

Passivization and composite A/\bar{A} -movement in the Mandarin BEI-construction

1 Introduction

Passivization in a canonical passive construction, such as the English *be*-passive, derives three characteristics of a canonical passive construction that are apparently different from its corresponding simple transitive construction (in the active voice): object promotion,¹ agent/external argument demotion, and the presence of a passive marker. Traditionally, passivization is motivated as an instance of *case-driven movement*. According to *Burzio's generalization* (Burzio 1986), all and only the verbs that can assign a theta-role to the (logical) subject can assign accusative case to an object. In the English *be*-passive, the passivized verb does not assign a theta-role to its logical subject, nor does it assign accusative case; as a result, the object of the passivized verb, which cannot get case from the passivized verb, must move to the grammatical subject position where it can get case (see e.g., Baker, Johnson & Roberts 1989).² More recently, Bruening (2013) proposes that the English *be*-passive involves a passive head, which selects a projection of the agent/external-argument-introducing Voice head (Kratzer 1996). When the agent/external argument of the passivized verb is overtly expressed, it is introduced in a *by*-phrase, and the passive head is semantically vacuous (i.e., that it denotes an identity function). When the agent/external argument is non-overt and is interpreted as existentially bound, the passive head is responsible for existentially binding the agent/external argument required by the Voice head. Under the view that all movement is *feature-driven*, because the English *be*-passive exhibits properties of A-movement, one might assume that in English, the passive head hosts a pure ϕ -probe, which attracts the closest NP (which has a ϕ -feature) – an object of the passivized verb (see e.g., Rezac 2006; but see Collins 2005).

It is well-known that A-movement, such as subject-to-subject raising and passivization, and \bar{A} -movement, such as *wh*-movement, are associated with distinct properties (see e.g., Richards 2014). The *featural* view of the A/\bar{A} -distinction, which suggests that the distinct properties associated with A-movement and \bar{A} -movement are derived from the distinct ϕ - and \bar{A} -features which trigger A-movement and \bar{A} -movement, respectively, and the possibility of *composite probing* by the composite probe [$\phi + \bar{A}$], which attracts the closest NP with both a matching ϕ -feature and a matching \bar{A} -feature, together predict that mixed properties in terms of A-movement vs. \bar{A} -movement emerge as direct consequences of *composite A/\bar{A} -movement* (Van Urk 2015). Positive evidence has been found in languages such as Dinka Bor, a Nilotic language, where movement to Spec, CP (e.g., topicalization and relativization) exhibits properties of both A-movement and \bar{A} -movement under the standard diagnostics (Van Urk 2015), and English, where *tough*-movement exhibits the same mix of properties as Dinka movement to Spec, CP (Longenbaugh 2017; see also Chomsky 1977, 1981; Brody 1993; Rezac 2006; Hicks 2009; Takahashi 2011; Hartman 2011; Keine & Poole 2017).

In this paper, I argue that the featural view of the A/\bar{A} -distinction and the possibility of composite probing by the composite probe [$\phi + \bar{A}$] also allow for a *passive* construction to involve composite A/\bar{A} -movement, if the passive head hosts a composite probe [$\phi + \bar{A}$]. Specifically, I argue for a novel analysis of the BEI-construction in Mandarin, which exhibits both passive-like and *tough*-movement-like properties, as a passive construction where the passive head/BEI hosts a composite probe [$\phi + \bar{A}$], which triggers composite A/\bar{A} -movement, as proposed by Van Urk (2015). The derivation of the subject in the BEI-construction involves composite A/\bar{A} -movement, which proceeds successive-cyclically, followed by a terminating step of A-movement, which is akin to the analysis proposed by Longenbaugh (2017) for English *tough*-movement. Consequently, the mixed A/\bar{A} -properties observed in the BEI-construction emerge as direct consequences of this composite A/\bar{A} -movement (following Van Urk 2015; Longenbaugh 2017).

¹In English, the object that undergoes passivization can be the direct object in a simple transitive construction, or the indirect object in a double-object construction, or an apparent matrix object that is underlyingly the embedded subject in an exceptional case-marking construction, etc.

²According to Baker, Johnson & Roberts (1989), it is actually the passive suffix that ‘absorbs’ both the agent theta-role and the accusative case of the passivized verb.

Under the proposed analysis of the BEI-construction as a passive construction, the difference between the BEI-construction and a canonical passive construction involving A-movement, such as the English *be*-passive, lies solely in the feature composition of the probe on the passive head, which determines the type of movement involved and the resulting properties of the passive construction. In the English *be*-passive, passivization is an instance of A-movement, and hence one might assume that the passive head hosts a pure ϕ -probe, which attracts the closest NP (which has a ϕ -feature) – an object of the passivized verb (see e.g., Rezac 2006; but see Collins 2005). In the BEI-construction, the passive head/BEI hosts a composite probe [$\phi + \bar{A}$], which attracts the closest NP with both ϕ - and \bar{A} -features. As a result, the BEI-construction allows for a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI's complement, among other mixed A/ \bar{A} -properties.

The proposed analysis of the BEI-construction as a passive construction where the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement diverges from a widely accepted analysis that derives the dependency involved in the BEI-construction via base-generation of the subject of BEI as an argument of BEI and null operator (NOP) movement in BEI's complement, on a par with to Chomsky's (1977, 1981) analysis of English *tough*-movement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). While the alternative analysis of the BEI-construction takes inspiration from the similarities between the BEI-construction and English *tough*-movement, it falls short in accounting for the passive-like properties associated with the BEI-construction. In contrast, the proposed analysis of the BEI-construction not only captures its nature as a passive construction but also allows for parallels to be drawn between the BEI-construction and English *tough*-movement, under the proposed analysis of the BEI-construction and Longenbaugh's (2017) analysis of English *tough*-movement.

I will argue that two restrictions on long-distance dependencies in the BEI-construction follow from the proposed analysis of the BEI-construction as a passive construction where the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement. The first restriction involves a ban on overt, case-less NPs intervening between the subject of BEI and the gap in agent-less BEI-constructions. This restriction can be accounted for under the proposed analysis of the BEI-construction as a passive construction and Burzio's generalization (Burzio 1986), which states that all and only the verbs that can assign a theta-role to the (logical) subject can assign accusative case to an object. Specifically, in agent-less BEI-constructions, when there is an overt NP that cannot be assigned case by the matrix Voice head, that NP must become the subject of BEI, where it can receive case from Infl; in such cases, it is predicted that long-distance dependencies between the subject of BEI and a deeply embedded gap in BEI's complement is impossible. The second restriction concerns a contrast between subject and object gaps in the BEI-construction involving a cross-clausal dependency. This contrast can be derived from the possibility of raising to subject via A-movement to Spec, CP, or *hyper-raising to subject* (see e.g., Fong 2019; Wurmbrand 2019; Lohninger, Kovač & Wurmbrand 2022; a.o.), and the ban on improper \bar{A} -movement to Spec, CP followed by composite A/ \bar{A} -movement (see Longenbaugh 2017).

The rest of this paper is organized as follows: In section 2, I will provide a primer on the BEI-construction, which exhibits both passive-like properties and *tough*-movement-like properties. In section 3, I will provide the details of the proposed analysis of the BEI-construction as a passive construction, where the passive head/BEI hosts a composite probe [$\phi + \bar{A}$] and the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement. In section 4, I will briefly review a few alternative analyses of the BEI-construction and identify their major problems. In section 5, I will show that the BEI-construction exhibits the same mix of properties as Dinka movement to Spec, CP and English *tough*-movement, which, under the proposed analysis, is the result of composite A/ \bar{A} -movement, triggered by the composite probe [$\phi + \bar{A}$] on the passive head/BEI. Furthermore, I will present evidence that the \bar{A} -feature on BEI is flat and that it has information-structural effects. In section 6, I will argue that two restrictions on long-distance dependencies in the BEI-construction – specifically, the requirement that no overt, case-less NPs should intervene between the subject of BEI and the gap in agent-less BEI-constructions, and the contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap – follow from the proposed analysis of the BEI-construction as a passive construction where the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement. In section 7, I will reconcile two conflicting arguments regarding the base-generated vs. derived status of the subject of BEI in the literature, and extend the proposed analysis of the BEI-construction to BEI-constructions where the subject of BEI is identified with an indirect object in BEI's complement (i.e., the so-called *indirect passives*; see e.g., Huang, Li & Li 2009). Finally, section 8 will conclude.

Throughout the paper, the sources of the linguistic examples and judgments are cited when they originate from external references; uncited examples and judgements are my own.

2 A primer on the BEI-construction

The BEI-construction in Mandarin is a well studied construction known for exhibiting both passive-like properties and *tough*-movement-like properties (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). As schematized in (1), a BEI-construction has a subject, followed by BEI, followed by one or multiple (extended) verbal projections. The agent/external argument of the matrix verb may be overtly expressed, in which case it immediately follows BEI, or it may be non-overt, in which case it is interpreted as existentially bound. The BEI-construction involves a dependency between the subject and a gap embedded in the verbal projection(s).

- (1) BEI-construction
 NP_i BEI (NP) V (... V ...) —_i (...)

This section is organized as follows: in section 2.1, I will show the passive-like properties associated with the BEI-construction; in section 2.2, I will show the possibility of and two restrictions on long-distance dependencies in the BEI-construction – specifically, a requirement that no overt, case-less NPs should intervene between the subject of BEI and the gap in agent-less BEI-constructions, and a contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap; in section 2.3, I will present evidence that BEI is best analyzed as the head of a projection taking an extended verbal projection as its complement, rather than a preposition taking the agent/external argument of the matrix verb as its complement.

2.1 Passive-like properties

Like a canonical passive construction, such as the English *be*-passive, a BEI-construction involving just a simple transitive verbal projection appears to involve object promotion, agent/external argument demotion, and the presence of BEI. Compared with the simple transitive construction (in the active voice) in (2a), (2b) and (2c) appear to involve the promotion of the theme/internal argument of the simple transitive verb from the post-verbal direct object position to the grammatical subject position; in the *overt-agent BEI-construction* in (2b), the agent/external argument of the simple transitive verb is overtly expressed and immediately follows BEI, instead of surfacing in the grammatical subject position; in the *agent-less BEI-construction* in (2c), the agent/external argument of the simple transitive verb is non-overt and is interpreted as existentially bound.³

- (2) a. *Simple transitive (active voice)*
 Wo ma-le Lisi.
 1SG scold-PRF Lisi
 ‘I scolded Lisi.’
- b. *Overt-agent BEI-construction*
 Lisi_i bei wo ma-le —_i.
 Lisi BEI 1SG scold-PRF
 ‘Lisi was scolded by me.’
- c. *Agent-less BEI-construction*
 Lisi_i bei ma-le —_i.
 Lisi BEI scold-PRF
 ‘Lisi was scolded.’

In modern Mandarin Chinese, the morpheme BEI is semantically obscure, which is typical of a functional

³Due to the existential nature of the non-overt agent in agent-less BEI-construction, the agent-less BEI-construction in (i) is judged true if and only if Lisi was not scolded by *anyone*, and is judged false if Lisi was (not) scolded by *someone*.

- (i) Lisi_i mei-you bei ma —_i.
 Lisi not-have BEI scold
 ‘Lisi was not scolded (by anyone).’ (NOT: ‘Lisi is not scolded by someone.’)

That said, given that Mandarin generally allows for subject *pro*-drop (see e.g., Huang 1984, 1987, 1989), it is interesting to note that agent-less BEI-constructions simply cannot involve a null pronoun (*pro*) as the agent/external argument of the matrix verb.

category. However, it is worth mentioning that traditionally, BEI is described as being confined primarily to signal *adversity* (e.g., *bei ma* ‘be scolded’) (see e.g., Chao 1968; Li & Thompson 1981; Cheng 1987).⁴ However, even Chao (1968) (see also Li & Thompson 1981) has noted that BEI has been used also in non-adverse contexts (e.g., *bei biao yang* ‘be praised’, *bei jiu* ‘be rescued’, *bei xiu-hao* ‘be repaired’).

- (3) a. Lisi_i bei (wo) biao yang/jiu-le ____i.
 Lisi BEI 1SG praise/rescue-PRF
 ‘Lisi was praised/rescued (by me).’
- b. Dianna_i bei (wo) xiu-hao-le ____i.
 computer BEI 1SG repair-be.good-PRF
 ‘The computer was repaired (by me).’

In addition, BEI is also compatible with stative predicates, in both adverse and non-adverse contexts, as seen in (4).

- (4) Lisi_i bei (henduo ren) hen/ai/xiangnian-zhe ____i.
 Lisi BEI many person hate/love/miss-DUR
 ‘Lisi is being hated/loved/missed (by many people).’

For present purposes, it is sufficient to note that in modern Mandarin, the use of BEI-constructions in non-adverse contexts is fully productive.

A distinguishing property of the passive construction is the semantic presence of the non-overt agent/external argument in agent-less passive constructions. Concretely, in the English *be*-passive, a non-overt agent/external argument must be semantically present, because it can be modified by a ‘deliberately’-type adverb, as seen in (5a), and can control the PRO subject of an infinitival purpose clause, as seen in (5b) (see e.g., Bhatt & Pancheva 2006, 2017).

- (5) *Implicit agent in English be-passive*
- a. The boat was sunk deliberately. (Bhatt & Pancheva 2017: ex. 25a)
- b. The boat was sunk to collect the insurance. (Bhatt & Pancheva 2017: ex. 24b)

Similarly, in the BEI-construction, a non-overt agent/external argument must be semantically present, because it can be modified by a ‘deliberately’-type adverb, as seen in (6a), and can control the PRO subject of an infinitival purpose clause (headed by *lai* ‘in order to’), as seen in (6b).

- (6) *Implicit agent in BEI-construction*
- a. Chuan_i bei (Lisi) guyi chen-le ____i.
 boat BEI Lisi deliberately sunk-PRF
 ‘The boat was sunk (by Lisi) deliberately.’
- b. Chuan_i bei (Lisi_j) chen-le ____i [lai PRO_j huode peichang].
 boat BEI Lisi sunk-PRF in order to receive compensation
 ‘The boat was sunk (by Lisi) in order to receive compensation.’
- c. Lisi_i guyi chen-le zhe-sou chuan [lai PRO_i huode peichang].
 Lisi deliberately sink-PRF this-CL boat in order to receive compensation
 ‘Lisi deliberately sank the boat in order to receive compensation.’

By contrast, neither modification by ‘deliberately’-type adverbs nor control into purpose clauses is possible with unaccusative constructions, which lack an implicit agent/external argument, both in English, as seen in (7) (see e.g., Bhatt & Pancheva 2006, 2017), and in Mandarin, as seen in (8).

⁴One possible explanation for such an adversity requirement is that BEI, which is arguably a functional category in modern Mandarin, is derived from a lexical category with adversity semantics. Alternatively, Cheng (1987) assumes that BEI assigns an [+adversative, +agent] theta-role to the external argument. Such an assumption is readily implemented under an analysis of BEI as a preposition (see e.g., Chao 1968; Cheng 1987; Li 1990). Under the proposed analysis of BEI as a passive head, which selects a VoiceP where an overtly expressed external argument is introduced in Spec, VoiceP, one might assume that BEI selects a Voice head that assigns an [+adversative, +agent] theta-role to the external argument.

- (7) *No implicit agent in English unaccusative construction*
 a. *The boat sunk deliberately. (Bhatt & Pancheva 2017: ex. 25b)
 b. *The boat sunk to collect the insurance. (Bhatt & Pancheva 2017: ex. 24a)

- (8) *No implicit agent in Mandarin unaccusative construction*
 a. Chuan_i (*guyi) chen-le ____i.
 boat deliberately sunk-PRF
 ‘The boat sunk (*deliberately).’
 b. *Chuan_i chen-le ____i [lai PRO huode peichang].
 boat sunk-PRF in order to receive compensation
 INT: ‘The boat sunk in order to receive compensation.’

Finally, it is worth mentioning that BEI is only compatible with a transitive verb and is incompatible with an intransitive verb. The so-called impersonal passive of unergative, which is possible in languages like German and Dutch but impossible in languages like English, is also impossible in Mandarin, as seen in (10c). The incompatibility of BEI and an unergative verb follows if BEI is a passive head probing for movement to Spec, PassP (see section 3 of this paper for more details).

- (9) *Dutch impersonal passive of unergative*
 Er wordt hier door de jonge lui veel gedanst.
 there becomes here by the young people a lot danced
 Lit. ‘It is danced here a lot by the young people.’ (Perlmutter & Postal 1984: 107)

- (10) a. *Unergative construction*
 Hendo ren ku/xiao-le.
 many person cry/laugh-PRF
 ‘Many people cried/laughed.’
 b. *Hendo ren_i bei ____i ku/xiao-le.
 many person BEI cry/laugh-PRF
 INT: ‘Many people were cried/laughed.’
 c. *Zheli bei (hendo ren) ku/xiao-le.
 here BEI many person cry/laugh-PRF
 INT: ‘Here was laughed/cried (by many people).’

In addition, BEI is also incompatible with an unaccusative verb that lacks a transitive variant, as seen in (12). The incompatibility of BEI and an unaccusative verb follows if BEI spells out a passive head which selects a projection of the Voice head (see Bruening 2013).

- (11) a. *Unaccusative construction*
 Hendo ren_i si/pao-le ____i.
 many person die/run away-PRF
 ‘Many people died/escaped.’
 b. Zheli si/pao-le hendo ren.
 here die/run away-PRF many person
 Lit. ‘Here died/escaped many people.’
 (12) a. *Hendo ren_i bei si/pao-le ____i.
 many person BEI die/run away-PRF
 INT: ‘Many people were died/escaped.’

- b. *Zheli bei (henduo ren) si/pao-le.
 here BEI many person die/run away-PRF
 INT: ‘Here was died/escaped (by many people).’
- c. *Zheli bei si/pao-le (henduo ren).
 here BEI die/run away-PRF many person
 INT: ‘Here was died/escaped (by many people).’

2.2 Restricted long-distance dependencies

While the BEI-construction exhibits passive-like properties, it cannot be analyzed as a canonical passive construction involving A-movement, on a par with the English *be*-passive, because unlike the English *be*-passive and like English *tough*-movement, the BEI-construction can also involve multiple verbal projections and a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI’s complement.

Concretely, the BEI-construction allows for a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI’s complement across non-finite clause boundaries, as seen in (13b) and (14b) (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.).⁵

- (13) a. *Object control construction*
 Lisi bipo jingcha_i [PRO_i zhuazou-le Zhangsan].
 Lisi force police arrest-PRF Zhangsan
 ‘Lisi forced the police to arrest Zhangsan.’
- b. *Long-distance dependency in BEI-construction (object control)*
 Zhangsan_i bei *(Lisi) bipo jingcha_j [PRO_j zhuazou-le ____i].
 Zhangsan BEI Lisi force police arrest-PRF
 Lit. ‘Zhangsan was forced the police to arrest *(by Lisi).’
- (14) a. *Object control construction*
 Wo jiao Li_i [PRO_i qing Wang_j [PRO_j tuo Zhang_k [PRO_k ji-chu-le na-feng xin]]].
 1SG order Li ask Wang entrust Zhang send-out-PRF that-CL letter
 ‘I ordered Li to ask Wang to entrust Zhang to send out that letter.’
- b. *Long-distance dependency in BEI-construction (object control)*
 Na-feng xin_i bei *(wo) jiao Li_j [PRO_j qing Wang_k [PRO_k tuo Zhang_l [PRO_l ji-chu-le ____i]]].
 that-CL letter BEI 1SG order Li ask Wang entrust Zhang send-out-PRF
 Lit. ‘That letter was ordered Li to ask Wang to entrust Zhang to send out *(by me).’ (Adapted from Huang, Li & Li 2009: 132: ex. 47b)

The BEI-constructions in (15b) and (16b) also involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI’s complement across non-finite clause boundaries.⁶

- (15) a. *Subject control construction*
 Heike_i ceng changshi/qitu [PRO_i ruqin gongsi-de wangluo].
 hacker once try/attempt hack company’s network
 ‘The hacker once tried/attempted to hack the company’s network.’
- b. *Long-distance dependency in BEI-construction (subject control)*

⁵Following Huang (1989), I assume that object control verbs, including *bi(po)* ‘force’, *jiao* ‘order’, *qing* ‘ask’, (*bai*)*tuo* ‘entrust’, take a non-finite clausal complement, because their complement cannot contain a modal verb. See section 6 of this paper for more details.

⁶Following Huang (1989), I assume that subject control verbs, including *changshi* ‘try’, *qitu* ‘attempt’, *shefa* ‘manage (Lit. find a way)’, take a non-finite clausal complement, because their complement cannot contain a modal verb. See section 6 of this paper for more details.

Gongsi-de wangluo_i ceng bei (heike_j) changshi/qitu [PRO_j ruqin ____i].
 company's network once BEI hacker try/attempt hack

Lit. 'The company's network was once tried/attempted to hack (by the hacker).' (Adapted from Her 2009: ex. 21a)

(16) a. *Subject control construction*

Xiaotou_i shefa [PRO_i kaobei-le ziliao].
 thief manage copy-PRF document

'The thief managed to copy the documents.'

b. *Long-distance dependency in BEI-construction (subject control)*

Ziliao_i bei (xiaotou_j) shefa [PRO_j kaobei-le ____i].
 document BEI thief manage copy-PRF

Lit. 'The documents were managed to copy (by the thief).' (Adapted from Her 2009: ex. 21b)

One restriction on long-distance dependencies in the BEI-construction is instantiated by the contrast between (13b), (14b) and (15b), (16b): In (13b) and (14b), the agent/external argument of the matrix verb must be overtly expressed – Huang, Li & Li (2009) (see also Ting 1995, 1998; Huang 1999; a.o.) take this to indicate that only overt-agent BEI-constructions but not agent-less BEI-constructions can involve a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI's complement. However, in (15b) and (16b), the agent/external argument of the matrix verb can be overtly expressed or non-overt. Based on (15b) and (16b), I suggest that both overt-agent and agent-less BEI-constructions can involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries (see also Her 2009; Bruening & Tran 2015; a.o.). Note that (13b) and (14b), which are ill-formed when the agent/external argument of the matrix verb is non-overt, involve an overt NP, the matrix object, intervening between the subject of BEI and the deeply embedded object gap; by contrast, (15b) and (16b), which are well-formed when the agent/external argument of the matrix verb is non-overt, involve no overt NPs intervening between the subject of BEI and the deeply embedded object gap. Now consider the following contrast: (17b), like (13b) and (14b), is ill-formed when the agent/external argument of the matrix verb is non-overt. By contrast, (18b) is like (15b) and (16b) in that it is well-formed when the agent/external argument of the matrix verb is non-overt, but it is unlike (15b) and (16b) in that there is an overt NP, *Lisi*, which is the object of the embedded verb *pai* 'send', intervening between the subject of BEI and the deeply embedded object gap.

(17) a. Zhangsan pai Lisi_i [PRO_i shefa [PRO_i na-zou-le na-feng xin]].
 Zhangsan send Lisi manage take-away-PRF that-CL letter
 'Zhangsan sent Lisi to manage to take away that letter.'

b. Na-feng xin_i bei *(Zhangsan) pai Lisi_j [PRO_j shefa [PRO_j na-zou-le ____i]].
 that-CL letter BEI Zhangsan send Lisi manage take-away-PRF
 Lit. 'That letter was sent Lisi to manage to take away *(by Zhangsan).'

(18) a. Zhangsan_i shefa [PRO_i pai Lisi_j [PRO_j na-zou-le na-feng xin]].
 Zhangsan manage send Lisi take-away-PRF that-CL letter
 'Zhangsan managed to send Lisi to take away that letter.'

b. Na-feng xin_i bei (Zhangsan_j) shefa [PRO_j pai Lisi_k [PRO_k na-zou-le ____i]].
 that-CL letter BEI Zhangsan manage send Lisi take-away-PRF
 Lit. 'That letter was managed to send Lisi take away (by Zhangsan).'

I propose that both the ill-formedness of (13b), (14b), (17b) and the well-formedness of (15b), (16b), (18b) when the agent/external argument of the matrix verb is non-overt follow from the requirement that no overt, *case-less* NPs should intervene between the subject of BEI and the gap in agent-less BEI-constructions.⁷ I will account for

⁷As is pointed out by a reviewer, crucially, it is incorrect to simply state the requirement as that no overt NPs should intervene between the subject of BEI and the gap in agent-less BEI-constructions, given examples like (18b). More examples like (18b) will be presented in section 6 of this paper.

this requirement in section 6 of this paper.

Another restriction on long-distance dependencies in the BEI-construction is instantiated by a contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap. Unlike English *tough*-movement, which is degraded for non-subjects across a phasal CP-projection and impossible for subjects across a phasal CP-projection (Longenbaugh 2017; see also Postal 1971; Bresnan 1972; Chomsky 1973; Lasnik & Fiengo 1974; Browning 1987; Rezac 2006), the BEI-construction does not allow for a long-distance, cross-clausal dependency between the subject of BEI and an object gap, as seen in (19b) (see e.g., Ting 1995, 1998; a.o.), but allows for a cross-clausal dependency between the subject of BEI and a subject gap, as seen in (19c) (see e.g., Her 2009).⁸ I will account for this subject/object (with respect to the possibility of crossing a finite clause boundary to become the subject of BEI) contrast also in section 6 of this paper.

- (19) a. Jingcha renwei/huaiyi/xiangxin [_{CP} Zhangsan hui mousha Lisi].
 police think/suspect/believe Zhangsan will murder Lisi
 ‘The police thought/suspected/believed that Zhangsan will murder Lisi.’
- b. *Long-distance, cross-clausal dependency in BEI-construction (finite clause object gap)*
 *Lisi_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} Zhangsan hui mousha ____i].
 Lisi BEI police think/suspect/believe Zhangsan will murder
 INT: ‘Lisi was thought/suspected/believed that Zhangsan will murder (him) (by the police).’ (Adapted from Ting 1998: ex. 28c)
- c. *Cross-clausal dependency in BEI-construction (finite clause subject gap)*
 Zhangsan_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} ____i hui mousha Lisi].
 Zhangsan BEI police think/suspect/believe will murder Lisi
 Lit. ‘Zhangsan was thought/suspected/believed that (he) will murder Lisi (by the police).’ (Adapted from Her 2009: ex. 25a)

In addition to the possibility of long-distance dependencies, the BEI-construction is like English *tough*-movement in many other respects. As mentioned previously, English *tough*-movement exhibits mixed properties in terms of A-movement vs. \bar{A} -movement, which are the same mix of properties as Dinka movement to Spec, CP. In section 5 of this paper, I will show that the BEI-construction exhibits the same mix of properties as Dinka movement to Spec, CP and English *tough*-movement.

2.3 Syntactic properties of BEI and the BEI-construction

In this section, I present evidence that BEI is best analyzed as the spell-out of a head taking an extended verbal projection as its complement (which, under the proposed analysis, is the spell-out of a passive head taking a VoiceP as its complement, with an overtly expressed agent/external argument of the matrix verb being introduced in Spec, VoiceP), as schematized in (20a) (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). Crucially, BEI should not be analyzed as a preposition taking the agent/external argument of the matrix verb as its complement and projecting a PP adjunct, as schematized in (20b) (contra Chao 1968; Cheng 1987; Li 1990; a.o.).

- (20) a. *VoiceP-complementation analysis of BEI*
 NP_i [BEI [_{VoiceP} (NP) V (... V ...) ____i (...)]]
- b. *NP-complementation analysis of BEI (BEI as preposition)*
 NP_i [_{VoiceP} [PP BEI (NP)] V (... V ...) ____i (...)]

The first piece of evidence for the constituent structure in (20a) and against the constituent structure in (20b) comes from reflexive binding. In Mandarin, the reflexive *ziji* ‘self’ can only be bound by a grammatical subject (Tang 1989; Huang & Tang 1991; Huang, Li & Li 2009; a.o.); hence, in the prepositional-dative construction in (21), *ziji* ‘self’ must take the subject *Lisi* and not the direct object *Zhangsan* as its antecedent.

⁸Following Huang (1989), I assume that verbs like *renwei* ‘think’, *huaiyi* ‘suspect’, *xiangxin* ‘believe’, take a finite CP complement, because their complement can contain a modal verb. See section 6 of this paper for more details.

- (21) Lisi_i jieshao-le Zhangsan_j gei ziji_{i/*j}-de pengyou.
 Lisi introduce-PRF Zhangsan to self's friend
 'Lisi introduced Zhangsan_j to his_{i/*j} friend.' (Adapted from Tang 1989: ex. 27)

In addition, long-distance binding is possible with the reflexive *ziji* 'self' (Tang 1989; Huang & Tang 1991; Huang, Li & Li 2009; a.o.); hence, in (22), *ziji* 'self' can take either the embedded subject *Lisi* or the matrix subject *Zhangsan* as its antecedent.

- (22) Zhangsan_i shuo [Lisi_j ma-guo ziji_{i/j}].
 Zhangsan say Lisi scold-EXP self
 'Zhangsan_i said that Lisi_j once scolded (him)self.' (Adapted from Huang & Tang 1991: ex. 1a, 4)

In contrast, the compound reflexive *ta-ziji* '3SG-self' is subject to Principle A – it is bound in its minimal governing category with an accessible SUBJECT (see e.g., Huang, Li & Li 2009). Hence, in the prepositional-dative construction in (23), *ta-ziji* '3SG-self' can take either the grammatical subject *Lisi* or the direct object *Zhangsan* as its antecedent.

- (23) Lisi_i jieshao-le Zhangsan_j gei ta-ziji_{i/j}-de pengyou.
 Lisi introduce-PRF Zhangsan to 3SG-self's friend
 'Lisi_i introduced Zhangsan_j to his_{i/j} friend.'

As a side note, in (24a), *ta-ziji* '3SG-self' can take the embedded subject *Lisi* but not the matrix subject *Zhangsan* as its antecedent, which also follows from Principle A.

- (24) Zhangsan_i shuo [Lisi_j ma-guo ta-ziji_{i/j}-de pengyou].
 Zhangsan say Lisi scold-EXP 3SG-self's friend
 'Zhangsan_i said that Lisi_j once scold his_{i/j} friend.' (Adapted from Huang & Tang 1991: ex. 1b, 34a)

In the BEI-construction, both the subject of BEI and the agent/external argument of the matrix verb c-command, and hence either the subject of BEI or the agent/external argument of the matrix verb can bind, the (subject-oriented) reflexive, *ziji* 'self', as seen in (25a) (see also Ting 1995, 1998; Huang 1999; Huang, Li & Li 2009).⁹ By contrast, an NP embedded in a PP does not c-command, and hence cannot bind, the compound reflexive *ta-ziji* '3SG-self', as seen in (25b).

- (25) a. Lisi_i [bei [Zhangsan_j jieshao-gei-le ziji_{i/j}-de pengyou]].
 Lisi BEI Zhangsan introduce-to-PRF self's friend
 'Lisi_i was introduced by Zhangsan_j to his_{i/j} friend.' (Adapted from Ting 1998: ex. 35a)
- b. Lisi_i [PP dui Zhangsan_j] shuo-guo ta-ziji_{i/*j}-de mimi.
 Lisi to Zhangsan say-EXP 3SG-self's secret
 'Lisi_i, to Zhangsan_j, once said his_{i/*j} secret.'

The second piece of evidence for the constituent structure in (20a) and against the constituent structure in (20b) comes from the impossibility of BEI and the agent/external argument of the matrix verb moving as a constituent, as seen in (26a) (see also Huang 1999; Huang, Li & Li 2009).¹⁰ In contrast, a PP adjunct can surface

⁹Note that in agent-less BEI-constructions, the non-overt agent/external argument of the matrix verb cannot bind *ziji* 'self', as seen in (i). This also suggests that the non-overt agent/external argument of the matrix verb is not a null pronoun.

- (i) Lisi_i bei jieshao-gei-le ziji_{i/*j}-de pengyou.
 Lisi BEI introduce-to-PRF self's friend
 'Lisi_i was introduced to his_{i/*j} friend.'

¹⁰A reviewer reports that fronting of the *by*-phrase in the English be-passive is also unacceptable.

- (i) a. The cake was eaten by Kim.
 b. *By Kim, the cake was eaten.

The ill-formedness of (ib) would follow from an analysis of *by* as the spell-out of the passive head (see e.g., Collins 2005).

at various positions in a sentence, as seen in (26b).

- (26) a. {*Bei Lisi}, shu {bei Lisi} fang-zai-le zhuozi-shang.
 BEI Lisi book BEI Lisi put-be.at-PRF desk-on
 ‘The book was put on the desk by Lisi.’
- b. {[_{PP} Zai zhuozi-shang]}, Lisi {[_{PP} zai zhuozi-shang]} fang-le yi-ben shu.
 be.at desk-on Lisi be.at desk-on put-PRF one-CL book
 ‘Lisi put a book on the desk.’ (Adapted from Huang, Li & Li 2009: 116, ex. 13)

Hence, unlike the English *be*-passive, where the agent/external argument of the passivized verb, when overtly expressed, is introduced in a *by*-phrase, which adjoins to a Voice projection (see e.g., Bruening 2013; but see Collins 2005), in the BEI-construction, the agent/external argument of the matrix verb, when overtly expressed, is arguably located in its thematic position, which I assume to be Spec, VoiceP, following Kratzer (1996).

Before proceeding, it is worth mentioning that in the BEI-construction, the agent/external argument of the matrix verb cannot become the subject of BEI, as seen in (27a), and resists extraction in general, as seen in (27b-c).

- (27) a. *Zhangsan_i bei ____i ma-le Lisi.
 Zhangsan BEI scold-PRF Lisi
 INT: ‘Zhangsan was scolded Lisi (by him).’
- b. *Zhangsan_i, Lisi_j bei ____i ma-le ____j.
 Zhangsan Lisi BEI scold-PRF
 INT: ‘Zhangsan, Lisi was scolded (by him).’
- c. *[Lisi_i bei ____j ma-le ____i] de na-ge ren_j.
 Lisi BEI scold-PRF REL that-CL person
 INT: ‘that person by whom Lisi was scolded’

Relatedly, the object of a monosyllabic verb resists extraction in general, as seen in (28), while the object of a disyllabic verb can be extracted in general, as seen in (29) (see Tang 2002).

- (28) a. *Lisi bei (wo) qing ____i [PRO_i jieshi zhe-ge wenti].
 Lisi BEI 1SG ask/required explain this-CL question
 INT: ‘Lisi was asked to explain this question by me.’ (Adapted from Tang 2002: ex. 10)
- b. *Lisi, wo qing ____i [PRO_i jieshi zhe-ge wenti].
 Lisi 1SG ask/require explain this-CL question
 INT: ‘Lisi, I asked (him) to explain this question.’ (Adapted from Tang 2002: ex. 11)
- c. *[wo qing ____i [PRO_i jieshi zhe-ge wenti]] de xuesheng_i.
 1SG ask explain this-CL question REL student
 INT: ‘the student whom I asked to explain this question.’ (Adapted from Tang 2002: ex. 12)
- (29) a. Lisi bei (wo) yaoqiu ____i [PRO_i jieshi zhe-ge wenti].
 Lisi BEI 1SG required explain this-CL question
 ‘Lisi was required to explain this question by me.’ (Adapted from Tang 2002: ex. 14)
- b. Lisi, wo yaoqiu ____i [PRO_i jieshi zhe-ge wenti].
 Lisi 1SG require explain this-CL question
 ‘Lisi, I required (him) to explain this question.’ (Adapted from Tang 2002: ex. 15)
- c. [wo yaoqiu ____i [PRO_i jieshi zhe-ge wenti]] de xuesheng_i.
 1SG require explain this-CL question REL student
 ‘the student whom I required to explain this question.’ (Adapted from Tang 2002: ex. 16)

Based on (28), Tang (2002) proposes that in Mandarin, stranding a monosyllabic/morphologically-bound verb is

generally banned. Extending Tang’s (2002) proposal, I suggest that the ill-formedness of the examples in (27) is due to the ban on stranding the monosyllabic/morphologically-bound BEI.¹¹

Having established that BEI is not a preposition taking the agent/external argument of the matrix verb as its complement, it can be further shown that BEI’s complement must be structurally smaller than an IP/AspP but as large as an extended verbal projection (which I assume to be a VoiceP). Hence, temporal adverbs (*zuotian* ‘yesterday’), aspectual adverbs (*yijing*, ‘already’), modal verbs (*hui* ‘will’, *yinggai* ‘should’), and negation (*mei-you* ‘not-have’) must precede BEI and cannot follow the agent/external argument of the matrix verb, as seen in (30a) and (30b), but event-internal adverbs (e.g., manner adverbs) can occur either before BEI or after the the agent/external argument of the matrix verb, as seen in (30c) (see Ernst 2010).

- (30) a. Shu {zuotian/yijing} bei (wo) {*zuotian/*yijing} fang-zai-le zhuozi-shang.
 book yesterday/already BEI 1SG yesterday/already put-be.at-PRF table-on
 ‘The book yesterday/already was put on the table (by me).’
- b. Shu {hui/yinggai/mei-you} bei (wo) {*hui/*yinggai/*mei-you} fang-zai zhuozi-shang.
 book will/should/not-have BEI 1SG will/should/not-have put-be.at table-on
 ‘The book will be/should/was not put on the table (by me).’
- c. Shu {xiaoxin-de} bei (wo) {xiaoxin-de} fang-zai-le zhuozi-shang.
 book carefully BEI 1SG carefully put-be.at-PRF table-on
 ‘The book was put on the table carefully (by me).’

As mentioned previously, *guyi* ‘deliberately’ can occur in BEI’s complement and modify the agent/external argument of the matrix verb, whether it is overt or non-overt, as seen in (31).

- (31) Zhangsan_i bei (Lisi) guyi da-le ____i.
 Zhangsan BEI Lisi deliberately hit-PRF
 ‘Zhangsan was hit (by Lisi) deliberately.’

In addition, *guyi* ‘deliberately’ can also occur before BEI and modify the subject of BEI, as seen in (32) (see e.g., Huang 1999, 2013; Huang, Li & Li 2009; Bruening & Tran 2015; Liu & Huang 2016; a.o.).

- (32) Zhangsan_i guyi bei (Lisi) da-le ____i.
 Zhangsan deliberately BEI Lisi hit-PRF
 ‘Zhangsan deliberately got hit (by Lisi).’ (Huang, Li & Li 2009: 115, ex. 6-7)

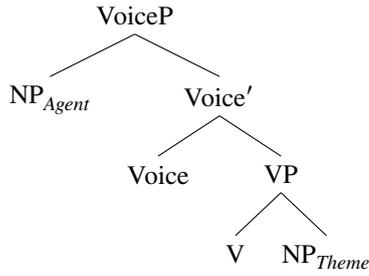
I will account for the distribution and interpretation of *guyi* ‘deliberately’ in the BEI-construction in section 7 of this paper.

3 Proposed analysis

I propose to analyze the BEI-construction as a passive construction where BEI spells out a passive head which selects a VoiceP with or without an agent/external argument. Specifically, I assume, following Kratzer (1996), that a simple transitive construction (in the active voice) has the structure in (33), where the agent/external argument of the transitive verb is introduced by the agent/external-argument-introducing Voice head in Spec, VoiceP.

- (33) *Simple transitive (active voice)*

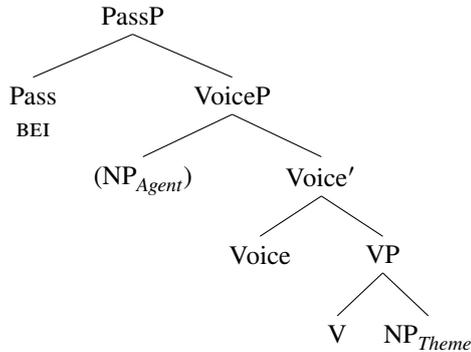
¹¹The ill-formedness of the examples in (27) also follows from an analysis of BEI as a preposition and the ban on stranding a preposition in Mandarin. Here, the point is simply that (27) should not be taken as evidence for an analysis of BEI as a preposition and against the proposed analysis of BEI as a passive head taking a VoiceP as its complement, with an overtly expressed agent/external argument of the matrix verb being introduced in Spec, VoiceP.



- a. *Definition of agent/external-argument-introducing Voice head (Kratzer 1996)*
 Voice: $\lambda x. \lambda e. \text{Agent}(e, x)$
- b. $\text{VP}_{\langle s,t \rangle}$: $\lambda e. \text{V}(e, \text{NP}_{\text{Theme}})$
- c. $\text{Voice}_{\langle e, \langle s,t \rangle \rangle}$: $\lambda x. \lambda e. \text{Agent}(e, x)$
- d. $\text{Voice}'_{\langle e, \langle s,t \rangle \rangle}$: $\lambda x. \lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \text{Agent}(e, x)$ ¹²
- e. $\text{VoiceP}_{\langle s,t \rangle}$: $\lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \text{Agent}(e, \text{NP}_{\text{Agent}})$

Following Bruening (2013), I assume that in passive constructions, a passive head (Pass) is present, which selects a VoiceP with or without an agent/external argument. I propose that the BEI-construction has the structure in (34). In overt-agent BEI-constructions, the agent/external argument of the matrix verb is located in its thematic position in Spec, VoiceP – this accounts for the possibility for the the agent/external argument of the matrix verb to bind a subject-oriented reflexive in BEI’s complement, as seen previously. In this case, I assume that the passive head/BEI assigns case to the agent/external argument of the matrix verb and is semantically vacuous (i.e., that it denotes an identity function). In agent-less BEI-constructions, I assume that the passive head/BEI is responsible for existentially binding the agent/external argument required by the Voice head (following Bruening 2013; see also Bach 1980; Keenan 1980, 1985; Williams 1987; a.o.).¹³ Because the agent/external argument of the matrix verb is semantically present (due to the semantics of the Voice head), it can be modified by a ‘deliberately’-type adverb and control the PRO subject of an infinitival purpose clause, as seen previously.

(34) *BEI-construction as passive construction*



- a. *Definition of passive head (Bruening 2013)*
 Pass: $\lambda f_{\langle e, \langle s,t \rangle \rangle}. \lambda e. (\exists x :)f((x), e)$
- b. VoiceP (with overt agent): $\lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \text{Agent}(e, \text{NP}_{\text{Agent}})$
- c. VoiceP (agent-less): $\lambda x. \lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \text{Agent}(e, x)$
- d. PassP (with overt agent): $\lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \text{Agent}(e, \text{NP}_{\text{Agent}})$
- e. PassP (agent-less): $\lambda e. \text{V}(e, \text{NP}_{\text{Theme}}) \ \& \ \exists x : \text{Agent}(e, x)$

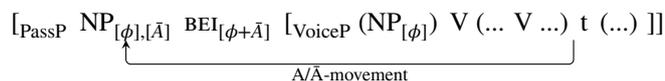
¹²The Voice head and the VP combine via *Event Identification* (Kratzer 1996).

¹³Note that in Bruening’s (2013) analysis of the English *be*-passive, the agent/external argument of the passivized verb, when overtly expressed, is introduced in a *by*-phrase. Hence, Bruening (2013) assumes that the passive head in English always requires an “unsaturated” VoiceP, which prevents the agent/external argument of the passivized verb from being introduced in Spec, VoiceP. By contrast, in the proposed analysis of the BEI-construction, the agent/external argument of the matrix verb, when overtly expressed, is introduced in Spec, VoiceP. Hence, I assume that in Mandarin, the passive head/BEI is compatible with a “saturated” VoiceP (with the agent/external argument of the matrix verb being introduced in Spec, VoiceP) or an “unsaturated” VoiceP (which is agent-less).

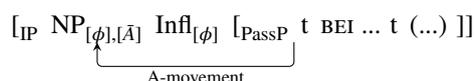
To account for the possibility of long-distance dependencies in the BEI-construction, I propose that the passive head/BEI hosts a composite probe $[\phi + \bar{A}]$; the subject in the BEI-construction is derived via (successive-cyclic) composite A/ \bar{A} -movement to Spec, PassP, triggered by the composite probe $[\phi + \bar{A}]$ on the passive head/BEI, as illustrated in (35a), followed by a terminating step of A-movement to Spec, IP, as illustrated in (35b), which is akin to the analysis proposed by Longenbaugh (2017) for English *tough*-movement.

(35) *Proposed analysis of BEI-construction*

a. *Step 1: (Successive-cyclic) composite movement to Spec, PassP*



b. *Step 2: A-movement to Spec, IP*



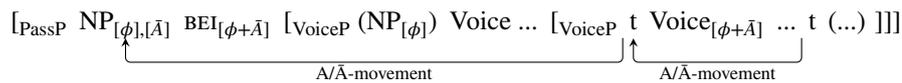
As mentioned previously, under the proposed analysis of the BEI-construction as a passive construction, the difference between the BEI-construction and a canonical passive construction involving A-movement, such as the English *be*-passive, lies solely in the feature composition of the probe on the passive head, which determines the type of movement involved and the resulting properties of the passive construction. In the English *be*-passive, passivization is an instance of A-movement, and hence one might assume that the passive head hosts a pure ϕ -probe, which attracts the closest NP (which has a ϕ -feature) – an object of the passivized verb (see e.g., Rezac 2006; but see Collins 2005). In the BEI-construction, the passive head/BEI hosts a composite probe $[\phi + \bar{A}]$, which attracts the closest NP with both ϕ - and \bar{A} -features. As a result, the BEI-construction allows for a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI's complement, among other mixed A/ \bar{A} -properties.

A few clarifications are in order: First, under the view that all movement is feature-driven (and contra the traditional view that passivization is case-driven), it is possible that the derived subject of a passive construction both start in a case position and end in a case position. Under the proposed analysis, the subject of BEI, which is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement, always starts in a case position in overt-agent BEI-constructions, and starts in a case-less position in agent-less BEI-constructions, where the Voice head does not assign a theta-role, nor does it assign case, according to Burzio's generalization (Burzio 1986). See section 6 of this paper for more details.

Second, under the proposed analysis of the BEI-construction, other NPs between the passive head/BEI which hosts the composite probe $[\phi + \bar{A}]$ and the closest NP with both ϕ - and \bar{A} -features are not interveners if they lack an \bar{A} -feature. One might wonder what happens when there is more than one NP with both ϕ - and \bar{A} -features in BEI's complement. The answer depends on the nature of the \bar{A} -feature on the passive head/BEI. I assume, following Rizzi (1997, 2004), Abels (2012), and others, that \bar{A} -probes may be *relativized to specific features* (e.g., [*Wh*] for *wh*-movement, [*Top*] for topicalization, [*Foc*] for focalization, [*Rel*] for relativization, etc.), or be *flat*: while a relativized \bar{A} -probe must be satisfied by a goal that has a specific \bar{A} -feature that matches with the specific feature on the probe, a flat \bar{A} -probe can be satisfied by any \bar{A} -feature on the goal. In section 5 of this paper, I will show that multiple instances of \bar{A} -movement in Mandarin can proceed in either a nested or a crossed fashion, which follows if pure \bar{A} -probes in Mandarin are relativized to specific features. In contrast, when two NPs with both ϕ - and \bar{A} -features move from BEI's complement, only the NP closer to BEI can be the subject of BEI. This follows if the \bar{A} -feature on BEI is flat. In addition, I will draw parallels between topic/focus-fronting and passivization with BEI, which I take to indicate that the \bar{A} -feature on BEI has information-structural effects.

Third, a few more words are in order on successive-cyclic composite A/ \bar{A} -movement involved in (step 1 of) the derivation of the BEI-construction. I assume that in the passive voice, the passive head (instead of the Voice head below the passive head) heads a phase (see e.g., Collins 2005: 98), and that in the active voice, the Voice head heads a phase (Chomsky 2001). Hence, in addition to the passive head/BEI, which hosts a composite probe $[\phi + \bar{A}]$, the Voice head, when it heads a phase, must also host a composite probe $[\phi + \bar{A}]$, for purposes of successive-cyclic composite A/ \bar{A} -movement. Concretely, I propose that when the BEI-construction involves multiple verbal projections and a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI's complement, the subject of BEI is derived via successive-cyclic composite A/ \bar{A} -movement through the specifiers of successive VoicePs, terminating at Spec, PassP, as illustrated in (36).

(36) *Successive-cyclic composite movement in BEI-construction*



Lastly, I assume, following Longenbaugh (2017), that in (step 2 of) the derivation of the BEI-construction, (successive-cyclic) composite A/ \bar{A} -movement (to Spec, PassP) can be followed by A-movement (to Spec, IP), without violating the ban on improper (A- after \bar{A} -) movement.¹⁴

4 Alternative analyses

As mentioned previously, the proposed analysis of the BEI-construction as a passive construction where the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement diverges from a widely accepted analysis that derives the dependency involved in the BEI-construction via base-generation of the subject of BEI as an argument of BEI and NOP movement in BEI's complement, on a par with to Chomsky's (1977, 1981) analysis of English *tough*-movement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). While the alternative analysis of the BEI-construction takes inspiration from the similarities between the BEI-construction and English *tough*-movement, it falls short in accounting for the passive-like properties associated with the BEI-construction. In contrast, the proposed analysis of the BEI-construction not only captures its nature as a passive construction but also allows for parallels to be drawn between the BEI-construction and English *tough*-movement, under the proposed analysis of the BEI-construction and Longenbaugh's (2017) analysis of English *tough*-movement.

In sections 4.1 and 4.2, I will briefly review two representative analyses of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement, by Huang, Li & Li (2009) and by Bruening & Tran (2015). As a preview, both analyses assume that (i) in both overt-agent and agent-less BEI-constructions, BEI is a two-place predicate, both introducing the subject of BEI as its argument and selecting a secondary predicate of the subject of BEI, and (ii) overt-agent BEI-constructions involve \bar{A} -movement of a NOP, which is co-indexed with the subject of BEI. The major difference between the two analyses lies in the analysis of agent-less BEI-constructions: Huang, Li & Li (2009) propose that agent-less BEI-constructions involve A-movement of a PRO, controlled by the subject of BEI, rather than NOP movement; in contrast, Bruening & Tran (2015) maintain that \bar{A} -movement of a NOP is involved in agent-less BEI-constructions.

There is also an analysis in which the subject in the BEI-construction may be base-generated or derived via movement (e.g., Liu & Huang 2016), and an analysis of the BEI-construction as a passive construction (e.g., Pan 1998), among many other analyses. But unlike the proposed analysis, which derives the dependency involved in the BEI-construction via composite A/ \bar{A} -movement, the alternative analyses try to derive long-distance dependencies in the BEI-construction via A-movement. In sections 4.3 and 4.4, I will review Liu & Huang's (2016) analysis which builds on Huang, Li & Li's (2009) analysis, and Pan's (1998) analysis (as discussed by Pan & Hu 2021), respectively.

4.1 Huang, Li & Li (2009)

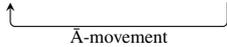
Huang, Li & Li (2009) (see also Ting 1995, 1998; Huang 1999; a.o.) analyze BEI as a two-place predicate (meaning 'undergo' or 'experience'), both introducing the subject of BEI (as an experiencer argument of BEI) and selecting a secondary predicate of the subject of BEI. Additionally, they assume that different types of dependencies are involved in overt-agent BEI-constructions, which they dub *long-passives*, and agent-less BEI-constructions, which they dub *short-passives*.¹⁵

¹⁴For Longenbaugh (2017), this assumption builds on Neeleman & van De Koot's (2010) insight that A-movement can feed \bar{A} -movement, because A-movement does not reconstruct, but \bar{A} -movement cannot feed A-movement, because \bar{A} -movement must reconstruct, which renders the highest copy of an \bar{A} -movement chain unavailable for (carrying the relevant selectional feature for) further A-movement. Because composite A/ \bar{A} -movement does not show reconstruction effects (which I will show in section 5 of this paper) – it is equivalent to A-movement from the perspective of Neeleman & van De Koot (2010) – hence, it should be able to feed A-movement. In addition, the assumption that (successive-cyclic) composite A/ \bar{A} -movement can feed A-movement can be made also on the basis of Obata & Epstein's (2011) insight that the ban on improper (A- after \bar{A} -) movement follows if a pure \bar{A} -probe only triggers \bar{A} -movement of the matching \bar{A} -feature on the goal and not the goal itself: if it is only the \bar{A} -feature that undergoes \bar{A} -movement, it is expected that the \bar{A} -feature alone cannot undergo further A-movement. Because a composite probe [$\phi + \bar{A}$] must at least trigger movement of both the matching ϕ -feature and the matching \bar{A} -feature on the goal, it is expected that at least the ϕ -feature can undergo further A-movement.

¹⁵As is pointed out by Bruening & Tran (2015), their naming of overt-agent and agent-less BEI-constructions as long- and short-passives is misleading, as there is nothing "passive" – e.g., neither object promotion nor agent/external argument demotion – in their analysis of the BEI-construction.

Specifically, in their analysis of long-passives/overt-agent BEI-constructions, as illustrated in (37), BEI's complement is an IP, which contains an \bar{A} -moved NOP, which is co-indexed with the subject of BEI; at the level of Logical Form (LF), the NOP serves as a lambda operator, which turns a proposition into a predicate via lambda abstraction.¹⁶

- (37) *Huang, Li & Li's (2009) long-passive*

$$\text{NP}_i \text{ BEI } [_{\text{IP}} \text{ NOP}_i \text{ NP V (... V ...) } t (...)]$$


In their analysis of short-passives/agent-less BEI-constructions, BEI's complement is a VP, which contains an \bar{A} -moved PRO, controlled by the subject of BEI, as illustrated in (38) (see Hoshi 1991, 1994a, 1994b for a similar analysis of the English *get*-passive and the Japanese *ni*-passive).

- (38) *Huang, Li & Li's (2009) short-passive*

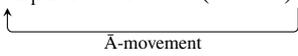
$$\text{NP}_i \text{ BEI } [_{\text{VP}} \text{ PRO}_i \text{ V } t (...)]$$

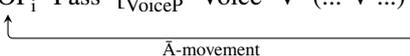

Recall that, for Huang, Li & Li (2009) (see also Ting 1995, 1998; Huang 1999; a.o.), the lack of \bar{A} -dependencies in short-passives/agent-less BEI-constructions is evidenced by the ill-formedness of certain agent-less BEI-constructions which involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries (e.g., the ill-formedness of (13b) and (14b) when the agent/external argument of the matrix verb is non-overt). However, Huang, Li & Li's (2009) analysis of short-passives/agent-less BEI-constructions fails to account for the well-formedness of certain agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries (e.g., the well-formedness of (15b) and (16b) when the agent/external argument of the matrix verb is non-overt). In addition, Huang, Li & Li's (2009) analysis (and any other analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement) cannot account for the contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap, as seen previously in (19b) and (19c). See section 6 of this paper for more details.

4.2 Bruening & Tran (2015)

Like Huang, Li & Li (2009), Bruening & Tran (2015) also analyze BEI as a two-place predicate, both introducing the subject of BEI as its argument and selecting a secondary predicate of the subject of BEI, and provide different analyses for overt-agent and agent-less BEI-constructions. But unlike Huang, Li & Li (2009), Bruening & Tran (2015) propose that BEI selects an active VoiceP in overt-agent BEI-constructions and a passive VoiceP in agent-less BEI-constructions; both overt-agent and agent-less BEI-constructions involve an \bar{A} -moved NOP, which is co-indexed with the subject of BEI, as illustrated in (39a) and (39b).

- (39) a. *Bruening & Tran's (2015) active-voice-selecting BEI-construction*

$$\text{NP}_i \text{ BEI } [_{\text{VoiceP}} \text{ NOP}_i \text{ NP Voice V (... V ...) } t (...)]$$

 b. *Bruening & Tran's (2015) passive-voice-selecting BEI-construction*

$$\text{NP}_i \text{ BEI } [_{\text{PassP}} \text{ NOP}_i \text{ Pass } [_{\text{VoiceP}} \text{ Voice V (... V ...) } t (...)]]$$


Bruening & Tran's (2015) analysis of the agent-less BEI-constructions has the opposite problem: it accounts for the well-formedness of certain agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries (e.g., the well-formedness of (15b) and (16b) when the agent/external argument of the matrix verb is

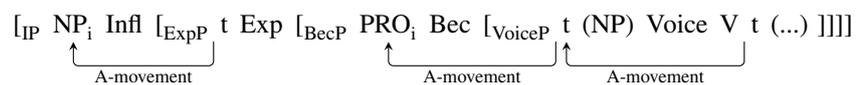
¹⁶As is pointed out by Ernst (2010), an apparent problem with Huang, Li & Li's (2009) analysis of long-passives/overt-agent BEI-constructions is that BEI's complement cannot be as large as an IP; such a problem can be avoided by simply reanalyzing BEI's complement as an extended verbal projection while maintaining other components of Huang, Li & Li's (2009) analysis of long-passives/overt-agent BEI-constructions (e.g., the base-generation of the subject of BEI and NOP movement in BEI's complement).

non-overt), but fails to account for the ill-formedness of certain agent-less BEI-constructions which involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries (e.g., the ill-formedness of (13b) and (14b) when the agent/external argument of the matrix verb is non-overt). In addition, Bruening & Tran's (2015) analysis, like Huang, Li & Li's (2009) analysis (and any other analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement), cannot account for the subject/object contrast with respect to the possibility of crossing a finite clause boundary to become the subject of BEI, as seen previously in (19b) and (19c). See section 6 of this paper for more details.

4.3 Liu & Huang (2016)

Liu & Huang (2016) follow Huang (2013) in arguing that both a base-generation analysis and a raising analysis of the subject in the BEI-construction could be appropriate, in an attempt to reconcile two conflicting arguments regarding the base-generated vs. derived status of the subject of BEI, which I will discuss in section 7 of this paper. Specifically, they propose to decompose BEI into a two-place predicate meaning 'experience' (Exp) and a raising predicate meaning 'become' (Bec), and suggest that overt-agent and agent-less BEI-constructions involving just a simple transitive verbal projection (which they dub *local long-passives* and *short-passives*, respectively) can be analyzed as involving either base-generation of the subject of BEI (as an argument of the Exp head) and A-movement of a PRO (to Spec, BecP), controlled by the subject of BEI, as illustrated in (40a), or a derived subject of BEI via A-movement (to Spec, BecP, in which case the Exp head is absent), as illustrated in (40b).

(40) a. *Liu & Huang's (2016) control analysis of local long- and short-passives*



b. *Liu & Huang's (2016) raising analysis of local long- and short-passives*



For BEI-constructions involving multiple verbal projections (which they dub *non-local long-passives*), Liu & Huang (2016) maintain Huang, Li & Li's (2009) analysis involving base-generation of the subject of BEI and NOP movement in BEI's complement. Hence, the problems with Huang, Li & Li's (2009) analysis – namely, its failure to account for the possibility of (apparent) long-distance dependencies in agent-less BEI-constructions and the subject/object contrast with respect to the possibility of crossing a finite clause boundary to become the subject of BEI – remain unresolved.

4.4 Pan (1998)

Pan (1998) analyzes the BEI-construction as a passive construction where BEI is a passive marker. To account for the possibility of long-distance dependencies in the BEI-construction, such as in (41), Pan (1998) assumes that the multiple verbal projections in examples like (41) form a complex predicate which constitutes the passivization domain in Mandarin; hence, long-distance passivization is possible as an instance of A-movement in Mandarin.

(41) *Long-distance dependency in BEI-construction (object control)*

Na-feng xin_i bei *(wo) jiao Li_j [PRO_j qing Wang_k [PRO_k tuo Zhang_l [PRO_l ji-chu-le ____i]].
 that-CL letter BEI 1SG order Li ask Wang entrust Zhang send-out-PRF

Lit. 'That letter was ordered Li to ask Wang to entrust Zhang to send out *(by me).' (Adapted from Huang, Li & Li 2009: 132: ex. 47b)

Pan (1998) further shows that any NP within the complex predicate can undergo passivization, as seen in (42).¹⁷

¹⁷In (42), the additional morpheme *qu* 'go' inserted before the gap or the disyllabic *baituo* 'entrust' (instead of its monosyllabic synonym *tuo* 'entrust') is necessary for phonological/morphological reasons (see Tang 2002).

- (42) a. Li_i bei (wo) jiao-qu ____i qing Wang tuo Zhang ji-chu-le na-feng xin.
 Li BEI 1SG order-go ask Wang entrust Zhang send-out-PRF that-CL letter
 ‘Li was ordered to ask Wang to entrust Zhang to send out that letter (by me).’ (Adapted from Pan & Hu 2021: ex. 29a)
- b. Wang_i bei *(wo) jiao Lisi qing-qu ____i tuo Zhang ji-chu-le na-feng xin.
 Wang BEI 1SG order Li ask-go entrust Zhang send-out-PRF that-CL letter
 Lit. ‘Wang was ordered Li to ask to entrust Zhang to send out that letter *(by me).’ (Adapted from Pan & Hu 2021: ex. 29b)
- c. Zhang_i bei *(wo) jiao Lisi qing Wang baituo ____i ji-chu-le na-feng xin.
 Zhang BEI 1SG order Li ask Wang entrust send-out-PRF that-CL letter
 Lit. ‘Zhang was ordered Li to ask Wang to entrust to send out that letter *(by me).’ (Adapted from Pan & Hu 2021: ex. 29c)

A technical problem with Pan’s (1998) analysis has to do with *minimality*: even if the probe on the passive head in Mandarin is able to search for a goal across multiple verbal projections, it must attract the *closest* goal. Hence, the well-formedness of (41a), (42b) and (42c), where the subject of BEI is not identified with the NP closest to BEI, remains problematic for Pan’s (1998) analysis. More generally, a fatal problem for Pan’s (1998) analysis is the fact that the BEI-construction is unlike the English *be*-passive, which exhibits properties of A-movement, and like English *tough*-movement, which exhibits mixed properties in terms of A-movement vs. \bar{A} -movement, as I will show in section 5 of this paper. Hence, the BEI-construction cannot be analyzed as a passive construction involving A-movement, on a par with the English *be*-passive.

5 Mixed A/ \bar{A} -properties as direct consequences of composite A/ \bar{A} -movement

As mentioned previously, it has long been recognized that A-movement and \bar{A} -movement are associated with distinct properties (see e.g., Richards 2014). A-movement, such as subject-to-subject raising and passivization, (i) is restricted to noun phrases; (ii) is local/cannot cross c-commanding noun phrases; (iii) creates new antecedents for anaphor binding; (iv) is not subject to weak crossover; (v) does not reconstruct for Principle C; (vi) does not license parasitic gaps; and (vii) feeds \bar{A} -movement. By contrast, \bar{A} -movement, such as *wh*-movement, (i) is not restricted to noun phrases; (ii) can cross c-commanding noun phrases and finite clause boundaries to establish long-distance dependencies; (iii) does not create new antecedents for anaphor binding; (iv) is subject to weak crossover; (v) obligatorily reconstructs for Principle C; (vi) licenses parasitic gaps; and (vii) does not feed A-movement/only feeds \bar{A} -movement (the so-called *Ban on Improper Movement*; see e.g., May 1979; Chomsky 1981; Abels 2007; Neeleman & Van De Koot 2010; Williams 2011).

The *positional* view of the A/ \bar{A} -distinction holds that the distinct properties associated with A-movement and \bar{A} -movement are derived from the distinct A-positions and \bar{A} -positions that A-movement and \bar{A} -movement target, respectively (see e.g., Chomsky 1981, 1995; Mahajan 1990; Déprez 1990; Miyagawa 2009). In contrast, the *featural* view of the A/ \bar{A} -distinction, namely, that the distinct properties associated with A-movement and \bar{A} -movement are derived from the distinct ϕ - and \bar{A} -features which trigger A-movement and \bar{A} -movement, respectively, and the possibility of composite probing by the composite probe [$\phi + \bar{A}$], which attracts the closest NP with both a matching ϕ -feature and a matching \bar{A} -feature, together predict that mixed properties of both A-movement and \bar{A} -movement emerge as direct consequences of composite A/ \bar{A} -movement (Van Urk 2015). Positive evidence has come from the Nilotic language Dinka Bor, where movement targeting Spec, CP, e.g., topicalization and relativization, exhibits properties of both A-movement and \bar{A} -movement under the standard diagnostics (Van Urk 2015), as well as English *tough*-movement, which exhibits the same mix of properties as Dinka movement to Spec, CP (Longenbaugh 2017; see also Chomsky 1977, 1981; Brody 1993; Rezac 2006; Hicks 2009; Takahashi 2011; Hartman 2011; Keine & Poole 2017).

The remainder of this section is organized as follows: In sections 5.1 and 5.2, I will review the mixed A/ \bar{A} -properties associated with Dinka movement to Spec, CP and Van Urk’s (2015) analysis of Dinka movement to Spec, CP as involving (successive-cyclic) composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the C head (and the Voice head), as well as the same mix of properties associated with English *tough*-movement and Longenbaugh’s (2017) analysis of *tough*-movement as involving (successive-cyclic) composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the Voice head. In section 5.3, I will show that the BEI-construction exhibits the same mix of properties as Dinka movement to Spec, CP and English *tough*-movement. Under the proposed analysis of the BEI-construction as a passive construction involving composite A/ \bar{A} -movement, the mixed

A/ \bar{A} -properties associated with the BEI-construction are direct consequences of composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the passive head/BEI.

As a preview, the mixed A/ \bar{A} -properties associated with Dinka movement to Spec, CP, English *tough*-movement, and the Mandarin BEI-construction are summarized in (43).

- (43) *Mixed A/ \bar{A} -properties associated with Dinka movement to Spec, CP, English tough-movement, and the Mandarin BEI-construction*

Properties	A	\bar{A}	Dinka mvmt to Spec, CP	English <i>tough</i> -mvmt	Mandarin BEI-constrn
New antecedents for anaphor binding	✓	*	✓	✓	✓
No weak crossover	✓	*	✓	✓	✓
No reconstruction for Principle C	✓	*	✓	✓	✓
Long-distance	*	✓	✓	✓	✓
Islands for extraction	*	✓	✓	✓	✓
Parasitic gap licensing	*	✓	NA	✓	NA

5.1 Dinka

In Dinka, movement targeting Spec, CP, e.g., topicalization and relativization, behaves like A-movement in that it (i) creates new antecedents for anaphor binding, as seen in (44); (ii) is not subject to weak crossover, as seen in (45); and (iii) does not show reconstruction effects for Principle C, as seen in (46).

- (44) *Dinka topicalization: new antecedents for anaphor binding*

- a. Bòl_i à-cí_i [_{DP} àkékòl-tí è rèt-dè_i] ___ píðòlíc.
 Bol 3S-PRF.OV story-that P self-SG.3SG criticize.NF
 ‘Bol, that story about himself has criticized.’ (Van Urk 2015: 111, ex. 37a)
- b. Bòl_i à-cí_i [_{DP} thùrá è rèt-dè_i] nyðòth [_{CP} kè cùükù ___ t̃iŋ].
 Bol 3S-PRF.OV picture P self-SG.3SG show.NF C PRF.1PL see.NF
 ‘Bol, a picture of himself has shown that we have seen.’ (Van Urk 2015: 111, ex. 37b)

- (45) *Dinka topicalization: no weak crossover*

- a. Dhùk ébén_i à-cí_i thòk-dè_i ___ kâac.
 boy every 3S-PRF.OV goat-CS-SG.SG bite.NF
 ‘Every boy_i, his_i goat bit.’ (Van Urk 2015: 110, ex. 35a)
- b. Mòc ébén_i à-yí_i tíeen-dè_i luéel [_{CP} è ___ thèt̃].
 man every 3S-HAB.OV wife-SG.3SG say.NF C cook.SV
 ‘Every man_i, his_i wife says is cooking.’ (Van Urk 2015: 110, ex. 36a)

- (46) *Dinka topicalization: no reconstruction for Principle C*

- a. [_{DP} Mánh è [Máyèn kù Àyén]_i] c̃iikè_i ___ t̃iŋ.
 brother P Mayen.GEN and Ayen PRF.3PL see.NF
 ‘The brother of [Mayen and Ayen]_i, they_i have seen.’ (Van Urk 2015: 114, ex. 43a)
- b. [_{DP} Mánh è [Máyèn kù Àyén]_i] à-yùükù tàak [_{CP} c̃iikè_i ___ t̃iŋ].
 brother P Mayen.GEN and Ayen 3S-HAB.PL think.NF PRF.3PL see.NF
 ‘The brother of [Mayen and Ayen]_i, we think they_i have seen.’ (Van Urk 2015: 114, ex. 44a)

Dinka movement to Spec, CP behaves like \bar{A} -movement in that (i) topicalization can be long-distance, crossing finite clause boundaries, as seen in (44b), (45b) and (46b); and (ii) relativization induces islands for extraction, as seen in (47).

- (47) *Dinka relativization: islands for extraction*

- a. Àyén à-cẹ́ [DP ràn [CP m̀̀r t̀̀ony]] t̀̀iŋ.
 Ayen 3s-PRF.SV person.CS decorate.SV pot see.NF
 ‘Ayen has seen someone who is decorating a pot.’ (Van Urk 2015: 99, ex. 13a)
- b. *Yè ńọ́ [CP Op ćí Àyèn [DP ràn [CP m̀̀r ____]] t̀̀iŋ]?
 be what PRF.OV Ayen.GEN person.CS decorate.SV see.NF
 Lit. ‘What has Ayen seen someone [who is decorating ____]?’ (Van Urk 2015: 99, ex. 13b)
- c. *T̀̀ony à-ćí Àyèn [DP ràn [CP m̀̀r ____]] t̀̀iŋ.
 pot 3s-PRF.OV Ayen.GEN person.CS decorate.SV see.NF
 Lit. ‘A pot, Ayen has seen someone who is decorating ____.’ (Van Urk 2015: 99, ex. 13c)

Van Urk (2015) proposes that the mixed A/ \bar{A} -properties associated with Dinka movement to Spec, CP emerge as direct consequences of (successive-cyclic) composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the C head (and the Voice head, for purposes of successive-cyclic composite A/ \bar{A} -movement), as illustrated in (48).

(48) *Van Urk’s (2015) analysis of Dinka movement to Spec, CP*



5.2 English

As noted by Longenbaugh (2017), English *tough*-movement exhibits the same mix of properties as Dinka movement to Spec, CP. Specifically, English *tough*-movement behaves like A-movement in that it (i) creates new antecedents for anaphor binding, as seen in (49a); (ii) is immune to weak crossover, as seen in (49b); and (iii) does not show reconstruction effects for Principle C, as seen in (49c).

(49) *English tough-movement: A-properties*

- a. *New antecedents for anaphor binding*
 [Jon and Mary]_i were hard for each other_i’s friends to get along with ___i. (Longenbaugh 2017: ex. 14b; see also Ruys 2000; Pesetsky 2013)
- b. *No weak crossover*
 No employee_i will be easy for us to get his_i boss to fire ___i. (Longenbaugh 2017: ex. 14a; see also Lasnik & Stowell 1991)
- c. *No reconstruction for Principle C*
 [Mary_i’s father]_j is tough for her_i to get along with ___j. (Longenbaugh 2017: ex. 14c; see also Mulder & den Dikken 1992; Takahashi 2011)

English *tough*-movement behaves like \bar{A} -movement in that it (i) can be long-distance, as seen in (50a); (ii) induces weak islands for *wh*-adjunct extraction, as seen in (50b);¹⁸ and (iii) licenses parasitic gaps, as seen in (50c).

(50) *English tough-movement: \bar{A} -properties*

- a. *Long-distance*
 Aspects_i was annoying to be asked by Joan to convince Matt to read ___i. (Longenbaugh 2017: ex. 15a)
- b. *Islands for extraction*
 *Where_i was *Syntactic Structures*_j enjoyable to read ___j ___i? (Longenbaugh 2017: ex. 15c; see also

¹⁸Note that it is possible to extract a *wh*-argument from the *tough*-predicate’s complement, as seen in (i).

- (i) What balalaika_i are these partitas_j easy to play ___j on ___i. (Pesetsky 1982: ex. 38a)

Chomsky 1977; Rezac 2006)

c. *Parasitic gap licensing*

?*On Raising*_i is easy to admire ____i without having read ____i. (Longenbaugh 2017: ex. 15b; see also Chomsky 1982)

However, unlike Dinka movement to Spec, CP, which can cross finite clause boundaries, English *tough*-movement is possible across non-finite clause boundaries, which arguably lack a CP projection (Wurmbrand 2014), as seen in (50a), but is degraded for non-subjects and impossible for subjects across a phasal CP-projection, as seen in (51) and (52) (Longenbaugh 2017; see also Postal 1971; Bresnan 1972; Chomsky 1973; Lasnik & Fiengo 1974; Browning 1987; Rezac 2006).¹⁹

(51) *Long-distance dependency in English tough-movement (finite object gap)*

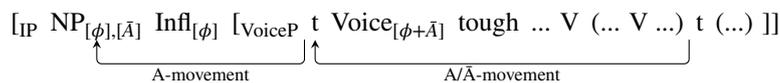
- a. ??[*]John_i was easy to show [_{CP} that Bill killed ____i]. (Longenbaugh 2017: ex. 38a; see also Lasnik & Fiengo 1974)
- b. ?[*]Kim_i is tough for me to believe [_{CP} that Sandy would ever marry ____i]. (Longenbaugh 2017: ex. 38b; see also Hukari & Levine 1991)
- c. ?[]Mary_i is tough for me to believe [_{CP} that John would ever marry ____i]. (Longenbaugh 2017: ex. 38c; see also Kaplan & Bresnan 1982)
- d. ?[%]Mary_i is hard for me to believe [_{CP} Leslie kissed ____i]. (Longenbaugh 2017: ex. 38d; see also Dalrymple & King 2000)
- e. ?[?]This boulder_i would be easy for me to claim [_{CP} that I had lifted ____i]. (Longenbaugh 2017: ex. 38e; see also Heycock 1991)
- f. ?[]This book_i is difficult to convince people [_{CP} that they ought to read ____i]. (Longenbaugh 2017: ex. 38f; see also Chomsky 1981)

(52) *Long-distance dependency in English tough-movement (finite subject gap)*

- a. *Jon_i is hard to believe [_{CP} ____i liked Sue]. (Longenbaugh 2017: ex. 37a)
- b. *That book_i was easy to show [_{CP} ____i sold well when it was first released]. (Longenbaugh 2017: ex. 37b)

Following Van Urk (2015), Longenbaugh (2017) proposes that the mixed A/ \bar{A} -properties associated with English *tough*-movement are direct consequences of (successive-cyclic) composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the Voice head. Specifically, the *tough*-subject is derived via (successive-cyclic) composite A/ \bar{A} -movement to Spec, VoiceP, followed by a terminating step of A-movement to Spec, IP, as illustrated in (53).

(53) *Longenbaugh's (2017) analysis of English tough-movement*



Importantly, Longenbaugh (2017) suggests that in English *tough*-movement, (successive-cyclic) composite A/ \bar{A} -movement to Spec, VoiceP can be followed by A-movement to Spec, IP without violating the ban on improper (A- after \bar{A} -) movement (see footnote 14).

In addition, Longenbaugh (2017) suggests that the ban on improper A-after- \bar{A} -movement also implies a ban on composite A/ \bar{A} -movement after \bar{A} -movement.²⁰ Specifically, to account for the restrictions on long-distance

¹⁹Judgements immediately preceding square brackets and in square brackets and are provided by Longenbaugh (2017) and the other cited author(s), respectively.

²⁰One can derive the ban on composite A/ \bar{A} -movement after \bar{A} -movement from the perspective of either Neeleman & van De Koot (2010) or Obata & Epstein (2011). From the perspective of Neeleman & van De Koot (2010), if \bar{A} -movement must reconstruct, which renders the highest

dependencies with English *tough*-movement, Longenbaugh (2017) proposes that the distribution of composite probes can be different in different languages: In Dinka, both the C head and the Voice head host a composite probe [$\phi + \bar{A}$]; hence, composite A/ \bar{A} -movement can cross finite clause boundaries (Van Urk 2015). In English, only the Voice head (involved in the path of *tough*-movement) hosts a composite probe [$\phi + \bar{A}$] while the C head only hosts a pure \bar{A} -probe; hence, composite A/ \bar{A} -movement can proceed successive-cyclically through the specifiers of successive VoicePs, but cannot proceed from Spec, CP, i.e., following a step of \bar{A} -movement to Spec, CP triggered by the pure \bar{A} -probe on the C head, due to the ban on improper composite A/ \bar{A} -movement after \bar{A} -movement, as illustrated in (54).²¹

- (54) *Improper composite-after- \bar{A} -movement in English *tough*-movement*
- $$[\text{VoiceP NP}_{[\phi],[\bar{A}]} \text{Voice}_{[\phi+\bar{A}]} \text{tough} \dots [\text{CP t C}_{[\bar{A}]} [\text{IP NP} \dots \text{V}(\dots) \text{t}(\dots)]]]$$
- ↑
↑
A/ \bar{A} -movement
 \bar{A} -movement

Longenbaugh's (2017) analysis of English *tough*-movement contrasts with Chomsky's (1977, 1981) analysis of English *tough*-movement, in which the *tough*-predicate is analyzed as a two-place predicate, both introducing the *tough*-subject and selecting a secondary predicate of the *tough*-subject, which contains an \bar{A} -moved NOP, which is co-indexed with the *tough*-subject, as illustrated in (55); at LF, the NOP serves as a lambda operator, which turns a proposition into a predicate via lambda abstraction.

- (55) *Chomsky's (1977, 1981) analysis of English *tough*-movement*
- $$\text{NP}_{[\phi]} \text{tough} [\text{NOP}_{[\bar{A}]} \dots \text{V}(\dots) \text{t}(\dots)]$$
- ↑
 \bar{A} -movement

Chomsky's (1977, 1981) analysis of English *tough*-movement is bipartite, in the sense that it attempts to derive the A-properties associated with *tough*-movement by base-generating the *tough*-subject as an argument of the *tough*-predicate, and derives the \bar{A} -properties associated with *tough*-movement via \bar{A} -movement of a NOP in the *tough*-predicate's complement. As is pointed out by Lasnik & Stowell (1991), Chomsky's (1977, 1981) analysis must be complemented by the assumption that *tough*-movement involves \bar{A} -movement of a *non-quantificational* NOP, which is not subject to weak crossover and Principle C reconstruction effects; by contrast, other instances of \bar{A} -movement that are subject to weak crossover and Principle C reconstruction effects (e.g., *wh*-movement) involve \bar{A} -movement of a (*wh*)-*quantifier* which binds its trace as a variable at LF.

5.3 Mandarin

Turning now to Mandarin. In section 5.3.1, I will establish the baseline that IP-external topicalization and relativization in Mandarin are instances of \bar{A} -movement. In section 5.3.2, I will show that the BEI-construction exhibits the same mix of properties as Dinka movement to Spec, CP and English *tough*-movement. Under the proposed analysis of the BEI-construction as a passive construction involving composite A/ \bar{A} -movement, the mixed A/ \bar{A} -properties associated with the BEI-construction are direct consequences of composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the passive head/BEI. In section 5.3.3, I will show that multiple instances of \bar{A} -movement in Mandarin can proceed in either a nested or a crossed fashion, which suggests that pure \bar{A} -probes in Mandarin are relativized to specific features. In contrast, when two NPs with both ϕ - and \bar{A} -features move from BEI's complement, only the NP closer to BEI can be the subject of BEI. This follows if the \bar{A} -feature on BEI is flat. In addition, I will draw parallels between topic/focus-fronting and passivization with BEI, which I take to indicate that the \bar{A} -feature on BEI has information-structural effects.

5.3.1 \bar{A} -movement

In Mandarin, IP-external topicalization, as exemplified by (56a), and relativization, as exemplified by (57a), involve a movement dependency between a topicalized NP, which surfaces IP-externally, and a gap, and between a

copy of an \bar{A} -movement chain unavailable for (carrying the relevant selectional feature for) further A-movement, then it should also render the highest copy of an \bar{A} -movement chain unavailable for (carrying the relevant selectional feature for) further composite A/ \bar{A} -movement. From the perspective of Obata & Epstein (2011), if it is only the \bar{A} -feature that undergoes \bar{A} -movement, then it is predicted that the \bar{A} -feature alone cannot undergo further composite A/ \bar{A} -movement (just like how the \bar{A} -feature alone cannot undergo further A-movement).

²¹Longenbaugh (2017) suggests that degraded (but acceptable) instances of *tough*-movement, as seen in (51), are derived without an intermediate step of \bar{A} -movement to Spec, CP. Alternatively, one might assume that for speakers who generally accept cross-clausal *tough*-movement (e.g., David Pesetsky, p.c.), the C head (involved in the path of *tough*-movement) also hosts a composite probe [$\phi + \bar{A}$].

relativized NP and a gap, respectively, as evidenced by the fact that IP-external topicalization and relativization are subject to island constraints, as seen in (56b) and (57b), respectively.

(56) a. *IP-external topicalization*

Lisi_i, Zhangsan shuo [_{CP} ____i ma-guo wo].
 Lisi Zhangsan say scold-EXP 1SG
 ‘Lisi, Zhangsan said that (he) once scolded me.’

b. *IP-external topicalization: island-sensitive*

*Lisi_i, jingcha zhuazou-le [_{NP} yi-ge [_{CP} ____i ma-guo de ren]].
 Lisi police arrest-PRF one-CL scold-EXP REL person
 INT: ‘Lisi, the police arrested a person who (he) once scolded.’

(57) a. *Relativization*

[_{CP} ____i xihuan wo] de ren_i
 like 1SG REL person
 ‘the person who likes me’

b. *Relativization: island-sensitive*

*wo renshi [_{NP} henduo [_{CP} ____i xihuan de ren]] de na-ge ren_i
 1SG know many like REL person REL that-CL person
 INT: ‘that person who I know many people who (he) likes’ (Adapted from Huang, Li & Li 2009: 219, ex. 82)

IP-external topicalization and relativization exhibit properties of \bar{A} -movement. Specifically, IP-external topicalization (i) does not create new antecedents for anaphor binding, as seen in (58); (ii) is subject to weak crossover, as seen in (59); and (iii) shows reconstruction effects for Principle C, as seen in (60) (see e.g., Huang 1993; Qu 1994; Shyu 1995; Kuo 2009; a.o.).^{22,23}

(58) *IP-external topicalization: no new antecedents for anaphor binding*

a. *Lisi_i, (ta-)ziji_i-de pengyou ma-guo ____i.
 Lisi 3SG-self’s friend scold-EXP
 INT: ‘Lisi_i, his_i friend once scolded (him_i).’

b. *Lisi_i, (ta-)ziji_i-de tonghuo bipo Zhangsan pai jingcha zhuazou-le ____i.
 Lisi 3SG-self’s complice force Zhangsan send police arrest-PRF
 INT: ‘Lisi_i, his_i complice forced Zhangsan to send the police to arrest (him_i).’

(59) *IP-external topicalization: weak crossover*

a. *Mei-ge ren_i, ta_i-de pengyou dou ma-guo ____i.
 every-CL person 3SG’s friend DIST scold-EXP
 INT: ‘Every person_i, his_i friend once scolded (him_i).’

b. *Mei-ge xiaotou_i, ta_i-de tonghuo dou bipo Zhangsan pai jingcha zhuazou-le ____i.
 every-CL thief 3SG’s complice DIST force Zhangsan send police arrest-PRF

²²Judgements concerning Principle C reconstruction effects show speaker variation (see Huang 1993, footnote 17).

²³Note that IP-external topicalization also shows reconstruction effects for Principle A, as seen in (i).

(i) *IP-external topicalization: reconstruction for Principle A*

a. Ta-ziji_i-de pengyou_j, Lisi_i ma-guo ____j.
 3SG-self’s friend Lisi scold-EXP
 INT: ‘His_i’s friend_j, Lisi_i once scolded (him_j).’

b. Ta-ziji_i-de pengyou_k, Zhangsan_i bipo Lisi_j ma-guo ____k.
 3SG’s friend Zhangsan force Lisi scold-EXP
 INT: ‘His_i’s friend_k, Zhangsan_i once forced Lisi_j to scold (him_k).’

INT: ‘Every thief_i, his_i complice forced Zhangsan to send the police to arrest (him_i).’

(60) *IP-external topicalization: reconstruction for Principle C*

a. ?*Lisi_i-de pengyou_j, ta_i ma-guo ____j.
Lisi’s friend 3SG scold-EXP

INT: ‘Lisi_i’s friend_j, he_i once scolded (him_j).’ (Adapted from Huang 1993: ex. 54a)

b. ?*Lisi_i-de tonghuo_j, ta_i bipo Zhangsan pai jingcha zhuazou-le ____j.
Lisi’s complice 3SG force Zhangsan send police arrest-PRF

INT: ‘Lisi_i’s complice_j, he_i forced Zhangsan to send the police to arrest (him_j).’

Relativization induces (strong) islands for both argument and non-argument extraction. As seen previously in (56b) and (57b), extraction of an argument out of a relative clause (via topicalization or relativization) is impossible. In addition, a relative clause cannot contain the *wh*-adjunct *weishenme* ‘why’, which undergoes covert movement to its scope position in the matrix Spec, CP, hence is subject to island constraints, as seen in (61a) (cf. English *wh*-phrases, which undergo overt movement to the matrix Spec, CP, hence are subject to island constraints) (Huang 1982; Tsai 1994); by contrast, a relative clause can contain the *wh*-argument *shei* ‘who’, which is subject to unselective binding without movement, hence is not subject to island constraints, as seen in (61b) (Tsai 1994).

(61) *Relativization: islands for non-argument extraction*

a. *Wh-adjunct: island-sensitive*

*Ni xiang-zhidao [Zhangsan weishenme mousha ____i] de ren_i?
you want-know Zhangsan why murder REL person

INT: ‘What is the reason *x* such that you want to know about the person whom Zhangsan murdered for *x*?’

b. *Wh-argument: island-insensitive*

Ni xiang-zhidao [shei mousha ____i] de ren_i?
you want-know who murder REL person

‘Who is *x* such that you want to know about the person whom *x* murdered?’

Similarly, a relative clause cannot contain a so-called *A-not-A* question, which involves an interrogative Infl of the form *A-not-A*, which undergoes covert head-movement to its scope position in the matrix C, hence is subject to island constraints, as seen in (62a); by contrast, a relative clause can contain a disjunctive question, which involves conjunct reduction and no movement, hence is not subject to island constraints, as seen in (62b) (Huang 1991).

(62) *Relative clause: island for non-argument extraction*

a. *A-not-A question: island-sensitive*

*Xiaotou tou-le [shi-bu-shi jia-de ____i] de na-fu hua_i?
thief steal-PRF be-not-be fake-MOD REL that-CL painting

INT: ‘Did the thief steal that painting which is fake or (that painting which is) not fake?’

b. *Disjunctive question: island-insensitive*

Xiaotou tou-le [shi jia-de haishi bu-shi jia-de ____i] de na-fu hua_i?
thief steal-PRF be fake-MOD or not-be fake-MOD REL that-CL painting

‘Did the thief steal that painting which is fake or (that painting which is) not fake?’

5.3.2 The BEI-construction

In the BEI-construction, the dependency between the subject of BEI and the gap in BEI’s complement is also derived (entirely or partially) via movement, as evidenced by the fact that the dependency is subject to island constraints, as seen in (63).

(63) *BEI-construction: island-sensitive*

*Lisi_i bei (jingcha) zhuazou-le [_{NP} yi-ge ma-guo ____i de ren].

Lisi BEI police arrest-PRF one-CL scold-EXP REL person

INT: ‘Lisi was arrested a person who once scolded (him) (by the police).’

Unlike IP-external topicalization and relativization, the BEI-construction exhibits properties of both A-movement and \bar{A} -movement under the standard diagnostics. Like A-movement and unlike \bar{A} -movement, the BEI-construction (i) creates new antecedents for anaphor binding, as seen in (64a); (ii) is immune to weak crossover, as seen in (64b); and (iii) does not show reconstruction effects for Principle C, as seen in (64c) (see also Kuo 2009).

(64) BEI-construction: A-properties

a. *New antecedents for anaphor binding*

Lisi_i bei (ta-)ziji_i-de pengyou ma-guo ____i.
 Lisi BEI 3SG-self’s friend scold-EXP
 ‘Lisi_i was once scolded by his_i friend.’

b. *No weak crossover*

Mei-ge ren_i dou bei ta_i-de pengyou ma-guo ____i.
 every-CL person DIST BEI 3SG’s friend scold-EXP
 ‘Every person_i was once scolded by his_i friend.’

c. *No reconstruction for Principle C*

Lisi_i-de pengyou_j bei ta_i ma-guo ____j.
 Lisi’s friend BEI 3SG scold-EXP
 ‘Lisi_i’s friend was once scolded by him_i.’

Like \bar{A} -movement and unlike A-movement, however, the BEI-construction allows for a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI’s complement. Note that BEI-constructions involving multiple verbal projections and a long-distance dependency between the subject of BEI and a deeply embedded gap in BEI’s complement also exhibit the same A-movement properties, as seen in (65).²⁴

²⁴Also note that, unlike \bar{A} -movement, the BEI-construction does not show reconstruction effects for Principle A, whether it involves just a simple transitive verbal projection or multiple verbal projections, as seen in (i).

(i) BEI-construction: no reconstruction for Principle A

- a. *Ta-ziji_i-de pengyou bei Lisi_i ma-guo ___.
 3SG-self’s friend BEI Lisi scold-EXP
 INT: ‘His_i friend was once scolded by Lisi_i.’
- b. *Ta-ziji_{i/j}-de pengyou bei Zhangsan_i bipo Lisi_j ma-guo ___.
 3SG-self’s friend BEI Zhangsan force Lisi scold-EXP
 INT: ‘His_{i/j} friend was once forced Lisi_j to scold by Zhangsan_i.’

Cross-linguistically, \bar{A} -movement shows reconstruction effects for Principle A. However, languages differ with respect to whether A-movement also shows reconstruction effects for Principle A. In languages like English, both \bar{A} -movement and A-movement show reconstruction effects for Principle A, as seen in (ii).

- (ii) a. [Which photos of herself_{i/j}] did Sue_i hear that Mary_j liked ___ best? (Adapted from Pesetsky 2013: 12a)
 b. [This aspect of herself_i] seemed to Mary_i [___ to be a virtue]. (Pesetsky 2013: ex. 27a)

In languages like Dutch, \bar{A} -movement shows reconstruction effects for Principle A, as seen in (iii).

- (iii) Piet zei dat [aan zichzelf_i] Jan_i nooit ____j gedacht heeft.
 Peter said that on self John never thought has
 ‘Peter said that John never thought about himself’

However, A-movement does not show reconstruction effects for Principle A, as seen in (iv).

- (iv) Jan_i ziet [een foto van zichzelf_{i/*j}] Marie_j ___ getoond worden].
 John sees a photo of self Mary shown be
 ‘John sees a photo of himself being shown to Mary.’ (Neeleman & Van De Koot 2010 ex. 17b)

I suggest that Mandarin is like Dutch and unlike English in that only \bar{A} -movement shows reconstruction effects for Principle A.

- (65) BEI-construction: A-properties
- a. *New antecedents for anaphor binding*
 Lisi_i bei (ta-)ziji_i-de tonghuo bipo Zhangsan pai jingcha zhuazou-le ____i.
 Lisi BEI 3SG-self's complice force Zhangsan send police arrest-PRF
 Lit. 'Lisi was forced Zhangsan to send the police to arrest by his complice.'
 - b. *No weak crossover*
 Mei-ge xiaotou_i dou bei ta_i-de tonghuo bipo Zhangsan pai jingcha zhuazou-le ____i.
 every-CL thief DIST BEI 3SG's complice force Zhangsan send police arrest-PRF
 Lit. 'Every thief_i was forced Zhangsan to send the police to arrest (him_i) by his_i complice.'
 - c. *No reconstruction for Principle C*
 Lisi_i-de tonghuo_j bei ta_i bipo Zhangsan pai jingcha zhuazou-le ____j.
 Lisi's complice BEI 3SG force Zhangsan send police arrest-PRF
 Lit. 'Lisi_i's complice was forced Zhangsan to send the police to arrest by him_i.'

Also, like \bar{A} -movement and unlike A-movement, the BEI-construction induces weak islands for non-argument extraction.²⁵ As seen previously, the *wh*-adjunct *weishenme* 'why' contrasts with the *wh*-argument *shei* 'who' in that the former undergoes covert movement to its scope position in the matrix Spec, CP and hence is island-sensitive (Huang 1982; Tsai 1994), while the latter is subject to unselective binding without movement and hence is island-insensitive (Tsai 1994); hence, the ill-formedness of (66a) indicates that extraction of a non-argument out of a BEI-construction is impossible.

- (66) BEI-construction: islands for non-argument extraction
- a. *Wh-adjunct: island-sensitive*
 ??Wo xiang-zhidao Zhangsan_i bei (jingcha) renwei ____i weishenme mousha Lisi.
 1SG want-know Zhangsan BEI police think why murder Lisi
 INT: 'I want to know the reason x such that Zhangsan was believed to murder Lisi for x (by the police).'
 - b. *Wh-argument: island-insensitive*
 Wo xiang-zhidao Zhangsan_i bei (jingcha) renwei ____i mousha-le shei.
 1SG want-know Zhangsan BEI police think murder-PRF who
 'I want to know who is x such that Zhangsan was believed to murder x (by the police).'

Also recall that an A-not-A question contrasts with a disjunctive question in that the former involves covert head-movement of an interrogative Infl of the form A-not-A to its scope position in the matrix C, and hence is island-sensitive, while the latter involves conjunct reduction and no movement, hence is island-insensitive (Huang 1991); hence, the ill-formedness of (67a) also indicates that extraction of a non-argument out of a BEI-construction is impossible.

- (67) BEI-construction: islands for non-argument extraction
- a. *A-not-A question: island-sensitive*
 *Zhe-fu-hua_i bei (xiaotou) renwei ____i shi-bu-shi jia-de?
 this-CL-painting BEI thief think be-not-be fake
 INT: 'Is this painting thought to be fake or not fake (by the thief)?'
 - b. *Disjunctive question: island-insensitive*
 Zhe-fu-hua_i bei (xiaotou) renwei ____i shi jia-de haishi bu-shi jia-de?
 this-CL-painting BEI thief think be fake or not-be fake
 'Is this painting thought to be fake or not fake (by the thief)?'

Hence, the BEI-construction exhibits the same mix of properties as Dinka movement to Spec, CP and English

²⁵Note that it is possible to extract an NP-argument from BEI's complement, as I will show in section 5.3.3.

tough-movement.

Under the proposed analysis of the BEI-construction as a passive construction involving composite A/ \bar{A} -movement, the mixed A/ \bar{A} -properties associated with the BEI-construction emerge as direct consequences of (successive-cyclic) composite A/ \bar{A} -movement, triggered by a composite probe [$\phi + \bar{A}$] on the passive head/BEI.

By contrast, the alternative analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement, which is on a par with Chomsky's (1977, 1981) analysis of English *tough*-movement, is bipartite, in the sense that it attempts to derive the A-properties associated with the BEI-construction by base-generating the subject of BEI as an argument of BEI, and derives the \bar{A} -properties associated with the BEI-construction via NOP movement in BEI's complement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). As mentioned previously, Chomsky's (1977, 1981) analysis of English *tough*-movement must be complemented by the assumption that *tough*-movement involves \bar{A} -movement of a non-quantificational NOP, which is not subject to weak crossover and Principle C reconstruction effects (Lasnik & Stowell 1991). Similarly, the alternative of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement must be complemented by the assumption that the \bar{A} -moved NOP in BEI's complement is non-quantificational; hence, the BEI-construction is not subject to weak crossover and Principle C reconstruction effects (see Ting 1998).

5.3.3 A flat \bar{A} -feature on BEI

Cross-linguistically, languages differ with respect to whether multiple instances of \bar{A} -movement can nest or cross, which can be accounted for by assuming that \bar{A} -probes may be relativized to specific features (e.g., [*Wh*] for *wh*-movement, [*Top*] for topicalization, [*Foc*] for focalization, [*Rel*] for relativization, etc.), or be *flat*: while a relativized \bar{A} -probe must be satisfied by a goal that has a specific \bar{A} -feature that matches with the specific feature on the probe, a flat \bar{A} -probe can be satisfied by any \bar{A} -feature on the goal (see Rizzi 1997, 2004; Abels 2012; a.o.).

Concretely, in Italian, multiple instances of \bar{A} -movement can proceed in either a nested or a crossed fashion, as seen in (68); this can be accounted for by assuming that in Italian, \bar{A} -probes are relativized to specific features (see Rizzi 1997, 2004; Abels 2012; a.o.).

(68) Italian multiple \bar{A} -dependencies

a. Nested dependencies

?Mi domando, [_{CP} a chi_i, il premio Nobel_j, lo potrebbero dare ____j ____i].
 I wonder to whom the prize Nobel it potrebbero could give
 'I wonder to whom, the Nobel Prize, they could give it.' (Rizzi 1997: 14b)

b. Crossed dependencies

Mi domando, [_{CP} il premio Nobel_i, a chi_j lo potrebbero dare ____i ____j].
 I wonder the prize Nobel to whom it potrebbero could give
 'I wonder, the Nobel Prize, to whom they could give it.' (Rizzi 1997: 14a)

By contrast, in English, multiple instances of \bar{A} -movement (of any kinds) must form nested dependencies, as seen in (69) and (70) (see e.g., Pesetsky 1982). This can be accounted for by assuming that in English, \bar{A} -probes are flat.²⁶

(69) English multiple \bar{A} -dependencies

a. Nested dependencies

This problem_i, Mary knows who_j to consult ____j about ____i. (Pesetsky 1982: 269, ex. 36a)

b. Crossed dependencies

*This specialist_i, Mary knows what problems_j to consult ____i about ____j. (Pesetsky 1982: 269, ex. 36b)

(70) English multiple \bar{A} -dependencies

²⁶It is worth noting that the exact analysis of English *tough*-movement by Longenbaugh (2017) assumes that the composite probe on the Voice head consists of a ϕ -feature and a *relativized* \bar{A} -feature, [*AT*] (for 'aboutness topic') (see Longenbaugh 2017: 21-22); such an assumption is made in order to prevent generalized composite A/ \bar{A} -movement in English (see Longenbaugh 2017: 26-28), but is problematic, because it would allow for crossed dependencies as in (70b). In order to account for the requirement for nested dependencies as in (70a), it must be assumed that the composite probe on the Voice head consists of a ϕ -feature and a flat \bar{A} -feature. Hence, one must restrict composite probing in English by positing that only the Voice head(s) involved in the path of *tough*-movement can host the composite probe [$\phi + \bar{A}$].

- a. *Nested dependencies*
 What balalaika_i are these partitas_j easy to play ____j on ____i. (Pesetsky 1982: 269, ex. 38a)
- b. *Crossed dependencies*
 *What partitas_i is this balalaika_j easy to play ____i on ____j. (Pesetsky 1982: 269, ex. 38b)

Mandarin, like Italian and unlike English, allows for multiple instances of \bar{A} -movement to form either nested or crossed dependencies (see e.g., Xu 2000; Kuo 2009; a.o.). Concretely, the examples in (71) involve the indirect object and the direct object of a ditransitive verb undergoing IP-external topicalization, in either a nested or a crossed fashion.

(71) *Mandarin multiple \bar{A} -dependencies*

- a. *Nested dependencies*
 Zhe-jian shi_i, (ta shuo) you-xie ren_j, ta mei gaosu ____j ____i.
 this-CL matter 3SG say exist-PCL person 3SG not tell
 ‘This matter, (he said that) some people, he didn’t tell (them) (about it).’ (Adapted from Xu 2000: ex. 18)
- b. *Crossed dependencies*
 You-xie ren_i, (ta shuo) zhe-jian shi_j, ta mei gaosu ____i ____j.
 exist-PCL person 3SG say this-CL matter 3SG not tell
 ‘Some people, (he said that) this matter, he didn’t tell (them) (about it).’ (Adapted from Xu 2000: ex. 19)

The examples in (72) involve the matrix object and the embedded object undergoing IP-external topicalization and relativization, in either a nested or a crossed fashion.

(72) *Mandarin multiple \bar{A} -dependencies*

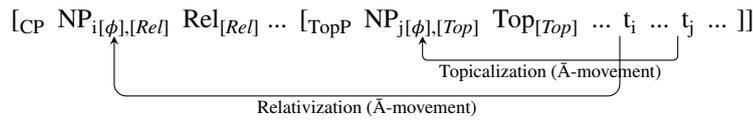
- a. *Nested dependencies*
 Zhang_i (zhe-ge xiaotou), [NOP_i wo bipo ____j shenxun ____i] de jingcha_j shi Li.
 Zhang this-CL thief 1SG force interrogate REL police be Li
 ‘Zhang_i (this thief), the police that [I forced to interrogate (him_i)] is Li.’
- b. *Crossed dependencies*
 Zhang_i (zhe-ming jingcha), [NOP_i wo bipo ____i shenxun ____j] de xiaotou_j shi Li.
 Zhang this-CL police 1SG force interrogate REL thief be Li
 ‘Zhang_i (this police), the thief that [I forced (him_i) to interrogate] is Li.’

The possibility of either nested or crossed dependencies with multiple instances of \bar{A} -movement in Mandarin suggests that pure \bar{A} -probes in Mandarin are relativized to specific features. Specifically, nested dependencies are formed when the structurally higher NP has the specific \bar{A} -feature of the structurally lower probe and the structurally lower NP has the specific \bar{A} -feature of the structurally higher probe, as illustrated in (73a), while crossed dependencies are formed when the structurally higher NP has the specific \bar{A} -feature of the structurally higher probe and the structurally lower NP has the specific \bar{A} -feature of the structurally lower probe, as illustrated in (73b). Note that a detail not illustrated in (73) is successive-cyclic movement – assuming that in the active voice the Voice head heads a phase (Chomsky 2001), topicalization and relativization should proceed successive-cyclically via Spec, VoiceP.

(73) *Mandarin multiple \bar{A} -movement*

- a. *Nested dependencies*
-
- $$[_{CP} NP_{i[\phi],[Rel]} Rel_{[Rel]} \dots [_{TopP} NP_{j[\phi],[Top]} Top_{[Top]} \dots t_j \dots t_i \dots]]$$
 Topicalization (\bar{A} -movement)
 Relativization (\bar{A} -movement)

b. *Crossed dependencies*



However, when two NPs with both ϕ - and \bar{A} -features move from BEI's complement, only the NP closer to BEI can be the subject of BEI. This follows if the \bar{A} -feature on BEI is flat. To begin with, the examples in (74) show that either the indirect object or the direct object of a ditransitive verb can be the subject in the BEI-construction.

- (74) a. Zhangsan_i bei (wo) gaozhi-le ____i zhe-jian shi (er bu-shi na-jian shi).
 Zhangsan BEI 1SG inform-PRF this-CL matter but not-be that-CL matter
 'Zhangsan was informed about this matter (but not that matter) (by me).'
- b. Zhe-jian shi_i bei (wo) gaozhi-le Zhangsan (er bu-shi Lisi) ____i.
 this-CL matter BEI 1SG inform-PRF Zhangsan but not-be Lisi
 Lit. 'This matter was informed Zhangsan (but not Lisi) about (by me).'

The well-formed example in (75a) is derived from (74a) via topicalization of the direct object (*zhe-jian shi* 'this matter') from BEI's complement. In this case, the subject of BEI (*Zhangsan*) is linked to the indirect object gap, and nested dependencies are formed. By contrast, the ill-formed example in (75b) is derived from (74b) via topicalization of the indirect object (*Zhangsan*) from BEI's complement. In this case, the subject of BEI (*zhe-jian shi* 'this matter') is linked to the direct object gap, and crossed dependencies are formed. Note that (75c), which is derived from (75a) by further topicalizing the subject of BEI (*Zhangsan*), is possible.²⁷

- (75) BEI-construction: nested dependencies
- a. Zhe-jian shi_i (er bu-shi na-jian shi), Zhangsan_j bei (wo) gaozhi-le ____j ____i.
 this-CL matter but not-be that-CL matter Zhangsan BEI 1SG inform-PRF
 'This matter (but not that matter), Zhangsan was informed about (it) (by me).'
- b. *Zhangsan_i (er bu-shi Lisi), zhe-jian shi_j bei (wo) gaozhi-le ____i ____j.
 Zhangsan but not-be Lisi this-CL matter BEI 1SG inform-PRF
 INT: 'Zhangsan (but not Lisi), this matter was informed (him) about (by me).'
- c. Zhangsan_j, zhe-jian shi_i (er bu-shi na-jian shi), ____j bei (wo) gaozhi-le ____j ____i.
 Zhangsan this-CL matter but not-be that-CL matter BEI 1SG inform-PRF
 'Zhangsan, this matter (but not that matter) (he) was informed about (it) (by me).'

Similar to the examples in (74), the examples in (76) show that either the matrix object or the embedded object can be the subject in the BEI-construction.

- (76) a. Li_i bei wo bipo ____i shenxun Zhang.
 Li BEI 1SG force interrogate Zhang
 'Li was forced to interrogate Zhang by me.'
- b. Zhang_i bei wo bipo Li shenxun ____i.
 Zhang BEI 1SG force Li interrogate

²⁷Holmberg, Sheehan, & Van der Wal (2019) (see also Newman 2021) observe that in North-West English and a number of other languages (e.g., Norwegian, Zulu, and Lubukusu) where either object in a double-object construction is free to undergo passivization and *wh*-movement, while it is possible to passivize the indirect object and *wh*-move the direct object, as seen in (ia), it is impossible to passivize the direct object and *wh*-move the indirect object, as seen in (ib).

- (i) *North-West English*
- a. Which book_i was John_j given/sent/handed ____j ____i? (Holmberg, Sheehan, & Van der Wal 2019: ex. 9b)
- b. *Who_i was the book_j given/sent/handed ____i ____j (by Mary)? (Holmberg, Sheehan, & Van der Wal 2019: ex. 9d)

Note that the contrast in (i) can also be viewed in terms of a contrast between (well-formed) nested and (ill-formed) crossed dependencies.

Lit. ‘Zhang was forced Li to interrogate by me.’

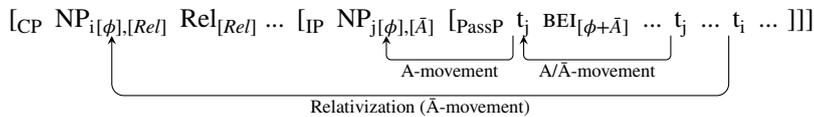
The examples in (77) involve both the matrix object and the embedded object moving from BEI’s complement – the matrix and embedded object gaps are linked to the subject of BEI and the head of the relative clause. In all of the examples, *Zhang* or *Zhang-de pengyou* ‘Zhang’s friend’ is forced to be the subject of BEI, by means of binding the subject-oriented anaphor (*ta*-*ziji* ‘3SG-self’, as in (77a), or co-reference with the pronominal possessor without incurring weak crossover effects, as in (77b), or co-reference with the pronoun without incurring reconstruction effects for Principle C, as in (77c).²⁸ Unlike (76), where the subject of BEI can be linked to the either the matrix or embedded object gap, the subject of BEI in the examples in (77) can only be linked to the matrix object gap.

(77) BEI-construction: nested dependencies

- a. [Zhang_i bei (ta-)ziji_i-de pengyou bipo _{-i/*j} shenxun _{-j/*i}] de ren_j shi Li.
 Zhang BEI 3SG-self’s friend force interrogate REL person be Li
 ‘The person that [Zhang_i was forced to interrogate by his_i friend] is Li.’
- b. [Zhang_i bei ta_i-de pengyou bipo _{-i/*j} shenxun _{-j/*i}] de ren_j shi Li.
 Zhang BEI 3SG’s friend force interrogate REL person be Li
 ‘The person that [Zhang_i was forced to interrogate by his_i friend] is Li.’
- c. [Zhang_i-de pengyou_j bei ta_i bipo _{-j/*k} shenxun _{-k/*j}] de ren_k shi Li.
 Zhang’s friend BEI 3SG force interrogate REL person be Li
 ‘The person that [Zhang_i’s friend_j was forced to interrogate by him_i] is Li.’

Both (75) and (77) show that when two NPs with both ϕ - and \bar{A} -features move from BEI’s complement, only the NP closer to BEI can be the subject of BEI. Under the proposed analysis, this follows if the composite probe on the passive head/BEI consists of a ϕ -feature and a flat \bar{A} -feature, hence must attract the closest NP with both ϕ - and \bar{A} -features, as illustrated in (78).

(78) Mandarin passivization and relativization: nested dependencies



Importantly, the contrast between (71), (72) and (75), (77) suggests a difference between the active voice and the BEI-construction, which, under the proposed analysis, is a passive construction. Specifically, the difference is that in the active voice, the Voice head, which heads a phase (Chomsky 2001), only hosts a ϕ -feature and/or \bar{A} -features (e.g., [*Top*] for topicalization, [*Rel*] for relativization, etc.) for proposes of successive-cyclic movement, while in the BEI-construction, BEI, which under the proposed analysis spells out the passive head, must host a flat \bar{A} -feature. Such a difference is not readily accounted for by the alternative analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI’s complement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.) and particularly challenges Huang, Li & Li’s (2009) analysis of the so-called long-passive and Bruening & Tran’s (2015) analysis of the active-voice-selecting BEI-construction, where BEI’s complement has an active voice.²⁹

Finally, despite the fact that in Mandarin, topicalization is triggered by a specific [*Top*] feature (and that focalization is triggered by a specific [*Foc*] feature), while passivization with BEI is triggered by a flat \bar{A} -feature on BEI, it can be shown that topic/focus-fronting and passivization with BEI have similar information-structural effects. Specifically, both topicalization and passivization with BEI can indicate given information, as seen in (79).

- (79) a. *Shei* chi-le na-tiao yu?
 who eat-PRF that-CL fish
 ‘Who ate that fish?’

²⁸Recall that the subject of BEI but not an \bar{A} -moved NP (i) creates new antecedents for anaphor binding; (ii) is immune to weak crossover; and (iii) does not show reconstruction effects for Principle C.

²⁹To circumvent this problem, the alternative analysis might stipulate that in BEI’s complement, a flat \bar{A} -probe is present and attracts a NOP.

- b. *Lisi chi-le na-tiao yu.*
Lisi eat-PRF that-CL fish
'Lisi ate that fish.'
- c. *Topicalization can indicate given information*
Na-tiao yu_i, *Lisi chi-le* ____i.
that-CL fish Lisi eat-PRF
'That fish, Lisi ate (it).'
- d. *Passivization with BEI can indicate given information*
Na-tiao yu_i bei *Lisi chi-le* ____i.
that-CL fish BEI Lisi eat-PRF
Lit. 'That fish was eaten by Lisi.'

Also, both focalization and passivization with BEI can indicate narrow focus, as seen in (80).

- (80) a. *Lisi chi-le shenme? Ta chi-le niurou.*
Lisi eat-PRF what 3SG eat-PRF beef
Lit. 'Lisi ate *what?* He ate *beef.*'
- b. *Ta ye chi-le na-tiao yu.*
3SG also eat-PRF that-CL fish
'He also ate *that fish.*'
- c. *Focalization can indicate narrow focus*
(Lian) *na-tiao yu_i, ta ye chi-le* ____i.
even that-CL fish 3SG also eat-PRF
'(Even) *that fish*, he ate (it).'
- d. *Passivization with BEI can indicate narrow focus*
(Lian) *na-tiao yu ye bei ta chi-le.*
even that-CL fish also BEI 3SG eat-PRF
'(Even) *that fish* was eaten by he.'

However, neither topicalization nor passivization with BEI is felicitous to indicate new information, as seen in (81).

- (81) a. *Lisi chi-bao-le. Ta chi-le shenme?*
Lisi eat-be.full-PRF 3SG eat-PRF what
Lit. 'Lisi was full. He ate *what?*'
- b. *Ta chi-le na-tiao yu.*
3SG eat-PRF that-CL fish
'He ate *that fish.*'
- c. *Topicalization cannot indicate new information*
#*Na-tiao yu_i, ta chi-le* ____i.
that-CL fish 3SG eat-PRF
INT: '*That fish*, he ate (it).'
- d. *Passivization with BEI cannot indicate new information*
#*Na-tiao yu_i bei ta chi-le* ____i.
that-CL fish BEI 3SG eat-PRF
INT: '*That fish* was eaten by him.'

6 On the restricted long-distance dependencies in the BEI-construction

In this section, I will argue that the two restrictions on long-distance dependencies in the BEI-construction, as shown in section 2 of this paper, follow from the proposed analysis of the BEI-construction as a passive construction where the subject in the BEI-construction is derived via A-movement after (successive-cyclic) composite A/ \bar{A} -movement. In section 6.1, I will propose that the ban on overt, case-less NPs intervening between the subject of BEI and the gap in agent-less BEI-constructions follows from the proposed analysis of the BEI-construction as a passive construction and Burzio's generalization (Burzio 1986). In section 6.2, I will account for the contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap, which crucially relies on the proposed analysis of the BEI-construction where the subject in the BEI-construction is derived via (successive-cyclic) composite A/ \bar{A} -movement, followed by a terminating step of A-movement.

Before proceeding, a few words are in order about the finite vs. non-finite distinction in Mandarin. Following Huang (1989: 189) (see also Huang 1982; Li 1990; a.o.), I assume that a distinction between finite and non-finite clauses in Mandarin "may be made on the basis of the potential occurrence of any element of the auxiliary category (such as an aspect marker or a modal)". Specifically, object control verbs like *bi(po)* 'force' (also *jiao* 'order', *qing* 'ask', (*bai*)*tuo* 'entrust') and subject control verbs like *shefa* 'manage (Lit. find a way)' (also *changshi* 'try', *qitu* 'attempt') take a non-finite clausal complement, because their complement cannot contain a modal verb (*hui* 'will', *neng* 'can (be able)', *yinggai* 'should', *keyi* 'can (be possible)'), as seen in (82).

(82) *Non-finite clause: incompatible with aspect and modal*

a. *Object control*

Wo *bi(po)/jiao/qing/(bai)tuo* Lisi_i [*PRO*_i (**hui*/**neng*/**yinggai*) *lai*].
1SG force/order/ask/entrust Lisi will/can/should come

'I forced/ordered/asked/entrusted Lisi to (*will/*can/*should) come.' (Adapted from Huang 1989: 189, ex. 8b)

b. *Subject control*

Lisi_i *shefa/changshi/qitu* [*PRO*_i **hui*/**neng*/**keyi*) *lai*].
Lisi manage/try/attempt will/can/can come

'Lisi managed/tried/attempted to (*will/*can/*can) come.' (Adapted from Huang 1989: 189, ex. 9b)

By contrast, verbs like *shuo* 'say' (also *renwei* 'think', *huaiyi* 'suspect', *xiangxin* 'believe') take a finite CP complement, which can contain a modal verb, as seen in (83).

(83) *Finite clause: compatible with aspect and modal*

Lisi_i *shuo/renwei/huaiyi/xiangxin* [_{CP} *ta*_{ij} *hui/neng/yinggai/keyi* *lai*]
Lisi say/think/suspect/believe 3SG will/can/should/can come
'Lisi_i said/thought/suspected/believed that *he*_{ij} will/can/should/can come.'

6.1 Long-distance dependencies in agent-less BEI-constructions

In this section, I will propose that the ban on overt, case-less NPs intervening between the subject of BEI and the gap in agent-less BEI-constructions follows from the proposed analysis of the BEI-construction as a passive construction and Burzio's generalization (Burzio 1986), which states that all and only the verbs that can assign a theta-role to the (logical) subject can assign accusative case to an object.

Recall that, under the proposed analysis of the BEI-construction as a passive construction where the passive head/BEI selects a VoiceP with or without an agent/external argument, in overt-agent BEI-constructions, the agent/external argument of the matrix verb is introduced in Spec, VoiceP, while in agent-less BEI-constructions, the agent/external argument of the matrix verb is existentially bound by the passive head/BEI. Hence, according to Burzio's generalization, in overt-agent BEI-constructions, the Voice head not only assigns an agent theta-role to the external argument of the matrix verb but also assigns (accusative) case; by contrast, in agent-less BEI-constructions, the Voice head does not assign a theta-role, nor does it assign case. Hence, under the proposed analysis and according to Burzio's generalization, in agent-less BEI-constructions, when there is an overt NP that cannot be assigned case by the Voice head, that NP must become the subject of BEI, where it can receive case from Infl; in such cases, it is predicted that long-distance dependencies between the subject of BEI and a deeply embedded gap in BEI's complement is impossible.

In the remainder of this section, I will show that the possibility of long-distance dependencies in agent-less BEI-constructions with object control matrix verbs (*case 1*, in section 6.1.1), subject control matrix verbs (*case 2*, in section 6.1.2), and *exceptional case-marking* (ECM) matrix verbs (*case 3*, in section 6.1.3), all depends on whether there is an overt NP (the thematic object of an object control verb, or an overt controllee in the case of subject control, or an overt NP that is underlying the subject of the infinitival complement to an ECM verb) that cannot be assigned case by the matrix Voice head. Lastly, in section 6.1.4, I will rule out the possibility of analyzing agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries as involving (*voice*) restructuring in BEI's complement, on a par with Wurmbrand's (2001, 2007) analysis of the German long passive.

6.1.1 Case 1: object control

First, I consider the possibility of long-distance dependencies in agent-less BEI-constructions with object control matrix verbs. Recall that in the following BEI-constructions in (84), which involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries, the agent/external argument of the matrix verb must be overtly expressed. All of the BEI-constructions in (84) involve an overt NP, the matrix object, between the subject of BEI and the deeply embedded object gap. Under the proposed analysis, the BEI-constructions in (84) cannot be agent-less, because the matrix object needs to be assigned case by the matrix Voice head.

(84) *Long-distance dependency in BEI-construction (object control)*

a. Zhangsan_i bei *(Lisi) bipo jingcha_j [PRO_j zhuazou-le ____i].
 Zhangsan BEI Lisi force police arrest-PRF
 Lit. 'Zhangsan was forced the police to arrest *(by Lisi).'

b. Na-feng xin_i bei *(wo) jiao Li_j [PRO_j qing Wang_k [PRO_k tuo Zhang_l [PRO_l ji-chu-le ____i]]].
 that-CL letter BEI 1SG order Li ask Wang entrust Zhang send-out-PRF
 ____i]]].

Lit. 'That letter was ordered Li to ask Wang to entrust Zhang to send out *(by me).' (Adapted from Huang, Li & Li 2009: 132: ex. 47b)

c. Na-feng xin_i bei *(Zhangsan) pai Lisi_j [PRO_j shefa [PRO_j na-zou-le ____i]].
 that-CL letter BEI Zhangsan send Lisi manage take-away-PRF
 Lit. 'That letter was sent Lisi to manage to take away *(by Zhangsan).'

d. Wang_i bei *(wo) jiao Lisi qing-qu ____i tuo Zhang ji-chu-le na-feng xin.
 Wang BEI 1SG order Li ask-go entrust Zhang send-out-PRF that-CL letter
 Lit. 'Wang was ordered Li to ask to entrust Zhang to send out that letter *(by me).' (Adapted from Pan & Hu 2021: ex. 29b)

e. Zhang_i bei *(wo) jiao Lisi qing Wang baituo ____i ji-chu-le na-feng xin.
 Zhang BEI 1SG order Li ask Wang entrust send-out-PRF that-CL letter
 Lit. 'Zhang was ordered Li to ask Wang to entrust to send out that letter *(by me).' (Adapted from Pan & Hu 2021: ex. 29c)

Under the proposed analysis, the following BEI-constructions in (85) are well-formed when agent-less, because the matrix object becomes the subject of BEI, where it can receive case from Infl.

(85) a. Jingcha_i bei (Lisi) bipo ____i [PRO_i zhuazou-le Zhangsan].
 police BEI Lisi force arrest-PRF Zhangsan
 'The police was forced to arrest Zhangsan (by Lisi).'

b. Li_i bei (wo) jiao-qu ____i qing Wang tuo Zhang ji-chu-le na-feng xin.
 Li BEI 1SG order-go ask Wang entrust Zhang send-out-PRF that-CL letter
 'Li was ordered to ask Wang to entrust Zhang to send out that letter (by me).' (Adapted from Pan & Hu 2021: ex. 29a)

6.1.2 Case 2: subject control

Second, I consider the possibility of long-distance dependencies in agent-less BEI-constructions with subject control matrix verbs. Recall that in the following BEI-constructions in (86), which also involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries, the agent/external argument of the matrix verb can be overtly expressed or non-overt. In contrast to the BEI-constructions in (84), the BEI-constructions in (86) involve no overt NPs between the subject of BEI and the deeply embedded object gap. Under the proposed analysis, the BEI-constructions in (86) can be agent-less, because no NP needs to be assigned case by the matrix Voice head.

(86) *Long-distance dependency in BEI-construction (subject control)*

- a. Gongs_i-de wangluo_i ceng bei (heike_j) changshi/qitu [PRO_j ruqin ____i].
 company's network once BEI hacker try/attempt hack
 Lit. 'The company's network once was tried/attempted to hack (by the hacker).' (Adapted from Her 2009: ex. 21a)
- b. Ziliao_i bei (xiaotou_j) shefa [PRO_j kaobei-le ____i].
 document BEI thief manage copy-PRF
 Lit. 'The documents were managed to copy (by the thief).' (Adapted from Her 2009: ex. 21b)

In (87), there is an overt NP, *Lisi*, which is the object of the embedded verb *pai* 'send', intervening between the subject of BEI and the deeply embedded object gap. In this case, the embedded object *Lisi* is assigned case by the embedded Voice head; hence, no case problem arises when the agent/external argument of the matrix verb is non-overt.

- (87) Na-feng xin_i bei (Zhangsan_j) shefa [PRO_j pai Lisi_k [PRO_k na-zou-le ____i]].
 that-CL letter BEI Zhangsan manage send Lisi take-away-PRF
 Lit. 'That letter was managed to send Lisi take away (by Zhangsan).'

In Mandarin, certain subject control verbs, e.g., *jihua* 'plan', *jueding* 'decide', allow for an overt controllee in their complement, as seen in (88) (see e.g., Zhang 2016).

(88) *Subject control construction*

- Zhe-ge gongs_i jihua/jueding [ta-men_{i/*j}/PRO_i daliang shengchan zhe-ge chanpin].
 this-CL company plan/decide 3-PL massively produce this-CL product
 'This company planned/decided that they massively produce this product.'

Note that in (89a), where the controllee is overt, the agent/external argument of the matrix verb must be overtly expressed – in this case, I suggest that the overt controllee needs to be assigned case by the matrix Voice head, hence the BEI-construction cannot be agent-less. By contrast, in (89b), where the embedded subject is a PRO, the agent/external argument of the matrix verb can be overtly expressed or non-overt – in this case, no NP needs to be assigned case by the matrix Voice head, hence the BEI-construction can be agent-less.

(89) *Long-distance dependency in BEI-construction (subject control)*

- a. Zhe-ge chanpin bei *(zhe-ge gongs_i) jihua/jueding [ta-men_{i/*j} daliang shengchan ___].
 this-CL product BEI this-CL company plan/decide 3-PL massively produce
 Lit. 'This product was planned/decided that (they) massively produce *(by this company).'
- b. Zhe-ge chanpin bei (zhe-ge gongs_i) jihua/jueding [PRO_i daliang shengchan ___].
 this-CL product BEI this-CL company plan/decide massively produce
 Lit. 'This product was planned/decided to massively produce (by this company).'

In (90), there is an overt NP, *zhe-ge gongs_i*, 'this company', which is the object of the embedded verb *qing* 'ask', intervening between the subject of BEI and the deeply embedded object gap. In this case, the embedded object

zhe-ge gongsi ‘this company’ is assigned case by the embedded Voice head; hence, no case problem arises when the agent/external argument of the matrix verb is non-overt.

- (90) Zhe-ge chanpin bei (zhengfu_i) jihua/jueding [PRO_i qing zhe-ge gongsi_j PRO_j daliang shengchan
 this-CL product BEI government plan/decide ask this-CL company massively produce
 —.]]

Lit. ‘This product was planned/decided to ask this company to massively produce (by the government).’

6.1.3 Case 3: exceptional case-marking

Lastly, I consider the possibility of long-distance dependencies in agent-less BEI-constructions with matrix verbs like *yunxu* ‘allow’, *jinzhi* ‘forbid’, *tongyi* ‘agree’, *fandui* ‘object’, which I analyze as ECM verbs (contra Li 1990, who denies the existence of ECM verbs in Mandarin). Like object control verbs, these verbs take a non-finite clause complement, which cannot contain a modal verb, as seen in (91).

- (91) Wo yunxu/jinzhi/tongyi/fandui Lisi (*hui/*neng/*keyi) lai.
 1SG allow/forbid/agree/object Lisi will/can/can come
 Lit. ‘I allowed/forbade/agreed/objected Lisi to (*will/*can/*can) come.’

But unlike object control verbs, these verbs allow for the apparent matrix object to be identified with the thematic object of the embedded verb by embedding a BEI-construction, as seen in (92a); this suggests that the apparent matrix object is underlyingly the embedded subject, which is not thematically related to the matrix verb.

- (92) a. Zhengfu yunxu/jinzhi/tongyi/fandui zhe-ge chanpin_i bei (zhe-ge gongsi) daliang shengchan
 government allow/forbid/agree/object this-CL product BEI this-CL company massively produce
 —i’

Lit. ‘The government allowed/forbade/agreed/objected this product to be produced massively (by this company).’

b. *Cf. Object control construction*

- *Zhengfu bi(po)/jiao/qing/(bai)tuozhe-ge chanpin_i bei (zhe-ge gongsi) daliang shengchan
 government force/order/ask/entrust this-CL product BEI this-CL company massively produce
 —i’

INT: ‘The government forced/ordered/asked/entrusted this product to be produced massively (by this company).’

Also unlike object control verbs, these verbs allow for the subject of the embedded clause to be an arbitrary PRO, as seen in (93a).

- (93) a. Zhengfu yunxu/jinzhi/tongyi/fandui zhe-ge gongsi/PRO_{arb} daliang shengchan zhe-ge
 government allow/forbid/agree/object this-CL company massively produce this-CL
 chanpin.
 product

Lit. ‘The government allowed/forbade/agreed/objected (this company) to produce this product massively.’

b. *Cf. Object control construction*

- Zhengfu bi(po)/jiao/qing/(bai)tuozhe-ge gongsi/*PRO_{arb} daliang shengchan zhe-ge chanpin.
 government force/order/ask/entrust this-CL company massively produce this-CL product
 ‘The government forced/ordered/asked/entrusted *(this company) to produce this product massively.’

Note that in (94a), where the embedded subject is overt, the agent/external argument of the matrix verb must be overtly expressed – in this case, the overt embedded subject needs to be assigned case by the matrix Voice

head, hence the BEI-construction cannot be agent-less. By contrast, in (94b), where the embedded subject is an arbitrary PRO, the agent/external argument of the matrix verb can be overtly expressed or non-overt – in this case, no NP needs to be assigned case by the matrix Voice head, hence the BEI-construction can be agent-less.

(94) *Long-distance dependency in BEI-construction (ECM)*

- a. Zhe-ge chanpin_i bei *(zhengfu) yunxu/jinzhi/tongyi/fandui zhe-ge gongsi daliang shengchan
 this-CL product BEI government allow/forbid/agree/object this-CL company massively produce
 —_i.
 Lit. ‘This product was allowed/forbidden/agreed/objected this company to massively produce *(by the government).’
- b. Zhe-ge chanpin_i bei (zhengfu) yunxu/jinzhi/tongyi/fandui PRO_{arb} daliang shengchan —_i.
 this-CL product BEI government allow/forbid/agree/object PRO_{arb} massively produce
 Lit. ‘This product was allowed/forbidden/agreed/objected to massively produce (by the government).’

In (95), there is an overt NP, *zhe-ge gongsi*, ‘this company’ which is the object of the embedded verb *rang* ‘let’, intervening between the subject of BEI and the deeply embedded object gap. In this case, the embedded object *zhe-ge gongsi* ‘this company’ is assigned case by the embedded Voice head; hence, no case problem arises when the agent/external argument of the matrix verb is non-overt.

- (95) Zhe-ge chanpin_i bei (zhengfu) yunxu/jinzhi/tongyi/fandui PRO_{arb} rang zhe-ge gongsi_j [PRO_j
 this-CL product BEI government allow/forbid/agree/object let this-CL company
 daliang shengchan —_i].
 massively produce
 Lit. ‘This product was allowed this company to let this company to massively produce *(by the government).’

Also, the BEI-construction in (96) is well-formed, because the otherwise case-less NP (i.e., the embedded subject) becomes the subject of BEI, where it can receive case from Infl.

- (96) Zhe-ge gongsi_i bei (zhengfu) yunxu/jinzhi/tongyi/fandui —_i daliang shengchan zhe-ge chanpin.
 this-CL company BEI government allow/forbid/agree/object massively produce this-CL product
 ‘This company was allowed to massively produce this product (by the government).’

6.1.4 Not (voice) restructuring

Recall that Huang, Li & Li (2009) and Bruening & Tran (2015) differ in their analysis of agent-less BEI-constructions: Huang, Li & Li (2009) propose that short-passives/agent-less BEI-constructions involve A-movement of a PRO, which is controlled by the subject of BEI; in contrast, Bruening & Tran (2015) maintain that \bar{A} -movement of a NOP is involved in agent-less BEI-constructions. As discussed previously, Huang, Li & Li’s (2009) analysis of short-passives/agent-less BEI-constructions fails to account for the well-formedness of certain agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI’s complement across non-finite clause boundaries (i.e., case 2, with a subject control matrix verb and a PRO subject in the infinitival complement, and case 3, with an ECM matrix verb and an arbitrary PRO subject in the infinitival complement); in contrast, Bruening & Tran’s (2015) analysis of agent-less BEI-constructions fails to account for the ill-formedness of certain agent-less BEI-constructions which involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI’s complement across non-finite clause boundaries (i.e., case 1, with an object control matrix verb, and case 2, with a subject control matrix verb and an overt controllee in the infinitival complement, and case 3, with an ECM matrix verb and an overt subject in the infinitival complement).

For Huang, Li & Li (2009) (see also Ting 1995, 1998; Huang 1999; a.o.), the lack of \bar{A} -dependencies in short-passives/agent-less BEI-constructions is evidenced by the ill-formedness of certain agent-less BEI-constructions which involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI’s complement across non-finite clause boundaries. In accordance with such a view, one might try to analyze agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a

deeply embedded object gap in BEI's complement across non-finite clause boundaries as involving (*voice*) *restructuring* in BEI's complement, on a par with Wurmbrand's (2001, 2007) analysis of the German long passive. In the remainder of this section, I will rule out this possibility by highlighting the differences between the German long passive and agent-less BEI-constructions which (apparently) involve a long-distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries.

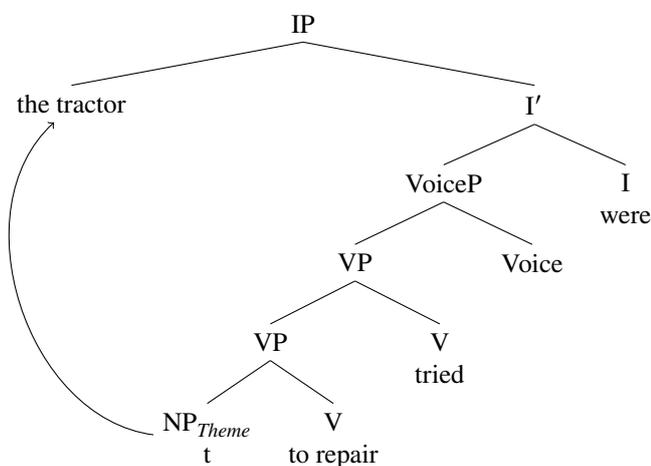
To begin with, Wurmbrand (2001, 2007) argues that the German long passive, as exemplified by (97), involves a restructuring verb (e.g., *versuchen* 'to try') taking a VoiceP(-less) infinitival complement.

(97) *German long passive*

dass der Traktor_i [_i zu reparieren] versucht wurde
 that the tractor-NOM to repair tried was
 'that the tractor was tried to repair' (Wurmbrand 2001: 19, ex. 6a)

Under the restructuring analysis, apparent long-distance dependencies in the German long passive can be derived via A-movement, as illustrated in (98) (see Wurmbrand (2016) and Wurmbrand & Shimamura (2017) for a more fine-grained analysis of voice restructuring involving a special Voice_R head).

(98) *German long passive as A-movement*



To support the restructuring analysis of the German long passive, Wurmbrand (2001) has shown that future adverbials which introduce independent tense are impossible in the infinitival complement of the restructuring verb in the German long passive, as seen in (99); this suggests that the infinitival complement is structurally smaller than an IP.

(99) *German long passive: no embedded tense*

dass der Wagen (*morgen) über die Grenze zu schmuggeln versucht wurde
 that the car-NOM (*tomorrow) across the border to smuggle try was
 Lit. 'that the car was tried to smuggle across the border (*tomorrow)' (Adapted from Wurmbrand 2001: 84, ex. 66a)

In addition, embedding a sentential negation within a restructuring infinitival complement is also impossible in the German long passive, as seen in (100) and (101); this is also taken to indicate that the infinitival complement is structurally smaller than an IP.

(100) *German long passive: no embedded negation*

*... weil der Kuchen nicht zu essen versucht wurde
 since the cake not to eat try was
 INT: '... since the cake was tried not to eat' (Adapted from Wurmbrand 2001: 118, ex. 91b)

In contrast to the German long passive, agent-less BEI-constructions which (apparently) involve a long-

distance dependency between the subject of BEI and a deeply embedded object gap in BEI's complement across non-finite clause boundaries cannot be analyzed as involving (voice) restructuring, because, as seen in (101) and (102), both temporal adverbs and sentential negation can occur in the infinitival complement of the subject control or ECM verb, suggesting that it is structurally as large as an IP.³⁰

(101) *Long-distance dependency in BEI-construction (subject control)*

a. *Embedded tense*

Zhe-feng youjian_i bei (Lisi_j) shefa [PRO_j mingtian fa-chu ____i].
 this-CL email BEI Lisi manage tomorrow send-out
 Lit. 'This email was managed to send tomorrow (by Lisi).'

b. *Embedded negation*

Zhe-ge xiaoxi_i bei (ta-men_j) shefa [PRO_j bu rang Lisi zhidao ____i].
 this-CL news BEI 3-PL manage not let Lisi know
 Lit. 'This news was managed to not let Lisi know (by them).'

(102) *Long-distance dependency in BEI-construction (ECM)*

a. *Embedded tense*

Zhe-ge xiaoxi_i bei (jingcha) yunxu/tongyi [PRO_{arb} mingtian gongbu ____i].
 this-CL news BEI police allow/agree tomorrow publish
 Lit. 'This news was allowed/agreed to publish tomorrow.'

b. *Embedded negation*

Zhe-ge xiaoxi_i bei (jingcha) yunxu/tongyi [PRO_{arb} bu gongbu ____i].
 this-CL news BEI police allow/agree not publish
 Lit. 'This news was allowed/agreed to not publish (by the police).'

In addition, in German, restructuring verbs like *versuchen* 'to try' contrast with non-restructuring verbs like *planen* 'to plan' and *beschliessen* 'to decide' in the possibility of embedded tense and negation in their infinitival complements and the ability to license long passives (Wurmbrand 2001). The fact that non-restructuring verbs cannot license long passives provides evidence that (voice) restructuring is necessary to license long passives.

(103) a. *German restructuring verb: no embedded tense*

Hans hat versucht (*morgen) zu verreisen.
 John has try tomorrow to travel
 'John tried to travel (*tomorrow).' (Adapted from Wurmbrand 2001: 78, ex. 61b)

b. *German non-restructuring verb: embedded tense*

Hans hat geplant/beschlossen (morgen) zu verreisen.
 John has plan/decide tomorrow to travel
 'John planned/decided to travel tomorrow.' (Adapted from Wurmbrand 2001: 78, ex. 61a)

(104) *German non-restructuring verb: no long passive*

*dass der Traktor zu reparieren geplant/beschlossen wurde
 that the tractor-NOM to repair plan/decide was
 INT: 'that the tractor was planned/decided to repair' (Wurmbrand 2001: 267, ex. 214b-c)

By contrast, in Mandarin, both verbs like *shefa* 'manage (Lit. find a way)', *yunxu* 'allow', *tongyi* 'agree' and verbs like *jihua* 'plan', *jueding* 'decide' allow for embedded tense and negation in their infinitival complements and can license long-distance dependencies in the BEI-construction. Hence, there is no evidence that Mandarin makes a distinction between restructuring and non-restructuring verbs. More importantly, there is evidence that (voice) restructuring is not required to license long-distance dependencies in the BEI-construction.

³⁰The ability for subject control and ECM verbs in Mandarin to take an IP complement does not rule out their ability to take a VoiceP(-less) infinitival complement. Here, the point is that (voice) restructuring is not required to license long-distance dependencies in the BEI-construction.

(105) *Long-distance dependency in BEI-construction (subject control)*

Zhe-ge chanpin_i bei (gongs_i) jihua/jueding [PRO_j (ming-nian) (bu) daliang shengchan ____i].
 this-CL product BEI company plan/decide next-year not massively produce
 Lit. ‘This product was planned/decided to (not) massively produce (next year) (by the company).’

Because a (voice) restructuring analysis of agent-less BEI-constructions involving long-distance dependencies can be ruled out, Huang, Li & Li’s (2009) analysis of agent-less BEI-constructions as involving A-movement (of a PRO controlled by the subject of BEI) cannot be on the right track, and the proposed analysis of (both overt-agent and) agent-less BEI-constructions as involving composite A/ \bar{A} -movement can be maintained.

6.2 Long-distance dependency across finite clause boundary

Recall that, unlike English *tough*-movement, which is degraded for non-subjects across a phasal CP-projection and impossible for subjects across a phasal CP-projection (Longenbaugh 2017; see also Postal 1971; Bresnan 1972; Chomsky 1973; Lasnik & Fiengo 1974; Browning 1987; Rezac 2006), the BEI-construction does not allow for a long-distance, cross-clausal dependency between the subject of BEI and an object gap, as seen in (106a) (see e.g., Ting 1995, 1998; a.o.), but allows for a cross-clausal dependency between the subject of BEI and a subject gap, as seen in (106b) (see e.g., Her 2009).

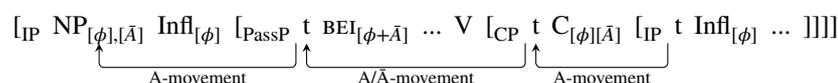
- (106) a. *Long-distance, cross-clausal dependency in BEI-construction (finite clause object gap)*
 *Lisi_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} Zhangsan hui mousha ____i].
 Lisi BEI police think/suspect/believe Zhangsan will murder
 INT: ‘Lisi was thought/suspected/believed that Zhangsan will murder (him) (by the police).’ (Adapted from Ting 1998: ex. 28c)
- b. *Cross-clausal dependency in BEI-construction (finite clause subject gap)*
 Zhangsan_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} ____i hui mousha Lisi].
 Zhangsan BEI police think/suspect/believe will murder Lisi
 Lit. ‘Zhangsan was thought/suspected/believed that (he) will murder Lisi (by the police).’ (Adapted from Her 2009: ex. 25a)

In this section, I will account for this contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap, which crucially relies on the proposed analysis of the BEI-construction where the subject in the BEI-construction is derived via (successive-cyclic) composite A/ \bar{A} -movement, followed by a terminating step of A-movement. In section 6.2.1, I will propose that the possibility of cross-clausal dependency between the subject of BEI and a subject gap follows from the possibility of raising to subject via A-movement to Spec, CP, or *hyper-raising to subject* (see e.g., Fong 2019; Wurmbrand 2019; Lohninger, Kovač & Wurmbrand 2022; a.o.). In section 6.2.2, I will propose that the impossibility of cross-clausal dependency between the subject of BEI and an object gap follows from the ban on improper \bar{A} -movement to Spec, CP followed by composite A/ \bar{A} -movement (see Longenbaugh 2017). The proposed analysis of the subject/object contrast (with respect to the possibility of crossing a finite clause boundary to become the subject of BEI) has implications for the feature composition of the probe on the Mandarin C head, which I will discuss in section 6.2.3. Lastly, I will provide an analysis of cases where there is no apparent subject/object contrast in section 6.2.4.

6.2.1 Case 1: finite subject gap

I propose that cross-clausal dependencies between the subject of BEI and a subject gap boundary are possible, as seen in (106b), as the result of raising to subject via A-movement to Spec, CP, or *hyper-raising to subject* (see e.g., Fong 2019; Wurmbrand 2019; Lohninger, Kovač & Wurmbrand 2022; a.o.): the finite clause subject can undergo A-movement to Spec, CP, which is triggered by a pure ϕ -probe on the C head, from where it undergoes further composite A/ \bar{A} -movement to Spec, PassP and A-movement to Spec, IP, as illustrated in (107).

(107) *Hyper-raising to subject in BEI-construction*



I suggest that the hyper-raising to subject analysis in (107) may be supported by the *general possibility of hyper-raising to subject in Mandarin*. To begin with, Lee & Yip (to appear) have argued that in Cantonese and Vietnamese, some CP-selecting verbs, e.g., *gamgok* ‘feel like (Cantonese)’, *tengman* ‘hear (Cantonese)’, *cảm giác* ‘feel like (Vietnamese)’, *nghe nói* ‘hear (Vietnamese)’, but not other CP-selecting verbs, e.g., *gokdak/jingwai* ‘think (Cantonese)’, *cho/ngĩ* ‘think (Vietnamese)’, can licence hyper-raising to subject, as seen in (108) and (109).

(108) *Hyper-raising to subject in Cantonese*

- a. *Licit with gamgok ‘feel like’, tengman ‘hear’*

Coeng jyu_i gamgok/tengman [_{CP} waa ____i m-wui ting].
CL rain feel like/hear C not-will stop

Lit. ‘The rain is felt/heard that (it) will not stop.’ (Lee & Yip to appear: ex. 1a)

- b. *Illicit with gokdak/jingwai ‘think’*

*[Mongkau ni loeng go zi]_i gokdak/jingwai [_{CP} ____i jiging singwai Hoenggongjan ge
online shopping this two CL word think/think already become Hong Konger MOD
jatsoung sangwut].
daily life

INT: ‘The two words *online shopping* are thought that (it) has become the daily life of Hong Kongers.’ (Lee & Yip to appear: ex. 7c)

(109) *Hyper-raising to subject in Vietnamese*

- a. *Licit with cảm giác ‘feel like’, nghe nói ‘hear’*

Con mưa này_i cảm giác/nghe nói [_{CP} rằng/là ____i sẽ không dừng].
CL rain this feel like/hear C FUT not stop

Lit. ‘The rain is felt/heard that (it) will not stop.’ (Lee & Yip to appear: ex. 1b)

- b. *Illicit with cho/ngĩ ‘think’*

*Vây thì [cả đời này]_i cho/ngĩ [_{CP} rằng ____i chẳng còn cơ hội nữa]!
then whole life this think/think C not left chance more

INT: ‘Then, this whole life there is thought that (it) left no more chance.’ (Adapted from Lee & Yip to appear: ex. 8c)

Lee & Yip (to appear) propose that a CP-selecting verb licenses hyper-raising to subject if it lexically encodes *indirect evidence* (in the sense that “the source of the speaker’s information is of a secondary nature, e.g., reportative and inferential, and the information does not settle the truth of the associating proposition”) and not *direct evidence* (in the sense that “the source of the speaker’s information is of a primary nature and the information settles the truth of the associating proposition”), based on the following contrasts in Cantonese and Vietnamese:

- (110) a. *Hyper-raising predicate is compatible with indirect evidence in Cantonese*

Context: Your friend told you that Ming is playing piano at his home.

Aaming tengman taan-gan kam.

Ming hear play-PROG piano

Lit. ‘Ming is heard that (he) is playing piano.’ (Lee & Yip to appear: ex. 10b)

- b. *Hyper-raising predicate is incompatible with direct evidence in Cantonese*

Context: You live next to Ming and heard him playing piano at his home.

#Aaming tengman taan-gan kam.

Ming hear play-PROG piano

INT: ‘Ming is heard that (he) is playing piano.’ (Lee & Yip to appear: ex. 12b)

- (111) a. *Hyper-raising predicate is compatible with indirect evidence in Vietnamese*

Context: On a winter day, John saw through a window that people are shivering outside. He said:

Bên ngoài cảm giác rất lạnh.

outside feel.like very cold

Lit. ‘The outside is felt that (it) is very cold.’ (Lee & Yip to appear: ex. 11b)

- b. *Hyper-raising predicate is incompatible with direct evidence in Vietnamese*
 Context: *On a winter day, John went out without wearing a coat. Shivering, he said:*
 #Bên ngoài cảm giác rất lạnh.
 outside feel.like very cold
 INT: ‘The outside is felt that (it) is very cold.’ (Lee & Yip to appear: ex. 13b)

In Mandarin, it is also the case that CP-selecting verbs like *ganjue* ‘feel like’ and *tingshuo* ‘hear’ license hyper-raising to subject, as seen in (112a), but CP-selecting verbs like *renwei* ‘think’ (also *huaiyi* ‘suspect’, *xiangxin* ‘believe’) do not license hyper-raising to subject, as seen in (112b) (Ka Fai Yip, p.c.).

- (112) *Hyper-raising to subject in Mandarin*
- a. *Licit with ganjue ‘feel like’, tingshuo ‘hear’*
 Zhangsan_i ganjue/tingshuo [_{CP} ____i xiang mousha Lisi].
 Zhangsan feel like/hear want murder Lisi
 Lit. ‘Zhangsan is felt/heard that (he) wants to murder Lisi.’
- b. *Illicit with renwei ‘think’, huaiyi ‘suspect’, xiangxin ‘believe’*
 *Zhangsan_i renwei/huaiyi/xiangxin [_{CP} ____i hui mousha Lisi].
 Zhangsan think/suspect/believe will murder Lisi
 INT: ‘Zhangsan is thought/suspected/believed that (he) will murder Lisi.’

In addition, it is also the case that verbs that can license hyper-raising to subject are compatible with indirect evidence and not direct evidence, as seen in (113) and (114).

- (113) a. *Hyper-raising predicate is compatible with indirect evidence in Mandarin*
 Context: *Your friend told you that Lisi is playing piano at his home.*
 Lisi tingshuo zai tan gangqin.
 Lisi hear PROG play piano
 Lit. ‘Lisi is heard that (he) is playing piano.’
- b. *Hyper-raising predicate is incompatible with direct evidence in Mandarin*
 Context: *You live next to Lisi and heard him playing piano at his home.*
 #Lisi tingshuo zai tan gangqin.
 Lisi hear PROG play piano
 INT: ‘Lisi is heard that (he) is playing piano.’
- (114) a. *Hyper-raising predicate is compatible with indirect evidence in Mandarin*
 Context: *On a winter day, John saw through a window that people are shivering outside. He said:*
 Waimian ganjue hen leng.
 outside feel.like very cold
 Lit. ‘The outside is felt that (it) is very cold.’
- b. *Hyper-raising predicate is incompatible with direct evidence in Mandarin*
 Context: *On a winter day, John went out without wearing a coat. Shivering, he said:*
 #Waimian ganjue hen leng.
 outside feel.like very cold
 INT: ‘The outside is felt that (it) is very cold.’

Importantly, BEI is incompatible with verbs that can license hyper-raising to subject in (112a), as seen in (115a) (Ka Fai Yip p.c.), while BEI is compatible with verbs that cannot license hyper-raising to subject in (112b), as seen previously in (106b) and repeated in (115b).

- (115) a. *BEI is incompatible with ganjue ‘feel like’, tingshuo ‘hear’*
 *Zhangsan_i bei ganjue/tingshuo [_{CP} ____i xiang mousha Lisi].
 Zhangsan BEI feel like/hear want murder Lisi
 INT: ‘Zhangsan is felt/heard that (he) wants to murder Lisi.’

- b. BEI is compatible with *renwei* ‘think’, *huaiyi* ‘suspect’, *xiangxin* ‘believe’
 Zhangsan_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} —_i hui mousha Lisi].
 Zhangsan BEI police think/suspect/believe will murder Lisi
 Lit. ‘Zhangsan was thought/suspected/believed that (he) will murder Lisi (by the police).’

I propose that hyper-raising is generally possible in Mandarin – that is, the Mandarin C head generally hosts a pure ϕ -probe which triggers A-movement to Spec, CP, which can feed further A-movement to Spec, IP in the active voice, and can feed further composite A/ \bar{A} -movement to Spec, PassP and A-movement to Spec, IP in the BEI-construction, as illustrated previously in (107). To account for the contrast between (112a) and (112b), I suggest that verbs encoding indirect evidence *lack a thematic subject*, hence can license hyper-raising to subject in the active voice. By contrast, verbs that have a thematic subject cannot license hyper-raising in the active voice, because their thematic subject will undergo A-movement to Spec, IP in the active voice. Furthermore, under the proposed analysis of the BEI-construction as a passive construction, it is expected that verbs that lack a thematic subject not only license hyper-raising to subject in the active voice but also resist passivization (cf. English: **Mary was appeared/seemed to be smart.*). Hence the ill-formedness of (115a). By contrast, it is expected that verbs that cannot license hyper-raising to subject in the active voice, when passivized (with their agent/external argument embedded under the passive head/BEI or being existentially bound by the passive head/BEI), can license hyper-raising to subject. This, I suggest, is the case of (115b).

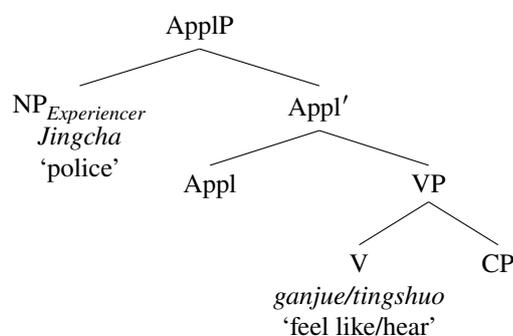
Note that contrast between (115a) and (115b) cannot be accounted for by the alternative analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI’s complement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.).

It is worth mentioning that hyper-raising predicates like *ganjue* ‘feel like’ and *tingshuo* ‘hear’ also have apparently transitive uses, as seen in (116a), and yet the BEI-construction in (116b) is still ill-formed (Ka Fai Yip, p.c.).

- (116) a. Jingcha ganjue/tingshuo [_{CP} Zhangsan xiang mousha Lisi].
 police feel like/hear Zhangsan want murder Lisi
 ‘The police felt/heard that Zhangsan wants to murder Lisi.’
- b. *Zhangsan_i bei jingcha ganjue/tingshuo [_{CP} —_i xiang mousha Lisi].
 Zhangsan BEI police feel like/hear want murder Lisi
 INT: ‘Zhangsan is felt/heard that (he) wants to murder Lisi by the police.’

I suggest that the grammatical subject of hyper-raising predicates like *ganjue* ‘feel like’ and *tingshuo* ‘hear’ in their transitive use is an experiencer indirect object introduced by an Appl(icative) head (cf. English, where experiencer arguments of raising predicates are introduced in PPs: *Mary seems/appears* [_{PP} *to John*] *to be smart.*), rather than an agent/external argument introduced by the Voice head, as illustrated in (117). Under the proposed analysis of the BEI-construction as a passive construction where the passive head/BEI selects a VoiceP, it is expected that (116a), which lacks an agent/external argument, cannot be passivized with BEI, hence the ill-formedness of (116b).

- (117) *Experiencer subject as indirect object/applicative argument*



One piece of evidence for the analysis in (117) is that the grammatical subject of hyper-raising predicates like *ganjue* ‘feel like’ and *tingshuo* ‘hear’ in their apparently transitive use cannot be modified by a ‘deliberately’-type adverb, as seen in (118a); by contrast, the grammatical subject of non-hyper-raising predicates like *renwei* ‘think’,

huaiyi ‘suspect’, *xiangxin* ‘believe’ can be modified by a ‘deliberately’-type adverb, as seen in (118b) (Ka Fai Yip, p.c.).

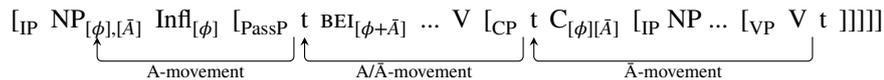
- (118) a. Jingcha (*guyi) ganjue/tingshuo [_{CP} Zhangsan mousha-le Lisi].
 police deliberately feel like/hear Zhangsan murder-PRF Lisi
 ‘The police (*deliberately) felt/heard that Zhangsan wants to murder Lisi.’
- b. Jingcha guyi renwei/huaiyi/xiangxin [_{CP} Zhangsan mousha-le Lisi].
 police deliberately think/suspect/believe Zhangsan murder-PRF Lisi
 ‘The police deliberately thought/suspected/believed that Zhangsan murdered Lisi.’

6.2.2 Case 2: finite object gap

Turning now to the ill-formedness of (106a), which involves a long-distance, cross-clausal dependency between the subject of BEI and an object gap. Here, I assume, following Longenbaugh (2017), that the ban on improper A-after- \bar{A} -movement also implies a ban on composite A/ \bar{A} -movement after \bar{A} -movement (see footnote 20). Recall that English *tough*-movement is more restricted than Dinka movement to Spec, CP in that it is possible across non-finite clause boundaries, which arguably lack a CP projection (Wurmbrand 2014), but is degraded for non-subjects and impossible for subjects across a phasal CP-projection (Longenbaugh 2017; see also Postal 1971; Bresnan 1972; Chomsky 1973; Lasnik & Fiengo 1974; Browning 1987; Rezac 2006). To account for this restriction, Longenbaugh (2017) proposes that the distribution of composite probes can be different in different languages: In Dinka, both the C head and the Voice head host a composite probe [$\phi + \bar{A}$]; hence, composite A/ \bar{A} -movement can cross finite clause boundaries (Van Urk 2015). In English, only the Voice head (involved in the path of *tough*-movement) hosts a composite probe [$\phi + \bar{A}$] while the C head only hosts a pure \bar{A} -probe; hence, composite A/ \bar{A} -movement can proceed successive-cyclically through the specifiers of successive VoicePs, but cannot proceed from Spec, CP, i.e., following a step of \bar{A} -movement to Spec, CP triggered by the pure \bar{A} -probe on the C head, due to the ban on improper composite A/ \bar{A} -movement after \bar{A} -movement (Longenbaugh 2017; but see footnote 21).

Following Longenbaugh (2017), I propose that Mandarin is unlike Dinka and like English in that the C head does not host a composite probe [$\phi + \bar{A}$] and hosts pure \bar{A} -probes (which are relativized to specific features, as discussed previously). Hence, a finite clause object can only \bar{A} -move to Spec, CP (because it crosses over the subject), and cannot undergo further composite A/ \bar{A} -movement (and A-movement), due to the ban on composite A/ \bar{A} -movement after \bar{A} -movement.

(119) *Improper composite-after- \bar{A} -movement in BEI-construction*



6.2.3 Feature composition of probe on C

Note that under the proposed analysis of the subject/object contrast (with respect to the possibility of crossing a finite clause boundary to become the subject of BEI), the Mandarin C head is not only unlike the Dinka C head in that it does not host a composite probe [$\phi + \bar{A}$] and like the English C head in that it hosts pure \bar{A} -probes, but also unlike the English C head in that it also generally hosts a pure ϕ -probe, which triggers A-movement to Spec, CP in the case of hyper-raising to subject. This suggests a three-way difference in the feature composition of the probe on the C head, as illustrated in (120).³¹

³¹Lohninger, Kovač & Wurmbrand (2022) arrive at the same conclusion that ϕ - and \bar{A} -features present on the same head may trigger movement together (which is the case of the Dinka C head) or be satisfied independently (which is the case of the Mandarin C head).

Li & Thompson 1981: 92-94; Huang, Li & Li 2009: 202-203; a.o.). Having adopted the featural view of the A/ \bar{A} -distinction (Van Urk 2015), I suggest that a base-generated topic can undergo composite A/ \bar{A} -movement, as long as it is the closest NP with both ϕ - and \bar{A} -features to the composite probe [$\phi + \bar{A}$].

- (123) a. Lisi_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} ____i Zhangsan hui mousha ta_i].
Lisi BEI police think/suspect/believe Zhangsan will murder 3SG
'Lisi was thought/suspected/believed that Zhangsan will murder (him) (by the police).'
- b. Jingcha renwei/huaiyi/xiangxin [_{CP} Lisi_i, Zhangsan hui mousha ta_i].
police think/suspect/believe Lisi Zhangsan will murder 3SG
'The police thought/suspected/believed that Lisi, Zhangsan will murder him.'
- (124) a. Zhangsan_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} ____i ta_i hui mousha Lisi].
Zhangsan BEI police think/suspect/believe 3SG will murder Lisi
Lit. 'Zhangsan was thought/suspected/believed that (he) will murder Lisi (by the police).'
- b. Jingcha renwei/huaiyi/xiangxin [_{CP} Zhangsan_i, ta_i hui mousha Lisi].
police think/suspect/believe Zhangsan 3SG will murder Lisi
'The police thought/suspected/believed that Zhangsan, he will murder Lisi.'
- (125) a. Zhang_i bei (jingcha) renwei/huaiyi/xiangxin [_{CP} ____i Li shi [ta_i xiang mousha ____j] de ren_j].
Zhang BEI police think/suspect/believe Li be 3SG want murder REL person
Lit. 'Zhang was thought/suspected/believed that Li is the person who he wanted to murder (by the police).'
- b. Jingcha renwei/huaiyi/xiangxin [_{CP} Zhang_i, Li shi [ta_i xiang mousha ____j] de ren_j].
police think/suspect/believe Zhang Li be 3SG want murder REL person
'The police thought/suspected/believed that Zhang, Li is the person who he wanted to murder.'

The proposal that the subject of BEI is linked to a base-generated topic in apparently gap-less BEI-constructions is further evidenced by the well-formedness of (126a). Unlike the above apparently gap-less BEI-constructions where the subject of BEI is linked to an overt pronoun in BEI's complement, the subject of BEI in (126a) and the base-generated topic in (126b) are related to the so-called comment clause only in an 'aboutness' sense (see Li & Thompson 1981: 99). Hence, the only possible source of the subject of BEI in (126a) is the base-generated topic in (126b).

- (126) a. Na-chang huo_i bei (ren-men) renwei [_{CP} ____i [xingkui xiaofangdui lai de kuai]].
that-CL fire BEI person-PL think fortunate firefighters come DEG quickly
Lit. 'That fire was thought that it was fortunate that the firefighters came quickly (by people).'
- b. Ren-men renwei [_{CP} na-chang huo [xingkui xiaofangdui lai de kuai]].
person-PL think that-CL fire fortunate firefighters come DEG quickly
'People think that (speaking of) that fire, it was fortunate that the firefighters came quickly.' (Adapted from Li & Thompson 1981: 96, ex. 34)

b. Von welchem Maler glaubst du, dass Maria ihn mag?
of which.DAT painter think.2SG you that Mary him like.3SG
'Of which painter do you think that Mary likes him?' (Salzmann 2017: ex. 2a)

c. der Mann, von dem ich denke, dass Marie jedes Buch liest, das er schreibt
the man of who.DAT I think that Mary every book read.3SG which he write.3SG
'the man of whom I think that Mary reads every book that he writes' (Salzmann 2017: ex. 4a)

I leave it to future research whether the proposed analysis of apparently gap-less BEI-constructions can be extended to account for prolepsis constructions cross-linguistically.

7 The base-generated vs. derived status of the subject of BEI

In this section, I will reconcile two conflicting arguments regarding the base-generated vs. derived status of the subject of BEI in the literature, and extend the proposed analysis of the BEI-construction to BEI-constructions where the subject of BEI is identified with an indirect object in BEI's complement (i.e., the so-called *indirect passives*; see e.g., Huang, Li & Li 2009). In section 7.1, I will argue that the distribution and interpretation of 'deliberately'-type adverbs in the BEI-construction can be accounted for under the proposed analysis of the BEI-construction in which the subject of BEI is derived rather than base-generated; in section 7.2, I will provide a critical review of the argument for a raising analysis of the subject of BEI based on the possibility for the subject of BEI and a (deeply embedded) verb in BEI's complement to form an idiom and the availability of the idiomatic meaning of the idiom. Lastly, in section 7.3, I will propose an analysis of BEI-constructions where the subject of BEI is identified with the recipient indirect object of a canonical double-object construction or the affectee indirect object of an affective double-object construction. The proposed analysis will take into consideration two contrasts between canonical double-object constructions and affective double-object constructions with respect to whether the theme direct object can be the subject of BEI and whether either the indirect or direct object can be \bar{A} -extracted.

7.1 'Deliberately'-type adverbs

In the literature, an assumption has been made that 'deliberately'-type adverbs can only modify a base-generated argument (see e.g., Lakoff 1971; Lasnik & Fiengo 1974; Huang 1999, 2013; Huang, Li & Li 2009; Bruening & Tran 2015; Liu & Huang 2016; a.o.). Under such an assumption, the contrast between the English *be*-passive and the English *get*-passive with respect to whether 'deliberately'-type adverbs can modify the grammatical subject, as seen in (127), suggests that the subject of a *be*-passive is derived, but that the subject of a *get*-passive is base-generated as an argument of *get*.

- (127) a. *English be-passive: 'deliberately' cannot modify grammatical subject*
*Gillian was hit by that truck deliberately! (where Gillian is deliberate) (Bruening & Tran 2015: ex. 33a)
- b. *English get-passive: 'deliberately' can modify grammatical subject*
Gillian got hit by that truck deliberately! (Bruening & Tran 2015: ex. 33b)

The major argument for a base-generation analysis of the subject of BEI has come from the possibility for 'deliberately'-type adverbs to modify the subject of BEI, as seen in (128) (see e.g., Huang 1999, 2013; Huang, Li & Li 2009; Bruening & Tran 2015; Liu & Huang 2016; a.o.).

- (128) Zhangsan_i guyi bei (Lisi) da-le \bar{A} _i.
Zhangsan deliberately BEI Lisi hit-PRF
'Zhangsan deliberately got hit (by Lisi).' (Huang, Li & Li 2009: 115, ex. 6-7)

Note that *guyi* 'deliberately' can also modify the agent/external argument of the matrix verb, whether it is overtly expressed or is non-overt, as seen in (129).

- (129) Zhangsan_i bei (Lisi) guyi da-le \bar{A} _i.
Zhangsan BEI Lisi deliberately hit-PRF
'Zhangsan was hit (by Lisi) deliberately.'

However, the assumption that 'deliberately'-type adverbs can only modify a base-generated argument is simply incorrect. First, Jackendoff (1972: 83), David Pesetsky (p.c.), and others have reported that 'deliberately'-type adverbs can modify the grammatical subject of a *be*-passive, in examples like (130).

- (130) *English be-passive: 'deliberately' can modify grammatical subject*
- John was carefully examined by the doctor.
 - Fred was carelessly arrested by the police.
 - Mary was intentionally seduced by Joe.

Second, ‘deliberately’-type adverbs can modify the derived subject of an unaccusative construction, both in English, as seen in (131), and in Mandarin, as seen in (132).

(131) *English unaccusative construction: ‘deliberately’ can modify grammatical subject*

- a. The Iceman froze solid deliberately. (Bruening & Tran 2015: ex. 44c)
- b. The robot broke open deliberately. (Bruening & Tran 2015: ex. 44d)

(132) *Mandarin unaccusative construction: ‘deliberately’ can modify grammatical subject*

Lisi_i guyi bu lai/zou —_i.
 Lisi deliberately not come/leave
 ‘Lisi did not come/leave deliberately.’

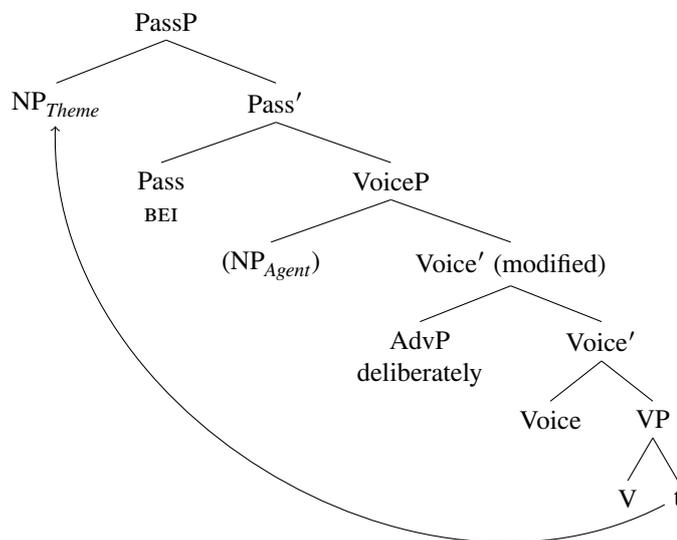
I propose that an analysis of the distribution and interpretation of *guyi* ‘deliberately’ compatible with the proposed analysis of the BEI-construction as a passive construction where the subject of BEI is derived (via A-movement after (successive-cyclic) composite A/ \bar{A} -movement) is possible. Building on Bruening & Tran’s (2015: 14) proposal that “a ‘deliberately’-type adverb attaches to a predicate [and] associates with the structurally highest argument of that predicate”, I propose that a ‘deliberately’-type adverb attaches to a predicate of event and associates with the argument in the specifier of that predicate of event. Concretely, I assume the following denotation of *deliberately* in (133).

(133) *Definition of ‘deliberately’*

deliberately: $\lambda x. \lambda e. \text{deliberately}(e, x)$

I propose that in the BEI-construction, *guyi* ‘deliberately’ has two attachment sites. When it attaches to a projection of the Voice head, it associates with the agent/external argument of the matrix verb in Spec, VoiceP, as illustrated in (134).

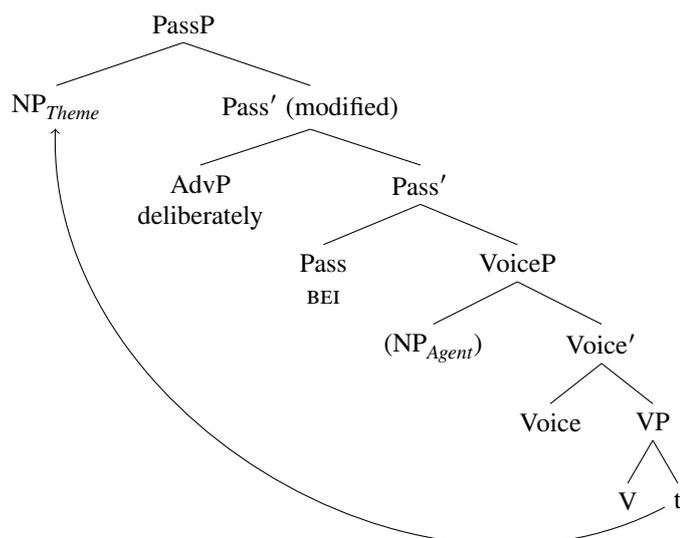
(134) *‘Deliberately’ modifying agent/external argument of verbal projection*



- a. Voice': $\lambda x. \lambda e. V(e, NP_{Theme}) \& Agent(e, x)$
- b. Voice' (modified): $\lambda x. \lambda e. V(e, NP_{Theme}) \& Agent(e, x) \& \text{deliberately}(e, x)$
- c. VoiceP: $\lambda e. V(e, NP_{Theme}) \& Agent(e, NP_{Agent}) \& \text{deliberately}(e, NP_{Agent})$

When *guyi* ‘deliberately’ attaches to a projection of the passive head/BEI, it associates with the subject of BEI in Spec, PassP, as illustrated in (135).

(135) *‘Deliberately’ modifying subject of BEI*



- a. $\text{Pass}' : \lambda e. V(e, \text{NP}_{\text{Theme}}) \& \text{Agent}(e, \text{NP}_{\text{Agent}})$
 b. $\text{Pass}' \text{ (modified)} : \lambda x. \lambda e. V(e, \text{NP}_{\text{Theme}}) \& \text{Agent}(e, \text{NP}_{\text{Agent}}) \& \text{deliberately}(e, x)$
 c. $\text{PassP} : \lambda e. V(e, \text{NP}_{\text{Theme}}) \& \text{Agent}(e, \text{NP}_{\text{Agent}}) \& \text{deliberately}(e, \text{NP}_{\text{Theme}})$

The speaker variation with respect to whether or not the grammatical subject of the English *be*-passive can be modified by ‘deliberately’-type adverbs might suggest that for some speakers, ‘deliberately’-type adverbs can only attach to a projection of the Voice head in the English *be*-passive (hence ‘deliberately’-type adverbs can only associate with the (overtly expressed or non-overt) agent/external argument of the passivized verb), but for other speakers, ‘deliberately’-type adverbs can also attach to a projection of the passive head in the English *be*-passive (hence ‘deliberately’-type adverbs can also associate with the grammatical subject of the English *be*-passive).

7.2 Idioms

The major argument for a raising analysis of the subject of BEI has come from the possibility for the subject of BEI and a (deeply embedded) verb in BEI’s complement to form an idiom and the availability of the idiomatic meaning of the idiom. Concretely, in the BEI-constructions in (136), the idiom chunks *niu* ‘cow’ and *pianyi* ‘advantage’ are part of the idioms *chui niu* ‘bluff’ and *zhan pianyi* ‘take advantage’, respectively, and the idiomatic meanings of the idioms are preserved. Hence, Huang (2013), Liu & Huang (2016), among others, have argued that the subject of BEI must be base-generated in the gap position in BEI’s complement, in order for the idiomatic meanings of the idioms to be available.

- (136) a. *Niu_i dou bei (ta yi-ge-ren) chui-guang-le ____i.*
 cow DIST BEI 3SG one-CL-person blow-empty-PRF
 ‘All the bluffing was done (by him alone).’ (Huang 2013: ex. 17)
- b. *Pianyi_i dou bei (ta yi-ge-ren) zhan-guang-le ____i.*
 advantage DIST BEI 3SG one-CL-person take-empty-PRF
 ‘All the advantage was taken (by him alone).’ (Liu & Huang 2016: ex. 11)

For speakers including myself, the idiomatic meaning of *zhan pianyi* ‘take advantage’ is also available in (137a), where the subject of BEI and a deeply embedded verb in BEI’s complement form an idiom (but see Huang 2013; Liu & Huang 2016), and in (137b), which involves long-distance topicalization (see also Huang, Li & Li 2009: 206).³⁴

- (137) a. *Pianyi_i bei ta jiao ziji-de jia ren zhan-guang-le ____i.*
 advantage BEI 3SG order self’s family take-empty-PRF

³⁴As is pointed out by Bruening & Tran (2015), Huang’s (2013) assumption that the idiomatic meaning of an idiom is preserved only under A-movement is incorrect, given Huang, Li & Li’s (2009) report that the idiomatic meaning of an idiom is preserved also under topicalization, an instance of \bar{A} -movement.

Lit. ‘Advantage was ordered his family to take by him.’

- b. *Pianyi_i, ta jiao ziji-de jia ren zhan-guang-le ____i.*
 advantage 3SG order self’s family take-empty-PRF
 Lit. ‘Advantage, his ordered his family to take.’

The above idiom facts are consistent with the proposed analysis of the BEI-construction as a passive construction where the subject of BEI is derived (via A-movement after (successive-cyclic) composite A/ \bar{A} -movement). However, as is pointed out by Bruening & Tran (2015), basing an argument in favor of a raising analysis of the subject of BEI on the above idiom facts is particularly weak. Note that the above examples involve compositional idioms whose meanings are distributed among their parts. For example, in ‘take advantage’, “‘take’ is assigned a meaning roughly paraphrasable as ‘derive’, and ‘advantage’ means something like ‘benefit’”; hence, “the parts of the idiom [are allowed] be separated syntactically, so long as their interpretations are composed in the permitted manner” (Nunberg, Sag & Wasow 1994: 506). Concretely, in English, the idiomatic meaning of a compositional idiom like ‘take advantage’ is preserved when part of the idiom is quantified and modified (as in ‘take no significant advantage’) and when part of the idiom is referred to with a pronoun or is elided, as seen in (138).

- (138) a. They claimed full advantage_i had been taken of the situation, but it_i wasn’t taken ____i. (Nunberg, Sag & Wasow 1994: ex. 28a)
- b. They claimed full advantage_i had been taken of the situation, but none_i was taken ____i. (Nunberg, Sag & Wasow 1994: ex. 28b)

Similarly, in Mandarin, it can be shown that the idiom chunks *niu* ‘cow’ and *pianyi* ‘advantage’ in the idioms *chui niu* ‘bluff’ and *zhan pianyi* ‘take advantage’ have idiomatic meanings on their own. Consider (139), where the idiom chunks *zhe-zhong niu* ‘this kind of cow’ and *zhe-zhong pianyi* ‘this kind of advantage’ are base-generated topics linked to gaps inside islands for extraction (via an \bar{A} -moved NOP which is co-indexed with the base-generated topic; see Huang 1984: 570). In these cases, the idioms *chui zhe-zhong niu* ‘this kind of bluffing’ and *zhan zhe-zhong pianyi* ‘take this kind of advantage’ are not constituents (underlyingly), and yet the idiomatic meanings of the idioms are available.

- (139) a. *Wo jian-guo henduo gan chui niu de ren. Danshi, zhe-zhong niu_i, wo mei jian-guo [NP*
 1SG see-EXP many dare blow cow REL person but this-kind cow 1SG not see-EXP
yi-ge [NOP_i gan chui ____i] de ren.
 one-CL dare blow REL person
 ‘I have seen many people who dare to bluff. But this kind of bluffing, I haven’t seen one single person who dares to make (it).’
- b. *Wo zhidao henduo ai zhan pianyi de ren. Biru, zhe-zhong pianyi_i, wo zhidao*
 1SG know many love take advantage REL person for example this-kind advantage 1SG know
[NP henduo [NOP_i ai zhan ____i] de ren].
 many love take REL person
 ‘I know many people who love to take advantage. For example, this kind of advantage, I know many people who love to take (it).’

It is also worth mentioning that in English, a truly non-compositional idiom like ‘kick the bucket’ loses its idiomatic meaning under passivization and topicalization, as seen in (140).

- (140) a. The bucket_i was kicked ____i by Pat. (Nunberg, Sag & Wasow 1994: 508)
- b. The bucket_i, Pat kicked ____i.

Similarly, in Mandarin, the idiom *deng tui* ‘die’, which literally means ‘stretch legs/kick’, also loses its idiomatic meaning when the parts of the idiom are separated syntactically, as seen in (141).

- (141) a. *(Ta-de) tui bei (ta) deng-le.*
 3SG’s leg BEI 3SG stretch-PRF
 ‘His legs were stretched (by him).’

- b. (Ta-de) tui, ta deng-le.
3SG's leg 3SG stretch-PRF
'His legs, he stretched (them).'
- c. Ta deng-le tui.
3SG stretch-PRF leg
'He died.'

Hence, the availability or unavailability of the idiomatic meaning of an idiom in the BEI-construction depend on the compositional or non-compositional nature of the idiom. The idiom facts are not (strong) evidence for or against a raising analysis of the subject of BEI.

7.3 Indirect object as the subject of BEI

In this section, I will propose an analysis of BEI-constructions where the subject of BEI is identified with the recipient indirect object of a canonical double-object construction or the affectee indirect object of an affective double-object construction. The proposed analysis will take into consideration two contrasts between canonical double-object constructions and affective double-object constructions with respect to whether the theme direct object can be the subject of BEI and whether either the indirect or direct object can be \bar{A} -extracted.

Concretely, in (142b), the subject of BEI is identified with the recipient indirect object of a canonical double-object construction, where the verb is intrinsically ditransitive, sub-categorizing for both a recipient indirect object and a theme direct object.

- (142) a. *Canonical double-object construction*
Wo gaozhi-le Zhangsan zhe-jian shi.
1SG inform-PRF Zhangsan this-CL matter
'I informed Zhangsan about this matter.'
- b. *Indirect object (recipient) as the subject of BEI*
Zhangsan_i bei (wo) gaozhi-le ____i zhe-jian shi.
Zhangsan BEI 1SG inform-PRF this-CL matter
'Zhangsan was informed about this matter (by me).'

In (143b) and (144b), the subject of BEI is identified with the affectee indirect object of an affective double-object construction, where the verb is transitive. Note that in (143b) but not (144b), the affectee indirect object and the theme direct object are in a possessor-possessum relation.

- (143) a. *Affective double-object construction*
Xiaotou tou-le Lisi yi-ben shu.
thief steal-PRF Lisi one-CL book
'The thief stole (from) Lisi a book.'
- b. *Indirect object (affectee) as the subject of BEI*
Lisi_i bei (xiaotou) tou-le ____i yi-ben shu.
Lisi BEI thief steal-PRF one-CL book
'Lisi was stolen a book (from) (by the thief).'
- (Adapted from Huang, Li & Li 2009: 139, ex. 64)
- (144) a. *Affective double-object construction*
Wo tou-jin-le Lisi yi-ge san-fen-qiu.
1SG throw-be.in-PRF Lisi one-CL three-point-goal
'I threw in a three-pointer on Lisi.'
- b. *Indirect object (affectee) as the subject of BEI*

Lisi_i bei (wo) tou-jin-le ____i yi-ge san-fen-qiu.
 Lisi BEI 1SG throw-be.in-PRF one-CL three-point-goal
 Lit. ‘Lisi was thrown a three-pointer on (by me).’ (Adapted from Huang, Li & Li 2009: 140, ex. 66)

There is a contrast between canonical double-object constructions and affective double-object constructions with respect to whether the theme direct object can be the subject of BEI: (145a), where the subject of BEI is identified with the theme direct object of a canonical double-object construction, is well-formed; by contrast, (145b) and (145c), where the subject of BEI is identified with the theme direct object of an affective double-object construction, are ill-formed.

- (145) *Direct object (theme) as the subject of BEI*
- a. *Canonical double-object construction*
 Zhe-jian shi_i bei (wo) gaozhi-le Zhangsan ____i.
 this-CL matter BEI 1SG inform-PRF Zhangsan
 Lit. ‘This matter was informed Zhangsan about (by me).’
 - b. *Affective double-object construction*
 *Shu_i bei (xiaotou) tou-le Lisi ____i.
 book BEI thief steal-PRF Lisi
 INT: ‘The book was stolen (from) Lisi (by the thief).’
 - c. *Affective double-object construction*
 *San-fen-qiu_i bei (wo) tou-jin-le Lisi ____i.
 three-point-goal BEI 1SG throw-be.in-PRF Lisi
 INT: ‘The three-pointer was thrown in on Lisi (by me).’

There is also a contrast between canonical double-object constructions and affective double-object constructions with respect to whether either the indirect or direct object can be \bar{A} -extracted: \bar{A} -extraction of either the recipient indirect object or the theme direct object of a canonical double-object construction is possible, as seen in (146).

- (146) *Canonical double-object construction*
- a. *\bar{A} -extraction of indirect object (recipient)*
 Zhangsan_i, wo gaozhi-le ____i zhe-jian shi.
 Zhangsan 1SG inform-PRF this-CL matter
 ‘Zhangsan, I informed (him) about this matter.’
 - b. *\bar{A} -extraction of direct object (theme)*
 Zhe-jian shi_i, wo gaozhi-le Zhangsan ____i.
 this-CL matter 1SG inform-PRF Zhangsan
 ‘This matter, I informed Zhangsan about (it).’

By contrast, \bar{A} -extraction of neither the affectee indirect object nor the theme direct object of an affective double-object construction is possible, as seen in (147) and (148).

- (147) *Affective double-object construction*
- a. *\bar{A} -extraction of indirect object (affectee)*
 *Lisi_i, xiaotou tou-le ____i yi-ben shu.
 Lisi thief steal-PRF one-CL book
 INT: ‘Lisi, the thief stole (from him) a book.’
 - b. *\bar{A} -extraction of direct object (theme)*
 *Shu_i, xiaotou tou-le Lisi ____i.
 book thief steal-PRF Lisi
 INT: ‘The book, the thief stole (from) Lisi (it).’

(148) *Affective double-object construction*

a. *Ā-extraction of indirect object (affectee)*

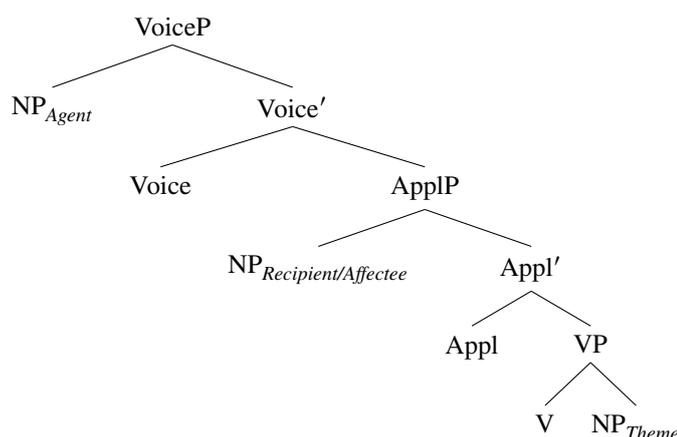
*Lisi_i, wo tou-jin-le ____i yi-ge san-fen-qiu.
Lisi 1SG throw-be.in-PRF one-CL three-point-goal
INT: ‘Lisi, I threw in a three-pointer (on him).’

b. *Ā-extraction of direct object (theme)*

*San-fen-qiu_i, wo tou-jin-le Lisi ____i.
three-point-goal 1SG throw-be.in-PRF Lisi
INT: ‘The three-pointer, I threw (it) in on Lisi.’

I assume that both canonical and affective double-object constructions in Mandarin have the structure in (149), where the theme direct object is introduced by the verb, and the recipient or affectee indirect object is introduced by an Appl(icative) head which projects above the VP, following Marantz (1993), Bruening (2010), Holmberg, Sheehan & Van der Wal (2019) and others.³⁵ In addition, I assume that the Appl(icative) head can assign case to either the recipient or affectee indirect object (in which case the Voice head assigns case to the theme direct object) or the theme direct object (in which case the Voice head assigns case to the recipient or affectee direct object), following Holmberg, Sheehan & Van der Wal (2019).

(149) *Proposed analysis of double-object construction*



To account for the contrasts between canonical and affective double-object constructions (with respect to whether the theme direct object can be the subject of BEI and whether either object can be \bar{A} -extracted), I further assume that (i) in a canonical double-object construction, the VoiceP but not the ApplP is a phase; (ii) by contrast, in an affective double-object construction, both the VoiceP and the ApplP are phases; (iii) in an affective double-object construction, the ApplP is a phase without a phase-EPP feature, which effectively makes extraction of the theme direct object impossible (both in a BEI-construction and in cases of \bar{A} -extraction) (cf. Tsai 2018).

Recall that either object of a canonical double-object construction can be the subject of BEI and can be \bar{A} -extracted. Under the proposed analysis of the BEI-construction, either object of a canonical double-object construction can be the subject of BEI, because either object can be targeted by the composite probe [$\phi + \bar{A}$] on the passive head/BEI. In particular, either object of a canonical double-object construction can be the subject of BEI in an agent-less BEI-construction (where the Voice head does not assign a theta-role, nor does it assign case), because the Appl(icative) head can assign case to either the recipient indirect object (when the theme direct object becomes the subject of BEI) or the theme direct object (when the recipient direct object becomes the subject of BEI). Similarly, either object of a canonical double-object construction can be \bar{A} -extracted, because either object can be targeted by an \bar{A} -probe.³⁶

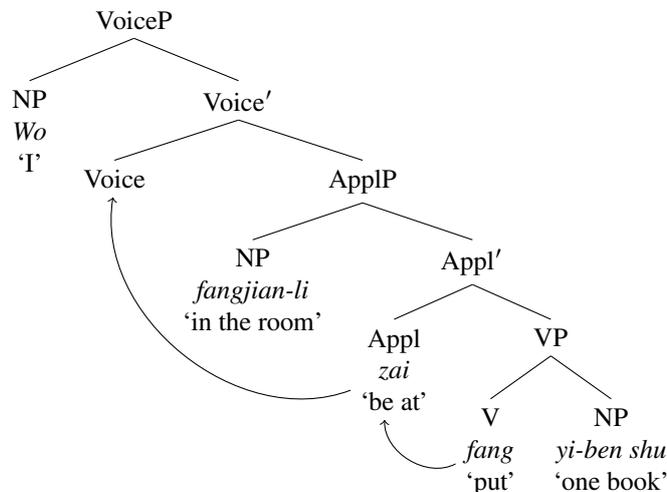
³⁵In other approaches to the double-object constructions, the indirect and direct objects are contained in a small-clause-like constituent, which is the complement of the verb (see e.g., Harley 1995, 2002; Pesetsky 1995; Pytkänen 2002, 2008).

³⁶Note that in a canonical double-object construction, the recipient indirect object would undergo movement from Spec, ApplP to Spec, VoiceP, crossing ApplP, a non-phase boundary, but no other maximal projections, to be \bar{A} -extracted. In Deal (2019), such a movement would violate a general Spec-to-Spec anti-locality constraint (Erlewine 2016, 2020). I suggest that the general Spec-to-Spec anti-locality constraint

By contrast, recall that the affectee indirect object of an affective double-object construction can be the subject of BEI, but cannot be \bar{A} -extracted – this poses a challenge to the alternative analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI’s complement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). Under the assumption that in an affective double-object construction, both the VoiceP and the ApplP are phases, the affectee indirect object must undergo movement from Spec, ApplP to Spec, VoiceP, *without crossing a non-phase boundary*, to be \bar{A} -extracted. I suggest that such a movement may be banned for anti-locality reasons.³⁷ Under the proposed analysis of the BEI-construction, in the BEI-construction, it is the passive head/BEI, instead of the Voice head, that heads a phase; hence, the affectee indirect object can undergo movement from Spec, ApplP to Spec, PassP, which crosses a non-phase boundary, the VoiceP, without violating the suggested anti-locality constraint.

Finally, it is worth mentioning that the subject of BEI can be identified with an indirect object introduced by an Appl(icative) head, but cannot be identified with a non-argument introduced by a PP adjunct. Concretely, the well-formedness of (150a) and the ill-formedness of (151a) suggest that in (150b), *fangjian-li* ‘in the room’ is an indirect object introduced by an Appl(icative) head in Spec, ApplP, hence it can be targeted by the composite probe [$\phi + \bar{A}$] on the passive head/BEI, whereas in (151), *fangjian-li* ‘in the room’ is a non-argument introduced by the preposition *zai* ‘at’ in a PP adjunct, hence it cannot be targeted by the composite probe [$\phi + \bar{A}$] on the passive head/BEI.

- (150) a. Fangjian-li_i bei (wo) fang-le ____i yi-ben shu.
 room-in BEI 1SG put-PRF one-CL book
 Lit. ‘In the room was put a book (by me).’
- b. Wo fang-zai-le fangjian-li yi-ben shu.
 1SG put-be.at-PRF room-in one-CL book
 ‘I put a book in the room.’
- c. *Proposed analysis of (150b)*



- (151) a. *Fangjian(-li)_i bei (wo) ____i kan-le yi-ben shu.
 room-in BEI 1SG read-PRF one-CL book
 INT: ‘(In) the room was read a book (by me).’
- b. Wo zai fangjian-li kan-le yi-ben shu.
 1SG at room-in read-PRF one-CL book

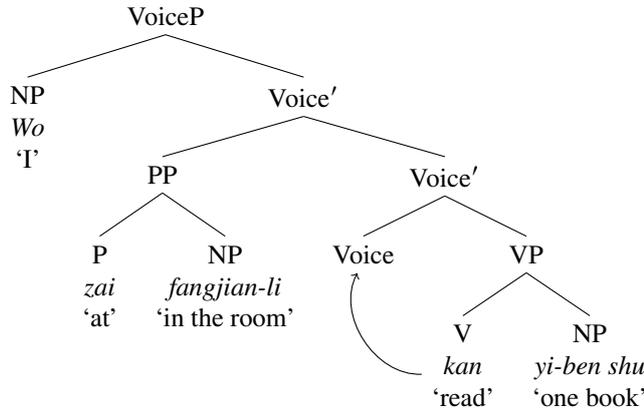
may not be cross-linguistically enforced, hence, languages may differ with respect to whether the recipient indirect object can be \bar{A} -extracted: in standard English, the recipient indirect object cannot be \bar{A} -extracted, whereas in Mandarin, North-West English, Norwegian, Zulu, Lubukusu, and other languages, the recipient indirect object can be \bar{A} -extracted (see e.g., Holmberg, Sheehan, & Van der Wal 2019).

³⁷Note that such an anti-locality constraint is more lenient than the general Spec-to-Spec anti-locality constraint mentioned in footnote 36.

Also note that, under the assumption that both the VoiceP and the ApplP are phases, an affective double-object construction involves a double-phase (or phase-over-phase) configuration in the sense of Bošković (2015). This leads to a possible alternative analysis: Bošković (2015) shows that extraction from a double-phase configuration is banned cross-linguistically, and proposes an account of the relevant facts under particular assumptions about the domain and timing of spell-out.

‘I read a book in the room.’

c. *Proposed analysis of (151b)*



Note that in Mandarin, a non-argument can be \bar{A} -extracted, as seen in (152). The ill-formedness of (151a) and the well-formedness of (152) pose another challenge to the alternative analysis of the BEI-construction involving base-generation of the subject of BEI and NOP movement in BEI's complement (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.).

- (152) a. Zai fangjian-li, wo kan-le yi-ben shu.
 at room-in 1SG read-PRF one-CL book
 'In the room, I read a book.'
- b. wo kan shu de fangjian
 1SG read book REL room
 'the room where I read books'

8 Conclusion

The BEI-construction in Mandarin is a well studied construction known for exhibiting both passive-like properties and *tough*-movement-like properties (see Feng 1995, 2012; Ting 1995, 1998; Huang 1999; Tang 2001; Huang, Li & Li 2009; Bruening & Tran 2015; a.o.). I argued for a novel analysis of the BEI-construction in Mandarin as a passive construction where the passive head/BEI hosts a composite probe [$\phi + \bar{A}$], which triggers composite A/ \bar{A} -movement, in the sense of Van Urk (2015). The subject in the BEI-construction is derived via (successive-cyclic) composite A/ \bar{A} -movement, followed by a terminating step of A-movement, similar to Longenbaugh's (2017) analysis of English *tough*-movement. Under the proposed analysis, the mixed A/ \bar{A} -properties associated with the BEI-construction are direct consequences of composite A/ \bar{A} -movement (following Van Urk 2015; Longenbaugh 2017).

The proposed analysis of the BEI-construction accounted for two restrictions on long-distance dependencies in the BEI-construction – specifically, a requirement that no overt, case-less NPs should intervene between the subject of BEI and the gap in agent-less BEI-constructions, and a contrast when the BEI-construction involves a cross-clausal dependency between the subject of BEI and a subject vs. object gap. I argued that the ban on overt, case-less NPs intervening between the subject of BEI and the gap in agent-less BEI-constructions follows from the proposed analysis of the BEI-construction as a passive construction and Burzio's generalization (Burzio 1986), which states that all and only the verbs that can assign a theta-role to the (logical) subject can assign accusative case to an object. Specifically, in agent-less BEI-constructions, when there is an overt NP that cannot be assigned case by the matrix Voice head, that NP must become the subject of BEI, where it can receive case from Infl; in such cases, it is predicted that long-distance dependencies between the subject of BEI and a deeply embedded gap in BEI's complement is impossible. I argued that the subject/object contrast with respect to the possibility of crossing a finite clause boundary to become the subject of BEI follows from the possibility of raising to subject via A-movement to Spec, CP, or *hyper-raising to subject* (see e.g., Fong 2019; Wurmbrand 2019; Lohninger, Kovač & Wurmbrand 2022; a.o.), and the ban on improper \bar{A} -movement to Spec, CP followed by composite A/ \bar{A} -movement

(see Longenbaugh 2017).

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