Mandarin Parasitic Gaps

Chi-Ming Louis Liu

Harvard University, cmliu@fas.harvard.edu

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Abstract
Lin (2005) argues that parasitic gaps in Mandarin Chinese have to be licensed by syntactic \textit{wh}-movement. However, given three syntactic pieces of evidence which involve weak crossover effects, replacement of pronouns, and multiple \textit{wh}-phrases respectively, I propose that the sentence-initial \textit{wh}-phrases in relevant sentences cannot be said to move from the object position of the matrix verb. Instead, they should be thought of as originating in the sentence-initial position, which amounts to saying that there is no syntactic \textit{wh}-movement in this kind of sentences. Nevertheless, this analysis does not imply that there is no parasitic-gap sentence in Mandarin Chinese. With the help of the sentences containing a complex NP in which the object position is empty, we conclude that it is null operator movement that serves as the licensor for Mandarin parasitic gaps. By assuming so, we can maintain the idea that parasitic gaps have to be licensed by A’-movement without raising the problems mentioned in the paper.
Mandarin Parasitic Gaps

Chi-Ming Louis Liu*

1 Introduction

Parasitic-gap sentences refer to sentences in which there are two empty categories that do not c-command each other (see Culicover 2001 for a detailed discussion about parasitic gaps).

(1) a. Which document did John file e without reading pg? (Engdahl 1983)
    b. Which boy did Mary’s talking to pg bother e most?

In (1a) and (1b), e is a “real” gap in the sense that this empty position is created by wh-movement. As for the other, it is called a parasitic gap since its existence depends on the availability of the real gap e. Moreover, it is usually assumed that sentence-initial wh-phrases are not associated with parasitic gaps transformationally.

As for the cases in Mandarin Chinese, Lin (2005) notices that in-situ wh-phrases are not compatible with parasitic gaps, and claims that these wh-phrases have to be preposed so that parasitic gaps can get licensed.

In Section 2 below, I briefly summarize Lin’s work, illustrating why he thinks that overt wh-movement plays a role in licensing PGs. Section 3 presents three pieces of syntactic evidence that call into question Lin’s (2005) claim that overt wh-movement is involved. In Section 4, contra Lin’s idea, I propose that wh-phrases in this type of construction should be thought of as originating in the sentence-initial position, and the real licensor for parasitic gaps in Mandarin Chinese is null operator movement. Section 5 concludes this paper.

2 Parasitic-Gap Constructions in Mandarin Chinese: Lin 2005

Lin (2005) observed the contrast between (2) and (3).1

(2) *Laowang [ zai huijian pg, zhiqian ] jiu kaichu-le shei?
   Laowang at meet before already fire-PERF who
   ‘Who did Laowang fire before meeting?’

(3) Shei, Laowang [ zai huijian pg, zhiqian ] jiu kaichu-le t?
   who Laowang at meet before already fire-PERF
   ‘Which person is it who Laowang fired before meeting?’

According to Lin, (2) is ungrammatical because the wh-phrase shei ‘who’ is in situ, but once this wh-phrase moves to the sentence-initial position, a grammatical sentence like (3) is yielded. Lin thus argues that parasitic gaps in Mandarin Chinese, like those in English, have to be licensed by overt wh-movement rather than by an in-situ wh-phrase (cf. Nissenbaum 1999 and Kim 2001). In addition, given the fact that island effects are present in some cases, Lin excludes the possibility of analyzing the sentence-initial wh-phrases as base-generated topics.

(4) a. Shenme yu, Laowang xihuan?
   what fish Laowang like
   ‘What fish does Laowang like?’

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1The abbreviations used in this paper are the same as those in Lin 2005: EXP = experiential aspectual marker, MOD = modification marker, PERF = perfective aspectual marker.
b. *Shenme yu, Laowang yu-guo [e e, xihuan e, de] ren?
what fish Laowang meet-EXP like MOD person

‘What fish is it such that Laowang met persons who like it?’

Under Lin’s analysis, the wh-phrase *shenme yu ‘what fish’ in (4a) is said to move from the object position following xihuan ‘like’, whereas this wh-movement is prohibited in (4b) since the wh-phrase is in a position inaccessible to movement.

As a result, Lin (2005) proposes that Mandarin PG-sentences are grammatical only when syntactic wh-movement takes place.

3 Puzzles

Since Lin (2005) claims that overt wh-movement is involved in this type of construction, some structural properties pertaining to movement are expected. The first we anticipate is weak crossover (WCO) effects.

It is known that in English overt pronouns can replace parasitic gaps in adjunct clauses, shown in (5).

(5) Which document, did John file t, [without reading iti]?

Mandarin Chinese is no exception in this regard. But if we adopt Lin’s analysis, we will face a problem. Consider (6).

(6) Shei, Yuehan [zai huijian ta, zhiqian ] jiu kaichu-le t,?
who John at meet him before already fire-PERF

‘Who did John fire before meeting?’

Mandarin PG-sentences are different from their English counterparts in that adjunct clauses containing parasitic gaps immediately follow matrix subjects rather than appearing at the end of the sentence. As a result, if the arrow-indicated wh-movement in (6) happened, a WCO effect should be present since the wh-phrase moved across the pronoun ta ‘him’ that bears the same index. However, this prediction is not borne out since (6) is grammatical. The unexpected absence of WCO effects in this case suggests that overt wh-movement does not take place.

Second, in typical wh-movement sentences that we are familiar with, a pronominal element cannot be inserted in the position from which a wh-phrase is extracted.

(7) a. Who, did you see t, yesterday?
b. *Who, did you see him, yesterday?

If overt wh-movement really took place in (3), a pronoun should not be allowed to appear in the position from which the wh-phrase is assumed to be extracted. However, (8) shows that this prediction fails to stand since placement of a pronoun after the matrix verb kaichu ‘fire’ does not degrade the sentence.

(8) Shei, Yuehan [zai huijian pg, zhiqian] jiu kaichu-le ta,?
who John at meet before already fire-PERF him

‘Who did John fire before meeting?’

This fact again suggests that the sentence-initial wh-phrase does not seem to be a product of overt wh-movement.\(^2\)

\(^2\)The purpose of putting (8) here is to argue that the empty position following the matrix verb cannot be viewed as a wh-trace. As for how to characterize (8) correctly, I leave it for further research.
Third, when it comes to movement in sentences containing two non-D-linked \textit{wh}-phrases, it is always the higher one that gets raised (Pesetsky 1987, 2000). Now, consider (9).

\begin{equation}
\text{(9)} \text{Shenme-dongxi}, \text{ shei } [\text{zai} \text{ Mali gei taji} pg, \text{ zhiqian}] \text{ jiu}
\end{equation}

\begin{equation}
\text{what-thing who at Mary give him before already}
\end{equation}

\begin{equation}
\text{xian mai-le e,?}
\end{equation}

\begin{equation}
\text{in-advance buy-PERF}
\end{equation}

\begin{equation}
\text{‘Who, bought what, before Mary gave it, to him,?’}
\end{equation}

(9) contains two \textit{wh}-phrases, \textit{shei} ‘who’ and \textit{shenme dongxi} ‘what’. From Lin’s point of view, the sentence-initial \textit{shenme dongxi} ‘what’ should be taken to attain its surface position via movement. But, this movement is impossible since it would have the lower \textit{wh}-phrase \textit{shenme dongxi} ‘what’ cross the higher one \textit{shei} ‘who’, yielding superiority effects. Therefore, we should account for the grammaticality of (9) by saying that the sentence-initial \textit{wh}-phrase does not originate as a syntactic object of the verb \textit{mai} ‘buy’ underlyingly.

Based on what we have discussed, I conclude that Lin’s (2005) analysis of Mandarin PG-sentences is untenable, and propose that these \textit{wh}-phrases should be analyzed as base-generated topics.

4 Analysis

Although the discussion in the previous section clearly points out the inadequacy of Lin’s analysis, it gives rise to a dilemma: the proposal that the sentence-initial \textit{wh}-phrases are base-generated appears to be in conflict with the claim that the empty category in the adjunct clause is a parasitic gap since it is usually assumed that parasitic gaps need to be licensed by \textit{A’}-movement. If there is no overt \textit{wh}-movement, can we still call this type of sentences a parasitic-gap sentence? The answer to this question, I think, lies in the following sentence.

\begin{equation}
(10) \text{*Shei}, \text{ Yuehan [pp zai huijian pg, zhiqian] jiu ting dao}
\end{equation}

\begin{equation}
\text{who John at meet before already hear-arrive}
\end{equation}

\begin{equation}
\text{[NP Mali xihuan e, de ] yaoyan?}
\end{equation}

\begin{equation}
\text{Mary like MOD rumor}
\end{equation}

\begin{equation}
\text{Intended meaning: ‘Who, is the person, such that before John met him, John had heard a rumor that Mary likes him,’}
\end{equation}

(10) is an ungrammatical sentence in which the object following the matrix verb \textit{ting dao} ‘hear’ is a complex NP. In order to accommodate the facts (i) that the \textit{wh}-phrase is base-generated sentence-initially and (ii) that island effects are observed, I propose (in the spirit of Chomsky 1977) that in Mandarin parasitic-gap sentences, there is a null operator that originates in the object position of the matrix verb and its movement is sensitive to island boundaries. Given this idea, the ungrammaticality of (10) can be said to result from the operator’s moving out of the complex NP. Its simplified structure is shown in (11).

\begin{equation}
(11) \text{*Shei OP, Yuehan [pp zai huijian pg zhiqian] jiu}
\end{equation}

\begin{equation}
\text{who John at meet before already}
\end{equation}

\begin{equation}
\text{ting dao [NP Mali xihuan t, de ] yaoyan?}
\end{equation}

\begin{equation}
\text{hear-arrive Mary like MOD rumor}
\end{equation}

\begin{equation}
\text{Intended reading: ‘Who, is the person, such that before John met him, John had heard a rumor that Mary likes him,’}
\end{equation}

Taking all of these factors into consideration, I propose that the licensor for parasitic gaps in sentences like (3) is null operator movement in which the null operator moves from its base position, landing in the Spec of CP, and then co-indexes with a \textit{wh}-phrase that is base-generated sentence-initially. This idea is instantiated in (12).
This proposal has the benefit of retaining the analysis that parasitic gaps need to have \( A' \)-movement as a licensor with no cost of raising the problems mentioned in Section 3.

If the analysis is on the right track that sentence-initial \( wh \)-phrases are base-generated, we should re-analyze the \( wh \)-sentences mentioned in Lin 2005 as follows.

\[
(12) [CP \text{Shei, } [CP \text OP_i, [IP \text Yuehan } \text zai \text huijian } \text pg, zhiqian} \text jiu } \text kaichu-le } \text t_i]? \]

\[ \text{Who did John fire before meeting?} \]

The representations above show that the ungrammaticality of (13b) does not result from \( wh \)-movement, but from illicit null operator movement.

However, the analysis of null operator movement proposed here for Mandarin PG-sentences faces a potential problem. As we have mentioned earlier, the parasitic gap in Mandarin Chinese can be filled with an overt pronoun, which is shown in (6), repeated below as (14) with the current analysis.

\[
(14) [CP \text{Shei, } [CP \text OP_i, [IP \text Yuehan } \text zai \text huijian } \text pg, zhiqian} \text jiu } \text kaichu-le } \text t_i]? \]

\[ \text{Who did John fire before meeting?} \]

In (14), a WCO effect is supposed to arise since a null operator has moved across a pronoun with the same reference.

In fact, this sentence can be treated on a par with weakest crossover constructions discussed in Lasnik and Stowell (1991). One of the examples and its syntactic analysis are shown in (15).

\[
(15) \begin{align*}
\text{a. Which man}_i \text{ did you look at } t_i \text{ [before his}_i \text{ wife had spoken to e}_i \text{]?} \\
\text{b. Which man}_i \text{ did you look at } t_i \text{ [PP OP}_i \text{ before his}_i \text{ wife had spoken to e}_i \text{]?} 
\end{align*} \]

Based on Chomsky (1986), Lasnik and Stowell (1991) analyze (15a) as (15b), in which the null operator not only moves from the object position but also crosses a pronoun that bears the same index. In order to provide an account of why this movement does not incur WCO effects, Lasnik and Stowell (1991) make a distinction between operators. For the null operator that we have in (15), they propose that these null operators are not true quantifier phrases, so the traces of this kind of operator are immune to WCO effects. However, this immunity disappears if the operator involved is a \( wh \)-phrase. Following this line, we can claim that the reason why the crossing of a null operator over a pronoun in (14) does not cause ungrammaticality is because this sentence itself is a weakest crossover construction.

5 Conclusion

This paper shows that although Mandarin PG-sentences are the same as their English counterparts with respect to the position of \( wh \)-phrases, \( wh \)-phrases in these Mandarin sentences do not reach their surface position via syntactic movement. Rather, these \( wh \)-phrases are base-generated sentence-initially, and the real licensor for parasitic gaps is null operator movement. With the help of

\[ ^3 \text{For different accounts of weakest crossover effects and discussions of relevant constructions, please see Hornstein (1995), Safir (1996), and Ruys (2004).} \]
this analysis, we can make a hypothesis that languages can have either overt *wh*-movement or null operator movement as the licensor for parasitic gaps since both of them are A′-movement.

References