

# A unified analysis of Mandarin long and short *bei*-passives<sup>1</sup>

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## 1 Introduction

Many scholars, such as Feng (1997/2012), Huang (1999; 2013), Huang et al. (2009), Lin (2009; 2015), Liu (2012; 2016), Liu and Huang (2013; 2016), Tang (2001) and Ting (1993; 1998) have assumed that long and short *bei*-passives in Mandarin have distinct syntactic structures. For them, one crucial distinction is that while short *bei*-passives involve A-movement of PRO, long *bei*-passives involve A'-movement of a null operator (NOP) (see section 2 for more details). In this paper, I expand upon Her's (2009) original proposal arguing that both long and short passives involve A'-movement and thus should have a unified account<sup>2</sup> and I present new evidence showing that in both passives, the complement to *bei* must at least be as large as Asp, contra Bruening and Tran's (2015) suggestion that it can only be as large as (passive) Voice (Kratzer 1996). My account requires that both constructions have Voice<sub>Pass</sub>, also contra Bruening and Tran (2015), which accounts for a range of novel data: both long and short *bei*-passives can license a unique class of verbal compounds that are also grammatical in the *gei* ('give'), *jiao* ('ask') and *rang* ('allow') passives, and in passives embedded in *ba*-constructions, but importantly are ungrammatical in active constructions, which have Voice<sub>Act</sub>.

### 1.1 The proposed structures of long and short *bei*-passives

Broadly speaking, while a short *bei*-passive does not have an overt initiator argument, a long passive does. Example (1) is a short *bei*-passive, and my proposed syntactic structure is shown in (2); (3) is a long *bei*-passive, and its structure is (4)<sup>3</sup>:

- |                          |                  |                                 |
|--------------------------|------------------|---------------------------------|
| (1) zhangsan             | bei              | sheng-zhi-le                    |
| Zhangsan                 | BEI <sup>4</sup> | raise-position-ASP <sup>5</sup> |
| 'Zhangsan was promoted.' |                  |                                 |

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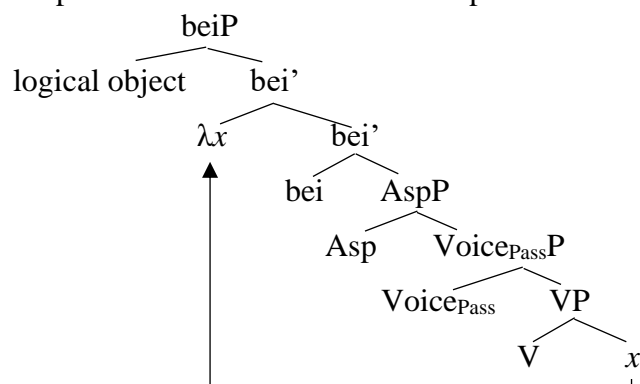
<sup>2</sup> Her (2009) provides strong empirical evidence to show that the two passives are amenable to a unified account, proposing a formal analysis in a Lexical Functional Grammar framework. I also draw from Her's evidence in this paper.

<sup>3</sup> For purposes of presentation, Asp is not shown in its surface position for now.

<sup>4</sup> Due to space constraints, I will remain agnostic on the semantic contribution of the *bei* morpheme itself, and hence it will be glossed simply as BEI.

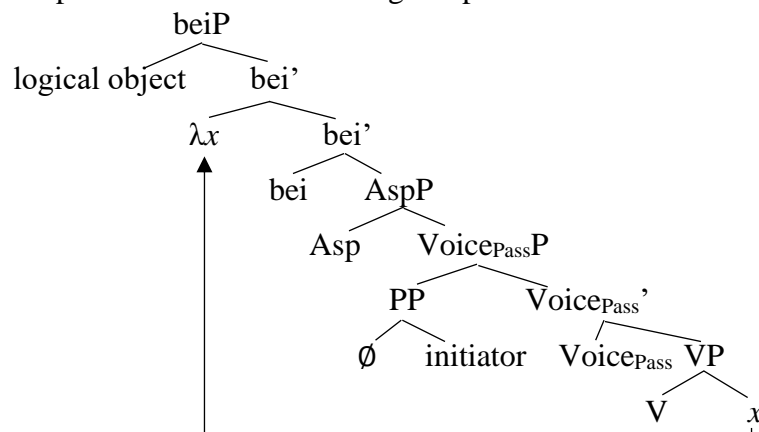
<sup>5</sup> The following glossing abbreviations are used in this paper: ASP-aspect; INCH-inchoative; PERF-perfective; 1-1<sup>st</sup> person; 3-3<sup>rd</sup> person; SG-singular. In section 4, I will further distinguish between the perfective and inchoative reading that *-le* provides, but ASP will usually suffice.

(2) abstract partial structure of the short *bei*-passive



(3) zhangsan      bei                      lisi                      sheng-zhi-le  
 Zhangsan      BEI                      Lisi                      raise-position-ASP  
 ‘Zhangsan was promoted by Lisi.’

(4) abstract partial structure of the long *bei*-passive



Thus, my analysis proposes that both long and short passives have the same syntactic structure except that an overt initiator is present in the long passive<sup>6</sup>.

## 1.2 *Bei* and theta-role assignment

Before delving any deeper, it is important to note, following Bruening and Tran (2015) and contra Huang (1999), that *bei* does not necessarily assign an experiencer theta-role to the logical object (equivalently, the grammatical subject):

(5) nei-feng-xin      bei      lisi      dai-hui      ziji      de      jia      qu      le  
 that-CL-letter      BEI      Lisi      bring-back      self      DE      home      go      PERF  
 ‘That letter was brought back to self’s (Lisi’s) home by Lisi.’

(Huang 1999; 7)

<sup>6</sup> Readers will immediately notice that the overt initiator is a complement to a null P head. At this stage in my analysis, the null head is simply a stipulation, although I note that because Mandarin has very little overt morphology, it is not unreasonable to claim that there could be a null head.

Since *nei-feng-xin* ('that letter') is inanimate in (5), it cannot be assigned an experiencer theta-role by *bei*. In fact, my analysis will assume that *bei* does not assign a theta-role at all. Section 3 will show that this buys us the flexibility needed to capture the empirical facts seen in *bei*-passives.

### 1.3 Roadmap of the paper

In section 2, I very briefly introduce previous accounts that have held that long and short *bei*-passives are distinct syntactic constructions before providing three pieces of empirical evidence<sup>7</sup> to support my unified A'-movement analysis: (i) the presence of long-distance dependencies; (ii) the grammaticality of resumptive pronouns in the presence of subject-oriented adverbs; (iii) the presence of resumptive pronouns in syntactic islands. In section 3, I lay out my formal analysis of the syntactic structure of *bei*-passives. I argue that the A'-movement can be represented as  $\lambda$ -abstraction (Heim & Kratzer 1998) (see examples (2) and (4) above), which has to occur in order for the internal argument to be saturated by an argument that *bei* introduces, and this argument ends up being identified as the logical object by predication. In section 4, I argue that the availability of the perfective reading with *-le* in *bei*-passives that are modified by the sentence-final adverb *liangci* ('twice') shows that the complement to *bei* must be at least as large as AspP. In section 5, I present a class of verbal compounds that are ungrammatical in active constructions but are licensed by *bei*-, *gei*-, *jiao*-, *rang*-passives and passives embedded in *ba*-constructions, which is straightforwardly predicted by my unified analysis. Section 6 concludes.

## 2 *Bei*-passives and A'-movement

Much of the previous literature (see especially Feng (1997/2012), Huang (1999) and Ting (1993; 1998)) has claimed that long and short *bei*-passives have distinct syntactic structures<sup>8</sup>. Short *bei*-passives, which do not have an overt initiator argument, have been argued to involve A-movement of PRO from the the logical object position (represented in example (6a)) while long *bei*-passives, which have an overt initiator, have been argued to involve A'-movement of a null operator (NOP) from object position (represented in example (6b)):

- (6) a. A-movement: [<sub>IP</sub> zhangsan<sub>i</sub> [<sub>VP</sub> bei [<sub>VP</sub> PRO<sub>i</sub> sheng-zhi-le *t<sub>i</sub>* ]]]  
 b. A'-movement: [<sub>IP</sub> zhangsan<sub>i</sub> [<sub>VP</sub> bei [<sub>IP</sub> Op<sub>i</sub> [<sub>IP</sub> lisi sheng-zhi-le *t<sub>i</sub>* ]]]]

Examples (6a) and (6b) above are based on examples (1) and (3) respectively. Under their approach, only long *bei*-passives are expected to exhibit A'-effects. In the next 3 subsections, I present empirical evidence contrary to such predictions.

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<sup>7</sup> For all my original examples, I consulted my own intuitions as a Singaporean Mandarin speaker, but I have also consulted Yiyun Zhao, who speaks Mainland Mandarin.

<sup>8</sup> Due to space constraints, I will not go into the details of their syntactic analysis. Interested readers can refer to Huang (1999) and Ting (1998) and the arguments therein.

Example (7) below is an example of a long-distance dependency present in both long and short passives, which is unexpected under the previous accounts:

In example (7), there is a long-distance dependency such that the grammatical subject *tongdao* ('*passage*') can be understood to be the logical object of *bashou* ('*guard*') in the most deeply-embedded clause. Note that the grammaticality of (the short passive version of) (7) is only expected if *tongdao* undergoes A'-movement and not A-movement since *bing* ('*troops*') is in an A-position and it would not be possible for *tongdao* to undergo successive-cyclic A-movement while *bing* occupies an intermediate A-position that it would need to pass through or cross.<sup>9</sup> Of course, if we instead assume A'-movement of *tongdao*, the possibility of long-distance dependency also falls out. Thus, both the long and short passive uniformly show an A'-effect, supporting my proposed analysis.

(8) [di chuan]<sub>i</sub> bei \*(xunsude) [pai haijun [ji-chen-le x<sub>i</sub>]]  
 enemy ship BEI rapidly send navy attack-sink-ASP  
 ‘The enemy ship was rapidly sent-navy-to-sink.’  
 ‘(Someone) has rapidly sent the navy to sink the enemy ship.’

The data above are a challenge for approaches that assume two distinct syntactic structures, for they show that such approaches have inadequate empirical coverage, or that they under-generate the data. In contrast, my proposed unified analysis correctly predicts that both the long and short *bei*-passives are amenable to a A'-movement account.

<sup>10</sup> Though Bruening and Tran (2015) use the term “deliberately-type adverbs”, I invoke the term “subject-oriented adverbs” to reflect the fact that such adverbs diagnose for *derived* subject positions (or that it modifies the structurally highest argument in the predicate). See Bruening and Tran (2015) for evidence supporting their claim.

## 2.2 (Subject-oriented) adverbs and resumptive pronouns

Huang (1999) and Ting (1998) argue that in long passives, the presence of a sentence-final adverb such as *ji-ci* ('a few times') licenses the resumptive pronoun *ta* ('she/he/it'), which is a characteristic A'-effect and thus indicates the presence of A'-movement in long passives. They further claim that short passives do not allow for the presence of resumptive pronouns even with the sentence-final adverb, which they take as evidence that short passives should instead involve A-movement. However, similar to example (8), the addition of a subject-oriented adverb *henhende* ('viciously') makes the short passive in example (9) grammatical. Notably, the resumptive pronoun is present in both passives<sup>11</sup>:

- (9) Zhangsan<sub>i</sub> bei (Lisi) henhende ma-le *ta<sub>i</sub>* ji-ci  
 Zhangsan BEI Lisi viciously scold-ASP 3.SG few-instance  
 'Zhangsan<sub>i</sub> was viciously scolded him<sub>i</sub> a few times (by Lisi).'

Examples such as (9) are not explained by accounts assuming that there are two distinct syntactic structures in long and short *bei*-passives<sup>12</sup>. I contend that (9) shows that A'-effects, this time the presence of resumptive pronouns, can be detected in short passives, again motivating the unified approach I propose.

## 2.3 Islands and resumptive pronouns

Example (10) below shows that both long and short *bei*-passives can host a resumptive pronoun within a syntactic island:

- (10) kongzi<sub>i</sub> bei [ (baojun) she-fa [shao-diao  
 Confucius BEI tyrant come.up.with-idea burn-away  
 [CNPI zanmei \*(*ta<sub>i</sub>*) de<sup>13</sup> shu ]]  
 praise 3.SG DE book  
 'The burning of books that praised Confucius was planned (by a tyrant).'
- Lit: 'Confucius<sub>i</sub> has been come-up-with-the-idea to burn away  
 [CNPI the books that praised him<sub>i</sub>] (by a tyrant).'

The base position of the internal argument of *zanmei* ('praise') is within a complex noun phrase island (Ross 1967) or CNPI, indicated by the resumptive pronoun *ta*. Crucially, extraction of *Kongzi* from the CNPI is only grammatical if *ta* is present, regardless of whether it is a long or short passive. The presence of the resumptive

<sup>11</sup> Like Huang (1999) and Ting (1998), I merely note that the resumptive pronoun is licensed, which provides strong evidence for the involvement of A'-movement in both passives, and I will have to leave an account for *why ji-ci* licenses the resumptive pronoun for another time.

<sup>12</sup> I note that Ting (1998) disagrees with the judgments I give in (9), as seen in her example (19).

<sup>13</sup> Since a discussion of *de* goes beyond the scope of this paper, I simply gloss it as DE. The reader should note that *de* has a variety of functions, which Li and Thompson (1981) discuss in detail.

pronoun in (10) thus straightforwardly shows that both passives exhibit A'-effects. With this, we have the third piece of evidence supporting my unified approach.

### 3 The proposed syntactic structure of *bei*-passives

Now that we have seen three pieces of empirical evidence for the involvement of A'-movement in both long and short passives, a few brief notes are in order before we turn to my proposed syntactic analysis.

#### 3.1 Mandarin *bei*-passives and derived subject positions

I follow Bruening and Tran (2015) in claiming that the crucial defining characteristic of a passive construction should be that the external argument is suppressed, and that the syntactic role of Voice<sub>PASS</sub> is to uniformly existentially quantify it. One can easily see that it is suppressed in (2), but this is apparently not so for (4). I hypothesize that in (4), the initiator *Lisi* is a sister to a null head that forms an adjunct PP and thus is *not* the external argument. This is akin to the by-phrase in English passive constructions (Bruening 2013). A full discussion of PP-adjunction to Voice<sub>PASS</sub>P takes us too far afield, but I adopt Legate's (2014) proposal in which the by-phrase (an adjunct which contains *Lisi*) functions to semantically restrict the existentially bound external argument,<sup>14</sup> allowing me to maintain that both long and short passives involve Voice<sub>PASS</sub>P.

The above point also means that in short passives, there should be evidence of the presence of an implicit initiator. Since subject-oriented adverbs (or 'deliberately'-type adverbs) can diagnose for derived subject positions (Bruening and Tran 2015), we can apply Mandarin *guyi* ('*deliberately*') to passive constructions to see that the Mandarin passive is a bi-clausal structure:

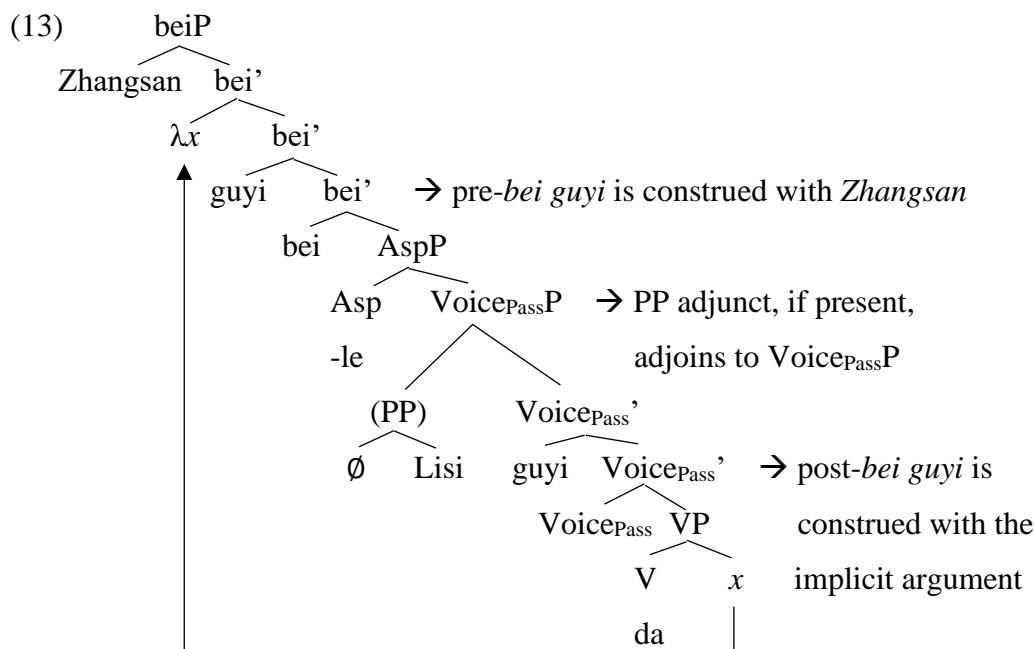
- (11) a.    zhangsan<sub>i</sub>            guyi<sub>i/\*j</sub>            bei            lisi<sub>j</sub>            da-le  
              Zhangsan            deliberately    BEI            Lisi            hit-ASP  
              'Zhangsan deliberately got beaten by Lisi (only *Zhangsan* can be deliberate).'
- b.    zhangsan<sub>i</sub>            bei            lisi<sub>j</sub>            guyi<sub>i/\*j</sub>            da-le  
              Zhangsan            BEI            Lisi            deliberately    hit-ASP  
              'Zhangsan was deliberately beaten by Lisi (only *Lisi* can be deliberate).'
- (12) a.    zhangsan<sub>i</sub>                            guyi<sub>i/\*j</sub>            bei            da-le  
              Zhangsan                            deliberately    BEI            hit-ASP  
              'Zhangsan deliberately got beaten (only *Zhangsan* can be deliberate).'

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<sup>14</sup> Another option is Bruening's (2013) proposal, which still achieves the overall effect of having the long passive as a passive construction as well as still allowing for the optionality of PP.

- (12) b.      zhangsan<sub>i</sub>                      bei                      guyi<sub>\*i/j</sub>                      da-le  
                  Zhangsan                      BEI                      deliberately                      hit-ASP  
                  ‘Zhangsan was deliberately beaten (only the implicit argument can be deliberate).’

Importantly, examples (11) and (12) pattern the same, in that when *guyi* precedes *bei* in (11a) and (12a), it can only be construed with *Zhangsan*, and when *guyi* follows *bei* in (11b) and (12b), it can only be construed with the embedded external argument; in (12b) the implicit external argument, and in (11b), with the overt initiator *Lisi*. In the *by*-phrase treatment of *Lisi* proposed here, following Legate (2014), we can think of *[P Lisi]* as a kind of subject-oriented adverbial that acts as a restrictor on the implicit argument<sup>15</sup>. Examples (11) and (12) thus show that *bei* is a primary predicate (whose highest argument is *Zhangsan*) that takes a secondary predicate (whose highest argument is the implicit argument) (Bruening and Tran 2015). The tree in (13) illustrates this:



Assuming that *bei* is the primary predicate in (13), *Zhangsan* is then its structurally highest argument, and is introduced by *bei*. The secondary predicate, which contains *VoicePass*, instead has the existentially quantified external argument as its highest argument. The structure in (13) thus straightforwardly accounts for why it is that pre-*bei guyi* can only be construed with *Zhangsan* while post-*bei guyi* can only be construed with the implicit argument. It is also desirable that the structure in (13) is applicable to both the long and short passive since we have seen in the previous section that both should involve A'-movement.

<sup>15</sup> I thank Heidi Harley for the suggestion.

### 3.2 $\lambda$ -abstraction and the argument *bei* introduces

One key point of (13) is that the logical object of the *bei*-passive construction is *not* base-generated in the internal argument position of V. I propose that the internal argument position hosts a  $\lambda$ -operator represented by  $x$ . The  $\lambda$ -abstraction (or the A'-movement) is thus due to the probe *bei* attracting  $x$  to it. I contend that  $\lambda$ -abstraction must occur for the internal argument to be saturated, and what saturates it is the argument introduced by *bei*, which is identified as  $x$ , the logical object, by predication<sup>16</sup>.

Given (13), we can make the following two related predictions: (i) the  $\lambda$ -operator can be in any internal argument position, so long as it is within the complement of *bei*; (ii) there should only be *one* instance of  $\lambda$ -abstraction since *bei* only introduces *one* argument. Both predictions are borne out:

- (14) a. John<sub>i</sub>      bei      laoshi      pai       $x_i$       qu  
          John      BEI      teacher      send                   go  
          zhao      ren      sao      jiaoshi      le  
          find      person      sweep      classroom      ASP<sup>17</sup>  
          ‘John has been sent to find someone to clean the classroom by the teacher.’
- b. ren<sub>i</sub>      bei      laoshi      pai      John      zhao  
          person      BEI      teacher      send      John      find  
           $x_i$       qu      sao      jiaoshi      le  
               go      sweep      classroom      ASP  
          ‘Someone has been sent-John-to-find-to-clean the classroom by the teacher.’
- c. jiaoshi<sub>i</sub>      bei      laoshi      pai      John      zhao  
          classroom      BEI      teacher      send      John      find  
          ren      qu      sao       $x_i$       le  
          person      go      sweep                   ASP  
          ‘The classroom has been sent-John-to-find-someone-to-clean by the teacher.’
- d. \*jiaoshi<sub>i</sub>      bei      laoshi      pai      John      zhao  
          classroom      BEI      teacher      send      John      find  
           $y_j$       qu      sao       $x_i$       le  
               go      sweep                   ASP  
          ‘Intended: \*The classroom has been sent-John-to-find-*e*-to-clean by the teacher.’ (where *e* is an empty category represented by  $y$ )  
          (Feng 2012; 131, with modifications)

<sup>16</sup> Huang’s (1999) account assumes that the logical object is coindexed with the NOP via a predication relation, which achieves the same effect.

<sup>17</sup> Feng (2012) did not include a full gloss, so I have chosen to gloss *le* as ASP for simplicity but nothing here hinges on my choice as far as I can tell.



The ungrammatical (14d) is expected because there is a second  $\lambda$ -operator  $y$  that occupies the internal argument position of *zhao* (*‘find’*), and this internal argument remains unsaturated since *bei* only introduces one argument. Crucially, although the  $\lambda$ -operators in (14a-c) are base-generated in different internal argument positions, they are all grammatical, as we would expect given (13).<sup>18</sup> Recall from subsection 1.2 that I assume that *bei* does not assign a theta-role to the argument it introduces. Taken together, my analysis thus allows for any argument to be introduced by *bei* without affecting the theta-role interpretations of the various sentences, successfully capturing the grammaticality of (14a-c).

### 3.3 Excluding Voice<sub>Act</sub> in *bei*-constructions

Given that I assume that both long and short passives have a suppressed external argument, my account must be able to ensure that the complement of *bei* can only contain Voice<sub>Pass</sub>. That said, in principle, Asp should be able to select either Voice<sub>Act</sub> or Voice<sub>Pass</sub>, and it is desirable for Asp to be able to do so or we would need to posit two distinct functional heads for active constructions and *bei*-passives respectively.

I propose a simple solution – *bei* can only select an Asp that has selected Voice<sub>Pass</sub>. We only require a two-step feature-driven process (in the sense of Adger (2003)) to achieve the above. Referring again to (13), Asp takes Voice<sub>Pass</sub>P, which has the feature [Passive] (due to Voice<sub>Pass</sub>), as its complement and now also has [Passive]. If *bei* has the uninterpretable feature [*u*Passive], it must then select an Asp that has taken Voice<sub>Pass</sub>P as its complement in order to check [*u*Passive]. If Asp takes Voice<sub>Act</sub> as its complement instead, *bei* cannot check [*u*Passive], and the derivation crashes. This is a simple process that requires no further machinery but will ensure that *bei*-passives only involve Voice<sub>Pass</sub>.

In section 5, I show that my unified structure involving Voice<sub>Pass</sub> predicts that both long and short *bei*-passives can license a special class of verbal compounds, and that this is borne out in the data. Before that, I discuss the evidence supporting the claim that *bei* takes Asp as its complement in the next section.

## 4 Determining the size of the complement to *bei*

Although Bruening and Tran (2015) claim that the size of the complement to *bei* should only be as large as VoiceP, I argue that the morpheme *-le* tells us that

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<sup>18</sup> In principle, my analysis would predict that it is also possible to lambda-abstract over the object of a preposition in a *bei*-passive, and this seems to be borne out:

- (i) zhangsan [PP dui lisi] pokoudama  
 Zhangsan to/at Lisi scold.viciously  
 Lit: ‘Zhangsan scolded viciously to/at Lisi.’
- (ii) ?lisi<sub>i</sub> bei zhangsan [PP dui ta<sub>i</sub>] pokoudama  
 Lisi BEI Zhangsan to/at 3.SG scold.viciously  
 Lit: ‘Lisi<sub>i</sub> was scolded viciously to/at him<sub>i</sub> by Zhangsan.’

However, I find it difficult to come up with felicitous examples.

the complement to *bei* must at least be as large as AspP, which I have posited to contain Voice<sub>Pass</sub>P.

#### 4.1 The perfective vs. inchoative reading of *-le*

Whether the morpheme *-le* appears verb-adjacent (perfective reading only) or sentence-finally (perfective *or* inchoative reading (Li and Thompson 1981; Bao 2005; Soh 2009)), the perfective reading is available, as seen in example (15):

- (15) a. ta chi-le rou      b. ta chi rou le  
          3.SG eat-PERF meat      3.SG eat meat PERF/INCH  
          Perfective reading ((15a) *and* (15b)): ‘She/he/it ate the meat.’  
          Inchoative reading ((15b) *only*): ‘She/he/it eats meat now (when they did not eat meat before).’

When *-le* is verb-adjacent, as in (15a), only the perfective reading is available. When *-le* is sentence-final, as in (15b), both the perfective and inchoative readings are available. That is, we can still get the perfective reading. For our purposes, the crucial point to bear in mind is that the perfective reading is available whether *-le* is sentence-final or not, as we will see in the next subsection.

#### 4.2 Perfective *-le* in *bei*-passives

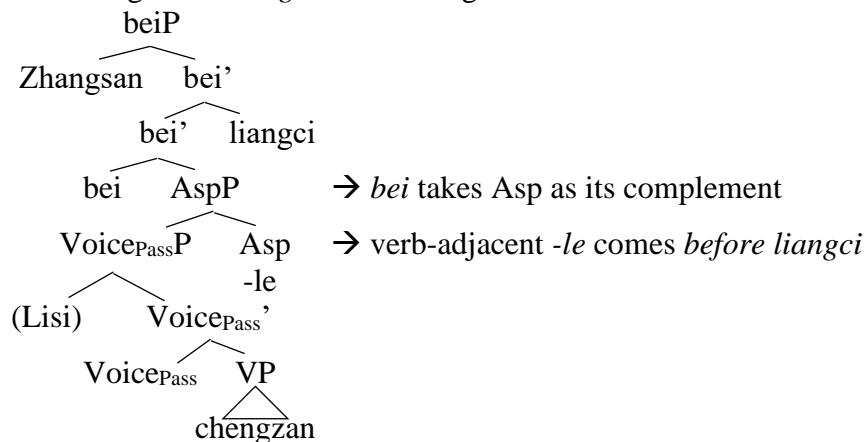
Although one might suspect that *-le* in *bei*-passives would always end up being sentence-final since the verb occurs sentence-finally, it is possible to replicate what we have seen in (15) using the adverb *liangci* (‘twice’):

- (16) a. zhangsan bei (lisi) chengzan-le liangci  
          Zhangsan BEI Lisi praise-PERF twice  
          b. zhangsan bei (lisi) chengzan liangci le  
          Zhangsan BEI Lisi praise twice PERF/INCH  
          Perfective reading ((16a) *and* (16b)): ‘Zhangsan was praised (by Lisi) twice.’  
          Inchoative reading ((16b) *only*): ‘Zhangsan has now been praised (by Lisi) twice (when Zhangsan was not praised (by Lisi) before).’

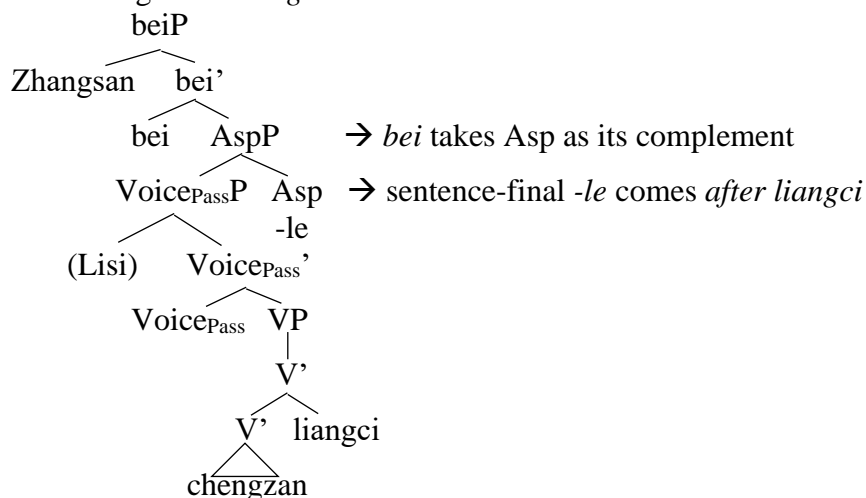
With the addition of *liangci* in (16), we can infer that the presence of the perfective reading of *-le* in both the verb-adjacent and sentence-final positions indicates that the functional head Asp must be available in the complement to *bei* to be able to host the perfective *-le*, which is unexpected given Bruening and Tran’s (2015) analysis where Voice rather than Asp is the complement. However, example (16) supports my analysis in which the complement to *bei* must be at least as large as AspP. The simplified (17) shows how the perfective *-le* reading is

available when *liangci* attaches high, to *bei'*, and the simplified (18) shows how the perfective reading is available when *liangci* attaches low, to V<sup>19</sup>:

(17) perfective reading when *liangci* attaches higher



(18) perfective reading when *liangci* attaches lower



Note that whether *-le* occurs verb-adjacently or sentence-finally due to the addition of *liangci*, *bei* is still able to (and, in fact, *must* be able to) take AspP as its complement in order to derive the perfective readings<sup>20</sup>. We now see how it is that Bruening and Tran's (2015) claim that the complement to *bei* can only be as large as VoiceP is not supported by the data. Conversely, my account can easily accommodate the fact that the size of the complement to *bei* must be as large as AspP.

<sup>19</sup> I do not claim to provide an analysis of *-le* in this paper, which would be tangential to the point I am making. Since the task at hand is to show how *bei* can take Asp as its complement given the empirical facts in example (16), the position of *-le* is merely meant to reflect its surface position.

<sup>20</sup> Note that not all verbs are compatible with the perfective reading, but (15-18) clearly show that should the perfective reading be available, it can be derived.

## 5 *Bei*-passives can only involve Voice<sub>PASS</sub>, not Voice<sub>ACT</sub>

Bruening and Tran (2015) claim that *bei*-constructions can involve either Voice<sub>ACT</sub> or Voice<sub>PASS</sub> – as far as I can tell, for them, a long *bei*-construction *does not* have an existentially quantified external argument since they do not treat the overt initiator as being in a PP adjunct like I do, hence it involves Voice<sub>ACT</sub>, while a short *bei*-construction has an existentially quantified external argument and hence must involve Voice<sub>PASS</sub>. However, the evidence in this section shows that, in accordance with my claim (see subsection 3.3), Voice<sub>ACT</sub> should be excluded from both long and short *bei*-passives (or that both *bei*-passives should uniformly only involve Voice<sub>PASS</sub>) as there is a special class of verbal compounds<sup>21</sup> that are apparently ungrammatical in active constructions but are grammatical in passive environments – other than *bei*-passives, they are also grammatical in *gei*-, *jiao*-, *rang*-passives and passives embedded in *ba*-constructions.

### 5.1 ‘Deficient’ verbal compounds in active constructions vs. in *bei*-passives

There is a peculiar class of verbal compounds in Mandarin, which I term ‘deficient’ verbal compounds, that seem to be transitive in that they require the subject and object arguments, but are ungrammatical in active transitive constructions. Compare the active (19) and the passive (20):

- (19) \*lisi          sheng-zhi-le                  zhangsan  
          Lisi          raise-position-ASP          Zhangsan  
          Intended: ‘Lisi promoted Zhangsan.’
- (20) zhangsan    bei          (lisi)          sheng-zhi-le  
          Zhangsan    BEI          Lisi          raise-position-ASP  
          ‘Zhangsan was promoted (by Lisi).’

In example (20), we observe that *sheng-zhi* (‘*promote*’) in the *bei*-passive requires an internal argument as well as an (existentially quantified) external argument, as per the analysis so far. Then, we should expect that it is similarly grammatical in the transitive active construction (19), but this is not the case. That is, example (19), which involves Voice<sub>ACT</sub>, apparently cannot license *sheng-zhi* despite the construction having the requisite arguments. Given Bruening and Tran’s (2015) analysis, which assumes that long *bei*-constructions should involve Voice<sub>ACT</sub>, *sheng-zhi* should hence be ungrammatical in the long *bei*-passive of (20), contrary to fact. My analysis, which assumes that both long and short *bei*-passives uniformly involve Voice<sub>PASS</sub>, correctly predicts that both versions of (20) should be grammatical while (19) should be ruled out as Voice<sub>ACT</sub> cannot license *sheng-zhi*. Why these ‘deficient’ verbal compounds behave the way they do is an interesting question as well, but will have to be left for further research. The fact remains that they cannot be licensed by Voice<sub>ACT</sub> and thus turn out to be a good

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<sup>21</sup> Due to space constraints, I will not include the list of 21 verbal compounds that I find to belong to this special class in this paper. Instead, I only use a select few to bring the point across.

diagnostic for whether *bei*-constructions involve Voice<sub>Act</sub> or not. In fact, as we see in the next two subsections, they seem to be licensed by environments that involve Voice<sub>Pass</sub>.

## 5.2 ‘Deficient’ verbal compounds and *gei*-, *jiao*- and *rang*-passives

Though Li and Thompson (1981) and Tang (2001) note that there are some asymmetries compared to *bei*-passives, *gei*-, *jiao*- and *rang*-constructions have all been claimed to be passive constructions. As expected, ‘deficient’ verbal compounds are also licensed in these passive environments:

- (21) zhangsan    gei/jiao/rang    lisi<sub>i</sub>    tui-xue-le     $x_i$   
 Zhangsan    give/ask/allow    Lisi    back.away-school-ASP  
 ‘Zhangsan got Lisi expelled.’

Although a detailed discussion of *gei*-, *jiao*- and *rang*-passives is beyond the scope of this paper, note that *Lisi* is the logical object, or the internal argument, of the ‘deficient’ verbal compound in (21), and that it occupies a pre-verbal position, presumably due to movement. I propose that the observed object movement is object promotion to the subject position of the embedded clause. I further posit that since the constructions in (21) all have passive readings, such object movement indicates that Voice<sub>Pass</sub> is involved. If so, then it is unsurprising that *gei*-, *jiao*- and *rang*-passives can license ‘deficient’ verbal compounds.

## 5.3 Passives embedded in *ba*-constructions

Ba-constructions have been noted by Li and Thompson (1981) to mark affectedness<sup>22</sup>. Generally, the logical object immediately follows *ba* and also precedes the verb. Example (22) illustrates how a passive reading can be embedded in a *ba*-construction<sup>23</sup>:

- (22) zhangsan    ba    lisi<sub>i</sub>    jiang-zhi-le     $x_i$   
 Zhangsan    BA    Lisi    lower-position-ASP  
 ‘Zhangsan got Lisi demoted.’

<sup>22</sup> The description of *ba* is still hotly debated in the literature. Since *ba*-constructions are not a main concern here, I choose to remain agnostic on its exact syntactic or semantic function and mainly note that it can have an embedded passive reading.

<sup>23</sup> It is important to note, however, that a *bei*-passive cannot be embedded under a *ba*-construction, as seen in (i), adapted from Cole and Wang’s (1996) example (13):

- (i) a.    juzi    bei    wo    ba    pi    bo-le  
          orange    BEI    1.SG    BA    skin    peel-ASP  
          ‘The orange’s skin was peeled by me.’  
       b.    \*juzi    ba    pi    bei    wo    bo-le  
          orange    BA    skin    BEI    1.SG    peel-ASP  
          Intended: ‘The orange’s skin was peeled by me.’

Our observations in (21) thus apply again to (22), in that there possibly is object promotion due to the involvement of Voice<sub>Pass</sub>, which is what licenses ‘deficient’ verbal compounds<sup>24</sup>.

## 6 Conclusion

I have presented three pieces of empirical evidence to support my claim that both long and short *bei*-passives involve A'-movement and hence should be amenable to a unified analysis: (i) long-distance dependencies; (ii) resumptive pronouns licensed by adverbs; (iii) resumptive pronouns within islands. I have proposed that the unified *bei*-passive structure is bi-clausal, with *bei* as the primary predicate that also introduces an argument that saturates the internal argument via predication without assigning any theta role to it. Additionally, the structurally highest argument of the secondary predicate is uniformly the implicit argument.

Under my proposed formal syntactic structure, *bei* takes as its complement an AspP which contains Voice<sub>Pass</sub>. I argued that the size of said complement cannot only be Voice due to the availability of the perfective reading of *-le*. Finally, my unified analysis straightforwardly predicts that both long and short *bei*-passives can license ‘deficient’ verbal compounds since they only include Voice<sub>Pass</sub>, and Voice<sub>Act</sub> must thus be excluded in the *bei*-passive structure.

A variety of other Asian languages including Cantonese, Zhuji Dialect (Tang 2001), Taiwanese, Korean, Japanese (Huang 1999), Vietnamese and Thai (Bruening and Tran 2015) seem to also have similar passive structures, at least on the surface. My analysis then adds to the typology of passive constructions cross-linguistically, and also raises an important theoretical question – what exactly is the size of the complements in these languages? If they are different from Mandarin, why would they be different, and what would this mean for the purposes of syntactic and semantic interpretation? If they are the same, does it speak to an existing systematicity due to the faculty of language? These are important questions that will bear on our broader understanding of the nature of the language faculty.

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<sup>24</sup> At this point, it is not clear if the constraint is such that ‘deficient’ verbal compounds can only appear in constructions with Voice<sub>Pass</sub> or if they simply cannot be licensed by Voice<sub>Act</sub>. The two proposals should make different predictions that I have yet to explore.

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