

## Why do Null Subjects Lack Sloppy Readings in Mandarin Chinese?\*

Chein-Man Lee

### Abstract

In this paper, I critically review Takahashi's (2014) and Sato's (to appear b) analyses on the null argument in Mandarin Chinese. I point out some problems with these analyses, and then propose an alternative analysis according to which null arguments are derived either by argument ellipsis (LF-copy) or by movement of null operators. I claim that the Extended Projection Principle of tense T plays a crucial role in explaining availability of strict and sloppy readings in null argument positions in Mandarin Chinese.

**Keywords:** null arguments, Blocking Effects, Phi-agreement, LF-copying, null operators, Extended Projection Principle, operator-variable chains

### 1. Introduction

Both subjects and objects can be null in Mandarin Chinese (henceforth, MC). However, they behave differently as demonstrated in (1) and (2) below:

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- (1) a. Zhangsan bu xihuan guanyu ziji de yaoyan.  
 Zhangsan not like about self of rumor  
 ‘Zhangsan does not like rumors about himself.’
- b. Lisi ye bu xihuan *e*. (°strict/°sloppy)  
 Lisi also not like  
 ‘lit. Lisi does not like *e*, either.’ (Otani and Whitman (1991: 346))

In (1b), the null object has both the strict reading ‘Lisi does not like rumors about Zhangsan, either’ and the sloppy reading ‘Lisi does not like rumors about himself, either.’ However, in (2b), the null subject in the embedded clause can only yield the strict reading ‘Lisi said that Zhangsan’s child liked Xiaoli,’ but not the sloppy reading ‘Lisi said that Lisi’s child liked Xiaoli.’

- (2) a. Zhangsan shuo ziji de haizi xihuan Xiaohong.  
 Zhangsan say self of child like Xiaohong  
 ‘Zhangsan said his child liked Xiaohong.’
- b. Lisi shuo *e* xihuan Xiaoli (°strict/sloppy)  
 Lisi say like Xiaoli.’  
 ‘Lisi said *e* liked Xiaoli.’ (Takahashi (2007: 6))

This asymmetry between subjects and objects has been attracting linguists and given various analyses. For example, Takahashi (2014) tries to account for the asymmetry in terms of the Anti-Agreement Hypothesis put forth by Saito (2007), and Sato (to appear) attempts to derive the subject-object asymmetry from the definiteness restriction on subjects. In this paper, I will point out some problems with these previous analyses and then provide an alternative account to attribute the asymmetry to the EPP requirement on subject positions.

The structure of this article is organized as follows. In section 2, I will briefly

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review Takahashi's analysis in which subjects have  $\phi$  features in Mandarin Chinese, and Sato (2014, to appear b)'s counter-arguments against it. In section 3, I review Sato's analysis on null arguments and point out some problems with his analysis. In section 4, I will present my proposal on null arguments and provide the data that support my analysis. Section 5 is a conclusion.

## 2. Takahashi's (2014) Analysis and its Problems

Takahashi (2014) attempts to explain the subject-object asymmetry in MC by adopting Saito's (2007) analysis of argument ellipsis. Assuming Chomsky's (2000) theory of agreement, Saito analyzes argument ellipsis in terms of the Anti-Agreement Hypothesis in (3a) and the LF-copying operation in (3b):

- (3) a. Anti-Agreement Hypothesis  
 Ellipsis cannot target arguments that agree with a functional head such as T and  $\nu$ .
- b. LF-Copying  
 The elided arguments does not exist in the underlying structure, so the discourse antecedent can be copied into the empty slot through the LF-Copying operation.

The functional head F (T/ $\nu$ ) carries the uninterpretable  $\phi$  features, whereas the DP has the interpretable  $\phi$  features and the uninterpretable case feature, as illustrated in (4):

- (4) a. ... F<sub>i</sub>{ $\phi$ } ... DP<sub>i</sub>{ $\phi$ , Case} ...  
 b. ... F<sub>i</sub>{ $\phi$ } ... DP<sub>i</sub>{ $\phi$ , Case} ...

In order to agree with functional heads T and  $\nu$ , the DP has to have intact case

features. Once they are agreed, the  $\phi$  feature in the functional head and the case feature in the DP are erased as shown in (4b). Saito also assumes that the subject and object in English agree with the functional heads T and  $\nu$ , respectively. Uninterpretable Case features on a DP are deleted through  $\phi$  feature Agreement between T with  $\phi$  and the DP with  $\phi$ . After the feature valuation, the DP's case feature is no longer available to check with other heads. When the antecedent DP is copied into the empty slot, there is no extra the case feature remaining to be valued with the uninterpretable  $\phi$  feature, so it causes the derivation to crash. Therefore, the subject and the object cannot be elided in English, as schematized in (5).

$$(5) \quad * \dots F_i \{ \phi \} \dots \underbrace{\text{DP}_i \{ \phi, \text{Case} \} \dots}_{\text{LF-copying}} \dots F_j \{ \phi \} \dots \text{DP}_j \{ \phi, \text{Case} \} \dots$$

Given these assumptions, let us consider the following sentences:

- (6) a. John brought [<sub>DP</sub> his friend].  
 b. \*But Bill did not bring \_\_\_\_\_. (Saito (2007: 14))

In (6a), 'his friend' in the antecedent clause has to be copied into the elliptical slot in (6b). Since, the uninterpretable case feature of the DP 'his friend' is already valued with its head  $\nu$  in (6a), it is no longer available to agree with the  $\phi$  feature which remains in  $\nu$  in (6b), so that the derivation crashes. Therefore, the arguments in English cannot be elided.

On the other hand, the Japanese object can be elided, as shown in (7):



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- (9) a. Zhangsan bu xihuan guanyu ziji de yaoyan.  
 Zhangsan not like about self of rumor  
 ‘Zhangsan does not like rumors about himself.’
- b. Lisi ye bu xihuan *e*. (°strict/°sloppy)  
 Lisi also not like  
 ‘lit. Lisi does not like *e*, either.’ (Otani and Whitman (1991: 346))

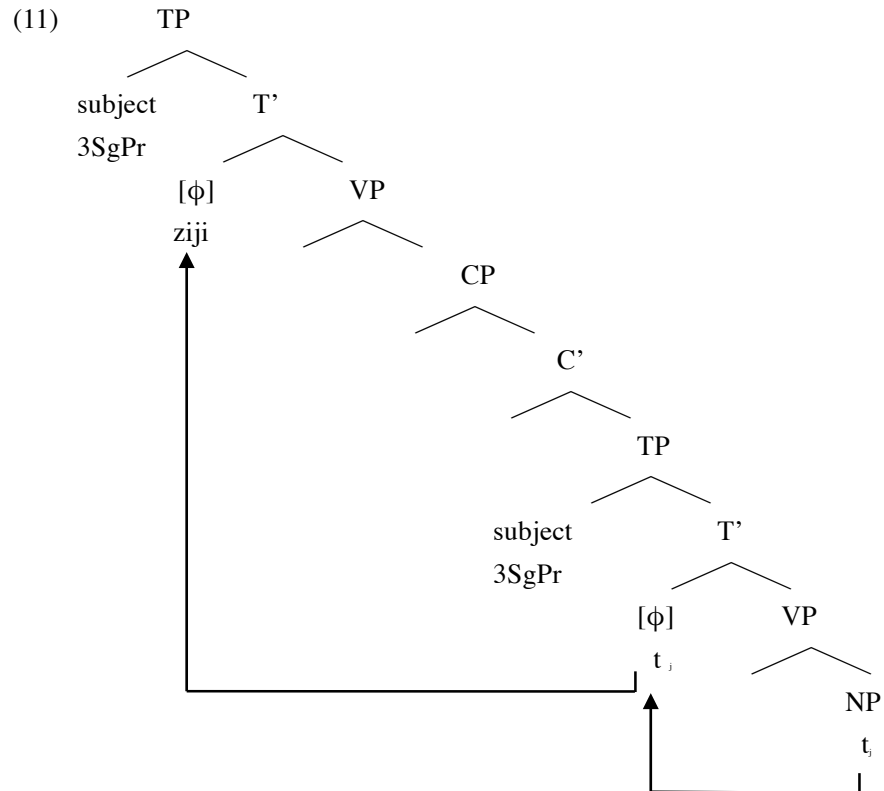
On the other hand, in (10), the subjects agree with the functional heads T in MC. When the antecedent ‘self of child’ in (10a) is copied into the empty slot in (10b), its case feature is valued. Therefore, it causes the sentence to crash, which disallows the sloppy reading ‘Lisi said that Lisi’s child liked Xiaoli’:

- (10) a. Zhangsan shuo ziji de haizi xihuan Xiaohong.  
 Zhangsan say self of child like Xiaohong  
 ‘Zhangsan said his child liked Xiaohong.’
- b. Lisi shuo *e* xihuan Xiaoli (°strict/sloppy)  
 Lisi say like Xiaoli  
 ‘lit. Lisi said *e* liked Xiaoli.’ (Takahashi (2007: 6))

Although the assumption of the subject-T agreement correctly predicts the subject-object asymmetry in MC, there is no overt morphological evidence that the subject and T undergo Agree in MC because T bears no morphological Agreement marker. However, Takahashi argues that Miyagawa’s movement theory of anaphora provides an evidence for that assumption. This theory assumes that the reflexive *ziji* ‘self’ undergoes the head movement to T in the covert component in order to receive personal value from the subject in the specifier of TP. If the subject in an embedded clause has the same  $\phi$  features as the one in a matrix clause has, then the reflexive *ziji* ‘self’ moves up to be valued as the third person singular, as shown in the tree

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diagram below:



In (11), the reflexive *ziji* 'self' moves to the head T in the embedded clause where it receives the third person singular value. From there it can move up to the higher T in the matrix clause to receive the same third person value as in the lower clause. This kind of movement is allowed in (12) so that the reflexive *ziji* can take both 'Zangsan' and 'Lisi' as its antecedent:

- (12) Zhangsan<sub>i</sub> zhidao [Lisi<sub>j</sub> dui ziji<sub>i</sub> mei xinxin].  
 Zhangsan know Lisi to self no confidence  
 'Lit. Zhangsan knows that Lisi has no confidence in self.'

(Miyagawa (2010: 49))

On the other hand, the long head movement is not allowed in the following sentence where the matrix subject and the embedded one are different in  $\phi$  features:

- (13) Zhangsan<sub>i</sub> juede [<sub>i</sub>{wo/ni<sub>j</sub>} dui ziji<sub>i</sub> mei xinxin].  
 Zhangsan think I/you have self no confidence  
 ‘Zhangsan feels that {wo/ni<sub>j</sub>} have no confidence in self<sub>i</sub>.’  
 (Miyagawa (2010: 50))

In (13), the reflexive ‘ziji’ only moves to the head T in an embedded clause, and receives the value. Due to the personal values differences, the long distance binding of reflexive *ziji* ‘self’ is blocked so that the reflexive *ziji* takes only the embedded subject as its antecedent. Given this blocking effect, Takahashi argues that MC has  $\phi$  feature agreement between subjects and its head T.

Thus, Takahashi’s argument for the  $\phi$  feature agreement in MC is based upon the blocking effect on the reflexive anaphor ‘ziji’. However, Sato’s (2014, to appear b) provides the three pieces of empirical evidence against the  $\phi$  feature agreement in MC (also see Huang and Tang (1991), Xue et al. (1994), Huang and Liu (2001)). The first argument concerns the island-insensitivity of the anaphoric relation. Let us consider the wh-question word *why* and the A-not-A questions in the island in MC. If the wh-question word *why* is placed within an adjunct clause or a relative clause, the output is ill-formed because of violating island conditions, as illustrated in (14):

- (14) Locality effects with the LF-movement of phrases  
 a. \*<sub>cr</sub>[ Suiran Lisi weishenme mei lai, ni haishi bu shenqi?  
 Though Lisi why NEG come you still NEG angry  
 ‘\*Though Lisi didn’t come why, you weren’t angry?’



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- b. \*Ni zui xihuan [<sub>NP</sub>[<sub>CP</sub>ta weishenme mai de] shu] ?  
 you most like he why buy MOD book  
 ‘\*You like the book that he bought why?’

(Huang and Tang (1991:271))

Moreover, if the A-not-A question is put into an adjunct clause and a relative clause, the output is ungrammatical due to violating island conditions, as shown in (15):

(15) Locality effects with the LF-moment of head

- a. \* [<sub>CP</sub> ruguo ta lai-bu-lai], ni jiu hui shenqi?  
 if he come-NEG-come you then will angry  
 ‘\*If ta comes or not, then you will be angry?’
- b. \*Ni zui xihuan [<sub>NP</sub>[<sub>CP</sub> ta mai-bu-mai de] shu] ?  
 you most like he buy-NEG-buy MOD book  
 ‘\*You like the books that he will buy or will not buy?’

(Huang and Tang (1991:271))

On the other hand, the reflexive ‘ziji’ can refer to the matrix clause subject even though it is embedded within an adjunct island:

(16) No locality effect with the long-distance construal of *ziji* ‘self’

- Zhangsan<sub>i</sub> shuo [<sub>CP</sub> ruguo Lisi piping ziji<sub>i</sub>], ta jiu bu qu.  
 Zhangsan say if Lisi criticize self he then NEG go  
 ‘Zhangsan says that if Lisi criticized self, then he won’t go.’

(Huang and Tang (1991:271))

In the same manner, although the reflexive ‘ziji’ is included in a relative clause, it still can co-indexed with the matrix clause subject ‘Zhangsan’:

- (17) No locality effect with the long-distance construal of *ziji* ‘self’

Zhangsan<sub>i</sub> bu xihuan [<sub>NP</sub> [<sub>CP</sub> neixie piping ziji<sub>i</sub> de] ren].

Zhangsan NEG like those criticize self MOD person

‘Zhangsan does not like those people who criticize self.’

(Huang and Tang (1991:271))

(16) and (17) suggest that the ‘*ziji*’ anaphora should not move to the head whose specifier is occupied by its antecedent.

Second, the blocking effect is induced not only by subjects but also by objects that are not assumed to Agree with a functional head:

- (18) Blocking effect triggered by first-person direct object

Zhangsan<sub>i</sub> gaosu wo<sub>i</sub> Lisi<sub>k</sub> hen ziji<sub>i/ij/k</sub>

Zhangsan tell me Lisi hate self

‘Zhangsan told me<sub>i</sub> Lisi<sub>k</sub> hated self<sub>i/ij/k</sub>.’ (Xue et al. (1994: 436))

- (19) Blocking effect triggered by second-person direct object

Wo<sub>i</sub> zhidao Zhangsan<sub>j</sub> gaosu ni<sub>k</sub> Lisi<sub>i</sub> hen ziji<sub>i/ij/ni</sub>

I know Zhangsan tell you Lisi hate self

‘I know Zhangsan tells you<sub>k</sub> Lisi<sub>i</sub> hate self<sub>i/ij/ni</sub>.’ (Xue et al. (1994: 437))

In (20) and (21), blocking effects are induced by the oblique object ‘me’ and ‘you’.

- (20) Blocking effect triggered by first-person object of preposition

Zhangsan<sub>i</sub> dui wo<sub>i</sub> shuo Lisi<sub>k</sub> chang piping ziji<sub>i/ij/k</sub>

Zhangsan to me say Lisi often criticize self

‘*Lit.* Zhangsan said to me<sub>i</sub> that Lisi<sub>k</sub> often criticized self<sub>i/ij/k</sub>.’

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- (21) Blocking effect triggered by second-person object of preposition

Zhangsan<sub>i</sub> cong ni<sub>j</sub> nar ting shuo Lisi<sub>k</sub> chang piping ziji<sub>i,ni,jk</sub>

Zhangsan from you there hear say Lisi often criticize self

‘Zhangsan heard from you that Lisi often criticized self.’

(Xue et al. (1994: 437))

In the perspective of agreement, the objects differ from the subjects. If there is no  $\phi$  agreement between the functional head  $v$  and the object, the blocking effect should not occur in the object positions in the first place.

Third, the blocking effect on the reflexive anaphor ‘ziji’ depends on its grammatical function. In (22a), when *ziji* ‘self’ is placed in the subject position in the embedded clause, the blocking effect does not occur. However, in (22b), when *ziji* ‘self’ is in the object position, the blocking effect occurs.

- (22) a. [<sub>TP</sub> Zhangsan<sub>i</sub> dui wo shuo [<sub>TP</sub> ziji<sub>i</sub> piping-le Lisi]]

Zhangsan to me say self criticize -ASP Lisi

‘Lit. Zhangsan said to me that he criticized Lisi.’

- b.??[<sub>TP</sub> Zhangsan<sub>i</sub> dui wo shuo [<sub>TP</sub> Lisi piping-le ziji<sub>i</sub>]]

Zhangsan to me say Lisi criticize -ASP self

‘Lit. Zhangsan said to me that Lisi often criticized him.’

(Li (2014: 52))

Dividing the interpretation of *ziji* ‘self’ into syntactic anaphor and Logophoric anaphor, Li (2014) claims that the blocking effects are triggered by the latter not by the former.

Thus, Sato concludes that Takahashi’s argument for the  $\phi$  feature agreement in MC, which is based upon the blocking effect on the reflexive anaphor ‘ziji’, is not

convincing.

### 3. Sato's (to appear b) Analysis and its Problems

Let us turn to Sato's analysis of the subject-object asymmetry in MC. His analysis crucially relies on Saito's (2015) theory of argument ellipsis, as illustrated in (23):

- (23) a. The question word 'who' (covertly) moves to Spec CP to form an operator-variable structure.  
 b. LF-copying analysis of argument ellipsis  
 Copy an LF-object in the antecedent sentence and insert it into the the empty slot of the LF for the elliptical sentence.

(23) provides an account of unavailability of argument ellipsis targeting question words like *dare* 'who' in Japanese, as shown in (24):

- (24) a. [<sub>CP</sub> [<sub>TP</sub> Dare-ga Haiderabaad-e itta]ka] sitte-imasu-ka.  
 Who-NOM Hyderabad-to went Q know-POL-Q  
 'Do you know who went to Hyderabad?'  
 b. Ite. \*Demo [<sub>CP</sub> e Siena-e itta] ka] nara sitte-imasu.  
 No but Siena-to went Q if know-POL  
 'NO. But I know the answer if the question is who went to Siena.'  
 (Saito (2015:24))

The antecedent sentence in (24a) has the LF structure in (25a) where the question word *who* is decomposed into the operator and the variable portions, [for which x: x a person] and x, respectively. The LF-Copy operation can in principle apply to either of these LF objects. However, whichever the LF Copy operation applies to, the result

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will be an illegitimate LF representation; If operator [for which  $x$ :  $x$  a person] were copied and inserted to the null argument position as in (25b), it could not take scope from there; if the variable  $x$  was copied as in (25c), the variable would be left free variable since there is no relevant operator to bind it.

- (25) a. [for which  $x$ : $x$  a person],  $x$  went to Hyderabad  
 b. [for which  $x$ : $x$  a person] went to Siena  
 c.  $x$  went to Siena (Saito (2015:29))

One may be tempted to copy and insert the operator and variable into the A-bar position and the A-position respectively in the ellipsis sentence, which would lead to an LF such as in (26):

- (26) [for which  $x$ :  $x$  a person],  $x$  went to Siena

However, this operation will be excluded by assuming with Oku (1998) that argument ellipsis, hence the LF-Copy, can only target A-positions.

In addition to the LF-copying analysis of argument ellipsis in (23), Sato assumes that subjects undergo the topicalization. He bases this assumption upon the definite restriction (Chao 1968; Li & Thompson 1976 and others) on subjects. MC does not allow indefinite subjects as shown in (27a) unless they are accompanied by *you* 'exist' as in (27b):

- (27) a. {\*Yi-ge/\*yixie/\*ji-ge} ren zai yuenzi-li zuozhe.  
 one-CL/some/several-CLF person at yard-LOC sit.CONT  
 'A man/some men/several men/are sitting in the yard.'  
 b. You {yi-ge/yixie/ji-ge} ren zai yuenzi-li zuozhe.  
 Exist one-CLF/some/several-CLF person at yard-LOC sit.CONT

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‘There is/are a man/some men/several men sitting in the yard.’

(Chou (2004: 194))

The same restriction also holds for embedded subjects; see (28):

(28) a. \*Zhangsan shuo {Yi-ge/ yixie/ji-ge} ren zai  
 Zhangsan say one-CL/some/several-CLF person at  
 Yuenzi-li zuozhe.

Yard-LOC sit.CONT

‘Zhangsan said that a man/some men/several men is/are sitting in  
 the yard.’

b. Zhangsan shuo you {yi-ge/ yixie/ji-ge } ren zai  
 Zhangsan say exist one-CLF/some/several-CLF person at  
 yuenzi-li zuozhe.

yard-LOC sit.CONT

‘Zhangsan said that there was/were a man/some men/several men  
 sitting in the yard.’

(Sato (in press b:14))

Notice that subjects in MC are in this respect similar to the topicalized elements which are also subject to the definiteness constraint. (29) shows that the indefinite object *yi-ge nanhai* ‘one boy’ cannot undergo the topicalization:

(29) \*Yi-ge nanhai, wo hen xihuan/kandao-le t.

One-CLF boy I very like/see-ASP

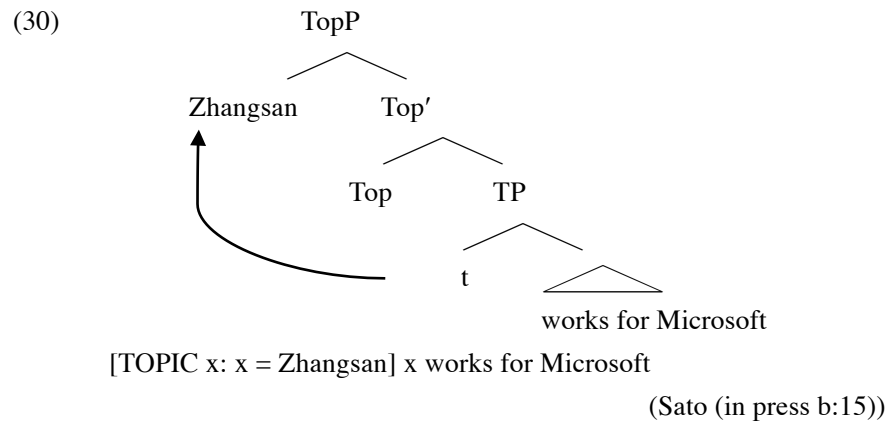
‘Lit. A boy, I like/saw.’

(Sato (in press b:15))

Given the similarity between subjects and topicalized phrases, Sato assumes that subjects undergo the topicalization by default if no other elements are topicalized,

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targeting Spec-TopP to form an operator-variable structure, as shown in (30).



Now, let us see how Sato accounts for the fact that the null subject cannot yield the sloppy reading in the following sentence:

- (31) Mali yiweiziji-de haizi hui shuo yingwen. Susan yiwei  $e$   
 Mary think-self-MOD child can speak English Susan think  
 hui shuo fawen. (sloppy)  
 can speak French  
 Lit. Mary thinks that her child can speak English. Susan thinks that  $e$   
 can speak French.’
- (Sato (in press b: 6))

In the second sentence of (31), the sloppy reading ‘Susan thinks that Susan’s child can speak French’ is not available. Since the subject undergoes the topicalization in Sato’s analysis, the first sentence of (31) has the structure in (32a) where the embedded subject takes scope at Spec-TopP and binds its variable in the subject position. Then, (32a) leads to the LF representation in (32b). Whether the operator or the variable portion of (32a) were copied into the ellipsis sentence, the illegitimate LF representation, (32c) or (32d) respectively, would result.

- (32) a. [<sub>TopP</sub> Mali<sub>i</sub> [<sub>TP</sub> *t*<sub>i</sub>yiwei [<sub>TopP</sub> ziji-de haizi<sub>j</sub> [<sub>TP</sub> *t*<sub>j</sub> hui shuo yingwen] ]]]  
 b. [TOPIC x: x = Mary's child] x can speak English  
 c. [TOPIC x: x = Mary's child] can speak French  
 d. x can speak French (Sato (in press b: 18))

Thus, subjects move to Spec of TopP, forming the operator-variable chains. Accordingly, subjects cannot be elided in MC.

In contrast, objects are not subjects to the definiteness restriction, as illustrated in (33):

- (33) Wo zhaodao-le liang-ben shu.  
 I find-ASP 2-CLF book  
 'I found two books.' (Cheng (2013: 129))

Then, there is no reason to assume that they undergo the topicalization. Therefore, the sloppy reading can be obtained through the LF-copying operation in null object positions.

So far, we have seen how Sato's analysis of the subject-object asymmetry in MC. I will point out two problems with his analysis. The first problem is about the correlation between the topicalization and unavailability of a sloppy reading. He argues that a null subject does not yield a sloppy reading because its antecedent moves to Spec of Topic Phrase so that it forms an operator-variable chain. His analysis predicts that a null object does not allow a sloppy interpretation either when its antecedent moves to a sentence initial position by the topicalization. However, this prediction is incorrect, as illustrated in (34):



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- (34) a. *ziji-de haizi, Zhangsan hen xihuan t.*  
 self-GEN child, Zhangsan very like  
 ‘His child, Zhangsan likes very much.’
- b. *Lisi ye hen xihuan e.* (<sup>strict</sup>/<sub>sloppy</sub>)  
 Lisi also very like  
 ‘Lit. Lisi likes his child very much, too.’

In (34a), the object *ziji de haizi* ‘self child’ is topicalized. Even it is topicalized, the sloppy reading ‘Lisi likes his child very much, too.’ can be obtain in (34b). Sentence (34) shows that Sato’s prediction cannot be sustained.

The second problem with Sato’s analysis is about the correlation between an indefinite expression and availability of a sloppy reading. Notice that subjects cannot only allow definite readings, but also yield generic, quantificational, and indefinite readings. Let us consider the following sentence:

- (35) *mao xihuan he niu-nai*  
 Cat like drink cow-milk  
 ‘Cats like to drink milk.’ (Li and Thompson (2009: 129))

In (35), the subject *mao* ‘Cats’ has the generic interpretation. In addition, the subject *mei-yi-ge ren* ‘every person’ carries a quantificational interpretation in (36):

- (36) *mei-yi-ge ren chi yi-kou*  
 Every-one-CL person eat one-mouth  
 Every person gets one mouthful. (cf. Li and Thompson (2009: 168))

Furthermore, indefinite readings are also allowed in subject positions without help

of *you* ‘exist’ in such a limited environment as in (37), where the subject *yi-ge ren* ‘one person’ has the indefinite interpretation.

- (37) *yi-ge ren jiu gou le*  
 One-CL person then enough CRS  
 ‘One person will be enough.’ (Li and Thompson (2009: 167))

The following sentences show that the same pattern can be seen in embedded subjects, too.

- (38) a. *Zhangsan shuo mao xihuan he niu-nai* (generic)  
 Zhangsan say cat like drink cow-milk  
 ‘Zhangsan says that cats like to drink milk.’  
 b. *Zhangsan shuo mei-yi-ge ren chi yi-kou*  
 Zhangsan say every-one-CL person eat one-mouth  
 ‘Zhangsan says that every person gets one mouthful.’  
 (quantificational)  
 c. *Zhangsan shuo yi-ge ren jiu gou le* (indefinite)  
 Zhangsan say one-CL person then enough CRS  
 ‘Zhangsan says that one person will be enough.’

Thus, subjects yield not only definite readings, but also generic, quantificational, and indefinite readings.

Given this, Sato’s analysis predicts that a null subject allows a sloppy reading if its antecedent does not undergo topicalization and then can be interpreted as an indefinite expression. However, this prediction is not borne out, as illustrated in (39):

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- (39) a. Zhangsan shuo ta-de erzi jiu gou le  
 Zhangsan say his-GEN son then enough CRS  
 ‘Zhangsan said that his son will be enough.’
- b. Lisi shuo *e* bu gou. (okstrict/\*sloppy)  
 Lisi said not enough  
 ‘Lit. Lisi said that *e* is not enough.’

(39b) can be interpreted as the strict reading ‘Lisi said that his son (Zhangsan’s) is not enough,’ but not as the sloppy reading ‘Lisi said that his son (Lisi’s) is not enough.’ Thus, Sato’s analyses on the null arguments in MC cannot be hold.

#### 4. The Proposed Analysis

This section presents my proposal regarding derivations of null arguments in MC. I claim that null arguments are derived either by argument ellipsis (LF-copying) or by null operator movement. Argument ellipsis yields a sloppy reading through the LF-Copying operation. A null operator moves to the left periphery of a matrix clause to retrieve its referential value from discourse, leading to a strict reading of the null argument. A null object can be derived in either way and thus allow both sloppy and strict readings. On the other hand, argument ellipsis of subject will lead to the Extended Projection Principle (EPP) violation and hence a sloppy reading is excluded. Null operator movement to Spec of TP satisfies the EPP so that a strict reading is allowed for a null subject.

Let us now consider sentence (1), repeated here as shown in (40):

- (40) a. Zhangsan bu xihuanguan yu ziji de yaoyan.  
 Zhangsan not like about self of rumor  
 ‘Zhangsan does not like rumors about himself.’

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- b. Lisi ye bu xihuan *e*. (strict/sloppy)  
 Lisi also not like  
 ‘lit. Lisi does not like *e*, either.’ (Takahashi (2014: 105))

The null object in (40b) allows both the strict reading ‘Lisi does not like rumors about Zhangsan’ and the sloppy reading ‘Lisi does not like rumors about himself.’ The proposed analysis gives (40b) the following structure:

- (41) a. [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> Lisi ye bu xihuan t<sub>i</sub>]]  
 b. [<sub>CP</sub> [<sub>TP</sub> Lisi ye bu xihuan *e*]]

In (41a), the null operator moves to the specifier of CP, and the null operator takes ‘rumor about Zhangsan’ as its referential value, yielding the strict reading. On the other hand, the sloppy reading is analyzed in terms of argument ellipsis. The objects do not carry  $\phi$ -feature, so the antecedent ‘about self’s rumor’ can be copied into the null object position through the LF-Copying.

Now, let us turn to (42), where the null subject in the embedded clause only has the strict reading ‘Lisi said that Zhangsan’s child liked Xiaoli’, but not the sloppy reading ‘Lisi said that Lisi’s child liked Xiaoli’.

- (42) a. Zhangsan shuo ziji de haizi xihuan Xiaohong.  
 Zhangsan say self of child like Xiaohong  
 ‘Zhangsan said his child liked Xiaohong.’  
 b. Lisi shuo *e* xihuan Xiaoli (strict/sloppy)  
 Lisi say like Xiaoli  
 ‘lit. Lisi said *e* liked Xiaoli.’ (Takahashi (2014: 107))

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Under the proposed analysis, the strict reading is derived by null operator movement from the subject position to Spec CP, as was the case for the object strict reading. In this case, the null operator satisfies the EPP of the tense T in the overt syntax. In (42b), in contrast, the sloppy reading cannot be obtained. This is because the empty slot to be filled by the LF-copy operation does not qualify to satisfy the EPP requirement of T in the overt syntax. Thus, the sloppy reading fails to obtain.

- (43) a. [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> Lisi shuo [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> t xihuan Xiaoli]]]]  
 b. \*[[<sub>CP</sub> [<sub>TP</sub> Lisi shuo [<sub>CP</sub> [<sub>TP</sub> e T<sub>EPP</sub> xihuan Xiaoli]]]]

The same analysis holds of sentence (34), repeated here as (44)

- (44) a. ziji-de haizi, Zhangsan hen xihuan t.  
 self-GEN child, Zhangsan very like  
 ‘His child, Zhangsan likes very much.’  
 b. Lisi ye hen xihuan e. (<sup>strict</sup>/<sub>sloppy</sub>)  
 Lisi also very like  
 ‘Lit. Lisi likes his child very much, too.’

The proposed analysis gives (44b) the following two structures:

- (45) a. [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> Lisi ye hen xihuan t]]  
 b. [<sub>CP</sub> [<sub>TP</sub> Lisi ye hen xihuan e]]

In (45a), the null operator moves from the object position to the specifier of CP to interpret the antecedent from the discourse to yield the strict reading. On the other hand, in (45b), the empty slot can be copied the antecedent through the LF-Copying operation to obtain the sloppy reading.

Finally, let us consider the sentence in (39), duplicated here in (46).

- (46) a. Zhangsan shuo ta-de erzi jiu gou le  
 Zhangsan say his-GEN son then enough CRS  
 ‘Zhangsan said that his son will be enough.’
- b. Lisi shuo *e* bu gou. (okstrict/\*sloppy)  
 Lisi said not enough  
 ‘Lit. Lisi said that *e* is not enough.’

I argue that (46b) has structure (47a), but not structure (47b):

- (47) a. [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> Lisi shuo [<sub>CP</sub> Op<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> bu gou]]]]  
 b. \*[[<sub>CP</sub> [<sub>TP</sub> Lisi shuo [<sub>CP</sub> [<sub>TP</sub> *e* T<sub>EPP</sub> bu gou]]]]]

In (47a), the null operator moves from the embedded subject position to the specifier of CP in the matrix clause to interpret its antecedent from discourse leading the strict reading ‘Lisi said that his son (Zhangsan’s) is not enough.’ This derivation satisfies the EPP of the embedded T in the overt syntax. On the other hand, in (47b), the empty slot cannot fulfill the EPP in the embedded clause. Accordingly, the sloppy reading ‘Lisi said that his son (Lisi’s) is not enough’ cannot be obtained.

## 5. Conclusion

In this paper, I have overviewed the two preview analyses (Takahashi (2014) and Sato (to appear b)) of the subject-object asymmetry in MC regarding interpretations of null arguments. I have pointed out some problems with Sato’s analysis which claims that null subjects cannot yield sloppy readings because they undergo topicalization to form operator-variable chains. Instead, I have proposed that the EPP feature of the tense T cannot be satisfied by empty slots which yields

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sloppy readings through the LF-copy operation.

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