Nominal Ellipsis in Mandarin

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Abstract

In this paper, we discuss three types of Mandarin nominal ellipsis: D-Ellipsis, NP(N')-Ellipsis, and N-Gapping. Mandarin D-Ellipsis have VPE analysis and NOC analysis two approaches. And Mandarin NP(N')-Ellipsis can be divided into DE construction ellipsis and Classifiers construction ellipsis based on their different licensors. As for N-Gapping, Mandarin has three kinds: parallel constructions, multiple attributemodifier constructions, and comparative constructions. There are many similarities between Mandarin NPE and English, at the same time, Mandarin classifiers and quantifiers NPE are quite different from English.

Contents

1   Introduction

The phenomenon of Ellipsis refers to an omission of a word, phrase, clause, sentence without changing its original meaning. In the nominal domain, it is called noun ellipsis (N-Ellipsis) or noun phrase ellipsis (NPE). Example (1) shows NPE in English: the NP may be elided in the presence of a numeral and a Saxon Genitive possessor.

(1)   NPE in English
    a.   Harry likes these two hippogriffs but I like [those [two [$_{NP}$ ~~hippogriffs~~]]].
    b.   Hermione read Harry's two books and Harry read Ron's ~~two books~~.

Besides NPE, Yoshida et al. (2012) argue that Nominal Gapping (N-Gapping) is also a kind of nominal ellipsis. Nominal gapping is possible both when the DP is in subject position (2a) and when it is in object position (2b):

(2)   N-Gapping in English
    a.   Hermione read Harry's book of poems and [Ron's ~~book~~ [of haikus]].
    b.   Harry read two books on quidditch and Ron read three ~~books~~ on the Dark Arts.

Manlove (2016: 46) summarizes a comparison of English NPE and gapping and list the licensors of English ellipsis and gapping like below:

(3)   English nominal ellipsis and gapping licensors
    a.   Saxon Genitive
        (i) Harry's wand is more valuable than [Hermione's [~~wand~~]].
        (ii) Harry's wand from Ollivander's shop is more powerful than Krum's ~~wand~~ from Gregorovitch's shop.
    b.   Plural demonstrative
        (i) These hippogriffs like dead rats more than [those [~~hippogriffs~~]].
        (ii) These hippogriffs with blue wings like dead rats more than those ~~hippogriffs~~ with red wings.
    c.   Numeral
        (i) Two hippogriffs need less food than [three [~~hippogriffs~~]].
        (ii) Two hippogriffs with huge appetites need more food than three ~~hippogriffs~~ with dietary restrictions.
    d.   Adjectives in 'the human construction'
        (i) Malfoy likes the rich wizards and Harry likes the poor ~~wizards~~.
        (ii) ?Malfoy likes the rich wizards from London and Harry likes the poor ~~wizards~~ from Devon.
    e.   Superlative
        (i) Of all the hippogriffs, Harry's are the meanest ~~hippogriffs~~.
        (ii) Of all the hippogriffs, Harry's are the meanest ~~hippogriffs~~ in Britain.

What needs to be explained separately is the quantifiers licensors such as *each, all, many, some*, ect. Besides Universal *every*, Universal *all* Distributive *each*, many and *some* can be licensors.

(4) Quantifiers licensors in English
   a. Each and all
   (i) We bought some hippogriffs yesterday and [eac [~~hippogriff~~]] is fat.
   (ii) We bought some hippogriffs yesterday and all ~~hippogriff~~ with blue wings are fat.
   b. 'Weak' quantifier
   (i) Harry's few hippogriffs were no match for [Hermione's [many [~~hippogriffs~~]]].
   (ii) Harry's few hippogriffs with blue wings were no match for Hermione's some ~~hippogriffs~~ with red wings.

However, everything is different when we talk about Mandarin which is a kind of language that allow null-subject and null-object. Not only the position of the subject (6b) and object (6c) but also the subject and object of clause (6e and 6f).

(5) Zhangsan kanjian Lisi le   ma?
   Zhangsan see   Lisi Asp SFP
   'Did Zhangsan see Lisi?'

(6) a. Ta kanjian ta le.
       He see   he Asp.
       'He saw him.'
     b. *e*   kanjian ta   le.
       '[He] saw   him Asp.'

     c. Ta kanjian *e*   le.
       'He saw   [him] Asp.'

     d. *e*   kanjian *e* le.
       '[He] saw   [him] Asp.'

     e. Wo cai   *e* kanjian *e* le.
       I   guess see   Asp.
       'I guess [he] saw [him].'
     f. Zhangsan shuo *e* kanjian *e* le.
       Zhangsan say   see   Asp.
       'Zhangsan said that [he] saw [him].'

How many nominal ellipsis types in Mandarin? and how can we distinguish these different nominal ellipses in Mandarin NP? Based on English Ellipsis in the nominal domain, we introduce D-Ellipsis, NP(N')-Ellipsis and N-Gapping in Mandarin. In addition, we describe and qualitatively analyze the nominal ellipsis in Mandarin.

2 D-Ellipsis

Mandarin allows arguments to be missing. For instance, not only the subject of the sentence in (7a) and the object of the second clause in (7b) can be missing, but also a sentence like (7c) is possible when the intended object is expressed as a variable bound by a topic, which can be empty.

(7) a. (ta) zou-le   ma?
         he   leave-le Q
         "Has (he) left?"
     b. ta kandao-le yi-ge nanhai; wo ye   kandao-le (yi-ge nanhai).
         he see-le   one-cl boy   I   also see-le   one-cl boy
         "He saw a boy; I also saw (a boy)."
     c. (tamen), wo hen xihuan [ ].
         they   I   very like
         "(Them), I like [ ]."

These kinds of sentences can be called D-Ellipsis, and more specifically, 8b is called object missing or Null Object Constructions (NOC) in Mandarin. So, in this section, we will discuss the properties of Mandarin NOC first and give some pieces of evidence to show two different ways to analyze Mandarin NOC.

2.1 Null Object Constructions

A. Li and Wei (2014) argue that missing objects in Mandarin can be indefinite and they can occur within islands co-indexed with their antecedents across island boundaries.

First, missing objects interpreted as indefinite expressions:

(8) a. Ta song yi-ge nanhai yi-ben shu; wo song yi-ge nuhai (yi-ben shu).
         he give one-cl boy   one-cl book I   give one-cl girl one-cl book
         "He gave a boy a book; I gave a girl (a book)."
     b. Ta song yi-ge nanhai yi-ben shu; wo song (yi-ge nanhai) yi-zhi bi.
         he give one-cl boy   one-cl book I   give one-cl boy   one-cl pen
         "He gave a boy a book; I gave (a boy) a pen."

Second, missing objects insensitive to island conditions:

(9) Zhe-ge laoshi   hen hao$_i$, wo mei kandao-guo [e_j bu xihuan e_i de] xuesheng$j$].
     this-cl teacher very good I   not see-exp   not like   DE student
     "This teacher$_2$ is very good. I have not seen students$_1$ who e_1 do not like (him$_2$)."

In addition to the above two properties, the following interesting phenomena can be observed in Mandarin D-Ellipsis.

2.1.1 Subject/object asymmetry.

When a null argument is to be anteceded by a nominal across island boundaries, the antecedent for an empty subject must be the closest nominal, but the requirement does not apply to empty objects.

(10)　　a.　Zhangsan$_1$ hen heshan, wo zhao-bu-dao [[e bu xihuan e de] ren$_2$].
　　　　　　Zhangsan very friendly I seek-not-find not like de person
　　　　　　a. "Zhangsan$_1$ is very friendly. I cannot find a person$_2$ that e$_2$ does not like (him$_1$)."
　　　　　　b. *"Zhangsan$_1$ is very friendly; I cannot find a person$_2$ that (he$_1$) does not like e$_2$."
　　　　b.　ta kandao yi-ge keren dian-le longxia; wo kandao *(yi-ge keren) dian-le
　　　　　　he see one-cl guest order-le lobster I see one-cl guest order-le
　　　　　　yu.
　　　　　　fish
　　　　　　"He saw a guest ordered lobster; I saw (a guest) ordered fish."

2.1.2 Double-object constructions.

Either of the two objects being empty in double-object constructions:

(11)　　a.　*wo qu-le ta-jia yi-ge guinu; ta qu-le wo-jia (yi-ge
　　　　　　I marry-le he-family one-cl daughter he marry-le I-family one-cl
　　　　　　guinu).
　　　　　　daughter
　　　　　　"I married a daughter of his family's; he married my family."
　　　　b.　wo chi-le ta yi-ge pingguo; ta chi-le wo *(yi-ge pingguo).
　　　　　　I eat-le him one-cl apple; he eat-le me one-cl apple
　　　　　　"I ate an apple of his; he ate me."

The impossibility of deleting the inner object in such constructions contrasts with the possibility of deleting either of the two objects in typical double-object constructions:

(12)　　a.　women song-le ta yi-zhang piao; tamen ye song-le ta [ ].
　　　　　　we give-le him one-cl ticket; they also give-le him
　　　　　　"We gave him a ticket; they also gave him."
　　　　b.　women song-le ta yi-zhang piao; tamen ye song-le yi-zhang piao [ ].
　　　　　　we give-le him one-cl ticket; they also give-le one-cl ticket
　　　　　　"We gave him a ticket; they also gave a ticket."

2.1.3 Unaccusative verbs.

What is relevant is that when only one argument surfaces, this argument must be interpreted as the theme, rather than the experience, of the event.

(13) a. Zhangsan si-le   fuqin; Lisi ye   si-le   *(fuqin).
          Zhangsan die-le father Lisi also die-le father
          "Zhangsan had (his) father died; Lisi also died."
      b. tamen zuotian   lai-le   keren; women ye   lai-le   *(keren)
          they   yesterday come-le guest; we   also come-le guest
          "They had guests coming yesterday; we also came."

(14) a. Zhangsan diao/wang-le shu; Lisi ye   diao/wang-le (shu).
          Zhangsan lose/forget-le book Lisi also lose/forget-le book
          "Zhangsan lost/forgot books; Lisi also lost/forgot (books)."
      b. wo hen pa/xihuan ta; tamen ye   hen pa/xihuan(ta).
          I   very fear/like him they   also very fear/like   him
          "I am afraid of/like him; they also are afraid (of him)/like (him)."

The data above shows that some empty elements in the position of argument in Mandarin can be true and some can not, so it is necessary to define which kind of sentences are the real D-ellipsis.

2.2   (Non)VPE analysis of Mandarin D-Ellipsis

G. Li (2002) argues that Mandarin NOCs should be analyzed the VP-ellipsis and two arguments have been presented for the VP-ellipsis analysis of NOCs:
   (i) Sentences like (15) exhibit the strict/sloppy ambiguity, typical of VP-ellipsis; and
   (ii) NOC sentences also show the locality effect of the VP-ellipsis for the sloppy reading

(15)   Zhangsan kanjian-le tade mama, Lisi ye   kanjian-le [ ].
       Zhangsan see-PERF his   mother Lisi also see-PERF
       'Zhangsan$_i$ saw his$_i$ mother, and Lisi$_j$ also saw his$_{i/j}$ mother.'

Hu (2019) gives two pieces of evidence in support of the VPE analysis.
First, the missing object within a VP idiom can only be interpreted through VPE.

(16) a. Tuzi   dou bu chi wobiancao, ren   ye bu   yinggai chi [ ].
          Rabbit Dou not eat grass   near its hole, people too not should eat
          Lit: 'Rabbit doesn't eat the grass near its hole, people should not, either.
      b. Zai yeman shangsi   mianqian, Zhangsan zhuang-guo sunzi,   Lisi ye
          in rude   supervisor front   Zhangsan pretend-asp grandson, Lisi too
          zhuang-guo [ ].
          pretend-asp
          Lit: 'In front of the rude supervisor, Zhangsan pretended to be his grand-son, Lisi did, too.'

Second, the missing object with a cataphoric referent interpretation can only be derived through VPE. Consider the sentence in (17) below.

(17) a. Zai gege   bei zhuajinqu [ ] zhihou, ta ye bei   zhuajin-le jianyu
          at elder-brother BEI put-in   back   he also been put-in-asp prison
          'After his elder brother was put in prison, he was, too.'
      b. Jianyi chi bale   shi   buyao xiao pi,   zuihao chi [ ] zhiqian xian
          advise eat guava when not   peel skin, better eat   first   before
          jiang qi zai shuili jingpao shi fengzhong
          make it in water soak   ten minutes
          'You are advised not to peel off the skin when eating the guava, and you'd
          better soak it in water for ten minutes before eating.'

On the other hand, Hu (2019) also provides two pieces of evidence in favor of a NOC analysis. The first piece of evidence concerns the negative polarity items (NPI), which cannot be interpreted as the missing objects in affirmative sentences.

(18) a. Zhangsan mei kanjian renheren, dan Lisi kanjian-le.
          Zhangsan not see   anyone,   but Lisi see-asp
          'Zhangsan saw nobody, but Lisi did.'
      b. Zhangsan kanjian-le yixieren, dan Lisi mei kanjian.
          Zhangsan see-asp   someone, but Lisi not see
          'Zhangsan saw someone, but Lisi didn't.'

The second piece of evidence concerns the missing objects containing "Numerical Phrase + Duration/Frequency Phrases", which cannot be accounted for by a VPE analysis.

(19) a. Zhangsan mai-guo sannian   yu, Lisi ye mai-guo [ ].
          Zhangsan sell-asp three-year fish, Lisi too sell-asp
          'Zhangsan sold fish for three years, and Lisi did, too.'
      b. Zhangsan nian-guo sanbian   shu, Lisi ye nian-guo, dan zhi nianle
          Zhangsan read-asp three-times book, Lisi too read-asp but only read-asp
          yibian [ ].
          once
          'Zhangsan read books three times, and Lisi did, too, but he only did once.'

The above four pieces of empirical evidence manifest the duality of NOC sentences in Chinese. Suffice it to state that null objects in Mandarin argue for the need to recognize the possibility of truly empty elements in the syntactic structure. Next, we turn to the missing element inside a nominal expression and demonstrate the existence of truly empty elements.

3 NP(N')-Ellipsis

A Mandarin noun phrase may contain the following elements: a demonstrative, a numeral, a classifier, modifiers and the head N itself. If a phrase contains all these elements, the base order is the following:

(20)   Dem Nume Cl Mod (DE) N

Two types of NP-Ellipsis of Mandarin are often mentioned, one is Classifier Constitution Ellipsis (**CLCE**) like example (21a), and another one is the **DE** Constitution Ellipsis (**DECE**) like example (21b) (see Cheng & Sybesma, 2009; Li & Wei (2017); Fu (2017); K.Tang (2018) and among others):

(21)   a.   Ta gangcai chi-le   yi-ge   pingguo, ni ye   yinggai chi
              3s just-now eat-PERF one-CL-$_{indevidual}$ apple,   2s also ought   eat
              yi-ge   [ ].
              one-CL-$_{indevidual}$
              'he just ate an apple, you should also eat one (apple).'
        b.   Wo xihuan Zhangsan de huangse   de chenshan, er bushi Lisi de [ ].
              is like   Zhangsan DE yellow-color DE shirt,   but not-BE Lisi DE
              'I like Zhangsan's yellow shirt, but not Lisi's (shirt)'

Both classifiers and functional word DE in Mandarin can be ellipsis site, but the classifier can not license ellipsis after the word DE when they appear in one sentence :

(22)   a.   Wo maile   liang ben   hong de shu, Lisi ye   maile   yi   ben.
              I   buy-RERF two Cl-$_{book}$ red   DE book, Lisi also buy-RERF one Cl-$_{book}$
              'I bought two red books, and Lisi also bought one.'
        b.   Wo maile   liang ben   hong de shu, Lisi ye   maile   [$_{ClP}$ yi
              I   buy-RERF two Cl-$_{book}$ red   DE book, Lisi also buy-RERF   one
              ben] [$_{AdjP}$ lvse   de].
              Cl-$_{book}$ green DE
              'I bought two red notebooks, and Lisi also bought a green one.'
        c.   *Wo maile   liang ben   hong de shu, Lisi ye   maile   [$_{AdjP}$ lvse
              I   buy-RERF two Cl-$_{book}$ red   DE book, Lisi also buy-RERF   green
              de] [$_{ClP}$ yi   ben].
              DE   one Cl-$_{book}$
              Intended:'I bought two red books, and Lisi also bought a green one.'

In this section, we present the licensors and properties of Mandarin NPE first and then discuss two types of NPE of Mandarin in depth.

3.1 Licensors of Mandarin NPE

Manlove (2016:46) lists element types that can and can not license ellipsis in English. Based on that list, we compare the licensing environments for NPE in English and Mandarin, and we find that "DE" and Classifiers can appear in most cases.

Licensors	English	Mandarin
Saxon Genitive	✓	—
Possessive Pronoun	×	+ DE
Demonstrative	(plural)	+ Cl
Numeral	✓	+ Cl
Adjective	(Human const./ Superlative)	+ DE

Table 1: Licensing environments for NPE in English and Mandarin

In English, only adjectives in 'the human construction' and superlative adjectives can be the licensor. But in Mandarin, adjectives only with DE can be licensors, and adverbs *"yue"* and *"geng"* must be added to adjectives to express comparative and superlative.

(23)   Comparative and superlative adjectives in English
    a. *Ron made a good potion, but Hermione made the/a better ~~potion~~.
    b. Of all the hippogriffs, Harry's are the meanest ~~hippogriffs~~ in Britain.

(24)   Comparative and superlative adjectives in Mandarin
    a. Wo mai-le   yi dai pingguo, **yue** da de [ ] **yue** tian.
        I   buy-PERF one Cl apple,   more big DE   more sweet
        'I bought a bag of apples, the bigger one is sweeter.'
    b. Wo mai-le   yi dai pingguo, **zui** da de [ ] **zui** tian.
        I   buy-PERF one Cl apple,   most big DE   most sweat
        'I bought a bag of apples, the biggest is the sweetest.'

Another ellipsis generalization reported by Wang (2012) is that a NP can be deleted if it is preceded by "a demonstrative suffixed by a morpheme *-xie*". "*-xie*" can be combined with the numeral *"yi"* to form *"yi-xie"*(some) or the demonstratives "*'zhe'*(this) / *'na'*(that)" to form *"zhe/na-xie"*(these/those).

(25)   *zhe-xie / na-xie* (these/those)
    a. Wo mai-le   zhe/na-xie xiangjiao, ta ye mai-le   zhe/na-xie [ ].
        I   buy-PERF these/those banana   he also buy-PERF these/those
        'I bought these/those bananas and he also bought these/those.'
    b. Wo mai-le   xiangjiao, zhe/na-xie [ ] dou hen pianyi.
        I   buy-PERF banana   these/those   DOU very cheap
        'I bought bananas and these/those are very cheap.'

Besides *-xie*, the indefinite measure word *yi-dianr* ("a little" in English) can also play a role as ellipsis site, but can not combine with demonstratives "*'zhe'*(this) / *'na'*(that)".

(26)   *yi-dianr* ("a little")

    a. Wo mai-le   yi-dianr   xianhua, ta   ye mai-le   yi-dianr.
        I   buy-PERF one-a-little flowers, he/she also buy-PERF one-a-little.
        "I bought a little flowers, and he/she also bought a little."

    b. *Wo mai-le   zhe/na-dianr   xianhua, ta   ye mai-le
        I   buy-PERF these/those-a-little flower,   he/she also buy-PERF
        zhe/na-dianr.
        these/those-a-little.
        "I bought these/those a little flowers, and he/she also bought these/those a little."

From the above data, we can see "DE" and Classifiers in Mandarin can be licensors in most cases, and *-xie* and *-dianr* can also act as licensors in some specific situations.

3.2   Properties of Mandarin NPE

Normally, ellipsis act a role as a constituency test and a diagnostic tool for identifying the hierarchy of nominal phrases. Although the ClCE and DeCE in Mandarin are totally different, there are five similarities when comparing Mandarin with English. Based on Wang's (2012) analyses about Mandarin NPE, the properties of Mandarin NPE can be summarised below:

First, NPE can take place in coordination and subordination:

(27)   a. Wo mai le   san bang   zhurou, ta mai le   liang bang   ~~zhurou~~.
        I   buy Perf. three CL-*pound* pork,   3s buy Perf. two   Cl-*pound* pork
        'I bought three pounds of pork and he bought two pounds.'

    b. Wo mai le   san bang   zhurou shi yinwei ta mai le   liang bang
        I   buy Perf. three CL-*pound* pork   BE because 3s buy Perf. two   Cl-*pound*
        ~~zhurou~~.
        pork
        'I bought three pounds of pork because he bought two pounds.'

Second, NPE can be embedded in a finite clause.

(28)   Wo xihuan zhe duo   hua, wo juede [ta geng xihuan na   duo   ~~hua~~].
        1s like   this Cl-*blossom* flower 1s think 3s more like   that Cl-*blossom* flower
        'I like this flower and I think that Lisi likes that one more.'

Third, NPE obeys the Backward Anaphora Constraint (BAC) which states that an elliptical element cannot both precede and command the antecedent.

(29) a. Wo xihuan hong-se de xie, ta xihuan huang-se   de ~~xie~~.
   1s like   red-color DE shoes 3s like   yellow-color DE shoes
   'I like red shoes, he likes yellow's. '

   b. *Wo xihuan hong-se de ~~shoes~~, ta xihuan huang-se   de xie.
   1s like   red-color DE shoes 3s like   yellow-color DE shoes
   '*I like red, he likes yellow shoes'

Fourth, NPE can apply across utterance boundaries.

(30) a. A: Zhangsan xihuan zhe duo   hua.
      Zhangsan like   this Cl-*blossom* flower
      'Zhangsan likes this flower.'

   b. B: Na duo   ~~hua~~   wo xihuan .
      that Cl-*blossom* flower 1s like
      'that flower I like .'

Fifth, NPE does not obey the Complex NP Constraint (Lobeck, 1995: 25; Ross, 1967)

(31) a. Henduo ren   dou mai le   san duo   hua, danshi wo queshi
      many   people all buy Perf. three Cl-*blossom* flower but   I   indeed
      kanjian le   yixie yi duo   [hua] ye   mei mai de ren.
      see   Perf. some one Cl-*blossom* flower even not buy de people
      'Many people have bought two flowers each, but I did see some people who
      did not buy any.'

From the above analysis, we can see that there are many consistencies between Mandarin NPE and English NPE. All of these help to analyze the cross-linguistic universals of NPE and also provide a perspective for the study of Mandarin NPE.

3.3 The DE Construction Ellipsis

An important characteristic of the nominal expressions in Mandarin is that the head can be empty when a modifying phrase XP with DE appears, DE being a modification marker[1], schematically represented below:

(32) [*DP/NP* XP DE [*NP* Ø]]

(33) a. Mutou de 'wooden'   [NP + DE]
   b. Hong de 'red'   [AdjP + DE]
   c. Xie de 'writing'   [VP + DE]

(34) a. Mutou de ~~[zhuozi]~~ naiyong.   [NP DE NP]
      wood DE table   durable
      'Wooden *(tables) are durable.'

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[1]There are many arguments about the syntactic status of DE, which we will not discuss here.

    b. Hong de ~~[chuanglian]~~ hen xiqing.   [AdjP DE NP]
        red   DE curtain   very joyous
        'The red *(curtains) are very joyous.'

    c. Luxun xie   de ~~[wenzhang]~~ zhide xingshang.   [VP DE NP]
        Luxun write DE article   worth appreciation
        'Luxun's *(writing) are worth appreciation.'

Besides phrases of "DE", there are also ellipsis licensing differences in the clauses of "DE". The NP after "DE" should be used as the antecedent of topic structures in advance in some clauses.

(35)   Appositive Clause

    a. *Riben dizhen   de ~~xiaoxi~~ shi yaochuan
        Janpan earthquake DE news BE rumour
        'News of the Japanese earthquake is rumored.'

    b. Shuoqi xiaobao shang de xiaoxi, riben dizhen   de [ ] shi yaochuan.
        Speak-of tabloid on   DE news Japan earthquake DE   is   romour
        'Speak of the news in the tabloid, the news of Japanese earthquake was romoured.'

(36)   Additional Clause

    a. *Xiuche   de ~~jishu~~ youyong.
        repair-car DE skills useful.
        'The skills of repairing cars are useful.'

    b. Shuoqi   wo xueguo   de jishu, zhiyou xiuche de [ ] hen youyong.
        Speak-of is   learn-Asp DE skill   only   fix-car DE   very useful
        'Speak of skills that I have learned, only the technical skill of repairing cars are very useful.'

(37)   Gapless Relative Clause

    a. *[Ta changge de ~~shengyin~~] hai bucuo
        3s sing   DE voive   also not-bad
        'His singing voice is not bad.'

    b. Shuoqi shengyin, ta changge de [ ] hai bucuo.
        speak-of voice   3s sing   DE   also not-bad
        'Speak of voice, his singing voice is not bad.'

From the above data, we can divide DE into two categories: one is allowing the object after DE to be missing, and the other one is not.

3.4 The Classifier Construction Ellipsis

Let us move to the Classifier Construction Ellipsis in Mandarin. According to Chao (1968), there are more than 50 individual classifiers in Mandarin, each of which modifies

a special class of nouns. Assuming that counting and measure are two basic functions of classifiers, X. Li (2011) proposes taking [$\pm Counting$] and [$\pm Measure$] as two features to constrain the way classifiers can be interpreted and syntactically realized. With these two features, four types of classifiers can be distinguished:

(38)   Type 1: [$+C, -M$] classifiers. These classifiers are by default counting classifiers
     a. san duo   hua
         three Cl-blossom flower
         'three blossoms of flower'
     b. yi li   mi
         one Cl-grain rice
         'a grain of rice'

(39)   Type 2: [$-C, +M$] classifiers. These classifiers are by default measure classifiers:
     a. yi lian   hanshui
         one Cl-face sweat
         'a faceful of sweat'
     b. yi di   mi
         one Cl-floor rice
         'a floorful of rice'

(40)   Type 3: [$+C, +M$] classifiers. Measure and counting readings are equally available in these type of classifiers:
     a. [[yi ping]   hong-jiu].
         one Cl-bottle red-wine
         'a bottle of wine.'
     b. [yi [ping   hong-jiu]].
         one Cl-bottle red-wine
         'a bottle of wine.'

(41)   Type 4: [$-C, -M$] classifiers. This kind classifiers that denote predicates of sub-kinds and can neither count nor measure individuals:
     a. yi zhong yu
         one Cl-kind fish
         'one kind of fish'
     b. san lei   shu
         three Cl-class book
         'three classes of books'

X.Li's classification of classifiers based on the lexical-semantic functions of counting and measuring, and have syntactic evidence to support this four-way classification. The ellipsis differences between these four types can be shown when we use a parallelism test.

(42)   <u>Type 1: [$+C, -M$] classifiers</u>

wo maile   yi duo   hua, ta ye maile   liang duo   ~~hua.~~
1s   buy-PERF one Cl-*blossom* flower 3s also buy-PERF two   Cl-*blossom* flower

'I bought one blossoms of flower and he bought two.'

(43)   <u>Type 2: $[-C, +M]$ classifiers</u>

  *wo liule   yi lian   han, ta ye liule   yi lian   ~~han.~~
  1s   stream-PERF one Cl-*face* sweat 3s also stream-PERF one Cl-*face* sweat

  'I streamed a faceful of sweat, and he also streamed a face.'

(44)   <u>Type 3: $[+C, +M]$ classifiers</u>

  wo neng he   yi ping   jiu, te ye neng he   liang ping   ~~jiu.~~
  1s   can   drink one Cl-*bottle* wine 3s also can   drink two   CL-*bottle* wine

  'I can drink one bottle of wine, and he also can drink two.'
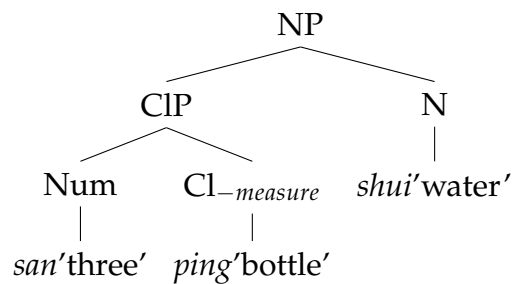
(45)   <u>Type 4: $[-C, -M]$ classifiers</u>

  wo neng jiang san   zhong yuyan,   ta neng jiang   liang zhong ~~yu.~~
  1s   can   speak three Cl-*kind* language 3s can   speak two   Cl-*kind* fish

  'I can speak three kinds of language, and he can speak two.'

  It seems that all three other types of Classifiers can act as ellipsis site except for type 2, and type 4 is limited in use. According to X. Li (2011), the syntactic difference lies in counting and measure classifiers like below:
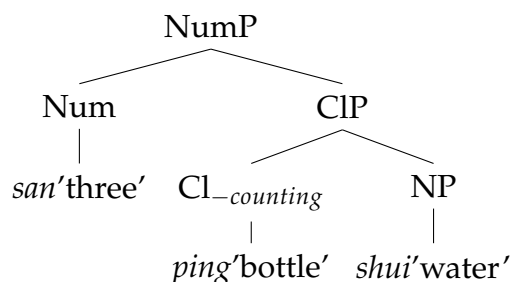
(46)   san   ping shui
   three Cl   water
   'three bottles of water.'

(47)   Measure Reading:

```
                       NP
                      /  \
                   ClP    N
                  /   \    |
               Num   Cl-measure  shui 'water'
                |        |
           san 'three'  ping 'bottle'
```

(48)   Counting Reading:

```
                        NumP
                  ┌───────┴───────┐
                 Num             ClP
                  │         ┌─────┴─────┐
             san'three' Cl_counting    NP
                            │           │
                        ping'bottle' shui'water'
```

Therefore, the [+C] type classifiers are more flexible in ellipsis licensing possibly due to the syntactic difference and lexical semantics. This problem deserves further study in the future.

4   Quantifiers in Mandarin NPE

As mentioned in section 2, besides universal *"every"*, universal *"all"*, distributive *"each"*, *"many "* and *"some"* in English can be licensors.

(49)   Quantifier Licensors in English
   a.   *We bought some hippogriffs yesterday and [every [~~hippogriff~~]] is fat.
   b.   We bought some hippogriffs yesterday and [each [~~hippogriff~~]] is fat.
   c.   We bought some hippogriffs yesterday and [all [~~hippogriffs~~]] are fat.
   d.   Harry's few hippogriffs were no match for [Hermione's [many [~~hippogriffs~~]]].
   e.   I bought some cauldrons yesterday and you bought [some [~~cauldrons~~]], too.

4.1   *"yi-xie"* and *"yi-dianr"*

In Mandarin, both *"yi-xie"* (some) and *yi-dianr* can act as a licensor in NPE and gapping directly.

(50)   *"yi-xie"* (some)
   a.   Wo zuotian mai-le   yi-xie xiangjiao, ta ye   mai-le   yi-xie [ ].
        I   yesterday buy-PERF some banana   he also buy-PERF some
        'I bought some bananas yesterday and he also bought some.'
   b.   Wo zuotian mai-le   yi   dai xiangjiao, zhiyou yi-xie [ ] hen da.
        I   yesterday buy-PERF one bag banana   only   some   very big.
        'I bought a bag of bananas yesterday, only some are very big.'

(51)   *"yi-dianr"* (a little)
   a.   Wo zuotian mai-le   yi-dianr   xiangjiao, ta ye mai-le   yi-dianr.
        I   yesterday buy-PERF one-a-little banana,   he also buy-PERF a-little.
        "I bought a little bananas yesterday, and he also bought a little."

b. Wo zuotian mai-le   yi dai xiangjiao, zhiyou yi-dianr [ ] hen da.
   I   yesterday buy-PERF one bag banana   only   a-little   very big.
   'I bought a bag of bananas yesterday, only a little is very big.'

4.2 *"DOU"*

However, quantifiers such as *"mei"* (every), *"ren"* (any), *"suoyou"* (all), *"xuduo"* (many) in Mandarin need to be used together with "Dou".

(52)   Mei-ge   / Dabufen-de / Suoyou-de / Xuduo xueshen *(dou) lai-le.
        every-CL   most-DE   all-DE   many student DOU come-PREF
        'Every / Most / All / Many student(s) came. '

(53)   *"Mei"* (every)
        a. Wo mai-le   yi-xie xiangjiao, mei-ge   [ ] *(**dou**) hen da.
           I   buy-PERF some banana   every-Cl   DOU very big
           'I bought some bananas and each of them is very big.'
        b. Wo mai-le   wu ben shu, mei-ben [ ] *(**dou**) haokan.
           I   buy-PERF fice Cl book every-Cl   DOU very   good
           'I bought five books and each of them is very good.'

(54)   *"DOU"* (all)
        a. Wo mai-le   yi-xie xiangjiao, ren yi   ge [ ] *(**dou**) hen da.
           I   buy-PERF some banana   any one Cl   DOU very big
           'I bought some bananas and any one is very big.'
        b. Wo mai-le   yi-xie xiangjiao, suoyou de [ ] *(**dou**) hen da.
           I   buy-PERF some banana   all   DE   DOU very big
           'I bought some bananas and all of them are very big.'
        c. Wo mai-le   yi-xie xiangjiao, xuduo [ ] *(**dou**) hen da.
           I   buy-PERF some banana   many   DOU very big.
           'I bought some bananas and many are very big.'

Besides *"Mei"* (every), the classifier repetition "CL + CL" can express the periodicity in Mandarin, and "DOU" is also mandatory.

(55)   CL + CL
        a. Wo mai-le   yi-xie xiangjiao, ge-ge [ ] *(**dou**) hen da.
           I   buy-PERF some banana   Cl-Cl   DOU very big
           'I bought some bananas and they are all very big.'
        b. Wo mai-le   wu ben shu, ben-ben [ ] *(**dou**) hen pianyi.
           I   buy-PERF fice Cl book CL-Cl   DOU very cheap
           'I bought five books and they are all very cheap.'

5 N-Gapping

Besides NPE, gaps occur when a noun is deleted between an ellipsis licensor and a postnominal modifier, the example (56) shows N-Gapping in English.

(56)   N-Gapping in English
   a. Hermione read Harry's book of Quidditch and [Ron's ~~book~~ [of chess]].
   b. Harry read two books on quidditch and Ron read [three ~~books~~ [on the Dark Arts]].

5.1 Parallelism N-Gapping

Mandarin also allow N-Gapping when the antecedent appears in the previous clause of parallelism.

(57)   Parallelism N-Gapping in Mandarin
   a. *Ta fangle   san ben [~~book~~] zai zhuozi shang, wo fangle   liang ben
       His put-PREF three Cl   book   in   table   upside I   put-PREF two   Cl
       shu   zai zuozi li.
       book in   table inside
       "He put three ~~books~~ on the table and I put two books in the table."
   b. Ta fangle   san ben shu zai zhuozi shang, wo fangle   liang ben
       His put-PREF three Cl   book in   table   upside I   put-PREF two   Cl
       [~~book~~] zai zuozi li.
       book   in   table inside
       "He put three books on the table and I put two [~~books~~] in the table."

5.2 Multiple attribute N-Gapping

Another type of N-Gapping of Mandarin is a multiple attributes gapping. According to Huang (2016), the pronominal complement of Mandarin NP can be dived into Relative clauses (RCs) and Noun complements (NCs).

(58)   a. [$_{RC}$ women zhengzai kaolu   de] wenti
               we   right-at   consider DE question
               'the question that we are considering right now'
       b. [$_{NC}$ yao-bu-yao   kuoda zhaosheng   de] wenti
               want-not-want expand recruit-student DE question
               'the question whether we should increase student enrollment'

There are several properties of Mandarin RCs and NCs.
First, The word order of multiple attributes of Mandarin NP is RC > NC.

(59) a. [_RC_ Ta ti-chulai   de] [_NC_ rang erzi chuguo   liuxue de] xiangfa.
        She put-forward DE   let son go-aboard study DE idea
        'The idea that she put forward letting her son study abroad'
     b. *[_NC_ rang erzi chuguo   liuxue de] [_RC_ ta ti-chulai   de] xiangfa.
        Let son go-aboard study DE   she put-forward DE idea
        '*The idea of letting her son study abroad she put forward.'

Second, different types of components cannot form a coordination structure.

(60) a. [_RC_ Ta zhizao de] [_RC_ ling ren   haipai   de] shengyin.
        3s make DE   make people frightening DE sound
        'The frightening sound he makes.'
     b. *[_NC_ Ta tan-gangqin de] [_NC_ wo la-xiaotiqin de] shengyin.
        3s play-piano DE   1s play-violin DE sound
        '*The sound that he plays the piano and I play the violin.'

Third, NPE is not allowed in the second NC.

(61) a. [_RC_ wo zuixihuan de] ge   fan-er   shi [_RC_ ta zui   taoyan de] ~~ge~~
        1s most-like DE song converse is   3s most hate   DE
        'The song that I like most is conversely the one he hates most.'
     b. *[_NC_ Ta changge de] shengyin bi   [_NC_ wo ku de] ~~shengyin~~ hai   da.
        3s sing   DE voice   than   1s cry DE voice   more loud
        'The voice of he singing is louder than that of I crying.'

Forth, RC and NC can not show up at the same time in one sentence.

(62) a. [_NC_ Ta tan-gangqin de] ~~shengyin~~ gen [_NC_ wo chui-koushao de] shengyin.
        3s paly-piano DE sound   and   1s whistle   DE sound
        'The sound of his playing the piano and my whistle.'
     b. [_RC_ Wo suo   zhizao de] ~~shengyin~~ gen [_RC_ ta suo   ting-dao de] shengyin.
        1s SUO make DE sound   and   he SUO hear   DE sound
        'The sound he made and I heard.'
     c. *[_RC_ Ta suo   ting-dao de] ~~shengyin~~ gen [_NC_ wo chui-koushao de] shengyin.
        3s SUO hear   DE sound   and   1s whistle   DE sound
        '*The sound he heard and I whistled.'

Comparing with NCs, we can see that RCs of Mandarin NP in multiple attribute N-Gapping are more productive and less syntactic restrictions.

5.3 Comparative N-Gapping

In comparative sentences, the NCs have more restrictions than RCs in N-Gapping, and the head noun of NCs cannot be missing no matter whether the clause is in the front or in the back.

(63) a. *[_NC_ Ta tan-gangqin de] ~~shengyin~~ bi   [_NC_ wo chui-koushao de] shengyin
          3s paly-piano DE sound   than   1s whistle   DE sound
      da.
      loud
      'The sound of his playing the piano is louder than my whistle.'

  b. [_RC_ Wo suo zhizao de] ~~shengyin~~ bi   [_RC_ ta suo   ting-dao de] shengyin
          1s SUO make DE sound   than   he SUO hear   DE sound
      da.
      loud
      'The sound he made is louder than I heard.'

(64) a. *[_NC_ Ta tan-gangqin de] shengyin bi   [_NC_ wo chui-koushao de] ~~shengyin~~
          3s paly-piano DE sound   than   1s whistle   DE sound
      da.
      loud
      'The sound of his playing the piano is louder than my whistle.'

  b. [_RC_ Wo suo zhizao de] shengyin bi   [_RC_ ta suo   ting-dao de] ~~shengyin~~
          1s SUO make DE sound   than   he SUO hear   DE sound
      da.
      loud
      'The sound he made is louder than I heard.'

From the above data and descriptions, we can see that N-Gapping can appear in these three kinds of circumstances in Mandarin NP: parallel constructions, multiple attribute modifier constructions, and comparative constructions.

6 Summary

To sum up, we discuss three types of Mandarin nominal ellipsis: D-Ellipsis, NP(N')-Ellipsis, and N-Gapping. And we divide Mandarin NP(N')-Ellipsis into DE construction ellipsis and Classifiers construction ellipsis based on their different licensors. There are many similarities between Mandarin NPE and English, at the same time, Mandarin classifiers and quantifiers are quite different from English, especially in the syntactic structure. The difference between RCs and NCs in Mandarin multiple attributive modifiers is obvious which also makes the syntactic restrictions of Mandarin N-Gapping more prominent.

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