

PA-7

The Scattered Deletion in Chinese Unaccusative Split Argument Constructions

Yelin Gao
Hokkaido University
yelin.gao.f5@elms.hokudai.ac.jp

Abstract. In Mandarin, certain unaccusative constructions seem to have two arguments, such as *Zhangsan si-le fuqin* (lit. Zhangsan died father) meaning ‘Zhangsan’s father died.’ The canonical analyses are the Possessor Raising analysis (e.g., Xu 1999, Qiu 2019) and the Base-Generation analysis (e.g., Pan & Han 2005). However, these two analyses have problems with the Case and theta-role. Accordingly, we propose the Scattered Deletion analysis to explain this construction. Our proposal is that the [DP *Zhangsan fuqin*] is base-generated at the postverbal complement position of *si* ‘die’ and is copied and moved to the preverbal position. To the chain formed by *Zhangsan fuqin* and its copy, the nominative Case and theta-role are assigned. The complementary deletion on externalization at PF gives the correct surface output.

1. Introduction

It has been observed since Perlmutter (1978) that intransitive verbs can be divided into unaccusative and unergative verbs. For instance, in unaccusative construction (1), the sole DP *a man* can appear in either preverbal or postverbal position. On the other hand, in unergative construction (2), the sole DP *a man* can only appear in the preverbal position.

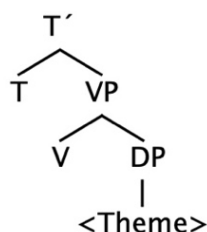
- (1) a. A man arrived. b. There arrived a man. (Unaccusative)
 (2) a. A man cried. b. *There cried a man. (Unergative)

(3) and (4) demonstrate a parallel phenomenon in Mandarin.

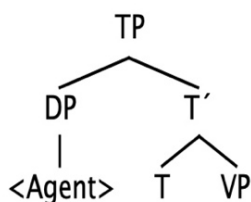
- (3) a. Yi-ge-ren si-le. b. Si-le yi-ge-ren. (Unaccusative)
 one-quantifier-person die asp. die asp one-quantifier-person
 ‘A man died.’ ‘lit. Died a man’
 (4) a. Yi-ge-ren. ku-le. b.*Ku-le yi-ge-ren (Unergative)
 one-quantifier-person cry-asp cry-asp one-quantifier-person
 ‘A man cried.’

Developing Perlmutter’s (1978) observation, Burzio (1986) proposes that unaccusative and unergative verbs possess different underlying structures, as illustrated in (5).

(5) a. Unaccusative



b. Unergative



In unaccusative structure (5a), the sole DP is an internal argument within the VP that has a theme theta-role. Conversely, in unergative structure (5b), the DP is an external argument that is outside the VP and has been assigned an agent theta-role.


It should be noted that DP is the sole argument regardless of whether it is involved in an unaccusative or unergative construction. Mandarin Chinese, however, has an interesting unaccusative construction, as illustrated by (6), in which two DPs appear both pre- and postverbally. We refer to this type of sentence as unaccusative split argument constructions (USAC, henceforth).

- (6) Zhangsan si-le fuqin.
 Zhangsan die-asp father.
 ‘Zhangsan’s father died.’

The derivation of USAC, especially how the DPs in this construction receive Case and theta-role, is an important question which we address in this paper.

2. Previous Studies: The Possessor Raising analysis and the Base-Generation analysis

Two canonical explanations have been proposed to analyze sentences like (6): the Possessor Raising analysis (PR analysis) (e.g., Xu 1999; Qiu 2019) and the Base-Generation analysis (BG analysis) (e.g., Pan & Han 2005). In the PR analysis, *Zhangsan* in (6) generates as a part of the postverbal argument and moves into the preverbal position to acquire the nominative Case as shown in (7). Xu (1999) and Qiu (2019) both propose that [_{DP} *Zhangsan fuqin*] (‘Zhangsan father’) is assigned the theta-role by the verb *si* ‘die’ and *Zhangsan* has the theta-role possessor assigned within [_{DP} *Zhangsan fuqin*] (cf. Huang 1982). Thus, *Zhangsan* and *fuqin* ‘father’ have theta-roles of possessor and theme, respectively.

- (7) Zhangsan_i si-le [_{DP} t_i fuqin]

 ‘lit. Zhangsan died father’

Xu (1999) and Qiu (2019) adopt Belletti’s (1988) partitive case to explain the Case of the remaining NP *fuqin*. Belletti’s (1988) proposes that unaccusative verbs have a partitive case that can be assigned to an indefinite NP/DP. Xu (1999) argues that after the movement of *Zhangsan*, the remaining part *fuqin* is an indefinite NP. Therefore, *fuqin* receives a partitive case from the unaccusative verb *si*. The trace of *Zhangsan*, however, is not deleted in syntactic structure, it always remains before the NP *fuqin*. It means that the postverbal DP as a whole is still a definite DP which is incompatible with a partitive case (Belletti 1988). Departing from Xu (1999), Qiu (2019) proposes that even if [_{DP} t_i *fuqin*] is not an indefinite DP, it can also receive a partitive case when the DP after an unaccusative verb can be explained as a part of the whole. In Qiu’s (2019) proposal, however, the timing of the Case assignment is another issue that need to be addressed.

The BG analysis, in contrast, argues that *Zhangsan* base-generates in the preverbal position and receives a nominative Case. In Pan and Han (2005), *fuqin* receives a partitive case from *si*. The theta-role of *Zhangsan* is a dangling topic, and the theta-role of *fuqin* is a theme.¹ However, there are

¹ According to Huang (1994), a dangling topic has no syntactic relation to the comment clause. Meanwhile, Han & Pan (2016) propose that dangling topics are base-generated in the specifier position and semantically licensed by a variable comment. It is a

pieces of evidence against *Zhangsan* as a dangling topic. First, according to Quan and Han (2021), the sentence which contains a dangling topic cannot be the complement clause of ECM. It is shown in (8a) that the DP *ni-de-pengyou* is a dangling topic and does not have any syntactic relation to the comment clause *Mali bu xihuan Zhangsan*, that is, it is just semantically licensed by it. Taking (8a) as the complement clause of ECM in (8b), the sentence is unnatural, in accordance with Quan and Han (2021).

- (8) a. Ni-de-pengyou, Mali zui bu xihuan Zhangsan.
 you-DE-friend Mary most not like Zhangsan.
 ‘(Lit.) Among your friends, Mary dislikes Zhangsan the most.’
 b. *Lisi rang ni-de-pengyou, Mali zui bu xihuan Zhangsan.
 Lisi make you-DE-friend Mary most not like Zhangsan

Nevertheless, *Zhangsan si-le fuqin* could function as a complement of ECM, as illustrated in (9). This indicates that *Zhangsan* in (9) is not a dangling topic.

- (9) Lisi rang Zhangsan si-le fuqin.
 Lisi make Zhangsan die-asp father
 ‘Lisi makes Zhangsan’s father died.’

Secondly, it is known that *wh*-phrases cannot be a topicalized element, and Shi (2001) shows that this is also true in Chinese *wh*-phrases as shown in (10a). On the other hand, *shui* ‘who’ in (10b) can appear in the preverbal position in USAC, which indicates that the preverbal DP in this construction is not a topic.


- (10) a. *shui, ta you ma wo. b. shui si-le fuqin?
 who she/he again scold I who die-asp father
 cf. Zhangsan, ta you ma wo. ‘lit. Who died father’
 cf. Zhangsan si-le fuqin.

Given these facts in (9) and (10), we can conclude that the DP which appears at the preverbal position is not a dangling topic. The BG analysis cannot explain the theta-role of preverbal DP.

3. The Scattered Deletion analysis

3.1 The copy theory of movement and chain

As a prerequisite for discussing the adaptation of the Scattered Deletion analysis in Mandarin, we must introduce the copy theory of movement and chain. Chomsky (1993) suggests that the movement of an element leaves a copy rather than a trace. For example, in (11), *Mary* leaves a copy at the subject position of the embedded infinitival clause after it moves to the subject position of the main clause.

- (11) Mary seems Mary to be smart.
- 

Mandarin-specific phenomenon.

According to Chomsky (1986:95-97), a chain reflects a ‘*history of movement*’ in the surface structure. Therefore, the two instances of *Mary* in (11) form a chain as [Mary, ~~Mary~~]. Chomsky assumes that the upper copy of *Mary* is in the position where nominative Case is assigned and the lower copy of *Mary* appears in the position where the theta-role is assigned, and thus the chain [Mary, ~~Mary~~] in (11) is legitimate. In other words, Case and theta-role are assigned to the chain.

3.2 the Scattered Deletion analysis in English

Under the copy theory of movement, (12) can be derived as demonstrated in (13).

(12) Which book did you read about quantum physics?

(13) a. you read [which book about quantum physics]?

↓ **Copy and Movement**

b. [Which book about quantum physics] you read [which book about quantum physics]?

↓ **Complementary Deletion**

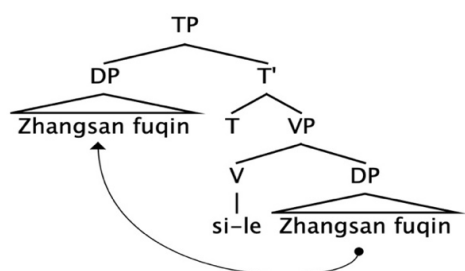
c. [~~Which book about quantum physics~~] you read [~~which book~~ about quantum physics]?

It is generally the case that the upper copy is pronounced, and the lower copy is phonologically silent when movement applies. However, Fanselow and Cavar (2002) provide Croatian cases in which a part of the upper copy is pronounced, and the complementary part of the lower copy is pronounced. The derivation in (12) is viewed as an English instance of complementary deletion. If this is the case, we do not have to resort to the Extraposition of [about quantum physics], which was the standard analysis since Ross (1967) but is not a desirable operation in the minimalist syntax.

3.3 The Scattered Deletion analysis in Mandarin

In our analysis, the USAC is derived similarly to (13). Here we will use *Zhangsan si-le fuqin* as an example. The DP *Zhangsan fuqin* ‘Zhangsan father’ generates in the postverbal position and is copied and moved into the preverbal position as shown in (14).

(14)



The DP *Zhangsan fuqin* and its copy form a chain [(Zhangsan fuqin)...(Zhangsan fuqin)]. Through this chain, we are able to resolve the problems of Case and theta-role that arise in both PR analysis and BG analysis. The chain [(Zhangsan fuqin)...(Zhangsan fuqin)] receives the nominative Case in the Spec TP position via T, and the theme theta-role is assigned by the verb via the postverbal position to the chain. After the copy and movement, the complementary deletion is applied. Following the

general practice of the copy theory of movement (Chomsky 1993, Bošković 2007), we have the four patterns in (15) below.

- (15) a. Zhangsan de fuqin si-le ~~Zhangsan fuqin~~. b. Zhangsan fuqin si-le ~~Zhangsan fuqin~~.
 c. *~~Zhangsan~~ fuqin si-le Zhangsan fuqin. d. *~~Zhangsan fuqin~~ si-le Zhangsan fuqin.

In (15a), the lower copy *Zhangsan fuqin* is deleted and the genitive marker *de* is inserted as a last resort to avoid the surface N-N sequence (Huang 1982:57). (15b) is derived with no problem as desired.

As we mentioned before, according to Belletti (1988), a definite NP/DP cannot receive a partitive case from unaccusative verbs. Let us assume that the definiteness effect is applicable for phonologically realized DPs. Given this, (15d) is out since the postverbal surface DP *Zhangsan fuqin* is definite. It is important to keep in mind that the sentence is grammatical when the postverbal DP is indefinite, such as (3b), repeated here as (16).

- (16) Si-le yi-ge-ren.
 Die-asp one-quantifier-person
 ‘A man died.’

As for (15c), we refer to Fox and Pesetsky (2005) who claim that the sequence of words established in an earlier spell-out domain may not be revised or contradicted in a later spell-out domain. According to the underlying order before deletion, *Zhangsan* precedes *fuqin* in the DP, but *fuqin* precedes *Zhangsan* in (15c), which violates this condition.

4. Conclusion

In this paper, we present that USAC such as (6), repeated here as (17), exist in Mandarin.

- (17) Zhangsan si-le fuqin.
 Zhangsan die-asp father
 ‘Zhangsan’s father died.’

Since the moved DP *Zhangsan fuqin* and its copy form a chain in the Scattered Deletion analysis, the derivation of USAC can be explained without the Case and theta-role problem, which the previous PR analysis and BG analysis face. The externalizations are also derived without problems.

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