

## Fragment question and ellipsis in Chinese

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### Abstract

This paper argues that Fragment Question (FQ) with linguistic antecedent in Chinese can be analyzed as Fragment Answer (FA) in English (Merchant 2004) and in Korean (Yim 2012) by assuming that FQ involves fragment movement and TP ellipsis. FQ in Chinese is simply composed of a non-adjunct focused constituent and a final particle *ne*, used to type FQ as a constituent question. Building on these facts, we propose that a split CP hypothesis (Craenenbroeck 2004) and the notion of the Phase Theory (Chomsky 2000, 2001) can nicely capture the distributions of FQ. In addition, we argue that no genuine island repair effect is induced by TP ellipsis in FQ. The phenomenon poses a challenge to the deletion at PF analysis (Merchant 2001, Fox and Lasnik 2003) but lends support to the deletion in syntax account (Baltin 2007, 2012). Finally, such a view is further evidenced by the FQs in affective *ba* construction, passive *bei* construction, and structures involving secondary predicates.

### Keywords

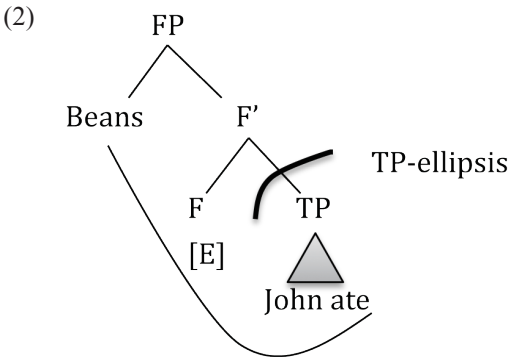
fragment, ellipsis, phase, focus, island effect

## 1. Introduction

The matching between form and meaning invokes many interesting issues on ellipsis. One of them is Fragment Answer (FA) (Hankamer 1979, Morgan 1973, 1989, Merchant 2004, among others), which means that the answer to a question often makes use of a fragment rather than a complete sentence as in (1).

- (1) A: What did John eat?  
B: Beans.

In analogy with fragment answer in (1) to sluicing, Merchant (2004: 675) argues that fragment answer *beans* in fact involves a full-fledged structure, in which the fragment moves from within TP to a clause-peripheral position, SpecFP, headed by F containing [E](elide) feature, prior to the constituent TP ellipsis, as illustrated in (2).



This paper shows that the notion of fragment also applies to questions in Chinese, the so-called Fragment Question (FQ). The derivation of FQ in Chinese can be assimilated to that of FA in English (Merchant 2004) and in Korean (Yim 2012), involving focus movement and TP ellipsis. Akin to FA in English (Merchant 2004), FQ in Chinese can be subcategorized into the FQ with linguistic antecedent and FQ without overt linguistic antecedent. The former type is constrained by syntactic parallelism and derived from focus movement and TP-ellipsis, whereas the latter is subject to pragmatic factors. With a focus on FQ with linguistic antecedent, we observe that elements such as noun phrases, verb phrases, and temporal/locational phrases can appear in FQ, whereas frequency/manner adverbs, sentential adverbs, and modals are prohibited. We find that the grammatical difference lies in a non-adverb vs. adverb asymmetry. The non-adverbial group, including NP, VP, and PP, is able to appear in FQ, whereas adverbs as well as modals are excluded. That is, only the non-adverbial elements can undergo target raising to SpecCP<sub>2</sub> (similar to SpecFP in the sense of Merchant 2004) under the proposed locality conditions. However, several challenges still arise with respect to the floating property of the adverbs and the recoverability. After scrutiny, we obtain two significant results:

(i) In general, an adverbial element cannot be raised to a focused position as a

target and (ii) some mismatches between antecedent and FQ are theoretically and empirically tolerable from cross-linguistic perspectives.

Theoretically, the distribution of FQ is subject to the notion of phasal domains (Chomsky 2000, 2001). Along this line of thought, the following assumptions are adapted to sort out the Chinese FQ: (i) A revised split CP hypothesis (Craenenbroeck 2004), (ii) the PIC and anti-locality (Bošković 1994, 1997, 2005, 2013, to appear a), and (iii) outer specifier of vP projection as an escape hatch (Chomsky 2001, 2005, Abels 2003, Gengel 2007, 2009, Funakoshi 2012). We will show that the movement in FQ observes locality effects, such as CNPC, adjunct island, and *wh*-island, which, in turn, poses a serious problem to TP deletion at PF. To escape such a dilemma, we propose that deletion can occur in the process of computation (Baltin 2007, 2012). Further, evidence from affective *ba*, passive *bei*, and secondary predicates also lends support to this analysis.<sup>1</sup>

This paper is organized as follows. Section 2 lays out the distribution of FQ. Section 3 proposes a focus movement and TP-ellipsis analysis. Section 4 dwells on the derivation of FA under the phase-based analysis. Section 5 discusses island effects of FQ. Section 6 displays evidence from affective *ba* structure, passive *bei* structure, and structure containing secondary predicates. Section 7 concludes this paper.

## 2. Fragment questions

This section aims at displaying the behaviors of FQ in simple and complex sentences. Their distributions are not random but are subject to certain constraints.

### 2.1 Simple sentences

The syntactic categories that are allowed to form FQ include noun phrases, verb phrases, and temporal/locational phrases. In this paper, the fragment of FQ will be called “target”.

As shown in (3), the fragment question *Lisi ne* inquires whether the target, *Lisi*, has come back or not. The target is new information, in contrast to the old information *Zhangsan* in the antecedent clause. The presence of the final particle *ne* is required to mark the FQ as a “constituent question”<sup>2</sup>. Note that the FQ can also yield the meaning ‘where is Lisi,’ asking the location of *Lisi*; in this case, linguistic antecedent is not required. Such a location reading, which is generally recognized as the “default reading” of the nominal FQ, is not the main concern of this work.

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<sup>1</sup> Audrey Li (personal communication) has suggested a *pro* analysis in line with Wei’s (2004, 2011) analysis on Chinese sluicing. We will explore this line of thought in another work.

<sup>2</sup> The omission of particle *ne* is unacceptable. Besides, it cannot be replaced with another final particle *ma*, which is used to type ‘yes-no question’ in Chinese. We will discuss XP-*ma* in Section 6.5.

- (3) A: *Zhangsan huilai-le.* [Subject position]  
       Zhangsan back-Asp  
       ‘Zhangsan has already come back.’  
 B: *Lisi ne?*  
       Lisi Part  
       ‘What about Lisi?’  
       ‘Where is Lisi?’<sup>3</sup>

Further, FQ also appears in the object position as in (4). The target *xiaoshuo* ‘novel’ is corresponding to the object of the antecedent clause, *zhazhi* ‘magazine’. The FQ questions whether he wants to read novels or not.

- (4) A: *Ta xiang kan zhazhi.* [Object position]  
       he want read magazine  
       ‘He wants to read magazines.’  
 B: *Xiaoshuo ne?*  
       novel Part  
       ‘What about novels?’

The range of target can also extend to the whole VP as *xie gongke* ‘write assignment’ in (5), which is parallel to the antecedent *kan xiaoshuo* ‘read novels’. Here, Speaker B tries to offer another alternative activity, writing assignment for Speaker A, in addition to the activity of reading novels. However, if the activity of reading is undergoing or has happened, as in (6), the sentence turns out to be less acceptable.<sup>4</sup>

- (5) A: *Ta xiang/yao kan xiaoshuo.* [Verb phrase]  
       he want read novel  
       ‘He wants to read novels.’  
 B: *Xie gongke ne?*  
       writing assignment Part  
       ‘What about writing assignment?’

<sup>3</sup> The final particle *ne* can be attached to a specific object in the speaker’s or the listener’s world to question its location. For example, the context of the FQ in (i) is depicted as below.

(i) [Lisi notices that her sister walked without wearing shoes. Then he asks:]  
 (Nide) xiezi ne?  
 your shoe Part  
 ‘Where are (your) shoes?’

<sup>4</sup> The unacceptability of (6) is correlated to a realis vs. irrealis contrast in FQ. We will discuss this issue in detail Section 7. In fact, (6) becomes more acceptable in the scenario (i)

(i) [A son has promised his father to finish writing his assignment in due time. But now, he is reading a novel. With concern, the father may ask his wife what his son is doing now. The wife provides the answer A. Not knowing whether his son has fulfilled his promise or not, the father may ask the fragment question B to try to solicit the answer from his wife.]

From this example, we may infer that for FQ without the linguistic antecedent, different contexts may yield different interpretations, being subject to pragmatic factors. We will leave it for future research.

- (6) A: Ta zai kan xiaoshuo.  
 he Prog read novel  
 'He is reading a novel.'  
 B: ?Xie gongke ne?  
 writing assignment Part  
 'What about writing assignment?'

Moreover, the target of FQ can also be temporal expressions, such as *jintian* 'today' and *houlai* 'later' in (7-8), respectively. For instance, in (7), when the target is the temporal phrase *jintian* 'today', parallel to *mingtian* 'tomorrow' in the antecedent clause, FQ is asking whether today is also the day that *Zhangsan* will go to the exhibition as well. Meanwhile, the FQ can also question what *Zhangsan* will do for today. For the first reading, the background of the focus can be deduced from the linguistic antecedent, but no such a specific linguistic antecedent can be identified for the second reading.<sup>5</sup>

- (7) A: Zhangsan *mingtian* yao qu kan zhanlan. [Temporal phrase]  
 Zhangsan tomorrow will go see exhibition  
 'Zhangsan will go to the exhibition tomorrow.'  
 B: *Jintian* ne?  
 today Part  
 'What about today? (Whether it is also the day that Zhangsan will go to the exhibition?)'  
 'What will Zhangsan do for today?'
- (8) A: Ta *gangkaishi* bu tongyi nide kanfa.  
 He in.the.beginning not agree your view not agree your view  
 'In the beginning, he did not agree your view.'  
 B: *Houlai* ne?  
 later Part  
 'Then?'

In addition, place adverb can also serve as the target as *zai jia* 'at home' in (9).

- (9) A: Ta *zai xuexiao* bu kan shu. [Place adverb]  
 he at school not read book  
 'He does not read books at school.'  
 B: *Zai jia* ne?  
 At home Part  
 'What about at home?'

However, not every syntactic category is fitted into FQ. Frequency adverbs in (10), manner adverbs in (11), sentential adverbs in (12), and modals in (13) are apparently not allowed.

<sup>5</sup> This is similar to certain types of fragment answer (FA) lacking linguistic antecedents (Merchant 2004: 661), which interpretation will vary with contexts (cf. Note 3 and 4).

- (10) A: Ta *changchang* ma Lisi. [*\*Frequency adverb*]  
 He often scold Lisi  
 ‘He often scolds Lisi.’  
 B: *\*Ouer* ne?  
 Occasionally Part  
 ‘What about occasionally?’
- (11) A: Zhangsan *hen kuai-de* xie-le yi-feng xing. [*\*Manner adverb*]  
 Zhangsan very fast-DE write-Asp one-Cl letter  
 ‘Zhangsan has fast finished writing a letter.’  
 B: *\*Manman-de* ne?  
 slow-DE Part  
 ‘What about slowly?’
- (12) A: Ta *dagai* hui lai. [*\*Sentential adverb*]  
 he probably will come  
 ‘He probably will come.’  
 B: *\*Xianran* ne?  
 apparently Part
- (13) A: Ta *yinggai* mai zhe-dong fangzi. [*\*Modal*]  
 he should buy this-Cl house  
 ‘He should buy this house.’  
 B: *\*Bu yinggai/keneng* ne?  
 not should/possibly Part

Thus far, we can see that noun phrases, verb phrases, and temporal and locational phrases can appear in FQ, whereas frequency adverbs, manner adverbs, sentential adverbs, and modals are prohibited. The grammatical contrast will be explored in Section 3 and 4. Let’s first turn to how FQs behave in complex sentences.<sup>6</sup>

## 2.2 Complex sentences

### 2.2.1 Island-sensitivity

Regarding complex structures, if the target is located in a complex NP island, *wh*-island, and adjunct island in (14), (15), and (16), respectively, the FQs are unacceptable. Only the matrix reading, of which *Lisi* is in contrast with the

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<sup>6</sup> Possibly, conjunctive like *suoyi* ‘so’ may form FQ as (i). We will consider this type as the FQ lacking linguistic antecedent, whose meaning is subject to pragmatic factors.

(i) A: Zhangsan wan-cheng le tade mongxiang.  
 Zhangsan finish-done Asp his dream  
 ‘Zhangsan has carried out his dream.’  
 B: *suoyi* ne?  
 so Part  
 ‘So?’

matrix subject *ta* ‘he’ in (13)-(14), can be perceived. However, in (17), the target *Lisi* can naturally contrast with its embedded antecedent *Zhangsan* when no island intervenes. It reveals that FQ in Chinese respects locality conditions, such as CNPC, *wh*-islands, and adjunct islands.

- (14) A: *Ta zhaodao [Zhangsan zui ai de bi].* [\*CNPC]  
 he find.out Zhangsan most like DE pen  
 ‘He found the pen that Zhangsan likes most.’  
 B: \**Lisi ne?*  
*Lisi* Part  
 ‘What about Lisi?’
- (15) A: *Ta zhidao [Zhangsan weishenme meiyou huilai].* [\*Wh-island]  
 he know Zhangsan why not.have back  
 ‘He knows why Zhangsan has not come back.’  
 B: \**Lisi ne?*  
*Lisi* Part  
 ‘What about Lisi?’
- (16) A: *Zhangsan [yinwei tade baba bu zhichi] cai fangqi yinyue.*  
 Zhangsan because his father not support then give.up music  
 ‘Zhangsan gave up learning music because of the lack of his father’s support.’  
 B: \**Tade mama ne?* [\*Adjunct island]  
 his mother Part  
 ‘What about his mother?’
- (17) A: *Ta zhidao [Zhangsan yao qu meiguo].* [No island]  
 he know Zhangsan will go U.S.  
 ‘He knows that Zhangsan will go to the U.S.’  
 B: *Lisi ne?*  
*Lisi* Part  
 ‘What about Lisi?’

### 2.2.2 Island-insensitivity

Not every type of island is respected in FQ. Sentential subject island and Left branch Condition can be violated. In (18), it is possible for FQ to yield embedded readings, ‘whether it is more appropriate for Lisi to stay at home’ as in (18B) or ‘whether it is appropriate for Zhangsan to stay at school’ in (18B’). As to (19), *Lisi-de* ‘Lisi’s’ can form FQ, parallel to the correlative possessor *Zhangsan-de* ‘Zhangsan’s’. In that sense, FQ is insensitive to these two types of islands.

- (18) A: [*Zhangsan dai zai jiali*] *bijiao hao.* [Sentential subject]  
 Zhangsan stay at home more good  
 ‘It is more appropriate that Zhangsan stays at home.’

- B: *Lisi ne?*  
 Lisi Part  
 ‘What about Lisi?’  
 B’: *Zai xuexiao ne?*  
 at school Part  
 ‘What about at school?’

- (19) A: Ta renshi [<sub>DP</sub> *Zhangsan-de baba*]. [Left Branch Condition]  
 he know Zhangsan-DE father  
 ‘He knows Zhangsan’s father.’  
 B: *Lisi-de ne?*  
 Lisi-DE Part  
 ‘What about Lisi’s father?’

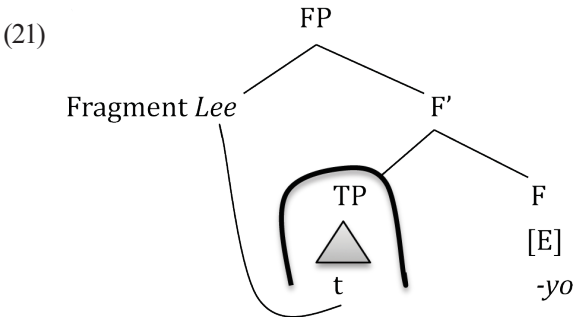
No doubt, a convincing analysis of FQ has to explain why FQ is sensitive to the islands in (14-16) and insensitive to the ones in (18-19). Below, we propose that crucial issues, such as the distributions of FQ and island-sensitivity, can be treated under the notion of Minimalism.

### 3. Proposal

#### 3.1 Fragment answer vs. fragment question

Yim (2012) proposes that Merchant’s (2004) PF deletion analysis in (2) can be evidenced by fragment answers containing final particle *-yo* in Korean. The derivation of the FA in (20B) can be analyzed as (21), in which the particle *-yo* containing [E] feature occurs at a position higher than the elided TP. The fragment *Lee* undergoes extraction from within TP to SpecFP, prior to TP ellipsis. That is why the final particle *-yo* can escape TP ellipsis.

- (20) A: Kim-i nwukwu-rul manness-ni?  
 Kim-Nom who-Acc met-Q  
 ‘Who did Kim meet?’  
 B: Lee-yo.  
 Lee-yo  
 ‘Lee.’





In addition, this fronting analysis can naturally explain why certain categories and constructions, such as DPs, manner adverbs, locative adverbs, relative clauses, and classifiers, disallow sentence-medial *-yo* in the non-elliptical contexts but become acceptable when various types of fragments are formed.<sup>7</sup> For example, locative adverb *yeki* ‘here’ resists sentence-medial *-yo* as in (22a) in non-elliptical contexts. Even so, *-yo*-attachment turns out to be available for the locative adverb in FA in (22bB).

- (22) a. Kapang-I *yeki*(\*-yo) *isse-yo*.  
 bag-Nom here(\*-YO) exist-YO  
 ‘Here is the/a bag.’
- b. A: Kapang-i *eti iss-e?*  
 bag-Nom where exist-Q  
 ‘Where is the bag?’
- B: Palo *yeki-yo*.  
 right here-YO  
 ‘Right here.’

Building on these facts, we suggest that the analysis of Yim’s fronting and ellipsis analysis can also apply to FQ in Chinese but some differences between them must be kept in mind before we explore FQ.

First, we find that Chinese FQ is more restrictive than Korean FA. The latter is “ubiquitous” with DPs, manner adverbs, locative adverbs, relative clauses, classifiers, etc. However, FQ in Chinese cannot co-occur with sentential adverbs, manner adverbs, frequency adverbs and modals. Besides, FQ observes island constraints, such as, CNPC, *wh*-islands, and adjunct islands.

Second, FA in Korean and FQ in Chinese also differ in the function of the final particle. The particle *-yo* in Korean is pragmatically to convey politeness towards the addressee (Yim 2012), whereas *ne* is syntactically to “type” the constituent question in Chinese (Cheng 1991).

Despite these differences, FA and FQ share two important properties. First, they both make use of focus in the form of a contrast between fragment and its

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<sup>7</sup> Note that the repairing also appears in the manner adverbs in Korean FA, different from those in FQ.

- (i) *Ikes-ul tangcang*(\*-yo) *chelihase-yo*.  
 this-Acc immediately(\*-YO) handle-YO  
 ‘Have this done immediately.’
- (ii) A: *Ence-kkaci ikes-ul chelihayyahacyo?*  
 when-by this-Acc handle.must.Q  
 ‘By when must I have this done?’
- B: *Tangcang-yo*.  
 Immediately-YO  
 ‘Immediately.’

antecedent. Second, the final particles are both used to end the fragment. With these, we propose that Chinese FQ be analyzed under movement and ellipsis just as FA in Korean.

### 3.2 Movement and ellipsis

#### 3.2.1 Structure of the Split CP

In line with the split CP hypothesis (Reinhart 1981, Hoekstra & Zwart 1994, 1997, Rizzi 1997, and Bennis 1997, 2000), Craenenbroeck (2004) asserts that there are two right-branching layers of CP: CP<sub>1</sub> and CP<sub>2</sub>. CP<sub>1</sub>, resembling ForceP in the sense of Rizzi (1997), assumes the function of clause typing (Cheng 1991) (cf. Aelbrecht 2009: 124, 171). The head C<sub>1</sub> attracts *wh*-interrogatives to SpecCP<sub>1</sub>. Meanwhile, CP<sub>2</sub>, parallel to FocP in terms of Rizzi (1997), is a projection where operator-variable dependency is built as in (23).<sup>8</sup> Following this split CP hypothesis, we propose that Chinese CP, in contrast, is left-branching with C<sub>1</sub> and C<sub>2</sub> on the right (cf. Tang 1989: 539-40) as in (24).

(23) [<sub>CP1</sub> *wh*-item [<sub>C1</sub> C<sub>1</sub> [<sub>CP2</sub> [<sub>C2</sub> C<sub>2</sub> [TP ]]]]]]

(24) [<sub>CP1</sub> *wh*-item [<sub>C1</sub> [CP<sub>2</sub> [<sub>C2</sub> [TP ] C<sub>2</sub>]] C<sub>1</sub>]]]

Craenenbroeck (2004, 2012) adapts Merchant's (2001: 55-61) [E]-feature analysis to explain how a head-licensing complement can be elided (cf. Lobeck 1995). Merchant claims that the [E] feature in sluicing contains two uninterpretable features [*uWH\**, *uQ\**]. These two features are strong (marked by the \*) with the EPP property and need to be checked in a local relationship on the unsplit head C before licensing deletion. Under Craenenbroeck's split CP structure, C<sub>2</sub>, marked with [E]-feature ([*uOP*, *uQ*]), is first merged with IP. Then, the operator feature (i.e. [+OP]) on C<sub>2</sub> is checked against the uninterpretable [*uOP*] of the [E]-feature. As soon as C<sub>1</sub> is merged with CP<sub>2</sub>, [+Q] on C<sub>1</sub> will attract the [E] feature and check the [+Q] in SpecCP<sub>1</sub> with [*uQ*] in the [E] feature. At this juncture, the [E] feature is syntactically licensed and can trigger deletion. Apparently, the [E] feature is checked step by step in a local relationship.

We propose that FQ in Chinese can be built up under Craenenbroeck's (2004, 2012) checking analysis, along with some considerations on Aelbrecht's (2009, 2010) upward probing. It follows that as C<sub>2</sub> is merged with TP, it is marked with the [E]-feature, with two strong uninterpretable features, [*uF\**, *uWH\**], which needs

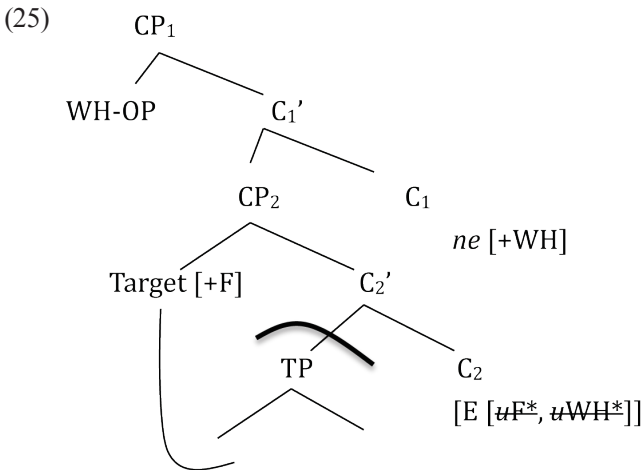
<sup>8</sup> Craenenbroeck (2004) uses this split structure to explain the spading, in which the SpecCP<sub>2</sub> is occupied by a demonstrative *da* 'that' as in (i), and swiping, in which the order of *wh*-remnant and preposition is reversed in (ii). He claims that the elided part is TP, not CP<sub>2</sub>.

(i) Jef eit iemand gezien, mo ik weet nie [<sub>CP1</sub> wou C<sub>1</sub> [<sub>CP2</sub> da C<sub>2</sub> [<sub>FP</sub> *t<sub>wh</sub>* is *t<sub>wh</sub>* Jef gezien eit]]].  
Jef has someone seen but I know not who that

'Jef saw someone, but I don't know who.' (Wambeek Dutch)

(ii) Ed gave a talk yesterday, but I don't know [<sub>CP1</sub> what C<sub>1</sub> [<sub>CP2</sub> [<sub>PP</sub> about *t<sub>what</sub>*] C<sub>2</sub> [<sub>FP</sub> Ed wrote a book *t<sub>wh</sub>*]]].

to be checked locally. The first uninterpretable focus feature [ $uF^*$ ] needs to be checked in  $CP_2$  under an operator-variable dependency. The second clause-typing feature [ $uWH^*$ ] will be checked in  $CP_1$  via upward probing. More specifically, as illustrated in (25),  $C_2$  with [E [ $uF^*$ ,  $uWH^*$ ]] feature behaves like a covert Foc marker (cf. Hu 1987, Wu 2006, Gu 2008, Tang 2010). It will actively attract a target to the Spec $CP_2$  to check against the focus feature [ $uF^*$ ] in [E [ $uF^*$ ,  $uWH^*$ ]]. Next, the final particle *ne* [+WH] is merged with  $CP_2$ , being situated on  $C_1$  for the purpose of clause-typing (cf. Lu 1982, Sao 1996). Once a covert *wh*-operator is merged to Spec $CP_1$ , the clause-typing feature [ $uWH^*$ ] in  $C_2$  can be checked against [+WH] on  $C_1$ . At this stage, the [E [ $uF^*$ ,  $uWH^*$ ]] feature on  $C_2$  is fully licensed and is ready to trigger TP-deletion.



Here, two remarks need to be made on the head licensing of TP-deletion. First, the licensing of the [E] feature on  $C_2$  cannot be completed within  $CP_2$ , but it has to extend to the higher  $CP_1$  under the split CP hypothesis. Second, the uninterpretable clause-typing feature on  $C_2$  is checked *via* upward probing to the [+WH] feature on  $C_1$  (Aelbrecht 2009, 2010) rather than *via* merging with  $C_1$  (cf. Craenenbroeck 2004, 2012). If  $C_2$  is merged with  $C_1$ , the [E]-feature should trigger complement  $CP_2$ -deletion, which includes fragment, instead of TP ellipsis, contrary to our prediction. As to upward probing, a theoretical problem arises. As claimed by Aelbrecht (2009, 2010), the upward probing is just opposite to the standard directionality of the Agree relation that Chomsky (1995, 2000, 2001) has proposed: uninterpretable features “probe down” to search for interpretable goal in their c-commanding domain. However, Aelbrecht (2009, 2010) argues that some uninterpretable feature on [E] can still probe upwards to establish the Agree relation. This claim can be testified by a diagnostic suggested by Hornstein et al. (2005: 285): [-interpretable] features cannot participate in more than one checking relation, whereas [+interpretable] features are free to participate in

multiple checking (agree) relations. With this, Aelbrecht (2009: 103-104) claims that the probe(s) (with uninterpretable [E]-feature licensing ellipsis) can possibly be situated lower in the structure than the goal (with interpretable feature).<sup>9</sup> We will follow Aelbrecht's arguments when dealing with the checking of [E]-feature in FQ.

Before closing this section, we should keep in mind that the FQ differs from the topic structure with final particle *ne*. As in (26), the particle *ne* is a topicalized marker, just like *ya* (cf. Huang, et al. 2009), used to mark a pause in an utterance, rather than a question particle used to type a FQ. Moreover, the parallel part in B and B' cannot be omitted in the topic structure, departing from FQ.

- (26) A: Ta xiang kan zhazhi.  
           he want read magazine  
           'He wants to read magazines.'  
 B: *Xiaoshuo ne*, \*(ta ye xiang kan).  
     novel Part he also want read  
     'As to novel, he also wants to read.'  
 B': *Wo ne*, \*(ye xiang kan zhazhi).  
     I Part also want read magazine  
     'As to me, I also want to read magazine.'

### 3.2.2 Phase Theory

This section is devoted to the constraints on focus movement in computing a FQ. We assume that FQ is derived by fronting the target (focus) to the specifier position of CP<sub>2</sub>, a functional head in the left periphery higher than TP projection (Rizzi 1997, 2004). Needless to say, the movement must respect the Phase theory (Chomsky 1999, 2000, 2001, 2004).

Chomsky asserts that the clause-external phase CP and the clause-internal phase vP are two complete units of grammatical operation. Once a phase has been formed, any grammatical processing will be frozen and constrained by the Phase-Impenetrability Condition (PIC), according to which only the Spec of a phase, CP or vP, is eligible for movement out of the phase (Chomsky 2000, 2001) in (27). Put simply, any XP movement from phase YP must proceed *via* SpecYP.

#### (27) Phase-Impenetrability Condition (PIC) (Chomsky 2000)

In phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , only H and its edge are accessible to such operations.

<sup>9</sup> The empirical evidence that Aelbrecht (2009) provides is that in (i), the finite auxiliary *could* can serve as a licenser with interpretable feature to trigger VP ellipsis of two coordinated verb phrases by means of multiple Agree relations. Due to space limitations, we will not discuss this issue in detail.

(i) ?Has Ezra been thinking about it? – Well, he **could** be \_\_ today and maybe even have been \_\_ for the past few days.

Before we demonstrate how the proposed analysis works in each type of FQ, we will briefly discuss the notion of anti-locality (Bošković 2005).

### 3.2.3 Anti-locality

The notion of anti-locality is to identify whether an extraction is eligible from the “distance” between the landing site and the extracted position. It plays a role in deciding the feasibility of a target movement. The relevant theories proposed by Abels (2003) and Bošković (1994, 1997, 2005) will be briefly reviewed.<sup>10</sup>

Abels (2003) has proposed a Stranding Generalization, banning the movement of the phase head complement: A phase head, C or  $v$ , may allow a constituent to move out of its c-commanding domain as in (28a), whereas the complement of a phase head cannot escape and move away out from under it as in (28b).

#### (28) Stranding Generalization

Given a phase head  $\alpha^0$  and a constituent X in  $\alpha^0$ 's c-command domain

- a.  $\diamond v [X \dots [\alpha^0 [\dots t_x \dots]] \dots]$  and  
 b.  $\neg \diamond v [X \dots [\alpha^0 t_x] \dots]$

Along this vein, Bošković (1994, 1997, 2005) gives a clear-cut definition of anti-locality. He claims that anti-locality requires movement to cross at least one phrase (which rules out complement-to-spec movement within the same phrase.) More specifically, as depicted by Bošković (2005: 16), in terms of conditions on chain links, each chain link must be at least of length 1, where a chain link from A to B is of length  $n$  if there are  $n$  XPs that dominate B but not A. It means that the distance of each link must be more than one maximal projection XP; otherwise, the link will be too short to constitute a legitimate chain.

Anti-locality is needed for the reason that the PIC is both “too strong” and “too weak”. On the one hand, the PIC is too strong to rule in the target from some position lower than  $vP$ , such as from object position. To avoid such a problem, the outer specifier of  $vP$  projection is suggested to be admitted as an escape hatch (Chomsky 2001, 2005, Gengel 2007, 2009). A similar idea has been explored in a multiple  $vP$  specifier analysis by Funakoshi (2012). On the other hand, the PIC

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<sup>10</sup> Another theory of ‘anti-locality’ has been proposed in Grohmann (2003). He argues that the clue to define “anti-locality” lies in an appropriate domain of evaluation relevant for “closeness”. Minimalist inquiries into syntactic computation offer a natural cut: (i) The part of the clause where theta relations are created, (ii) the part that licenses agreement properties, and (iii) the part responsible for those types of discourse information that are syntactically relevant. This tripartite is natural in the sense that it is defined over parts of a phrase marker which are characterized by checking configurations of formal features pertaining to each of these three “super-features,” and there seems to be evidence that no element checks more than one feature of these three types. Grohmann (2003) calls each of these three areas a Prolific Domain, an area within the phrase marker for a particular clausal computation (“domain”) which itself consists of a number of projections (“prolific”).

together with the multiple  $vP$  specifier is still too weak to rule out FQs containing manner, frequency, and sentential adverbs. In this case, anti-locality is utilized to compensate the weakness. This line of thought is entitled as the PIC and anti-locality conspiracy by Bošković (2005, 2013, to appear a).

#### 4. Formation of FQ in Chinese

In Section 2, we have shown that elements such as noun phrases, verb phrases, and temporal and locational phrases can form FQ, whereas frequency/manner adverbs, sentential adverbs, and modals are prohibited from forming FQ. We have observed that the grammatical difference lies in an asymmetry between non-adverbial elements and adverbial elements. Below, we will demonstrate why the non-adverbial group can undergo target raising to  $\text{SpecCP}_2$  under the proposed locality conditions, and why the adverbial group cannot. Finally, several challenges of this analysis will be discussed with a focus on issues such as the floating property of the adverb and the recoverability. After scrutiny, we come to two implications: (i) In general, an adverbial element cannot be raised to a focused position as a target, and (ii) some mismatches between antecedent and FQ can be tolerated from cross-linguistic perspectives.

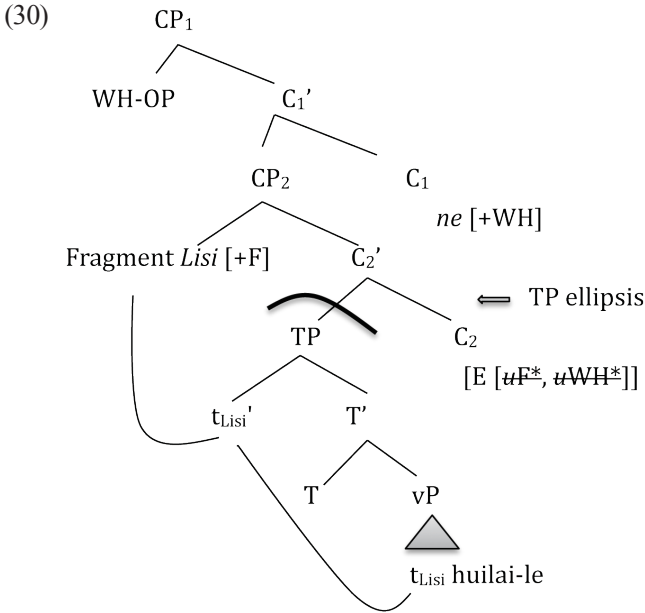
This section will be divided into two parts: Section 4.1 is concerned with the grammatical FQs, such as nominal FQs in subject and object position, temporal and locational phrases, verbal phrases, and even clauses. Section 4.2 goes to the ungrammatical FQs, such as frequency/manner adverbs, sentential adverbs, and modals. Section 4.3 stresses the challenges of this analysis.

##### 4.1. Non-adverbial FQs

###### 4.1.1 NP in subject position

Regarding FQ in subject position in (29), once  $C_2$  merges with TP as illustrated in (30), the target *Lisi* in the phase edge  $\text{Spec}vP$  raises to  $\text{SpecTP}$ . It undergoes focus movement to  $\text{SpecCP}_2$ , an escape hatch, to escape TP ellipsis and to check off [uF] at the same time. Afterwards, under the probe-goal relation, *ne* with [+WH] on  $C_1$  is merged with  $\text{CP}_2$ . Then, the base-generated covert *wh*-operator is merged to  $\text{SpecCP}_1$ . At this juncture, the [uWH] in  $C_2$  can be checked against the interpretable [+WH] in  $C_1$  and the [E] feature is syntactically licensed to trigger TP ellipsis. That is why FQ, with only a focused element and a final particle *ne*, is a *wh*-question *per se*.

- (29) A: Zhangsan huilai-le.  
       Zhangsan back-Asp  
       ‘Zhangsan has already come back.’  
    B: Lisi [<sub>TP huilai-le</sub>] ne?  
       Lisi back-Asp Part  
       ‘What about Lisi?’



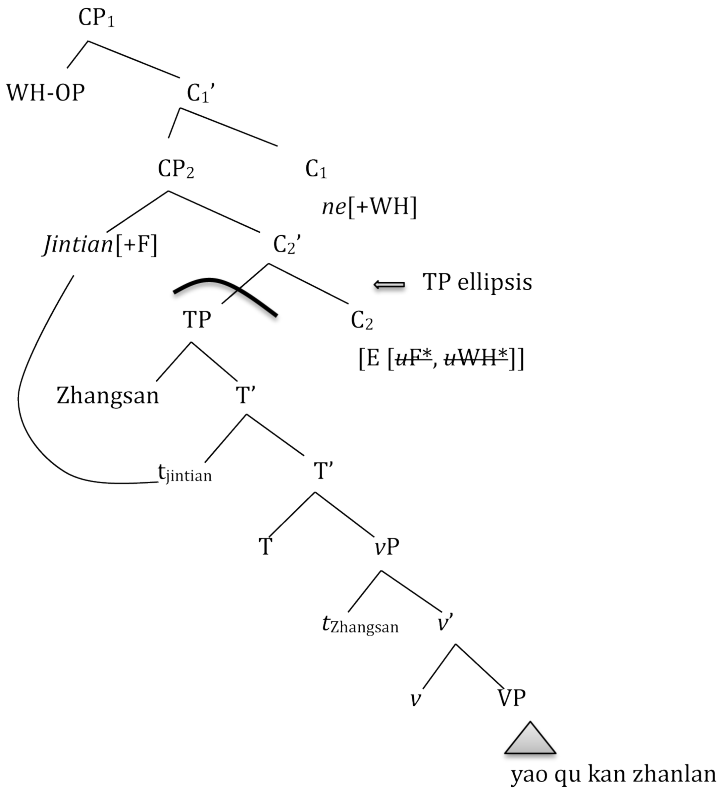
Given Abels' (2003) Stranding Generalization, the extraction of subject *Lisi* from SpecTP to SpecCP does not violate anti-locality. Though the complement of a phasal head cannot undergo movement, the phase head C may still allow the target *Lisi* to move out of its c-commanding domain (TP complement). Likewise, Bošković's (2005) definition of anti-locality also sanctions the target raising with one XP, vP, being crossed.

#### 4.1.2 Temporal and locational phrases

The target of FQ in (31) is TP-level temporal phrase, *jintian* 'today', situated at the T'-adjoined position. The target first raises to SpecCP2 prior to TP ellipsis, which is licensed by [E] feature in C<sub>2</sub> as in (32). After the features ([*tF*\*, *tWH*\*]) in [E] on C<sub>2</sub> are syntactically licensed by the raising target and the final particle *ne*, respectively, TP can be deleted. The same analysis can apply to the FQ with place adverb in (9).

- (31) A: Zhangsan mingtian yao qu kan zhanlan.  
 Zhangsan tomorrow will go see exhibition  
 'Zhangsan will go to the exhibition tomorrow.'  
 B: Jintian [<sub>TP</sub> Zhangsan yao qu kan zhanlan] ne?  
 today Zhangsan will go see exhibition Part  
 'What about today?'

(32)



The extraction of temporal and locational phrases from T'-adjoined position to SpecCP<sub>2</sub> does not violate the PIC, since TP is not a phase. Besides, the raising does not violate the anti-locality (cf. Abels 2003 and Bošković 1994, 1997, 2005), for two reasons: (i) The phase head, C, allows a constituent to move out of its complement and (ii) only one XP (TP) is crossed.

#### 4.1.3 NP in object position

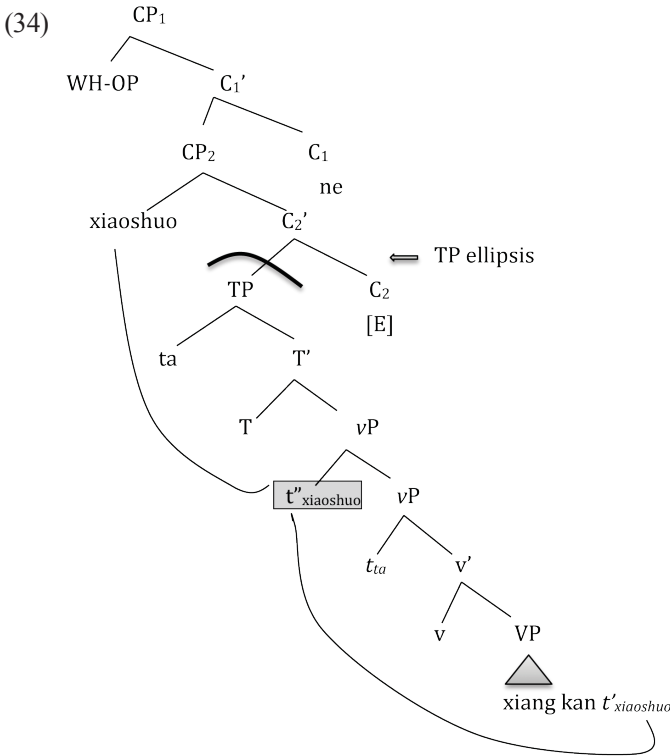
The FQ in object position in (33) seems to pose a problem to the movement and ellipsis analysis, mainly because the object will compete with the subject for the landing site at the clause-internal phase edge, SpecvP, in terms of the PIC. Such a competition is expected to lead to ungrammaticality, contrary to fact.

- (33) A: Ta xiang kan *zhazhi*.  
 he want read magazine  
 'He wants to read magazines.'  
 B: *Xiaoshuo* [<sub>TP</sub> ta xiang kan ] ne?  
 novel he want read Part  
 'What about novels?'



We suggest that Chomsky’s (2001, 2005) outer specifier analysis of *vP* (or multiple *vP* specifier analysis) may solve the problem. The PIC requires that the movement of object position to  $\text{SpecCP}_2$  must proceed through the phase edge,  $\text{SpecvP}$ . Given Chomsky’s (2001, 2005) ideas, the target can also land at the outer specifier of the *vP* projection, which, we assume, is the outer  $\text{SpecvP}$  position.<sup>11</sup> That is, the object can move to the outer specifier of *vP* to avoid collision with the subject and to eschew the violation of the PIC. Meanwhile, the “long” movement (from the object position to outer  $\text{SpecvP}$ ) does not violate the anti-locality condition, for the phase head *v* allows a constituent to move out of its *c*-command domain *VP* (Abels 2003, Bošković 2005).

More specifically, after *T* merges with *vP*, the subject *ta* ‘he’ can further internally merge to  $\text{SpecTP}$ . Next, after  $C_2$  is merged with *TP*, the object target, *xiaoshuo* ‘novel’, is raised to the  $\text{SpecCP}_2$  prior to *TP*-ellipsis, as illustrated in (34).

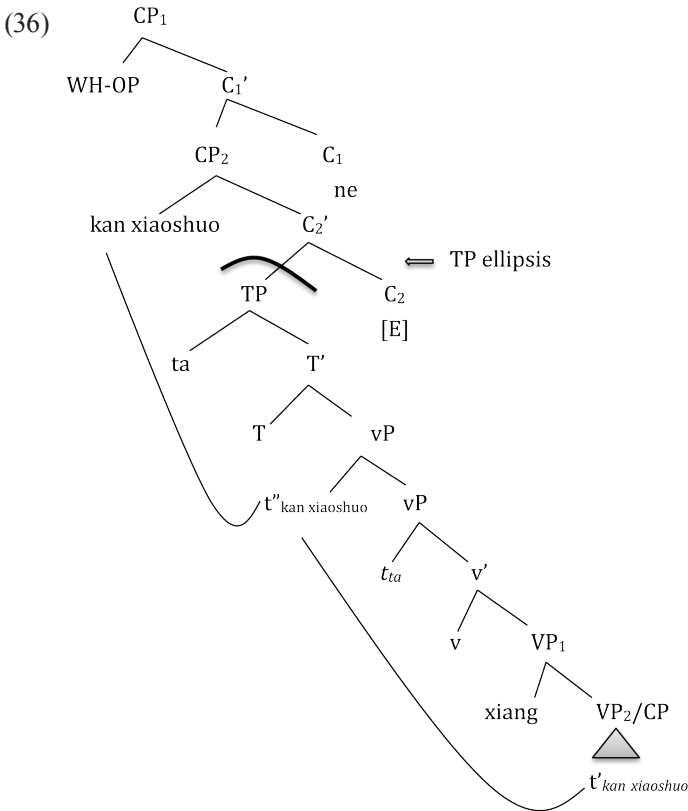


<sup>11</sup> Gengel (2007, 2009) also proposes a similar analysis on movement. Besides, Funakoshi (2012) asserts that typologically speaking, Chinese should allow both multiple *TP* specifiers (multiple subjects) and multiple *vP* specifiers to be the landing sites for the elements raised from the lower positions.

4.1.4 Verbal phrases

Verbal FQ is also under our prediction. The PIC requires that the extracted VP must proceed through Spec<sub>v</sub>P in (35-36). Under Chomsky’s (2001, 2005) and Gengel’s (2007, 2009) analyses, the verbal target can go through the outer Spec<sub>v</sub>P to avoid competing with the subject. As illustrated in (36), the target VP, being the complement of the control verb *xiang* ‘want’ in a serial verb structure, is far away from the outer Spec<sub>v</sub>P with at least VP<sub>1</sub> intervening. Thus, the fronting of VP observes anti-locality, since the intervening verb such as *xiang* ‘think’ helps to evade the violation of the “closeness” constraint.

- (35) A: Ta *xiang kan xiaoshuo*.  
 he want read novel  
 ‘He wants to read novels.’  
 B: [<sub>VP</sub> Xie gongke] [<sub>TP</sub> ta ~~xiang~~] ne?  
 writing assignment he want Part  
 ‘What about writing assignment?’



What if the element in the middle field such as *xiang* ‘think’ is removed? The sentence turns out to be awkward in (37), due to the fact that the complement of phase head  $v$ , the whole VP, directly moves through SpecVP. Such kind of ‘short’ movement violates the anti-locality as in (38).

- (37) A: Ta *zai kan xiaoshuo*.  
 he Prog read novel  
 ‘He is reading a novel.’  
 B: ?<sub>[VP Xie gongke]</sub> [<sub>TP ta zai</sub>] ne?<sup>12</sup>  
 write assignment he Prog Part  
 ‘What about writing assignment?’
- (38) \*...<sub>[VP [VP xie gongke] [VP t<sub>VP</sub> ]]</sub>  
 write assignment

#### 4.1.5 Clause

Regarding the FQ in the form of a TP clause in (39), if our analysis is on the right track, the clause FQ should be ruled out. That is because TP is the complement of the phase head C. Given the PIC, the TP has to proceed through SpecCP. However, the distance from the complement TP to SpecCP is too short, violating the anti-locality as shown in (40). Thus, the sentential FQ reading parallel to linguistic antecedent is not available in (39).<sup>13</sup> The same violation can be found in English example (41) (Abels 2003).

- (39) A: Zhangsan *xiangxi* [shuo [Lisi *hui lai*]].<sup>14</sup>  
 Zhangsan believe say Lisi will come  
 ‘Zhangsan believes that Lisi will come.’  
 B: \*Lisi *bu hui lai* ne?  
 Lisi not will come Part  
 ‘What about Zhangsan’s belief that Lisi will not come?’
- (40) \*<sub>[CP TP<sub>i</sub> [C' C t<sub>i</sub> ]]</sub> (Abels 2003, Bošković 2005, to appear a)
- (41) \*<sub>[His mother likes Mary]<sub>i</sub></sub> everyone believes that t<sub>i</sub>. (Abels 2003)

#### 4.2 Adverbial FQs

<sup>12</sup> The aspectual marker *zai* may be the head of AspP in Chinese. So far, this projection does not seem to affect the result of this analysis. In fact, FQ cannot appear in certain realis contexts. The relevant issue will be discussed in Section 7.2.

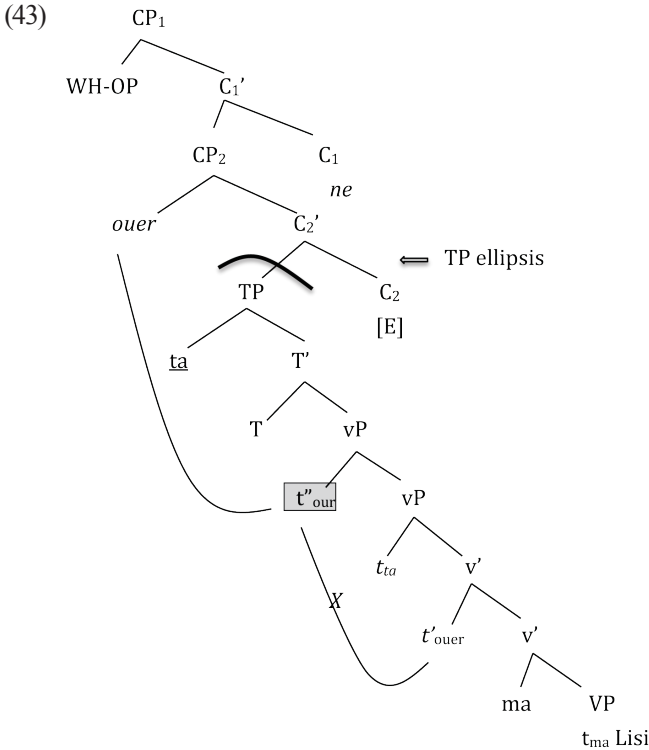
<sup>13</sup> In certain context, the FQ may yield conditional reading, ‘If Lisi does not come, what will Zhangsan do’ or ‘what if Lisi will not come?’. We consider it as a type much closer to the FQ without linguistic antecedent. Given Merchant’s (2004: 716-732) FA analysis, interpretations beyond linguistic antecedent in English FA cannot directly be derived from ellipsis. Thus, the extra reading such as conditional reading might come from certain “uncontrollable” pragmatic and discourse factors. We leave this type for further research.

<sup>14</sup> The word *shuo* ‘say’ has been claimed to serve as a complementizer in Chinese, just like *guong* ‘say’ in Taiwanese (Tang 1989: 539).

4.2.1 Frequency and manner adverb

Frequency and manner adverbs, different from temporal and locational phrases, prohibit the formation of FQ. The frequency adverb in (42) adjoins to the *v'* within the lower *vP*, which means that the extraction out of *vP* to SpecCP<sub>2</sub> needs to cross the clause-internal phase edge, Spec*vP*, according to the PIC, as illustrated in (43). But the phase edge has been occupied with the subject *ta* ‘he’. To avoid such a conflict, we propose that the landing site of this target movement can be the outer specifier of the *vP* projection or the *vP*-adjoined position. *Prima facie*, the extraction of the adverb obeys the PIC. The sentence should be grammatical, contrary to fact.

- (42) A: Ta *changchang* ma Lisi.  
 he often scold Lisi  
 ‘He often scolds Lisi.’  
 B: \*Ouer<sub>i</sub> [<sub>TP</sub> *ta t<sub>i</sub> ma* — Lisi] ne?  
 Occasionally he scold Lisi Part  
 ‘Occasionally?’



We find that although the raising of frequency (or manner) adverb eschews the PIC violation, the movement to the outer projection of *vP* still disobeys the

anti-locality. The distance of raising from the  $v'$ -adjoined position to outer Spec $vP$  is “too short” to cross a phrasal boundary (Abels 2003, Bošković 1994, 1997, 2005, to appear a, Saito & Murasugi 1999, Grohmann 2000, 2003, Ticio 2003, Boeckx 2005, etc.). This is exactly an example where the PIC and anti-locality successfully “conspire” to rule out an illicit sentence (Bošković 2013). On the one hand, the PIC requires the extracted adverb to move through the outer Spec $vP$ ; on the other, anti-locality blocks such a short movement. The similar conspiracy is also evidenced by the illegitimate extraction of the English adverb *well* (Bošković 2013) in (44). The extraction of the adjunct from the VP-adjoined position to the  $vP$  edge does not cross a maximal projection VP, as shown in (45) (Haegeman 1994: 387). The short movement leads to ungrammaticality, explaining why the adverb cannot be raised to the prominent topic position *via* the  $vP$  edge.

- (44) a. John plays well.  
b. \*Well, John plays.

- (45) Well<sub>j</sub>, John [<sub>vP</sub> \*t<sub>j</sub> play<sub>i</sub> [<sub>VP</sub> [<sub>VP</sub> t<sub>i</sub> ] t<sub>j</sub> ]]

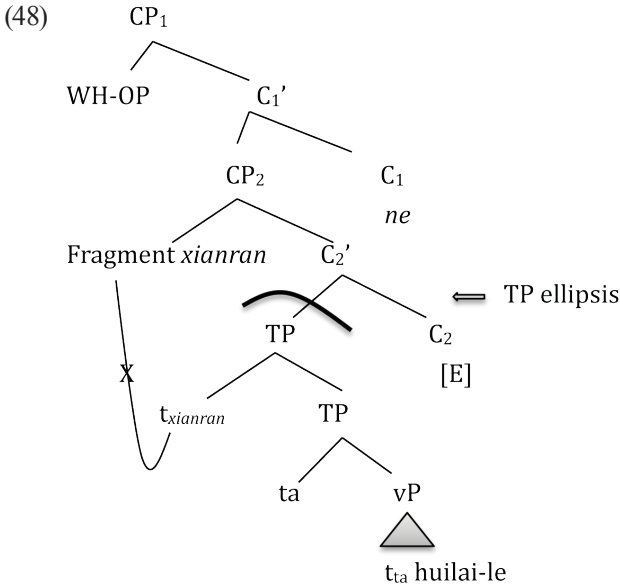
Thus far, we have shown that the PIC and anti-locality conspire to prevent the frequency adverb at the  $v'$ -adjoined position from moving to the SpecCP<sub>2</sub> *via* the outer projection of  $vP$ , prior to TP ellipsis in (42). The same scenario also happens to the manner adverbs, situated at the position between  $vP$  and VP, repeated in (46).

- (46) A: Zhangsan *hen kuai-de xie-le yi-feng xing*.  
Zhangsan very fast-DE write-Asp one-Cl letter  
'Zhangsan has fast finished writing a letter.'  
B: \**Manman-de<sub>i</sub> [<sub>TP</sub> Zhangsan t<sub>i</sub> xie-le — yi-feng xing]* ne?  
slow-DE Zhangsan write-Asp one-Cl letter Part  
'What about slowly?'

#### 4.2.2 Sentential adverb

Sentential adverbs, such as *dagai* ‘probably’ and *xianran* ‘obviously’ in (47), fail to form FQ. This failure is not beyond our prediction. We assume that the sentential adverbs are adjoined to TP. Hence, the distance of the movement from TP-adjoined position to SpecCP<sub>2</sub> is too short a distance to be tolerated by the anti-locality as illustrated in (48).

- (47) A: Ta *dagai hui lai*.  
he probably will come  
'He probably will come.'  
B: \**Xianran<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> ta hui lai]* ne?  
apparently he will come Part  
'What about apparently?'



#### 4.2.3 Modal

Intriguingly, either epistemic or deontic modals are banned to fit FQ with linguistic antecedent in (49-50).<sup>15</sup>

(49) A: Ta bu *yinggai/keneng/hui* mai zhe-dong fangzi. [\*Epistemic modal]  
 he not should possible will buy this-Cl house  
 ‘He should/may/will not buy this house.’

B: \**Yinggai/\*keneng/\*hui* ne?  
 should/possible/will Part

(50) A: Ta bu *neng/ken* mai zhe-dong fangzi. [\*Deontic modal]  
 he not can willing buy this-Cl house  
 ‘He can/is willing to buy this house.’

B: \**Neng/\*ken* ne?  
 can/willing Part

Lin and Tang (1995) have convincingly argued that epistemic and deontic modals in Chinese are raising and control verbs, respectively. That is, they are virtually verbs, heading their own projections. As we have discussed in Section 3, only syntactic constituents, such as DP in the subject and object position, PP, VP, and even TP, can be moved as a target to form FQ. Accordingly, the modal as a head does not meet this requirement. That is why modals cannot form FQ.

<sup>15</sup> In certain context, the deontic modals can be used as an FQ with conditional meaning ‘what if he can/is willing to buy this house?’. We consider it to be the pragmatic type of FQ.

### 4.3 Challenges

#### 4.3.1 Floating adverbs

We have shown that target movement and TP ellipsis can successfully interpret the grammatical FQs, such as nominals in subject and object position, temporal and locational phrases, and verbal phrases. Besides, it also can rule out the ungrammatical FQs, such as sentential adverbs, frequency/manner adverbs, and modals in terms of the PIC and anti-locality. So far, we have tried to explain the illicit adverbial FQs through the proposed locality conditions. Feasible as it is, our analysis still faces challenges from the floating property of adverbs.

As pointed out by the reviewers, the frequency adverb can sometimes reside in a position higher than *vP* as in (51a) or even in the initial position of a clause as in (51b). In the former case, the adverb is likely to be in the *T'*-adjoined position, similar to the temporal/locational phrases. If that is the case, then the frequency adverb FQ should be licit, contrary to fact. This poses a problem. We will discuss it later.

- (51) a. Ta *ouer* hui manman-de chi.  
 he occasionally will slow-DE eat  
 ‘Occasionally, he will eat slowly.’  
 b. [<sub>TP</sub> Ouer [<sub>TP</sub> ta qu Taipei].  
 Occasionally he go Taipei  
 ‘Occasionally, he goes to Taipei.’

Let’s first take a look at (51b). In view of the derivational process of the adverbial position in (51b), *ouer* ‘occasionally’ can be derived either by base-generation or by movement. Given that the TP-adjoined position of the sentential adverb in (47B) is correct, we can assume that the frequency adverb in (51b) can be situated at the TP-adjoined position. In that sense, the extraction of the target from the TP-adjoined position to SpecCP<sub>2</sub> is too short to be sanctioned by the anti-locality in forming FQ.

In addition, a reviewer has raised more examples in (52), showing that these sentential adverbs are situated at the position even higher than the topic *na-ben shu* ‘that book’. It means that they are structurally higher than the TP-adjoined position. Given that these adverbs reside in the TopP-adjoined position higher than TP as in (53), we can correctly predict that the raising distance between TopP-adjoined position and SpecCP<sub>2</sub> is too short to cross one maximal projection. Hence, the raising of these sentential adverbs to SpecCP<sub>2</sub> should be prohibited as predicted.

- (52) [<sub>Top</sub> Xianran/dagai/ houxu [<sub>TopP</sub> na-ben shu [<sub>TP</sub> ta hui mai]].  
 obviously probably perhaps that-Cl book he will buy  
 ‘Obviously/probably/perhaps, that book, he will buy.’

- (53) \*<sub>[CP<sub>2</sub> Xianran/dagai/houxu [<sub>TopP</sub> t [<sub>TopP</sub> [<sub>TP</sub>... ]]]]</sub>

The floating property of FQ also appears in modals, such as *keneng* ‘possible’. As discussed in (49), *keneng*, as an epistemic modal, is a verbal head, not eligible to form FQ. However, when *keneng* appears in the initial position of a clause as in (54), it behaves like a sentential adverb, which is probably adjoined to the TP-level clause. Under this circumstance, the target raising fails due to the short distance between TP-adjoined position and SpecCP<sub>2</sub>.

- (54) [<sub>TP</sub> Keneng [<sub>TP</sub> ta yijing likai le]].  
           possibly he already leave Asp  
           ‘Possibly, he has already left.’

Thus far, our analysis successfully predicts that the adverbs appearing in *v*’, TP-adjoined, or even TopP-adjoined positions cannot form FQ, since their raising violates anti-locality. But we fail to exclude the cases in which the frequency adverbs might appear in the T’-adjoined position as in (51a). Regarding this dilemma, we propose a possible explanation, based on the essential property of the adverb.

In fact, adverbial FQs are unanimously ruled out no matter where they are situated. It implies that their prohibition in forming FQ is closely related to one property of adverbs: an adverbial element cannot be raised to a focused position. This observation can be evidenced by the *lian ... dou* focus construction in Chinese (Shyu 1995). We find that the paradigm of *lian ... dou* regarding the distribution of focus element is exactly equivalent to that of FQ.<sup>16</sup> For instance, (55)-(58) show that argument DP, VP, and temporal/locational phrases can be fitted in *lian ... dou* structure.

- (55) a. Zhangsan mei lai.  
           Zhangsan has.not come  
           ‘Zhangsan has not come.’  
       b. Lian Zhangsan dou mei lai.           [Subject DP]  
           LIAN Zhangsan DOU has.not come  
           ‘Even Zhangsan has not come.’
- (56) a. Zhangsan chi pingguo.  
           Zhangsan eat apple  
           ‘Zhangsan eats apples.’  
       b. Lian pingguo Zhangsan dou chi.       [Object DP]  
           LIAN apple Zhangsan DOU eat  
           ‘Even apples, Zhangsan eats.’
- (57) a. Zhangsan bu hui da lanqiu.  
           Zhangsan not can play basketball  
           ‘Zhangsan cannot play basketball.’

<sup>16</sup> Adverbs in Chinese can still appear in some focus positions, such as the sites after the cleft *shi* ‘be’ or *zhishi* ‘only be’. In that sense, the focus position within *lian ... dou* construction is quite unique.



- b. Lian *da lanqiu* Zhangsan dou bu hui. [VP]  
LIAN play basketball Zhangsan DOU not can  
'Zhangsan cannot even play basketball.'
- (58) a. Zhangsan zai jia/ zoutian kan-le san-ben shu.  
Zhangsan at home yesterday read-Asp three-Cl book  
'Zhangsan read three books at home/yesterday.'
- b. Lian *zai jia/ zoutian* Zhangsan dou kan le san-ben shu.  
[Time/location]  
LIAN at home yesterday Zhangsan DOU read Asp three-Cl book  
'Even at home/yesterday, Zhangsan read three books.'

In contrast, a manner adverb, sentential adverb, and verbal head in (59)-(61) are prohibited, respectively.

- (59) a. Zhangsan manman-*de* xie-le yi-feng xing.  
Zhangsan slow-DE write-Asp one-Cl letter  
'Zhangsan has slowly finished writing a letter.'
- b. \*Zhangsan lian *manman-de* dou xie-le  
Zhangsan LIAN slow-DE DOU write-Asp  
yi-feng xing. [\*Manner adverb]  
one-Cl letter
- (60) a. *Ouer/ xianran/ dagai/ huoxu/ keneng* Zhangsan hui lai.  
occasionally obviously probably perhaps possibly Zhangsan will come  
'Occasionally/obviously/probably/perhaps/possibly, Zhangsan will come.'
- b. \*Lian *ouer/ xianran/ dagai/ huoxu/ keneng* Zhangsan  
LIAN occasionally obviously probably perhaps possibly Zhangsan  
dou hui lai.  
DOU will come
- (61) a. Zhangsan likai le xuexiao.  
Zhangsan leave Asp school  
'Zhangsan left school.'
- b. \*Zhangsan lian *likai* dou le xuexiao. [V]  
Zhangsan LIAN leave DOU Asp school

The similarities between *lian ... dou* focus structure and FQ reveal that the prohibition of the adverbial group in FQ can be attributed to the fact that an adverb (phrase) cannot be moved to the focused position. This generalization can also be applied to rule out the following adjunct clause FQ.

- (62) A: Zhangsan [yiwei changchang chidao] bei tuixue.  
Zhangsan because often late BEI leave.school  
'Zhangsan left school because of his lateness for classes.'

- B: \*[*Yiwei chengji bu hao*] *ne*?  
 because grade not good Part  
 ‘What about because his grade is not good?’

In brief, regarding (51a) with a frequency adverb in the T’-adjoined position, though the locality conditions might not exclude its FQ formation, we can say that the frequency adverb FQ, similar to the other adverbial FQs, violates a basic tenet of adverb, which prohibits an adverbial element from being raised to a focused position.

#### 4.3.2 Recoverability

The deletion analysis of FQ faces a great challenge in recoverability. The elided part of FQs in (63-4) cannot be faithfully restored, unlike English sluicing in (65). The non-elliptical structure of FQ is virtually not acceptable, violating the recoverability on ellipsis. Below we will argue that though (63B) and (64B) are not grammatical in the non-elliptical forms, the FQs are indeed derived from focus movement and TP-ellipsis.

- (63) A: *Zhangsan huilai-le*.  
 Zhangsan back-Asp  
 ‘Zhangsan has already come back.’  
 B: ??[*Lisi*] [*t huilai-le*] *ne*?  
 Lisi back-Asp Part  
 ‘What about Lisi? (Did Lisi come back?)’
- (64) A: *Ta zai xuexiao bu kan shu*.  
 he at school not read book  
 ‘He does not read books at school.’  
 B: ??[*Zai jia*] [*ta t bu kan shu*] *ne*?  
 at home he not read book Part  
 ‘What about at home? (Didn’t he study at home?)’
- (65) John saw someone, and I wonder who (he saw).

In fact, the failure of recoverability is due to the fact that each of (63B) and (64B) lacks a *wh*-element to form a grammatical constituent question. The final particle *ne* alone cannot constitute a constituent question. Even so, the elided part in both cases can still find its parallel correlate in the antecedent clause. It means that the deleted element is “given” information in the context. The reason that the reconstructed FQ is ungrammatical is that the crucial *wh*-word is not pronounced but just implied in FQ. In fact, (63B) and (64B) can be re-interpreted as (66a) and (66b), respectively, in which the unpronounced *wh*-element *shifou* ‘whether’ is merely covertly realized. To this point, we propose that the *wh*-word might be syntactically represented by a covert *wh*-operator (Wh-OP) in the SpecCP<sub>1</sub> as in (25).

- (66) a. Shifou Lisi ye huilai-le ne?  
 whether Lisi also come-Asp Part  
 ‘Whether it is the case that Lisi also has come back.’  
 b. Shifou ta zai jia ye bu kan shu ne?  
 whether he at home also not read book Part  
 ‘Whether it is the case that he didn’t read books at home.’

Even though the structure underlying the FQ is not utterly isomorphic to the antecedent clause, we believe that FQ is still interpretable for certain reasons. Regarding the form-meaning mapping, Merchant (2001, 2004) has claimed that no current ellipsis theories can require strict syntactic identity between antecedent and elided part. This can be seen from a large number of elliptical structures displaying different degrees of deviation between antecedents and the elided materials in FA (fragment answer) among languages. For instance, in (67), the *wh*-word *dare-ga* ‘who’ in Japanese is case-marked with a nominative case; however, its FA cannot bear any case-marker in (67A1). In fact, the recovered sentence containing non-case-marked FA is unacceptable in (67A2). The mismatch in case-marking arises in FA, too.

- (67) Q: Dare-ga sono hon-o yonda-no? (Merchant 2004: 694)  
 who-Nom this book-Acc read-Q  
 ‘Who read this book?’  
 A1: Keiko.  
 Keiko  
 A2: \*Keiko yonda.  
 Keiko read  
 ‘Keiko read it.’

Further, the mismatch between question and answer also occurs in English FA and Korean FA. In (68), the predicate answer *washed* has to be affixed with the past tense *-ed*, which is not syntactically isomorphic to the bare form *do* in the question. In addition, a pronominal object *it* is required in (68A1). When the FA is syntactically recovered, the structure in (68A2) is virtually not grammatical. In this case, the discrepancy lies in the tense-marker and pronominal.

- (68) Q: What did she do with the spinach? (Merchant 2004:698-700)  
 A1: Washed \*(it).  
 A2: \*She did [wash(ed) it] with the spinach.

As to the Korean FA in (22), as repeated below, the particle *-yo* cannot be attached to the adverb *yeki* ‘here’ in non-elliptical sentence in (22a), but it can in FA in (22bB).

- (22) a. Kapang-I yeki(\*-yo) isse-yo.  
 bag-Nom here(\*-YO) exist-YO  
 ‘Here is the/a bag.’

- b. A: Kapang-i eti iss-e?  
       bag-Nom where exist-Q  
       ‘Where is the bag?’  
 B: Palo yeki-yo.  
       right here-YO  
       ‘Right here.’

The above examples reveal that, as Merchant (2004) has argued, the discrepancies between question and FA do not constitute counterexamples to the ellipsis analysis, mainly because ellipsis counts on other constraints on parallelism, such as semantic parallelism, which can tolerate such discrepancies in form.

Back to the mismatches in FQ, in line with this trend, we propose that some deviations between the underlying form of FQ and the antecedent clause will also be tolerated in terms of semantic considerations on parallelism (Merchant 2001, 2004). Thus, the form-meaning mismatch of FQ, which only contains a covert form of *wh*-operator instead of an overt *wh*-word, cannot be considered an exception in the elliptical tradition.

## 5. FQ in complex structures

Locality effect is often taken as a syntactic diagnostic for movement. It follows that if FQ manifests island effect, then we can say that the target undergoes certain kinds of movement. This section shows that the proposed analysis can explain why FQ is sensitive to CNPC, *wh*-islands, and adjunct-islands. Besides, island-sensitivity in FQ indicates that TP ellipsis cannot virtually repair islands, posing a problem to deletion at PF analysis (Merchant 2001, 2008, Fox and Lasnik 2003, Lasnik 2007, Hoji and Fukaya 2001, Johnson 2001, etc.).

Below, the Bare Phrase Structure (Chomsky 1995) will be adopted to explain this quandary. Along this vein, a clause is built up in a bottom-up fashion by means of Merge, Copy, and Delete. Further, we propose that ellipsis occurs in syntax in line with Baltin (2007, 2012) rather than at PF (Merchant 2001, 2004). We will argue that once the target movement fails to reach SpecCP<sub>2</sub> prior to TP ellipsis or leave an uninterpretable feature unchecked (Funakoshi 2011), the FQ will crash. However, there are some FQs which are insensitive to islands, such as the sentential subject island and left branch condition. We contend that the apparent island repair can be ascribed to the general properties independently available in each structure instead of the TP deletion.

### 5.1 Complex NP island

FQ within complex NP island as in (69B) is not allowed. In a bottom-up fashion, the target *Lisi* raises from the subject position of the relative clause, goes through intermediate maximal projections such as CP, DP, *v*P, and TP, and finally reaches the matrix SpecCP<sub>2</sub>, to check off the [E]-feature in C<sub>2</sub>. The PF-deletion analysis (Merchant 2001, 2008, Aelbrecht 2009, 2010) will predict that all the island-crossing traces (\*-traces) (cf. Fox and Lasnik 2003, Merchant 2008) or all the

uninterpretable features could be repaired or erased by virtue of the matrix TP-ellipsis, as shown in (69B). The FQ should be grammatical, contrary to fact.

- (69) A: Ta zhaodao [<sub>DP</sub> [<sub>CP</sub> Zhangsan zui ai de] bi].  
 he find Zhangsan most like DE pen  
 ‘He found the pen that Zhangsan likes most.’  
 B: \*Lisi [<sub>FP</sub> ta [<sub>FP</sub> zhaodao [<sub>DP</sub> [<sub>CP</sub> [<sub>FP</sub> t<sub>Lisi</sub> zui ai de] bi]]] ne?  
 Lisi he find most like DE pen Part  
 ‘What about Lisi?’

To explain the lack of island repair with respect to the CNPC, we propose that the island violation of target raising cannot be nullified by deletion at PF, but deletion in syntax.

As required by the PIC, the target *Lisi* at SpecTP raises to the embedded SpecCP, an escape hatch. To cross the complex NP island, the target *Lisi* must proceed through SpecDP, a phase domain, according to Bošković (2005, to appear a).<sup>17</sup> Here, the analysis of Chinese relative clause plays a crucial role in accounting for the island violation. Two alternative analyses can be identified: (i) The operator movement analysis (Huang 1982) and (ii) the LCA analysis (Simpson 2003, Kayne 1994). The operator movement can explain the island effect in (69), whereas the LCA analysis cannot.

First, relative clause in Chinese can be formed by moving a null operator to SpecCP (Huang 1982). Given this analysis, since the SpecCP has already been occupied by the null operator, the movement of the target *Lisi* to the escape hatch will be blocked as shown in (70). Thus, the PIC can naturally explain the CNPC violation.

- (70) [<sub>DP</sub> [<sub>D'</sub> D [<sub>\*CP</sub> OP [<sub>TP</sub> Lisi zui ai de] [<sub>NP</sub> bi ]]  
 Lisi most like DE pen

Alternatively, if we adopt Simpson’s analysis (2003) of relative clause, the island effect is supposed to disappear, contrary to fact. In this analysis, relative marker *de* as a D head will take a CP complement in (71a). The object *bi* ‘pen’ first undergoes raising to SpecCP in (71b). After that, the whole TP (IP) further moves to SpecDP to derive the right word order in (71c). Given that DP is a phase domain (Bošković 2005), this analysis predicts that the extraction of target *Lisi* out of the TP in the edge SpecDP to the next phase edge, SpecvP, is legitimate. Accordingly, the raising to SpecCP<sub>2</sub> should be eligible as well. However, this prediction is not borne out.

<sup>17</sup> Given Bošković’s DP/NP analysis (2005, to appear a), DP is a phase head but NP is not. In terms of the PIC and anti-locality conspiracy, AP cannot raise to SpecDP in (ia) due to anti-locality. On the other hand, the AP cannot directly extract out of DP, which will violate the PIC as in (ib).

- (i) a. \*<sub>[DP</sub> AP<sub>i</sub> [<sub>D'</sub> D [<sub>NP</sub> t<sub>i</sub> [<sub>NP</sub> ... ]]] (\*anti-locality violation)  
 b. \*AP<sub>i</sub> [<sub>DP</sub> [<sub>D'</sub> D [<sub>NP</sub> t<sub>i</sub> [<sub>NP</sub> ... ]]] (\*PIC violation)

- (71) a. [<sub>DP</sub> [<sub>D'</sub> de [<sub>CP</sub> Lisi zui ai bi ] ] (Simpson 2003)  
 b. [<sub>DP</sub> [<sub>D'</sub> de [<sub>CP</sub> bi [<sub>TP</sub> Lisi zui ai t<sub>bi</sub>]]]  
 c. [<sub>DP</sub> [<sub>TP</sub> Lisi zui ai t<sub>bi</sub>]<sub>i</sub>] [<sub>D'</sub> de [<sub>CP</sub> bi ] t<sub>i</sub>]]

Thus, based on the null operator movement of relative clause, we suggest that the raising of the target *Lisi* is blocked by the null operator in the embedded SpecCP. At the point when *ne* in C<sub>1</sub> merges with CP<sub>2</sub>, the target *Lisi* is still within the range of TP ellipsis, failing to raise to SpecCP<sub>2</sub>, prior to TP ellipsis. That is why island repair effect does not work and why the formation of FQ fails. Thus, from the perspective of the timing of deletion, deletion early in syntax, claiming that deletion occurs in the process of computation (Baltin 2007, 2012), supersedes deletion late at PF (Merchant 2001, 2008) in dealing with Chinese FQ within CNPC.<sup>18</sup>

## 5.2 *Wh*-island

FQ is sensitive to the *wh*-island, a violation which cannot be remedied by TP ellipsis under PF deletion. We will claim that such a violation is caused by the failure of feature checking before Spell-Out or by the illicit extraction out of the embedded CP domain prior to TP ellipsis.

As required by the PIC, the target *Lisi* at SpecTP moves to the embedded SpecCP to escape the CP phase. Then, it passes through the vP phase and arrives at SpecCP<sub>2</sub> in (72). It seems that in this process there is no locality violation involved. The sentence should be legitimate, contrary to fact. The movement virtually leaves one feature unchecked.

- (72) A: Ta zhidao [*Zhangsan* weishenme meiyou huilai].  
 he know Zhangsan why not.have back  
 'He knows why Zhangsan has not come back.'

<sup>18</sup> Deletion in syntax not only can explain island violation in FQ, but also can be used to unravel the ban on the missing argument in (i).

- (i) \*Zhangsan si-le yi-tiao yu; Lisi ye [<sub>VP</sub> si-le [<sub>VP</sub> t<sub>si</sub> yi-tiao yu]].  
 Zhangsan die-Asp one-Cl fish Lisi also die-Asp one-Cl fish  
 'Zhangsan had a fish died; Lisi also died.'

Li (2012) observes that sentences involving missing argument in (i) are not acceptable because the internal object, *yi-tiao yu* 'a fish', needs to combine with the one-argument verb, *si* 'die', to license the additional argument, *Lisi* (Huang 2007). Thus, once the internal object deletes, the sentence will be ruled out. This implies that if deletion occurs at PF, the external subject should be licensed in narrow syntax and the VPE should be licit, contrary to fact. Given that the size of V-stranded VPE in Chinese is VP, we propose that the second conjunct can be built up in a bottom-up fashion under Bare Phrase Structure as (iia-d). The VP will be deleted along with the internal object. Thus, VP ellipsis fails the licensing of additional argument *Lisi*.

- (ii) a. Create VP.  
 b. Merge DP *yi-tiao yu* to SpecVP, closing off VP.  
 c. Merge v with VP.  
 d. Internally merge V to v.  
 e. Delete VP.

B: \*Lisi [<sub>TP</sub> ~~ta~~ [<sub>VP</sub> ~~zhidao~~ [<sub>CP</sub> [<sub>TP</sub> ~~t<sub>Lisi</sub>~~ ~~weishenme~~ ~~meiyou~~ ~~hui lai~~]]]]] ne?  
 Lisi he know why not.have back Part  
 ‘What about Lisi?’

(73) Zhidao [<sub>CP</sub> Lisi [<sub>C</sub> \*C<sub>[uWH]</sub> [<sub>TP</sub> t<sub>Lisi</sub> weishenme ]]]  
 know Lisi why

As shown in (73), the matrix verb *zhidao* ‘know’ selects a [+WH] CP complement. If the target *Lisi* raises to the embedded SpecCP, it will prevent the interpretable [+WH] of *weishenme* ‘why’ from being checked with the uninterpretable feature [*uWH*] in C. At this juncture, we suggest that Funakoshi’s (2011) cyclic spell-out analysis can help explain why (73) is not feasible. He argues that once a syntactic object containing unchecked, uninterpretable features is spelled out, the derivation will crash. In other words, even if *Lisi* in (72) can raise to SpecCP<sub>2</sub>, the complement CP still contains one offending uninterpretable feature [*uWH*] in C, which causes the sentence to crash when spelled out. Thus, *weishenme* ‘why’ in (73) is invisible to [*uWH*] owing to the blocking of the target movement. From the other way around, if the *wh*-word first checks with the [*uWH*] in the embedded C, then the raising of the target will be blocked by the copy of the *wh*-word. Thus, the target cannot move out of CP prior to TP ellipsis. So, either way can explain why the *wh*-island repair is inactive.

### 5.3 Adjunct island

The absence of repairing effect with respect to adjunct island is unsurprising, too. As illustrated in (74), the target *tade mama* ‘his mother’ cannot be extracted from within the subject position of an adjunct clause. In particular, such a violation cannot be salvaged by TP ellipsis in syntax.

(74) A: Zhangsan [yinwei tade baba bu zhichi] cai fangqi yinyue.  
 Zhangsan because his father not support then give.up music  
 ‘Zhangsan gave up learning music because of the lack of his father’s support.  
 B: \*Tade mama [<sub>TP</sub> Zhangsan [<sub>CP</sub> yinwei [<sub>TP</sub> t<sub>tade-mama</sub> bu zhichi]]  
 his mother Zhangsan because not support  
 [<sub>VP</sub> cai fangqi yinyue]] ne?  
 then give.up music Part  
 ‘What about his mother?’

We suggest that (74) can be approached from two directions. One is by taking the view that the adverb *yinwei* ‘because’ is base-generated at the embedded SpecCP, so the raising of the target *tade mama* ‘his mother’ is obstructed by the adjunct. As a result, the target fails to reach the matrix SpecCP<sub>2</sub>, prior to TP ellipsis. The failure causes the FQ to crash. Second, we can assume that an adjunct clause can be thought of as a peripheral argument without a theta-role. In that sense, if the adjunct clause (CP) cannot obtain a theta-role, its SpecCP will be invisible to the upper probe. Even if the target can move to the embedded SpecCP, the derivation

of the FQ still crashes.

## 5.4 Island repair effect in disguise

### 5.4.1 Sentential subject island

The phase-based analysis along with deletion in syntax can explain why the sentential subject island is not violated in (75). Given the Bare Phrase Structure, in a bottom-up fashion, the building up of the FQ is listed in (76). At the point of creating embedded CP, the target *Lisi* extracts to the embedded SpecCP, and then the whole sentential subject merges with the matrix adjectival phrase *bijiao hao* ‘better’ at the SpecvP. As soon as T merges with vP to create TP, the whole sentential subject further raises to the SpecTP, from which the target in the embedded SpecCP further raises to the matrix SpecCP<sub>2</sub>, prior to TP deletion, without violating the PIC and anti-locality.

- (75) A: [*Zhangsan dai zai jiali*] *bijiao hao*.  
           *Zhangsan stay at home more good*  
           ‘It is more appropriate that Zhangsan stays at home.’  
 B: *Lisi* [<sub>TP</sub> [<sub>CP</sub> *t*<sub>Lisi</sub> [<sub>TP</sub> *t*<sub>Lisi</sub> *dai zai jiali*]]]<sub>i</sub> [<sub>vP</sub> *t*<sub>i</sub> *bijiao hao*]] *ne*?  
       *Lisi stay at home more good Part*  
       ‘What about Lisi?’

- (76) [<sub>CP1</sub> [<sub>CP2</sub> *Lisi* [<sub>TP</sub> [<sub>CP</sub> *t*<sub>Lisi</sub> [<sub>TP</sub> *t*<sub>Lisi</sub> ... ]]]]]]  
 a. *Lisi* internally merges to SpecCP.  
 b. Sentential subject CP merges to SpecvP.  
 c. T merges with vP to create TP.  
 d. Sentential subject CP internally merges to SpecTP.  
 e. The visible target *Lisi* raises to SpecCP<sub>2</sub>.  
 f. TP deletes.

### 5.4.2 Left branch condition

The fact that the Left branch condition seems repairable does not constitute a counterexample to our analysis. Regarding FQ in (77), we assume that the possessor *Lisi-de* ‘Lisi’s’ is situated in SpecDP, the phase edge (Bošković 2005). The possessive target can further move from the next edge SpecvP to the SpecCP<sub>2</sub>, prior to TP ellipsis.

- (77) A: *ta renshi* [<sub>DP</sub> *Zhangsan-de baba*].  
           *he know Zhangsan-DE father*  
           ‘He knows Zhangsan’s father.’  
 B: *Lisi-de* [<sub>TP</sub> *ta* [<sub>vP</sub> *t*<sub>renshi</sub> [<sub>DP</sub> *t*<sub>baba</sub>]]]] *ne*?  
       *Lisi-DE he know father Part*  
       ‘What about Lisi’s father? Does he know him?’

However, such a possessor extraction cannot be used to explain the ungrammatical extraction in the topic structure as in (78), which is supposed to be



licit if the step-by-step derivation is adopted as in (77), contrary to fact. Here, we face an analytical problem on the analysis of possessor extraction.

- (78) \*Lisi-de<sub>i</sub>, wo renshi [t<sub>i</sub> baba].  
 Lisi-DE I know father  
 ‘(lit.) Lisi, I know his father.’

To avoid such a discrepancy, we propose that the seeming repair effect in (77) can be attributed to the fact that the whole object DP, *Lisi-de baba* ‘Lisi’s father’, is pied-piped to raise to the outer SpecvP and further reaches SpecCP<sub>2</sub>. NP ellipsis follows after the TP ellipsis as illustrated in (79). The analysis can consistently explain why island repair effect is inactive in FQ within LBC.<sup>19,20</sup>

<sup>19</sup> Wei (2011) and Li and Wei (2014) have argued that the redemptive effect of the Left branch condition in Chinese sluicing is due to the *pro* construal, not deletion.

<sup>20</sup> A review has raised several questions regarding the existence of target raising from the viewpoint of relativization. First, the apparent island sensitivity in (14)-(16) is problematic by analogy with relativization. It is generally assumed that syntactic movement takes place in overt syntax in Chinese relative clauses; however, some islands within relative clauses, such as the *wh*-island in (i) and the adjunct island in (ii), do not block relativization.

- (i) (\*)[Zhangsan wen [t<sub>i</sub> weishenme mingtian bu lai de ]] na-ge ren<sub>i</sub>.  
 Zhangsan ask why tomorrow not come DE that-Cl person  
 ‘The person<sub>i</sub> that Zhangsan asked why he<sub>i</sub> won’t come tomorrow.’  
 (ii) ?[[Zoutian t<sub>i</sub> lai de shihou] women hai mei zou de] na-ge ren<sub>i</sub>.  
 yestersay come DE time we still has.not leave DE that-Cl person  
 ‘The person<sub>i</sub> who we hadn’t left when he<sub>i</sub> arrived yesterday.’

Further, the similar problem also appears in the island-insensitivity of (18)-(19). It seems that our proposed solutions to the insensitivity of the islands cannot explain why relativization out of a sentential subject comes out slightly better than that out of a left branch as in (iii) and (iv), respectively.

- (iii) ?[[t<sub>i</sub> dai zai jia li] bijiao hao de] na-ge ren<sub>i</sub>.  
 stay at home inside more good DE that-Cl person  
 ‘The person<sub>i</sub> that it is better for him<sub>i</sub> to stay at home.’  
 (iv) a. \*[ni renshi [t<sub>i</sub> baba ] de] na-ge ren<sub>i</sub>.  
 you know father DE that-Cl person  
 ‘the person whose father you know.’  
 b. \*\*[[t<sub>i</sub> baba] renshi Lisi de] na-ge ren<sub>i</sub>.  
 father know Lisi DE that-Cl person  
 ‘The person whose father knows Lisi.’

To solve these problems, we will follow Aoun & Li’s (2003: 178) suggestions that Huang’s (1982) *pro* analysis can capture why some cases of relativization out of islands are licit.

Aoun & Li (2003) argue that there are instances showing that relativization does not observe island conditions, especially when the violation always occurs within an island in the subject position or in a topic position as in (v). In contrast, when the island occurs in the object position, the relativization out of the island violates a locality condition as in (vi).

- (v) [[t<sub>i</sub> chuan de] yifu] hen piaoling de] na-ge ren<sub>i</sub>.  
 wear DE clothes very pretty DE that-Cl person  
 ‘The person<sub>i</sub> that the clothes he<sub>i</sub> wears is pretty.’  
 (vi) \*[wo xihuan [[t<sub>i</sub> chuan de] yifu] de] na-ge ren<sub>i</sub>.  
 I like wear DE clothes DE that-Cl person  
 ‘The person<sub>i</sub> that I like the clothes he<sub>i</sub> wears.’

(79) [<sub>CP1</sub> [<sub>CP2</sub> Lisi-de [<sub>NP</sub> baba] [<sub>TP</sub> ... [<sub>vP</sub> t<sub>Lisi-de</sub> baba [<sub>vP</sub> ... ]]]] ne]

### 5.5.3 Embedded clause

If our analysis is on the right track, then the complex structures without island intervened should be eligible to form FQ. This prediction is true in (80). The formation of FQ within the embedded clause does not show any blocking effect. Under the Bare Phrase Structure, the target *Lisi* can move to the embedded SpecTP and then to the embedded SpecCP, a phase edge. By adjoining to the outer specifier of vP projection to escape vP phase, it finally stops at the matrix SpecCP<sub>2</sub>, prior to TP ellipsis. The step-by-step derivation successfully predicts the legitimacy of the FQ within the embedded clause.

(80) A: ta zhidao [*Zhangsan* yao qu meigu].

he know Zhangsan will go U.S.

‘He knows that Zhangsan will go to the U.S.’

B: [<sub>CP1</sub> [<sub>CP2</sub> *Lisi* [<sub>TP</sub> ta [<sub>vP</sub> t<sub>Lisi</sub> [<sub>vP</sub> zhidao [<sub>CP</sub> t<sub>Lisi</sub> [<sub>TP</sub> t<sub>Lisi</sub> yao qu meigu]]]]]]] ne]?]

Lisi he know will go U.S. Part

‘What about Lisi?’

## 6. More evidence

Such a difference in the island violation poses a problem to the analysis of relativization. Aoun & Li (2003) suggest that Huang’s (1982) empty *pro* analysis can explain such a grammatical. He asserts that a *pro* must be identified by the most local c-commanding antecedent. The empty categories in (v) and (vi) can be taken as two base-generated *pros*, not derived from movement. Accordingly, the *pro* in (v) is properly locally identified with the relative head, *na-ge ren* ‘that person’. However, the *pro* in (vi) is wrongly locally identified with the subject *wo* ‘I’ rather than the relative head. This causes (vi) to be ungrammatical.

Along this vein, we argue that the mismatch of island effect between relativization and FQ is only apparent. The lack of island effect or of island repair listed above can also be dealt with by the *pro* analysis. First, we find that (i) might not be interpreted as a real interrogative. In a sense, it gives an interpretation like “the man whose reason of not coming questioned by Zhangsan” (Luther Liu, Sze-Wing Tang, personal communication) Besides, (i) is virtually an ungrammatical sentence, according to the informants that I have consulted. (Of nine informants, seven consider it illicit, while two consider it licit.) With this, we think that the ungrammaticality of (i) is due to the wrong identification of *pro* with the subject of the relative clause, *Zhangsan*, rather than with the relative head, *na-ge ren* ‘that person’. It might have nothing to do with movement and island effect. For the time being, we attribute the discrepancy in intuition to dialectal variations. Second, the legitimacy of (ii) is naturally captured by the fact that the most local c-commanding antecedent of the *pro* within the adjunct island is the relative head. Third, the *pro* in the sentential subject is correctly identified with the relative head in (iii). One problem arises in dealing with (iv). The *pro* analysis correctly rules out (iva), but not (ivb). It seems that *pro* in (ivb) can be co-indexed with the relative head, contrary to the reviewer’s judgment. However, the result is corresponding to the intuition of the informants that we have consulted. Of eight informants, seven consider that though (iva) is bad, (ivb) is more acceptable than (iva). The judgment is in conformity with the prediction of the *pro* analysis.

Therefore, the illicit relativization can be explained from another perspective, the *pro* analysis, which does not involve raising or movement.

Evidence from affective *ba* structure, passive *bei* structure, and secondary predicates also sheds light on the analysis of FQ.

### 6.1 FQ in affective *ba* construction

In Chinese affective *ba* construction, the logical object, generally an affectee, appears right after the co-verb *ba*. The *ba* NP sequence precedes the predicate as in (81). With respect to FQ, it is interesting to note that only the post-*ba* NP, *Lisi*, alone is permitted to be a target, whereas the *ba* NP sequence, *ba Lisi*, is prohibited as in (81).

- (81) A: Ta *ba* *Zhangsan* dang pengyou. [(\*)Ba structure]  
 he BA Zhangsan recognize friend  
 ‘He recognizes Zhangsan as his friend.’  
 B: (\*ba) *Lisi* ne?  
 BA *Lisi* Part  
 ‘What about *Lisi*?’

The contrast is not beyond our prediction. Based on Huang, et al.’s (2009) analysis on the *ba* structure, we assert that the verbal head *ba* takes a vP complement and the affected *Lisi* is positioned at the SpecvP within the vP complement, adjacent to *ba* as in (82a). In terms of the PIC, the target *Lisi* can successfully shift from the phase edge SpecvP to SpecCP<sub>2</sub>, prior to TP ellipsis in (82b). But why can’t the sequence *ba* NP form FQ? It is because the sequence basically is not a syntactic constituent as in (82a). Therefore, *ba* and *Lisi* cannot move together as one target to form FQ.<sup>21</sup>

- (82) a. [<sub>CP1</sub> [<sub>CP2</sub> [<sub>TP</sub>.....[ *ba* [<sub>vP</sub> *Lisi* [<sub>v'</sub> v [<sub>vP</sub> dang pengyou ]]]]]]ne]  
 b. [<sub>CP1</sub> [<sub>CP2</sub> *Lisi* [<sub>TP</sub>.....[ *ba* [<sub>vP</sub> t<sub>Lisi</sub> [<sub>v'</sub> v [<sub>vP</sub> dang pengyou ]]]]]]ne]

### 6.2 FQ in passive *bei* construction

In contrast to the *ba* structure, FQ either in the form of NP or of *bei* NP is undesirable in the passive *bei* construction in (83). The difference is caused by some unique properties of Chinese passives.

<sup>21</sup> A reviewer has pointed out that the target movement analysis cannot explain why the *ba*-stranded structure in (i) is not acceptable.

- (i) \**Lisi*<sub>i</sub> ta *ba* t<sub>i</sub> dang pengyou.  
*Lisi* he BA recognize friend  
 ‘*Lisi*, he recognizes him<sub>i</sub> as his friend.’

Given Huang, et al.’s (2009) analysis on *ba* structure, even though *ba* heads a projection and takes a vP complement, it does not act like a verb for the following reasons: (i) it cannot take any aspectual marker, (ii) it cannot form an A-not-A question, and (iii) it cannot be an answer to a question. In that sense, it turns out to be a grammaticalized element. Thus, when pronounced, it needs to precede a NP. The stranded *ba* is basically prohibited. We assume that in forming FQ, the stranded *ba* can be repaired via TP-ellipsis. But the stranded *ba* cannot be rescued in the non-elliptical structure like (i).

- (83) A: Ta bei Zhangsan da-le.                    [\*Bei structure]  
           he BEI Zhangsan hit-Asp  
           ‘He was hit by Zhangsan.’  
 B: \*Lisi ne?/ \*bei Lisi ne?  
       Lisi PART BEI Lisi Part  
       ‘(lit.)What about (by) Lisi?’

In Chinese linguistics, evidence has been accumulated to prove that the structure of the Chinese long passive (passive *bei*+ NP) is syntactically similar to that of the tough construction in English (Chomsky 1981, Feng 1995, Chiu 1995, Ting 1995, 1996, Huang 1999, Huang, et al. 2009, etc.). In (84), the tough predicate *easy* selects a clausal complement containing an A-bar chain formed by a null operator movement (NOP). In analogy, the “tough” verb *bei* takes a clausal complement, in which the null operator moves from the object position to the left periphery of the clause, strongly binding the base-generated matrix subject *ta* ‘he’ *via* predication in (85). Thus, the passives in Chinese involve two mechanisms: operator movement and predication.

- (84) John is easy [  $OP_i$  [ PRO to please  $t_{OP_i}$  ] ]  
 (85) [<sub>TP</sub> ta<sub>i</sub> [ bei [<sub>CP</sub>  $OP_i$  [<sub>TP</sub> Lisi da le  $t_{OP_i}$  ] ] ] ]<sup>22</sup>  
       he BEI                    Lisi hit Asp  
       ‘He is beaten by Lisi.’

Back to the FQ in passives, as shown in (86), given the NOP analysis on Chinese passives, we propose that the null operator in the embedded SpecCP after *bei* will block the raising of the target *Lisi*. Thus, when TP elides, the post-*bei* NP is still within the embedded CP, making the formation of FQ impossible. In addition, given the NOP analysis, the sequence *bei Lisi* in (85) is not a syntactic constituent, similar to *ba* NP, excluding the possibility of forming a target by pied-piping.

<sup>22</sup> Here one problem arises. Given that the NOP will block the raising of the target *Lisi*, a reviewer has pointed out that this kind of intervention does not fit well with the licit *wh*-extraction out of the tough-complement in (ia). It poses a problem to our analysis. In (85), the operator and the target separately raise from the argument positions to the embedded SpecCP to compete for the slot, SpecCP, causing the blocking effect. In contrast, as illustrated in (ib), the movement of *how/when* is not blocked by the operator.

- (i) a. How/When is John easy [ to please ]?  
       b. How/When<sub>i</sub> is John<sub>i</sub> easy [OP<sub>i</sub> [PRO to please t<sub>i</sub> t<sub>i</sub>] ]?

To explain this dilemma, we can first pay attention to the property of the raising elements. For FQ in (85), it is the argument *Lisi* that undergoes raising, whereas in (i), it is the *wh*-adjuncts, not *wh*-arguments that undergo extraction. However, when the *wh*-arguments are diagnosed in the same context, the sentences turn out to be bad just as FQs as in (ii). It means that the acceptability of (i) may be due to other factors that allow the *wh*-adjuncts to escape the *wh*-island, for example, by means of adjunction. (We will not explore this issue due to the limit of space.) Thus far, at least, we can say that sentences like (i) are not a problem to the raising and blocking analysis.

- (ii) a. \*Who<sub>2</sub> are the presents<sub>1</sub> fun (for us) [OP<sub>1</sub> [to give t<sub>1</sub> to t<sub>2</sub>] ]? (Chomsky 1977)  
       b. \*Which sonatas<sub>2</sub> is this violin<sub>1</sub> easy [OP<sub>1</sub> [ to play t<sub>2</sub> on] ]?

(86) \*<sub>[CP<sub>1</sub> [CP<sub>2</sub> [TP ta<sub>i</sub> [ bei [CP OP<sub>i</sub> [TP Lisi da le t<sub>OPi</sub> ]]]]]ne]</sub>

### 6.3 FQ in Secondary predicate

FQ within resultative V-*de* construction also supports the movement and deletion analysis. As shown in (87), given that *de* is a C head taking a clausal complement IP(TP) (Sybesma 1999, Wang 2010), our analysis successfully predicts that (87) is grammatical, since the specifier position of *de* is empty. Thus, the target *kuzi* ‘trouser’ is eligible to form FQ from within the *de* clause.

- (87) A: Zhangsan pao [ de [ liang *yifu* dou shi le]]. [Resultative]  
 Zhangsan run DE even clothes also wet Asp  
 ‘Zhangsan run to the extent that his clothes were wet.’  
 B: *kuzi* ne?  
 trousers Part  
 ‘What about trousers?’

However, certain serial verb structures as in (88) exhibit the blocking effect.

- (88) A: Wo jiao-guo [yi-ge da xuesheng *hen congming*].  
 I teach-Asp one-Cl big student very smart  
 ‘I have taught a university student who was smart.’  
 B: \**yi-ge xia xuesheng* ne ?  
 One-Cl small student Part  
 ‘What about a primary school student?’

We assume that the secondary predicate *hen congming* ‘very smart’ is predicated of the indefinite NP *yi-ge da xuesheng* ‘a university student’ in (88), forming a kind of topic-comment relation within the indefinite DP object, just like the existential coda construction (ECC) analyzed by Zhang (2008) in (89). The structure is an internal-headed relative clause (IHRC) headed by *yi ge xiaohai* ‘a child’, which is co-indexed with an empty E-type pronoun in SpecDP. The logical object *yi ge xiaohai* has to be indefinite. Otherwise, if a definite object occurs, the following predicate tends to be considered to be in another separate sentence with an empty subject.

- (89) Jie-shang lai-le [<sub>DP</sub> *e<sub>i</sub>* [<sub>D'</sub> D [<sub>CP</sub><sup>IHRC</sup> [<sub>topic</sub> *yi-ge xiaohai*]<sub>i</sub> [<sub>comment</sub> *mei chuan xie* ] ]].  
 Street-on come-Asp one-Cl child not wear shoe  
 ‘On the street comes a child without wearing shoes.’

With the analysis of ECC in mind, we propose that the post-verbal [NP-AP] in (88) can be recognized as a sort of IHRC, containing an E-type pronoun in the SpecDP as in (90). It follows that the movement of the target *yi-ge xia xuesheng* ‘a primary school student’ will be blocked by the E-type pronoun in the phase edge, SpecDP, causing the FQ to crash.<sup>23</sup>

<sup>23</sup> A reviewer has pointed out that the claim that the ECC is a DP is problematic. In fact, the “DP” cannot appear in some argument positions as a normal DP does, as in (i). It seems that the IHRC

- (90) \*B: Wo jiao-guo [<sub>DP</sub> *E-type pro* [<sub>CP</sub> yi-ge xia xuesheng hen  
I teach-Asp one-CL small student very  
congming]] ne?  
smart Part  
'I have taught a primary school student who was very smart.'

#### 6.4 Preposition stranding

When we take a look at another paradigm of PPs in FQ, their distributions pose a problem to our analysis. In (91-92), both NP and PP FQs are acceptable.

- (91) A: Ta *dui Zhangsan* hen keqi. [Preposition stranding]  
he to Zhangsan very polite  
'He is very polite to Zhangsan.'  
B: (*Dui*) Lisi ne?  
to Lisi Part  
'(lit.) What about (to) Lisi?'
- (92) A: Ta *gen Zhangsan* hen chu-de-lai.  
he with Zhangsan very get-DE-along  
'He gets along well with Zhangsan.'  
B: (*Gen*) Lisi ne?  
with Lisi Part  
'What about (with) Lisi?'

---

construction occurs as indefinite internal arguments of verbs only. In (ia), it is an argument of the preposition *gen* 'with'; in (ib), it is an agent; in (ic), it is an indirect argument; and in (id), it is a possessor. In none of these constructions, the DP is an internal argument of a verb, and thus the examples are all bad (Niina Zhang, personal communication). She further suggests that the ungrammaticality can be due to the topicalization inside the relative clause, based on Haegeman's (2007) view that topicalization may not occur in adverbial clauses in English. Along this line, if topicalization occurs, the hosting XP has restricted distribution. In addition to this factor, we consider that the structure of the "DP" might also play a role in excluding the examples in (i). Basically, it is not a canonical DP, in which the D head takes a NP complement. Virtually, the complement of the D in (88) is a CP, in which the NP subject co-indexes with an empty *pro* in the SpecDP. More details need to be worked out. We leave it for further research.

- (i) a. \*Wo gangcai [*gen yi-ge da xuesheng mei shubao*] shuohua.  
I just with one-CL big student has.no bookbag talk  
'I just talked to a college student without a bookbag.'  
b. \*Zhangsan bei [*yi-ge da xuesheng mei shubao*] kandao.  
Zhangsan BEI one-CL big student has.no bookbag saw  
'Zhangsan was seen by a college student without a bookbag.'  
c. \*Lisi kaosu [*yi-ge da xuesheng mei shubao*] shuo ta shi laoshi.  
Lisi tell one-CL big student has.no bookbag say he be teacher  
'Lisi told a college student without a bookbag that he was a teacher.'  
d. \*[*Yi-ge da xuesheng mei shubao*] de baba lai-le.  
One-CL big student has.no bookbag DE father come-ASP  
'The father of a college student without a bookbag came.'

If the target is a PP, then its raising from the adjoined T' to SpecCP<sub>2</sub>, similar to FQ of the temporal/locational phrase, is eligible. However, when the target is a NP complement of a preposition, several problems arise.

First, according to Bošković (2013), supposed that PP is a phase domain, just like  $\nu$ P, CP, and DP, the raising of NP *Lisi* to SpecPP is excluded by the anti-locality, since the distance from the NP complement to the specifier of PP is “too short”. This is an instantiation of the PIC and anti-locality conspiracy as illustrated in (93a). The preposition stranding should be out, contrary to fact.

- (93) a. [<sub>CP1</sub> [<sub>CP2</sub> [<sub>TP</sub> ta [<sub>PP</sub> Lisi dui t<sub>[NP Lisi]</sub> ] ] [<sub>AP</sub> hen keqi ]]]ne  
           he       Lisi to                               very polite Part  
   b. [<sub>CP1</sub> [<sub>CP2</sub> Lisi [<sub>TP</sub> ta [<sub>PP</sub> ~~dui~~ t<sub>[NP Lisi]</sub> ] ] ] [<sub>AP</sub> hen keqi ]]]ne

What if we assume that the PP is not a phase? Then, *a priori*, the target movement can proceed through all the way to SpecCP<sub>2</sub>, prior to TP ellipsis as in (93b). However, such an analysis also has a flaw. The successful movement is in conflict with the fact that Chinese disallows preposition stranding. Of course, if we assume that preposition stranding can be repaired by ellipsis in Chinese, the legitimacy of (93b) can be explained. However, we have no strong evidence to prove that preposition stranding is repairable in Chinese.

For the time being, we can speculate that the generation of the NP target has something to do with the “omission of the preposition” at the post-PF. That is, the apparent preposition stranding is virtually a consequence of preposition drop (P-drop) at the post-PF. This speculation can be evidenced by the fact that topicalized PP structures in (94a, 95a) tolerate the missing P in colloquial, fast utterances as in (94b, 95b). From a cross-linguistic view, Stjepanović (2012) has also identified the similar preposition drop (P-drop) in the post-PF in Serbo-Croatian sluicing. If this assumption is correct, then the acceptability of NP target in (91-95) is not deemed as a counterexample to our analysis.

- (94) a. *Gen* Lisi, wo hen chu-de-lai. (Topic)  
           With Lisi I very get-DE-along  
           ‘I get along well with Lisi.’  
   b. *Lisi*, wo hen chu-de-lai. (Colloquial)  
           Lisi I very get-DE-along  
           ‘As to Lisi, I get along well with.’
- (95) a. *Dui* Lisi, wo hen keqi. (Topic)  
           to Lisi I very polite  
           ‘To Lisi, I am very polite.’  
   b. ?*Lisi*, wo hen keqi. (Colloquial)  
           Lisi I very polite  
           ‘(lit.) As to Lisi, I am very polite.’

## 6.5 XP-*ma*?

In addition to XP-*ne* in question, a reviewer also reminds me of another FQ ending up with the final particle *ma*, entitled XP-*ma* as in (96). The final particle *ma* in Chinese is used to solicit the truth value of a proposition and to type a yes-no question (Cheng 1991). In this pattern, the XP is the answer of a constituent question. But interestingly, the XP-*ma* is virtually a yes-no question. It shows that though the speaker has answered the question, he/she is not so sure about the correctness of the answer. Thus, the answer is immediately turned into a yes-no question to solicit confirmation from the hearer. Superficially, this is not a *wh*-question-answer pair, but a *wh*-question-yes-no question pair.

- (96) Q: Shui zuo dangao?  
           who make cake  
           ‘Who made the cake?’  
 A: Zhangsan ma?  
       Zhangsan Part  
       ‘Is it Zhangsan?’

One of the differences between XP-*ne* and XP-*ma* is that *ma*-ended FQ does not show island effects, such as CNPC, contrary to the *ne*-ended FQ as in (97).

- (97) Q: ta xihuan [shei zuo de dangao]?  
           he like    who made DE cake  
           ‘Who is the person *x* such that he likes the cake that *x* made?’  
 A: Zhangsan ma?  
       Zhangsan Part  
       ‘Is it Zhangsan?’

We may wonder why XP-*ma* behaves so uniquely in this respect. We propose that the lack of island effect can be explained by the assumption that there is an intermediate stage between the *wh*-question in (98Q) and the yes-no question XP-*ma* in (98A2): the answer XP in (98A1). More specifically, the interpretation of XP-*ma* underlyingly involves two stages. The first stage occurs between the *wh*-question and the answer, and the second stage between the answer and the yes-no question. Given this division, for a *wh*-in-situ language like Chinese, we can assume that the interpretation of an interrogative is not through overt *wh*-movement (Huang 1982) but through covert unselective binding (Nichigauchi 1986, 1990, Cheng 1991, Tsai 1994, Li 1992, Aoun & Li 1993). Thus, even if the *wh*-word *shei* ‘who’ is within the complex noun phrase, it does not move in overt syntax and can be interpreted via being unselectively bound by a *wh*-operator [+Q] at the left periphery at LF. That is why island violation does not occur. At this stage, the question-answer is naturally solicited with no island violation. When pronouncing the answer, owing to the uncertainty of the answer or the need of confirmation from the hearer, the speaker adds a final particle -*ma* to query if the answer is correct. Therefore, XP-*ne* involves movement, whereas XP-*ma* doesn’t. This contrast explains why XP-*ma* within CNPC in (97) is grammatical.



- (98) Q: ta xihuan [shei zuo de dangao]?  
 he like who made DE cake  
 ‘Who is the person *x* such that he likes the cake that *x* made?’  
 A1: Zhangsan.  
 ‘Zhangsan’  
 A2: Zhangsan ma?  
 Zhangsan Part  
 ‘Is it Zhangsan?’

## 7. Conclusion

### 7.1 Summary and a short remark

This paper comes to the following conclusions. First, FQ with linguistic antecedent is derived by focus movement and TP-ellipsis. Second, CP and vP are phasal domains in the derivation of Chinese FQ. Third, under the phase theory, the PIC and anti-locality conspiracy can work together to explain the raising of a target. Fourth, there is no genuine island repair effect by TP ellipsis in Chinese FQ. This fact poses a problem to deletion at PF analysis but in turn supports the deletion in syntax analysis (Baltin 2007, 2012).

A short remark on the contrast between sluicing and FQ is in order. Chinese linguists such as Adams (2004), Wei (2004, 2011), and Adams and Tomioka (2012) believe that sluicing in Chinese is a pseudo-sluicing structure, which is simply composed of an implicit *pro* subject, a copula, and a base-generated *wh*-remnant without involving any form of ellipsis throughout. It means that a sluice clause does not contain any structure parallel to an antecedent clause. Accordingly, we can predict that island repair effect is very prevalent in Chinese sluicing by means of *pro* construal. That is, if the subject *pro* in sluice can be co-referential with an ‘overt’ antecedent within islands, the redemptive effect appears. One can come across such discussions on various types of island repair in Wei (2011). In contrast, with respect to FQ, we have argued that FQ is derived from a full-fledged structure *via* TP ellipsis. In certain islands, the repair effect is not activated owing to the elision of target in the process of computation. The lack of repair effect strengthens the fact that deletion occurs in syntax (Baltin 2007, 2012).

Several puzzles still arise from the movement and ellipsis analysis of FQ.

### 7.2 Puzzles

Gerundive phrases in subject or object position are prohibited to form FQ in (99) and (100), respectively. In fact, the FQs in both cases are not “nominal” in nature. They virtually query the event of teaching or chairing in that order. The detailed analysis is proposed by Huang (2008).

- (99) A: [tade laoshi] dang de hao. (Sze-Wing Tang, personal communication)  
 his teacher serve DE good  
 ‘He teaches well.’  
 B: ??[tade zhuxi] ne?  
 his chairman Part  
 ‘What about his chairing job?’
- (100) A: wo zhuo wode zhuxi, ta dang tade laoshi,  
 I do my chairman he serve his teacher  
 ‘I do my chairing, and he does his teaching.’  
 B: ??[tade zhuxi] ne?  
 his chairman Part  
 ‘What about his chairing job?’

Huang (2008) asserts that the gerundive sentence in (99A) is derived from the underlying structure in (101a), with a light verb DO taking a complement *tade dang laoshi* ‘his being a teacher’. The verb *dang* ‘serve’ will undergo V-movement to merge with DO in (101b). After the subject drops in (101c), the whole complement containing a trace raises to the initial position of the sentence as in (101d). Finally, the gerundive construction is generated.

- (101)a. Ta DO [tade *dang* laoshi] (de hao).  
 b. Ta *dang*<sub>i</sub> [tade t<sub>i</sub> laoshi] (de hao). [V-raising]  
 c. [e] *dang*<sub>i</sub> [tade t<sub>i</sub> laoshi] (de hao). [Subject drop]  
 d. [tade t<sub>i</sub> laoshi]<sub>j</sub> dang t<sub>j</sub> de hao. [Object preposing]

We postulate that the ungrammaticality of (99) and (100) might be caused by the trace left by verb movement within the gerundive phrases. Since the gerundive target contains a trace of verb, the trace is not c-commanded by the verb after raising. Given our FQ analysis, after TP elides, the trace in the gerundive phrase would be difficult to interpret, because its antecedent within TP has already been erased. To restore its meaning, the elided TP has to be recovered and then the preposed object needs to be reconstructed back to its original position. That is why gerundive FQ is hard to perceive. Temporarily, we might come to an assumption: A target cannot contain any trace; otherwise, TP ellipsis will erase its antecedent in syntax, making its interpretation inaccessible.

Furthermore, it is interesting to note that there is a grammatical contrast between the irrealis FQ in (102) and the realis FQ in (103). We believe that the reason behind this discrepancy lies in semantic or pragmatic conflict.

- (102) A: Ta *yinggai/xiang* kan san ci. [Irrealis]  
 he should/want read three time  
 ‘He should/want to read three times.’  
 B: Liang ci ne?  
 two time Part  
 ‘What about two times?’

- (103)A: Ta kan-*le* san ci. [\*Realis]  
 he read-Asp three time  
 ‘He read three times.’  
 B: \*Liang ci ne?  
 two time Part  
 ‘What about two times?’

In the irrealis context (102), the epistemic modal *yinggai* ‘should’ and the verb *xiang* ‘want’ mean that the event of reading three times has not occurred. Thus, it is still possible for the speaker to utter a FQ offering an alternative proposal *liang ci* ‘(reading) two times’ in (102B). In contrast, if the event of reading three times has already happened in the realis context as (103), the new proposal of reading two times turns out to be intuitively meaningless. Thus, we can come to an assumption of FQ: FQ cannot offer an alternative proposal in a realis context, whereas it can in an irrealis context.

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## 漢語的片段語問句與刪除

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### 提要

本文論證漢語帶有前行語之“片段語問句”，其衍生過程可以透過片段語移位以及TP刪除來詮釋；此一分析概念，與Merchant（2004）分析英語“片段語答句”，以及Yim（2012）分析韓語“片段語答句”之方式相吻合。句法結構上，漢語片段語問句之構成相當簡單，僅由一非副詞性詞組（XP）以及語尾助詞“呢”結合而成“XP-呢”。“呢”之出現表示該片段語問句屬於“特殊問句”之一種。理論上，我們採用Craenenbroeck（2004）之Split-CP假設及Chomsky（2000，2001）階段理論（Phase Theory），來解釋漢語片段語問句之各種可能分佈及限制。此外我們發現執行於語音介面（PF）上之“TP刪除”並無法修復違反孤島效應之片段語問句；此一現象對於普遍認為刪除可修復孤島違反之“PF-刪除”，造成分析上之挑戰（Merchant 2001，Fox and Lasnik 2003）。我們建議採用，強調衍生過程中即可將階段（Phase）刪去之“句法刪除”（Baltin 2007，2012）分析，來詮釋片段語問句中，孤島違反無法修復之原因。最後我們相信，把字句、被字句以及連動結構，亦支持此一以移位及刪除為主軸之分析。

### 關鍵詞

片段語，刪除，階段，焦點，孤島效應