP
'Zhangsan was loved.'

In addition to the empirical problems that arise from treating the short passive in Mandarin on a par with the *be*-passive in English, there are theoretical problems as well.²³ Under Ting's (1995) analysis, while *bei* is a two-place predicate in the long passive, it is a one-place predicate in the short passive. It takes a VP as complement but does not take an external argument, as in (49). Assuming the system of Case assignment in Y. Li (1990b), the verb governed by *bei* does not assign Case to its complement NP, and thus the NP moves to the matrix subject position.

- (49) [Zhangsan₁ bei [_{VP} da-le t₁]]
Zhangsan BEI hit-ASP

This analysis is theoretically problematic in that it has to stipulate that *bei* assigns an external theta-role in the long passive but not in the short passive. In contrast, under CHLT's analysis, the short passive in Mandarin has the structure in (50).

- (50) [Zhangsan₁ bei [_{VP} PRO piping-le t₁]]
Zhangsan BEI criticize-ASP

'Zhangsan was criticized.'

According to them, *bei* selects VP as complement. "... The head of VP, in virtue of the [passive] feature, does not have an external argument and cannot assign Case to its object. The object of *da-le* 'hit-ASP' hence NP-moves to [Spec, VP], where it is controlled by the subject of *bei*.'²⁴ According to this analysis, the verb *bei* is a two-place predicate, assigning an external theta-role of its own. This analysis is free from the problem that arises under (49). I will thus adopt CHLT for the analysis of the (syntactic) short passive.²⁵

4.3. The Structure of the Long Passive

In this section, I argue that the long passive has *bei* selecting an IP, and it is either derived by A'-movement or by A'-binding, as given in (51).

- (51) a. [Zhangsan₁ bei [_{IP} Op₁ [_{IP} Lisi piping-le t₁]]]
Zhangsan BEI Lisi criticize-ASP
'Zhangsan was criticized by Lisi.'
- b. [Zhangsan₁ bei [_{IP} Op₁ [_{IP} Lisi piping-le ta₁ yidun]]]
Zhangsan BEI Lisi criticize-ASP he once
'Zhangsan was criticized once by Lisi.'

First of all, consider the constituency of *bei* and the post-*bei* NP. In the proposed structures in (51), *bei* selects an infinitive IP clause as internal argument and an NP as external argument. That is, *bei* does not form a constituent with the post-*bei* NP, as assumed by analyses treating *bei* as a preposition. This is supported by evidence provided by CHLT (1993) from coordination that the post-*bei* NP forms a constituent with the following VP:

- (52) Ta bei Lisi ma-le liang sheng, Wangwu ti-le
he BEI Lisi scold-ASP two sound Wangwu kick-ASP
san xia.
three time

'He was scolded two times by Lisi and kicked three times by Wangwu.'

The post-*bei* NP is actually a subject. This is shown by CHLT (1993) in (53) (cf. (35)).

- (53) Zhangsan₁ bei Lisi₂ guan zai ziji_{1/2} de jia
Zhangsan BEI Lisi imprison at self DE home
li.
inside

'Zhangsan was imprisoned at his home.'

It is well known that the reflexive *ziji* 'self' in Mandarin Chinese only picks up a subject NP as antecedent (see Cole et al. (1990), among others). Assuming that *bei* is a verb, the fact that the post-*bei* NP *Lisi* may antecede *ziji* 'self' in (53) indicates that it is the subject of the complement clause taken by *bei*. In theory, there are two possibilities for the clause type of the complement clause: finite or infinitive. I will argue that it is an infinitive and that *bei* is an ECM-type of verb which assigns Case to the embedded subject, namely the post-*bei* NP. The argument comes from the ill-formedness of examples like (54).

- (54) *Zhangsan bei [*zuotian* wo piping-le yidun]
Zhangsan BEI yesterday I criticize-ASP once
'Zhangsan was criticized by me once.'

If *bei* takes a finite complement clause with the post-*bei* NP sitting in the subject position, then it is not clear why he temporal adverbial *zuotian* 'yesterday' in (54) cannot be adjoined to this complement clause. The ill-formedness of (54), on the other hand, is reminiscent of violation of the adjacency condition discussed in Stowell (1981) and suggests that *bei* and the following NP has a Case assignor-assignee relation. If we assume that *bei* is an ECM-type of verb assigning Case to the subject NP of its complement clause, the ill-formedness of (54) is readily explained on a par with that of (55).²⁶

- (55) * [John believes [_{IP} obviously [_{IP} Mary to be smart]]

Let us now turn to the issue with respect to the null operator involved in the long passive. The discussion in section 3 leads us to the conclusion that the complement clause of *bei* contains a null operator. I will assume for the time being that it is adjoined to the complement clause of *bei*. Following Browning (1987) (cf. Chomsky (1980)), the null operator functions as a syntactic equivalent of a lambda operator and turns the clause minimally containing the null operator into a predicate. According to Browning, the null operator is a pro and takes the closest c-commanding argument NP as its antecedent. In order for the null operator to be properly identified with the subject NP of the *bei* clause, they must be close enough to each other, and thus the most plausible landing site for the null operator is adjunction to the complement.²⁷

The proposed structures of the long passive in (51) capture the conclusion reached in section 3 that the gapped long passive involves null operator movement (51a) whereas the non-gapped passive involves null operator binding (51b). This analysis also correctly accounts for the facts that the long passive must contain an element co-indexed with the grammatical subject preceded by *bei* and that this element must be either a gap or an overt pronoun. Consider the examples in (56).

(56) a. *Zhangsan bei liumang da-le Wangwu.

Zhangsan BEI hoodlum hit-ASP Wangwu

'Zhangsan was affected by the hoodlum's hitting Wangwu.'

b. *Zhangsan bei wawa ku-le.

Zhangsan BEI baby cry-ASP

'Zhangsan was affected by the baby's crying.'

c. *Zhangsan₁ bei Lisi piping-le ziji₁.

Zhangsan BEI Lisi criticize-ASP self

'Zhangsan was criticized by Lisi.'

In (56a), the gap at issue is occupied by a lexical element *Wangwu*. In (56b), the "passivized" verb is an intransitive. In both instances, there is no element co-indexed with the subject preceded by *bei*, hence the ill-formedness. In (56c), despite the fact that there is an anaphor *ziji* 'self' fulfilling the co-indexation requirement, the example remains ill-formed,²⁸ suggesting that the coindexed element can only be an empty category or an overt pronoun as in (51a, b).^{29, 30}

The ill-formedness of the examples in (56) follows from the proposed A'-dependency analysis. Under this analysis, the long passive must contain an element co-indexed with the subject preceded by *bei* because it involves

either null operator movement or null operator binding in the complement clause. This, at the same time, explains why the co-indexed element must be either an empty category or an overt pronoun but not an anaphor. As shown by the contrast in (57), a null operator can bind an overt pronoun but not an anaphor.

(57) a. ?Zhe jiushi [Zhangsan jiao-guo ta₁ liang nian de Op₁]
this is Zhangsan teach-ASP he two year DE
nage ren₁
that person

'This is the person that Zhangsan taught him for two years.'

b. *Zhe jiushi [Zhangsan jiao-guo ziji₁ liang nian de Op₁]
this is Zhangsan teach-ASP self two year DE
nage ren₁
that person

'This is the person that Zhangsan taught him for two years.'

Before ending this section, note that while both Feng (1990) and CHLT (1993) treat the *bei*-construction on a par with the *tough*-construction in English because both involve a null operator in the complement clause, the parallelism should, more precisely, be made between the *bei*-construction and the so-called Complement Object Deletion (COD) construction such as in (58).

(58) The book₁ is too long [Op₁ [PRO to read [e_j]].

It is generally assumed (Browning (1987), Cinque (1990), among others) that the COD construction also involves a null operator in the complement clause. There are two pieces of evidence showing that the *bei*-construction is more similar to the COD construction than to the *tough*-construction. The first support comes from the theta-role assignment of the matrix predicate. In both the long passive in Chinese and the COD construction in English, the matrix subject gets the external theta-role from the matrix predicate. The matrix subject in the *tough*-construction (10), in contrast, does not (see Chomsky (1981)). Additional support for treating the long passive in Mandarin on a par with the COD construction, rather than the *tough*-construction in English, comes from the fact that both the long passive in Chinese and the COD construction in English allows the null operator to bind an overt pronoun, but the *tough*-construction does not.³¹ Consider the contrast in (59).

(59) a. The book is too long for us to read it in a night.

b. *The book is tough for us to read it in a night.

Given these considerations on theta-role assignment and the possible occurrence of an overt pronoun in the gap, the Chinese long passive behaves more like the COD construction than the *tough*-construction.

NOTES

* Essentially the same distinction between the structures of the *bei*-sentences with and without the lexical logical subject has been independently argued for by Cheng, Huang, A. Li and Tang (1993) though some details are not clear from their short manuscript. I'd like to express my greatest gratitude to my thesis advisor Yoshinisa Kitagawa for ushering me to the issue of passivization and for the discussion of as well as suggestion on various points presented in this article. I'd also like to thank Greg Carlson and Ayumi Ueyama for helpful discussion and comments. I am also indebted to three anonymous *JEAL* reviewers whose thoughtful and careful comments are extremely helpful and have resulted in a much improved version. In addition, I have also benefited from the comments of the audiences of the 8th North America Conference on Chinese Linguistics at the University of Illinois and the 5th International Conference on Chinese Linguistics at the National Tsing-Hua University, Taiwan, including those of Lisa Cheng, Audrey Li, Ding-Xu Shi, Kuo-Ming Song, C.-C. Jane Tang, and Ting-Chi Tang. I would also like to thank Jim Huang for his interest in this work and for his valuable comments. Lastly, my thanks go to Yafei Li for his support, comments, and suggestions on various versions of this article. Errors are obviously my own.

¹ This article focuses on passive sentences marked by *bei*. Those, like (1), that convey a passive sense but do not contain an overt passive marker are discussed in Ting (1997).

- (1) Yu chi-diao-le.
fish eat-up-ASP

'Fish were all eaten up.'

² The term "logical subject" is used here to refer to the semantic subject, usually an agent. The term "grammatical subject", on the other hand, is a structural concept, referring to the constituent in the [Spec/VP] or [Spec/IP] position in the sense of Kitagawa (1986) and Koopman and Sportiche (1987).

³ One anonymous reviewer disagrees with using this type of marginal *bei*-sentences as evidence because "... In many cases, ... ungrammatical sentences might become marginal if some other factors play a role." It appears that the reviewer thinks that the length of this type of *bei*-sentences is the decisive factor since he/she cites the judgment of the following two sentences as support:

- (i) ?Zhangsan zai-da-ting-guang-zhong-zhi-xia bei hao-bu-liu-qing-de
Zhangsan in-public BEI ruthlessly
yan-ci-piping-le ta yidun
severely-criticize-ASP he once

'Zhangsan was ruthlessly and severely criticized in public once.'

- (ii) ??Zhangsan bei wo piping ta.
Zhangsan BEI I criticize he
'Zhangsan was criticized by me.'

This observation may not be accurate. First, it is not the length of the sentence that determines that (i) is better than (ii). Rather, the licensing condition for the non-gapped passive in Mandarin is that the post-verbal pronoun must be followed by some element, usually an adverbial. Thus, the lack of the adverbial *yidun* 'once' following the pronoun *ta* 'he' in (i) would make the sentence as bad as (ii), as illustrated in (iii).

- (iii) ??Zhangsan zai-da-ting-guang-zhong-zhi-xia bei hao-bu-liu-qing-de
Zhangsan in-public BEI ruthlessly
yan-ci-piping-le ta.
severely-criticize-ASP he

'Zhangsan was ruthlessly and severely criticized in public.'

Furthermore, with respect to using marginal examples as evidence, my point of view is that as long as the awkwardness of them can be explained, there is no reason to reject them as constituting a valid argument. The insight of the A-dependency approach to the *bei*-construction is that the post-verbal pronoun in the non-gapped passive is licensed on a par with that in the relative clause, the parallelism can be shown in two respects. On the one hand, both the non-gapped passive and the relative clause with an overt pronoun in place of the gap require an adverbial following the post-verbal pronoun. Consider the non-gapped passive (ii) and the relative clause (iv).

- (iv) ?Zhe jiushi [wo jiao-guo ta] ??(san nian) de] nage ren
this is I teach-ASP he *(three year) DE that person

On the other hand, the non-gapped passive exhibits the same sort of awkwardness as the relative clause containing a pronoun in place of the gap. Under the A-dependency approach, the awkwardness of the former follows from whatever account for that of the latter.

⁴ A reviewer notes that the gap created by A-movement in the *ba*-construction may be filled with a pronominal in Mandarin, as in (i).

- (i) Ni ba zhe jiahuo zai-le ta.
you BA this guy kill-ASP he

'Kill this guy.'

The grammaticality of such sentences, however, appears quite suspicious if we consider more examples in (ii).

- (ii) a. *Wo ba Zhangsan piping-le ta yidun
I BA Zhangsan criticize-ASP he once
'I criticized Zhangsan once.'

- b. *Wo ba Lisi da-le ta yixia.

I BA Lisi hit-ASP he once

'I hit Lisi once.'

I will thus continue to believe that there is no independent evidence that an A-trace may alternate with an overt pronominal in Mandarin Chinese. Furthermore, it hasn't been attested cross-linguistically that an NP-trace can alternate with an overt pronoun, in contrast to an A-trace. We may treat this fact as resulting from the interaction of some principles in UG. The actual mechanism, however, is not clear. As discussed in Ting (1995), neither the binding conditions nor Case theory offers an account. Under Baker et al.'s (1989) analysis, an English passive sentence has a bi-clausal structure, in which the passive morpheme *-en* is an argument sitting under INFL in the embedded clause taken by the auxiliary *be*. The pronoun in the complement position of the passive verb in this structure is free in its governing category, namely, the embedded clause, thus satisfying the binding condition B. Case theory, on the other hand, does not straightforwardly rule out the impossible occurrence of the pronoun either. Yafei Li (p.c.) points out that the pronoun at issue can be argued to receive Case through Case transfer. It is a mechanism assumed by Chomsky (1986b) for an argument in an expletive-argument pair to get Case. The expletive-argument pair is similar to an A-chain in that the initial member of the pair is in a Case position, and the final member of the pair

is in a theta-position. Both instances are labeled as CHAINS, in which Case is transferred from the head position to the terminal position. Given the mechanism of Case transfer, the pronoun at issue can receive Case transferred from the co-indexed NP in the nominative Case position because this co-indexed pair has the initial member in a Case position, and the final member in the theta-position, counting as a CHAIN in the sense of Chomsky (1986b). In brief, we have seen that neither binding theory nor Case theory accounts for the generalization stated in (iii). For the purpose of the argumentation pursued here, we will take (iii) at its face value. The explanation of it will be left for future studies.

- (iii) (In contrast to an A'-trace), an NP-trace does not alternate with an overt pronominal.

Another anonymous reviewer points out that Chinese may pose a problem for (iii), given the instances of subject-to-subject raising in (iv):

- (iv) a. Zhangsan keneng EC zhe ci bu qu.
Zhangsan probably this time not go
'Zhangsan probably will not go this time.'
b. Zhangsan₁ keneng zhe ci ta, bu qu.
Zhangsan probably this time he not go
'Zhangsan probably will not go this time.'

It is not clear to me that the sentence-initial NP *Zhangsan* in (ivb) is in the subject position. It is possible that the NP *Zhangsan* is in the topic position controlling a pro in the subject position. Unless there is evidence showing that the NP *Zhangsan* is a subject in (ivb), we don't want to say that Chinese is different from other languages with respect to the generalization in (iii).

⁵ The resumptive pronoun strategy is used as a last resort in English but not in Chinese (cf. Li and Thompson (1981)).

⁶ The location of the A'-operator, whose presence is to be argued for, is left unspecified for the moment, but it must be close enough to the subject preceding *bei* to get identified by it.

⁷ The A'-dependency analysis proposed here for the long passive is different from the previous ones. Under Feng's analysis, the non-gapped passive does not contain a null operator. Thus, it is forced to stipulate that only a gap or a pronoun co-indexed with the NP preceded by *bei* may occur in the complement position of the "passivized" verb. Under Chiu's (1993) and Ting's (1993) analysis, the empty category in the gapped long passive is an A'-bound pro rather than a variable. As argued by Ting (1995), their analyses fail to explain island effects exhibited in the *bei*-construction.

⁸ One anonymous reviewer has questions about using the facts of non-local passivization observed by Feng (1990) and Y. Li (1991a) in support of the A'-dependency analysis of the long passive. The reviewer first questions the validity of the structures assigned to the non-local passives, such as those in (8b), (21b), and (23b), saying that "the structure is adopted without any justification. This is not the only possibility and perhaps not the best representation . . ." In this connection, the reviewer points out six sentences which he/she claims "fit the general pattern of pivot construction" like the non-local passives discussed in this article but "are not likely to have the structure" posited in the text. The examples which are the most relevant to our discussion are quoted below:

- (i) Ta shouxia de jiubu bei hua gui bieren
he under-control DE old-subordinate BEI assign to others
zhihui.
command

'His old subordinates were assigned to be in the command of others.'

- (ii) Lian guniang de kunbao ye bei na dao hua-le ge
Lian young-lady DE purse also BEI take knife cut-ASP GE
kouzi.
hole

'Someone also cut a hole on Miss Lian's purse with a knife.'

- (iii) Chungcheng zhounyu bei Liu jiangjun ding ji buhuo.
Chungcheng finally BEI Liu general make strategy catch
'Chungcheng was finally caught by General Liu who made a strategy.'

Based on examples in (i) and (ii), the reviewer further claims that they pose problems for the proposal made in the text because these non-local passives do not have a lexical logical subject after *bei*.

Some clarification is necessary here. First, as mentioned in the text, the structure of sentences with an object control verb is adopted under the general assumption in the principles-and-parameters framework. What is crucial to our discussion is that they must be bi-clausal, and the embedded clause is a binding domain itself. This is supported by the binding facts:

- (iv) Zhangsan₁ pai wo piping ta_{1/2}
Zhangsan send I criticize he
'Zhangsan₁ sent me to criticize him_{1/2}.'

As shown in (iv), the object pronoun *ta* 'he' can refer to the subject NP *Zhangsan*, indicating that the former must be in a different binding domain from the latter; otherwise, the Binding Condition B would be violated. Whatever structure captures the bi-clausal nature of sentences of object control verbs will be fine with me. Furthermore, I did not claim that all serial verb constructions or pivotal constructions have a structure like that in (8b). The reviewer is correct that examples such as (i)-(iii) are not likely to have that structure. Consider (i) first. Note that it does not have an active counterpart. In this respect, it definitely behaves differently from the non-local passive containing an object control verb in (8a). It may involve a complex verb like those in the retained object construction. With respect to the other two examples, they both involve a configuration of the serial verb constructions and fit one of the descriptions given by Li and Thompson (1981), i.e., two or more separate events, the structures of serial verb constructions are controversial (see Y. Li (1991b) and references cited there) and I don't want to pursue the issue here. It is possible that V1 and V2 may form a verbal complex. In any case, it is not clear that these examples are real counterexamples to the analysis based on the non-local passives containing an object control verb.

⁹ One anonymous reviewer notes that the *wei*-passive in (i) allows *suo* in the absence of the lexical logical subject.

- (i) Ta bu wei suo dong, jixu gong-zhe shen wang qian
he not WEI SUO affect continue arch-ASP body toward front
shang.
up

'He was not affected and continue to move up with his body arched.'

This fact does not pose a problem for the proposed analysis that the *bei*-passive without a lexical logical subject does not license the presence of *suo*. *Bei*-passives, in contrast to *wei*-passives, do not co-occur with *suo* in the absence of the lexical subject in modern Chinese. Another anonymous reviewer, however, points out that there are such instances in classical Chinese as in San Guo Yan Yi, exemplified in (ii).

- (ii) bi bei suo qin
definitely BEI SUO arrest
'definitely be arrested'
- ¹⁰ One reviewer wonders about the judgment for (i) and (ii):
- (i) suo bei pian de xuesheng
SUO BEI cheat DE student
'the student that was cheated'
- (ii) tamen suo bei pian de qian
they SUO BEI cheat DE money
'the money that was cheated out the them'

They are both acceptable for me, with the first one slightly worse. *Suo* in (ii) is licensed by the relative operator which originates from the retained object position. As for the occurrence of *suo* in (i), I have no answer.

¹¹ A reviewer points out that the ill-formedness of *suo* occurring in the non-local passives, illustrated in (i), is unexpected under the proposed analysis.

- (i) *Zhangsan bei Lisi mingling Wangwu suo piping.
Zhangsan BEI Lisi order Wangwu SUO criticize
'Zhangsan was affected by Lisi's ordering Wangwu to criticize.'

It may be out for some other reason, however, given that we can find examples greatly improved in the same configuration as in (ii).

- (ii) Zhangsan de caichan yijing bei Lisi mingling Wangwu suo
Zhangsan DE property already BEI Lisi order Wangwu SUO
qin/zhan.
embezzle

'Zhangsan's property was affected by Lisi's ordering Wangwu to embezzle.'

¹² Despite the plausibility of this observation, the technical details of his account need to be reconsidered. Under his analysis, the tensedness effect in the *tough*-construction is translated to the contrast between CP as a barrier in (29c) and IP as not a barrier in (29b). Given the stipulation that a null operator does not serve as an antecedent governor, the trace left behind can be properly governed in (29b) but not in (29c). The CP/IP contrast, however, does not seem to capture the intrinsic difference between the finite and non-finite clauses in the paradigm in (29). Consider a *tough*-sentence with the gap contained in the complement clause of an object control verb in (i).

- (i) This car, is easy [Op_i] PRO to ask Betsy_i [_{IP} PRO_i to fix [e]_i]]

Unlike the IP complement clause of the verb *believe*, the infinitive complement clause of *ask* is a CP, but the sentence is grammatical. Thus, it seems that the finite/non-finite contrast in well-formedness of the *tough*-construction should be handled by other means.

¹³ While Huang (1982) claims that infinitive clauses do not contain auxiliaries as well as aspect markers, A. Li (1985, 1990) and Tang (1990) show that it is incorrect:

- (i) Wo qing-guo Zhangsan chi-le fan le.
I invite-ASP Zhangsan eat-ASP rice ASP
'I invited Zhangsan to eat.'

- (ii) Wo bi ta dei jie yan.
I force he must stop smoke
'I forced him to have to stop smoking.'

Thus, the presence of the aspect marker *-le* in the clause cannot be used as evidence against it being an infinitive clause.

Jim Huang (p.c.) points out that although *-le* is phonologically attached to the lower predicate in the infinitive clause, its semantic scope reaches the entire matrix predicate. Thus, negation of (i) is (iii).

- (iii) Wo mei qing-guo Zhangsan chi fan.
I not invite-ASP Zhangsan eat rice
'I haven't invited Zhangsan to eat.'

Note that negation of a *bei*-sentence parallels negation of clauses with a complement infinitive clause. Thus, negation of (iv) is (v) rather than (vi). This further supports the analysis of the complement clause in the long passive as an infinitive.

- (iv) Zhangsan bei Lisi piping-le yidun.
Zhangsan BEI Lisi criticize-ASP once
'Zhangsan was criticized by Lisi.'

- (v) Zhangsan mei bei Lisi piping yidun.
Zhangsan not BEI Lisi criticize once
'Zhangsan was not criticized by Lisi.'

- (vi) *Zhangsan bei Lisi mei piping yidun.
Zhangsan BEI Lisi not criticize once
'Zhangsan was not criticized by Lisi.'

¹⁴ If both the long passive and relative clauses in Mandarin Chinese involve null operator movement, why does the tensedness effect discussed in the text arise only in the former but not in the latter? There is evidence suggesting that this contrast is due to the different nature of the null operator involved in these constructions: while the null operator in the Mandarin long passive behaves on a par with the one in *tough*-constructions in English, the one in relative clauses is on a par with the *wh*-operator in *wh*-questions in English. As observed by Lasnik and Stowell (1991), both relative clauses and *wh*-questions in English show weak crossover effects, but the *tough*-construction does not. This contrast indicates that the null operator in relative clauses behaves like the *wh*-operator in English *wh*-questions but not like the null operator in *tough*-constructions. Under their analysis, this is because the null operator in the *tough*-construction is a [-wh] quantifier whereas the operator in the relative clauses and the *wh*-questions in English are [+wh] quantifiers, which have real quantificational force.

¹⁵ Li et al. (1980) argues that *bei* is a preposition in the long passive but becomes a (helping) particle in the short passive. This analysis is followed and modified by Shi (1997).

¹⁶ This argument however, cannot be used against treating *bei* like *-en* in the *bei*-V sequence such as *bei-bu* 'BEI-arrest'. This type of *bei*-V string is argued to be formed in the lexicon and cannot be separated by adverbial elements, to be shown in section 4.2. To give a unified treatment of the categorial status of *bei*, I will assume that it is a verb, rather than a passive affix, in this type of short passive.

¹⁷ Under the proposed analysis, the post-verbal pronoun *ta* 'he' in the *bei*-passives is bound by a null operator. As a pronoun, it is subject to the Binding Condition B. On the other hand, since it is bound by an operator, its interpretation is a variable. See Demirdache (1991) and the references cited there for discussion.

¹⁸ If *bei* is analyzed as a verb rather than a preposition, then the attachment of the bound verbal morpheme to *bei* in the lexical passive also follows naturally since compounds in Mandarin Chinese can be formed by V-V but not P-V.

¹⁹ It is not clear why *bei* has such selectional properties, which result in the different syntactic behavior in the long and the short passives. This may not be a serious problem, however.

given that there are verbs such as *seem*, which also have more than one subcategorized frame. *Seem* takes either an infinitive clause containing a lexical subject or a tensed clause as complement. There does not seem to be a satisfactory explanation as to why the infinitive complement clause cannot be one containing a PRO subject.

²⁰ The analysis of *bei* taking a VP in the short passive might raise a question; that is, it is not clear why a PP cannot adjoin to this complement VP, given the ill-formedness of (i).

- (i) a. *Zhangsan bei zai gongsi li piping-le.
Zhangsan BEI at company inside criticized-ASP
'Zhangsan was criticized in the company.'

- b. *Yianshi bei zai kongqi zhong qingshi-le.
rock BEI at air middle erode-ASP
'Rocks were eroded in the air.'

The ill-formedness of sentences in (i) might not be due to syntactic factors. The ill-formedness of (i) is lessened if an adverb separates *bei* and the PPs, as illustrated in (ii).

- (ii) a. ?Zhangsan bei mimi zai gongsi li piping-le.
Zhangsan BEI secretly at company inside criticized-ASP
'Zhangsan was secretly criticized in the company.'

- b. ?Yianshi bei manmande zai kongqi zhong qingshi-le.
rock BEI slowly at air middle erode-ASP
'Rocks were slowly eroded in the air.'

A PF proposed by Ting (1995) to account for this fact is given in (iii), which states that the *bei*-PP sequence is ill-formed when the PP is headed by *zai*.

- (iii) * [bei PP] where PP is headed by *zai*.

The plausibility of a PF filter like (iii) can be supported by the fact that there are certain prepositions that can go with *bei*, illustrated by (18c) and (iv).

- (iv) Neixie fulu bei yi yizhong cankude fangshi lingnue-zhe.
those POW BEI with one cruel way torture-ASP
'Those POW's were being cruelly tortured.'

²¹ Thanks to one of the anonymous reviewers for pointing this out to me.

²² An anonymous reviewer points out that replacing the verb *ai* with *tengai* 'love, pamper' in the example (48) produces a grammatical sentence, thus suggesting that it may not be the stative status of verbs in the *bei*-construction that is at issue. According to Li and Thompson (1981), verbs that are found with *bei* signal disposal, shown by the ill-formedness of the following examples.

- (i) *Lisi bei ta hen-le.
Lisi BEI he hate-ASP
'Lisi was hated by him.'

- (ii) *Ta bei wo taoyan-le.
he BEI I be-sick-of-ASP
'I was sick of him.'

If the parallelism between the short passives of the *bei* sentences in Mandarin Chinese and the *get*-passives in English discussed in the text is on the right track, it may be the case that the ill-formedness of the *get*-passive in (48b) also has to do with the notion "disposal."

²³ Thanks to Yafei Li, Ting-Chi Tang, and an anonymous reviewer for pointing this out to me.

²⁴ The embedded empty subject in the short passive in the configuration (50) is not bound by the matrix subject. Its reference is arbitrary or determined by pragmatic considerations (cf. the generalized control rule given in note 30 (ii)). This property of empty subjects is illustrated in the following examples taken from Huang (1989).

- (i) It is unclear what PRO to do.

- (ii) [PRO xiyan] you hai.
smoke have harm
Smoking is harmful.

²⁵ One might wonder whether the A-movement analysis of the short passive in Mandarin can handle the so-called "retained object" construction in (i) because the NP *yitiao tui* 'one leg' gets Case from the verb *da-duan* 'break'.

- (i) Neizhang zhuozhi bei da-duan-le yitiao tui.
that table BEI hit-break-ASP one leg
'One of the table's leg was broken.'

This type of sentence, however, may not be a problem for the A-movement analysis of the *bei*-construction if we adopt Thompson's (1973) analysis of the "retained object" construction. That is, the retained object is an "inner object" and gets Case from the preceding verb. The "inner object" and the verb it gets Case from, in turn form a complex verb to assign Case to an "outer object". Thus, under this analysis, A-movement can still be motivated when this complex verb does not assign Case.

²⁶ The embedded infinitive IP in the long passive does not appear to license an IP-level adverbial such as *zuotian* 'yesterday', thus casting doubt on the proposed analysis, as pointed out by a reviewer:

- (i) *Zhangsan bei [Lisi zuotian piping-le yidun]
Zhangsan BEI Lisi yesterday criticize-ASP once
'Zhangsan was criticized by Lisi once yesterday.'

The ill-formedness of (i) may not pose a problem for our analysis, however. It may be greatly improved if we add some other element in the embedded clause, such as location adverbials and manner adverbs, illustrated in (ii).

- (ii) Zhangsan bei [Lisi zuotian zai bangongshi henhende piping-le
Zhangsan BEI Lisi yesterday at office severely criticize-ASP
yidun]
once
'Zhangsan was severely criticized by Lisi once in the office yesterday.'

The acceptability of (ii) shows that the embedded clause in the long passive indeed licenses an IP-level adverbial. Example (i) is probably out for some different reason.

²⁷ As for why the null operator does not block the accusative Case assignment of the infinitive subject NP, my speculation is that the adjacency condition does not apply when the intervening element is non-overt. As pointed out by Yoshi Kitagawa (p.c.), this is actually consistent with Baker's (1988) suggestion that abstract Case relations must be expressed at PF.

²⁸ For speakers who accept the non-gapped passives with a resumptive pronoun *ta* 'he', the grammaticality contrast is clear if *ta* is changed to *ziji* 'self'.

²⁹ The examples in (56a, b) should not be ruled out by the claim that the intended meaning

cannot be expressed by passive sentences since the Japanese passive counterparts of them in (i) are well-formed (see Kitagawa and Kuroda (1992)).

- (i) a. Yamadasan-ga huryo-ni Takasi-o nagur-are-ta.
Yamadasan-nom hoodlum-by Takasi-acc hit-PASS-PAST

'Yamada was affected by the hoodlum's hitting Takasi.'

- b. Yamadasan-ga akanboo-ni nak-are-ta.
Yamadasan-nom baby-by cry-PASS-PAST

'Yamadasa was affected by the baby's crying.'

³⁰ Given the structures of the long passive in (51a, b), however, it is not immediately clear why the embedded subject cannot be an empty pronoun as in (ia, b).

- (i) a. [Zhangsan_i bei [_{IP} Op_i [_{IP} pro piping-le t₁]]]

Zhangsan BEI criticize-ASP

'Zhangsan was criticized by someone.'

- b. [Zhangsan_i bei [_{IP} Op_i [_{IP} pro piping-le ta₁ yidun]]]

Zhangsan BEI criticize-ASP he once

'Zhangsan was criticized once by someone.'

If the embedded subject can be an empty pronoun, then the output of this structure would be a short passive. This means that the long passive and the short passive can both involve a null operator, and we would lose our account of the contrasts of these two types of passive. Thus it must be the case that structures like (i) are not possible. I assume that they are ruled out independently as follows. If the embedded subject is a pro, then it would cause a clash between the Binding Condition B and the generalized control rule, as formulated by Huang (1990, ch. 5, p. 45) in (ii). (For a somewhat different formulation of the rule, see Huang (1989, p. 193).)

- (ii) The Generalized Control Rule (GCR)

An empty pronominal (PRO or pro) is co-indexed with the closest potential antecedent. (Otherwise, an empty pronominal is assigned the index *arb* for arbitrary reference.)

By the generalized control rule, the empty subject must be co-indexed with the matrix subject. By the Binding Condition B, on the other hand, it must not be bound in its governing category. The governing category is the matrix clause, which contains its governor, namely *bei* and an accessible subject (Chomsky (1986b)). Given that the empty subject cannot be subject to the generalized control rule and the Binding Condition B at the same time, the structure is ungrammatical (cf. Huang (1984)).

³¹ The proposed analysis still has not explained why the logical object pronominal in the *bei*-sentence needs to be followed by some constituent, illustrated by the contrast in (i). I will leave it for future studies.

- (i) a. *Zhangsan bei wo piping-le ta.
Zhangsan BEI I criticize-ASP he

'Zhangsan was criticized by me.'

- b. ?Zhangsan bei wo piping-le ta yidun.

Zhangsan BEI I criticize-ASP he once

'Zhangsan was criticized by me once.'

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Received: February 19, 1997

Revised: February 12, 1998

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