On Argument-Adjunct Asymmetry of Sluicing in Mandarin Chinese*

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Abstract

This study attempts to account for the argument-adjunct asymmetry of Sluicing in Mandarin Chinese. Such an asymmetry is empirically demonstrated by a language-particular phenomenon, so-called *shi*-support, which is also the last resort (Chomsky, 1995a) of our linguistic mechanism. In the current related literature, *shi*-support is obligatory for *wh*-arguments but optional for *wh*-adjuncts (Wang, 2002). However, I argue that at the PF level *shi*-support is even optional for *wh*-arguments; that is, it is only needed in the derivation at the LF level. My analysis is crucially based on CLM's (1995) insightful analysis of LF Copying Theory. Departing from their analysis in crucial respects, however, I argue that a covert *wh*-movement also takes place simultaneously with the operation of copying the antecedent IP. For reasons of economy, such a non-overt movement is preferred and is of the least efforts (Procrastinate). In addition, evidence from *shi*-support argues that Sluicing in Mandarin Chinese prefers LF copying rather than PF deletion. To sum up, *shi*-support is compulsory for *wh*-arguments in that the ECP (Empty Category Principle) requirement must be satisfied at the LF level owning to the intervening "barriers" (Chomsky, 1986).

Keywords: argument-adjunct asymmetry, *shi*-support, Sluicing, LF Copying Theory

1. Introduction

Sluicing is an elliptical construction which involves a remnant *wh*-phrase followed by an empty constituent. Such an elliptical constituent, in the standard assumption, is an IP, and the remnant *wh*-phrase can escape from being elided in that it has either undergone *wh*-movement or has been

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base-generated in [Spec, CP]. To account for such an escape of *wh*-phrase, two derivational theories have been generally adopted, those being PF Deletion Theory (Ross, 1969) and LF Copying Theory (CLM, 1995) respectively[1]. However, Sluicing in Mandarin Chinese is even more complicated since an argument-adjunct asymmetry in this *wh*-in-situ language is frequently demonstrated by *shi*-support, and little attention has been given to the point in the current related literature[2]. In this study, I very boldly but bravely, attempt to explore a little further into such an asymmetry in Mandarin Chinese Sluicing. My analysis is crucially based on CLM's (1995) insightful analysis of LF Copying Theory. Departing from their analysis in crucial respects, however, I argue that a covert *wh*-movement also takes place simultaneously with the operation of copying the antecedent IP. In addition, evidence from *shi*-support will help argue that Sluicing in Mandarin Chinese prefers LF copying rather than PF deletion. As for this, there will be a detailed discussion in the following subsections, and the concept of "barriers" (Chomsky, 1986) will be applied in this study as well so as to account for *shi*-support in Mandarin Chinese Sluicing, which has been touched from time to time but still remains unexplored and unexamined.

2. Asymmetry in Mandarin Chinese Sluicing

2.1 *Wh*-Construction in Mandarin Chinese

It is not to be denied that *wh*-phrases or *wh*-words may be categorized into two main types, those being *wh*-arguments and *wh*-adjuncts. As Mandarin Chinese is a *wh*-in-situ language, the *wh*-phrases in this language will stay in their original places, inclusive of *wh*-arguments and *wh*-adjuncts, as shown in (1) and (2):

(1) a. Zhangsan xihuan <u>shei</u> (*wh*-argument)
Zhangsan like who
'Who does Zhangsan like?'

b. Zhangsan xihuan <u>Meili</u>
Zhangsan like Meili
'Zhangsan likes Meili.'

[1] The adoption of PF Deletion Theory argues that there is a subsequent deletion operation that affects the IP after *wh*-movement takes place, while LF Copying Theory states that the remnant *wh*-phrase is base-generated in [Spec, CP], and its interpretation depends on a special copying rule that operates in the non-overt syntax, that is to say, at the LF level.

[2] Wang (2002) carries out a thorough investigation on Sluicing in Mandarin Chinese. He adopts the analysis of PF Deletion Theory (Ross, 1969) and argues that there exists a focus movement in Mandarin Chinese Sluicing. However, in his master thesis there is still no further account for this asymmetrical phenomenon why *wh*-arguments need *shi*-support while such a support is optional for *wh*-adjuncts. In this study, however, I argue that *shi*-support is an empirical evidence for the covert movement in Mandarin Chinese. I shall have more to say about it later on.

(2) a. Zhangsan shenmeshihou aishang Meili (*wh*-adjunct)
Zhangsan when fell in love with Meili
'When did Zhangsan fall in love with Meili?'

b. Zhangsan shanggelibai aishang Meili
Zhangsan last week fell in love with Meili
'Zhangsan fell in love with Meili last week.'

Judging from (1a) and (2a), we can see that the *wh*-argument *shei* 'who' and the *wh*-adjunct *shenmeshihou* 'when' occur in the same places with their counterparts *Meili* 'Meili' and *shanggelibai* 'last week' in (1b) and (2b) respectively. However, in such ordinary, unchanged *wh*-constructions, we are unable to see the difference between *wh*-arguments and *wh*-adjuncts. If we cannot see the difference between them, how can we further account for the asymmetry between these two different kinds of *wh*-phrases? Fortunately, Mandarin Chinese Sluicing gives an empirical demonstration of such an asymmetry. This will be discussed further in the following subsections.

2.2 *Wh*-Argument

Wh-arguments in Mandarin Chinese are mainly the following two *wh*-phrases: *Shei* 'Who' and *Shenme* 'What.' Since these two phrases belong to the category of so-called *wh*-phrases, they are immune from being deleted in Sluicing sentences. Interestingly, Sluicing in Mandarin Chinese empirically demonstrates a language-particular asymmetry by the existence of *shi* before the remnant *wh*-arguments in an elliptical construction, as shown in (3):

(3) a. *Zhangsan xihuan mouren, keshi wo bu zhidao shei ~~Zhangsan xihuan~~
Zhangsan like someone but I not know who ~~Zhangsan like~~
'Zhangsan loves someone, but I don't know who ~~Zhangsan likes~~.'

b. Zhangsan xihuan mouren, keshi wo bu zhidao shi shei ~~Zhangsan xihuan~~
Zhangsan like someone but I not know be who ~~Zhangsan like~~
'Zhangsan loves someone, but I don't know who ~~Zhangsan likes~~.'

The sentence in (3a) illustrates that when the IP 'Zhangsan xihuan' is deleted, this elliptical construction is judged ungrammatical. However, such ill-formedness and ungrammaticality can be rescued by the insertion of *shi* before the remnant *wh*-argument. This escape hatch by *shi*-support presupposes that *shi* in the Sluicing construction with a following remnant *wh*-argument might function as a linguistic mechanism to save the ill-formed Sluicing sentences in Mandarin Chinese.

2.3 *Wh*-Adjunct

Wh-adjuncts in Mandarin Chinese are even of more different forms than *wh*-arguments, those being *Weishenme* 'Why,' *Zenmeyang* 'How,' *Zainali* 'Where,' and *Shenmeshihou* 'When[3].' Compared to their counterparts of *wh*-arguments in Sluicing, the remnant *wh*-adjuncts in Sluicing don't have to be preceded by *shi*, as shown in (4):

(4) Zhangsan xihuan Meili, keshi wo bu zhidao (shi) wieshenme ~~Zhangsan xihuan Meili~~
Zhangsan like Meili but I not know (be) why ~~Zhangsan like Meili~~
'Zhangsan likes Meili, but I don't know why ~~Zhangsan likes Meili.~~'

The Sluicing sentence in (4) evidently shows a great asymmetry between *wh*-arguments and *wh*-adjuncts since the former needs *shi*-support to maintain grammatical, whereas such insertion is optional for the latter. Thus it is presupposed that *wh*-adjuncts have a quality to fulfill the needs of self-satisfaction while *wh*-arguments need *shi*-support to maintain the same status. In the next subsection, I shall be accounting for the occurrence of such an asymmetry.

3. *Shi*-Support in Mandarin Chinese Sluicing

3.1 *Wh*-Movement in Mandarin Chinese

It is commonly agreed that Mandarin Chinese is a *wh*-in-situ language, which tends to facilitate covert LF *wh*-movements (cf. Huang, 1982) as well as unselective binding between base-generated Q-operators and in-situ *wh*-phrases (cf. Tsai, 1999). Both approaches might bring some challenges and problems to the PF deletion theory. However, Wang (2002) argues that LF movements will not rescue the *wh*-phrases from being deleted, since operations at PF are only effective in dealing with structures in overt syntax, as shown in (5)

(5) a. Zhangsan yujianle mouren, keshi wo bu zhidao Zhangsan yujianle shei
Zhangsan met someone but I not know Zhangsan met who
'Zhangsan met someone, but I don't know who did Zhangsan meet.'

b. *Zhangsan yujianle mouren, keshi wo bu zhidao ~~Zhangsan yujianle shei~~
Zhangsan met someone but I not know ~~Zhangsan met who~~
'Zhangsan met someone, but I don't know ~~who did Zhangsan meet.'~~

(Wang, 2002: 26-27)

[3] If we adopt Kuroda's (1965) insight that a *wh*-phrase can be decomposed as *wh* plus *some* N at LF, there might be more kinds of *wh*-adjuncts and even *wh*-arguments. To illustrate, since a *wh*-phrase can be considered as an existential quantifier, *who* can be decomposed as *wh*+someone, *what* as *wh*+something, and so on. This decomposition can also be applied in the *wh*-phrases of Mandarin Chinese. For instance, *Weishenme* 'Why' can be decomposed as *Shenme* 'What' plus *Yuanin* 'reason' or *Shenme* 'What' plus *Liyou* 'reason.'

Wang (2002) argues that LF movements will not rescue the *wh*-phrases in Mandarin Chinese from being deleted, since operations at PF are only effective in dealing with structures in overt syntax. This argument will be indefensible, however. In my assumption, *wh*-phrases in Mandarin Chinese Sluicing will survive till the LF level. They are base-generated in [Spec, CP] and will undergo a covert movement along with the LF operation of copying the antecedent IP. Their interpretation relies on such a special copying rule that operates in the non-overt syntax, namely LF. If we adopt the proposal by Ross (1969), then we will not be able to account for the motivation of *shi*-support. Such a language-particular phenomenon can neither be accounted for by the analysis of Wang's (2002) "Focus Movement," since he wrongly predicts that the movements in the *wh*-in-situ language like Mandarin Chinese are overt. Both Ross' (1969) and Wang's (2002) analyses are ruled out in the Minimalist Program (MP: Chomsky, 1995b) because they are quite unsatisfactory and far-fetched. For reasons of economy, covert movements are preferred and are of the least efforts (Procrastinate). For more specific explanation of the impossibilities of (5b), please see my analysis as shown in (6):

(6) LF Copying Theory in Mandarin Chinese Sluicing

Spell-Out [$_{IP}$ Zhangsan yujianle mouren], keshi wo bu zhidao [$_{CP}$ [$_{CP}$ shei [$_{IP}$ e]]]

1. Copying of the antecedent IP: [$_{IP}$ Zhangsan yujianle]
2. Covert movement of *Shei*
3. *Shi*-Support (Last Resort)

PF **LF** ← [$_{IP}$ Zhangsan yujianle mouren], keshi wo bu zhidao [$_{CP}$ shi [$_{CP}$ t_i [$_{IP}$ Zhangsan yujianle shei$_i$]]]

We see, by adopting the LF Copying Theory (CLM, 1995) to account for the ungrammaticality of (5b), that the IP *Zhangsan yujianle shei* 'Who did Zhangsan meet' occurs only at the LF level by three covert steps: copying the antecedent IP, moving the *wh*-phrase *Shei*, and inserting *Shi*. Abandoning Pesetsky's (1989) Earliness Principle, I adopt so-called Procrastinate Principle[4] to argue that the movement at the LF level is more economical and is of the least efforts. In addition, such application at LF can avoid the undesired result of (5b) at the PF level since the movements after spell-out do not affect the phonetic phone at the PF level. However, the existence of *shi*-support remains a mystery. This is a point to which I shall return in the next subsection.

[4] In the Minimalist Program, Procrastinate Principle is a general economy constraint which states that all movements in a derivation should be delayed as long as possible. An operation should take place only when it is needed, and not before. This principle prefers derivations which postpone movements until after spell-out, so that the results of the movements do not affect phonetic phone (Crystal, 1997). In Chomsky's (1995b) remarks, LF movement is "cheaper" than overt movement.

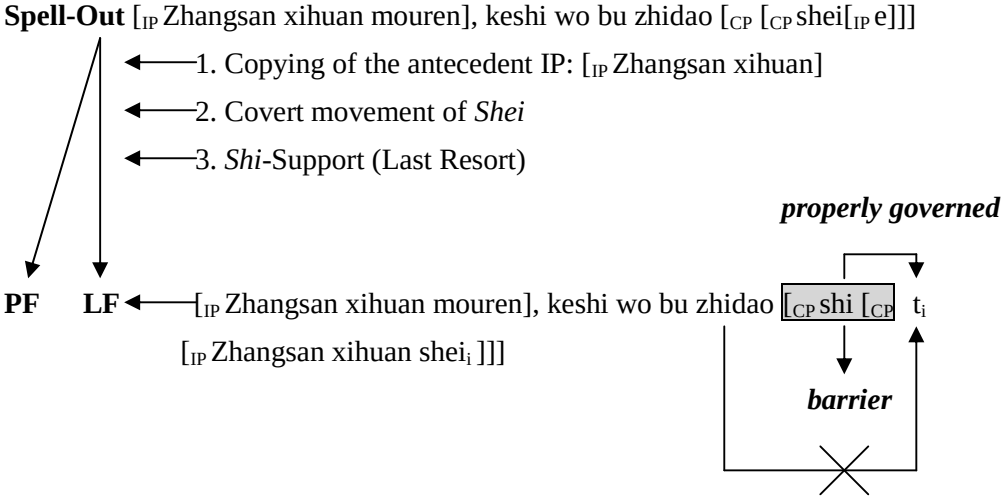
3.2 *Shi*-Support As the Last Resort

From the preceding discussion, there exists a presumption that *shi*-support might function as a savior to rescue the ungrammaticality of Sluicing, in which the remnant *wh*-argument is not preceded by *shi* and thus is ill-formed. However, as *shi*-support is a language-particular phenomenon, it serves only as the last resort[5]. Then what is its syntactic function? In the following discussion, I will argue that *shi*-support is needed in order to satisfy the ECP (Empty Category Principle) requirement because of the intervening barriers[6]. Moreover, *shi*-support is even optional for *wh*-arguments at the PF level[7].

By the assumption of Procrastinate Principle, I will adopt the LF Copying Theory (CLM, 1995) to explain the asymmetry between *wh*-arguments and *wh*-adjuncts. Somewhat different from their analysis in decisive respects, however, I will prove that a covert *wh*-movement also takes place together with the operation of copying the antecedent IP. Such movement is more economical, and the mysteries of this argument–adjunct asymmetry will be revealed, as shown in (7) and (8):

(7) Covert Movement of *Wh*-Argument (ex. *Shei* 'Whom')

Zhangsan xihuan mouren, keshi wo bu zhidao shi shei
Zhangsan like someone but I not know be who
'Zhangsan likes someone, but I don't know who'

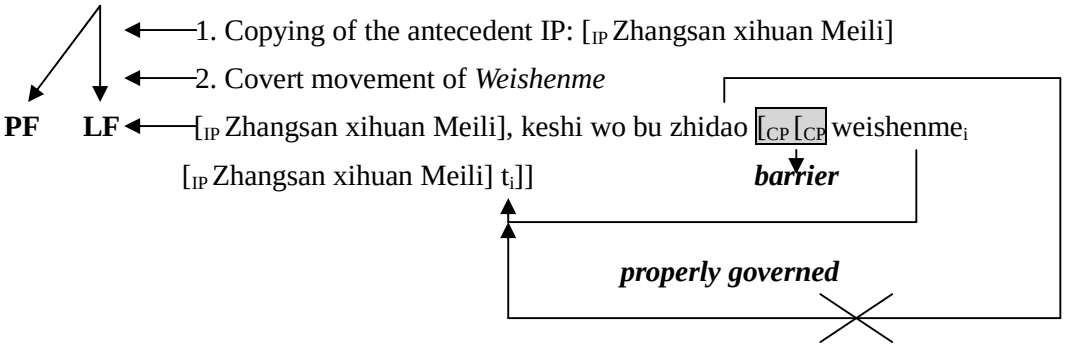


[5] For further details, see Chomsky (1995a).
[6] For further details, see Chomsky (1986).
[7] As a native speaker of Mandarin Chinese, my linguistic intuition tells me that *shi*-support is optional even for *wh*-arguments since its occurrence/non-occurrence will not affect the perception of the speaker and the hearer in daily conversation. This presupposes that *shi*-support is compulsory for *wh*-arguments only at the LF level for the ECP requirement. This will be under discussion later.

(8) Covert Movement of *Wh*-Adjunct (ex. *Weishenme* 'Why')

Zhangsan xihuan Meili, keshi wo bu zhidao weishenme
Zhangsan like Meili but I not know why
'Zhangsan likes Meili, but I don't know why'

Spell-Out [$_{IP}$ Zhangsan xihuan Meili], keshi wo bu zhidao [$_{CP}$ [$_{CP}$ [$_{IP}$ e] weishenme]]



In early 1970s, Chomsky and other linguists argued that empty categories (i.e. traces) should be included in the inventory of category types found in natural languages. Thus traces should also be properly governed, either by their antecedents or by other lexical heads. From (7) and (8) it is quite straightforward and obvious that the traces of *wh*-arguments and *wh*-adjuncts should be properly governed to satisfy the ECP (Empty Category Principle) requirement at the LF level. The reason why *shi* exists before the *wh*-argument *Shei* 'Who' is that the trace of this *wh*-argument cannot be antecedent-governed by its antecedent in the lower hierarchical level, and thus must be lexically-governed or head-governed by a lexical head, such as the preceding verb *Zhidao* 'know.' However, there exists a barrier (Chomsky 1986) between this lexical head and the covert *wh*-argument trace, which has blocked the verb from governing into the intervening CPs. Thus we have nothing but to pursue another lexical head. If unfortunately there exists none, then we will need to create one, such as *shi*[8]. Obviously, *shi* here functions as the last resort to help maintain the grammaticality at the LF level. On the other hand, since the trace of the *wh*-adjunct *Weishenme* 'Why' is able to be antecedent-governed by its antecedent, *shi* becomes optional and doesn't have to appear as the last resort.

4. Conclusion

My investigation started with a brief introduction of the *wh*-phrases in Mandarin Chinese. From the occurrence of these *wh*-phrases, it was proved that Mandarin Chinese is a *wh*-in-situ language.

[8] Although *shi*-support is our last resort, I don't give any account why the epenthetic element is *shi*. According to Shi (1994), *shi* is a modal verb and the primary marker of emphatic sentences, but this is not the point here. To inquire further into this matter would lead us into another specialized area, and such a digression would undoubtedly obscure the outline of my argument.

However, not all the *wh*-phrases are the same. They are generally categorized into two main types: *wh*-arguments and *wh*-adjuncts. As for these two *wh*-phrases, there is an asymmetrical phenomenon between them. Such asymmetry is empirically demonstrated by *shi*-support in Mandarin Chinese Sluicing. However, since *shi*-support is a language-particular phenomenon, it only functions as the last resort to rescue the ill-formed Sluicing sentences. I also argued that the movement at the LF level is preferred and is of the least efforts due to reasons of economy. Thus I crucially adopted CLM's (1995) insightful analysis of LF Copying Theory. Different from their analysis in crucial respects, however, I argued that a covert *wh*-movement also takes place simultaneously with the operation of copying the antecedent IP. In addition, the concept of "barriers" (Chomsky, 1986) was applied in this study as well. To sum up, *shi*-support is optional at the PF level but is needed for *wh*-arguments at the LF level in that the ECP (Empty Category Principle) requirement must be satisfied at this stage.

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