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Comparative syntax of argument ellipsis in languages without agreement: A case study with Mandarin Chinese[1]

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This paper investigates the cross-linguistic distribution of argument ellipsis (AE) with an emphasis on Chinese, an Asian language well-known for its lack of overt morphological agreement. It is observed in the literature that Japanese permits AE in both null subject and null object positions whereas Chinese permits it in null object positions, but not in null subject positions. Adopting Saito's (2007) hypothesis that the presence of φ-feature agreement associated with *v* or T blocks AE, Miyagawa (2013) and Takahashi (2014) argue that the absence of subject AE in Chinese follows from abstract subject agreement. After presenting three empirical arguments against this analysis from the Chinese literature, I propose that the distribution of AE is better predicted by topichood and link this proposal to Saito's (2017) recent analysis of AE developed for Japanese, whereby AE, analyzed as

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The following abbreviations are used in this paper: 3 = third person; ACC = accusative; ASP = aspect; CLF = classifier; COMP = complementizer; CONT = continuation; COP = copula; CT = contrastive topic; DAT = dative; DEC = declension; DEM = demonstrative; GEN = genitive; INCH = inchoative; LOC = locative; M = masculine; MOD = modification; NEG = negation; NOM = nominative; PASS = passive; PFV = perfective; POL = politeness; PRS = present tense; PST = past tense; PTCL = particle; Q = question; REFL = reflexive; SG = singular; TOP = topic.

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LF Copy, cannot apply to an operator–variable configuration. My analysis is supported by the novel observation that the null subject position in Chinese actually allows AE when it is not linked to the topic position, as in hanging topics, relative clauses and conditional clauses.

KEYWORDS: argument ellipsis, LF Copy, operator–variable relation, topic, φ-feature agreement

1. INTRODUCTION

One of the most intriguing questions facing researchers working on the comparative syntax of argument ellipsis (AE) is its distribution. Although Oku (1998) shows that Japanese exhibits AE in both null subject and null object positions, follow-up work by Takahashi (2007, 2013a, b, 2014), Cheng (2013), Miyagawa (2013), Simpson, Choudhury & Menon (2013), and Li (2014) notes that this symmetric AE pattern does not actually hold in many other AE languages, such as Chinese, Hindi, Malayalam, Bangla, Basque, and Portuguese, where null objects permit, but null subjects do not permit, AE. This thus re-opens an investigation into properties that can explain this comparative distribution of AE.

Saito (2007) argues that φ-feature agreement is a significant predictor of the availability of AE, which he presents as the anti-agreement theory. Japanese allows AE because it has no obligatory φ-feature agreement (Kuroda 1988) whereas English prohibits AE due to obligatory φ-feature agreement. This theory has since been applied in subsequent research to several other typologically different languages, including Turkish (Şener & Takahashi 2010), Chinese (Miyagawa 2013; Takahashi 2007, 2014), Malayalam (Takahashi 2013b), and Kaqchikel (Otaki et al. 2013), with early promising results. At the same time, however, the typological validity of the theory has also been called into question by Simpson et al. (2013), who show that Bangla and Hindi do permit AE even in the presence of agreement, and by Otaki (2014), who notes other potential problems with Saito's theory related to Afrikaans, Swedish, Hindi and Basque (Duguine 2008, 2012); see also Smith (2017) for his observation that Zazaki, a northwestern split-ergative, Iranian language, allows AE regardless of whether an elided argument agrees with a verb. Thus, these recent inquiries present robust cross-linguistic evidence against positing φ-feature agreement as a general predictor of AE and at least invite a critical re-consideration of the anti-agreement theory even for those languages for which this grammatical property was originally deemed relevant.

Against this background, this paper evaluates the recent extension of the anti-agreement theory to AE in Chinese. Miyagawa (2013) and Takahashi (2014) claim that the lack of the subject AE in Chinese is accounted for if it has abstract agreement at T, a hypothesis first put forth by Miyagawa (2010) and supported by the blocking effect on the long-distance interpretation of *ziji* 'self' in terms of head-movement. I will highlight three problems with this analysis, and, by extension, the agreement theory of Chinese. These problems suggest that some

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factor other than agreement is at work in governing the subject–object asymmetry in the language in question.

I will instead propose that the distribution of AE in Chinese is better captured by topichood. It is well known that subjects in Chinese are interpreted as definite., an observation which I implement in terms of an operator–variable relationship between the subject and the topic positions. I propose that this definite subject restriction is due to an operator–variable relationship between the subject and the topic positions in the language. On the basis of this proposal, I argue that the impossibility of AE in Chinese is explained by Saito's (2017) hypothesis developed for Japanese, where AE, an LF Copy process, cannot apply to an operator–variable configuration. My analysis correctly predicts that contrary to conventional wisdom in the literature, the null subject position in Chinese actually permits AE, as long as there is no operator–variable chain linking the subject to the topic position, as in hanging topic constructions, relative clauses, and conditional clauses. After I establish my analysis, I will also compare it with two alternative analyses of Chinese AE – Cheng (2013) and Li (2014) – and note that the core distributional facts discussed in this paper remain problematic for them.

2. Argument ellipsis in Japanese and Chinese and the anti-agreement theory

In this section, I will review the different distributions of AE in Japanese and Chinese, and critically review the agreement-based analysis of the subject–object AE asymmetry in Chinese recently proposed by Miyagawa (2013) and Takahashi (2014).

2.1 *The difference in the distribution of AE between Japanese and Chinese*

As stated in the introduction, Oku (1998) observes that Japanese permits AE in both null subject and null object positions. This symmetrical AE pattern is illustrated by the availability of sloppy interpretations in these positions, as shown in (1) and (2), respectively.

(1) (a) Taroo-ga zibun-no tegami-o suteta. (Japanese)
Taro-NOM self-GEN letter-ACC discarded
'Taro discarded his letter.'

(b) Hanako-mo *e* suteta. (sloppy)
Hanako-also discarded
Lit.: 'Hanako also threw *e* out.'

(2) (a) Mary-wa zibun-no teian-ga saiyoo-sare-ru-to
Mary-TOP self-GEN proposal-NOM accept-PASS-PRS-COMP
omotteiru. (Japanese)
think
'Mary thinks that her proposal will be accepted.'

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(b) John-mo *e* saiyoo-sare-ru-to omotteiru. (sloppy)
John-also accept-PASS-PRS-COMP think
Lit.: 'John also thinks that *e* will be accepted.'

(Oku 1998: 165)

In contrast to Japanese, Chinese exhibits a subject–object asymmetry with respect to AE. Example (3) illustrates that the null object allows AE.

(3) (a) Zhangsan bu xihuan guanyu ziji-de yaoyan. (Chinese)
Zhangsan NEG like about self-GEN rumor
'Zhangsan does not like rumors about self.'

(b) Mali ye bu xihuan *e*. (sloppy)
Mali also NEG like
Lit.: 'Mali does not like *e*, either.'

(Otani & Whitman 1991: 346)

As noted by Huang (1991) and Takahashi (2007), the null subject does not allow AE, as evidenced by example (4). The null subject in (4) only accepts the strict interpretation that Zhangsan's child liked Xiaoli.

(4) (a) Zhangsan shuo ziji-de haizi xihuan Xiahong. (Chinese)
Zhangsan say self-MOD child like Xiahong
Lit.: 'Zhangsan said that self's child liked Xiahong.'

(b) Lisi shuo *e* xihuan Xiaoli. (*sloppy)
Lisi say like Xiaoli
Lit.: 'Lisi said that *e* liked Xiaoli.'

(Takahashi 2007: ex. (32))

The contrasting distribution between Japanese and Chinese with respect to subject AE is most convincingly demonstrated by (5)–(6). Here, the Japanese example in (5) is completely parallel to the Chinese example in (6), thereby excluding the possibility that lexical choices, tenses, or other possible non-syntactic factors facilitate or hinder sloppy interpretations and hence AE.

(5) Mary-wa zibun-no kodomo-ga eigo-o hanas-eru-to
Mary-TOP self-GEN child-NOM English-ACC speak-can-COMP
omotteiru. Susan-wa *e* furansugo-o hanas-eru-to
think Susan-TOP French-ACC speak-can-COMP
omotteiru. (Japanese; sloppy)
think
Lit.: 'Mary thinks that her child can speak English. Susan thinks that *e* can speak French.'

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(6) Mali yiwei ziji-de haizi hui shuo yingwen. Sushan
Mary think self-MOD child can speak English Susan
yiwei *e* hui shuo fawen. (Chinese; *sloppy)
think can speak French
Lit.: 'Mary thinks that her child can speak English. Susan thinks that *e* can speak French.'

Tomioka (2014) observes that the impossibility of subject AE in Chinese cannot be attributed to pragmatic considerations, an observation which further supports the existence of some structural restriction imposed on this position. In English, singular personal pronouns typically do not permit sloppy interpretations, but it is well known that such an interpretation is rendered somewhat easier to obtain when it is preceded by an expression such as the *everyone but X* construction. This point is illustrated in (7).

(7) Every boy but Johnny thinks his mother is beautiful, but Johnny thinks she looks rather plain.

Tomioka then shows that the empty subject position in Chinese resists a sloppy interpretation even in this context. In (8), the sloppy interpretation is impossible even though the *everyone but X* construction used there facilitates it. The sloppy interpretation is achieved only when the relevant position is overtly filled by a lexical subject, *ziji-de laoshi* 'self's teacher', as is shown in (8).

(8) Meige xuesheng, chu-le Lisi, dou renwei ziji-de
every student except-ASP Lisi all think self-MOD
laoshi hen congming, dan Lisi renwei ???*e*/ziji-de
teacher very smart but Lisi think self-MOD
laoshi hen ben. (Chinese)
teacher very dumb
Lit.: 'Every student except Lisi thinks that self's teacher is very smart, but Lisi thinks *e* is dumb.'

(Tomioka 2014: 71)

2.2 *A brief excursus on the absence of subject AE in Chinese: Simpson et al. (2013)*

The present paper attempts to build a new analysis of AE for Chinese as an alternative to the anti-agreement theory, crucially basing it on the core observation that AE is possible in object positions but not in subject positions. It is worthwhile to take some time here to confirm the robustness of this observation in light of Simpson et al.'s (2013) report that 'in Mandarin Chinese, the use of the anaphoric possessor *ziji-de* results in the availability of sloppy readings in embedded subject positions'. The examples which Simpson et al. mentioned in this connection are shown in (9)–(12), together with the authors' reported acceptability judgements.

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(9) (a) Zhangsan shuo ziji-de haizi kao-jin-le
Zhangsan say self-MOD child test-enter-ASP
Chiao-Tung daxue. (Chinese)
Chiao-Tung university
'Zhangsan said his child got into Chiao-Tung University.'

(b) Lisi shuo *e* kao-jin-le Cheng-Kung daxue. (sloppy ok)
Lisi said test-enter-ASP Cheng-Kung university
Lit.: 'Lisi said *e* entered Cheng-Kung University.'
(Simpson et al. 2013: 125)

(10) (a) Zhangsan juede ziji-de zhaiyao bu cuo. (Chinese)
Zhangsan feel self-MOD abstract NEG bad
'Zhangsan feels his abstract was not bad.'

(b) Lisi juede *e* mei xiwang. (sloppy ok)
Lisi feel no hope
Lit.: 'Lisi feels *e* has no hope.'
(Simpson et al. 2013: 126)

(11) (a) Zhangsan juede ziji-de haizi hui
Zhangsan feel self-MOD child return
jia le. (Chinese)
home ASP
'Zhangsan thinks his child has returned home.'

(b) Lisi yiwei *e* hai mei hui jia. (sloppy ok)
Lisi think still NEG return home
Lit.: 'Lisi thinks *e* still has not returned home.'
(Simpson et al. 2013: 126)

(12) (a) Zhangsan juede ziji hua de hua
Zhangsan feel self paint MOD paint
bu cuo. (Chinese)
NEG bad
'Zhangsan feels that the picture he painted is pretty good.'

(b) Lisi juede *e* bu tai hao. (sloppy ok)
Lisi feel NEG too good
Lit.: 'Lisi feels that *e* is not too good.'
(Simpson et al. 2013: 126)

I consulted 17 native speakers of Mandarin Chinese about their judgements of the four examples above, and the result of my consultation is as follows (see also footnote 7 below): First, thirteen of them reported that they only can accept the strict interpretation for the null subject in all these examples. Second, one of the remaining four speakers told me that he could 'feel' the sloppy reading only in (10) and (12), but even so, the reading was still very marginal whereas another reported that she could get the sloppy reading in (9) and (11), but not in (10) and

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(12). Finally, the two remaining speakers were quite unsure what interpretation(s) the null-subject sentences permitted in those four examples. Despite the rather minor individual variation, my survey above makes it clear that the impossibility of subject AE seems to be indeed the dominant judgement pattern shared by Mandarin Chinese speakers. I will therefore continue to assume that the subject–object asymmetry in Chinese is a core empirical generalization for the majority of its speakers, which thereby calls for a principled explanation, leaving a large-scale investigation of the important question, why some idiolectal/dialectal variation occurs, for another occasion.

2.3 *Issues with the agreement analysis of the subject–object asymmetry in Chinese AE*

Miyagawa (2013) and Takahashi (2014) argue that the impossibility of subject AE in Chinese follows from Saito's (2007) anti-agreement theory. Saito's theory is framed within Chomsky's (2000) Probe–Goal framework, according to which a probe with uninterpretable φ-features, either T or *v*, searches for a goal with interpretable φ-features. The matching of the φ-feature sets induces the deletion of the uninterpretable φ-features of the probe by Agree, which must, in turn, be activated by the presence of an uninterpretable Case feature of the goal. This condition is known as the ACTIVATION CONDITION. The Case feature of the goal is deleted as a reflex of the φ-feature agreement established between the probe and the goal. Saito proposes that this Probe–Goal system blocks AE, which he implements as an LF Copy process (see Oku 1998), from targeting any syntactic position associated with φ-feature agreement. LF Copy is an operation that copies an argument from a full-fledged linguistic antecedent onto an empty argument spot in an elliptical clause to save an otherwise uninterpretable structure at LF. To understand how Saito's theory works, consider three steps of the syntactic derivation required for LF Copy, shown in (13a–c); *e* stands for the position of an elided argument.

(13) (a) F_1 {~~φ-features~~} … DP_1 {φ-features, ~~Case~~} … (b) F_2 {φ-features} … *e* …
(c) F_2 {***φ-features**} … DP_1 {φ-features, ~~Case~~} …

In (13a), the probe F_1, endowed with uninterpretable φ-features, searches for the goal DP_1 bearing the matching interpretable φ-features. Triggered by the presence of the uninterpretable Case feature on the goal, Agree takes place to delete the uninterpretable φ-features of the probe and of the uninterpretable Case feature of the goal. Suppose now that the DP in (13a) is copied at LF onto the null argument position designated by *e* in (13b). Note that the Activation Condition prevents this DP_1 from participating in another agreement relationship with the new probe F_2 since the uninterpretable Case feature of the DP_1 has already been deleted before LF Copy takes place. As a result, the uninterpretable φ-features of the F_2 remain unchecked, causing the derivation to crash, as shown in (13c).

This anti-agreement theory of Saito (2007) correctly predicts the difference between English and Japanese with respect to the availability of AE. English

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blocks AE in both object and subject positions, as shown in (14a, b), respectively, whereas Japanese allows this process in both grammatical positions, as shown above, in (1a, b) and (2a, b).

(14) (a) *John brought his wife to the party. Bill brought *e* to the concert.
(*e* = Bill's wife)

(b) *John thinks that his wife speaks English. Bull thinks that *e* speaks French.
(*e* = Bill's wife)

Recall Chomsky's (2000) central assumption that (structural) Case is inexorably tied to φ-feature agreement; Case checking is simply a side effect of a goal DP entering into Agree with an appropriate functional head such as T or *v*. The presence of (structural) nominative and accusative Cases in English indicates, then, that both T and *v* are associated with abstract uninterpretable φ-features. The presence of these features thus causes the derivation involving AE/LF Copy to crash, as schematically illustrated in (13c) above. In Japanese, on the other hand, AE/LF Copy is allowed to apply to both null subject and null object positions because T and *v* in this language need not have φ-feature agreement. Indeed, this is more or less a standard assumption since Kuroda (1988), who first proposed that agreement is not forced in Japanese.

Returning now to Chinese, Miyagawa (2013) and Takahashi (2014) argue that the impossibility of subject AE in the language falls into place if it possesses abstract φ-feature agreement associated with the subject position. The hypothesis that Chinese possesses subject agreement was first argued for by Miyagawa (2010) based on the so-called BLOCKING EFFECT on *ziji* 'self' (Tang 1985, 1989). Consider examples (15)–(16).

(15) Zhangsan$_i$ zhidao [Lisi$_j$ dui ziji$_{i/j}$ mei xinxin]. (Chinese)
Zhangsan know Lisi to self no confidence
Lit.: 'Zhangsan$_i$ knows that Lisi$_j$ has no confidence in self$_{i/j}$.'
(Miyagawa 2010: 49)

(16) Zhangsan$_i$ juede [wo$_j$/ni$_j$ dui ziji$_{*i/j}$ mei xinxin]. (Chinese)
Zhangsan think I/you to self no confidence
Lit.: 'Zhangsan$_i$ feels that {I$_j$/you$_j$} have no confidence in self$_{*i/j}$.'
(Miyagawa 2010: 50)

In (15), *ziji* can be bound to the matrix subject across the embedded third-person subject. This long-distance binding becomes impossible, however, when the local potential antecedent is replaced by a first- or second-person subject, as in (16). Adopting the LF head-movement analysis of subject-oriented anaphors in Chinese (Battistella 1989, Cole, Hermon & Sung 1990), Miyagawa (2010) assumes that *ziji* raises to its local T to be assigned a person-feature value from the T, which, in turn, receives this value from its specifier via Spec–Head Agreement; the anaphor subsequently moves to the higher T for the long-distance construal. This latter

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movement converges when the person-feature value of the higher T matches that of the lower T, as shown in (15). The same movement crashes in (16), on the other hand, because the two person-feature values do not match. Note that this analysis of the blocking effect crucially hinges on the assumption that Chinese possesses abstract person feature agreement associated with the subject position. Thus, to the extent that the subject agreement hypothesis holds true, the anti-agreement theory is sufficient to account for the subject–object asymmetry in Chinese.

However, there are three issues with the agreement analysis. The first two issues arise when the LF head-movement analysis of anaphors is adopted as an analytical premise for the blocking effect; the third issue concerns a wrong prediction made by the agreement hypothesis with respect to the distinction between syntactic and logophoric uses of *ziji*. First, the analysis in question leads us to predict that the availability of the long-distance reading should be governed by constraints, such as island effects, which are independently known to block other instances of LF head-movement in Chinese. However, Huang & Tang (1991) show that this prediction is not borne out. In (17), *ziji* may take the matrix subject as its antecedent, in theory, by moving to the matrix T from within the Adjunct Island.

(17) Zhangsan$_i$ shuo [$_{CP}$ ruguo Lisi piping ziji$_i$], ta
Zhangsan say if Lisi criticize self he
jiu bu qu. (Chinese)
then NEG go
Lit.: 'Zhangsan$_i$ said that if Lisi criticized self$_i$, then he won't go.'
(Huang & Tang 1991: 271)

However, the relevant movement should be impossible because such a movement obeys this constraint elsewhere, as shown in (18). The sentence in (18) is out because the interrogative operator within the A-not-A question, which is under T (Huang 1982), undergoes LF movement from within the Adjunct Island.[2]

(18) *[$_{CP}$ Ruguo ta lai-bu-lai], ni jiu hui
if he come-NEG-come you then will
shengqi. (Chinese)
angry
'If he comes or not, then you will be angry?'
(Huang & Tang 1991: 271)

The second issue with the LF movement analysis of the blocking effect, and with the T-agreement analysis, by extension, concerns the observation made by

[2] A referee asks if the blocking effect is detected in (17) if the third-person subject within the island is replaced with the first-/second-person subject. My consultants reported that the effect is indeed manifested in this context. Accordingly, proponents of the movement analysis would be forced to analyze this example as involving an island-violating LF-movement, an option which we just saw to be ungrammatical. This observation thus further bolsters the present argument. I thank the referee for bringing this point to my attention.

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Xue, Pollard & Sag (1994) that the effect is created by non-subject arguments as well. Recall that the movement analysis capitalizes on the Spec–Head Agreement between T and its local subject to allow/block the long-distance construal of the subject-oriented anaphor *ziji*. Consequently, the analysis predicts that non-subject arguments should not play a role in blocking the long-distance reading. Xue et al. show that this prediction is false. Examples (19)–(20) show that the relevant reading is blocked by the intervening first- and second-person direct objects selected by the intervening verbs.

(19) Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$. (Chinese)
Zhangsan tell me Lisi hate self
Lit.: 'Zhangsan$_i$ told me$_j$ Lisi$_k$ hated self$_{*i/*j/k}$.'
(Xue et al. 1994: 436)

(20) Wo$_i$ zhidao Zhangsan$_j$ gaosu ni$_k$ Lisi$_l$ hen
I know Zhangsan tell me Lisi hate
ziji$_{*i/*j/*k/l}$. (Chinese)
self
Lit.: 'I$_i$ know Zhangsan$_j$ told you$_k$ Lisi$_l$ hates self$_{*i/*j/*k/l}$.'
(Xue et al. 1994: 437)

The third and final issue is concerned with Huang & Liu's (2001) observation, which was recently discussed by Li (2014) as problematic for the subject agreement theory of Chinese. Huang & Liu's observation is two-fold. First, *ziji* has two distinct dferent uses, one as a syntactic anaphor and the other as a logophoric anaphor. Second, the blocking effect obtains only when *ziji* is used as a logophoric anaphor due to the conflict of perspective-taking. The distinction between the two uses of *ziji* lies in the standardly postulated locality condition imposed on anaphor binding: a syntactic anaphor is bound within its governing category whereas a logophoric anaphor is not. The governing category is defined as the minimal TP or NP that contains an anaphor, its governor and a SUBJECT (the subject of TP/NP or Agr). With this definition in place, consider now example (21).

(21) (a) [$_{TP}$ Zhangsan$_i$ dui wo shuo [$_{TP}$ ziji$_i$ piping-le
Zhangsan to me say self criticize-ASP
Lisi]]. (Chinese)
Lisi
'Zhangsan$_i$ said to me that he$_i$ criticized Lisi.'

(b) ??[$_{TP}$ Zhangsan$_i$ dui wo shuo [$_{TP}$ Lisi piping-le ziji$_i$].
Zhangsan to me say Lisi criticize-ASP self
'Zhangsan$_i$ said to me that Lisi criticized him$_i$.'
(Li 2014: 52)

Li (2014) shows that the contrast in (21a, b) is problematic for the view that Chinese has abstract subject agreement. However, this contrast is correctly accounted for if there is no subject agreement in Chinese, whereby the governing

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category for the anaphor is the entire sentence in (21a), but the embedded clause in (21b). This means that *ziji* in (21a) is a syntactic anaphor whereas *ziji* in (21b) is a logophoric anaphor. It follows correctly then, that only *ziji* in (21b) triggers the blocking effect. If there were subject agreement in Chinese, however, the relevant contrast would become mysterious, for the governing category for the anaphor in (21a) would now become the embedded TP, with the wrong result that *ziji* there would trigger the blocking effect on a par with *ziji* in (21b).

3. The definite subject restriction in Chinese and operator–variable topic chains

In this section, I will develop a new analysis of the subject–object asymmetry in Chinese AE. The analysis builds on the well-known observation that so-called subjects in this language tend to be interpreted as definite. Analyzing this restriction through a topic chain between the subject position and the topic position, I propose, following Saito (2017), that AE is blocked from applying to the null subject position due to this operator–variable configuration.

3.1 *The definite subject restriction and operator–variable topic chains in Chinese*

It is widely acknowledged in the literature on Chinese grammar (Chao 1968; Li & Thompson 1976, 1981; Tsao 1977; Huang 1987; Shi 2000; Chou 2004; Cheng 2013) that Chinese manifests the definite subject restriction. This restriction is illustrated in (22a) below. To express the indefinite reading, the existential marker *you* 'to exist' has to be used instead to introduce the subject in a post-verbal position, as shown in (22b). Examples (23) show that the same semantic restriction is imposed on the embedded subject position.

(22) (a) *yi-ge/*yixie/*ji-ge ren zai yuenzi-li
one-CLF/some/several-CLF person at yard-LOC
zuozhe. (Chinese)
sit.CONT
'A man/some men/several men is/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
'There is/are a man/some men/several men sitting in the yard.'
(Chou 2004: 194)

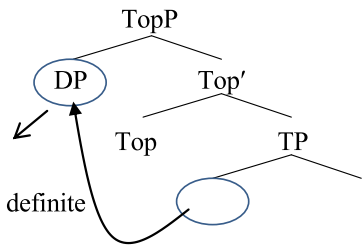
(23) (a) *Zhangsan shuo yi-ge/yixie/ji-ge ren zai
Zhangsan say one-CLF/some/several-CLF person at
yuenzi-li zuozhe. (Chinese)
yard-LOC sit.CONT
'Zhangsan said that a man/some men/several men was/were sitting in the yard.'

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(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.'

The restriction in question follows if, in the absence of any other topic within the sentence, the subject, by default, undergoes string-vacuous topicalization to form an operator–variable relationship between [Spec, TP] and [Spec, Top], as schematically indicated in (24).

(24)



…

e.g. [topic x: x = Zhangsan] x studies math

The restriction is now derived as a natural consequence of the discourse-oriented requirement that topics, by definition, are definite, a requirement which is independently illustrated in (25) by the inability of indefinite non-subject arguments to undergo topicalization (see footnote 3 below).

(25) *Yi-ge nanhai$_i$, wo hen xihuan/kandao-le t_i. (Chinese)
one-CLF boy I very hate/see-ASP
Lit.: 'A boy, I like/saw.'

(Li 2014: 45)

3.2 *Operator–variable chains, LF Copy, and the subject–object asymmetry in Chinese AE*

I will now show how the establishment of an operator–variable topic chain blocks subject AE in Chinese. My analysis builds on Saito's (2017) analysis whereby AE, technically analyzed as LF Copy, cannot target an operator–variable structure as its input, to which I now turn.

Saito (2017) examines a number of cases reported by Hoji (1998) and Funakoshi (2012, 2013) as potential problems for the AE analysis of null objects in Japanese. Saito notes that AE cannot apply to a phrase which requires an operator–variable configuration, showing how this generalization follows from the LF Copy theory of AE (Oku 1998). For reasons of space, I will only illustrate this generalization and Saito's analysis thereof using *wh*-questions. Consider (26). Example (26b) shows that an interrogative *wh*-phrase cannot undergo AE.

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(26) (a) [$_{CP}$ [$_{TP}$ Dare-ga Haiderabaad-e itta] ka]
who-NOM Hyderabad-to went Q
sitte-imasu-ka. (Japanese)
know-POL-Q
'Do you know who went to Hyderabad?'

(b) Iie. *Demo [$_{CP}$ [$_{TP}$ *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 2017: 651)

Saito assumes that a *wh*-phrase contains an interrogative–operator pair, as in (27a) below, and that the operator and variable parts are interpreted in two positions linked by *wh*-movement, as in (27b). More specifically, the operator is interpreted in [Spec, CP] whereas the variable is interpreted in the base position. This point is illustrated in (27c), where the words in bold indicate the position at which the two materials are interpreted at LF.

(27) (a) Who did Mary see? (who = {[for which x: x a person], x}

(b) {[for which x: x a person], x} Mary saw {[for which x: x a person], x}

(c) {[**for which x: x a person**], ~~x~~} Mary saw {~~[for which x: x a person]~~, **x**}
(Saito 2017: 655)

Now, if we apply this chain-based interpretive mechanism to the embedded question in (26a), the representation in (28a) below results. Given this, if the operator in (28a) is copied to the ellipsis site in (26b), (28b) will be obtained. If the variable in (28a) is copied there instead, (28c) will be obtained. Crucially, neither representation is interpretable: the former involves the operator in an argument position whereas the latter involves a free variable not bound to any operator. It follows that AE, analyzed as LF Copy, cannot target an operator–variable structure.

(28) (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

(adapted from Saito 2017: 656)

Now it should be clear why subject AE is blocked in Chinese: the subject position involves an operator–variable configuration, which in turn blocks AE as an LF Copy process. Consider how this analysis works, using (6) above as an example. Given my analysis, the antecedent clause in (6) has the LF representation in (29a) below. The embedded clause in (6), then, involves the schematic operator–variable chain in (29b). Now, depending on whether we copy the operator or the variable portions of the object in (29b) to the null argument position in (6), we would get the two representations in (29c, d). Neither representation is interpretable at LF.

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(29) (a) [$_{TopP}$ Mali$_i$ [$_{TP}$ t_i yiwei [$_{TopP}$ ziji-de haizi$_j$ [$_{TP}$ t_j hui shuo yingwen]]]]
(b) [TOPIC x: x = self's child] x can speak English
(c) [TOPIC x: x = self's child] can speak French
(d) x can speak French

My analysis maintains that AE/LF Copy is blocked from applying to an argument position when its input forms an operator–variable structure. We diagnosed the presence of such a chain involving the null subject position through the definite subject restriction. With this in mind, the example in (30) shows that the object position is free from this restriction.

(30) Wo zhaodao-le liang-ben shu. (Chinese)
I find-ASP 2-CLF book
'I found two books.'

(Cheng 2013: 129)

It follows that the object position does not incur an operator–variable chain and hence provides a legitimate object for LF Copy to merge onto the null object position.

One might ask in this connection why a certain hypothetical derivation is blocked in my analysis. In this derivation, the operator and variable portions in (29b) above are copied at LF onto the topic and null subject positions of the elliptical clause in (6), respectively. The resulting representation, shown in (31), looks like a legitimate operator–variable configuration.

(31) [TOPIC x: x = self's child] x can speak French

This derivation, I maintain, is blocked by the independently motivated assumption, dating back to Oku (1998), that AE can apply only to argument positions, which is supported by the well-known observation that, across languages, adjuncts themselves cannot participate in this phenomenon. Consequently, copying any (part of) LF-object onto a non-argument position such as the topic position is an impossible derivational choice, to begin with.

3.3 *Cross-linguistic implications: Subject ellipsis in Japanese, Korean and Mongolian*

Recall that my analysis maintains that the LF Copy underlying AE is blocked from applying to the null subject position in Chinese by an operator–variable chain, the presence of which is diagnosed by the definite subject restriction. This analysis has an important implication for the cross-linguistic distribution of subject AE in other languages, beyond Chinese. Specifically, if an AE language is not subject to the definite subject restriction, the language should not require the topic chain, and hence should permit subject AE. I suggest that subject ellipsis is allowed in Japanese precisely for this reason. Example (32) shows that the nominative subject does not have to be interpreted as definite, unlike in Chinese.

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(32) Gakusei-ga kita. (Japanese; indefinite reading ok)
student-NOM came
'A student came.'

The same analysis can be extended to subject ellipsis in Korean and Mongolian, two other languages which have been shown by Takahashi (2007, 2013a) to permit AE in both null subject and null object positions, as shown in (33)–(34) and (35)–(36), respectively.

(33) (a) Chelswu-ka caki-uy phyenci-ul peli-ess-ta. (Korean)
Chelswu-NOM self-GEN letter-ACC discard-PST-DEC
'Chelswu threw out her letter.'

(b) Yengmi-to *e* peli-ess-ta. (sloppy)
Yengmi-also discard-PST-DEC
Lit.: 'Yengmi also threw out *e*.'

(Otani & Whitman 1991: 346)

(34) (a) Chelswu-nun caki-uy ai-ka Yengmi-lul ttaeliessta-ko
Chelswun-TOP self-GEN child-NOM Yengmi-ACC hit-COMP
sayngkakhakoissta.
think
'Chelswun thinks that her child hit Yengmi.'

(b) Junho-nun *e* Mina-lul ttaeliessta-ko
Junho-TOP Mina-ACC hit-COMP
sayngkakhakoissta. (sloppy)
think
Lit.: 'Junho thinks that *e* hit Mina.'

(Takahashi 2007: ex. (19))

(35) (a) Batu Ø:ri-n bagshi-gi hundelzhubaina. (Mongolian)
Batu self-GEN teacher-ACC respect
'Batu respects his teacher.'

(b) Gerle bas *e* hundelzhubaina.
Gerle also respect
Lit.: 'Gerle respects *e*, too.'

(Takahashi 2007: ex. (22))

(36) (a) Batu Ø:ri-n hØ:hd ban Angglehel-gi helzhu qidahu
Batu self-GEN child REFL English-ACC speak can
gezhu bodozhubaina.
COMP think
'Batu thinks that his child can speak English.'

(b) Gerle *e* Fransehei-gi helzhu qidahu gezhu bodozhubaina.
Gerle French-ACC speak can COMP think
Lit.: 'Gerle thinks that *e* can speak French.'

(Takahashi 2007: ex. (24))

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It is significant that neither Korean nor Mongolian requires the subject to be definite, as the next two examples show. (The example in (38) was provided by Lina Bao through Yuta Sakamoto (personal communication, May 2015).)

(37) Haksaeng-i wassda. (Korean; indefinite ok)
student-NOM came
'A student came.'

(38) Kümün-ø ire-jei. (Mongolian; indefinite ok)
person-NOM come-PST
'A person came.'

3.4 *Subject ellipsis in Chinese: Hanging topics, relative clauses and conditional clauses*

Returning now to Chinese, my analysis makes an important prediction that, contrary to conventional wisdom in the literature, the null subject position in this language should, in principle, permit AE, as in Japanese, Korean and Mongolian, as long as there is no operator–variable relationship between the topic and the null subject. I will show that this prediction is indeed borne out in hanging topic constructions, relative clauses and conditional clauses.

In the hanging topic construction, the sentence-initial topic is followed by the comment clause consisting of the logical subject and the predicate. Example (39) is a case in point:

(39) Nei-chang huo, xingkui xiaofangdui lai de zao. (Chinese)
that-CLF fire fortunately fire.brigade come MOD early
'That fire, fortunately the fire-brigade came early.'
(Li & Thompson 1981: 96)

It is hard to imagine the derivation for this construction where the topic moves from within the comment clause to the sentence-initial position because there is no suitable argument position from which the topic could have moved, to begin with. Xu & Langendoen (1985) present other empirical arguments that this construction violates well-known syntactic constraints on movement such as subjacency and the bijection principle, which suggest that the topic is base-generated in the topic position without any movement transformation.

The most significant property of this construction for our present purposes is that the subject does not have to be definite, as illustrated in (40)–(41).

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(40) Na-zhong douzi yi-jin sanshi-kuai qian. (Chinese)
DEM-CLF bean one-CLF thirty-CLF money
'That kind of beans, one catty is thirty dollars.'
(Shi 1992: 395)

(41) *Yi-zhong douzi, yi-jin sanshi-kuai qian. (Chinese)
one-CLF bean one-CLF thirty-CLF money
'A kind of beans, one catty is thirty dollars.'
(Pan & Hu 2002: 386)

In (40), for instance, the DP *na-zhong douzi* 'that kind of beans' is presented as the topic of the sentence, and the rest of the sentence is predicated of this DP as the comment clause. The topichood of the sentence-initial DP is confirmed by the fact that its indefinite counterpart in the same position leads to ungrammaticality, as shown in (41). The logical subject in (40), on the other hand, is clearly not definite. This means that in my analysis, it does not participate in an operator–variable relationship with the topic.

Given this property, then, my analysis predicts that the null subject position should allow AE in this context. Examples (42)–(43) show that this prediction is indeed borne out.

(42) (a) Kayne, ta-de wenzhang chuxian yu LI. (Chinese)
Kayne 3SG-MOD paper appear LOC *LI*
'Kayne, his paper appeared in *LI*.'

(b) Rizzi, *e* chuxian yu NLLT. (sloppy)
Rizzi appear LOC *NLLT*
Lit.: 'Rizzi, *e* appeared in *NLLT*.'

(43) (a) Zhangsan, ziji-de haizi wei guge gongzuo. (Chinese)
Zhangsan self-MOD child for Google work
'Zhangsan, his child works for Google.'

(b) Lisi, *e* wei weiruan gongzuo. (sloppy)
Lisi for Microsoft work
Lit.: 'Lisi, *e* works for Microsoft.'

It is perhaps worthwhile to reiterate here that the availability of AE in the null subject position in Chinese is mysterious under the agreement theory of AE reviewed in Section 2.3 above. Since the analysis assumes that T in this language is invariably endowed with agreement, it predicts that the logical subject in the hanging topic construction should block AE on a par with the logical subject in archetypical subject ellipsis cases (examples (4), (6) and (8)–(12)).[3]

[3] Given that Chinese has a regular topic construction, a referee asks whether subjects can be elided when non-subject arguments, such as direct objects, are topicalized. Example (ia) shows that they can.

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The prediction stated above is further supported by the recent finding reported by Abe & Park (2017). Given Kuno's (1973) observation that subjects in relative and conditional clauses do not render topic readings in Japanese, Abe & Park assume that the subject is not linked to the topic position through movement in such cases in Chinese as well.[4] I take this to mean that the subject position does not enter into an operator–variable chain with the topic. It is significant then that the null subject allows sloppy interpretations precisely in these two contexts, as shown in (44) and (45), just as predicted by my analysis.

(i) (a) Zhangsan, wo xihuan. Lisi, *e* bu xihuan.
Zhangsan I like Lisi NEG like
Lit.: 'Zhangsan, I like. Lisi, I do not like.'

(b) *Zhangsan, ta-de-muqin xihuan. Lisi, *e* bu xihuan.
Zhangsan he-GEN-mother like Lisi NEG like
Lit.: 'Zhangsan, his mother likes. Lisi, *e* does not like.'

My consultants reported that they would put contrastive focus on *Zhangsan* and *Lisi* to facilitate this reading. However, the null subject in this object-topicalization structure never accepts AE, whether it is accompanied with contrastive focus or not, as shown by the ungrammaticality of (ib). I suspect that there is another interpretation of the ungrammaticality of the example. The example exhibits a weak crossover violation so the example is ruled out, to begin with, irrespective of whether AE applies or not. This interpretation is confirmed by the fact that the example remains ungrammatical even with an overt lexical subject, as shown in (ii).

(ii) *Zhangsan$_i$, ta$_i$-de-muqin xihuan. Lisi$_j$, ta$_j$-de-muqin bu xihuan.
Zhangsan he-GEN-mother like Lisi he-GEN-mother NEG like
Lit.: 'Zhangsan, his mother likes. Lisi, his mother does not like.'

This leads to the question why the examples in (ib) and (ii) exhibit a weak crossover effect with topicalization, since Lasnik & Stowell (1991) show that English topicalization, for example, is immune to this effect, as witnessed in (iii).

(iii) This book$_i$, I would never ask its$_i$ author to read t_i.
(Lasnik & Stowell 1991:697)

I wish to leave this difference between Chinese and English topicalization for another occasion. I thank an anonymous referee for drawing my attention to the weak crossover analysis of (iib) discussed here.

On the other hand, topicalization of other non-subject arguments, such as experiencers, readily allows the null subject configuration. AE is fine in this configuration, as evidenced by the sloppy interpretation in (iv).

(iv) Zhangsan ne, ta-de-zuoye hen bang. Lisi ne, *e* hen cha. (sloppy)
Zhangsan CT he-GEN-assignment very amazing Lisi CT very lousy
Lit.: 'To Zhangsan, his assignment was great. To Lisi, *e* was horrible.'

The pause particle *ne* in (iv) indicates that the topic in question immediately followed by it is a member of the set of the series partially enumerated in the preceding linguistic expressions or implicitly understood from the discourse: see Constant (2014) for a detailed description and analysis of this contrastive topic marker.

[4] Thanks to a referee for suggesting me to check the status of the subject in relative and conditional clauses.

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(44) Zhangsan du-le ziji zhidao xuesheng zhege xingqi
Zhangsan read-ASP self advising student this week
xie de lunwen. Lisi du-le *e* shangge xingqi xie
wrote MOD paper Lisi read-ASP last week wrote
de lunwen (Chinese; sloppy)
MOD paper
Lit.: 'Zhangsan read the paper that self's advised student wrote this week, and Lisi read the paper that *e* wrote last week.'

(Abe & Park 2017: 33)

(45) Ruguo ziji-de zhidao jiaoshuou jiao tongcilun Zhangsan
if self-GEN advising professor teach syntax Zhangsan
jiu shenqing zhege kemu. Ruguo *e* jiao yuyilun
will register this course if teach semantics
Lisi jiu shenqing zhege kemu. (Chinese; sloppy)
Lisi will register this course
Lit.: 'Zhangsan will take syntax if self's advising professor teaches it. Lisi will take semantics if *e* teaches it.'

(Abe & Park 2017: 34)

One may counter that the sloppy interpretation in (42)–(43) can be accounted for without invoking AE if the null subject there is not elliptic but represents an indefinite pronoun in the sense of Hoji (1998). Hoji (1998) argues that the sloppy interpretation of the null object in Japanese examples such as (1b) above is merely a 'sloppy-like' reading, which is derived though the indefinite use of *pro* (*pro*$_{NP}$) on a par with indefinite bare nominals. At first brush, this analysis appears to be well-suited for the null subject in (42b) and (43b), given my observation that the subject position of the hanging topic construction may host an indefinite expression.[5] However, this analysis makes wrong predictions when tested against sentences with quantificational null arguments, another well-known diagnostic for AE together with sloppy interpretations (Takahashi 2008a, b). Examples (46) are a case in point:

(46) (a) Kayne, chaoguo san pian wenzhang chuxian
Kayne more.than three CLF paper appear
yu LI. (Chinese)
LOC *LI*
'Kayne, more than three papers appeared in *LI*.'

[5] Thanks to a referee for suggesting this alternative analysis. See also Saito (2007) and Takahashi (2008a) for relevant discussions and/or other problems with Hoji's (1998) indefinite pronoun analysis of null objects.

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(b) Rizzi, *e* chuxian yu NLLT. (quantificational)
Rizzi appear LOC *NLLT*
Lit.: 'Rizzi, *e* appeared in *NLLT*.'

(c) Rizzi, wenzhang chuxian yu NLLT. (*quantificational)
Rizzi paper appear LOC *NLLT*
'Rizzi, papers appeared in *NLLT*.'

The sentence in (46b) permits the quantificational interpretation, where Rizzi published more than three of papers in *NLLT*. The indefinite *pro* analysis incorrectly predicts that this quantificational interpretation should not be available in (46b) because the overt, bare indefinite nominal – *wenzhang* 'paper' – does not allow this interpretation, as witnessed in (46c). Furthermore, (46b) does not allow the interpretation that Rizzi published (any number of) his papers in *NLLT*, an interpretation which should be fine if the empty argument there were filled by the indefinite nominal *wenzhang* 'paper', given the independently attested possibility of this interpretation in (46c). The impossibility of this indefinite interpretation in (46b) falls neatly into place under my analysis, however, since AE/LF Copy takes the overt quantificational expression in the antecedent clause in (46a) as its input argument.

It is important to stress in this connection that my native Chinese consultants all agreed that sloppy readings in the null subject positions in (42)–(43) are readily available without much contextual priming. This point calls for emphasis. Simpson et al. (2013) report that sloppy readings in the null subject position can be rendered available in Hindi and Bangla – two languages which otherwise prohibit subject AE – with the help of heavily enriched contexts which facilitate such readings. Example (47) from Hindi illustrates their observation.[6]

(47) Context given: Raj and Pratap come to meet Ram's daughter and Ram's brother's daughter for purposes of matrimony. Ram's daughter and Ram's brother's daughter both select one prospective groom. Ram and Ram's brother observe the interactions.

(a) Ram sochta hai uski beti-ko
Ram think.PRS.M.SG.3 COP.PRS.3 his daughter-DAT
Raj pasand hai. (Hindi)
Raj like COP.PRS.3
'Ram thinks his daughter likes Raj.'

(b) Ram-ka-bhai sochta hai Pratap
Ram-GEN-brother think.PRS.M.SG.3 COP.PRS.3 Pratap
pasand hai.
like COP.PRS.3
Lit.: 'Ram's brother thinks *e* likes Pratap.'
(Simpson et al. 2013: 121)

[6] I thank a referee for reminding me of Simpson et al.'s (2013) observation in this connection.

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Based on their observation that sloppy interpretations require heavily enriched contexts in null subject positions, as opposed to non-subject positions, Simpson et al. (2013) discount the null subject case in Hindi and Bangla as genuine AE and suggest that they involve *pro*s. The sloppy reading in such cases is merely a 'pseudo-sloppy' reading made available to hearers simply by contextual priming, which allows a *pro*-subject to refer back to one of the referents made prominent in the discourse. In (47), both Ram's daughter and Ram's brother's daughter are explicitly introduced into the background context so that the null subject may simply pick up the latter discourse reference as its antecedent, yielding what we call a 'sloppy' reading.

However, subject ellipsis cases in (42)–(43) clearly involve genuine AE instead of enriched *pro*s because they do not require the similar amount of detailed background contexts that make sloppy interpretations available as do the Hindi subject ellipsis case. The 13 Mandarin native speakers I corresponded with (see Section 2.2 above) reported that they could easily obtain the sloppy interpretation in (42)–(43) where the null subject is anchored to the subject in the matrix clause WITHOUT the help of such contextual cues. Recall also that the very availability of quantificational interpretations as in (46b) already independently mitigates against the (uniform) *pro*-analysis of the null subject in Chinese.[7]

4. Two previous analyses of AE in Chinese: Li (2014) and Cheng (2013)

In this section, I discuss two existing analyses of Chinese AE. I show that neither of those analyses provides a satisfactory account for the core distributional properties of this phenomenon introduced so far to form the empirical backbone for my own analysis. I will keep my discussion of the analyses here to an absolute minimum by restricting it to core properties of AE in Chinese and Japanese as a point of comparison, referring the interested reader to original sources (some of

[7] As I stated in Section 2.2 above, 13 of my native speaker consultants only accepted the strict interpretation for the examples in (9)–(12). Following a referee's suggestion to check whether enrichment plays a role, as in Hindi and Bangla, I also asked those speakers whether they could obtain sloppy interpretations if provided with sufficiently rich contexts. For example, I asked them to imagine the following context for the example in (9).

> Context: You and I are taking about Zhangsan and Lisi and their teenager children. We started to wonder what their children are doing nowadays.

Ten of them found it hard to get the sloppy reading even within this context while the remaining three speakers said that such a reading is possible, but is actually forced given the context. I take this result to mean that enrichment does serve to give rise to the pseudo-sloppy reading in Mandarin, but it is a marked strategy.

At any rate, my central point here remains unaffected. There is a qualitative difference between (9)–(12) and (42)–(43) with respect to the availability of sloppy interpretations: such interpretations require heavy contextual priming in the former, but not in the latter. This difference convincingly argues against assimilating genuine subject AE cases to *pro*-subjects with sloppy-like readings, as Simpson et al. (2013) did for Hindi/Bangla examples.

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them cited below) for more comprehensive assessments of the analyses in some other areas of Chinese grammar and the cross-linguistic distribution of AE.

Li's (2014) analysis of Chinese AE is primarily built on the subject–object interpretive asymmetry to the effect that null objects allow a far wider range of interpretations than null subjects in terms of their potential antecedent and indefinite/sloppy interpretations. Developing Huang's (1984) system of null arguments, Li proposes that in Chinese, null subjects are *pro*s which select their first c-commanding nominals as their antecedents whereas null objects instantiate a truly empty category, a position endowed with Case and categorical features in a syntactic representation which is later filled in via LF Copy of some material from available contexts.[8] The analysis, however, cannot account for the new observation reported in the previous section that sloppy (and quantificational) interpretations are actually available in Chinese when a subject is not linked to the topic position, as shown in hanging topic constructions, relative clauses and conditional clauses.

Cheng (2013) puts forth a phase-theoretic analysis of the distribution of AE in Chinese from the perspective of the DP/NP parameter (Bošković 2012) – a proposal to the effect that there are two fundamentally different types of languages regarding the presence/absence of the DP layer on top of NPs (i.e. NP languages without articles vs. DP languages with overt articles). It is customarily assumed since Chomsky (2000) that a phase is a mid-derivational syntactic object defined by an occurrence of C or *v*: the complement domain of these phase heads undergoes Transfer to the phonological and semantic components in a bottom-up cyclic fashion (Chomsky 2000). Based on these two theoretical premises, Cheng's analysis is based on two assumptions. One is that DP languages such as English have *v*P phase whereas NP languages such as Japanese and Chinese have VP phase. The other is that only the complement of a phase head may undergo PF-deletion, of which AE is but one subspecies on a par with sluicing (TP-ellipsis), NP-ellipsis, and VP-ellipsis.

Now, I will illustrate how the DP/NP parameter accounts for the presence/absence of AE in Japanese and English within Cheng's system. In Japanese and Chinese, where VP is a phase, its complement NP may undergo transfer, thereby yielding AE. On the other hand, in English, where *v*P is a phase, the VP constitutes a transfer domain. To yield the AE pattern within this VP, the DP object must be elided whereas the verb must be pronounced. Cheng (2013: 203) suggests that this violates what he calls the 'no scattered deletion' constraint to the

[8] Li (2014: 56–65) discusses several constructions in Chinese involving maleficiary objects, secondary predicates, and verbs strictly subcategorized for clausal complements which prohibit object ellipsis, contrary to the popular belief that Chinese productively allows objects to be missing. Li shows how the impossibility of object ellipsis in these constructions is correctly accounted for under her analysis based on the notion of truly empty categories. In this paper, however, I am only concerned with the basic subject–object asymmetry with respect to AE in Chinese, leaving in-depth examinations of Li's paradigm for another occasion. Thanks to an anonymous referee for drawing my attention to Li's (2014) work.

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effect that all the elements in a single Spell-Out domain must either be realized or null. The analysis, Cheng argues, also correctly accounts for the impossibility of subject AE in Chinese because subjects in [Spec, *v*P] are not in the complement of a phase head, a prerequisite for AE.

Two empirical considerations show that my analysis is to be preferred to Cheng's. First, recall that Chinese does have the core subject–object asymmetry with respect to AE, but this observation breaks down in hanging topic constructions, relative clauses, and conditional clauses, where the null subject is not linked to the topic position. This topic-sensitive distribution of subject AE is mysterious under Cheng's analysis, which predicts that subjects, not being in the complement of a phase head, should never be able to undergo AE in any language.

Second, for the same reason, Cheng's analysis predicts that Japanese also does not allow subject AE. To maintain his analysis, Cheng suggests that subject AE is an illusion, derived not from the application of genuine AE in the subject position but through the topic–variable analysis (Huang 1984). The null subject example in (2b) above is analyzed as illustrated in (48), in which the null topic *zibun-no teian* 'self's proposal' binds a variable in the embedded subject position. The sloppy reading follows when *zibun* is bound to the matrix subject, *John*.

(48) ([Zibun-no teian-ga]$_1$)$_{\text{null topic}}$ John-mo [e_1 saiyoo-sare-ru-to]
self-GEN proposal-NOM John-also accept-PASS-PRS-COMP
omtteiru. (Japanese)
think
Lit.: 'John also thinks that *e* will be accepted.'

However, the topic–variable analysis for subject AE in Japanese is hard to sustain. Cheng shows that null arguments licensed through the topic–variable mechanism in Chinese exhibit properties of deep anaphora (Hankamer & Sag 1976). One well-known signature property of deep anaphora is that it does not need a linguistic antecedent. Example (49) shows that in Chinese, the null object allows a sloppy interpretation without any linguistic antecedent, suggesting that the interpretation can be obtained through the topic–variable analysis.

(49) Context: Zhangsan and Lisi each owns a car. Zhangsan is washing his own car outside and Lisi saw this.
Lisi: Wo zuotian xi-guo-le *e*. (Chinese)
I yesterday wash-PFV-INCH
Lit.: 'I've washed *e* yesterday.'

(Cheng 2013: 127)

Now, if subject AE in Japanese were similarly derived through the topic–variable analysis, a type of deep anaphor, then we would predict that the null subject in Japanese should also not require any overt antecedent. Example (50), however, shows that this prediction is not correct (see also Takahashi 2008a for an observation that elliptic null objects also require an overt antecedent). It is

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extremely difficult to obtain the sloppy reading for the null subject in (50), even with the help of contextual enrichment as provided there.

(50) Context: Speakers A and B heard from Megumi and Hanako that their daughters study French and Spanish at their respective universities. We just heard Megumi's daughter speaking French and remembered what Hanako had said about her daughter too.

Speaker A: *Tasika Hanako-wa *e* Supeingo-o shabe-reru-tte
as.I.recall Hanako-also Spanish-ACC speak-can-COMP
itte-ta-yo-ne. (Japanese)
say-PST-PTCL-PTCL
'As I recall, Hanako was saying that *e* can speak Spanish, didn't she?'

However, (50) becomes acceptable with the sloppy reading, once it is preceded by a sentence which contains a linguistic antecedent for the null subject, in the manner shown in (51).

(51) Speaker A: Megumi-wa zibun-no musume-ga furansugo-o
Megumi-TOP self-GEN daughter-NOM French-ACC
shabe-reru-to itteita-si, Hanako-wa *e* supeingo-o
speak-can-COMP saying-and Hanako-TOP Spanish-ACC
shabe-reru-to itteita-yo-ne. (Japanese)
speak-can-COMP saying-PTCL-PTCL
Lit.: 'Megumi says that her daughter can speak French, and Hanako says that *e* can speak Spanish.'

The contrast between (50) and (51) thus rejects the topic–variable analysis of null subjects with sloppy interpretations in Japanese put forth by Cheng (2013) and, at the same time, supports the view assumed in this paper that Japanese has bona-fide instances of subject AE.

5. Conclusion

This paper has investigated the cross-linguistic distribution of AE with special reference to Chinese. Rejecting the agreement-based analysis of Chinese AE proposed by Miyagawa (2013) and Takahashi (2014), I have proposed that the distribution of AE in Chinese is governed by topichood of the subject, a property diagnosed by the definite subject restriction and stated in terms of an operator–variable topic chain. Adapting Saito's (2017) analysis to the present case, I have argued that it is this topic chain that blocks AE, an LF Copy process, from applying to the empty subject position. I have further shown that the analysis is supported by the new observation that Chinese actually allows AE in a number of constructions such as hanging topic constructions, relative clauses, and conditional clauses, where the subject is not linked to the topic but remains

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in situ. The analysis also correctly predicts that Japanese, Korean and Mongolian permit AE because subjects in these languages do not exhibit the definite subject restriction indicative of the absence of subject–topic chains.

It is my hope that the research conducted here, limited to AE in Chinese, will stimulate other researchers interested in the comparative syntax of this phenomenon to investigate the extent to which my analysis can be extended to the position-sensitive distribution of AE in a wider range of typologically different (families of) languages than those covered in this paper and to seek to integrate their properties into broader theoretical frameworks.

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