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The Syntax of Passives under the Smuggling Approach

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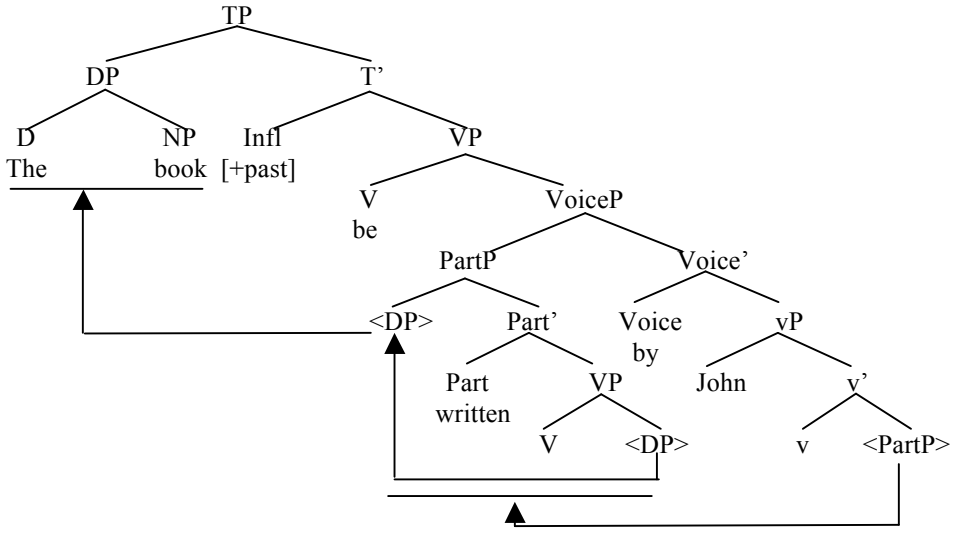
1. Introduction

According to Collins (2005), one problem of the Principles and Parameters analysis of the English *be* passive (Jaeggli 1986, Baker 1988, Baker, Johnson & Roberts 1989, and many others) is that the external argument is generated in different positions in actives and passives, which is a violation of Baker's (1988) Uniformity of Theta-Assignment Hypothesis (UTAH, p. 46). To circumvent this problem, Collins proposes a smuggling approach to passivization, as illustrated in (1) for a sentence like *The book was written by John*:

(1)



The main points of this hypothesis are as follows. *By* is the head of VoiceP and takes a vP as its complement. The external argument is merged in Spec, vP in the same way as in the active. Movement of the internal argument *the book* to Spec, IP position is carried out in 2 steps: first the participle phrase *written the book* is moved to Spec, Voice, and then *the book* is moved to Spec, IP. The two-step process effectively smuggles the internal argument to Spec, IP position crossing the external argument without violating Relativized Minimality.

The underlying structure of *be* passives proposed by Collins comes close to that of Chinese *bei* passives proposed by Huang (1999) and Huang, Li & Li (2009, henceforth HLL), in which the external argument is the subject of the complement clause of the passive maker *bei*. A major difference occurs in surface word order between English and Chinese, however: In English, the main (participle) VP appears before the external argument, but in Chinese, the VP follows the external argument, as in (2-3).

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(2) The long passive: *bei NP-VP*
Zhangsan bei Lisi da le.
Zhangsan BEI Lisi hit LE[1]
'Zhangsan was hit by Lisi.'

(3) The short (agentless) passive: *bei VP*
Zhangsan bei da le.
Zhangsan BEI hit LE
'Zhangsan was hit.'

The goal of this paper is to explain this word order difference. We assume that unlike English passives, Chinese passives do not involve smuggling. We will provide an explanation to this assumption and extend our analysis to Japanese.

2. Reanalysis of the structure of Chinese long and short passives

2.1. The control/predication analyses of the Chinese long and short bei passives

According to Feng (1995), Ting (1995), Huang (1999) and HLL (2009) among others, the Chinese long *bei* passive can be analyzed as a structure of complex predication, as shown in (4).

(4) Zhangsan_i bei $[_{IP}\ \text{NOP}_i\ [_{IP}$ Lisi da le $\text{t}_i\ ]]$.
Zhangsan BEI Lisi hit LE
'Zhangsan was hit by Lisi.'

In (4), the main verb *bei* selects an active IP complement, within which a null operator (NOP) moves from the object position of the base verb and adjoins itself to IP. *Bei* and the IP form a complex predicate, which selects *Zhangsan* as its subject argument. The moved NOP object is coindexed with the matrix subject under predication.

Huang (1999) and HLL (2009) propose a control analysis for the short *bei* passive, as shown in (5).

(5) Lisi_i bei $[_{VP}\ \text{PRO}_{i\square}$da-le $\text{t}_i\ ]$
Lisi BEI hit-LE
'Lisi was hit'

In (5), *bei* is a light verb, selecting an Experiencer subject and a VP complement whose Theme object (a PRO) is moved to Spec, VP, where it is controlled by the matrix subject.

The evidence for the control/predication analysis is summarized as follows. Firstly, the subject of *bei* may take subject-oriented adverbs (e.g., *guyi* 'intentionally'), and hence it is base-generated and assigned Experiencer theta-role. Secondly, the long passives exhibit A'- movement properties, such as long-distance dependencies, island sensitivity, possible occurrences with the relativization marker *suo* and resumptive pronouns.

2.2. The possibility of raising analysis of bei passives

Huang (2011, 2013) and Liu (2011) observe that short passives and *local* long passives (i.e. the long passives that do not exhibit long distance dependencies) allow idiom-chunks to be fronted under passivization, as in (6). Such examples imply a raising analysis for the subject of *bei*.

(6) pianyi dou bei (ta) zhan-guang-le
advantage all BEI he take-empty-LE
'All the advantage was taken by him.'

In addition to idiom chunks, assuming the raising analysis also allows for a way to capture the

[1] The abbreviations used are as follows: CL: classifier; EC: empty category; Exp: the experiential marker; LE: the perfective suffix or sentence-final particle.

existence of an implicit experiencer/affectee, when the subject of a *bei* passive does not assume these roles. Consider the two cases in (7):

(7) a. wo bei ta ti-po-le na-shuang xiezi.
I BEI he kick-broken-LE that-CL shoes
'I had that pair of shoes broken by him.'
b. na-shuang xiezi bei ta ti-po-le
that-CL shoes BEI he kick-broken-LE
'That pair of shoes were broken by him.'

In (7a), the subject *wo* 'I' may be the sufferer or experiencer. In (7b), the experiencer has been suppressed, though an implicit experiencer may be felt to exist (e.g., the speaker or the shoes' owner).[2] Therefore, the direct object *na-shuang xie* 'that pair of shoes' moves up to the subject position. In this case, the analysis of the *bei* passive can only be raising, not control. The implicit experiencer argument can also be spelled out, as in the Mandarin example (8) and the Taiwanese example (9).

(8) na-shuang xiezi bei ta gei wo ti-po-le
that-CL shoes BEI him on me kick-broken-LE
'That pair of shoes were kicked-broken by him on me.'

(9) hit-shiang e-a hoo yi ka goa tat-pua-khi a.
that-CL shoes BEI him on me kick-broken-away LE
'That pair of shoes were kicked-broken by him on me.'

Given these considerations, when a short or *local* long passive involves neither subject-oriented adverbs nor idiom chunks—as in (10), logic allows either a raising or a control analysis:

(10) tade pengyou bei (Lisi) piping-le.
his friend BEI Lisi criticize-LE
'His friend got criticized (by Lisi).'

In the next section, we shall entertain new structures for Chinese short and *local* long passives under both the raising and control analyses.

3. The new structures of short and local long *bei* passives

3.1. No smuggling occurs in the Chinese bei passive

The word order difference between English and Chinese passives seems to imply that smuggling does not occur in Chinese. We assume that the absence of smuggling in Chinese is related to another property of Chinese, i.e., Chinese allows an object to be preposed to a post-subject but pre-verbal focus position (Ernst and Wang1995, Shyu 1995), as illustrated in (11). However, such movement is not available in English.

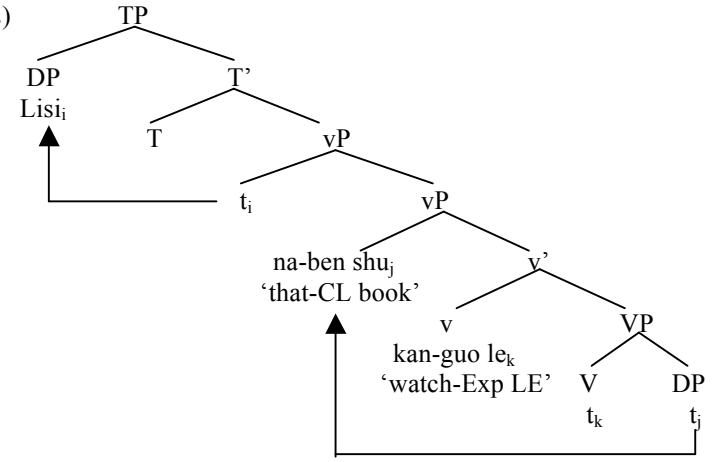
(11) a. Lisi kan-guo le naben shu (Shyu 1995:100)
Lisi read-Exp LE that-CL book
'Lisi has read that book.'
b. Lisi naben shu_i kan-guo le t_i (object preposing structure)
Lisi that-CL book read-Exp LE

Ernst and Wang (1995) argue that the preposed object is adjoined to VP which bears [+Foc] feature and requires a contrastive focus. Gaining insights from their analysis, we assume that vP bears [+Foc] feature, given the VP-shell analysis (c.f. Larson 1988), and the derivation of (11b) is as shown in (12). Following Ura (2000), we assume that since v has a strong Focus feature, it requires the object

[2] This is akin to the well known case of an implicit agent in agent-suppressed passives, or of an implicit perceiver in *seem*-type raising sentences, both of which may also be optionally spelled out with a *by*- or *to*-phrase in English.

na-ben shu 'that book' to move to the inner Spec, vP. The external argument *Lisi* is merged in the outer Spec, vP and moves to Spec, TP to check its Case feature and satisfy the EPP feature of T. In addition, based on Shyu's (1995) argument that object preposing in (11b) shows A-movement properties (e.g. the lack of obligatory Condition A and C reconstruction effects and the remedy of weak crossover effects), we deduce that the inner Spec, vP constrastive focus position is an A-position.

(12)



Based on the above analysis, we propose that since Chinese has the property of preposing an object to the inner Spec, vP (an A-position), such a Spec, vP position can also be available in the passive, serving as an intermediate landing site for the object to take on its way of moving to Spec, TP without violating minimality conditions. Hence, there is no need for the less economic smuggling operation to apply, which requires more things to move together with the object. On the other hand, English does not have this kind of object preposing, no "extra" Spec, vP position is available in the passive structure. In order to avoid violation of minimality, smuggling has to apply, as a last resort.

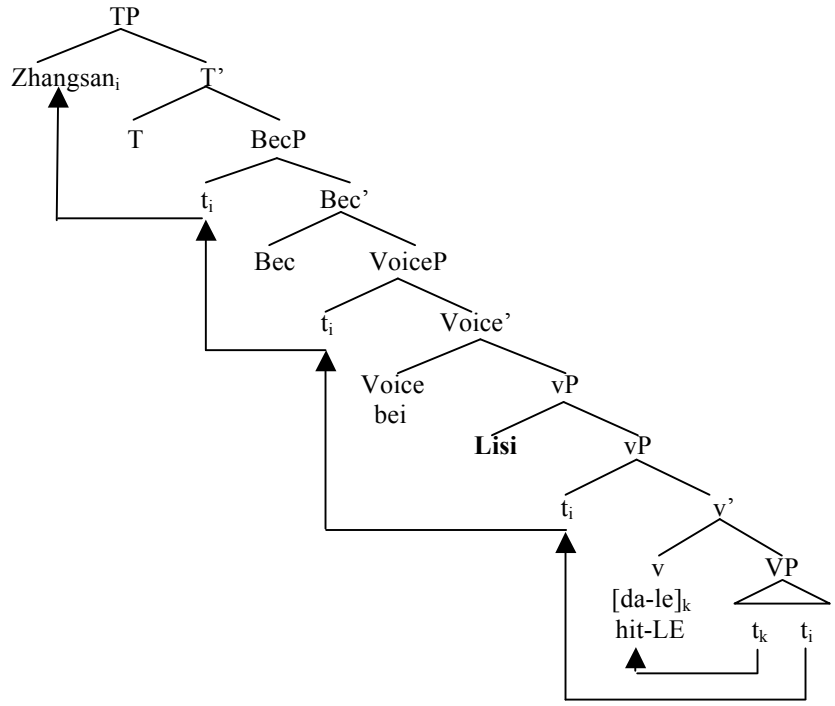
3.2. The derivations of Chinese short and local long passives

Some basic assumptions about the syntactic structures of Chinese short and local long passives are made as follows: Like the English *be* passive, they involve a VoiceP headed by *bei*, which takes a vP complement. The Spec of vP is occupied by the external argument. Moreover, according to Huang's (2013) proposal of "Passivization Cartography", the fluctuating properties of Chinese *bei* passives (between control and raising) may be caused by the semi-lexical verb *bei* occupying more than one point on the causative-unaccusative spectrum (cause > let > witness > undergo > be affected by > become > exist > be). We suppose that *bei* can be decomposed into EXPERIENCE (Exp) and BECOME (Bec) components in short and local long *bei* passives. Therefore, the raising structure of the long *bei* passive in (2) is shown in (13): the internal argument *Zhangsan* of the main verb *da* 'hit' first moves to inner Spec, vP, an available intermediate landing site, given our derivation of (11b) in (12). V moves to v. The external argument *Lisi* is merged in outer Spec, vP. The Voice head *bei* is merged with vP and checks its accusative Case feature with the external argument. Since Bec is a weak head, *bei* does not move to it but agrees with it. The internal argument moves to Spec, VoiceP and then to Spec, BecP and Spec, TP to get Nominative Case. There is no violation of minimality and hence smuggling is not needed.

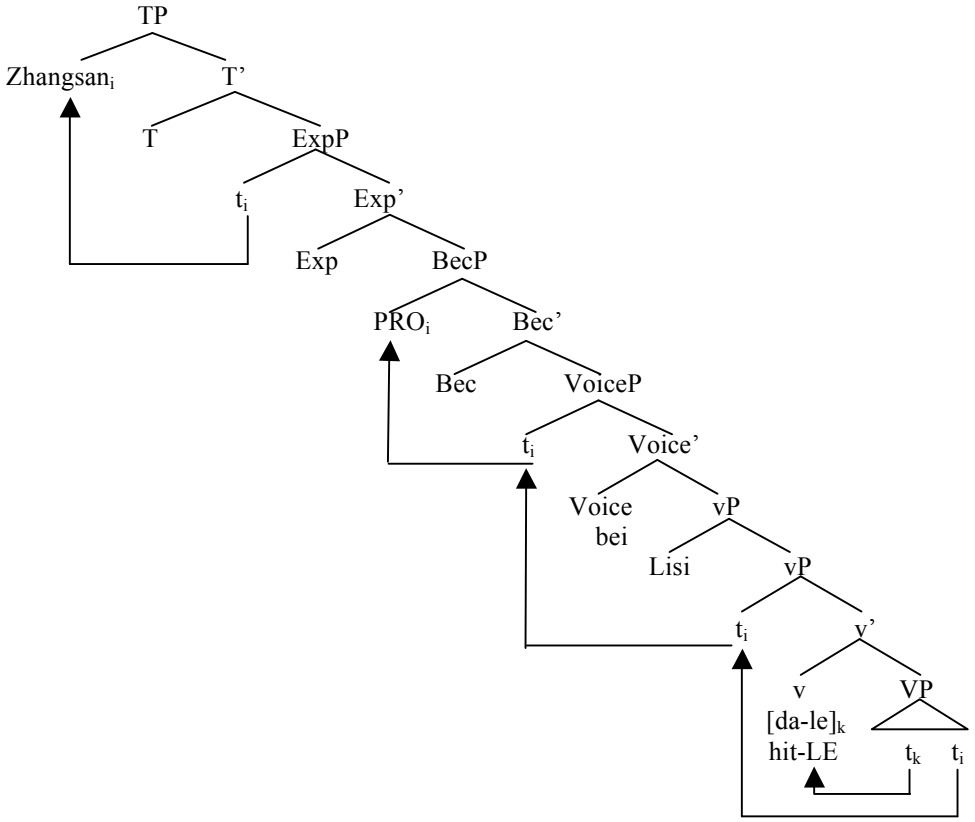
As for the control structure of the local long passive, we assume that *bei* is decomposed into the Experience (Exp), Become (Bec), and Voice components. The control structure of the local long *bei* passive in (2) is shown in (14), in which the passive verb *bei* is base-merged in Voice and agrees with the weak heads Bec and Exp. The PRO object of the verb 'hit' moves to inner Spec, vP, Spec, VoiceP and Spec, BecP. Exp introduces the Experiencer subject *Zhangsan*, which controls PRO in Spec, BecP. Similarly to the raising case, smuggling is not needed.

The derivations of short *bei* passive under control and raising analyses are similar, except that the external argument is null, and the passive verb *bei* does not check any case in Spec, vP, differing from the one in the long passive, where it behaves like an ECM verb.

(13)



(14)



3.3. More evidence for the lack of smuggling in Chinese bei passives

3.3.1. The quantifier floating test

Quantifiers and the DPs they quantify are commonly treated as originating as a single constituent.

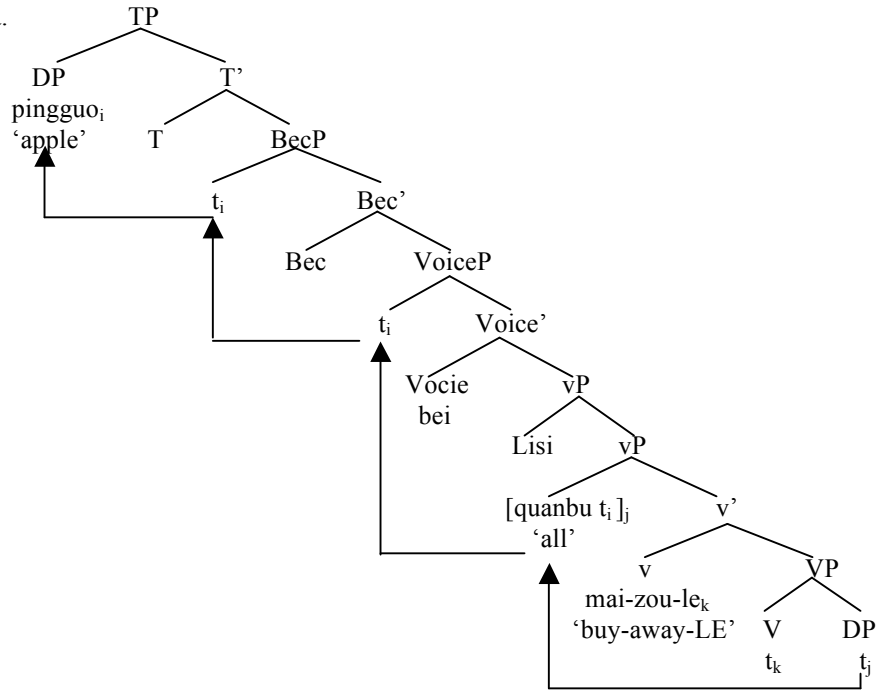
The positions where a quantifier floats are the ones through which DP movement passes. The distribution of the floated quantifiers in Chinese *bei* and English *be* passives as in (15-16) respectively can be explained if we assume that Chinese does not have smuggling while English does.

(15) a. pingguo bei Lisi **quanbu** mai-zou-le.
apple BEI Lisi all buy-away-LE
'The apples were all bought by Lisi.'
b. pingguo **quanbu** bei Lisi mai-zou-le.
apple all BEI Lisi buy-away-LE
'The apples were all bought by Lisi.'

(16) a. *They were arrested by the police **all**.
b. They were **all** arrested by the police.

In Chinese *bei* passives, the floated quantifier *quanbu* 'all' can appear either below *bei*+external argument, as in (15a), or above it, as in (15b). However, in English *be* passives, *all* cannot float below the agentive *by-phrase*, as in (16a). We assume that the derivations of (15a, b) are illustrated in (17a, b) respectively. In (17a), the quantifier *quanbu* 'all' is assumed to be floated in the inner Spec, vP position. In (17b), *quanbu* is floated in the Spec, VoiceP position. This shows that on its way moving to Spec, TP, the object has passed through these positions. However, in the derivation of the English passive (16b), as shown in (18), the PartP smuggles the object to Spec, VoiceP, a position above the Agent *by*-phrase. That's why *all* cannot float below the agentive *by* phrase. [3]

(17) a.



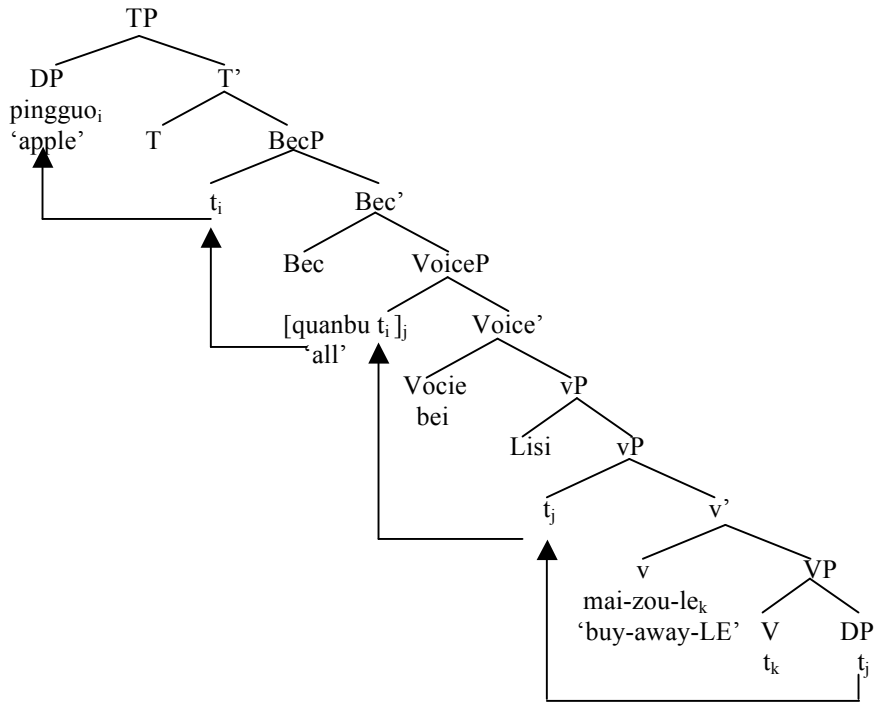
[3] Note that quantifiers cannot be floated in positions immediately following main verbs in English or Chinese:

(i) *They were arrested all by the police.

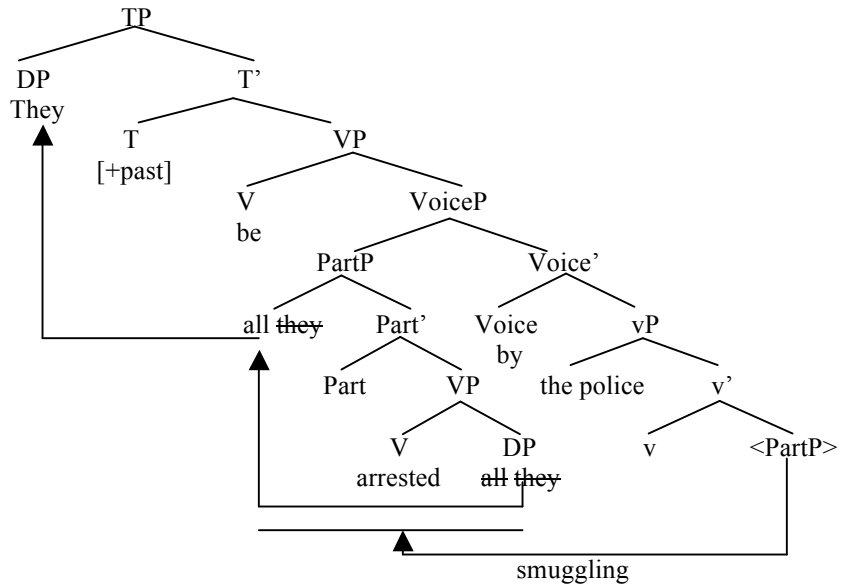
(ii) * pingguo bei Lisi mai-zou-le quanbu
apple BEI Lisi buy-away-LE all
'The apples were all bought by Lisi.'

With further observation, we find that the quantifiers are in the complement positions (i.e. θ-positions). We treat this as a case of the generalized phenomenon mentioned by Bošković (2004:685) that "Quantifiers cannot be floated in θ-positions".

b.



(18)



Again, the difference between the *bei* and *be* passives follows from the fact that Chinese allows object preposing but no smuggling, while English has smuggling but not object preposing.

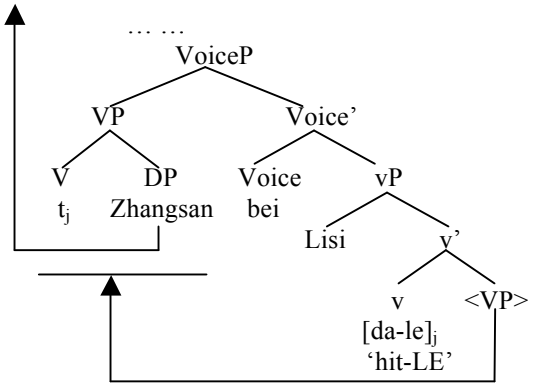
3.3.2. The "by-phrase" constituency test

According to Huang (1999) and HLL (2009), unlike the *by*-phrase in English, the *bei*-DP in Chinese cannot move as a constituent across a time phrase or prepose to a sentence initial position. These facts can be explained if we assume that the English passive has smuggling while the Chinese one does not. In English, after the movement of PartP, the Voice' includes the Voice *by*, the Agent DP and the trace of PartP. That's why the *by*-DP behaves as a constituent. However, since there is no smuggling in Chinese, the Voice' includes *bei*, the Agent DP and the overt VP. Hence, *bei*-DP does not behave like a constituent.

3.3.3. Smuggling is not only unnecessary but also impossible in Chinese passives

According to Soh (1998), verb raising is obligatory in Chinese. This suggests, at first sight, the possibility (C. Collins, p.c.) that smuggling may still be applied after V moves to v, as in (19).

(19)



In (19), after V 'hit' raises to v, the VP containing the trace of V could undergo remnant movement to Spec, VoiceP, thus smuggling the internal argument *Zhangsan* across the external argument *Lisi*. However, we argue that this alternative must be excluded. Passivizing the Theme object in (20a), we get (20b). If there is VP movement to Spec, VoiceP, the dative PP 'to Lisi' should be able to move above *bei*-DP, contrary to fact, as in (20c).

(20) a. Zhangsan song-le yi-ben shu gei Lisi.
Zhangsan give-LE one-CL book to Lisi
'Zhangsan gave a book to Lisi.'

b. na-ben shu bei Zhangsan song le gei Lisi le.
that-CL book BEI Zhangsan give LE to Lisi LE
'That book was given to Lisi by Zhangsan.'

c. *na-ben shu [$_{VP}$ t_V gei Lisi] bei Zhangsan song le t_{VP}
that-CL book to Lisi BEI Zhangsan give LE

4. Extension to Japanese

We suggest that the Japanese *ni* passive does not involve smuggling either, given the availability of object scrambling (Miyagawa 1997 etc.). This can also explain why Chinese *bei* and Japanese *ni* passives do not allow external arguments to be relativized while English *be* passives do, as in (21).

(21) a. *[[Yuehan bei t_i sha-si de] na-ge ren$_i$] lai-le. (Chinese)
John BEI kill-die DE that-CL person come-LE ('=21c')

b. *[[Ken-ga t_i tsukama.e-rare-ta] keisatu.kan$_i$]-ga yuumei-ni nat-ta (Japanese)
Ken-NOM catch-PASS-PAST police.man-NOM famous-DAT become-PAST
Int. 'The policeman that Ken was caught by became famous.' (Ishizuka 2010:97)

c. The person that John was killed by came. (English)

As we know, (21c) is grammatical, in which the external argument below *by* can be relativized. However, this is not the case in Chinese or Japanese, as in (21a) and (21b) respectively. We would like to say that the cases involve a configuration of preposition (P) stranding, and the contrast in (21) is a special case of the difference between English, which allows P-stranding, and Chinese and Japanese, which do not. To be specific, we extend the ban on P-stranding (Hornstein and Weinberg 1981, H&W hereinafter) to overt semi-lexical (light) verbs. Hence, *bei*, *rare*, *by*, etc. are subject to the ban on preposition stranding in (22).

(22) The ban on P^x-stranding
[*P^x ___ …]
(where P^x or the "Extended P" includes the normal P and semi-lexical overt light verbs).

We further assume with H&W (1981) that a reanalysis gives rise apparent P^x stranding, as in (23):

(23) $[_{Px'}$ V … P^x __] → $[_{Px'}$ $[_v$ V … $P^x]$ __]

That is, instead of a stranded P^x, we now have a stranded complex verb, which does not violate the filter in (22). Note that the structural description of the reanalysis must meet the condition that the empty category (EC) is adjacent to P^x, and the structural change must produce a constituent that includes the main V and P^x (which has to be c-commanded by V) *but excludes* the EC.

In the English case, PartP moves to Spec, VoiceP and c-commands the Voice *by*. After the external argument is relativized, the remaining structure meets the condition of reanalysis described in (23). This configuration is shown in (24a). In the Chinese and Japanese cases, since there is no smuggling, VP will not move to a position c-commanding the light verbs *bei* and *rare.* The Chinese and Japanese configurations are shown as in (24b, c) respectively. In Chinese, the verb 'kill-die' does not form a continuous string with *bei* to the exclusion of the EC, but in Japanese the verb 'catch' does. However, this is irrelevant, because in this structure it is still lower than *rare*, so reanalysis does not apply. Hence, both Chinese and Japanese configurations do not meet the structural conditions of reanalysis in (23).

(24) a. $[_{Px'}$ [killed … by] __] (the English configuration)
b. $[_{Px'}$ bei [__ kill-die …]] (the Chinese configuration)
c. $[_{Px'}$ [__ … catch] rare] (the Japanese configuration)

In summary, the difference between English on one hand and Chinese-Japanese on the other follows straightforwardly if we say there is no smuggling in Chinese and Japanese.

Finally, note that the P^x-stranding ban may be independently motivated to cover the pivotal constructions in Chinese and other traditional prepositions that have recently been re-analyzed as light verbs. Some linguists have proposed that *ba* is a light verb heading a *baP* (HLL 2009, a.o.). Others have analyzed prepositions (*zai* 'in', *gen* 'with', *cong* 'from' etc.) and other co-verbs (*bi* 'force', *jiao* 'ask', *rang* 'let', etc.) as light verbs (see Lin 2001, a.o.) We know from early on that these items cannot be stranded:

(25) a. *Zhangsan, wo ba ec da-shang-le.
Zhangsan I BA hit-injured-LE
'Zhangsan hit and injured Lisi.'
b. *Zhangsan, wo gen ec bu shuohua-le.
Zhangsan I with not speak-LE
'I don't speak with Zhangsan anymore.'
c. *zhe-jia fanguan, wo zai ec chifan
this-CL restaurant I in eat
'I am eating in this restaurant.'
d. *ta jia, wo gang cong ec hui-lai.
her home I just from back-come
'I just came back from her home.'
e. *Li Xiaojie, wo bi ec gaijia le.
Miss Li I force re-marry LE
'I have forced Miss Li to re-marry.'
f. *Zhangsan, wo jiao ec bangmang dasao jiaoshi
Zhangsan I ask help clean classroom
'I asked Zhangsan to help clean the classroom.'

If the prepositions in (25a-d) and the higher verbs in (25e-f) are treated as semi-lexical light verbs, we

can extend the ban on P^x-stranding in (22) to cover them.[4]

5. Conclusion

While English, Chinese (and Japanese) passives share similar underlying structures in observance of UTAH, they differ in their (non-)use of smuggling. The conclusion that smuggling is not universal is not necessarily a bad result: while UTAH and minimality are presumably universal requirements, languages may employ different strategies to satisfy them. As we have shown, the non-universal view of smuggling allows us to tie together a number of otherwise unrelated differences among these languages—with respect to the constituency of the '*by* phrase', the distribution of quantifier float, clause-internal object-preposing, and relativization of the subject of a passive.

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[4] There is an important exception under some circumstances, as in (i).

(i) a. Lixiaojie, wo bi-qu gaijia le
Miss Li I force-go re-marry LE
'I have forced Miss Li to re-marry.'
b. Zhangsan, wo jiao-lai ec bangmang dasao jiaoshi
Zhangsan I ask-come help clean classroom
'I asked Zhangsan to come to help clean the classroom.'

The addition of *–lai* 'come' and *–qu* 'go' to the higher verb might make it more like a real, finite verb - hence not a member of P^x and not subject to $*P^x$-stranding.