Genuine Argument Ellipsis: Fact or Fiction?

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Abstract: This paper examines the null argument paradigm in Mandarin Chinese (MC) and argues that it cannot be fully captured by previous analyses. I provide new evidence to argue that the operation Argument Ellipsis (AE) is independently available in MC and should be distinguished from other elliptic constructions. Lastly, it is claimed that the establishment of a new type of elliptic construction has implications on the phase-hood status in MC in particular and the theory of ellipsis in general.

1. Introduction

It is well known that languages differ in whether they allow productive use of null arguments. While English does not allow null subjects in tensed clauses (1a), Spanish does, as in (1b). One common explanation for the *pro*-drop parameter is that this is due to the rich agreement paradigm in Spanish (cf. Taraldsen (1978)).

(1)   a.   John knows [that *(he) has been seen by Mary]

        b.   Jose sabe [que (el) ha sido visto por Maria]
             Jose   know   that   he   has been seen by Maria
             'Jose knows that he has been seen by Maria.'

However, it is clear that such agreement analysis cannot be the whole story because this analysis cannot capture the null arguments paradigm in Japanese, Korean, and Mandarin Chinese (MC). These languages lack subject/object agreement but allow null arguments even more freely when those with rich agreement systems, as shown in the contrast in (2a,b) between MC and Spanish.

(2)   a.   Zhangsan hen xihuan Lisi. Wangwu ye hen xihuan e
             Zhangsan   very   like   Lisi   Wangwu   also   very   like
             'Zhangsan likes Lisi. Wangwu also likes (Lisi).'

        b.   Jose sabe [que Maria *(lo) ha visto]
             Jose   know   that   Maria   him   has   seen
             'Jose knows that Maria has seen him.'

Moreover, pro-drop cannot be the only account for the null arguments paradigm, as shown in (3) below. (3) displays a similar contrast as the English examples in (4). The existence of the quantificational reading in (3a) and the lack of such reading in (3b) indicate that an empty pronoun cannot be the whole story. Some kind of ellipsis is involved.[1]

(3) a. Akiu kanjian-le san-ge xuesheng. Lisi ye kanjian-le [*e*]
         Akiu see-ASP   3-CL   student   Lisi also see-ASP
         'lit. Akiu saw 3 students. Lisi also saw e .'   ([OK]quantificational reading)
     b. Akiu kanjian-le san-ge xuesheng. Lisi ye kanjian-le tamen
         Akiu see-ASP   3-CL   student   Lisi also see-ASP   they
         'lit. Akiu saw 3 students. Lisi also saw them'   ([X]quantificational reading)

(4) a. John saw three students, and Bill did [*e*], too.   ([OK]quantificational reading)
     b. John saw three students, and Bill saw them, too.   ([X]quantificational reading)

There are at least two questions that need to be asked. First, what kind of ellipsis is this? In other words, what is the proper analysis for the null argument paradigm in MC? Second, how can the null argument paradigm in MC tell us about the theory of empty categories in general?

In this paper, I will argue for the existence of an independent operation in MC termed Argument Ellipsis (AE). In particular, I will argue that AE displays different properties and therefore cannot be assimilated to other elliptic constructions.

The organization of the paper is as follows. In section 2, I will examine the null argument paradigm in MC, and review some of the previous analyses proposed in the literature. I will also give evidence that some of the properties of the null argument paradigm cannot be explained by previous analyses. In section 3, I give direct evidence that AE is independently available in MC. In other words, I argue that the null argument (in particular, null objects) paradigm involves an operation that elides the whole argument and only the argument. In section 4, I briefly examine some of the questions related to this proposal, discuss some of the theoretical implications of the proposal, and conclude the paper.

2.   Null Argument Paradigm in Mandarin Chinese

As discussed in section 1, it has long been observed that MC, despite the lack of agreement in both subject and object positions, allows null arguments even more freely than languages with rich agreement paradigms, such as Spanish or Italian. This is shown in (5) below, where both subjects and objects can be null. Note that the corresponding sentences in English are ungrammatical. There have been several analyses proposed in the literature. In this section, I will review two of the most prevailing analyses, including the topic-variable analysis and the VP-ellipsis in disguise analysis.

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[1] Here I am putting aside the discussion of some weak pronouns, which seem to induce sloppy interpretation, too.

(5) a. Zhangsan xihuan Lisi$_1$, danshi Mali bu xihuan e_1 .
         Zhangsan like Lisi but Mary not like
         'Zhangsan likes Lisi$_1$, but Mary does not like e$_1$'
         *(cf. *John likes Mary, but Peter does not like e .)*

     b. Zhangsan$_1$ xihuan Lisi. e_1 ye xihuan Mali.
         Zhangsan like Lisi also like Mary
         'Zhangsan$_1$ likes Lisi. e$_1$ also likes Mary.'
         *(cf. *John likes Mary. e also likes Jane.)*

2.1. Topic-Variable Analysis

Huang (1984) argues that null objects in MC cannot be null pronominals (*pro*).[2] He builds his argument based on the referential possibilities for null arguments in MC that are different from those in English. He thus argues that null objects can only be variables bound to a (potentially null) topic. This is shown in (6)-(8) below. As shown in (6a), the null subject in the embedded clause can be co-referential with the matrix subject or someone salient in the discourse. On the other hand, the null object in (6b) can only be co-referential with someone salient in the discourse, but not the matrix subject. This is a subject/object asymmetry for null arguments. However, such asymmetry is missing for object pronouns, as shown in the MC examples in (7) and the English examples in (8). In (7) and (8), both the overt subject and the overt object can be co-referential with either the matrix subject or someone salient in the discourse.

(6) a. Zhangsan$_1$ shuo [$e_{1/2}$ bu renshi Lisi]
         Zhangsan say not know Lisi
         'Zhangsan said that [he] did not know Lisi.'

     b. Zhangsan$_1$ shuo [Lisi bu renshi $e_{*1/2}$]
         Zhangsan say Lisi not know
         'Zhangsan said that Lisi does not know [him].'

(7) a. Zhangsan$_1$ shuo [**ta**$_{1/2}$ bu renshi Lisi]
         Zhangsan say he not know Lisi
         'Zhangsan said that he did not know Lisi.'

     b. Zhangsan$_1$ shuo [Lisi bu renshi **ta**$_{1/2}$]
         Zhangsan say Lisi not know he
         'Zhangsan said that Lisi does not know him.'

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[2] As is well known, a pronoun can also be a bound variable, as in (i).

(i) Every boy$_1$ thinks his$_1$ father is smart.

Here I use the notion 'pronoun' to mean that a pronominal element has the option to be referentially free. It does not have to be bound to its operator, unlike a variable.

(8)   a.   John$_1$ said that he$_{1/2}$ didn't know Bill.

        b.   John$_1$ said that Bill didn't know him$_{1/2}$.

Huang (1984) claims that the contrast between (6) and (7-8) is unexpected if the null object in (6b) is simply a silent pronominal (*pro*). Given this, he argues that null objects in MC cannot be an empty pronominal. Huang (1984) thus concludes that the empty pronoun analysis is an option only for null subjects in Chinese, but not an option for null objects. If the empty pronoun analysis were an option for null objects, there should be no reason why this empty pronoun cannot refer to the matrix subject.

To explain the co-referential possibility of null arguments, Huang (1984) argues that null arguments are governed by the two principles below.

(9)   Disjoint Reference (DJR) = Binding Condition B

              A pronoun must be free in its governing category.

(10)   Generalized Control Theory (GCR)

              Co-index an empty pronominal with the closest nominal element

Given (9) and (10), let us examine how the contrast in (6a,b) may be captured. If the null subject in (6a) is a *pro*, it will have to be co-indexed with the closest nominal element (by (10)), which is the matrix subject *Zhangsan*. If the null subject in (6a) is a variable, it may be bound to a topic salient in the discourse. The possibility of a pro and a variable for null subjects gives rise to the two readings. Similarly, if the null object in (6b) is a variable, it may be bound to a topic, too, thus the discourse reading. However, if the null object in (6b) is a *pro*, it must be co-indexed with the closest nominal element (by (10)), which the embedded subject *Lisi*. However, this is ruled out by (9), which requires a pronoun to be free in its governing category. While (10) requires the null object (*pro*) to be co-indexed with the embedded subject, (9) requires it NOT to be co-indexed with it. Therefore, the null object in (6b) cannot be a *pro*; otherwise, there will always be a crash in satisfying both (9) and (10). The only option is thus a variable bound to a (potentially null) topic. Huang (1984) thus concludes that null objects in MC can only be a variable, not a pronoun.

2.2.   VP-Ellipsis in Disguise Analysis

Huang (1987, 1991) notices that null arguments in MC display some properties similar to those found in canonical VP-ellipsis constructions in English. The sentences in (3) and (4) are repeated here as (11) and (12).

(11)   a.   Akiu kanjian-le san-ge xuesheng. Lisi ye kanjian-le [*e*]

              Akiu   see-ASP   3-CL   student   Lisi also see-ASP

              'lit. Akiu saw 3 students. Lisi also saw e .'   (^{OK}quantificational reading)

b.　　Akiu kanjian-le san-ge xuesheng. Lisi ye kanjian-le tamen
　　　Akiu　see-ASP　　3-CL　　student　　Lisi　also　see-ASP　　they
　　　'lit. Akiu saw 3 students. Lisi also saw them'　　　　　(^{X}quantificational reading)

(12)　a.　　John saw three students, and Bill did [*e*], too.　　(^{OK}quantificational reading)
　　　b.　　John saw three students, and Bill saw them, too.　　(^{X}quantificational reading)

Given the similar behavior in the availability of the quantificational reading in null argument construction in (11a) and the English VP ellipsis construction in (12a), Huang (1987, 1991) suggests that (11a) also involves VP ellipsis. In particular, he argues that (11a) involves verb movement (V-to-I) followed by VP-ellipsis, giving rise to the quantificational reading, as shown in (13a). Otani and Whitman (1991), following Huang (1987), assume that the Japanese sentence in (12b) also involves VP-ellipsis to account for the sloppy reading. The analysis has been termed V-stranding VP ellipsis or VP ellipsis in disguise analysis.

(13)　a.　　Zhangsan xihuan ziji-de mama. Lisi ye xihuan$_V$+INFL
　　　　　Zhangsan　like　　self-GEN　mother　Lisi　also　like
　　　　　[$_{VP}$ ~~t$_V$~~ ~~ziji-de~~ ~~mama~~]
　　　　　　　　　self-GEN　mother
　　　　　'Zhangsan likes his mother. Lisi also likes [his mother].'　　(^{OK}sloppy reading)
　　　b.　　Taroo-ga　　zibun-no　hahaoya-o　sonkeisiteiru　Ziroo-mo　*e*
　　　　　Taroo-NOM　　self-GEN　mother-ACC　criticized　　Ziroo-also
　　　　　sonkeisiteiru
　　　　　criticized
　　　　　'Taroo criticized his mother. Ziroo also criticized [his mother].'　　(^{OK}sloppy reading)

The question to be asked is: can the VP ellipsis analysis and the topic-variable analysis account for all the null argument paradigms in MC? Maybe not. In the next section, I will give evidence that the null argument construction behaves differently from VP ellipsis construction. For ease of exposition, I will call it Argument Ellipsis (AE), following the tradition in Saito (2003), and I will use null object construction for illustrations.

2.3.　VP Ellipsis vs. Argument Ellipsis (AE)

The differences between VP ellipsis and AE have been noticed in the literature, mostly in Japanese. The readers are referred to Oku (1998), Kim (1999), Tomioka (2003), Saito (2007), and Takahashi (2008) for more discussions and examples. Here I will give new MC examples as supporting evidence that AE should not be assimilated as VPE.

The first difference between AE and VPE concerns whether adjuncts are included for interpretation. Consider the examples in (14) and (15) below. In VPE constructions, as in (14), the adjunct *three times* is included in the interpretation of the second conjunct, which means *Bill has*

been to Taipei three times, too. In AE constructions, adjunct is not included in the interpretation, unlike VPE, as shown in (15b).
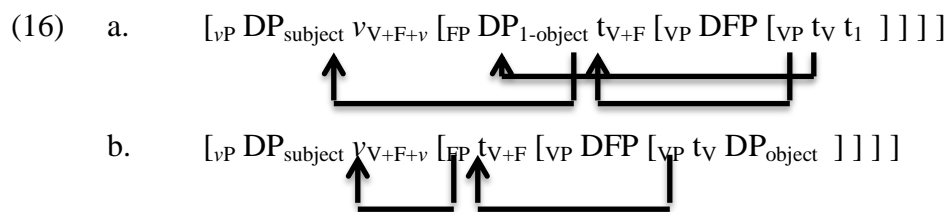
(14)   John has been to Taipei three times, and Bill has [$_{VP}$ *e*], too.
          = John has been to Taipei three times, and Bill has been to Taipei three times, too.

(15)   a.   Zhangsan qu-guo Taibei san-ci
            Zhangsan go-ASP Taipei three-time
            'Zhangsan has been to Taipei three times.'
       b.   Lisi ye   qu-guo *e*
            Lisi also go-ASP
            'lit. Lisi also has been to e .' ≠ *'Lisi also has been to Taipei three times.'*

To maintain the VPE analysis for (15b), one may argue that the adjunct *san-ci* 'three times' is right-adjoined higher than VP (probably *v*P-adjoined), and thus escapes VPE. To argue for the independent existence of AE, it must be shown that the adjunct *san-ci* 'three times' is inside the VP. Soh (1998) argues that this is indeed the case. Consider the contrast in (15a,b) below. The Duration and Frequency Phrase (DFP) *liang-ci* 'two times' follows the direct object *mei-ge xuesheng* 'every student' in (15a), but precedes it in (15b). As indicated, (15a) is ambiguous between the *every>2* and the *2>every* reading, whereas (15b) only has the *2>every* reading.

(15)   a.   Zhangsan qing-guo   mei-ge   xuesheng liang-ci
            Zhangsan invite-ASP every-CL   student   2-time
            'Zhangsan invited every student twice.'   *every>2, 2>every*
       b.   Zhangsan qing-guo   liang-ci   mei-ge   xuesheng
            Zhangsan invite-ASP 2-time   every-CL   student
            'Zhangsan invited every student twice.'   **every>2, 2>every*

Soh (1998) argues this follows from the Scope Principle in Aoun and Li (1993). She assumes that, in (15a), there is movement of the direct object *mei-ge xuesheng* 'every student' from a position lower than DFP to a position higher than DFP. On other hand, the direct object in (15b) stays in its base position and does not move. The two derivations are represented in (16a,b) below.

(16)   a.   [$_{vP}$ DP$_{subject}$ v_{V+F+v} [$_{FP}$ DP$_{1\text{-object}}$ t$_{V+F}$ [$_{VP}$ DFP [$_{VP}$ t$_V$ t$_1$]]]]

       b.   [$_{vP}$ DP$_{subject}$ v_{V+F+v} [$_{FP}$ t$_{V+F}$ [$_{VP}$ DFP [$_{VP}$ t$_V$ DP$_{object}$]]]]

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Since the direct object c-commands DFP and DFP c-commands the trace of the direct object in (16a), there will be scope ambiguities, according to the Scope Principle in Aoun and Li (1993). On the other hand, since there is no movement of the direct object, DFP asymmetrically c-commands the direct object in (16b). Therefore, only the *2>every* reading is available.

If Soh (1998) is right, this argues for the existence of AE in MC. In Soh's analysis, when the DFP follows the direct object, the DFP is inside the VP and c-commanded by the direct object (hence the scope ambiguity). This shows the DFP is not right-adjoined higher than the VP. It is not clear how VP-ellipsis can delete just the object without deleting the DFP as well, if the latter is inside VP. On the other hand, if (14b) involves Argument Ellipsis, the exclusion of adjuncts follows straightforwardly, in which the object argument is simply deleted.

The second argument for AE independent from VPE comes from double object constructions and dative constructions, as shown in (17) and (18) below. (17) involves double object constructions and (18) involves dative constructions. In both (17b) and (18b), the first argument (NP) is missing, but the sentences have the quantificational reading in which the set of three children and three pictures is different from those in (17a) and (18a), respectively. Li (1985, 1990) argues that both arguments in double object constructions and dative constructions are inside the VP. Therefore, it is not clear how VPE can elide just the first argument and leave the second one unaffected. Again, this will not be a problem for AE since the first argument may simply be deleted,[3] giving rise to the quantificational reading.

(17) a. Zhangsan song-le   san-ge   xiaohai Mali-de   zhaopian
          Zhangsan send-ASP   3-CL   child   Mary-GEN   picture
          'Zhangsan sent three children Mary's picture.'

      b. Lisi zeshi   song-le   *e* Xiaomei-de zhaopian[4] ([OK]quantificational reading)
          Lisi whereas send-ASP   Xiaomei-GEN picture
          'lit. Whereas Lisi sent e Xiaomei's picture.'

(18) a. Zhangsan song-le   san-zhang   zhaopian   gei   Mali
          Zhangsan send-ASP   3-CL   picture   to   Mary
          'Zhangsan sent three pictures to Mary.'

      b. Lisi zeshi   song *e* gei Xiaomei   ([OK]quantificational reading)
          Lisi whereas send   to   Xiaomei
          'lit. Whereas Lisi sent e to Xiaomei'

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[3] Here I leave open the question what the mechanism of ellipsis is. In particular, I am neutral between the LF copying and the PF deletion analysis

[4] The presence of *zeshi* 'whereas' is intended to create a contrast between (17a,b) and make the sentence sound more natural. This is consistent with Merchant's (2001) claim that the existence of focus and contrast is crucial for elliptic structures.

The argument above from the double object construction and dative construction is not complete unless we can exclude the possibility that the (linearly) second argument has moved out of VP in which case it will not be affected by VPE. The derivation is shown in the structure below in (19), illustrated by rightward movement of the second argument.

(19) a.   [$_{TP}$ Lisi zeshi [$_{vP}$ song$_{v+V}$ [$_{VP}$ t$_V$ san-ge xiaohai t$_j$-] [Xiaomei-de zhaopian]$_j$]]
            Lisi   whereas send   3-CL   child   Xiaomei-GEN picture
      b.   [$_{TP}$ Lisi zeshi   [$_{vP}$ song$_{v+V}$ [$_{VP}$ t$_V$ san-zhang zhaopian t$_j$-] [gei Xiaomei]$_j$]]
            Lisi   whereas   send   3-CL   picture   to   Xiaomei

To exclude such possibility, we need to find sentences with the following structures in (20), in which both XP1 and XP2 are inside the VP and are immobile for independent reason. This is to guarantee that XP1 and XP2 will be affected by VPE and can serve to argue for the existence of AE aside from VPE.

(20) a.   Subject1   V1   Object1   XP1
      b.   Subject2   V2   [e]   XP2

Sentences with secondary predicates are given below in (21). Huang (1988) gives a small clause analysis to de-constructions, in which the sentence-final predicates are secondary predicates in the small clause. (21a) is the canonical/base-line sentence. (21b) shows that secondary predicates cannot move. (21c) shows that the subject in the small clause can be elided and the sentence still has the quantificational reading.

(21) a.   Zhangsan da-de   san-ge   xiaohai bi-qing-lian-zhong
            Zhangsan   hit-DE   3-CL   child   nose-green-face-swollen
            'Zhangsan hit three children (to the degree that they are) wounded.'
      b. * [Bi-qing-lian-zhong]$_1$,   Zhangsan da-de   san-ge xiaohai t$_1$
            nose-green-face-swollen   Zhangsan   hit-DE   3-CL   child
            'lit. Wounded, Zhangsan hit three child.'
      c.   Lisi zeshi   da-de   *e*   wawadajiao   (^{OK}quantificational reading)
            Lisi   whereas   hit-DE   screaming
            'lit. Whereas Lisi hit e screaming.'

Under the assumption that secondary predicates cannot move, as evidenced in (21b), the pair in (21a,c) provides a challenge to the VPE analysis. It is not clear how VPE can elide only the subject in the small clause without affecting the secondary predicates. However, under the AE analysis, this is captured straightforwardly. This thus provides argument for the independent existence of AE in MC.

In this section, I have given evidences that AE should be distinguished from VPE as an mechanism that is independently available in MC. The evidences are drawn from examples from other languages, replicated and strengthened in MC.

However, the examples above only show that VPE is not enough to capture AE paradigm. To argue for the existence of AE, it must be established that no other mechanisms can capture the AE paradigm. In the next section, I will provide new evidence to argue for the existence of AE in MC.

3.   Genuine Argument Ellipsis

As discussed in section 1, many other proposals (including the *pro* analysis, the topic-variable analysis, and the VPE analysis) have been proposed in the literature to account for the null argument paradigm in MC. Therefore, to argue for a new operation (AE), it must be the case that all the other proposals, except AE, are inadequate to account for the relevant examples. I will argue that this is indeed the case. First, consider (3), repeated here as (22). (22a) has the quantificational reading, which is not available in (22b) with an overt pronoun. This shows that the null argument in (22a) is not an empty pronoun. The availability of the quantificational reading thus argues against the *pro* analysis.

(22) a. Akiu kanjian-le san-ge   xuesheng. Lisi ye   kanjian-le [*e*]
          Akiu see-ASP   3-CL   student   Lisi also   see-ASP
          'lit. Akiu saw 3 students. Lisi also saw e .'   ([OK]quantificational reading)
     b. Akiu kanjian-le san-ge   xuesheng. Lisi ye   kanjian-le tamen
          Akiu see-ASP   3-CL   student   Lisi also   see-ASP   they
          'lit. Akiu saw 3 students. Lisi also saw them'   ([X]quantificational reading)

Consider the sentences in (23) below, which involve the *ba*-construction in MC. First, the existence of the quantificational reading in (23b) shows that the null argument is not an empty pronoun, as argued above. Second, there is evidence that the null argument is not a variable bound to a topic, either, as shown in the hypothetical structure in (24). There is an independent constraint in MC that prohibits indefinite topics, as shown in the contrast in (25). When the indefinite object is fronted as a topic, the sentence is ungrammatical, as in (25a). When the fronted object is definite, as in (25b), the sentence is okay. This shows that the null argument in (23b) is not a variable bound to an indefinite topic, either.

(23) a. Zhangsan ba   [san-ke   juzi]   bo-le   [shang-cheng-de pi]
          Zhangsan BA   3-CL   orange   peel-ASP   upper-rim-GEN   skin
          'Zhangsan peeled the skin of the upper rim of 3 oranges.'
     b. Lisi zeshi   [*e*]   bo-le   [xia-cheng-de   pi]
          Lisi   whereas   peel-ASP   lower-rim-GEN   skin
          'lit. whereas Lisi peeled the skin of the lower rim'   ([OK]quantificational reading)

(24)　　　　　　[null topic san-ke juzi]　Lisi　zeshi　　bo-le　[[variable *e*] xia-cheng-de　　pi]
　　　　　　　　　　　　3-CL　orange　Lisi　whereas　peel-ASP　　　　　　lower-rim-GEN　　skin

(25)　a.　*　[topic　san-ben shu]₁　Akiu　mai-le　[*e*]₁
　　　　　　　　　　3-CL　　book　Akiu　buy-ASP
　　　　　'Akiu bought 3 books.'

　　　b.　　　[topic　zhe　san-ben shu]₁　Akiu　mai-le　[*e*]₁
　　　　　　　　　　this　3-CL　　book　Akiu　buy-ASP
　　　　　'Akiu bought these 3 books.'

　　　　Third, it can be argued that the null argument in (23b) cannot be derived by VPE, either. Kuo (2009) argues independently that the *part-whole* construction in (23a,b) involves movement of the *whole* part from a lower position to a higher position, as shown in the structure in (26).

(26)　　　　　　Zhangsan　ba　[san-ke　juzi]₁　bo-le　　[[NP t₁]　shang-cheng-de　　pi]
　　　　　　　　Zhangsan　BA　3-CL　　orange　peel-ASP　　　　　　upper-rim-GEN　　　skin
　　　　　　　　'Zhangsan peeled the skin of the upper rim of 3 oranges.'

　　　　If Kuo (2009) is right, then (23b) cannot be captured by the VPE analysis, either. To derive (23b) by VPE, the part *lower rim skin* will have to move out of VP (across the *whole* part) to some higher position so that it can survive VPE, as shown in the construction in (27). However, (28) shows that moving the *part* to a higher position than the *whole* is not allowed. This thus rules out the possibility that (23b) is derived by VPE.

(27)　　　　　　Lisi　zeshi　　bo₁-le　　[xia-cheng-de　　pi]₂　~~[VP t₁ [NP san-ke juzi]　t₂]~~
　　　　　　　　Lisi　whereas　peel-ASP　lower-rim-GEN　skin　　　　　　3-CL　orange

(28)　　　*　Lisi　zeshi　　bo-le　[　xia-cheng-de　pi]　[　san-ke　　juzi]
　　　　　　　Lisi　whereas　peel-ASP　lower-rim-GEN　skin　　3-CL　　orange
　　　　　'lit. whereas Lisi peeled the lower rim of the skin of 3 oranges'

　　　　To summarize, in this section I have argued for the existence of AE as an independent mechanism in MC from the *ba*-construction in (23). It has been argued that the null argument in (23b) is not an empty pronoun, given the availability of the quantificational reading. Furthermore, the topic-variable analysis is not an option, either, since MC does not allow indefinite topics for independent reasons. Moreover, assuming Kuo's (2009) treatment for the *part-whole* construction is on the right track, the null argument in (23b) cannot be derived by VPE, since it will involve moving the *part* over the *whole*, an operation that is independently ruled out. This thus provides argument for the existence of AE in MC. Under the AE analysis, the argument is simply elided.

4.   Discussion and Implications

In sections 2 and 3, I have provided and strengthened some of the previous argument for AE in MC and have also offered new evidence for the existence of AE in MC as an independent mechanism that cannot be attributed to other derivations. The proposals above have some important and interesting theoretical implications and also raise some serious questions. In this section, I will discuss 2 issues related to the proposal here.

If what has been argued here is on the right tract that MC has another operation termed AE that is independently available, one should immediately ask whether this operation is only available in MC. In other words, is AE universally available? The answer seems to be no, as English (among many others) clearly does not allow AE, as shown in (29) below. In both (29a,b), the direct objects in the second conjunct are elided, and the sentences are ungrammatical. On the other hand, it has been argued in the literature that other languages, such as Japanese and Korean (see Saito (2007) and Kim (1999)), do allow AE. The question is why. To be more specific, what is the licensing condition of AE such that MC, Japanese, and Korean allow it while English and other languages do not? I will not try to provide an answer here. The interested readers are referred to Cheng (2013) for detailed discussion and illustrations that the availability of AE in a given language is tied to the absence of D(eterminers) in that language.

(29)   a. * John saw three students yesterday, and Bill saw [e], too.
         b. * Peter likes his mother, but Fred does not like [e].

The second issue related to the proposal of AE here is on the notion of phase-hood. It has been generally assumed that ellipsis applies to complements of phase heads (cf. Merchant (2001)). Therefore, English has two different varieties of ellipsis, VPE and IP ellipsis (sluicing), as shown in (30). It has been argued that vP and CP are phases. VP and IP, as complements of v and C, can undergo ellipsis. The structures are given in (31).

(30)   a.   John studies German, and Bill does [$_{VP}$ e], too.
         b.   Someone studies German, but I don't know who [$_{IP}$ e].

(31)   a.   John studies German, and Bill does [$_{vP}$ ***v=phase*** ~~[$_{VP}$ study German]~~], too.
         b.   Someone studies German, but I don't know [$_{CP}$who ***C=phase*** ~~[$_{IP}$ studies German]~~]

The question is: can the same mechanism and assumptions apply to AE, too? To be more specific, if ellipsis only applies to complement of phase heads and object AE involves the deletion of the whole argument, this will entail that V is a phase head in MC (and potentially Japanese and Korean, too). Do we have enough evidence for this cross-linguistic variation in what constitutes phase-hood? Moreover, if ellipsis only applies to complement of phase heads, does that mean subject AE is never allowed, since subject is never the complement of a phase head? These are some of the questions to be asked.

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Space limitation has prohibited me from giving an elaborated discussion of the issues raised above. The interested readers are referred to Cheng (2013) for more discussions and references. It should be noted that the claims made in this paper still hold that MC independently allows a mechanism called AE that should be distinguished from other elliptic operations.

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