Two Pieces of Evidence for PF Deletion in Chinese DP [*]

Livy Liching Chiu

National Tsing Hua University

draft 11/26/2009

Abstract

This paper provides evidence for the deletion within Chinese DP domain. Two novel observations are presented bearing on DP-internal empty categories. First, the discontinuous "modifier + NP" reading of the multiple modifier *de*-construction rules out an empty pro-form analysis. Second, null NP cannot appear in the object position of the first conjunct, which indicates that the empty category can only result from PF deletion.

1. Introduction

This squib argues that PF deletion applies in the domain of DP, especially in DP-internal empty elements of object. Section2 presents two observations bearing on DP-internal empty categories, arguing for the deletion nature of the null NP. Section 2.1 discusses the discontinuous modifier-NP reading in the multiple-modifier DP structure and argues that deletion must be a way to produce empty categories in Chinese DP. Section 2.3 discusses the antecedent requirement of the NP deletion. Section 3 concludes this paper with some discussion on the structure of Chinese DP and the theory of deletion.

2. DP Internal Empty Categories

An example of NP deletion is shown in (1)a, with its structure given in (1)b. Traditionally, this is called N'-deletion; Lobeck (1990) and Saito & Murasugi (1990) analyzed it as NP deletion.[1]

---

[*] thank

1 We do not 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.

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

    b. [$_{DP}$ Mary [$_D$'s] ~~[$_{NP}$ book]~~]

Chinese possessive nominal is realized in the example (2). The morpheme "*de*" introduces the possessor, which modifies the nominal in a possessive DP.

(2) Zhangsan de   shu
    Zhangsan DE book
    'Zhangsan's book'

2.1 Three Kinds of *-de* in Nominals and Discontinuous Deletion Domain

2.1.1 One *de-* Modification

In Chinese, the element *de-* behaves very much on par with the genitive case marker *–'s* in English, it introduces the possessive modifier, the relative clause, and the adjectival modifier. Empty category is licensed in all these *de*-constructions. See sentence (3) for example.

(3) Genitive *de-*
   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 '

The Chinese relative clause also licenses an empty nominal, as in (4) and (5).

(4) *s*-level Relative Clause *de-*
   Zhe-ben shu shi [wo zuotian mai de   shu**²**], 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 book that I bought yesterday, and that book is the one he bought yesterday'

(5) *i*-level Relative Clause *de-*
   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 book that Zhangsan wrote, and that book is the one that Lisi wrote'

---

2 The object nominal shu here tends to be empty, though the sentence is just as grammatical with its existence.

The adjective modifier also licenses an empty category.

(6) Adjective Modifier *de*

   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

   'This flower is a red flower, and that flower is a yellow one'

2.1.2 Stacking of *de-* Modifiers

Interestingly, Chinese permits multiple *de*-modifications. That is, two *de-* modifiers of the same type can precede an empty nominal. For example, the two genitive modifiers in (7) modify a deleted nominal, and they display the *i*-level / *s*-level asymmetry (Larson 2007[3]; Hsieh 2005). The first possessor (*Zhangsan* in (7)) is interpreted as *the owner of the book,* while the second possessor (*Lisi* in (7)) is understood as *the writer of the book*. Being the author of a book is obviously an *i*-level property, but owning a book is not. So *Lisi* must stand closer to the head noun.

(7) Zhe-ben shu shi [[Zhangsan de] [Lisi de] shu]

    This-CL book be Zhangsan DE Lisi DE book

   'This book is a book written by Lisi owned by Zhangsan.'

Now let's turn to the examples (8) and (9). What is interesting is that, in the second conjunct of (8) and (9), the empty category stands for a modifier and the head noun. According to the principle of parallelism, the non-pronounced $[e_x]$ in (8) is *[Chaomusiji de] shu 'Chomsky's book'*, and the judgments of native speakers indicate so, too. The $[e_y]$ in (9), on the other hand, stands for a "discontinuous" modification relation. The deleted constituent in (9) is *[Zhangsan de] shu 'Zhangsan's book'*. It is, again, a constituent of one modifier with the head noun. But in this case the two elements are not adjacent to each other; they are intervened by the modifier representing authorship.

(8) Zhe-ben shu shi [Zhangsan de][Chaomusiji de] shu, na-ben shu shi [Lisi de] ~~[e~~_x~~]~~

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

    Lit. 'This book is a book written by Chomsky owned by Zhangsan; and that book is

---

3 Japanese Individual-level & Stage-level RC   (from Larson & Takahashi 2002)

(1)   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.

one written by Chomsky owned by Lisi'

(9) Zhe-ben shu shi [[Zhangsan de] [Yu Guangzhong de]] shu, …
    This-CL book be ZS   DE Yu Guangzhong DE book

    na-ben   shu shi [[Lu Shun de] [e_y]]
    that-CL book be   Lu Shun DE

    Lit. 'This book is a book written by Yu Guangzhong owned by Zhangsan; and
    that book is the book written by Lushun owned by Zhangsan'

There seems to be a problem for both *pro*-form analysis and our deletion analysis. A *pro*-form cannot refer to a "discontinuous" constituent.

In appearance, it also poses a problem for ellipsis analysis, because the deleted element is not a constituent in (9).

(10) Zhe-ben shu shi [[Zhangsan de] [Yu Guangzhong de]] shu, …
     This-CL book be ZS   DE Yu Guangzhong DE book

     na-ben   shu shi [~~Zhangsan de~~ [Lushun de]   ~~shu~~]
     that-CL book be   ZS   DE Lushun DE book

The examples in (11) to (13) show the same problem. A modifier can be deleted along with the head noun (11), leaving an intervening modifier intact.

(11) Zhangsan shi [hui shuo   jingpianzi   de]   [xihuan guoju   de]   ren
     ZS   be [can speak Peking.dialect DE] [like   Chinese.opera DE] person
     'Zhangsan is a person who can speak the Peking dialect and loves Chinese opera'

     Lisi ze   shi [buhui shuo jingpianzi   de] ~~xihuan guoju   de]   ren~~
     LS   however be [cannot speak Peiking.dialect DE] [like Chinese-opera DE] person
     'Lisi, in contrast, is one who cannot speak Peking dialect, but loves Chinese opera'

(12) Zhangsan shi [hui shuo   jingpianzi   de]   [xihuan guoju   de]   ren
     ZS   be [can speak Peiking.dialect DE] [like   Chinese.opera DE] person
     'Zhangsan is a person who can speak Peking dialect and loves Chinese opera'

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
'Lisi, on the other hand, is one who can speak Peking dialect, but does not love
     Chinese opera'

(13) 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 a bundle of roses that was bought yesterday and
     bloomed today'

     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 flowers is one that was bought yesterday but that was not yet
     bloomed today'

However, in the next section we will show that only the deletion analysis can solve the
discontinuity puzzle.

2.2 Solving the Problem
To solve the problem discussed in the previous section, we can account for example
(12), repeated as (14), by assuming focus fronting movement. A focused modifier can
be fronted to a DP-internal focus position and the internal NP is then deleted. Focus
fronting of a modifier is an independent phenomenon in Chinese. As noted in Zhang
(1998) and Lin (2008), Chinese attributive adjective can undergo fronting and precede
the DNC sequence, as in (15). This is considered as an instance of focus movement.[4]

(14) [DP bu xihuan guoju   de] ~~[NP [hui shuo jinpienzi   de] [ti] [ren]~~
        not like   Chinese.opera DE] [NP [can speak Peking.dialect DE] [t_i][person]]

(15) a. Yi-jien [hong hong de] yifu   (Zhang 1998:198)
        One-CL [red   red   DE] clothes
        'a piece of red clothing'

---

4 There is a remaining problem. If the movement account is on the right track, how is it that the fronted
element shows no superiority effect? Superiority effect is known to constraint crossing paths of multiple
movements of the same type (Rudin 1988; Bruening 2001). Lin (2008) extended it to the prenominal
modifiers. We could suggest that either the stacking of the same type of *de-* modifier (12)(13) is
equi-distance or the ellipsis repairs superiority violation, so that one modifier could be moved across
another *de*-modification.

b. **[hong hong de]** yi-jien t_i yifu. [5]

    [red   red   DE] one-CL clothes

    'a piece of **red** clothing'

Our analysis is shown in the following tree diagram (16). Focus fronting of a modifier phrase following a NP deletion results in the surface form of (14).

(16)
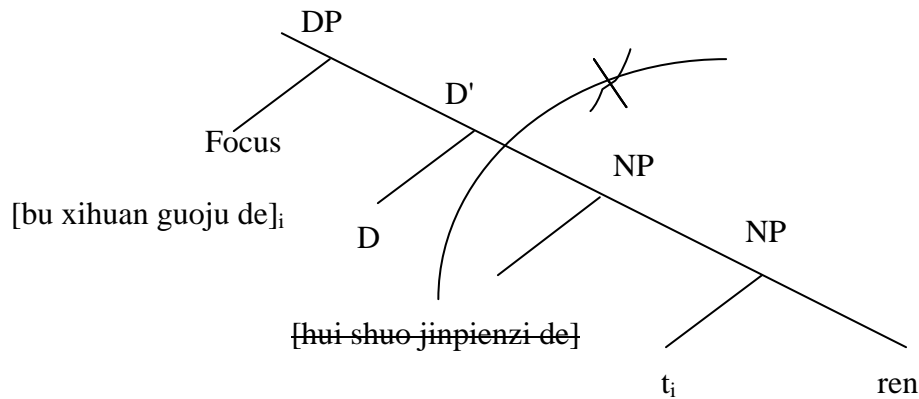
At this point, it has shown that the discontinuous empty category is only possibly licensed by deletion operation, but not by an empty pro-form. In the following, we will show that the DP-internal empty category must have a linguistic antecedent. This is, again, a characteristic of PF deletion phenomena.

2.3 Antecedent

Another property of deletion is the requirement for a linguistic antecedent (Hankamer and Sag 1976). PF deletion in the second conjunct must apply in accordance with an antecedent in the first conjunct (Merchant 1999). The null hypothesis is that strictest syntactic parallelism holds; that is, the antecedent must appear in the same syntactic position as the deleted element. This requirement is observed in Chinese. The contrast in (17) and (18) shows that deletion of a nominal is possible only when an antecedent is available in the first conjunct. If the deleted element is in the first conjunct and the antecedent is in the second conjunct, the sentence is ungrammatical.

(17) *[Zhe-san-ben   shu] shi [Zhangsan de **[e$_i$]**], [na-san-ben   shu] shi [Lisi de shu]

---

5 The boldface is used to indicate the placement of a focal stress.

6

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 books'

(18) Zhe-san-ben   shu shi Zhangsan de shu,   na-san-ben   shu   shi Lisi de **[e$_i$]**

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'

The same asymmetric is seen with the subject position, as in (19) and (20).

(19) *Zhe-san-ben [e$_i$] 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 books'

(20) Zhe-san-ben shu shi Zhangsan de shu, na-san-ben [e$_i$]   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 books'

The *pro*-form account may suggest that the empty NP could be referred to the nominal in the second conjunct, but it is not viable since Chinese do not allow backward anaphor in the first place (21)(22).

(21) Taziji$_i$ shi [Lisi de xuesheng]$_i$

Himself be LS DE student

Int 'He (, himself) is Lisi's student'

(22) [bici]$_i$ zui zhenxi [womenban tongxue]$_i$

Each other most cherish our.class   classmate

Int 'Classmates of our class cherish each other the most'

3. Conclusion

This paper provides evidences to argue for a PF deletion analysis for DP internal empty category. Specifically, the discontinuous *"modifier + Empty Category"* prefers a deletion analysis to an empty *pro*-form (Lobeck 1995, Li 2007).

References

Bruening, B. 2001. QR obeys superiority: frozen scope and ACD. *Linguistic Inquiry* 32.2:233-273.

Del Gobbo, F. 2005. Chinese relative clauses: restrictive, descriptive or appositive? In Proceedings for The XXX Incontro di Grammatica Generativa, ed. By Laura Bruge, Giuliana Giusti, Nicola Munaro, Walter Schweikert & Giuseppina Turano, 287-305. Venezia: Cafoscarina.

Hankamer, Jorge and Ivan Sag (1976) "Deep and Surface Anaphora," Linguistic Inquiry 7, 391-426.

Hsieh, M. 2005. Two Types of Modifiers and Parallelisms between DPs and TPs in Chinese. *Language and Linguistics*. 6.3: 397-429.

Huang, J. 1982. Logical Relations in Chinese and the Theory of Grammar. MIT, PhD dissertation.

Huang, J. 1984. "On the Distribution and Reference of Empty Pronoun" *Linguistic Inquiry*. Vol. 15. 4: 531-574.

Huang, J. 1991. "Remarks on the status of the null object" in R. Freidin (ed.) *Principles and Parameters in Comparative Gramma*r, 56-76. Cambridge, MA: MIT Press.

Larson, R. and Takahashi, N. 2002. Order and interpretation in Japanese relative clauses. Paper presented at the Annual Meeting of the Linguistics Society of America. San Francisco.

Larson, R. 2007. Order & Interpretation in Prenominal Relative Clauses. *MIT Working Papers in Linguistics Vol. 54.* (pp.101-120) Cambridge, MA: MITWPL.

Lin, J. 2008. The Order of Stage-level and Individual-level Relatives and Superiority Effects. *Language and Linguistics* 9:4 839-864.

Lobeck, A. 1990. Functional Heads as Proper Governors. NELS 20, 348-362.

Lobeck, A. 1995. Ellipsis: Functional Heads, Licensing, and Identification. New York: Oxford University Press.

Lobeck, A. 2006. Ellipsis in DP *The Blackwell Companion to Syntax* . ed. Martin Everaert and Henk van Riemsdijk. Blackwell Publishing.

Merchant, J. 1999. *The Syntax of Silence: Sluicing, Islands, and Identity in Ellipsis*, PhD Dissertation, University of California, Santa Cruz.

Ross, C. 1983. "On the Functions of Mandarin *de*". *Journal of Chinese Linguistics* 11 (2), 214-246.

Saito, M. Lin, J. & Murasuki, K. 2008. N'-ellipsis and the structure of noun phrases in Chinese and Japanese. *Journal of East Asian Linguist*. 17:247–271.

Saito, M. and Murasugi, K. 1990. "N'-Deletion in Japanese: A Preliminary Study," *Japanese/Korean Linguistics* 1, 285-301.

Simpson, A. 2002. On the status of modifying de and the structure of the Chinese DP. In On the formal way to Chinese linguistics, ed. Sze-Wing Tang and Chen-Sheng Luther Liu, 74-101. Stanford: CSLI

Takahashi, N. 1997. Hierarchy among relative clauses in Japanese. Unpublished ms., SUNY-SB

Zhang, N. 1998. "Argument Interpretation in the Ditransitive Construction." *Nordic Journal of Linguistics* 21: 179-209.