

# Deletion within Chinese DP – Licensing Condition, Deletion Domain and Antecedent

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## Abstract

The aim of this paper is to observe the empty categories inside the Chinese DP domain. Firstly, the deletion of NP/N' is proposed. Equation sentence with a “Modifier- Empty-NP” object can only result from ellipsis but not base-generated empty categories in Mandarin Chinese. Secondly, given the rich functional elements and modifications in the internal structure of Chinese DP, we would be able to ascertain the domain over which deletion happens, and the licensing condition (Lobeck 1990; Saito & Murasugi 1990).

## 1. Introduction

It is known that, in Chinese, the subject and object empty nominals are analyzed as pro-form (Pro) and A-bar-bound variables respectively (Huang 1984). Huang's biggest insight was that, unlike anaphors, the empty nominal in object position displayed many properties of R-expressions. Following this observation, we further propose a possibility that PF deletion has applied in the domain of DP, especially in DP-internal object empty elements. Similar to Japanese *no*- (Kamio 1983; Saito et al. 2008), Chinese pre-nominal morpheme *de*- introduces modifiers of at least three kinds – possessor, relative clause, and adjectival modifier. Multiple modifications are possible among these three kinds. As reported in much literature (Larson & Takahashi 2002, Larson 2007; Hsieh 2005; Lin 2008), *i*-level and *s*-level modifier asymmetry must be observed. Stage-level modifiers must precede the individual-level modifiers and is placed further from a Chinese nominal. This study will explore how functional projections license ellipsis and what is the constituent deleted within DP.

In section 2, we will give a brief background about the nature of Chinese nominals, and how it is a good target for analyzing the deletion within DP. Section 3 is our main analysis on the deletion mechanism. 3.1 discusses the DNC<sup>1</sup> order of functional elements preceding the stem noun, and how it could be related to the licensing condition of deletion phenomena. 3.2 discusses three kinds of single *de*-modifier, the

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<sup>1</sup> The DNC order is an abbreviation for the pre-nominal elements in Chinese including: Demonstrative, Numeral, and Classifier respectively.

multiple *de*- modification, and the way we observe deleting domain. 3.3 discusses the antecedent requirement of the NP deletion. Section 4 concludes this article with some insights into Chinese DP structure and theories of the deletion phenomena.

## 2. Setting the Stage

### 2.1 The R-Expression Properties

Empty nominals have long been an interesting issue among linguistic literatures. Huang (1984; 1987) convincingly showed that Chinese empty NPs in matrix clauses are pro-forms while the (embedded) objects are a variable bound by discourse topic. This means that the interpretation of object is only deictically decided rather than A(rgument)-bound. His typical examples were given as follow. The empty nominal could be A-bound in the embedded subject position as in (1) and its reference is co-indexed with the subject of the matrix clause. The object in (2)a, on the other hand, shows the A-bar-bound nature of the relevant empty category. Its reference could only be someone in the discourse. This is obviously distinct from the overtly realized pronoun in (2)b.

- (1) a. Zhangsan<sub>i</sub> shuo [[e<sub>i</sub>] bu-renshi Lisi]  
       ZS           say [   not-know LS]  
       ‘Zhangsan said that he does not know Lisi’  
       張三<sub>i</sub>說 [ e<sub>i</sub> 不認識李四]
- b. Zhangsan<sub>i</sub> suo [[e<sub>i</sub>] yao   qu taibei]  
       ZS           say [   want   go Taipei]  
       ‘Zhangsan said that he wants to go to Taipei’  
       張三<sub>i</sub>說 [ e<sub>i</sub> 要去台北]
- (2) a. [ Zhangsan<sub>i</sub> suo [Lisi<sub>j</sub> bu renshi [e<sub>i/\*j/k</sub>]]]  
       ZS           say LS   not know  
       ‘Zhangsan said that Lisi doesn’t know him’  
       張三<sub>i</sub>說[李四不認識 e<sub>i/\*j/k</sub> ]
- b. [Zhangsan<sub>i</sub> suo [Lisi<sub>j</sub> bu renshi ta<sub>i/\*j/k</sub> ]]  
       ZS           say [LS   not know him/he]  
       ‘Zhangsan said that Lisi doesn’t know him’  
       張三<sub>i</sub>說李四<sub>j</sub>不認識他<sub>i/\*j/k</sub>

However, the nature of an empty nominal is not so simple. It is naturally assumed that

covert nominal-elements could be categorized just like their overt counterparts, and defined by two features mentioned in the literature of Binding (Chomsky 1982:79-89)<sup>2</sup>. Upon examining the two examples, aside from variables, traces or a pro-forms, we now know that PF deleted constituents are also one sort of empty category. With more and more studies and literatures on deletion or ellipsis (Merchant 1999; Lasnik 2006; among others) and the DP internal structure (Abney 1987 among others), we would be able to explore the possibility of this proposal. In the following section, we will demonstrate how the proposal of a deletion works but a pronominal element doesn't.

## 2.2 Deletion or Pronominals?

The examples in the previous section show that empty nominal display distinct properties in referential identification. Another fact displayed in the following examples (4)-(6) is that syntactic forms should not be treated on a par with the semantic reference. Chinese possessive nominal is realized as the example (3). A morpheme “*de*” introduces the possessor, which modifies the nominal in a possessive DP.

- (3) Zhangsan *de* shu  
 Zhangsan DE book  
 ‘Zhangsan’s book’  
 張三的書

In an equational sentences<sup>3</sup> (Ross 1983), when the possessor modifies an empty nominal in the object position, the reference of the whole DP could refer back to the subject. In other words, the references of SUB and OBJ are the same, *there is only one book* in (4). And the Phonological form of [e<sub>i</sub>] is *shu* ‘book’.

- (4) [Zhe-ben shu] shi [Zhangsan *de* [e<sub>i</sub>]].  
 This-CL book be ZS DE  
 ‘This book is Zhangsan’s’  
 這本書是張三的

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2 NP types could be described by two nominal-related features: [Anaphor] and [Pronominal].  
 [+Anaphor, - Pronominal] refer to Reciprocals and reflexives, which must be bound within its GC.  
 [- Anaphor, + Pronominal] refer to Pronouns, which must be free within the GC.  
 [- Anaphor, - Pronominal] refer R-expression.  
 [+ Anaphor, + Pronominal] refer to PRO which is not governed and has no GC at all.

According to Huang (1984; 1987), the empty nominal in subject position is somewhat similar to PRO, or in his terms as Pro. The empty categories in the object position, and the ones described in this article should obtain the qualities of an R-expression.

<sup>3</sup> Here we adopt Ross (1983)’s analysis on *shi...de* construction as equational sentence.

In (5), the empty nominal in two conjuncts are all the same in regards to non-pronounced PF forms (The form deleted in  $[e_i]$ ,  $[e_j]$ , and  $[e_k]$  are all *shu* ‘book’), but the references are different; there are two books in this proposition.  $[e_k]$  could be referred to  $[e_j]$ , but not as  $[e_i]$ . This pattern could be compared with (6), where the form deleted in  $[e_1]$  and  $[e_3]$  are both *shu* ‘book’. In  $[e_2]$ , on the other hand, it’s *na-ben shu* ‘that book’ (NOT *shu* ‘book’). As for the references, they are all refer to the same entity, so that there is only one book in the interpretation of this proposition. That’s to say,  $[e_3]$  could be referred back to  $[e_2]$ ,  $[e_1]$ , and even the first subject. Suppose one of the cases in (5) and (6) is a result of pronominal binding, there must be something else that governs the surface realization of the other one.

(5) [zhe-ben shu] shi [Zhangsan de  $[e_i]$ ], [na-ben  $[e_j]$ ] shi [Lisi de  $[e_k]$ ].

This-CL book be ZS DE that-CL be LS DE

‘This book is Zhangsan’s, that one is Lisi’s’

這本書是張三的 $[e_i]$ , 那本 $[e_j]$ 是李四的 $[e_k]$

(6) [zhe-ben shu] shi [Zhangsan de  $[e_1]$ ],  $[e_2]$  bu shi [Lisi de  $[e_3]$ ].

This-CL book be ZS DE, not be LS DE

‘This book is Zhangsan’s, not Lisi’s’

這本書是張三的 $[e]$ ,  $[e]$  不是李四的 $[e]$

At this point, it is fair to state two things: First, SEMANTIC REFERENCIALITY of an empty element is related to another linguistic entity by some principled mechanism. But it is different from the mechanism governing SYNTACTIC FORM as the PF forms in (4)-(6). It means that not all the covert nominal forms are anaphorically A-bound. Not all the empty categories are analyzable as pronoun-like elements or anaphors (anaphoric, reflexives). The second fact would be that the empty categories after morpheme *de-* in (5)(6) are constituents smaller than DP. Once again it would not be an empty pronoun, since a pronoun must be a DP. A possible hypothesis is to assume that phonologically covert forms could be realized as deletion of certain smaller syntactic category following the principles of deletion. The references, on the other hand, are decided by the construction of equational sentences “*DP shi DP*”, or its negation “*DP bushi DP*”. Before we go through the NP/N’ deletion literature in the next section, we will first see why Chinese is a good target for observing deletion phenomena within DP.

### 2.3 Complexity of Chinese DP

On the other hand, it is well known that Chinese has complex usages of *de*-<sup>5</sup>. If we only consider the cases of *de*- introducing pre-nominal modifications, there are at least three types – genitive (possessive) *de*-(8), relativization *de*- (9), and adjective modification *de*- (10). Also the different levels of modifications in DP (Lin 2008; Hsieh 2005; Larson 2007) are very much in parallel with the TP structure.

Zhe                    -san            -ben            -shu  
 Demonstrative Numeral Classifier book  
 ‘these three books’  
 這三本書

ZS                      DE book  
'Zhangsan's book'  
張三的書

ZS            yesterday buy DE book  
'the book Zhangsan bought yesterday'  
張三昨天買的書

(1) a. <sub>[NP</sub> [<sub>RC</sub> Mari -ga motteki -ta] ringo]-wa amari oisiku-nai no dat-ta  
 -Nom bring -Past apple -Top too delicious-not NO be-Past  
 ‘The apple which Mari brought with her was not too delicious.’  
 b. \* <sub>[NP</sub> Taroo -no sinnen] -wa totemo katai no dat-ta  
 -Gen conviction -Top very firm NO be-Past  
 ‘Taroo’s conviction was very firm.’

- (10) [hou hou de] shu  
 thick thick DE book  
 ‘thick book’  
 厚厚的書

English attributive modifiers (Larson 1998, Del Gobbo 2005), Japanese (Takahashi 1997) and Korean relatives (Larson 2007), display an ordering preference. Chinese shows the same *s*-level and *i*-level asymmetry which is well-captured in Hsieh (2005) and Lin (2008)<sup>6</sup>. Their point is that individual-level modifier must be placed closer to the stem noun and stage-level one is further to the noun as in (11).

More interestingly, the multiple possessive *de*- also display the *i*-level and *s*-level asymmetry. As shown in the example (12), the first possessive phrase *Zhangsan de* ‘Zhangsan’s’ is interpreted as *the owner of the book*, while the second possessive phrase *Lisi de* ‘Lisi’s’ is realized as *the author of this book*. The property of being written by a certain person is comparatively more stable a characteristic than the property of being owned by a person. The different meanings of the two modifiers reflect the phenomena reported in the literatures mentioned above.

- (11) Japanese Individual-level & Stage-level RC (from Larson & Takahashi 2002)  
 a. [Watashi-ga kinoo atta] [tabako-o suu] hito-wa Tanaka-san desu.  
 [1SG-NOM yesterday met][tobacco-ACC inhale] person-TOP T.-COP  
 ‘The person who smokes who I met yesterday is Miss Tanaka.’  
 b. ?\*[Tabako-o suu][watashi-ga kinoo atta] hito-wa Tanaka-san desu.

- (12) Zhe-ben shu shi [[Zhangsan de] [Lisi de] shu]  
 This-CL book is Zhangsan DE Lisi DE book  
 Lit: ‘This book is Zhangsan’s and is written by Lisi’  
 這本書是[張三的][李四的]書

Given the rich contents of Chinese DP’s internal elements, we will see how these nominal phrases could tolerate an empty category in a deletion environment in the next section. And we will also see how far the current understanding of PF deletion could deal with the DP internal deletion with multiple modifications in Mandarin Chinese.

### 3. The Deleted Constituent

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<sup>6</sup> Hsieh (2005) and Lin (2008) are different in that the previous account simply treats two modifications as spec of DP and NP respectively; while Lin (2008) suggested that *s*-level and *i*-level relatives can both occur within the domain of NP and DP. The ordering restriction is the result of superiority effect.

At this point, it is necessary to go back to the literatures about deletion inside of DP. The typical example of NP or N' deletion is the case in (13), and its two accounts are given in (13)a and (13)b. Traditionally, the empty element is analyzed as N'-deletion (13)a; while Lobeck (1990) and Saito & Murasugi (1990) reanalyzed it as NP deletion (13)b.<sup>7</sup>

(13) This book is Mary's [e].

a. [<sub>NP</sub> Mary's [<sub>N'</sub> ~~book~~]]

b. [<sub>DP</sub> Mary [<sub>D</sub>'s] [<sub>NP</sub> ~~book~~]]

### 3.1 Chinese DNC Order & Licensing Condition

It is naturally assumed in the literature (Lobeck 1990, 1995; Saito & Murasugi 1990; and Saito et al 2008) that deletion must be licensed under certain configuration, which is mostly related to a functional head. The licensing condition helps explain why NP/N', VP, and IP are legitimate targets for PF deletion, when other constituents are not. Lobeck (1990); Saito & Murasugi (1990) proposed a licensing condition to the deletion of NP/or DP elements (14). It is defined under a condition that Spec of a functional projection must be filled with an XP.

(14) An XP which is a complement of a functional category can be deleted iff the functional head has a specifier which it agree with.

Later, Lobeck (1995) gave another definition to the licensing condition in her book (15). This configuration is only defined under head-government. We adopt this position<sup>8</sup> and see what Chinese deletion data could tell us.

(15) An empty, non-arbitrary pronominal must be properly head-governed, and identified by an X-0 specified for strong agreement. (Lobeck 1995:35)

It is known that English numerals and demonstratives are qualified licensors for deletion within DP.

(16) John bought [<sub>DP</sub> these [books]], and Mary bought [<sub>DP</sub> those [<sub>NP</sub>]].

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<sup>7</sup> We don't mention the possibility of "one's deletion" (Ross 1986) because a nominal is never replaced by an overt pronominal --- English counterpart of *one* in Chinese grammar.

<sup>8</sup> Though what is good about the previous (14) licensing condition is better in dealing with sluicing data, the null hypothesis in analyzing DP is to avoid movement of any modifier phrase if simply licensing is sufficient to account for the surface data.

(17) John bought [QP three [NP books]], and Mary bought [QP five ~~[NP books]~~]

Pre-nominal elements in Chinese DP display a DNC order. The DNC represents Demonstrative, Numeral, and Classifier respectively. Among these elements, empty category is only licensed by classifier (18) and *xie* (19)—the plural marker bound to Demonstrative. Different from English, numerals (20) and demonstratives (21) are not possible licensors for the deletion within DP.<sup>9</sup>

(18) Zhangsan kan-le zhe-san-ben shu, Lisi kan-le na-san-ben [e]

ZS read-Prf this-three-CL book, LS read-Prf that-three-CL

‘Zhangsan read these three books, Lisi read those three’

張三看了這三本書，李四看了那三本 ~~[NP 書]~~

(19) Zhangsan mai-le zhe-xie shu, Lisi mai-le na-xie ~~[shu]~~.

ZS buy-Prf this-PL books, LS buy-Prf that-PL

‘Zhangsan bought these books, and Lisi bought those’

張三買了這些書，李四買了那些~~[書]~~

(20) a. \*Zhangsan kan-le zhe-san-ben shu, Lisi kan-le na-wu ~~[ben-shu]~~

ZS read-Prf this-three-CL book, LS read-Prf that-five

‘Zhangsan read these three books, Lisi read those five.’

\*張三看了這三本書，李四看了那五 ~~[NP 本書]~~

b. \* Zhangsan kan-le san-ben shu, Lisi kan-le wu ~~[ben-shu]~~

ZS read-Prf three-CL book, LS read-Prf five

‘Zhangsan read three books, Lisi read five’

\*張三看了三本書，李四看了五 ~~[NP 本書]~~

(21) \* Zhangsan kan-le zhe-san-ben shu, Lisi ye kan-le na ~~[NP san-ben-shu]~~

ZS read-Asp this-three-CL book, LS also read-Asp that

‘Zhansan read these three books, and Lisi read those ones’

\*張三看了這三本書，李四也看了那 ~~[NP 三本書]~~

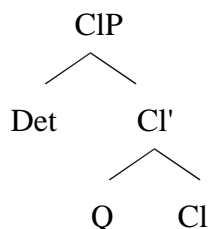
<sup>9</sup> Some might suggest another possible case as in the following example. Xu (2003) and Huang (1991) have provided some analysis concerning NOC-like/ V-stranding VPE respectively. Therefore, we would not take this example as any kind of DP deletion at this stage.

(2) Zhangsan kan-le zhe-san-ben shu, Lisi ye kan-le ~~[DP na-san-ben-shu]~~  
 Zhangsan read-Asp this-three-CL book, Lisi also read-Asp that-three-CL book  
 張三看了這三本書，李四也看了~~[DP 那三本書]~~

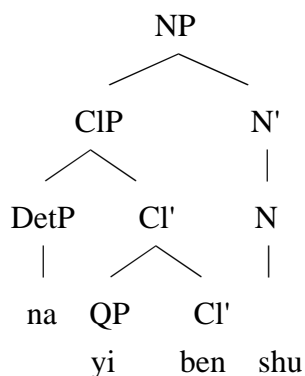


Adopting the deletion analysis would favor a construction in which Classifier heads the DP. As illustrated by Huang (1982) and Lin (1997), Classifier plays an important role in DP of classifier languages.

(22) Huang (1982): possible structures for a DNC sequence.



(23) Lin (1997): a structure analysis for DNC order.



If the licensing condition analysis is on the right track, Classifier must head certain functional projection in Chinese nominals, whether we endorse the DP hypothesis (Abney 1987) or not. This could shed light on a future analysis on Chinese DP structure.

### 3.2 Three Kinds of *-de* in Nominals and Deletion Domain

As mentioned in the previous section, multiple *de*- modification is possible. This section is to show the way an empty category (or PF deletion) is licensed under the complex *de*-modification of Chinese DP. Different layers of modifier between N and DP domain can tell us much about the deletion domain of this operation. One delima concerning deletion domain within DP will be discussed in 3.2.2. It is suggested that focus fronting must apply on the modifier phrase for the deletion to operate on one single constituent.

#### 3.2.1 One *de*- Modification

Chinese *de*- introduces possessive modifier (8), relative clause (9), adjectival modifier (10). Among the three kinds of *de*- modification, all of them (24)-(27) can license an

empty nominal in object (a sentences), subject (b sentences), and comparative construction (c sentences) as illustrated in the following examples. We will mention it as deleted nominal from now on.

(24) Genitive *de*-

- a Zhe-ben shu shi [Zhangsan de [shu]], na-ben shu shi [Lisi de [e]]  
 This-CL book be ZS DE book that-CL book be LS DE  
 ‘This book is Zhangsan’s book, and that book is Lisi’s’  
 這本書是張三的[書]，那本書是李四的[e]
- b [Zhangsan de [shu]] shi yi-ben jiaokeshu, [Lisi de [e]] shi yi-ben cankaoshu  
 ZS DE book be one-CL textbook, LS DE be one-CL reference.book  
 ‘Zhangsan’s book is a textbook; Lisi’s book is a reference book’  
 張三的[書]是一本教科書，李四的[e]是一本參考書
- c [Zhangsan de [shu]] bi [Lisi de [e]] gui  
 ZS DE book than LS DE expensive  
 ‘Zhangsan’s book is more expensive than Lisi’s’  
 張三的書比李四的[e]貴

Chinese relative clause as head final also license an deleted nominal both in *s*-level (25) and *i*-level (26) relativizations.

(25) *S*-level Relative Clause *de*-

- a Zhe-ben shu shi [wo zuotian mai de shu<sup>10</sup>], na-ben shu shi [ta zuotian mai de [e]]  
 this-CL book be I yesterday buy DE book, that-CL book be he yesterday buy DE  
 ‘This book is the one I bought yesterday, that book is the one he bought yesterday’  
 這本書是我昨天買的書，那本是他昨天買的[e]
- b [Wo zuotian mai de shu] shi yi-ben jiaokeshu, ...  
 I yesterday buy DE book be one-CL textbook,  
 ‘The book I bought yesterday is a textbook, ...  
 我昨天買的書是一本教科書，
- [ta jintian mai de [e]] shi yi-ben cankaoshu  
 he today buy DE be one-CL reference.book

<sup>10</sup> The object nominal *shu* here tends to be empty, though the sentence is just as grammatical with its existence.

the one he bought today is a reference book.'

他今天買的[e]是一本參考書

c [[Wo zuotian mai de ] shu] bi [ta jintian mai de [e]]

I yesterdat buy DE book than he today buy DE

'The book I bought yesterday is more expensive than the one he bought today'

我昨天買的書比他今天買的[e]貴

(26) *i*-level Relative Clause *de*-

d zhe-ben shu shi [[Zhangsan xie de] shu], na-ben shu shi [[Lisi xie de [e]]

this-CL book be ZS write DE book, that-CL book be LS write DE

'This book is the one Zhangsan wrote, that book is the one Lisi wrote'

這本書是張三寫的書，那本書是李四寫的[e]

e [[Zhangsan xie de] shu] shi yi-ben jiaokeshu,

ZS write DE book be one-CL textbook

'The book Zhangsan wrote is a textbook,

張三寫的書是一本教科書，

[Lisi xie de [e]] shi yi-ben cankaoshu

LS write DE be one-CL reference.book

The one Lisi wrote is a reference book'

李四寫的[e]是一本參考書

f [[Zhangsan xie de] shu] bi [Lisi xie de [e]] gui

ZS write DE book than LS write DE expensive

'The book Zhangsan wrote is more expensive than the one Lisi wrote.'

張三寫的書比李四寫的[e]貴

Adjective modifiers display the same pattern; the empty categories are allowed in object (27)a , subject (27)b and comparative phrases (27)c .

(27) Adjective Modifier *de*

a Zhe-duo hua shi hong de [hua], na-duo hua shi huang de [e]

This-CL flower be red DE flower, that-CL flower be yellow DE

Lit. 'This flower is red, and that one is yellow'

這朵花是紅的[花]，那朵花是黃的[e]

- b hong de hua shi meigui hua, huang de [e] shi juhua  
 red DE flower be rose yellow DE be chrysanthemum  
 ‘The red flower is a rose, and the yellow one is a chrysanthemum’  
 紅的花是玫瑰花，黃的[e]是菊花
- c hong de hua bi huang de [e] gui  
 red DE flower than yellow DE expensive  
 ‘Red flower is more expensive than yellow one’  
 紅的花比黃的[e]貴

### 3.2.2 Stacking: Two *de*- Modification

Things could be more complicated when we get into the multiple modifications. Two identical modifiers could precede an empty nominal. For example, the double genitive modifier in (12) repeated in (28) could modify a deleted nominal (29). As mentioned in section 2.2, multiple genitive display the *i*-level / *s*-level asymmetry as well. The first possessor (Zhangsan in (28)) is interpreted as *the owner of the book* while the second possessor (Lisi in (28)) is semantically realized as *the writer of this book*. Being the author of a book is obviously a more *i*-level property than owning a book. And it must stand closer to the stem noun.

- (28) Zhe-ben shu shi [[Zhangsan de] [Lisi de] shu]  
 This-CL book be Zhangsan DE Lisi DE book  
 Lit: ‘This book is Zhangsan’s and is written by Lisi’  
 這本書是[張三的][李四的]書

What is interesting is that, in the second conjunct of examples (29) and (30), we allow an empty category to be “one modifier with the head noun”. According to the principle of parallelism, the non-pronounced [ $e_k$ ] in (29) is [*chaomusiji de*] *shu* ‘Chomsky’s book’, and the native judgment indicates so, too. The [ $e_v$ ] in (30), on the other hand, could be a little bit problematic. The parallel requirement and semantic interpretation indicate that the deleted constituent in (30) is [*Zhangsan de*] *shu* ‘Zhangsan’s book’. It is, again, a constituent of “one modifier with the head noun”. But the ordering requirement constraints the deleted modifier [*Zhangsan de*] ‘Zhangsan’s’ to precede the *i*-level modifier [*Lushun de*] ‘Lushun’s’.

- (29) Zhe-ben shu shi [zhangsan de][chaomusiji de] shu, na-ben shu shi [Lisi de]{ $e_*$ }  
 This-CL book be ZS DE Chomsky DE book, that-CL book be LS DE  
 Lit. ‘This book is the book owned by Zhangsan and written by Chomsky;

however, that book is the one owned by Lisi and written by Chomsky’  
 這本書是[張三的][喬姆斯基的]書；那本書是[李四的] [e<sub>x</sub>]

- (30) Zhe-ben shu shi [[zhangsan de] [yukuangchung<sup>11</sup> de]] shu, ...  
 This-CL book be ZS DE Yukuangchung DE book  
 這本書是[張三的][余光中的]書

na-ben shu shi [[Lushun de] [e<sub>y</sub>]]  
 that-CL book be Lushun DE  
 , 那本書是[[魯迅的][e] ]

Lit. ‘This book is the book written by Yukuangchung and owned by Zhangsan;  
 however, that book is the book written by Lushun and owned by Zhangsan’

Here comes the problem for our deletion analysis of empty nominal. Analyzing the case in (30) to be ellipsis will lead to a configuration in (31), where the deleted element is not a constituent as a whole. The catch is that deletion could ONLY operate on one syntactic constituent.

- (31) Zhe-ben shu shi [[zhangsan de] [yukuangchung de]] shu, ...  
 This-CL book be ZS DE Yukuangchung DE book  
 這本書是[張三的][余光中的]書

na-ben shu shi [~~zhangsan de~~] [Lushun de] ~~shu~~  
 that-CL book be ZS DE Lushun DE book  
 , 那本書是[張三的][魯迅的][書]

In the cases of stacking, two *i*-level (32)(33) and two *s*-level (34) modifications display the same problem. A modifier could be deleted with noun (32), but it would lead to a conflict on the constituency of ellipsis (33) (34)<sup>12</sup> if the deleted nominal includes the

<sup>11</sup> *Yukuangchung* and *Lushun* are writers of famous Chinese modern literature.

<sup>12</sup> Actually one *s*-level and one *i*-level modification shows the same pattern. The following is an example:

- (3) Zhangsan shi [zuotian lai Taipei de] [hui shuo jinpianzi de] jiaoshou  
 ZS be [yesterday come Taipei DE] [can speak Peking.dialect DE] professor  
 ‘Zhangsan is the professor who speaks Peking dialect, and came to Taipei yesterday’  
 張三是[昨天來台北的][會說京片子的]教授

Lisi ze shi [~~zuotian lai Taipei de~~] [buhui shuo jinpianzi de] jiaoshou  
 LS however be [ yesterday come Taipei DE] [cannot speak Peking.dialect DE] professor  
 ‘Lisi; however, is the professor who cannot speaks Peking dialect, and came to Taipei yesterday’  
 李四則是[昨天來台北的][不會說京片子的]教授

first modifier.

- (32) Zhangsan shi [hui shuo jingpianzi de] [xihuan guoju de] ren  
ZS be [can speak Peiking.dialect DE] [like Chinese-opera DE] person  
‘Zhangsan is the person, who can speak Peking dialect and loves Chinese opera’  
張三是 [會說京片子的] [喜歡國劇的]人；

Lisi ze shi [buhui shuo jingpianzi de] [~~xihuan guoju de~~] ~~ren~~  
LS however be [cannot speak Peiking.dialect DE] [like Chinese-opera DE] person  
Lit: ‘Lisi; in contrast, is the one who cannot speak Peking dialect, but loves  
Chinese opera’  
李四則是 [不會說京片子的] [喜歡國劇的]人

- (33) Zhangsan shi [hui shuo jingpianzi de] [xihuan guoju de] ren  
ZS be [can speak Peiking.dialect DE] [like Chinese-opera DE] person  
‘Zhangsan is the person who can speak Peking dialect and loves Chinese opera’  
張三是 [會說京片子的] [喜歡國劇的]人；

Lisi ze shi [~~hui shuo jingpianzi de~~] [bu xihuan guoju de] ~~ren~~  
LS however be can speak Peking.dialect DE not like Chinese.opera DE person  
Lit: ‘Lisi; on the other hand, is the one who can speak Peking dialect, but does not  
love Chinese opera’  
李四則是 [~~會說京片子的~~] [不喜歡國劇的]人

- (34) Zhe-shu hua shi [zuotian mai de] [jintian cai kai de] meiguihua,  
This-CL flower be [yesterday buy DE] [today then bloom DE] rose  
‘This bundle of flowers is the one bought yesterday, and bloomed today’  
這束花是 [昨天買的] [今天才開的]玫瑰花；

Na-shu hua shi [~~zuotian mai de~~] [jintian haimei kai de] ~~meiguihua~~  
That-CL flower be [yesterday buy DE] [today not.yet bloom DE] rose  
‘that bundle of flower is the one bought yesterday, but not yet bloomed today’  
那束花是 [~~昨天買的~~] [今天還沒開的]玫瑰花

### 3.2.3 To Solve the Problem

To solve the problem discussed in 3.2.2, example (33) repeated in (35) is accounted by assuming a focus fronting. The focused modifier phrase is fronted to a DP internal

focus position and the internal NP is deleted then. Nonetheless, the focus fronting of pronominal element is another isolating phenomenon in Chinese. As noted in Zhang (1998) and Lin (2008), Chinese attributive adjective could be fronted to preceding DNC order (36). And it is considered as focus movement in nature.

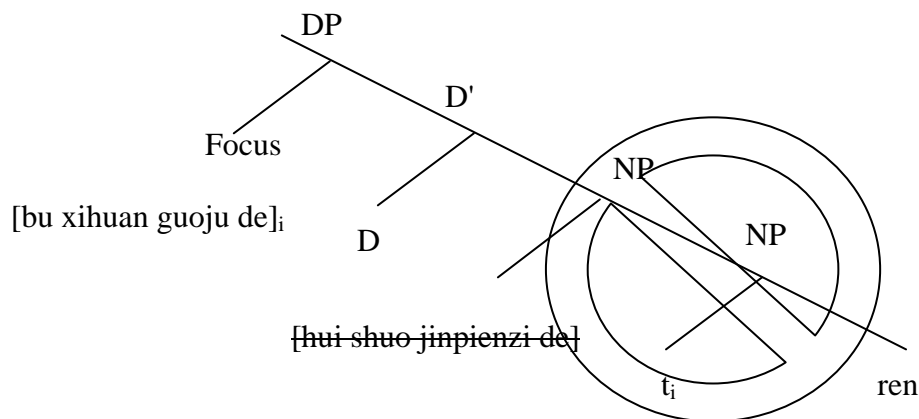
- (35) [DP bu xihuan guoju de] [<sub>NP</sub> ~~[hui shuo jinpianzi de]~~ [<sub>t<sub>i</sub></sub>] ~~[ren]~~]  
 not like Chinese.opera DE [<sub>NP</sub> [can speak Peking.dialect DE] [<sub>t<sub>i</sub></sub>][person]]  
 [DP 不喜歡國劇的] [<sub>NP</sub> ~~[會說京片子的]~~ [<sub>t<sub>i</sub></sub>] ~~[人]~~]

- (36) a. Yi-jien [hong hong de] yifu (Zhang 1998:198)  
 One-CL [red red DE] clothes  
 ‘a piece of red clothes’  
 ‘一件 [紅紅的] 衣服’

- b. [hong hong de] yi-jien *t<sub>i</sub>* yifu.  
 [red red DE] one-CL clothes  
 ‘a piece of **red**<sup>13</sup> clothes’  
 ‘[紅紅的] 一件 *t<sub>i</sub>* 衣服’

Our analysis is represented in the following tree diagram (37). Focus fronting of a modifier phrase following a NP deletion results in the surface of (35).

(37)



There is one remaining issue to be mentioned here. If the account (37) is on the right track, how is it that the fronted element observes no superiority effect of any? Superiority effect is known to constraint the crossing path of multiple movements of the same type (Rudin 1988; Bruening 2001). Lin (2008) extended its application on the

<sup>13</sup> The boldface is used to indicate the placement of a focal stress.

pronominal modifiers. We could suggest that the stacking of the same type of *de*-modifier (33)(34) is equi-distance so that they could be moved across another *de*-modification.

### 3.3 Antecedent

Another property of deletion must be observed in our cases is the antecedent requirement. PF operation is operated in the Phonological component of the second conjunct, and must be applied in accordance with the first conjunct (Merchant 1999). The null hypothesis is to assume the strictest syntactic parallel that the antecedent must appear in the same syntactic position of the first conjunct. And this requirement is observed in Chinese data. The contrast in (38)(39) shows that deleted nominal is only possible when the antecedent is available in the first conjunct.

#### OBJECT CHAIN

- (38) \*[zhe-san-ben shu] shi [Zhangsan de [e<sub>i</sub>]], [na-san-ben shu] shi [Lisi de shu]  
 This-three-CL book be ZS DE that-three-CL book be LS DE book  
 ‘These three books are Zhangsan’s, and those three books are Lisi’s book’  
 \*[這三本書]是[張三的[e<sub>i</sub>]], [那三本書]是[李四的書]

- (39) Zhe-san-ben shu shi Zhangsan de shu, na-san-ben shu shi Lisi de [e<sub>i</sub>]  
 This-three-CL book be ZS DE book, that-three-CL book be LS DE  
 ‘These three books are Zhangsan’s books, and those three books are Lisi’s’  
 [這三本書]是[張三的書], [那三本書]是[李四的[e<sub>i</sub>]]

The same asymmetric is shown in the subject position as in (40)(41).

#### SUBJECT CHAIN

- (40) \*zhe-san-ben [e<sub>i</sub>] shi Zhangsan de shu, na-san-ben shu shi Lisi de shu  
 This-three-CL be ZS DE book that-three-CL book be LS DE book  
 ‘These three are Zhangsan’s books, and those three books are Lisi’s book’  
 \*[這三本[e<sub>i</sub>]]是[張三的書], [那三本書]是[李四的書]

- (41) zhe-san-ben shu shi Zhangsan de shu, na-san-ben [e<sub>i</sub>] shi Lisi de shu  
 this-three-CL book be ZS DE book, that-three-CL be LS DE book  
 ‘These three are Zhangsan’s books, and those three are Lisi’s book’  
 [這三本書]是[張三的書], [那三本[e<sub>i</sub>]]是[李四的書]

However, here we meet another puzzle that NP can be left empty in both subject position (42), both two object positions (43), or even all of the nominals of the two



conjuncts in the case of (44). It seems that our account in the previous section leaves it unclear how the object is deleted since ellipsis in PF is subject to parallel condition. Our answer to this question is that the cases mention in (42)-(44) shows no deletion mechanism. The two conjuncts are independent propositions similar to the cases of Huang (1984; 1987) or shown in (1)(2). Here we have to suggest a covert topic in the matrix CP of the conjoint IP or CP constituent. Or we will need further researches to distinguish these cases which are licensed by antecedent conjunct and those do not.

#### NO ANTECEDENT

(42) [Zhe-ben [e] shi [Zhangsan de shu]], [na-ben [e]] shi [Lisi de shu]

This-CL be ZS DE book that-CL be LS DE

Lit. ‘This book is Zhangsan’s, and that one is Lisi’s’

[這本[e]]是[張三的書]，[那本[e]]是[李四的書]

(43) [Zhe-ben shu] shi [Zhangsan de [e]], [na-ben shu] shi [Lisi de [e]]

This-CL book be ZS DE that-CL book be LS DE

Lit. ‘This book is Zhangsan’s, and that one is Lisi’s’

[這本書]是[張三的[e]]，[那本書]是[李四的[e]]

(44) [Zhe-san-ben [e] shi [Zhangsan de [e]], [na-ben [e]] shi [Lisi de [e]]

This-three-CL be ZS DE that-three be LS DE

Lit. ‘These three books are Zhangsan’s, and those are Lisi’s’

[這三本[e]]是[張三的[e]]，[那三本[e]]是[李四的[e]]

#### 4. Conclusion

With numerous observations supporting this paper, we argue for a deletion mechanism within Chinese DP domain. There are examples in Mandarin Chinese where an empty place can only result from ellipsis but not base-generated empty categories, since the empty place is “discontinuous”. And this will shed light on the deletion phenomena in three aspects: [i] Constituent requirement: an ellipsis is applicable only on a constituent. This will also provide an evidence for the focus fronting of modifier phrase in DP (Zhang 1998; Lin 2008). [ii] Licensing condition: the empty category or elided form must be licensed by a functional head (Lobeck 1990; Saito et al. 2008). All the DP internal empty elements are licensed by de- or Classifier, which are both functional heads of DP. [iii] Antecedent requirement: every empty nominal need an overt antecedent in its strict syntactic parallel position.

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