

RESTRUCTURING THE *TOUGH* APPROACH TO THE MANDARIN LONG PASSIVE*

ALISON BIGGS
University of Cambridge

ABSTRACT A striking property of the Mandarin long passive is the possibility of a long-distance relationship between the initial argument and its gap. The construction has been widely analysed as derivationally equivalent to English *tough*-constructions, and accordingly is a rare example of apparent licit Improper Movement. This paper argues that the Mandarin passive marker *bei* is a restructuring predicate. It follows that the Mandarin long passive does not in fact involve Improper Movement. New data is introduced to support this conclusion. Finally, as restructuring does not appear to have been previously identified in Mandarin, I discuss some consequences the data have for the phenomenon of clause union generally.

1 1. INTRODUCTION

The Mandarin long passive has received much attention in the Chinese syntax literature. The focus of interest has centred on examples such as the following, which show that it is compatible with long-distance dependencies:

- (1) *Nei feng xin bei wo jiao Lisi qing Wangwu tuo ta*
 That CL letter BEI I tell Lisi ask Wangwu request his
meimei ji-zou le [_]
 sister send ASP

Lit: "That letter was told-Lisi-to-ask-Wangwu-to-have-his-sister-send by me."

("That letter was such that I told Lisi to ask Wangwu to have his sister send [it]")

- (2) *Zhangsan bei Lisi pai jingcha zhua-zou le.*
 Zhangsan BEI Lisi send police arrest ASP

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Lit: "Zhangsan was sent-the-police-to-arrest by Lisi."
 ("Zhangsan was such that Lisi sent the police to arrest [him]")
 [Huang et al. 2009:125]

The sensitivity of long-distance long passives to islands (3) and their compatibility with resumptive pronouns (4) are generally taken as indicative that the initial XP is related to its gap via A-movement.

- (3) *Zhangsan bei wo tongzhi Lisi ba zanmei *(ta) de shu*
 Zhangsan BEI I inform Lisi BA praise *(him) DE book
dou mai zou le
 all buy away ASP

Lit: "Zhangsan was by me informed Lisi to buy up all the books that praise [him]."
 ("Zhangsan was such that I informed Lisi to buy up all the books that praise him.")

- (4) (?)*Zhangsan_i bei ren da le ta_i yi-xia.*
 Zhangsan BEI person hit ASP he once

"Zhangsan was hit once by someone."¹ [Huang et al. 2009: 127]

Previous works have focussed on the mechanism of movement relating the initial-XP to its gap, and in particular, the construction's resemblance to English *tough*-constructions (Cheng Huang, Li, and Tang 1993, 1996; Huang 1999; Ting 1998; Tang 2001; Lin 2006, 2009; etc.). However, these accounts do not explicitly discuss the very restricted conditions under which the long distance relationship is permitted. These restrictions indicate that a more nuanced analysis of the long passive is necessary; specifically, its derivation must be distinguished from that of more familiar \bar{A} -relationships, such as object topicalisation.

The present study takes as its starting point the peculiar structure of the complement of *bei*. These properties include that the complement be obligatorily non-finite, and that it is incompatible with temporal reference markers and negation. Based on these observations, an alternative account is developed where *bei* is a restructuring predicate.

The paper is organized as follows. §2 reviews the traditional account of the Mandarin long passive under which the long passive is derivationally equiva-

¹ Although these resumptive pronoun examples are frequently cited in the literature (Huang 1999, Huang, et al. 2009 etc.) my informants found these marginal at best; however, the presence of the adverb *yi-xia* "once" ameliorates the example greatly (as reported in Lin 2006, 2009).

lent to a predicational account of English *tough*-movement. In §3 data is introduced suggesting that *bei* is a restructuring predicate. Having established these properties, §4 examines the status of *bei* in comparison to restructuring predicates in more familiar languages. §5 will address some putative problems with the analysis, in particular the points that contradict previous accounts. I conclude in §6.

2 BACKGROUND

The passive in Chinese is always marked by the passive morpheme *bei*,² with the patient of the lexical verb occurring as the initial XP of the sentence. (5) illustrates an active structure (SVO), (6) a basic passive without an overt agent (the "short" passive), and (7) a passive with an overt agent (a "*by*-phrase"). (7) is the "long" passive.³

- (5) *Wo pian le ta*
 I cheat ASP he
 "I cheated him"
- (6) *Ta bei pian le*
 He BEI cheat ASP
 "He was cheated"
- (7) *Ta bei wo pian le*
 He BEI I cheat ASP
 "He was cheated by me"⁴

The "long" passive must include the *bei* passive morpheme, and the *bei* passive morpheme is directly followed by an overt agent DP. In the interest of neutrality, the agent will henceforth be referred to as the "post-*bei* DP", and the initial XP as the "initial XP". Only the long passive is compatible with a long distance relationship between the initial XP and the gap.

Classical accounts of the passive in languages like English assume some mechanism involving the loss of the Accusative Case-assigning potential of the verb, and the reassignment of the External theta role; the Internal Argument (IA) then raises to spec-T to receive Nominative Case and satisfy the Case Filter (Chomsky 1981; Jaeggli 1986; Baker, Johnson, and Roberts 1989).

² The coversbs *jiao* (lit: "call"), *rang* (lit: "let/allow") and *gei* lit: "give" are interchangeable with *bei* with an overt agent. I return to this in §4.

³ Abbreviations: ASP "aspect marker", BA "object marker", BEI "passive marker", CL "classifier", DE "modification marker", NEG "negation marker", OBJ "object marker"

⁴ Unless otherwise indicated, examples are my own.

Passivization is generally regarded as the canonical example of A-movement, defining A-movement as movement from one A-position [θ -position] to another A-position, traditionally for Case. The sensitivity of the Mandarin long *bei* passive to islands, for example, indicates that it is incompatible with such familiar accounts of the passive, and as such has attracted much attention in the generative Chinese syntax literature.

Instead the long *bei* passive is typically compared to the English-type of *tough*-movement. The structures are illustrated for ease of exposition:

- (8) The burglars were tough for Mario to persuade Steve to pursue.
- (9) (It was tough for Mario to persuade Steve to pursue the burglars.)
- (10) [_{DP}The burglars] were tough [_{CP} for Mario to persuade Steve to pursue [_{DP} _]]
- (11) [_{DP} *Nei feng xin*] *bei* [_{CP/IP} *wo jiao Lisi qing*
 That CL letter BEI I tell Lisi ask
Wangwu tuo ta meimei ji-zou le [_{DP} _]]
 Wangwu request his sister send ASP
 Lit: "That letter was told-Lisi-to-ask-Wangwu-to-have-his-sister-send
 by me."
 ("That letter was such that I told Lisi to ask Wangwu to have his
 sister send it")

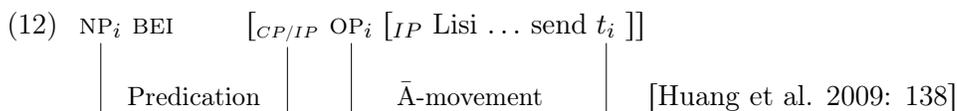
Salient points of comparison include the raising of object-to-subject, subsequent deletion of the object, and long-distance raising across intervening arguments. In addition, it is observed that both require non-finite,⁵ non-propositional complements (Ting 1998). It is thus currently widely accepted that the long *bei*-passive corresponds derivationally to a predicational account (Chomsky 1977, 1981) of English *tough*-constructions (Huang 1999; also Feng 1990, 1995; Chiu 1995; Cheng Huang, Li, and Tang 1996; Ting 1998; Tang 2001; Simpson and Ho 2008; Huang, Li, and Li 2009; Lin 2006, 2009).

The aim of the predicational *tough* account is to account for the relationship between the initial-XP and its gap; the focus of the present study is the unusual structure of the *bei* complement. However, as the conclusions drawn here are not compatible with the predicational account, it is worth highlighting independent reasons for adopting an alternative analysis.

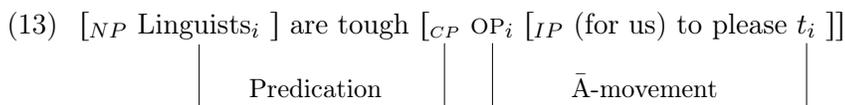
The predicational account, as adapted to the long *bei* passive, holds that the initial XP is base-generated in the matrix IP as an External Argument

⁵ Ian Roberts (p.c.) points out that *persuade*-type verbs may present the exception: "John was tough for us to persuade that the building had collapsed".

(EA) s-selected by the *bei* morpheme. The object of the embedded verb (the gap) is base-generated as a null category *pro* with a null operator (Huang et al. 2009: 121). The base-generated *pro* moves either to the specifier of an embedded CP (Huang et al. 2009: 120), or adjoins to the embedded IP⁶ (Huang 1999, Huang et al. 2009: 121, 138, Ting 1998, Tang 2001, Simpson and Ho 2008, Lin 2009).⁷ From this position the null object is predicated on the matrix subject.



Cf.



Despite the consensus found in the literature, the predicational *tough* account faces a number of technical problems, including those that have long been associated with the operator-movement accounts proposed in Chomsky (1977, 1981) (Brody 1993; Rezac 2006; Hicks 2009). In particular, analyses in which the *tough*-construction subject is base-generated *in situ* (as in Chomsky 1977) violate standard versions of θ -theory (Baker 1988). First, the derivation entails that θ -assignment is non-uniform in the active and passive alternations. Second, in (12), the initial XP bears the θ -role assigned by *bei*; however, the embedded verb must also assign a θ -role to the null object/operator. As the initial XP refers to a unique argument, the single argument refers to both θ -roles, but it is unclear (a) by what mechanism any transfer takes place, (b) whether the initial XP is thematically distinct from the gap or composite, and (c) why a single argument is represented syntactically and thematically twice in the structure.⁸

In short, the theoretical problems centre on the relationship of the initial XP to its gap, where the initial XP must be base-generated as an EA of the

⁶ I follow the literature in using "spec-IP", but in my own discussion I revert to spec-TP. I assume that both TP and AspP are available in Chinese (Sybesma 2007, Lin 2008). Further evidence that distinct projections are available in Mandarin is presented in §3.2.

⁷ The inconsistency presumably follows from the fact that operator movement is generally associated with spec-CP, but, as discussed in §3.1, the *bei* complement is not a full CP. The Ā-nature of the proposed operator movement is consistent with the assumption in the 1970s and early 1980s where IP-adjoined positions were assumed for topicalisation. As this is now a non-standard assumption I will leave this aspect of the analysis to one side.

⁸ See Biggs (2012) for further theoretical and empirical arguments against a predicational *tough* derivation.

passive morpheme *bei*; under the restructuring account developed here, no thematic relationship can hold between the initial XP and *bei*. This issue will be discussed in detail in §4. First, the empirical evidence in support of a restructuring account of the long *bei* passive will be presented.

3 RESTRUCTURING THE LONG *bei* PASSIVE

Whilst the final objective of an account of the Mandarin long *bei* passive is to account for the relationship between the initial XP and its gap, the present account, as already noted, takes as its starting point the structure of the complement of the *bei* morpheme.

In addition to the technical objections relating to the predicational *tough* account of the long *bei* passive discussed above, current accounts cannot account for the full range of empirical properties that the long *bei* passive presents. These properties include that the *bei* complement be obligatorily non-finite, the incompatibility of negation within the *bei* complement, and the restricted temporal reference of the *bei* complement.

These restrictions are clearly reminiscent of those associated with restructuring predicates. "Restructuring", as employed here, is a descriptive term referring to the sub-class of non-finite predicates that are transparent to phenomena that are otherwise clause-bound in a given language; "restructuring" is also known as "clause union". The term therefore does not entail a particular derivational mechanism, but simply that a clause is in some way structurally deficient (Wurmbrand 2001, Cinque 2006). The data introduced here clearly indicates that, in contrast to typical non-finite complements in Mandarin, the *bei* complement lacks at least a CP-layer. Some of the properties identified will be familiar from the descriptive literature; others are developed in detail here for the first time.

3.1 *The bei complement is structurally deficient*

As noted in §2, it well known that the Mandarin long *bei* passive requires non-finite, non-propositional complements. For example, it is noted that in the long passive, replacing a non-finite complement taking verb such as *jiao* "tell, order", with a finite complement taking verb such as *shuo* "tell, say", results in ungrammaticality (Ting 1998: 331; Huang 1999: 15).

- (14) *Nei feng xin bei wo jiao Lisi qing Wangwu tuo ta*
 That CL letter BEI I tell Lisi ask Wangwu request his
meimei ji-zou le
 sister send ASP

Lit: "That letter was told-Lisi-to-ask-Wangwu-to-have-his-sister-send by me."

("That letter was such that I told Lisi to ask Wangwu to have his sister send it")

- (15) **Nei feng xin bei wo shuo Lisi qing Wangwu tuo*
 That CL letter BEI I say Lisi ask Wangwu request
ta meimei ji-zou le
 his sister send ASP

Lit: "That letter was told-Lisi-to-ask-Wangwu-to-have-his-sister-send by me."

("That letter was such that I said to Lisi to ask Wangwu to have his sister send it")

However, because it is a non-inflectional language, the notion of finiteness in Mandarin is a debated issue (Hu, Pan, and Xu 2001; Huang 1989; Li 1990; Lin 2009, 2011). One of the less tendentious diagnostics in Mandarin is the incompatibility of the modal/future marker *hui* with non-finite complements (Lin 2011). The first example shows a finite complement, the second a non-finite complement.

- (16) *Wangwu renwei Lisi hui piping Zhangsan*
 Wangwu thinks Lisi will criticize Zhangsan
 "Wangwu thinks that Lisi will criticize Zhangsan."
 (17) **Wangwu dasuan Lisi hui piping Zhangsan*
 Wangwu plan Lisi will criticize Zhangsan
 "Wangwu plans that Lisi will criticize Zhangsan."

The following demonstrate that *hui* is incompatible with the complement of *bei*, but that it is compatible with *bei* if it occurs in the "matrix" clause (pre-*bei*):

- (18) **Zhangsan bei Lisi hui piping*
 Zhangsan BEI Lisi will criticize
 "Zhangsan will be criticized by Lisi."
 (19) **Nei feng xin bei wo hui jiao Lisi qing Wangwu*
 That CL letter BEI I will tell Lisi ask Wangwu
tuo ta meimei ji-zou le
 request his sister send ASP

Lit: "That letter will be
told-Lisi-to-ask-Wangwu-to-have-his-sister-send by me."
"That letter is such that I will tell Lisi to ask Wangwu to have his
sister send it"

- (20) *Nei feng xin hui bei wo jiao Lisi qing Wangwu*
That CL letter will BEI I tell Lisi ask Wangwu
tuo ta meimei ji-zou le
request his sister send ASP

Lit: "That letter will be
told-Lisi-to-ask-Wangwu-to-have-his-sister-send by me."
"That letter will be such that I tell Lisi to ask Wangwu to have his
sister send it")

The traditional observation that the Mandarin long *bei* passive requires a non-finite complement thus holds. However, it appears that the *bei* complement is significantly structurally reduced relative to typical non-finite complements.

Mandarin non-finite verbs in control structures exhibit a CP layer (Biggs 2011a). Evidence for this comes from the availability of topicalisation. Topicalisation is a reliable diagnostic for the presence of a CP in Mandarin as topicalisation sites are available in all CPs:

- (21) [*Zhangsan*], *wo zhidao* [*Zhangsan*], *Lisi juede* [*Zhangsan*],
Zhangsan, I know Zhangsan Lisi feels Zhangsan
nimen dou hui xihuan
you.PL all will like
"Zhangsan, I know that Lisi feels you will all like."

Topics are also permitted in non-finite contexts:⁹

- (22) *Wo zhunbei mingtian xiawu tian hei yihou lai*
I expect tomorrow afternoon sky black after come

⁹ Although Biggs (2011a) demonstrates that in non-finite contexts topics are restricted to the "base-generated" type (also known as "hanging topics"). Base-generated topics merge directly into a CP, and therefore, unlike topics derived via A"-movement, they are insensitive to islands:

- (i)

	Wo	quan	ta	shuiguo	(Zhangsan)	zhi	xuan	[bu
	I	persuade	him	fruit	(Zhangsan)	only	select	neg
	pa	chi	[(shuiguo	zhong	de)	pingguo]	de]	ren
(i)	fear	eat	apple	people	de			

"I persuaded him, [when it comes to] fruit, (Zhangsan) only chooses people who are not afraid to eat apples."

"I plan to come tomorrow afternoon after it gets dark."

- (23) *Wo bi Lisi buguan fasheng shenme shi dou bixu*
 I force Lisi no matter happen what thing all need
ba dongxi zhao hui-lai
 OBJ thing find return

"I forced Lisi to find that thing no matter what happened."¹⁰

However, the complement of *bei* does not permit topicalisation to the edge of the embedded complement (neither topicalised arguments nor "base-generated" topics; see fn. 9):

- (24) **Zhangsan bei jingcha Lisi pai zhua-zou le.*
 Zhangsan BEI police Lisi send arrest ASP
 Lit: "Zhangsan, police, was sent-to-arrest by Lisi."
 ("Zhangsan was such that it was the police that Lisi sent the police to arrest [him]")

- (25) **Lisi bei zuotian xiawu wo bi ba dongxi zhao*
 Lisi BEI yesterday afternoon I force OBJ thing find
hui-lai le
 return ASP

"Lisi was forced by me to find that thing this afternoon."

Given the ubiquity of topics, their exclusion from passive contexts is unexpected if they involve a full CP complement. In fact, no material can intervene between the *bei* morpheme and the post-*bei* DP, despite the fact that *bei* does not form a constituent with the post-*bei*; this is discussed fully in §3.4.

Additional evidence that the complement of *bei* lacks a CP comes from the scope of interrogative particles. Mandarin exhibits a root/ embedded distinction, such that clause final particles hold scope over matrix CPs, to the exclusion of embedded CPs. This observation is true of both finite and non-finite complements (Li and Thompson 1981:556-7; Biggs 2011b).

- (26) *Ta bu zhidao Zhangsan zai zuo fan ma?*
 She NEG know Zhangsan at make food PART
 "Doesn't she know that Zhangsan is cooking?"
 *"She doesn't know if Zhangsan is cooking or not?"

¹⁰ In non-finite contexts the presence of the topic licenses an overt subject in place of PRO.

- (27) *Hongjian dasuan Zhangsan xi wan ne?*
 Hongjian plan Zhangsan wash bowl PART
 "Is Hongjian planning that Zhangsan will do the washing up?"
 *"Hongjian plans that Zhangsan will wash up or won't?"

In contrast, question particles in passive structures appear to be ambiguous; my informants reported the availability of both a "matrix" and an "embedded" reading. This ambiguity suggests that there is no intervening embedded CP.¹¹

- (28) *Zuotian yurou bei Zhangsan bi Lisi chi le ma?*
 yesterday fish BEI people force Lisi eat ASP PART
 "Yesterday, was it fish that Zhangsan forced Lisi to eat?"
 "Yesterday, did Zhangsan force Lisi to eat fish?"

In short, this Section has shown that the complement of the *bei* passive is obligatorily non-finite, but that its syntax is more restricted than that of typical non-finite complements in Mandarin; the restrictions involved - the absence of topicalisation, and the ambiguous scope of sentence final interrogative particles - suggests that the complement of *bei*, unlike typical non-finite complements in Mandarin, lacks a CP. We now turn to the syntax of negation, temporal particles and adverbs, for further evidence that *bei* is a restructuring predicate.

3.2 *Restricted temporal reference*

A classic property of restructuring predicates is that the temporal reference of a restructured complement is restricted relative to that of the matrix clause; this is again assumed to follow from the structural deficiency of the embedded complement. Specifically, if the *bei* morpheme is a restructuring predicate, its complement should be incompatible with independent tense specification.¹² The incompatibility of the verb final aspect particle *le* provides initial support for this claim. The perfective aspect particle *le* can be employed following the verb (denoting, roughly, a specific end point to an action), or sentence finally

11 Biggs (2011b) shows that this root/embedded distinction follows from intervention effects, rather than the structural truncation of embedded CPs.

12 The relationship between restructuring and tense is complex. Wurmbrand (2001:91-9) shows that restructuring entails a tenseless complement, where tenseless should be understood syntactically rather semantically; for example, many inherently aspectual verbs (such as German *beginnen* "begin") are restructuring predicates. In line with Wurmbrand (2001) and Landau (2000), tenseless-ness is therefore considered a necessary (rather than a sufficient) condition for restructuring.

(denoting, roughly, a non-specific completed event). Verb final *le* is impossible in the complement of *bei*:¹³

- (29) *Nei feng xin hui bei wo jiao (*le) Lisi qing (*le)*
 That CL letter will BEI I tell ASP Lisi ask ASP
Wangwu ji-zou le
 Wangwu send ASP
 Lit: "That letter will be told-Lisi-to-ask-Wangwu-to-send by me."
 ("That letter is such that I told Lisi to ask Wangwu to send it")

Clearly however, the sentence final aspect particle (SFP) *le* is compatible with the long *bei* passive. This requires some discussion of the notion of non-independent tense.

In discussion of restricted temporal reference it is typical to distinguish "dependent" from "anaphoric" tense. The approach adopted here follows Landau's (2004) terminology, such that dependent tense describes a context in which the tense of an embedded clause is constrained by (although not necessarily identical to) the matrix tense, whereas anaphoric tense refers to complements whose tense must be identical to that of the matrix clause. For convenience, this can be represented as follows:

- (30) Specifying [T] on embedded I^0/C^0
- a. Anaphoric tense [-T] on I^0/C^0
 - b. Dependent tense [+T] on I^0/C^0
 - c. Independent tense [+T] on $I^0/$, O on C^0 (Landau 2004: 839)

Following Landau (2004), whether embedded tense is anaphoric, dependent, or independent is determined by the semantic class of the matrix verb (in this instance *bei*) and not by the presence or absence of morphological tense marking. The relevant diagnostic is thus the availability of tense sequencing.

In Mandarin, when SFP *le* occurs in a complement (finite or non-finite) it obligatorily scopes over the embedded predicate (i.) (in contrast to the discourse particles discussed in the previous Section); SFP *le* also optionally scopes over the matrix predicate (ii.); crucially, it cannot scope over the matrix predicate to the exclusion of its complement (iii.):

- (31) *Ta bu zhidao Zhangsan zuo fan le.*
 She NEG know Zhangsan make food ASP

13 Although it should be noted that verb final *le* is incompatible with non-finite complements generally.

- i. "She **doesn't know** that Zhangsan **had cooked**"
 - ii. "She **didn't know** that Zhangsan **had cooked**"
 - iii. *"She **didn't know** that Zhangsan **is cooking**."
- (32) *Ta bu zhunbei Zhangsan zuo fan le.*
 She NEG expect Zhangsan make food ASP
- i. "She **doesn't expect** that Zhangsan **cooked**"
 - ii. "She **didn't expect** that Zhangsan **had cooked**"
 - iii. *"She **didn't expect** that Zhangsan **is cooking**."

Therefore, in typical finite and non-finite examples the embedded clause may exhibit independent temporal reference.¹⁴ In contrast, although SFP *le* is compatible with the *bei* passive, it obligatorily scopes over the entire event:

- (33) *Nei feng xin bu bei wo jiao Lisi ji-zou le*
 That CL letter NEG BEI I tell Lisi send ASP
 Lit: "That letter will have been told-Lisi-to-be-sent by me."
 i. *"That letter is not the one that I told Lisi to have sent."
 ii. "That letter was not the one that I told Lisi to have sent."
- (34) *Nei feng xin hui bei wo jiao Lisi qing Wangwu ji-zou le*
 That CL letter will BEI I tell Lisi ask Wangwu send ASP
 Lit: "That letter will be told-Lisi-to-ask-Wangwu-to-send by me."
 i. *"That letter will be such that I told Lisi to ask Wangwu to send it"
 ii. "That letter will have been such that told Lisi to ask Wangwu to send it."

This suggests that that the complement of *bei* cannot exhibit independent temporal reference. Temporal adverbs offer further evidence to this effect. Temporal adverbs are compatible with the long *bei* passive where the adverb occurs in a "matrix" context (pre- *bei*):

- (35) *Mingtian xiawu nei feng xin bei wo jiao Lisi qing Wangwu ji-zou le*
 Tomorrow afternoon that CL letter BEI I tell Lisi ask Wangwu send ASP

¹⁴ These examples offer independent support for the argument that tense and finiteness are independent notions (Dalmi 2005; Landau 2004).

Lit: "Tomorrow afternoon that letter,
tell-Lisi-to-ask-Wangwu-to-send by me."
"Tomorrow afternoon, that letter is such that I will tell Lisi to ask
Wangwu to send it"

Temporal adverbs are not, however, possible within the *bei* complement. (38) is particularly interesting as it suggests that the problem is not simply non-dependent temporal specification that is at fault, but *any* temporal specification within the complement. This offers initial evidence that the complement of *bei* exhibits anaphoric tense.

- (36) **Zhangsan bei Lisi zuotian piping le yidun.*
Zhangsan BEI Lisi yesterday criticize ASP once
"Zhangsan was criticized by Lisi once yesterday." [Ting 1998:
fn.26(i)]

- (37) **Nei feng xin bei wo mingtian xiawu jiao Lisi qing*
That CL letter BEI I tomorrow afternoon tell Lisi ask
Wangwu ji-zou le
Wangwu send ASP
Lit: "That letter, tomorrow afternoon,
tell-Lisi-to-ask-Wangwu-to-send by me."
"That letter is such that tomorrow afternoon I will tell Lisi to ask
Wangwu to send it"

- (38) **Zhei ming xuesheng bei laoshi zuotian jiao fumu*
This CL student BEI teacher yesterday tell parents
piping (le)
criticise ASP
"This student is such that the teacher will tomorrow tell his parents
to criticise him."

In contrast manner and location adverbs are permitted between the post-*bei* DP and the embedded verb (see also §5.1):

- (39) *Zhei ming landuo de xuesheng bei laoshi qiaoqiao de*
This CL lazy DE student BEI teacher on-the-quiet DE
jiao fumu piping le
tell parents criticise ASP
"This lazy student is such that the teacher has secretly told his
parents to criticise him."

- (40) *Zhei ming landuo de xuesheng bei laoshi zai xuexiao jiao*
 This CL lazy DE student BEI teacher at school tell
fumu piping le
 parents criticise ASP
 "This lazy student is such that the teacher told his parents at school
 to criticise him."

Finally, the following illustrates that temporal adverbs are otherwise compatible with non-finite clauses in Mandarin:

- (41) *Wo zhunbei mingtian xiawu yihou lai.*
 I expect tomorrow afternoon after come
 "I plan to come after tomorrow afternoon."

The data discussed here, particularly that regarding the apparent impossibility of temporal adverbs in the complement of *bei* is compatible with the tentative conclusion that the complement of *bei* exhibits anaphoric tense. This conclusion is expected if *bei* is a restructuring predicate.

The issue requires further investigation however. A particular issue, that should be clear from the above discussion, is that Mandarin exhibits aspect rather than tense marking (although, following Sybesma 2007, tense is also [covertly] present). (While tense temporally references a situation in a sentence with regard to the utterance itself, aspect can express various perspectives on the situation described). Previous studies have demonstrated that aspect does not interact with restructured (or controlled) complements in the same way as tense (Wurmbrand 2001; Landau 2000, 2004). I leave the issues to future research.

3.3 Absence of negation

A final property of the long *bei* passive that is suggestive of restructuring is its incompatibility with negation. It has long been observed that markers of negation *bu* and *mei* cannot occur within the *bei* passive complement (Hashimoto 1988):

- (42) **Lisi bei Zhangsan mei-you da.*
 Lisi BEI Zhangsan NEG-have hit
 "Lisi wasn't hit by Zhangsan"
- (43) **Nei feng xin bei wo bu jiao Lisi ji-zou.*
 That CL letter BEI I NEG tell Lisi send
 "That letter was such that I did not tell Lisi to send it."

It is only possible to negate the *bei* passive if the structure is treated as a single domain, with the negation marker preceding the *bei* morpheme:

- (44) *Lisi mei-you bei Zhangsan da*
 Lisi NEG-have BEI Zhangsan hit
 "Lisi wasn't hit by Zhangsan"
- (45) *Lisi bu bei Zhangsan bi chou-yan*
 Lisi NEG BEI Zhangsan force smoke
 "Lisi wasn't forced to smoke by Zhangsan"

It has been shown across a range of languages that restructuring predicates prohibit embedded negation (Kayne 1989; Wurmbrand 2001). Kayne (1989) suggests that this follows from the requirement that clausal negation requires a (local) relationship with a CP operator; the lack of negation in restructured complements therefore follows from the lack of a CP. An alternative analysis assumes that sentential negation is represented by a functional projection NegP above VP (Haegeman and Zanuttini 1991). If restructuring predicates lack an embedded TP, this functional projection is not available, and the absence of negation follows (Wurmbrand 2001:118). Leaving analysis aside for the present, the unavailability of negation in the passive complement is highly suggestive that *bei* is a restructuring predicate.

3.4 *The bei morpheme: prepositional or verbal?*

To complete the picture, a restructuring account entails that the *bei* passive morpheme is (at least semi-)verbal. Although the morpheme *bei* superficially resembles English *by* by "introducing" the agent DP, this is a relatively uncontroversial assumption.

First, *bei*-DP does not distribute with other PPs. PPs in Mandarin can prepose to sentence-initial position, and do not exhibit a fixed ordering. This flexibility is not true of the *bei* and the post-*bei* DP, which must occur in a fixed position (Li 1990: 157-64; HLL 2009:116-119):

- (46) *Zhangsan zuotian bei Lisi da le*
 Zhangsan yesterday BEI Lisi hit ASP
 "Zhangsan was hit by Lisi yesterday"
- (47) **Bei Lisi Zhangsan zuotian da le*
 BEI Lisi Zhangsan yesterday hit ASP

Cf.

- (48) *Wo gen Zhangsan hen chudelai*
 I with Zhangsan very get-along
 "I get along well with Zhangsan"
- (49) *Gen Zhangsan wo hen chudelai*
 With Zhangsan I very get-along
 "I get along well with Zhangsan" [Huang et al. 2009:116]

In addition, *bei* does not form a constituent with the agent DP that follows it, as illustrated by the following coordination test:

- (50) *Ta bei Lisi ma le liang sheng, Wangwu ti le san*
 He BEI Lisi scold ASP two CL, Wangwu kick ASP three
xia
 times
 "He was scolded twice by Lisi, and kicked three times by Wangwu"
 [Huang et al. 2009: 117]

For these reasons it is widely assumed that *bei* is verbal¹⁵ (for more detailed discussion see Li 1990; Ting 1998; Tang 2001; Huang 1999; Huang, et al. 2009:115-8). The present account offers a more detailed understanding of the nature of this predicate.

In particular, the restructuring account is compatible with the observation that *bei* is clearly only semi-lexical (Li 1990: 245). For example, it is incompatible with aspect particles, and cannot form verb-NEG-verb polar questions.

- (51) **Ta bei-bu-bei Zhangsan pian*
 He BEI-NEG-BEI Zhangsan cheat
 "He was cheated by Zhangsan"
- (52) **Ta bei-le Zhangsan pian*
 He BEI-ASP Zhangsan cheat
 "He was cheated by Zhangsan"

Evidence from the extreme defectivity of the complement of *bei* and the "functional" nature of the predicate itself are suggestive that *bei* is a restructuring predicate. The remainder of this paper addresses some apparent problems with this analysis.

15 Diachronic evidence also supports this conclusion: Wei (1994) shows that historically *bei* was a verb meaning "to undergo, suffer", and taking a clausal complement.

4 RESTRUCTURING VARIATION

Although the properties described above bear a striking resemblance to those properties familiar from restructuring predicates in German, Japanese, and the Romance languages, there are some points of divergence. In itself, this is unsurprising. Wurmbrand (2001) demonstrates that restructuring infinitives do not form a uniform class, and may vary both inter- and intra-linguistically. However, a notably unusual property of the long passive, from a cross-linguistic perspective, is the status of the post-*bei* DP. Typically arguments are ruled out in this position.

In general the relationship between *bei* and the post- *bei* DP is not well understood. As noted in §3.4, it is generally assumed that *bei* does not form a constituent with this DP. However, it has been previously suggested that *bei* is an ECM verb (Ting 1998:341). The evidence for this is not compelling, but simply follows from the obligatory adjacency between *bei* and the post-*bei* DP; under the present account, the adjacency requirement follows from the structural deficiency of the complement. Thus there is no reason to pursue this further.

Two alternatives suggest themselves. The first is that *bei* is thematically deficient, selecting neither an Internal nor an External Argument (see also §5.2); the predicate *bei* would essentially be an auxiliary or light verb. This is a familiar conclusion about the status of restructuring predicates (Napoli 1981; Kayne 1989; Roberts 1997; Cinque 2006, etc). In this instance, the post-*bei* DP would simply be a thematic argument of the embedded lexical verb.

- (53) *Zhangsan bei Lisi pai jingcha zhua-zou le.*
 Zhangsan BEI Lisi send police arrest ASP
 Lit: "Zhangsan was sent-the-police-to-arrest by Lisi."
 ("Zhangsan was such that Lisi sent the police to arrest [him]")

An alternative possibility is that *bei* is an object control verb. This might be considered problematic given the claim in the literature that object control verbs are incompatible with restructuring predicates (Kayne 1989: 248; Cinque 2006: 23), yet the examples given already of the long *bei* passive should indicate that the construction shows a strong preference for object control complements. In fact, subject control verbs seem to be in most cases deemed ungrammatical:

- (54) *?/*Nei feng xin bei wo dasuan jiao Lisi ji-zou le*
 That CL letter BEI I plan tell Lisi send ASP
 "That letter is such that I plan to tell Lisi to send it."

- (55) **Zhangsan bei Lisi fashi pai jingcha zhua-zou le*
 Zhangsan BEI Lisi vow send police arrest ASP
 "Zhangsan is such that Lisi ... "

One solution to this problem might be that the availability - or not - of object control verbs as a restructuring trigger simply varies cross-linguistically. There are some suggestions that some languages do permit object control restructuring predicates, including German (Wurmbrand 2001: 342), Spanish (Moore: 1994) and Old French (Roberts 1997: fn.17).

An alternative is to pursue the suggestion that apparent examples of object control restructuring may be "hidden instances of the causative construction" (Kayne 1989: 248). There are two pieces of suggestive evidence that this may be on the right track.

Shefa "try" appears to be an exception to the restriction against subject control verbs; however, *shefa* may also occur with an object:

- (56) *Tuolaji bei Zhangsan shefa xiuli le liang-ci*
 Tractor BEI Zhangsan try repair ASP twice
 "The tractor was such that Zhangsan tried to fix it twice"
- (57) *Tuolaji bei Zhangsan shefa Lisi xiuli le*
 Tractor BEI Zhangsan try Lisi repair ASP
 "The tractor was such that Zhangsan tried [to get] Lisi to fix it twice"

In the second example, *shefa* "try" has a causative reading suggesting this is the necessary property to participate in the structure. In addition, although *bei* is the usual passive marker, a number of other verbs can function in this construction. If the agent is specified, *jiao* "tell", *rang* "let", or *gei* "give" can be employed as a passive marker:

- (58) *Haizi jiao/ rang/ gei fuqin da le yi dun*
 Child PASS father hit ASP one MEASURE
 "The child was hit by the father."
- (59) *Ta-de huzhao jiao ren touzou le.*
 His passport PASS person steal ASP
 "His passport was stolen by someone."
- (60) *Ta-de zixingche jiao ta airen gei mai le.*
 His bike PASS his spouse give sell ASP
 "His bike was sold by his spouse."

From this data we can draw the tentative conclusion that the *bei* predicate is amenable to an analysis in which it acts as a semi-functional restructuring predicate. Full exploration is beyond the scope of the present paper, and I leave this problem open to further research.

5 APPARENT EMPIRICAL PROBLEMS

Whilst I assume that restructuring represents a non-uniform phenomenon, there are a number of standard assumptions relating to restructuring predicates - particularly those that are more "functional", as in §4 - that contradict the empirical facts presupposed by the predicational account introduced in §2. In particular, the predicational account suggests (a) that the long *bei* passive is bi-clausal, and (b) that *bei* thematically selects an External Argument. Evidence is presented here that contradicts these conclusions, and offers additional support in favour of the restructuring account developed here.

5.1 *The long bei passive is not bi-clausal*

As already discussed, the properties described in §3 are typically accounted for in the clause-union literature by some notion of structural deficiency. In line with this, §3 has shown that the syntax of the complement of the *bei* complement is severely restricted relative to typical non-finite complements in Mandarin. Evidence from topicalisation and question particles (§3.1) demonstrated that the *bei* complement lacks at least a CP; this conclusion has been independently drawn in many other studies (Huang 1999, Huang et al. 2009: 121, 138, Ting 1998, Tang 2001) and should not be controversial.

However, these previous studies suggest that the *bei* morpheme selects an IP complement. This assumption appears to follow from the status of the post-*bei* DP, the agentive argument. In English passives, the agentive argument (the *by*-phrase) is typically viewed as an adjunct. However, the post-*bei* DP appears to act as a syntactic argument. This can be shown by comparing its sensitivity to the anaphor *ziji* "self", to that of a PP, which behaves as an adjunct. The referential properties of *ziji* are complex, but it can in general be bound to any argument in a structure, preferentially to the highest structural subject. However, *ziji* cannot be bound to adjuncts. In the following example, the adjunct PP *gen* "with" introduces the participant *Lisi*; here *Lisi* cannot bind the subject oriented anaphor *ziji*.

- (61) *Akiu_i gen Lisi_j taolun [ziji_{i/*j} de jingyan]*
 Akiu with Lisi discuss SELF DE experience
 "Akiu discussed his own experience with Lisi." [Chiu 1993: 88]

This contrasts with the *bei* passive, where, although the anaphor is preferentially associated with the highest structural subject, an alternative reading is available where the anaphor is coreferential with Lisi.

- (62) *Akiu_i bei Lisi_j jieshao gei [ziji_i?_j de erzi]*
 Akiu BEI Lisi introduce to SELF DE son
 "Akiu was introduced to self's son by Lisi." [Chiu 1993: 88]

Although the post-*bei* DP is therefore argumental, it is not clear that a full TP is selected by *bei*. Evidence in favour of this, following Cinque (1999), might come from the relative ordering of adverbs. Indeed, the post-*bei* agent DP of the passive appears to be compatible with adverbs at least as high as *always*, which would suggest that *bei* selects a TP complement:

- (63) *Zhei ming landuo de xuesheng bei laoshi ganggang jiao*
 This CL lazy DE student BEI teacher just tell
fumu piping le yidun
 parents criticise ASP CL
 "This lazy student is such that the teacher has just told his parents to criticise him."
- (64) *Zhei ming landuo de xuesheng bei laoshi zongshi jiao*
 This CL lazy DE student BEI teacher always tell
fumu piping le yidun
 parents criticise ASP CL
 "This lazy student is such that the teacher always tells his parents to criticise him."

In fact, the relative ordering of adverbs might suggest that the embedded DP is realised relatively high in the clause:

- (65) *Zhei ming landuo de xuesheng bei laoshi yijing jiao*
 This CL lazy DE student BEI teacher already tell
fumu piping le yidun
 parents criticise ASP CL
 "This lazy student is such that the teacher already told his parents to criticise him."
- (66) *Zhei ming landuo de xuesheng bei laoshi changchang jiao*
 This CL lazy DE student BEI teacher often tell
fumu piping yidun
 parents criticise ASP CL

"This lazy student is such that the teacher often tell his parents to criticise him."

- (67) (?) *Zhei ming landuo de xuesheng bei laoshi yexu jiao fumu piping le yidun*
 This CL lazy DE student BEI teacher perhaps tell parents criticise ASP CL

"This lazy student is such that the teacher perhaps tells his parents to criticise him."

- (68) (??) *Zhei ming landuo de xuesheng bei laoshi xianran jiao fumu piping le yidun*
 This CL lazy DE student BEI teacher evidently tell parents criticise ASP CL

"This lazy student is such that the teacher evidently tells his parents to criticise him."

However, a comparison with SOV focus structures suggest that the adverbs in question are also compatible within v(*)P. In SOV structures the unmarked preposed object - which moves for discourse effect - remains below IP (possibly as low as vP). Despite its low position in the clausal structure, it is compatible with these "high" adverbs:

- (69) *Daduo xuesheng nei ben shu yijing kan le*
 Most student that CL book already read ASP

"Most students, that book, have already read."

- (70) *Daduo xuesheng nei ge jiemu changchang kan*
 Most student that CL programme often watch

"Most students, that programme, often watch."

At present it is therefore unclear how deficient the complement of *bei* is, but, in contrast to previous approaches to the Mandarin passive, I do not rule out the possibility that the complement of *bei* is as minimal as vP.¹⁶

¹⁶ Cinque (2006) argues that there is only functional restructuring, and that restructured clauses are mono-clausal. As the data regarding the size of the *bei* complement is not clear-cut, I leave this more extreme view to future investigation. Instead, I follow Wurmbrand's (2001) conclusion that the restructuring phenomenon is non-uniform, and that the size of the complement may vary depending on the restructuring predicate in question.

5.2 *The initial XP is not an External Argument of bei*

Restructuring predicates, particularly those that are more "functional", are typically assumed not to select an External Argument (Napoli 1981; Wurmbrand 2001; Cinque 2006). This contradicts the analysis of the long passive in §2, where, in accordance with the predicational *tough* account, the initial XP is base-generated as the EA of *bei*. This Section shows that the evidence supporting this claim is weak, and that there is good reason to view the initial-XP as base-generated as the IA of the lexical verb as with more familiar passives, and in line with a (functional) restructuring account.

5.2.1 *Subject-oriented adverbs are not a reliable diagnostic*

The observation that subject-oriented adverbs like *guyi* "deliberately, intentionally" may occur pre-*bei* referring exclusively to the initial XP is typically cited in support of a thematic relationship between the passive morpheme *bei* and the initial XP (Cheng et al. 1996; Ting 1998: 339; Huang 1999:428; Huang et al. 2009: 115):

- (71) *Zhangsan guyi bei Lisi da le.*
 Zhangsan intentionally BEI Lisi hit ASP
 "Zhangsan intentionally got hit by Lisi."¹⁷

This is typically contrasted with the English *be*-passive, which is incompatible with subject-oriented adverbs (Lasnik and Fiengo 1974: 552f.):

- (72) *The pedestrian deliberately was hit.
 (73) ??Rodman intentionally was fouled by Ewing.

It is argued that subject-oriented adverbs such as *guyi* "intentionally" impose a selectional restriction on their subjects, such that they are exclusively compatible with Agent and Experiencer θ -roles (Huang 1999, Tang 2001). Thus, the argument goes, in contrast to the initial XPs of English passives (which retain "pure" Patient-roles following movement) the initial XP of Chinese passives cannot be base-generated as the patient of a passivized verb; rather, the compatibility of the initial XP with the selectional restrictions of subject-oriented adverbs indicates that they are base-generated as Agent or Experiencer EAs of *bei* (Cheng et al.: 1996; Ting 1998:326; Huang 1999:428; Tang 2001:281; Huang et al. 2009:115).

¹⁷ The *get* passive in English is, for the most part, far more natural with subject-oriented adverbs than *be*-passives. This is not relevant to the present analysis.

However, this greatly oversimplifies the complex issue of subject-oriented adverbs, and particularly their behaviour in passives. For example, Jackendoff (1972) observes that subject-oriented adverbs may be construed with both "deep" and "surface" subjects in passive contexts in English. To illustrate, where the adverb follows the auxiliary in (74) reference is ambiguous for most speakers; however, where the adverb precedes the auxiliary in (75), reference is restricted to the initial XP:

(74) Katherine was intentionally seduced by John.

(75) Katherine intentionally was seduced by John.

[based on Jackendoff 1972:82]

(76) Katherine was willingly hired by the contractor.

(77) Katherine willingly was hired by the contractor. [Ernst 2009: 106]

Scope of reference does not exhibit a one-to-one relationship with θ -roles, and nor is it an argument's θ -role that exclusively determines adverb compatibility.¹⁸ Instead, a combination of θ -role, lexical argument, and relative ordering influence interpretation. Discourse structure or context is also relevant; for example, the following appears much improved in comparison to (73):

(78) In an audacious move Rodman intentionally was fouled by Ewing,
unscrupulously gaining the winning free kick for the blues.

In this last respect, it is interesting that it is noted that adverbs in the Chinese passive are also sensitive to discourse structure: subject-oriented adverbs are reported as much improved if *guyi* "intentionally" is focussed using the *shi...de* "is... FOC" focus construction (Huang 1999: fn. 2(i); Tang 2001: fn. 29):

(79) *Zhangsan shi guyi bei Lisi da de*
Zhangsan FOC intentionally BEI Lisi hit FOC
"It was intentional that Zhangsan was hit by Lisi."

The complex interaction between subject-oriented adverbs and the initial XP in passive structures would clearly benefit from further investigation. For the present however, given that the English *be*-passive is not taken to involve

¹⁸ See Roberts (1987: chapter 3) for additional discussion of adverbs and the English passive.

a distinct argument structure from its active counterpart despite its compatibility with certain adverbs, I will not take examples such (14) as conclusive proof that the initial XP of the Chinese long passive bears a direct selectional relation to the *bei* morpheme.

5.2.2 *New evidence from quantifier scope*

The diagnoses for ambiguous quantifier scope involve the possibility of an "inverse scope" reading, in which a universally quantified object takes wider scope than the existentially quantified subject, resulting in a "distributive" reading. For example, in an English active sentence there need not be a unique agent acting on every object named by the event, but rather, for each object in the universe of discourse, a potentially different agent may have acted upon it. This ambiguity is not available in an English passive structure.

(80) Someone examines every student. $(\exists > \forall, \forall > \exists)$

(81) Every student was examined by someone. $(\forall > \exists, ?/* \exists > \forall)$

It has been observed that in Mandarin, in contrast to English, the scope of an active sentence is rigid with respect to surface ordering:

(82) *Yi ge nuren zhuazou le mei ge ren*
 one CL woman arrest ASP every CL person
 "A woman arrested everyone" $(\exists > \forall, * \forall > \exists)$ ¹⁹
 [Aoun and Li 1993: 17]

Of interest here is that Mandarin passive sentences are ambiguous; the following is open to both a narrow and wide scope readings:²⁰

(83) *Mei ge ren dou bei yi ge nuren zhua-zou le*
 Every CL person all BEI one CL woman arrest ASP
 "Everyone was arrested by a woman" $(\forall > \exists, \exists > \forall)$
 [Aoun and Li 1993: 17]

However, these examples are open to criticism. Configurations involving an \exists subject and an \forall object are typically taken as a more reliable diagnostic

¹⁹ Huang (1999) argues that the passive example is unambiguous, as in the English translation; however my informants unanimously reported the ambiguity readings suggested in Aoun and Li (1993).

²⁰ A complication is that, as will be demonstrated, the post-*bei* DP is not demoted in, e.g. Relational Grammar terms, but is simply embedded: it remains in spec-TP; what is crucial to the present argument the availability of the ambiguity, as this is indicative of reconstruction.

for inverse scope than the reverse (a \forall subject and an \exists object), as the reading ($\forall > \exists$) truth-conditionally entails the ($\exists > \forall$) reading, but not vice versa. In addition, object indefinites often enjoy wide scope for independent reasons (Reinhart 1997). Instead the contrast for inverse scope possibilities should be demonstrated in a passive structure where an indefinite existential subject receives narrow scope with respect to a universally quantified object, *contra* surface ordering.

A problem with this test is that Mandarin exhibits a Definiteness Effect, disallowing indefinites in subject/topic position of matrix clauses. However, this restriction does not hold in embedded contexts (see Biggs 2011b for more discussion). The following shows that the inverse scope possibility is also available with an indefinite universally quantified subject:

- (84) *Zhangsan renwei [mei ge laoshi ceshi le you
Zhangsan reckon every CL teacher examine ASP some
xuesheng de fayu]
student DE French
"Zhangsan reckons every teacher examined some student's French"
($\forall > \exists, ??\exists > \forall$)*

- (85) *Zhangsan renwei [you xuesheng de fayu bei mei ge
Zhangsan reckon some student DE French BEI every CL
laoshi ceshi le]
teacher examine ASP
"Zhangsan reckons some student's French was examined by every
teacher"
($\exists > \forall, \forall > \exists$)*

These examples demonstrate that existentially quantified subjects, not just universal quantifiers (Aoun and Li 1993), are preferred with a wide scope reading ($\exists > \forall$) in active sentences. In contrast, Mandarin passives with existential quantifiers are ambiguous between wide ($\exists > \forall$) and narrow ($\forall > \exists$) readings. Precise analysis of these facts aside, I assume that the scopal ambiguity exhibited in the passives in (83) and (85) requires the surface initial XP to hold an underlying syntactic association with a position within the c-command domain of "a woman" and "teachers" respectively. The contrast is unexpected if the initial XP is base-generated *in situ* as an EA of *bei*, as operator movement should not permit reconstruction.²¹

²¹ The potential to reconstruct for scope is a classic A/ \bar{A} -diagnostic in languages such as English. However, in contrast to languages like English where A-movement does not reconstruct, in languages such as Japanese and German the lack of A-reconstruction (in short scrambling) only concerns binding; A-movement does allow reconstruction for scope (Wurm-

6 CONCLUSION

The aim of this account is to examine the nature of the very restricted conditions under which the Mandarin long *bei* passive can occur. I have argued that the *bei* passive morpheme is a restructuring predicate, and that the restricted syntax exhibited in the long passive follows from the extreme structural deficiency of the complement.

Although postulating a restructuring predicate may appear controversial in a language such as Mandarin, restructuring accounts for a wider range of data of the long *bei* passive than the traditional predicational *tough* analysis. Establishing the conditions under which a long-distance long passive is permitted lays the groundwork for full investigation of the unusual relationship between the initial XP and its gap.

brand 2009). The data given here therefore does not entail that the initial-XP is related to its gap via A-movement; the relationship is much more complex. See Biggs (2012) for full discussion.

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Alison Biggs
 Department of Theoretical & Applied Linguistics
 Faculty of Modern and Medieval Languages
 Sidgwick Avenue
 Cambridge, CB3 9DA

acrb2@cam.ac.uk