

## Explicating *wh*-fronting in Mandarin: A scrambling approach

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**Abstract.** This paper proposes an alternative approach to *wh*-fronting in Mandarin by analyzing it as a type of regional scrambling. Three main arguments are presented, including the semantic vacuousness of Mandarin *wh*-fronting, its mixed syntactic properties, and the theoretical plausibility of scrambling in a non-scrambling language. This approach departs from previous treatments in dispensing with stipulation of an explicit uniform driving force for the movement and permits structural alternation without significant meaning changes.

**Keywords.** *wh*-fronting; scrambling; optionality; *wh*-in-situ languages

**1. Introduction.** Overt *wh*-fronting in Mandarin has been long observed despite the label of “*wh*-in-situ” traditionally associated with this language (Xu & Langendoen 1985, Hoh & Chiang 1990, Wu 1999, Cheung 2008, Pan 2014). Some simple cases of *wh*-fronting show that the alternation between a *wh*-in-situ question and its *wh*-fronted counterpart seems free from interpretive consequences. In this paper, I argue that *wh*-fronting in Mandarin can be better analyzed as *wh*-scrambling, a perspective different from previous accounts. I will draw evidence from the parallelism between Mandarin *wh*-fronting and Japanese-style scrambling with regard to some crucial properties, as well as present an argument against the claim that scrambling is a language-specific phenomenon, rather than a construction-specific one.

Mandarin Chinese has been traditionally categorized as a *wh*-in-situ language (Huang 1982, Cheng 1991, Watanabe 2003, among others), in which the general mechanism of forming a *wh*-question is simply an operation of replacement of the interrogated constituent with a corresponding *wh*-phrase, as in (1).

- (1) *Lisi mai-le shenme?*  
 Lisi buy-ASP what  
 ‘What did Lisi buy?’

To prepose the *wh*-word *shenme* ‘what’ sentence-initially would result in slight or severe, depending on the context, oddness and unacceptability, shown in (2).

- (2) \**shenme Lisi mai-le?*  
 what Lisi buy-ASP  
 ‘What did Lisi buy?’

However, in some *wh*-questions like (3), the fronted version is perfectly grammatical, though not as frequent as the in-situ one.

- (3) a. *Lisi mai-le na-ben shu?*  
 Lisi buy-ASP which-CL book  
 b. *na-ben shu Lisi mai-le?*  
 which-CL book Lisi buy-ASP

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‘Which book did Lisi buy?’

The fronting operation does not change the semantic content of the sentence either. The output structure (3b) still wears the same semantic representation on its sleeve, sharing with (3a) the logical form which  $x$ ,  $x$  is a book, Lisi bought  $x$ .

The unnaturalness of (2) suggests the restricted availability of *wh*-fronting in Mandarin. An immediately observable constraint pertains to the type of the *wh*-phrase. Specifically, only complex *wh*-phrases (*wh* + NP) can be fronted, illustrated in Table 1.

|                      |  |   |
|----------------------|--|---|
| where (adjunct)      | <i>zai-nali Zhangsan du-le jufajiegou?</i><br>at-where Zhangsan read-ASP Syntactic Structures<br>‘Where did Zhangsan read Syntactic Structures?’ | ✓ |
| why                  | <i>weishenme Zhangsan qu-le Beijing?</i><br>why Zhangsan go-ASP Beijing<br>‘Why did Zhangsan go to Beijing?’                                     | ✓ |
| when                 | <i>heshi Zhangsan du-le jufajiegou?</i><br>when Zhangsan read-ASP Syntactic Structures<br>‘When did Zhangsan read Syntactic Structures?’         | ✓ |
| how                  | <i>zenme/ruhe Zhangsan qu-de Beijing?</i><br>how Zhangsan go-DE Beijing<br>‘How did Zhangsan go to Beijing?’                                     | * |
| who                  | <i>shui Zhangsan jian-le?</i><br>who Zhangsan meet-ASP<br>‘Who did Zhangsan meet?’   | ? |
| what                 | <i>shenme Zhangsan du-le?</i><br>what Zhangsan read-ASP<br>‘What did Zhangsan read?’   | ? |
| where (argument)     | <i>nali Zhangsan qu-le?</i><br>where Zhangsan go-ASP<br>‘Where did Zhangsan go?’   | ? |
| what + NP            | <i>shenme shu Zhangsan du-le?</i><br>what book Zhangsan read-ASP<br>‘What book did Zhangsan read?’   | ✓ |
| which + CL + NP      | <i>naben shu Zhangsan du-le?</i><br>which book Zhangsan read-ASP<br>‘Which book did Zhangsan read?’  | ✓ |
| whose + NP           | <i>shuide shu Zhangsan du-le?</i><br>whose book Zhangsan read-ASP<br>‘Whose book did Zhangsan read?’   | ✓ |
| how many + (CL) + NP | <i>duoshao-ben shu Zhangsan du-le?</i><br>how many-CL book Zhangsan read-ASP<br>‘How many books did Zhangsan read?’                              | ✓ |

Table 1: Types of *wh*-phrase and their availability for fronting

The adverbial *wh*-phrases can appear sentence-initially or sentence-medially possibly due to the relatively flexible placement of adverbials in general in indicative sentences, rather than undergoing optional overt *wh*-fronting. Hence the current study only focuses on *wh*-arguments.

Among those argument *wh*-phrases, the morphological complexity constraint seems at face value to be responsible for which ones can be fronted and which ones cannot. What this constraint entails or reflects concerning the syntactic nature of *wh*-fronting in Mandarin is not crystal clear to me at this point, although it is undoubtedly an important question. I take such a constraint as a purely empirical observation and center my discussions on the class of *wh*-questions that freely allow the in-situ and ex-situ alternation, namely those involving complex *wh*-phrases.

In a traditional *wh*-in-situ language, the existence of *wh*-fronting is intriguing to syntacticians. “What is its syntactic nature” immediately becomes the central question. Different approaches have been proposed. However, none of them appears completely innocent from arguably non-trivial issues. Methodologically, in an abstract domain such as linguistics, whether two objects or entities are viewed as the same or different depends upon whether they share a set of fundamental properties. Like previous analyses, this paper adopts a reductionist view, that is, to analyze the *wh*-fronting phenomenon as a subcategory of an existing syntactic object or process, viz. topicalization, focalization or *wh*-movement, as were proposed before. If these proposals are indeed on the right track, we would expect to see all the core properties of topicalization, focalization or *wh*-movement to be exhibited on Mandarin *wh*-fronting and any incompatibility thereof should pose a challenge to these proposals. In the rest of the paper, I will demonstrate aspects of incompatibility of such a kind with regard to previous approaches and in turn propose a new approach, i.e. scrambling, which obviates incompatibility issues, to a greater extent if not completely.

## 2. Previous analyses.

2.1. TOPICALIZATION. The treatment of *wh*-fronting in Mandarin as *wh*-topicalization has been considered the standard analysis in the syntactic literature (Xu & Langendoen 1985, Tang 1988, Li 1996, Wu 1999, Kuong 2006, Pan 2006, Pan 2014). This account postulates the licensing of the pre-clausal *wh*-phrases attributable to the explicit [TOPIC] feature that resides high in the structure and thus is attractive in light of Chomsky’s Last Resort requirement of movement. However, the consequence of this approach leads us to anticipate shared properties between *wh*-fronting and topicalization in general, but several crucial aspects of incompatibility indicate otherwise.

First, morphological incompatibility. Topics in Mandarin topic structures can be optionally marked by a pause or a topic marker (TM), typical examples of which include *a*, *ya*, *ba*, *ma*, *me*, *ne*. In contrast, a pre-clausal *wh*-phrase can never be marked by any of these TMs and sound natural, see (4).

- (4)    \**na-ben*        *shu*    *a/ya/ba/ma/me/ne*    *Wanglin du-le?*  
           which-CL    book    TM                            Wanglin read-ASP  
           ‘Which book did Wanglin read?’

Second, syntactic incompatibility. In the classical paper on Chinese topic structures by Xu & Langendoen (1985), three types of topic sentence were proposed in terms of the presence of gap in the downstream comment clause: gapful, gapless including a pronoun and a full DP, respectively exemplified below.

- (5)    *Lisi*    *Zhangsan renshi.*  
           Lisi    Zhangsan know  
 (6)    *Lisi Zhangsan renshi ta.*

- Lisi Zhangsan know him  
 (7) *Lisi Zhangsan renshi zhe-ge ren.*  
 Lisi Zhangsan know this-CL person  
 ‘Lisi, Zhangsan knows.’

*Wh*-fronting does not seem to fit well in this paradigm. Changing the DP *Lisi* to a *wh*-phrase, we observe incompatibility with the full DP type of topic structure.

- (8) *na-ge ren Zhangsan renshi?*  
 which-CL person Zhangsan know  
 (9) *na-ge ren Zhangsan renshi ta?*  
 which-CL person Zhangsan know him  
 (10) *\*na-ge ren Zhangsan renshi zhe-ge ren?*  
 which-CL person Zhangsan know this-CL person  
 ‘Which person does Zhangsan know?’

Third, information structural incompatibility. One of the defining properties of a topic structure is its discourse function, which introduces a topic with the rest of sentence commenting on it. Essentially, Mandarin has been labelled a topic-prominent language (Li & Thompson 1976), as opposed to English which is a subject-prominent language. To the extent where such a theory is concerned, Mandarin subjects are often identified as topics, or reversely, topics can sometimes serve as the subjects of sentences. Along this line, fronted *wh*-phrases do not appear to resemble canonical topics.

By definition, topics usually denote old information (or set up the background), hence its natural association with “aboutness”, and the comment part introduces new information. The semantics and pragmatics of *wh*-elements are fundamentally different from topics in that they are seeking new information, specifically enumerating over a set of alternative propositions that can potentially serve as answers to the question (Karttunen 1977). The analysis of *wh*-fronting as *wh*-topicalization crashes in and of itself by attempting to combine old (destressed) and new (stressed) information in a single constituent.

2.2. FOCALIZATION. A less dominant but also well-known view other than *wh*-topicalization is the analysis of *wh*-fronting as focus movement (Hoh & Chiang 1990, Wang & Wu 2006, Cheung 2008). This account postulates a formal syntactic feature [FOCUS] that resides in a high functional projection, either CP or TP-adjunction depending on the specific proposal, and constitutes the driving force for the movement of *wh*-phrase at syntax. Like *wh*-topicalization, this approach accords with Chomsky’s Last Resort requirement of movement. Cheung’s proposal, which I will concentrate on here, analyzes the *wh*-fronting constructions in Mandarin on a par with clefted questions in English (11), which belong to a class of focus constructions particularly involving contrastive focus.

- (11) What was it that Bill saw?

First, this account appears dubious in that a *wh*-phrase in an information-seeking question receives the default status of focus, regardless of movement.

Second, the [FOCUS] feature in Cheung’s system as well as in others’, obligatorily drives movement. This implies *wh*-in-situ constructions would crash if the sentence carries the same discourse-functional need, in other words, in-situ *wh*-questions are deprived of contrastive focus.

This is straightforwardly untrue, given the option of marking contrastive focus through prosodic manipulation in Mandarin.

Third, Cheung claims that in-situ and fronting are ways of forming two different types of *wh*-question, due to their “distinct” discourse functions, and thus stipulates an implicit clefting marker *shi* ‘be’ preceding every preposed *wh*-phrase. Again this view seems overly strong, since in the simple *wh*-fronting cases like (3b), repeated here as (12b), it shares the illocutionary force of being an information-seeking question with its in-situ counterpart and does not necessarily induce contrastivity nor the tacit presence of the clefting marker *shi*. In addition, not all *wh*-phrases that allow fronting accept a *shi* marker immediately preceding them, as in the case of how many + (CL) + NP, exemplified in (13).

- (12) a. *Lisi mai-le na-ben shu?*  
Lisi buy-ASP which-CL book  
b. *na-ben shu Lisi mai-le?*  
which-CL book Lisi buy-ASP  
‘Which book did Lisi buy?’
- (13) (\**shi*) *duoshao-ben shu Zhangsan mai-le?*  
be how many-CL book Zhangsan buy-ASP  
‘How many books did Zhangsan buy?’

Overall the *wh*-focalization approach, positing a single feature as the uniform driving force for movement and treating *wh*-fronting as clefting, appears susceptible to overgeneralization.

2.3. WH-MOVEMENT Another equally conceivable approach is to straightforwardly treat *wh*-fronting as *wh*-movement, as proposed in Lin (2005). Lin’s attempt was to prove that syntactic *wh*-movement is a necessary condition for licensing parasitic gaps in Mandarin. Even so, his terminology is fuzzy as he also used “topicalization of *wh*-elements” to refer to what he called “syntactic *wh*-movement”. He presented island effects that show up in the *wh*-fronting constructions as evidence for their status of syntactic *wh*-movement, see (14).

- (14) \**sheme yu<sub>i</sub> Laowang yu-guo [e<sub>j</sub> xihuan e<sub>i</sub> de] ren<sub>j</sub>?*  
what fish Laowang meet-EXP xihuan MOD person  
‘What fish is it such that Laowang met persons who like it?’

This piece of evidence seems compelling, but the island effects may be indicative of more general extractability issues beyond *wh*-fronting. I will leave this problem open for now.

Whether *wh*-fronting is typical *wh*-movement hinges upon a wide array of diagnostic tests. Two major points of separation suggest they cannot be the same.

Adopting Adger’s (2003) feature strength approach to cross-linguistic variation of *wh*-question formation, in-situ languages like Japanese and Chinese have “a weak [*uwh*] feature on C[Q]” and hence no overt movement of the *wh*-phrase takes place. The *wh*-fronting phenomenon in Mandarin, considering its optionality and relative markedness, is unlikely to be licensed by a weak [*uwh*] feature. It cannot be motivated by a strong [*uwh*] feature either, given the technical implausibility for a C head to bear both weak and strong *wh* features at the same time in the same language.

The other decisive departure concerns a distinction drawn by authors like Saito (1992) and Takahashi (1993) between *wh*-movement and *wh*-scrambling that the former need “establish a

semantically significant operator-variable relation” while the latter need not. In other words, a *wh*-phrase that undergoes syntactic *wh*-movement is frozen in scope at LF. The following pieces of data show *wh*-fronting in Mandarin can target both matrix and intermediate positions, none of which would prevent the *wh*-phrase from scoping back in-situ. This is the kind of freedom shared with scrambling, not *wh*-movement.

- (15) a. *laoshi wen Zhangsan du-le [na-ben shu].*  
 teacher ask Zhangsan read-ASP which-CL book  
 b. *laoshi wen [na-ben shu] Zhangsan du-le.*  
 c. *[na-ben shu] laoshi wen Zhangsan du-le.*  
 ‘The teacher asked which book Zhangsan read.’

(15a-c) express the same meaning, i.e. an embedded *wh*-question introduced by the [+Q] verb *wen* ‘ask’, although (15c) may sound more natural with a contrastive focus reading of the *wh*-phrase.

- (16) a. *laoshi jide Zhangsan du-le [na-ben shu]?/.*  
 teacher remember Zhangsan read-ASP which-CL book  
 b. *laoshi jide [na-ben shu] Zhangsan du-le?/.*  
 c. *[na-ben shu] laoshi jide Zhangsan du-le?/.*  
 ‘Which book did the teacher remember that Zhangsan read?’  
 ‘The teacher remembered which book Zhangsan read.’

(16a-c) all have two-way ambiguity, i.e. a matrix *wh*-question with a rising intonation and an embedded *wh*-question with a declarative intonation, due to the [+/-Q] feature of the verb *jide* ‘remember’.

**3. Current proposal.** The three major approaches discussed above share a common problem in that they all postulate a strong and explicit head in the left periphery that obligatorily attracts the *wh*-phrase. Therefore, they are all overcommitted and fail to capture the whole array of properties that Mandarin *wh*-fronting exhibits, at the center of which lies the lack of conspicuous and consistent interpretive differences between *wh*-in-situ and *wh*-fronting within the class of constructions that freely permit this alternation. In this paper, I propose a “less rigid” approach, i.e. scrambling, which can arguably accommodate such optionality in a straightforward fashion. I offer three arguments to support this approach.

**4. Semantic vacuousness.** Scrambling has received extensive attention in the syntactic literature since Ross (1967). The defining feature of scrambling is probably the freedom of syntactic reordering that involves no significant meaning change (Ross 1967, Chomsky and Lasnik 1977, Hale 1980, Hoji 1985, Saito 1985, 1989, 1992, and many others). Although there have been numerous attempts to characterize scrambling as a feature-driven operation, either positing an abstract scrambling feature such as  $[\Sigma]$  (Grewendorf & Sabel 1999, Kawamura 2004) or simply the EPP feature (Miyagawa 2001), or assuming base-generation of the scrambled structure and “pushing” the obligatory feature-checking processes to LF (Bošković and Takahashi 1998), none of these accounts have successfully identified an apparatus to motivate scrambling with any morphological, syntactic or semantic/pragmatic realism. Instead, a majority of linguists have been analyzing scrambling as “a purely optional movement that does not require any motivation” (Miyagawa 2006, which also referenced Fukui 1993, Kuroda 1988, Saito 1989, Saito and Fukui 1998 for this point). Besides its syntactic optionality, Saito (1989) argued that “it must also

obligatorily reconstruct at LF—the ‘undoing’ property of scrambling” (directly from Miyagawa 2006), which underlies its “semantic vacuousness”. The classical examples of LF undoing are given below.

(17) Japanese (Miyagawa 2006:609)

- a. *John-ga* [<sub>WH-ISL</sub> *Taroo-ga nani-o katta ka*] *siritagatteiru*.  
 John-NOM [<sub>WH-ISL</sub> Taro-NOM what-ACC bought Q] want.to.know  
 ‘John wants to know what Taro bought.’
- b. *?Nani-o<sub>i</sub>* *John-ga* [<sub>WH-ISL</sub> *Taroo-ga* *t<sub>i</sub> katta ka*] *siritagatteiru*.  
 what-ACC<sub>i</sub> John-NOM [<sub>WH-ISL</sub> Taro-NOM *t<sub>i</sub> bought Q*] want.to.know

The only difference between (17a) and (17b) is that in the latter the *wh*-phrase *nani* ‘what’ is scrambled out of the embedded clause to sentence-initial position. Despite its surface position in the matrix clause, *nani* is interpreted as taking narrow scope in the embedded clause, the source of interrogation coming from the subject *John* rather than the utterer of the whole sentence. According to Saito, such interpretation is achieved by “radical reconstruction” of the *wh*-phrase back to its originating clause at LF, a process that lowers a constituent without leaving a trace, thus escaping a violation of the Proper Binding Condition, which requires all traces to be bound. In this sense, the scrambling at syntax is undone at LF.

I have previously shown that Mandarin *wh*-fronting does not freeze scope either. The case in point is repeated in (18) here, with the substitution of the compound verb *xiang.zhidao* ‘want to know’ and of the complex *wh*-phrase *shenme shu* ‘what book’ to resemble the Japanese example. The morphological difference between Japanese and Mandarin is that Japanese requires a Q marker to explicitly indicate the scope of the question and Mandarin does not have a requirement of this sort. This difference is nonetheless not crucial because of the interrogative nature of the verb ‘want to know’, which selects an embedded question and necessitates the narrow scope of the *wh*-phrase. Like Japanese *wh*-scrambling, Mandarin *wh*-fronting displays the same LF undoing property.

- (18) a. *Lisi xiang.zhidao Zhangsan mai-le [shenme shu]*.  
 Lisi want.to.know Zhangsan buy-ASP what book
- b. *[shenme shu] Lisi xiang.zhidao Zhangsan mai-le*.  
 ‘Lisi wanted to know what book Zhangsan bought.’

In general, the pre-fronting and post-fronting strings can form a pair with alternative word orders but uniform primary semantic import. In other words, optionality, from an empirical point of view, can be roughly understood in terms of the availability of an alternative syntactic derivation in which theta-relations and the illocutionary force denoted by the clause-type are unaffected. *Wh*-fronting in Mandarin generally incurs no change of these semantic potentials. The contrast between a and b in (3), repeated below as (19), seems elusive in a way that they are merely two constructions involving the same thematic relations and serving the same illocutionary purpose, i.e. to seek information indexed by the *wh*-phrase.

- (19) a. *Lisi mai-le na-ben shu?*  
 Lisi buy-ASP which-CL book
- b. *na-ben shu Lisi mai-le?*  
 which-CL book Lisi buy-ASP  
 ‘Which book did Lisi buy?’

The same effect of identity can be observed across types of *wh*-phrase such as in (20) and (21).

- (20) a. *Zhangsan bangzhu-le shuide pengyou?*  
 Zhangsan help-ASP whose friend  
 b. *shuide pengyou Zhangsan bangzhu-le?*  
 whose friend Zhangsan help-ASP  
 ‘Whose friend did Zhangsan help?’
- (21) a. *Lisi qu-le shenme difang?*  
 Lisi go-ASP what place  
 b. *shenme difang Lisi qu-le?*  
 what place Lisi go-ASP  
 ‘What place did Lisi go to?’

**5. A & A’ properties.** It is generally agreed in the scrambling literature that local scrambling can display both A- and A’- properties (Mahajan 1990, Saito 1992, etc.). Standard A/A’ diagnostics, including weak crossover violation, binding and licensing of parasitic gaps, show *wh*-fronting in Mandarin has both properties, in line with scrambling, but not with topicalization, focalization and *wh*-movement, which are canonical A’ operations.

First, obviation of weak crossover violation, showing A properties. Weak crossover (WCO) is a configuration, in which, following Lasnik & Stowell (1991), “a category C A’-binds a pronoun P and a trace T, and P is contained in an argument phrase XP that c-commands T”, violation of a principle referred to as the *Generalized WCO Hypothesis*. Saito (1992) identifies a “straightforward” example of weak crossover in Japanese, but only under the assumption that in-situ *wh*-phrase must undergo covert movement at LF, as mentioned earlier.

(22) Japanese (Saito 1992:73)

- a. *?\*[[Soitu<sub>i</sub>-no hahaoya]-ga [dare<sub>i</sub>-o aisiteru]] no*  
 the guy-Gen mother -Nom who-Acc love Q  
 ‘His<sub>i</sub> mother loves who<sub>i</sub>’
- b. *?Dare<sub>i</sub>-o [[soitu<sub>i</sub>-no hahaoya]-ga [t<sub>i</sub> aisiteru]] no*  
 who-Acc the guy-Gen mother -Nom love Q  
 ‘Who<sub>i</sub>, his<sub>i</sub> mother loves t<sub>i</sub>’

The problem of (22a) is attributed to a weak crossover violation, specifically at LF. (22b) is expected to trigger another weak crossover violation at syntax this time via *wh*-scrambling. However, according to Saito, (22b) is “far better than” (22a).

A similar example is immediately available in Mandarin as well, shown in (23).

- (23) a. *\*ta<sub>i</sub>-de muqin xihuan na-ge haizi?*  
 he-DE mother like which-CL child  
 b. *na-ge haizi<sub>i</sub> ta<sub>i</sub>-de muqin xihuan t<sub>i</sub>?*  
 which-CL child he-DE mother like  
 ‘For which child, his mother likes him?’

The amelioration and grammaticality of (23b) suggests the landing site of local *wh*-fronting must be an A-position, otherwise a WCO violation would arise.



Second, reconstruction effects, showing A' properties. The example (24) given by Saito (1992) as evidence that short scrambling can also be A'-movement involves reconstruction of the anaphor to be bound in its base position, under the assumptions that the Binding Theory applies at LF (Chomsky 1993, Nishigauchi 2002) and that "reconstructability of a moved element is an A'-property" (Saito 1989, Chomsky 1993, directly from Grewendorf & Sabel 1999 although they take issue with the validity of the test on the relevant Japanese data).

- (24) Japanese (Saito 1992:76)  
*Zibunzisin-o<sub>i</sub> [Hanako-ga<sub>i</sub> t<sub>i</sub> hihansita] (koto)*  
 self-ACC Hanako-NOM criticized fact  
 'Herself<sub>i</sub>, Hanako<sub>i</sub> criticized t<sub>i</sub>.'

Here, assuming Saito's analysis has its empirical ground, I construct a similar example in Mandarin in which the reflexive *taziji* 'himself', pied-piped with the *wh*-phrase, finds its binder through reconstruction, indicating the overt displacement of *wh* can be A'-movement.

- (25) [*na-ben guanyu taziji de shu*]<sub>i</sub> Zhangsan<sub>j</sub> changchang fanyue t<sub>i</sub>?  
 which-CL about himself DE book Zhangsan often flip-and-read  
 'Which book about himself does Zhangsan often read?'

Third, licensing of parasitic gaps, showing A' properties. Constructions involving parasitic gaps have two variables bound by the same antecedent, one variable being the original trace of the extraction, the other being a parasitic gap usually in an island context such as an adjunct clause. Based on the seminal work by Engdahl (1983), the antecedent that licenses a parasitic gap needs to be in an A'-position. Mentioned in the previous discussion, the example below was used by Lin (2005) to show only fronted *whs* can license parasitic gaps; in order to do so, the *wh*-phrase must occupy an A'-position.

- (26) a. \**Laowang zai du-guo pg<sub>i</sub> zhihou jiu diudiao-le shenme wenjian<sub>i</sub>?*  
 Laowang at read-EXP after then throw-PERF what document  
 b. *shenme wenjian<sub>i</sub> Laowang zai du-guo pg<sub>i</sub> zhihou jiu diudiao-le e<sub>i</sub>?*  
 what document Laowang at read-EXP after then throw-PERF  
 'Which document did Laowang throw away right after reading?'

**6. Scrambling in a non-scrambling language.** The fact that Mandarin is not a canonical scrambling language may not serve as a disqualifier for *wh*-fronting from being scrambling. Theoretically, there is no a priori principle that precludes the existence of scrambling in a non-scrambling language; as Miyagawa (2004) put it, "scrambling is a typical, run-of-the-mill movement". It is just a cover term for regional and partial word order freedom observed in world languages. In fact, scrambling phenomena have been constantly reported in traditionally labelled non-scrambling languages, for instance, object scrambling in Chinese (Soh 1998), silent scrambling in English (Hinterhölzl 2002) and covert scrambling (QR) in many languages. *Wh*-fronting may be another case of regional scrambling that reflects construction-specific flexibility of word order in Mandarin. Chinese grammarians like Lu (1980) and Zhu (1982) have found displacement phenomena quite widespread in Mandarin, which involve not just interrogative phrases but also adverbials, verb phrases and so on. They characterize these displaced constituents as what need to be "rushed out first" and thus emphasized by the interlocutors in certain conversational scenarios and attribute no significant meaning changes to the resultant constructions.

**7. Conclusion.** *Wh*-fronting in Mandarin can be analyzed as scrambling for its semantic vacuousness, exhibition of mixed syntactic properties, and the general plausibility of scrambling in a non-scrambling language. It departs from previous treatments in dispensing with stipulation of an explicit uniform driving force for the movement.

Optional *wh*-fronting has been observed in many world languages, including Japanese (Saito 1989), Korean (Lee 2005), Slavic (Bailyn 2001), Egyptian Arabic, Bahasa Indonesia and Palauan (Cheng 1991), many of which are typical *wh*-in-situ languages. A more general note that follows from the analysis advanced in this paper is that the computational system should allow parallel structures in stock. The option of *wh*-fronting should not be excluded in principle in predominantly *wh*-in-situ languages, but available latently as a backup strategy, whose activation depends on the real-time interaction between interface conditions such as prosody and pragmatics. When there is a competition amongst grammatical constraints, *wh*-fronting may emerge as a remedial solution, for instance, in the case of focus intervention effects or parasitic gaps.

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