

Comparative Syntax of Argument Ellipsis in Languages without Agreement

Abstract: This paper investigates the cross-linguistic distribution of argument ellipsis (AE) with an emphasis on Japanese and Chinese, two well-known languages without 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 ν 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 arguments against this analysis, I propose that the distribution of AE is better predicted by topichood and implement this proposal in Saito's (2015) recent analysis whereby AE, analyzed as 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 adverbial clauses. I conclude by briefly exploring some theoretical consequences of my analysis for the contemporary debate between PF-deletion and LF-copy theories of ellipsis, scope assignment, and the acquisition of the distribution of AE.

Keywords: argument ellipsis, LF-copy, ϕ -feature agreement, topic, operator-variable relation

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 works by Takahashi (2007, 2013a, b, 2014), Cheng (2013), Miyagawa (2013), Simpson et al. (2013), and Li (2014) note that this pattern does not actually hold in many other AE languages, such as Chinese, Hindi, Malayalam, Bangla, Masque, and Portuguese, where null objects permit but null subjects do not permit AE. This thus leads to the investigation of 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 – 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 (Takahashi 2007), 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, as well as by Otaki (2014), who points out 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. These recent inquiries thus present robust cross-linguistic evidence against positing ϕ -feature agreement as a general

predictor of AE, and hence at least invite a critical re-consideration of the anti-agreement hypothesis even for those languages for which this property was originally deemed relevant.

Against this background, this paper evaluates the recent extension of the anti-agreement hypothesis 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 point out three problems with this analysis, and, by extension, the agreement theory of Chinese. These problems suggest that some factor other than agreement is at work in governing the subject-object asymmetry.

I will 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 position. I argue that subject AE is impossible in Chinese because AE, an LF-Copy process, cannot apply to an operator-variable configuration, a hypothesis developed by Saito (2015) based on Japanese. 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, relativization, and adverbial clauses. After I establish my analysis, I will also compare it with two alternative analyses of Chinese AE – Li (2014) and Cheng (2013) – and point out 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 distribution 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

(1) (a) Taroo-ga zibun-no tegami-o suteta.

Taroo-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 omotteiru.

Mary-TOP self-GEN proposal-NOM accept-PASS-PRS-COMP think

‘Mary thinks that her proposal will be accepted.’

(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, however, Chinese exhibits a subject-object asymmetry with respect to AE. Example (3) illustrates that the null object allows AE. As first pointed out by Takahashi (2007), however, the null subject does not allow AE, as evidenced by example (4). The null subject in (4) only accepts the sloppy interpretation that Zhangsan's child liked Xiaoli.

(3) (a) Zhangsan bu xihuan guanyu ziji-de yaoyan.

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)

(4) (a) Zhangsan shuo ziji-de haizi xihuan Xiahong.

Zhangsan say self-MOD child like Xiahong

'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: 6)

The contrasting distribution between Japanese and Chinese with respect to subject AE is most convincingly demonstrated by (5–6). Here, the Japanese example is completely parallel to the Chinese example, 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 omotteiru.

Mary-TOP self-GEN child-NOM English-ACC speak-can-COMP think

Susan-wa *e* furansugo-o hanas-eru-to omotteiru. (sloppy)

Mary-TOP French-ACC speak-can-COMP think

‘Lit. Mary thinks that her child can speak English. Susan thinks that *e* can speak French.’

(6) Mali yiwei ziji-de haizi hui shuo yingwen. Sushan yiwei *e* hui shuo

Mary think self-MOD child can speak English Susan think can speak

fawen. (*sloppy)

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 relegated to pragmatic considerations, an observation which further supports the existence of some structural restriction imposed on this position. 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 *everyone but X*. This point is illustrated in (7) in English.

(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

constructional frame there facilitates it. The sloppy interpretation is achieved only when the relevant position is overtly filled by a lexical subject (e.g., *ziji-de laoshi* ‘self’s teacher’ in (8)).

- (8) Meige xuesheng, chu-le Lisi, dou renwei ziji-de laoshi hen
 every student except-ASP Lisi all think self-MOD teacher very
 congming, dan Lisi renwei {??? e/ziji-de laoshi} hen ben.
 smart but Lisi think self-MOD 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 their reported judgements.

- (9) (a) Zhangsan shuo ziji-de haizi kao-jin-le Chiao-Tung daxue.
 Zhangsan say self-MOD child test-enter-ASP 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.

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 jia le.

Zhangsan feel self-MOD child return 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 bu cuo.

Zhangsan feel self paint MOD paint 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 8). 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, 12), but even so, the reading is still very marginal whereas another reported that she could get the sloppy reading in (9, 11), but not in (10, 12). Finally, the two remaining speakers were quite unsure what interpretation(s) the null subject permits in those four examples. Despite the rather minor individual variation, my survey above makes 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 exists, 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, if we assume that Chinese possesses subject agreement, a hypothesis first argued for by Miyagawa (2010) based on the so-called *blocking effect* on *ziji* ‘self’ (Tang 1985, 1989). Consider Examples (13–14).

(13) Zhangsan_i zhidao [Lisi_j dui ziji_{i/j} mei xinxin].

Zhangsan know Lisi to self no confidence

‘Lit. Zhangsan_i knows that Lisi_j has no confidence in self_{i/j}.’ (Miyagawa 2010: 49)

(14) Zhangsan_i juede [{wo_j/ni_j} dui ziji_{*i/j} mei xinxin].

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 (13), *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 (14). Adopting the LF head-movement analysis of subject-oriented anaphors in Chinese (Battistella 1989; Cole et al. 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 movement converges when the person-feature value of the higher T matches that of the lower T, as shown in (13). The same movement crashes in (14), on the other hand, because the two person-feature values do not match. Note that this analysis of the blocking effect presupposes that Chinese evidences abstract person feature agreement with T, and with subjects in its specifier, by extension. To the extent that the subject agreement hypothesis holds true, then the anti-agreement theory is sufficient to cover 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 and Tang (1991) show that this prediction is not borne out. In (15), *ziji* may take the matrix subject as its antecedent, in theory, by moving to the matrix T from within the Adjunct Island. However, the relevant movement should be impossible, because such a movement obeys this constraint elsewhere, as shown in (16). (16) 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

- (15) Zhangsan_i shuo [_{CP} ruguo Lisi piping ziji_i], ta jiu bu qu.
 Zhangsan say if Lisi criticize self he then NEG go
 ‘Lit. Zhangsan_i said that if Lisi criticized self_i, then he won’t go.’

(Huang & Tang 1991: 271)

- (16) * [_{CP} Ruguo ta lai-bu-lai], ni jiu hui shengqi.
 if he come-NEG-come you then will 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 Xue et al. (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 *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 (17–18) show that the relevant reading is blocked by the intervening first- and second-person direct objects selected by the intervening verbs.

(17) Zhangsan_i gaosu wo_j Lisi_k hen ziji_{*i/*j/k}.

Zhangsan tell me Lisi hate self

‘Lit. Zhangsan_i told me_j Lisi_k hated self_{*i/*j/k}.’

(Xue et al. 1994: 436)

(18) Wo_i zhidao Zhangsan_j gaosu ni_k Lisi_l hen ziji_{*i/*j/*k/l}.

I know Zhangsan tell me Lisi hate 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 and Liu’s (2001) observation, which was recently discussed by Li (2014) as problematic for the subject agreement theory of Chinese. Huang and Liu’s observation is two-fold. First, *ziji* has two different 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 (19).

(19) (a) [TP Zhangsan_i dui wo shuo [TP ziji_i piping-le Lisi]].

Zhangsan to me say self criticize-ASP 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 shows that the contrast in (19a, b) is problematic for the subject agreement theory. However, this contrast is correctly accounted for if there is no subject agreement in Chinese, whereby the governing category for the anaphor is the entire clause in (19a), but the embedded clause in (19b). This means that *ziji* in (19a) is a syntactic anaphor whereas *ziji* in (19b) is a logophoric anaphor. It follows correctly then, that only *ziji* in (19b) triggers the blocking effect. If there is subject agreement in Chinese, however, the relevant contrast would become mysterious, for the governing category for the anaphor in (19a) would now become the embedded TP, with the wrong result that *ziji* there would trigger the blocking effect on a par with *ziji* in (19b).³

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 itself on the well-known observation that “‘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 (2015), 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 (20a). 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 (20b). Examples (21) show that the same semantic restriction is imposed on the embedded subject position.

(20) (a) {*yi-ge/*yixie/*ji-ge} ren zai yuenzi-li zuozhe.
 one-CLF/some/several-CLF person at yard-LOC 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)

(21) (a) * Zhangsan shuo {yi-ge/yixie/ji-ge} ren zai yuenzi-li zuozhe.
 Zhangsan say one-CLF/some/several-CLF person at yard-LOC sit.CONT

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

- (b) Zhangsan shuo you {yi-ge/yixie/ji-ge} ren zai yuenzi-li
 Zhangsan say exist one-CLF/some/several-CLF person at yard-LOC
 zuozhe.
 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 depicted in (22). 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 (23) by the inability of indefinite non-subject arguments to undergo topicalization (cf. footnote 4).

- (22)
-
- definite
- e.g., [topic x: x = Zhangsan] x studies math

- (23) *Yi-ge nanhai_i, wo hen xihuan/kandao-le *t_i*.
 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 (2015) analysis whereby AE, technically analyzed as LF-Copy, cannot target an operator-variable structure as its input, to which I now turn.

Saito (2015) 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. He points out 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 his analysis thereof using *wh*-questions. Consider (24). Example (24b) shows that an interrogative *wh*-phrase cannot undergo AE.

(24) (a) [CP [TP 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) 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 2015: 24)

Saito assumes that a *wh*-phrase contains an interrogative-operator pair, as in (25a), and that the operator and variable parts are interpreted in two positions linked by *wh*-movement, as in (25b). More specifically, the operator is interpreted in [Spec, CP] whereas the variable is interpreted in the base position. This point is illustrated in (25c), where the words in bold indicate the position at which the two materials are interpreted at LF.

- (25) (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 2015: 29)

Now, if we apply this chain-based interpretive mechanism to the embedded question in (24a), the representation in (26a) results. Given this, if the operator in (26a) is copied to the ellipsis site in (24b), (26b) will be obtained. If the variable in (26a) is copied there instead, (26c) 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.

- (26) (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)

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) as an example. Given my analysis, the antecedent clause in (6) has the LF representation in (27a). The embedded clause in (6), then, involves the schematic operator-variable chain in (27b). Now, depending on whether we copy the operator or the variable portions of the object in (27b) to the null argument position in (6), we would get the two representations in (27c, d). Neither representation is interpretable at LF.

This derivation, I maintain, is blocked by the independently motivated assumption, dating back to Oku (1998), that AE can apply to only argument positions, which is supported by the well-known observation that adjuncts themselves cannot participate in this phenomenon across languages. Consequently, merging 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 because of this reason. Example (30) shows that the nominative subject does not have to be interpreted as definite, unlike in Chinese.

(30) Gakusei-ga kita. (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 (31–32) and (33–34), respectively.

(31) (a) Chelswu-ka caki-uy phyenci-ul peli-ess-ta.

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)

(32) (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 sayngkakhakoissta. (sloppy)

Junho-TOP Mina-ACC hit-COMP think

‘Lit. Junho thinks that *e* hit Mina.’

(Takahashi 2007: 4)

(33) (a) Batu Ø:ri-n bagshi-gi hundelzhubaina.

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: 5)

(34) (a) Batu Ø:ri-n hØ:hd ban Angglehel-gi helzhu qidahu gezhu

Batu self-GEN child REFL English-ACC speak can COMP

bodozhubaina.

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: 5)

It is significant then that neither Korean nor Mongolian requires the subject to be definite.

(35) Haksaeng-i wassda. (indefinite ok)

student-NOM came

‘A student came.’

(36) Kümün-ø ire-jei. (indefinite ok)

person-NOM come-PST

‘A person came.’

3.4 *Subject Ellipsis in Chinese: Hanging Topics, Relativization and Adverbial 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, relativization and adverbial 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 (37) is a case in point:

- (37) Nei-chang huo, xingkui xiaofangdui lai de zao.
 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 and Langendoen (1985) present other empirical arguments that this construction violates well-known syntactic constraints on movement such as subjacency and the bijection principle, which suggests 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 (38–39). In (38), 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 (39).

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

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

The logical subject in (38), 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 (40–41) show that this prediction is indeed borne out.

- (40) (a) Kayne, ta-de wenzhang chuxian yu LI.
 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.’

- (41) (a) Zhangsan, ziji-de haizi wei guge gongzuo.
 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. 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 (4, 6, 8, 9, 10, 11, 12).⁴

The prediction stated above is further supported by the recent finding reported by Abe and Park (2017). Given Kuno’s (1973) observation that the subjects in relative and adverbial 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.⁵ 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 (42) and (43), just as predicted by my analysis.

(42) Zhangsan du-le ziji zhidao xuesheng zhege xingqi xie de lunwen.

Zhangsan read-ASP self advising student this week wrote MOD paper

Lisi du-le *e* shangge xingqi xie de lunwen. (sloppy)

Lisi read-ASP last week wrote 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)

- (43) Ruguo ziji-de zhidao jiaoshuou jiao tongcilun Zhangsan jiu shenqing
 if self-GEN advising professor teach syntax Zhangsan will register
 zhege kemu. Ruguo e jiao yuyilun Lisi jiu shenqing zhege kemu.
 this course if teach semantics 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: 33)

One may counter that the sloppy interpretation in (40–41) 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) is merely a “sloppy-like” reading, which is derived through 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 (40b) and (41b), given my observation that the subject position of the hanging topic construction may host an indefinite expression.⁶ 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): see Section 5 for discussions on this interpretation and its significance for my analysis. Examples (44) are a case in point:

- (44) (a) Kayne, chaoguo san pian wenzhang chuxian yu LI.
 Kayne more.than three CLF paper appear LOC LI
 ‘Kayne, his paper appeared in LI.’

(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.’

(44b) permits the quantificational interpretation, where Rizzi published more than three papers in NLLT. Importantly, this sentence cannot mean that Rizzi published (any other number of) papers in the journal. The indefinite *pro* analysis predicts, however, that this interpretation should be available in (44b) because the overt, bare indefinite nominal – *wenzhang* ‘paper’ – does permit this interpretation. The impossibility of this interpretation naturally falls into place in my analysis, however, since AE/LF-Copy takes the quantificational argument in the antecedent clause in (44a) as its input.

It is important to stress in this connection that my native Chinese consultants all agreed that sloppy readings in the null subject positions in (40–41) are readily available without much contextual priming. This point bears 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 (45) from Hindi illustrates their observation.⁷

(45) 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 Raj pasand hai.

Ram think.PRS.M.SG.3 COP.PRS.3 his daughter-DAT Raj like COP.PRS.3

'Ram thinks his daughter likes Raj.'

b. Ram-ka-bhai sochta hai Pratap pasand hai.

Ram-GEN-brother think.PRS.M.SG.3 COP-PRS.3 Pratap like COP.PRS.3

'Lit. Ram's brother thinks *e* likes Pratap.'

(Simpson et al. 2013: 121)

Based on their observation that sloppy interpretations require heavily enriched contexts in null subject positions, as opposed to non-subject positions, Simpson et al. 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 (45), 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.

Subject ellipsis cases in (40–41), however, 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) reported that they could easily

obtain the sloppy interpretation in (40–41) 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 (44b) already independently mitigates against the (uniform) *pro*-analysis of the null subject in Chinese.⁸

4. Two Previous Analyses of Argument Ellipsis 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, simply referring the interested reader to original sources (some of 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 categorial features in a syntactic representation which is later filled in via LF-copying of some material from contexts available. 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, relativization and conditional clauses.⁹

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). His analysis is based on two assumptions. One is that DP languages such as English have ν 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 ν 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 a 'No scattered deletion' constraint to the 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, ν P] are not in the complement of a phase head, a prerequisite for AE.

Two considerations show that my analysis is to be empirically 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/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) is analyzed as depicted in (46), 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*.

- (46) ([Zibun-no teian-ga]₁)_{null topic} John-mo [*e*₁ saiyoo-sare-ru-to] omtteiru.
 self-GEN proposal-NOM John-also accept-PASS-PRS-COMP 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 and Sag 1976). One well-known signature property of deep anaphora is that they do not need a linguistic antecedent. Example (47) 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.

- (47) Context given: 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*.

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 (48), 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 extremely difficult to obtain the sloppy reading for the null subject in (48), even with the help of contextual enrichment as provided there.

(48) Context given: 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 itte-ta-yo-ne.
 As.I.recall Hanako-also Spanish-ACC speak-can-COMP say-PST-PTCL-PTCL
 'As I recall, Hanako was saying that *e* can speak Spanish, didn't she?'

However, (48) 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 (49).

(49) Speaker A: Megumi-wa jibun-no musume-ga Furansugo-o shabe-reru-to
 Megumi-TOP self-GEN daughter-NOM French-ACC speak-can-COMP
 itteru-si, Hanako-wa *e* Supeingo-o shabe-reru-to itteru.
 saying-and Hanako-TOP Spanish-ACC speak-can-COMP saying
 'Lit. Megumi says that her daughter can speak French, and Hanako says
 that *e* can speak Spanish.'

The contrast between (48) and (49) 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 (2015) 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, conditional and relative clauses, where the subject is not linked to the topic but remains 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.

My analysis developed for Chinese AE brings forth a number of important theoretical implications, three of which I will explore briefly below. First, my analysis explains the core subject-object asymmetry in Chinese and the hitherto unnoticed possibility of subject AE in contexts such as hanging topics as a consequence of the interaction between a topic-subject chain and LF-Copy. It is unclear whether the same range of facts is accounted for as straightforwardly under the competing PF-deletion theory of AE. For example, (6) allows the

embedded subject in the second clause to be bound by the matrix subject/topic, if realized overly as *ziji-de haizi* ‘self’s child’. The PF-deletion theory cannot explain why the null subject variant shown in (6) blocks a sloppy interpretation since nothing should block the PF-deletion of the DP in the second clause under identity with the same DP in the first clause. As shown above, the LF-Copy theory provides a necessary tool to answer this question: (6) involves LF-Copy of an operator-variable chain onto the empty subject position, the result of which yields an illegitimate representation. The success of this explanation thereby adds further supporting evidence for the LF-Copy theory of AE (Oku 1998; Shinohara 2006; Saito 2007, 2015) over its PF-deletion alternative (Takahashi 2013a).

Second, my analysis sheds light on an important issue pertaining to the mechanisms of scope assignment when applied to quantificational null arguments. As noted in Section 3.4, Takahashi (2008a, b) shows that such arguments are derived through AE instead of *pro*’s in Japanese. Example (50) illustrates a quantificational null object construction in Chinese.

(50) You yi-ge laoshi kanjian-le san-ge xuesheng. You yi-ge shouwei ye
 exist one-CLF teacher see-ASP three-CLF student exist one-CLF guard also
 kanjian-le e.
 see-ASP

‘Lit. A teacher saw three students. A guard also saw *e*.’

A question naturally arises: how can null objects undergo LF-Copy if they are interpreted through Quantifier Raising (QR), which would then end up creating an operator-variable relationship? ¹⁰ I will briefly outline two approaches to address this problem.

One approach is to say that a separate mechanism must be in place to assign scope to (weakly) quantified phrases, as in (50), in situ without creating an operator-variable structure. The choice function theory extensively developed by Reinhart (2006) has the right general architecture to support this consequence. Focusing on the quantificational object in (50), this theory assigns the antecedent clause in (50) the semantic representation roughly along the lines of (51), where the direct object syntactically stays in situ, but is semantically interpreted as denoting the value of the choice function f – a set of three students, without forming an operator-variable relationship. It is then no surprise that (50) allows object AE.

(51) $\exists f(\text{CH}(f) \wedge \text{a teacher saw } f(\text{three students}))$

The other approach, explored by Oku (2016), is to propose that LF-Copy may apply before QR takes place. Specifically, the two clauses in (50) are created in a parallel, bottom-up computation. At the point when the verb is merged with its quantificational object in the antecedent clause, Merge copies the object (devoid of phonetic features) and merges it onto the ‘empty’ object position in the subsequent clause. It follows then that the quantificational null object may undergo QR without any problem. Adopting whichever approach outlined above has non-negligible implications on the precise nature of scope-assignment and/or derivational timing within the context of the Minimalist Program.

Finally, the proposed analysis also has a strong potential to overcome a certain conceptual problem that is faced by agreement-based approaches as in Saito (2007), Miyagawa (2013) and Takahashi (2014) to the distribution of AE from the perspective of language acquisition. Given the lack of positive data in child-directed speech to indicate that

null arguments can have a sloppy/quantificational interpretation in one's language (Sugisaki 2009), it is reasonable to assume, following the tradition in the Principles and Parameters approach, that the (im) possibility of AE in a given language must be learned from some independent, observable, prominent property of the language in question.

This conceptual desiderata, however, is rather difficult to meet under the agreement-based theory for the reason mentioned in Otaki (2014). To take one concrete case, Japanese and Swedish do not exhibit ϕ -feature agreement at all, but the two languages diverge with respect to AE: Japanese allows it whereas Swedish prohibits it. Of course, proponents of the agreement-based approach may certainly postulate that Swedish has an abstract agreement system which is lacking in Japanese, but the point here is how children learning these two languages can derive the radically different conclusions regarding the availability of AE in these languages based on what appears to be the same information – i.e., the lack of agreement.

This “poverty of stimulus” argument applies with equal force to the agreement analysis of Chinese. The question is how Chinese-learning children will get to know that subject agreement is active in Chinese in disallowing subject AE, but not in Japanese, despite the lack of its overt morphophonological manifestation in both languages. Although I have already argued against the use of the blocking effect on *ziji* for the agreement theory of Chinese, independently of this consideration, it is hard to imagine that children will receive exposure to data pertaining to the blocking effect, caused by an intervening first-/second-person subject which does not agree in person with the matrix third-person subject, to come up with the conclusion that Chinese has an abstract subject agreement and hence blocks the otherwise possible application of AE.

My topic-based analysis overcomes this conceptual problem by proposing that subject AE is blocked by the definiteness effect on subject positions, a pattern which Chinese-learning

children can easily discern solely on the basis of the surface position of subjects in the pre-verbal vs. post-verbal position (e.g., (20–21)). This approach also meshes nicely with Chomsky's (2001) *Uniformity Principle*, which requires that cross-linguistic variation be 'restricted to easily detectable properties of utterances'.

It is my hope that the research conducted here will stimulate other researchers to investigate the extent to which my analysis can extend 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.

References

- Abe, Jun & Myung-Kwan Park. 2017. An NP-substitute approach to null arguments in Chinese, Japanese and Korean. Ms., Tohoku Gakuin University and Dongguk University.
- Battistella, Edwin. 1989. Chinese reflexivization: A movement to infl approach. *Linguistics* 27, 987–1012.
- Bošković, Željko. 2012. On NPs and clauses. In Günther Grewendorf & Thomas Ede Zimmermann (eds.), *Discourse and grammar: From sentence types to lexical categories*, 179–242. Berlin: de Gruyter.
- Chao, Yuen Ren. 1968. *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Cheng, Hsu-Te Johnny. 2013. *Argument ellipsis, classifier phrases, and the DP parameter*. Ph.D. dissertation, University of Connecticut.

- Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.
- Chou, Min-Chieh. 2004. Chinese learners' overgeneration of English existential constructions. *Concentric: Studies in Linguistics* 30, 183–214.
- Cole, Peter, Gabriella Hermon & Li-May Sung. 1990. Principles and parameters of long-distance reflexives. *Linguistic Inquiry* 21, 1–22.
- Duguine, Maia. 2008. Silent arguments without pro: the case of Basque. In Theresa Biberauer (ed.), *The Limits of Syntactic Variation*, 311–329. Amsterdam: John Benjamins.
- Duguine, Maia. 2012. Ellipsis of DPs and the typology of pro-drop. Presented at 15th Workshop of the International Research Project on Comparative Syntax and Language Acquisition, Nanzan University.
- Funakoshi, Kenshi. 2012. On headless XP-movement/ellipsis. *Linguistic Inquiry* 43, 519–562.
- Funakoshi, Kenshi. 2013. Disjunction and object drop in Japanese. In Stefan Huber (ed.), *Tampa papers in linguistics* 4, 11–20. University of South Florida: Department of World Languages.
- Hankamer, Jorge & Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7, 391–426.
- Hoji, Hajime. 1998. Null object and sloppy identity in Japanese. *Linguistic Inquiry* 29, 127–152.
- Huang, C.-T. James. 1982. *Logical relations in Chinese and the theory of grammar*. Ph.D. dissertation, MIT.
- Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15, 531–574.

- Huang, C.-T. James. 1987. Existential sentences in Chinese and (in)definiteness. In Eric Reuland & Alice G.G. ter Meulen (eds.), *The representation of (in)definiteness*, 226–253. Cambridge, MA: MIT Press.
- Huang, C.-T. James & Luther C.-S. Liu. 2001. Logophoricity, attitudes, and *ziji* at the interface. In Peter Cole, Gabriella Hermon & C.-T. James Huang (eds.), *Long distance reflexives*, 141–196. New York: Academic Press.
- Huang, C.-T. James & Jane C.-C Tang. 1991. The local nature of the long-distance reflexive in Chinese. In Jan Koster & Eric Reuland (eds.), *Long-distance anaphora*, 263–282. Cambridge: Cambridge University Press.
- Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Kuroda, S.-Y. 1988. Whether we agree or not: A comparative syntax of English and Japanese. *Linguisticae Investigationes* 12, 1–47.
- Li, Charles & Sandra Thompson. 1976. Subject and topic: A new typology of language. In Charles Li (ed.), *Subject and topic*, 457–490. New York/San Francisco/London: Academic Press.
- Li, Charles & Sandra Thompson. 1981. *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Li, Yen-Hui Audrey. 2014. Born empty. *Lingua* 151, 43–68.
- Miyagawa, Shigeru. 2010. *Why agree? Why move? Unifying agreement-based and discourse-configurational languages*. Cambridge, MA: MIT Press.
- Miyagawa, Shigeru. 2013. Surprising agreements at T and C. Ms., MIT.

- Oku, Satoshi. 1998. *A theory of selection and reconstruction in the minimalist perspective*.
PhD. dissertation, University of Connecticut, Storrs.
- Oku, Satoshi. 2016. A note on ellipsis-resistant constituents. *Nanzan Linguistics* 12, 57–70.
- Otaki, Koichi. 2014. *Ellipsis of arguments: Its acquisition and theoretical implications*.
PhD. dissertation, University of Connecticut, Storrs.
- Otaki, Koichi, Koji Sugisaki, Noriaki Yusa & Masatoshi Koizumi. 2013. The parameter of
argument ellipsis: The view from Kaqchikel. In Michael Kenstowicz (ed.), *MIT Working
Papers in on Endangered and Less Familiar Languages #8*, 153–162. Cambridge, MA:
MITWPL.
- Otani, Kazuyo & John Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22,
345–358.
- Pan, Haihua & Jianhua Hu. 2002. Representing topic-comment structures in Chinese. Ms.,
City University of Hong Kong.
- Preminger, Omer. 2011. *Agreement as a fallible operation*. Ph.D. dissertation, MIT.
- Reinhart, Tanya. 2006. *Interface strategies: Optimal and costly computations*. Cambridge,
MA: MIT Press.
- Rizzi, Luigi. 1990. On the anaphor-agreement effect. *Rivista di Linguistica* 2, 27–42.
- Saito, Mamoru. 2007. Notes on East Asian argument ellipsis. *Language Research* 43, 203–227.
- Saito, Mamoru. 2015. Ellipsis. Ms., Nanzan University.
- Şener, Serkan & Daiko Takahashi. 2010. Ellipsis of arguments in Japanese and Turkish.
Nanzan Linguistics 6, 79–99.

- Shi, Dingxu. 1992. *The Nature of topic comment constructions and topic chains*. Ph.D. dissertation, University of Southern California.
- Shi, Dingxu. 2000. Topic and topic-comment constructions in Mandarin Chinese. *Language* 76, 383–408.
- Shinohara, Michie. 2006. On some differences between the major deletion phenomena and Japanese argument ellipsis. Ms., Nanzan University.
- Simpson, Andrew, Arunima Choudhury & Mythil Menon. 2013. Argument ellipsis and the licensing of covert nominals in Bangla, Hindi and Malayalam. *Lingua* 134, 103–128.
- Smith, Ryan Walter. 2017. Argument ellipsis in Zazaki: A problem for the anti-agreement theory. Presented at the first North American Conference on Iranian Linguistics (NACIL 1), April 28–30, State Univeristy of New York, Stony Brook.
- Sugisaki, Koji. 2009. The acquisition of argument ellipsis in Japanese. *Nanzan Linguistics* 5, 61–73.
- Takahashi, Daiko. 2007. Argument ellipsis from a cross-linguistic perspective: An interim report. Presented at GLOW in Asia VI, December 27–29, The Chinese University of Hong Kong.
- Takahashi, Daiko. 2008a. Noun phrase ellipsis. In Shigeru Miyagawa & Mamoru Saito (eds.), *The Oxford handbook of Japanese linguistics*, 394–422. Oxford: Oxford University Press.
- Takahashi, Daiko. 2008b. Quantificational null objects and argument ellipsis. *Linguistic Inquiry* 39, 307–326.

- Takahashi, Daiko. 2013a. Comparative syntax of argument ellipsis. Presented at the NINJAL project meeting: Linguistic variations within the confines of the language faculty: A study in Japanese first language acquisition and parametric syntax, December 21–22, NINJAL.
- Takahashi, D. 2013b. Argument ellipsis in Japanese and Malayalam. *Nanzan Linguistics* 9, 173–192.
- Takahashi, Daiko. 2014. Argument ellipsis, anti-agreement, and scrambling. In Mamoru Saito (ed.), *Japanese syntax in comparative perspective*, 88–116. Oxford: Oxford University Press.
- Tang, C.-C. Jane. 1985. *A study of reflexives in Chinese*. M.A.thesis, National Taiwan Normal University.
- Tang, C.-C. Jane. 1989. Chinese reflexives. *Natural Language and Linguistic Theory* 7, 93–121.
- Tomioka, Satoshi. 2014. Micro-parameters in discourse pro-drop languages: Comments on ‘Born empty’ by Yen-Hui Audrey Yi. *Lingua* 151, 69–77.
- Tsao, Feng-Fu. 1977. *A functional study of topic in Chinese: The first step towards discourse analysis*. Taipei: Student Book Company.
- Woolford, Ellen. 1999. More on the anaphor agreement effect. *Linguistic Inquiry* 30, 257–287.
- Xu, Liejiong & Terrence Langendoen. 1985. Topic structures in Chinese. *Language* 61, 1–27.
- Xue, Ping, Carl Pollard & Ivan Sag. 1994. A new perspective on Chinese *ziji*. In Raul Aranovich, William Byrne, Susanne Preuss & Martha Senturia (eds.), *Proceedings of the 13th West Coast Conference on Formal Linguistics*, 432–447. Stanford, CA: CSLI Publications.

FOOTNOTES

¹ [Acknowledgements to be inserted after reviews.] Abbreviations: ACC, accusative; AOR, aorist; ASP, aspect; CLF, classifier; COMP, complementizer; CONT, continuation; COP, copula; DAT, dative; DEC, declension; DEM, demonstrative; GEN, genitive; INCH, inchoative; LOC, locative; M, masculine; MOD, modification; NEG, negation; NOM, nominative; PASS, passive; PST, past tense; PFV, perfective; POL, politeness; PRS, present tense; PTCL, particle; Q, question; REFL, reflexive; SG, singular; TOP, topic; 1/2/3, first/second/third persons.

² A reviewer asks if the blocking effect is detected in (15) 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 reviewer for bringing this point to my attention.

³ One can make another argument against the subject agreement theory from the anaphor agreement effect (Rizzi 1990; Woolford 1999), namely, that an anaphor cannot occur in a position associated with agreement. In light of the fact that the effect makes a good candidate for a linguistic universal, Woolford suggests that it be used as a diagnostic test for the presence or absence of agreement such that ‘[i]f a syntactic position allows anaphors, then we would conclude that there is no agreement associated with that position, not even covert agreement’ (p. 283). Adapting Woolford’s suggestion to our case, the very possibility of *ziji* in subject position in Chinese, as in (19a), indicates that the position is not associated with any agreement whatsoever.

⁴ Given that Chinese has a regular topic construction, a reviewer asks whether subjects can be elided when non-subject arguments, such as direct objects, are topicalized. Example (ia) shows that they can.

(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. For some reason, 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).

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 (ii).

(ii) Zhangsan ne, ta-de-zuoye hen bang. Lisi ne, *e* hen cha. (sloppy)

Zhangsan TOP he-GEN-assignment very amazing Lisi TOP very lousy

‘Lit. Zhangsan, his assignment was great. To Lisi, *e* was horrible.’

⁵ Thanks to a reviewer for suggesting me to check the status of the subject in relative and conditional clauses.

⁶ Thanks to a reviewer for suggesting this alternative analysis. See also Saito (2007) and Takahashi (2008a) for relevant discussions and/or other problems with Hoji’s indefinite pronoun analysis of null objects.

⁷ I thank a reviewer for reminding me of Simpson et al.’s observation (2013) in this connection.

⁸ As I stated in Section 2.2, 13 of my native speaker consultants only accepted the strict interpretation for the examples in (9–12). Following a reviewer’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 given: You and I are taking about Zhangsan and Lisi and their teenager children. We started to wonder what their children are doing nowadays.

10 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 (40–41) 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. did for Hindi/Bangla examples.

⁹ See Cheng (2013: 179–185) for other problems with Li’s theory based on the possibility of CP/PP-ellipsis as well as relativization from within VPs, a pattern predicted to be impossible in Li’s analysis of null objects.

¹⁰ I thank a reviewer for raising this question. See Takahashi (2008a) and Saito (2015) for related discussions.