ON THE CLAUSAL COMPLEMENT OF THE MANDARIN PASSIVE

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1. Introduction

This paper addresses the question: what licenses the complement of a Mandarin passive construction?   Look at the following example:[1]

(1)   Zhangsan   bei   Lisi da   le.
        Zhangsan   PASS   Lisi hit   ASP
        'Zhangsan was hit by Lisi.'

The Mandarin passive construction is characterized by the presence of the passive morpheme *bei*, glossed as PASS in (1), and/or a gap in the predicate.   A gap occurs in (1), namely the object of the verb *da* 'hit', but Mandarin also permits passive sentences without a gap, such as (2) and (3).

(2)   Zhangsan   bei   Lisi tou-zou-le   qien.
        Zhangsan   PASS   Lisi steal-away-ASP   money
        'Zhansgan had Lisi steal [his] money.'

(3)   Hanguo-dui bei   Riben-dui da-chu   yizhi   chuanleida.
        Korean-team PASS   Japan-team hit-out   one   homerun
        'The Korean team had the Japanese team hit a homerun.'

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[1] Huang (1999) makes a distinction between the "long passives" and the "short passives" in Mandarin. Long passives are like (1). Short passives are sentences where the complement of *bei* doesn't have an overt subject, such as (i):

(i)   Zhangsan   bei   da   le.
        Zhangsan   PASS   hit   ASP
        'Zhangsan was hit.'

This paper is concerned with the long passives only. We will not discuss questions pertaining to the short passives.

Huang (1999) argues that the element *bei* is a verb, and that *bei* takes a clause (IP) as its complement (also see Ting (1998) and Tang (2001) for relevant discussions). This analysis nicely accounts for Mandarin passive sentences such as (2) and (3) (also see Hashimoto (1987)). As for sentences like (1), Huang argues that A'-movement is involved. The embedded object in (1) is an empty operator Op, which adjoins to the IP complement of *bei*. The gap in the embedded predicate is the trace left by Op.

Though Huang's (1999) analysis successfully accounts for the grammatical properties of Mandarin passive construction, an important question is left unstated: why is it that sometimes *bei* can take a full clause as complement, but sometimes it can't? This is a question because not every kind of IP may occur as the complement of *bei*. Look at (4), which resembles (1) except that the object of the embedded IP is a proper name instead of a gap.[2]

(4)   *Zhangsan bei   Lisi da-le   Wangwu.
         Zhangsan PASS   Lisi hit-ASP   Wangwu
         '(Intended) Zhangsan had Lisi hit Wangwu.'

The ungrammaticality of (4) seems paradoxical: on the one hand, we have sentences like (3), in which *bei* takes a full clause as complement; on the other hand, (4) is very clearly deviant, in spite of the fact that in this sentence *bei* also takes a full clause as complement. What is wrong with (4)? What makes (4) and (3) different? This is the question that we are going to explore in this paper.

2.   Indefinites in the complement of *bei*-sentences

Huang (1999) argues that Mandarin passive sentences like (1), repeated below as (5), involves A' –movement of an empty operator Op to the embedded IP. The analysis of (5) is given in (6).

(5)   Zhangsan   bei   Lisi da   le.
         Zhangsan   PASS   Lisi hit   ASP
         'Zhangsan was hit by Lisi.'

(6)   [IP Zhangsan bei [IP Op$_i$ [IP Lisi da t_i]]]

An intriguing contrast observed by Huang (1999) is directly relevant to our question. Huang notes that the trace of the moved Op cannot be replaced by a resumptive pronoun, as the ungrammaticality of (7) indicates. However, if a measure phrase is inserted into the embedded IP of (7), such as the frequency phrase *yi-xia* 'one time' in (8), the sentence becomes grammatical.

(7)   *Zhangsan$_i$ bei   Lisi da-le   ta$_i$.
          Zhangsan PASS   Lisi hit-ASP   him
          '(Intended) Zhangsan had Lisi hit him.'

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[2] The syntactic positions of the aspect morpheme *le* in these two sentences may also be different. We ignore this difference.

(8)   Zhangsan$_i$ bei   Lisi da-le   ta$_i$ yi-xia.
        Zhangsan PASS   Lisi hit-ASP   him   one-time
        'Zhangsan had Lisi hit him once.'

Huang (1999) attributes the contrast between (7) and (8) to the general constraints on the occurrence of the resumptive pronoun in Mandarin. He points out that the same contrast is seen in relativization as well:

(9)   [Zhangsan da t_i] de   nage   ren$_i$
          Zhangsan hit   MOD   that   person
        'The person that Zhangsan hit'

(10)   *[Zhangsan   da ta$_i$]   de   nage   ren$_i$
          Zhangsan hit him   MOD   that   person
        '(Intended) The person that Zhangsan hit him'

(11)   [Zhangsan da   ta$_i$ yi-xia] de   nage   ren$_i$
          Zhangsan hit him   one-time MOD   that   person
        'The person such that Zhangsan hit him once'

Just like (8), the occurrence of the frequency phrase *yi-xia* 'one time' in (11) makes the resumptive pronoun *ta* acceptable.

        This account doesn't seem entirely correct, however. The reason is that, if we replaced the resumptive pronoun by a proper name, the sentence is still grammatical. Consider the ungrammatical sentence in (4), which is repeated below as (12). If we insert a measure phrase into (12) just like (8), the sentence turns grammatical, as in (13). Therefore, the grammaticality of (8) cannot be attributed to the constraints on the resumptive pronoun in Mandarin.

(12)   *Zhangsan bei   Lisi da-le   Wangwu.
          Zhangsan PASS   Lisi hit-ASP   Wangwu
        '(Intended) Zhangsan had Lisi hit Wangwu.'

(13)   Zhangsan bei   Lisi da-le   Wangwu yi-xia.
        Zhangsan PASS   Lisi hit-ASP   Wangwu one-time
        'Zhangsan had Lisi hit Wangwu once.'

The contrast between (12) and (13), as well as that between (7) and (8), provides a clue to the question that we are asking: what licenses the full-clausal complement of the Mandarin passive construction? This question can be recast in the following way: what kind of clausal complement does *bei* take? Comparing (12) and (13), it is clear that the occurrence of an *indefinite expression*, namely *yi-xia* 'one time', in (13) that makes the sentence grammatical. This finding is all the more interesting when we examine those sentences in which *bei* takes a gap-less full clause, which typically contain an indefinite expression in the embedded predicate.

(14)   Hanguo-dui   bei   Riben-dui da-chu <u>yizhi   chuanleida</u>. (= (3))
       Korean-team PASS   Japan-team hit-out one   homerun
       'The Korean team had the Japanese team hit a homerun.'

(15)   Zhangsan   bei   Lisi da-shang-le   <u>liang-ge   ren</u>.
       Zhangsan   PASS   Lisi hit-wound-ASP two   person
       'Zhangsan had Lisi hit and wound two persons.'

Notice that these sentences cannot be interpreted as instances of the "retained object" construction on a par with (2). (2) is a typical case of the "retained object" passive: the embedded object *qian* 'money' is understood as belonging to the subject *Zhangsan*. In Huang's (1999) analysis, (2) involves A'-movement of Op which controls a Pro in the specifier of the "retained object" DP (cf. (119), Huang (1999): 486):

(16)   [$_{IP}$ Zhangsan bei [$_{IP}$ Op$_i$ [$_{IP}$ Lisi [$_{VP}$ t_i [$_{V'}$ tou-zou-le [$_{DP}$ Pro$_i$ [$_{NP}$
        Zhangsan PASS   Lisi   steal-away-ASP
       qien]]]]]]]
       money

However, in (14) and (15), the embedded object cannot be said to "belong" to the matrix subject *Zhangsan*, since human beings are not belongings. Thus (14)-(15) and sentences of the like are genuine examples of *bei* sentences with a full clause where there in no syntactic movement involved.

3.   Binding of weak NP

Indefinites are weak NPs in Milsark's (1974) sense. Weak NPs include numerals and other quantificational elements, such as *henduo* 'many' and *yixie* 'some'. Thus we predict that *henduo* 'many' and *yixie* 'some' may license a gap-less clausal complement to *bei*. This prediction is borne out.[3]

(17)   Zhangsan   bei   Lisi da-shang-le   <u>henduo   ren</u>.
       Zhangsan   PASS   Lisi hit-wound-ASP many   person
       'Zhangsan had Lisi hit and wound many people.'

(18)   Zhangsan   bei   Lisi da-shang-le   <u>yixie   ren</u>.
       Zhangsan   PASS   Lisi hit-wound-ASP some   person

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[3] Cheng (1991) argues that bare NPs in Mandarin behave on a par with indefinites. Thus we predict that bare NPs may license the clausal complement of *bei*. This is indeed the case, as the following sentence shows.
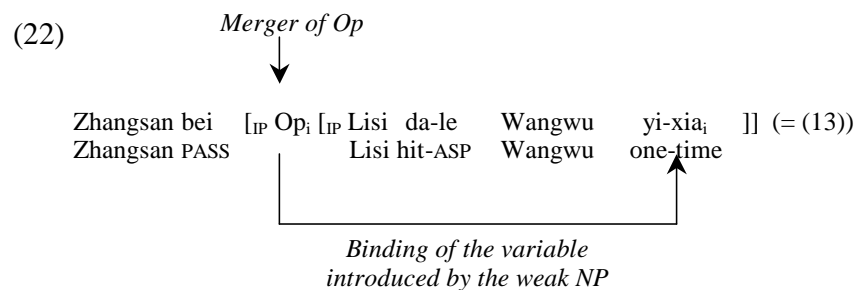
(i)   Zhangsan   bei Lisi   da-shang   ren   le.
      Zhangsan   PASS Lisi   hit-wound   person   ASP
      'Zhangsan had Lisi hit and wound people.'

'Zhangsan had Lisi hit and wound some people.'

We also predict that strong NPs cannot license a gap-less clausal complement of *bei*. This prediction, once again, is borne out.

(19)   *Zhangsan bei   Lisi da-shang-le   <u>meiyige   ren</u>.
           Zhangsan PASS   Lisi hit-wound-ASP every   person
         '(Intended) Zhangsan had Lisi hit and wound every person.'

(20)   *Zhangsan bei Lisi da-shang-le   <u>daduoshu-de   ren</u>.
           Zhangsan PASS Lisi hit-wound-ASP   most   person
         '(Intended) Zhangsan had Lisi hit and wound most people.'

(21)   *Zhangsan bei   Lisi da-shang-le   <u>nage ren</u>.
           Zhangsan PASS   Lisi hit-wound-ASP that person
         '(Intended) Zhangsan had Lisi hit and wound that person.'

What is special about weak NPs? Diesing (1992) argues that weak NPs may introduce a variable.[4] It thus appears that a variable licenses the clausal complement of *bei*. In sentences like (1), a variable is created by the A'-movement of the operator Op. In view of the grammaticality of sentences like (13), (14), (15), (17), and (18), we propose that in addition to A'-movement, Mandarin permits the option to merge the operator Op directly at the embedded IP, which then binds the variable introduced by the weak NP in the embedded predicate. The following diagram illustrate the points:

(22)   *Merger of Op*
                              ↓

       Zhangsan bei   [$_{IP}$ Op$_i$ [$_{IP}$ Lisi da-le   Wangwu   yi-xia$_i$]] (= (13))
       Zhangsan PASS   Lisi hit-ASP   Wangwu   one-time

                    Binding of the variable
                    introduced by the weak NP

If the above analysis is correct, what licenses the complement of the Mandarin passive construction is an operator-variable binding structure. There are two ways to achieve this: an embedded argument, in the form of an empty operator Op, may undergo A'-movement to the embedded IP and bind the trace it leave;

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[4] In Diesing's (1992) theory, a weak NP is ambiguous: it can be a full-fledged quantificational element with its own quantificational force, or a variable to be closed off by an independent quantifier. Since Mandarin doesn't seem to perform Quantifier Raising (QR) (Huang 1982), the first possibility can be excluded. Thus weak NPs in Mandarin, we assume, invariably introduce variables. Also see Cheng (1991).

or, if the embedded predicate contains a weak NP, Op may be merged directly to the embedded IP and bind the variable introduced by the weak NP.

Something needs to be said about the semantics of the Op directly merged to the embedded IP. Look at the following example, which involves A'-movement of Op.

(23)   [$_{IP}$ Zhangsan   bei   [$_{IP}$ Op$_i$ [$_{IP}$ Lisi   da t_i]]]
        Zhangsan   PASS   Lisi   hit
        'Zhangsan was hit by Lisi.'

In (23) Op is co-indexed with the matrix subject *Zhangsan*; thus Op is co-referential with the matrix subject *Zhangsan*. Huang (1999) suggests that Op serves to lambda-abstract the embedded IP and turns it into a property. So, presuming that *bei* has a meaning similar to 'suffer', (23) can be recast as (24), in which the variable *x* is saturated by the matrix subject *Zhangsan*.

(24)   Zhangsan$_x$ suffers [λx. Lisi hit x]

However, if Op has the option to get merged directly to the embedded IP, there will be no co-indexing, since, for example, the Op in (25) is identified with the embedded frequency phrase via binding, and therefore cannot be identified with the matrix subject.

(25)   [$_{IP}$ Zhangsan   bei   [$_{IP}$ Op$_i$ [$_{IP}$ Lisi da-le   Wangwu yi-xia$_i$]]]
        Zhangsan   PASS   Lisi   hit-asp Wangwu one-time
        'Zhangsan had Lisi hit Wangwu once.'

But this will not pose any problem for the semantics of sentences like (25). Once again, the Op in (25) serves to lambda-abstract the embedded IP and turns it into a property. Then we get (26):

(26)   Zhangsan suffers [λy. Lisi hit Wangwu (once = y)]

(26) has the interpretation that Zhangsan suffers the property bearing on a particular happening (namely *yi-xia* 'one time') of an action, namely Lisi's hitting Wangwu. The embedded IP is still a property, only that the property doesn't bear on Zhangsan directly. Similarly, (27) has the interpretation given in (28).

(27)   [$_{IP}$ Zhangsan bei   [$_{IP}$ Op$_i$ [$_{IP}$ Lisi da-shang-le   henduo ren   ]]]
        Zhangsan PASS   Lisi hit-wound-ASP many   people
        'Zhangsan had Lisi hit and wound many people.'

(28)   Zhangsan suffers [λy. Lisi hit (many people = y)]

(28) can be glossed as 'Zhangsan suffers a property bearing on many people such that they were hit and wounded by Lisi.' What is important here is the property-status of the embedded IP; it doesn't matter if Op is co-indexed with the matrix subject or not.

4. Some residual problems

The analysis presented in this paper crucially depends on the binding of a weak NP by the Op that directly merged to the embedded IP. But there seems to be counterexamples to this hypothesis. For example, quantificational expressions such *as more than two third* is a strong NP, but its Mandarin correspondent may occur in the complement of the *bei*-construction:

(29)   Zhangsan   bei   Lisi da-shang-le   <u>san-fen-zhi-er yishang de</u>.
         Zhangsan   PASS Lisi hit-wound-ASP two-third   above   MOD
         <u>ren</u>
         person
         'Zhangsan had Lisi hit and wound more than two third of the people.'

If *san-fen-zhi-er yishang de ren* 'more than two third of the people' is a strong NP in Mandarin, then the grammaticality of (29) amounts to a counterexample to the analysis advocated in this paper, since a strong NP is itself quantificational (Diesing 1992), and therefore cannot be bound by an independent binder.
       We believe that (29) is not a real counterexample. It is the case because *san-fen-zhi-er yishang de ren* 'more than two third of the people' (and the like) may occur in the existential construction headed by the existential verb *you* 'have':

(30)   You   san-fen-zhi-er   yishang   de   ren   yao   hui   jia.
         have   two-third   above   MOD person want   retur   home
         '(Intended) There are more than two third of the people who want to go home.'

Suppose that *you* 'have' introduces an existential operator. In (30) *san-fen-zhi-er yishang de ren* 'more than two third of the people' is bound by this existential operator. This indicates that *san-fen-zhi-er yishang de ren* 'more than two third of the people' is not a strong NP, but a weak NP.
       Consider another quantificational expression, *hen shao* 'very few'. One may think of this quantification expression as a weak NP; however, it cannot occur in the complement of the *bei*-construction:

(31)   ?*Zhangsan bei   Lisi   da-shang-le   <u>hen   shao ren</u>.
         Zhangsan PASS   Lisi   hit-wound-ASP very few person
         '(Intended) Zhangsan had Lisi hit and wound very few people.'

Once again, we use the *you* 'have' construction as a test. We find that *hen shao* 'very few' in fact isn't very compatible with the existential construction headed by *you* 'have':

(32)   *You hen   shao ren   yao   hui   jia.
         have very   few person   want   return   home
         '[Intended] Very few people want to go home.'

Thus *hen shao* 'very few' doesn't yield a weak NP. The deviation of (31), therefore, doesn't pose a problem to the analysis advocated in this paper.

There is a different kind of sentences that may seem to be counterexamples to our analysis. Look the following examples:

(33)　　Zhangsan　bei　　　fanren　　taozou　　le.
　　　　Zhangsan　PASS　　prisoner　escape　　ASP
　　　　'Zhangsan had the prisoners escape.'

(34)　　Zhangsan　bei　　　Lisi mai-zou　naxie　　shu.
　　　　Zhangsan　PASS　　Lisi buy-away those　　book
　　　　'Zhangsan had Lisi buy those books away.'

These two sentences do not involve any A'-movement; what is more, there is no weak NP in their embedded predicates. How are these passive sentences licensed?

We suggest that these sentences involve binding of an event argument, with the condition that the event must be clearly adversative. Notice that if we do a slight change to (33) and (34), we will have sentences with completely different grammatical status:

(35)　　*Zhangsan　bei　　　fanren　　hui　　　jia　　　le.
　　　　　Zhangsan　PASS　　prisoner　return　home　　ASP
　　　　'Zhangsan had the prisoners go home.'

(36)　　*Zhangsan　bei　　　Lisi mai　　naxie　　shu.
　　　　　Zhangsan　PASS　　Lisi buy　　those　　book
　　　　'Zhangsan had Lisi buy those books.'

We replace the embedded predicate *taozou* 'escape' in (33) with *hui jia* 'go home', and the sentence ((35)) turns very bad; also, we take the particle *zou* 'away' from the compound *mai-zou* 'buy-away' in (34), and the sentence ((36)) becomes unacceptable. The reason for this change is that *taozou* 'escape' and *mai-zou* 'buy [something and take it] away' have a clear sense of adversity against the interests of the matrix subject (*Zhangsan*), and, as a consequence, if we change these two predicates into ones devoid of such adversity, the sentences are no more acceptable.[5] For a comparison, look at (4) again, repeated below as (37):

(37)　　*Zhangsan　bei　　　Lisi da-le　　　Wangwu.
　　　　　Zhangsan　PASS　　Lisi hit-ASP　　Wangwu
　　　　'(Intended) Zhangsan had Lisi hit Wangwu.'

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[5] This doesn't mean that adversity isn't important in the case of Op binding a weak NP. The *bei* passive in Mandarin Chinese is well known for the sense of adversity it carries (see Li and Thompson 1981 for example), and the passive sentences with Op binding a weak NP are no exception. What we mean here is that for the binding of event argument to be acceptable, the event must be very clearly adversative. This may involve lexical semantics of the words used and world knowledge shared by the speaker and the hearer(s). Since the sense of adversity is hard to characterized in formal ways, we will not go into the relevant questions.

This sentence is unacceptable (to most Mandarin speakers) because the event of Zhangsan's hitting Lisi doesn't clearly carry a sense of adversity against the interests of the matrix subject Zhangsan. Admittedly, sometimes the distinction is not very clear; for instance, if we have a background knowledge which indicates that Wangwu is of special interests to Zhangsan, then Wangwu's being hit by Lisi may be an adversative event to Zhangsan – in this case (37) may sound acceptable to some native speakers of Mandarin Chinese.

We will not be able to clarify all the related semantic questions, since they involve very subtle judgments based on lexical semantics and world knowledge. What is important for our purposes is the grammatical mechanism in which the Mandarin passive construction receives a legitimate interpretation. As we suggest, sentences like (33) and (34) involve binding of an event argument. (34), for example, has the structure in (38) and interpretation in (39).

(38)　　Zhangsan　bei　　$[_{IP}$ Op$_i$ $[_{IP}$Lisi　mai-zou(e_i) naxie　　shu]
　　　　Zhangsan　PASS　　　　　 Lisi　buy-away　those　　book
　　　　'Zhangsan had Lisi buy those books away.'

(39)　　Zhangsan suffers $[\lambda e.\ e =$ (Lisi bought those books away)]
　　　　= 'Zhangsan suffers the property of an event, which is Lisi's buying
　　　　　　those books away'

5.　Concluding remarks

If the analysis presented in this paper is correct, we have two syntactic mechanisms that yield three binding patterns for the Mandarin passive construction. First, an embedded argument may move to the embedded IP in the form of Op by which an operator-variable binding structure is created. Second, Op may be merged directly to the embedded IP and bind the variable introduced by a weak NP. Third, Op may be merged directly to the embedded IP and bind an event argument, provided that the event is clearly adversative to the interests of the matrix subject. These three binding patterns are employed in different contexts constrained by grammatical and semantic/pragmatic principles. For example, in a sentence like (1), where there is a gap in the embedded IP, the Op at the embedded IP must result from A'-movement, but not direct merger. It must be the case because, if Op is directly merged to the embedded IP, the gap in the embedded predicate will receive no interpretation. Of course, sometimes the constraining factors are semantic/pragmatic in nature and therefore are hard to characterize. This is particularly true with respect to the "adversity" considerations. However, the three binding patterns for the Mandarin passives seem to be empirically justified, as the arguments presented in this paper shows.

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