A Study of Reciprocal Pronoun Ellipsis in L2 English[1]

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Ⅰ. Introduction

Research acknowledges that there is a cross-linguistic difference between English and Japanese regarding availability of null arguments (Kuroda, 1965).

(1) English

    a. Bear wiped his own car.

    b. Penguin also wiped it.

    c. *Penguin also wiped [e].

(2) Japanese

    a. Kuma-wa zibun-no   kuruma-o   huita.

      Bear -Top self -GEN car   -ACC wiped

     'Bear wiped his own car.'

    b. Pengin -mo   [e] huita.

      Penguin also   wiped

     'Penguin also wiped [e].'

[e] = Bear's car	√ strict identity reading
[e] = Penguin's car	√ sloppy identity reading

Supposing (1a) precedes (1b), then the pronoun *it* in (1b) refers to 'Bear's car' in (1a). The sentence (1c) with a null argument, however, is ungrammatical in English. Similarly, suppose the Japanese sentence in (2a) precedes (2b). Here, (2b) with a null argument

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is grammatical in Japanese. The null argument in (2b) has two interpretations: 'Bear's car' or 'Penguin's car'. When the null argument refers to Bear's car, it has strict identity reading, which is the same as the pronoun *it* in (1b). When the null argument refers to Penguin's car, it has sloppy identity reading. This sloppy identity reading is a significant feature of Japanese null arguments (Oku, 1998; Sakamoto 2015; 2017; Saito, 2007; Takahashi, 2008; 2014; 2016).

In addition to the sloppy identity reading for reflexive pronouns, Takahashi (2016) argues that Japanese null arguments allow sloppy identity reading whose antecedent is a reciprocal pronoun (which we refer to as 'reciprocal reading' in the current paper) as shown in (3).

(3)　Reciprocal reading

　　a. Harii　　to　　Jinii-wa　　　otagai　　-o　　　sonkeisiteiru.
　　　　Harry　and　Ginny-Top　each other-Acc　respect
　　b. Ron　　to　　Haamaionii-wa [e]　keibetusiteiru.
　　　　Ron　　and　Hermione -Top　　despise

　　'lit: Harry and Ginny respect each other. Ron and Hermione despise [e].'
　　　　[e] = Harry and Ginny　　　　　　√ strict identity reading
　　　　[e] = Ron and Hermione　　　　　√ sloppy identity reading

The null argument in (3b) can either refer to 'Harry and Ginny', which is strict identity reading, or 'Ron and Hermione', which is sloppy identity reading. Accordingly, in Japanese, not only reflexive pronoun ellipsis we observe in (2b), but also reciprocal pronoun ellipsis can observe sloppy identity reading.

Ⅱ．Recent Syntactic Development: Argument Ellipsis

Japanese null arguments are interpreted as not only strict identity reading but also sloppy identity reading, as shown in (2b) and (3b) above. Accordingly, researchers (Oku, 1998; Saito, 2007; Sakamoto, 2017; Takahashi, 2008; 2014; 2016) highlight that the status of Japanese null arguments does not fall under so called *pro*-analysis because *pro* does not allow sloppy identity reading. Such researchers argue that null argument status in Japanese is argument ellipsis (AE) to distinguish Japanese null arguments from null pronouns in so-called *pro*-drop languages.

AE theory has undergone several changes. Oku (1998) is the first one which took

the lead by proposing Copy theory to explain Japanese null argument. Based on Oku's LF-copying analysis, Saito (2007) developed a theory of AE considering the probe-goal based theory of Case (Chomsky, 2000) and assumed that T and v lack uninterpretable φ-features in Japanese. Takahashi (2020) most recently proposed the Derivational Argument Ellipsis Theory. Takahashi developed a theory of AE to the extent that copying operation and deletion are no longer necessary. Takahashi argues that AE occurs in syntactic derivation by applying the theory of derivational ellipsis proposed by Aelbrecht (2010).

　　With the Derivational Argument Ellipsis theory by Takahashi (2020), it is possible to account for why AE is unavailable in languages like English. In (4), how ungrammatical object ellipsis is analyzed in English is illustrated.

(4)　a.　　　　　　　　　　　　　　b.

VP
V ⟹ 　DP {φ, Case}
0-marks
Frozen

vP
v {φ}　　VP
V　　DP {φ, Case}
✖
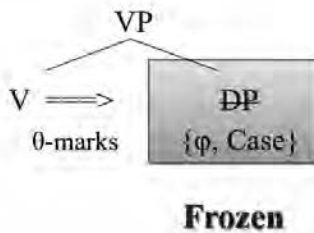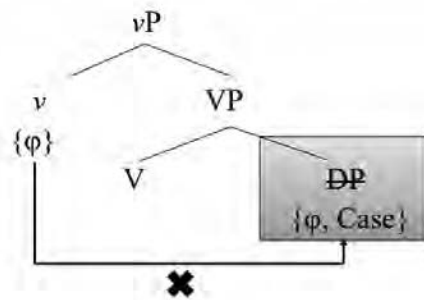
On the basis that the AE licensor is the head that makes a constituent argumental, the head θ-marks the constituent; Takahashi proposes two steps in which AE occurs. For the first step shown in (4a), when V and DP are merged, DP was θ-marked by V so that the DP becomes an argument, making the DP elliptic. At this point, the elided DP becomes frozen according to Aelbrecht (2010). Here, "frozen" means that the ellipsis of DP has been already licensed by the V so that a further licensing operation for the elided DP does not occur any more. For the second of these two steps, in (4b), v is merged with VP. If v possesses uninterpretable φ-features, it cannot seek the matching φ-features in DP, because DP has already been frozen; the uninterpretable feature in v cannot see anything inside the DP. Therefore, AE is not available in English because it has uninterpretable φ-features while AE is available in Japanese because, following Saito (2007), v lacks uninterpretable φ-features, which does not cause any problem with the elided DP sentence.

Ⅲ．AE availability in L2 English: research

A few L2 studies have investigated cross-linguistic influences regarding null arguments under the AE analysis.[2] One such study comes from Miyamoto and Yamada (2020); 21 Japanese learners of English (JLEs) were divided into two groups according to their overall proficiency, and were provided a dialogue, which was followed by a test sentence. The JLEs were required to judge whether the test sentence correctly explained the situation given in the dialogue. A sample test sentence used in their study is in (5).

(5)　Bear wiped his own car, and Penguin wiped [e], as well.

Table 1 shows their results with reflexive pronoun ellipsis.

Table 1. Acceptance rate - null object items judged appropriate

	Sloppy identity reading	**Strict identity reading**
Control	0%	0%
Advanced	15.2%	3%
Elementary-intermediate	23.3%	10%

As Table 1 shows, the elementary-intermediate JLEs accepted a null object to have a sloppy interpretation 23.3% of the time, while the advanced JLEs 15.2% of the time. Moreover, no significant difference is found between the control group and the advanced JLE group performance. Their results with reflexive pronoun ellipsis suggest that AE is available in L2 English but JLEs unlearn AE during L2 acquisition.

As Takahashi (2016) argues, Japanese null arguments also allow reciprocal reading. We conducted a pilot study to test whether JLEs also reject a null object to have a reciprocal interpretation as they rejected sloppy interpretation in a case of reflexive pronoun ellipsis shown in Miyamoto and Yamada (2020). The results are presented in Table 2.

Table 2. Acceptance rate of null objects

	Reciprocal pronoun ellipsis	**Reflexive pronoun ellipsis**
Intermediate (n=7)	64.3%	92.9%

2）Several recent L2 and L3 studies focused on availability or non-availability of AE. See Yamada and Miyamoto (2016, 2017), Kizu and Yamada (2019), Yamada and Kizu (2019), and Yamada (2020a, 2020b).

We found that our informants, whose proficiency level was intermediate, accepted sloppy reading 92.9% of the time. The big difference in null object acceptance rate between Miyamoto and Yamada (2020) and our pilot study might be due to test sentences such as being affirmative or negative, and variety of patterns. Interestingly, our pilot study showed that there is a difference in acceptance rate between the two ellipsis types. Reciprocal reading was allowed 30% less than sloppy identity reading in reflexive pronoun ellipsis (64.3% and 92.9% of the time each).

Based on these results, the current paper is designed to re-examine reciprocal pronoun ellipsis, which is also a result of AE and yet the acceptance rates considerably differ from those for reflexive pronoun ellipsis. What needs to be clarified here is whether JLEs show a similar unlearning AE process as with the one of reflexive pronoun ellipsis. By broadening this examination to different types of elided items, our intent is to explore how the interlanguage system develops.

Ⅳ. Study

Our focus is to find out the availability of a sloppy interpretation with reciprocal null objects in order to examine whether AE is available in L2 English. We observe two cases where the antecedent of null arguments is either reciprocal pronoun *each other*, and pronominal *his own NP / her own NP* [3].

1 Research Question

Our research question is: To what extent do JLEs permit both sloppy and strict identity reading with elided reciprocal pronouns in a similar way to elided reflexive pronouns if they allow null arguments in their L2 English? Possible prediction is shown in (6).

(6) Since not only reflexive pronoun ellipsis but also reciprocal pronoun ellipsis can observe sloppy identity reading in Japanese, JLEs are theoretically predicted to go through a similar process of unlearning null arguments in cases where the elided item is a reciprocal pronoun (*each other*), too, because both reflexive pronoun ellipsis and reciprocal pronoun ellipsis in Japanese are a result of AE.

2 Participants

The study consisted of 27 participants including eight English L1 speakers as our

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3) We use *one's own NP* because reflexives do not have a possessive form in English, though there is no discrepancy in their meaning between *one's own NPs* and reflexive pronouns.

control group. The experimental group was 19 JLEs aged 19–21 (mean 20.1), all were undergraduate students in a university in Japan. All the JLEs scored 550 to 765 in TOEIC or had attained Level 2 at *EIKEN* (English proficiency test in Japan), considered intermediate learners, equivalent to CEFR B1.

3 Stimuli and Procedures

JLEs were tested with two tasks in the following order: a judgment task and a screening task. This task order was identified to prevent participants from ascertaining that the focus of the study would be on interpretation of null arguments.

(a) Judgment Task

The judgment task investigates the availability of sloppy and strict reading with null arguments. There were 36 stimuli, with 12 sentence types; the relevant sentence types to the current study, including sloppy and strict readings, involve three tokens each. Table 3 summarizes the 12 stimuli, including four sentence types. We only report the relevant data for the current study purposes.

Table 3. Judgment task sentence types

Argument	Context	
Reciprocal pronoun ellipsis	sloppy	(n=3)
	strict	(n=3)
Pronominal ellipsis	sloppy	(n=3)
	strict	(n=3)

For the judgment task, which is the main study in our experiment, the participants judge whether sentences with null arguments in question correctly explain the situation in a dialogue. A test sentence including reciprocal pronoun ellipsis or pronominal ellipsis is judged in sloppy identity reading context and strict identity reading context, respectively.

Before conducting the judgment task, participants were provided with instructions and a practice session. They were told that 1) there were 36 dialogues, and 2) the dialogues were not sequential but presented individually with no relation each other. We also explained to the participants that the test sentences at the end of the dialogues were stated by a female or male student who was studying English as a second language. Because they are not good at English yet, the students might make mistakes.

The participants were required to judge the students' accuracy of the statement by circling 'True' or 'False'. The participants should not go back to earlier items to correct their answers. Sample test items are depicted in (7) and (8).

(7) Reciprocal pronoun ellipsis

    a. Sloppy interpretation

1.	2.	3.	4.
Mouse: Say cheese. **Squall:** What? Have you already taken a photo of me? I'm afraid I made a funny face.	**Mouse:** Make me look cute in the photo, OK? **Squirrel:** OK, say cheese.	**Blue Cat:** Hey, Rabbit. Can you look at my photo? **Rabbit:** Can you look at my photo, too?	**Blue Cat:** Wow, you look beautiful. **Rabbit:** You look so cool, Blue Cat!

Test sentence:
Mouse and Squirrel took each other's photos. Blue Cat and Rabbit did not look at.   True   or   False

    b. Strict interpretation

1.	2.	3.	4.
Bear: It's so hot today. I'll wash you. **Hippo:** Thank you, Bear.	**Hippo:** It's my turn. **Bear:** Wow, I feel so good.	**Penguin:** Bear, your back is still wet. **Rabbit:** Hippo, don't move. I haven't toweled you off.	**Bear:** Look, we are clean now. **Hippo:** Let's go out!

Test sentence:
Bear and Hippo washed each other's bodies. Penguin and Rabbit did not wipe.
                                                   True   or   False

(8)　Pronominal ellipsis[4]

　　a.　Sloppy interpretation

1.	2.	3.	4.
Squirrel: My car is getting cleaner. **Mouse:** My car is also getting cleaner.	**Squirrel:** I'm washing it very carefully. **Mouse:** I'm wiping it very carefully.	**Squirrel:** It's so clean.	**Mouse:** It's so shiny.

Test sentence:
Squirrel washed his own car. Mouse did not wipe.　　　　　True　　or　　False

　　b.　Strict interpretation[5]

1.	2.	3.	4.
Squall: Let's clean my car. **Mouse:** OK, I'll wipe it.	**Squirrel:** I feel so good when washing my car. Mouse, please wipe more carefully. **Mouse:** I'm doing it.	**Squirrel:** We've finished! Thank you, Mouse. **Mouse:** My pleasure.	**Squirrel:** Mouse, do you want to go for a drive? **Mouse:** Maybe, next time.

Test sentence:
Squirrel washed his own car. Mouse did not wipe.　　　　　True　　or　　False

The participants were first given a dialogue of animal figures or people with the corresponding photos on a projector screen while listening to the corresponding audio. The dialogues were spoken in Japanese so that they could fully comprehend the dialogues. Each Japanese dialogue was then followed by an English test sentence. The participants listened to the English test sentences and they were then required to judge whether the test sentences correctly explained the situation in the dialogue. In (7a), for instance, the English test sentence included the elided object referring to reciprocal pronoun. If the participants judged the test sentence "False" (i.e. if they chose "False"), this meant that they accepted sloppy identity reading with reciprocal pronoun ellipsis.

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4)　One item out of the three included a verb "eat". Because "eat" can be either transitive or intransitive, there would be a possibility that some of the participants took interpreted the verb as an intransitive. Therefore, we excluded the test item including the verb, *eat*, from our data analysis.

5)　We excluded one item out of the three which tested strict interpretation with pronominal ellipsis because the story context for the item could have the possibility of sloppy interpretation.

Each dialogue was recorded by two L1 Japanese speakers, and English test sentences by two L1 English speakers.

All test sentences given in the judgment task were negative sentences to prevent participants from interpreting null arguments as indefinite NPs in a sloppy identity context, such as in the situation introduced in (7a), in which L2 learners are given a test sentence such as "Mouse and Squirrel took each other's photos. Blue Cat and Rabbit looked at." If the learner judged the test sentence "True" in that context, two possibilities account for this interpretation. One is that the null argument observes a sloppy identity interpretation. The other is that the null argument would be interpreted as indefinite, namely, "Blue Cat and Rabbit looked at some photo." Therefore, presenting all test sentences as negative excludes the potential for such indefinite interpretation, enabling a focus on learners' interpretation of null arguments in a sloppy context, and avoiding unnecessary interpretation.

(b) Screening Task

In the screening task conducted after the judgement task, the participants were asked to judge whether each English sentence including a null argument was correct. The aim of this task was to identify participants who may allow null arguments in their L2 English. This is because, in the judgment task, we expected that the learners should be able to tell whether a null argument could have either a sloppy reading or a strict reading, indispensable for the learners to know that null arguments are available in their L2.

In the screening task, we also asked the participants to correct a sentence if they judged the English sentences to be incorrect. The screening task consisted of 12 stimuli, six sentences including a null argument, and the other six sentences were grammatical sentences. For instance, as shown in (9), JLEs read the test sentence and circled either natural/correct or unnatural/incorrect.[6] The participants were instructed to respond quickly but not to revise previous responses.

(9)　John bought a new car, but his father is always using when he goes to his friend's house.

natural/correct　　or　　unnatural/incorrect

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6)　The "natural/correct or unnatural/incorrect" were used in order to make the participants judge easier and examine their intuition. Because they did not have any training of linguistics at all, if they had been provided only "correct or incorrect" dimension, it would have posed an unnecessary difficulty to them.

4 Results

Data from the screening task were analyzed first to observe the extent to which the JLEs allow null arguments in L2 grammar, irrespective of interpretation of null arguments. Table 4 presents a summary of the results. We found that the English control group did not permit any of the sentences with null arguments because null arguments are prohibited in a position where arguments appear in English. Conversely, all JLEs allowed sentences with null arguments. The difference in the response between the English control group and the JLEs is striking. 11 out of 19 JLEs accepted more than two tokens of a sentence with a null argument.[7] JLEs' results indicate that they have a different grammar from that of the English control group in terms of null arguments. They were, therefore, included in the judgment task analysis, the main study.

Table 4. Breakdown of JLEs' patterns on screening task (judged null arguments acceptable)

		0 token	1 token	2 tokens	3 tokens
JLEs	(n=19)	0	8	7	4
Control	(n= 8)	8	0	0	0

In the judgment task, as we have explained in 3(a), the participants who rejected the test sentences in sloppy contexts are considered those who allowed sloppy identity reading. In contrast, the participants who rejected test sentences in strict contexts are those who allowed strict identity reading. Table 5 shows the percentages of the participants who judged sentences with a null argument "False" in each of the sloppy and strict contexts. The JLEs allowed null arguments with both sloppy and strict readings in all four contexts. In the case of elided reciprocal pronoun JLEs allowed sloppy identity reading only 57.9% of the time, while in the case of elided pronominal, 78.9% of the time. Again, we observed a similar difference to the data obtained in our pilot study. There is a difference in acceptance rate between the two ellipsis types. Reciprocal reading was allowed less than sloppy identity reading in pronominal ellipsis.

Table 5. Acceptance Rates

	Reciprocal pronoun ellipsis		Pronominal ellipsis	
	Sloppy	Strict	Sloppy	Strict
JLEs (n=19)	57.9%	94.7%	78.9%	89.5%

7） Eight JLEs allowed only one token of a sentence with a null argument. One might wonder whether the results of the eight learners were due to some performance factors; however, the present study assumes that they do allow null arguments and included in our analysis.

A repeated measures, two-way ANOVA (*sentence type* x *contextual type*) reveals interaction of sentence type by contextual type (F (1,18) = 10.62, $p < 0.01$), highly significant main effect of sentence type (F (1,18) = 16.2, $p < 0.01$), and highly significant main effect of contextual type (F (1,18) = 9.24, $p < 0.01$). Thus, the acceptance rate of each sentence type, reciprocal pronoun ellipsis and pronominal ellipsis, does differ among the JLEs. As for the acceptance rate of contextual type (sloppy context vs. strict context), there is also a difference among the JLEs' responses.

　A result worthy of commentary relates to two participants who never allowed sloppy identity reading: they allowed strict identity reading in all three tokens of the test sentences in each context. Table 6 shows the breakdown of JLEs' patterns, including those of the two participants, regarding to what extent they allowed null arguments with strict identity reading. JLE 17 and JLE 19 categorically allowed strict identity reading in all the contexts. JLE 11 also categorically did so in three contexts and allowed strict identity reading variably in one context. The results in Table 6 indicate that these three learners tended to allow null arguments more with strict identity reading than sloppy identity reading.

Table 6. Breakdown of JLEs' patterns

	Reciprocal pronoun ellipsis		Pronominal ellipsis	
	Strict identity reading		Strict identity reading	
	Strict context (reject)	Sloppy context (accept)	Strict context (reject)	Sloppy context (accept)
JLE 1	✔	-	✔	-
JLE 2	✔	✛	✛	✛
JLE 3	✔	-	✛	-
JLE 4	✔	✛	✔	-
JLE 5	✔	-	✔	-
JLE 6	✔	-	✔	-
JLE 7	✛	✛	✔	✛
JLE 8	✔	✛	✛	-
JLE 9	✔	✛	✔	-
JLE 10	✔	✛	✔	-
JLE 11	✔	✔	✔	✛
JLE 12	✔	✛	✔	-
JLE 13	✔	-	✔	-
JLE 14	✔	✔	✛	✛
JLE 15	✔	✛	✔	-
JLE 16	✛	-	✔	-
JLE 17	✔	✔	✔	✔
JLE 18	✔	-	✔	-
JLE 19	✔	✔	✔	✔

(✔ =decisive: all 3 tokens, ✛ =variable:1/2 tokens, - = 0 token)

Ⅴ．Discussion

The current paper reports that, in contrast to the earlier L2 analysis for reflexive pronoun ellipsis (called "pronominal ellipsis" in the current paper), the JLEs permitted sloppy identity reading with reciprocal pronoun ellipsis less than with pronominal ellipsis. We take this to mean that the JLEs do not perform uniformly when they interpret reciprocal pronoun ellipsis and pronominal ellipsis. What remains unclear is why strict identity reading was favored with reciprocal pronoun ellipsis.

Hoji (2006) argues that Japanese reciprocal pronoun, *otagai*, consists of *pro* and *otagai* as shown in (10), where the anaphoric relation between *otagai* and its antecedent must be understood as the one between the *pro* inside the *otagai* NP and the antecedent of *pro*. According to Hoji's analysis, *otagai* does not need to be in the local domain of its antecedent, and the antecedent of *pro* in the *otagai* NP does not need to c-command *pro* for the referential association of coreference.

(10) $[_{NP}$ *pro*$_i$ [N otagai]]   (Hoji, 2006)

According to Hoji's proposal on the internal structure of Japanese reciprocal pronoun *otagai,* we consider that the test sentence used in our study, exemplified in (11), is analyzed as in (12); the null argument position located after *look at* in the second sentence can be represented with Hoji's *otagai* internal structure.

(11) Mouse and Squirrel took each other's photos. Blue Cat and Rabbit did not look at.

(12) V [each other (=Mouse and Squirrel)]$_i$ … V $[_{NP}$ *pro*$_i$ $[_N$ otagai]]

Here, *pro* refers to *each other* in the first sentence, namely *Mouse and Squirrel*; in other words, *pro* in (12) can be replaced with the pronoun such as *them* as shown in (13).

(13) Blue Cat and Rabbit did not look at [them (=Mouse and Squirrel)].

As we observed from (10) to (13), the JLEs in the current study likely transferred this *otagai* property to their L2 English, which resulted in strict identity reading.

In the current study, we also found that three participants decisively or largely allowed strict identity reading in every context. This finding appears to indicate that AE should not be available in their L2 English anymore as they did not allow sloppy

identity reading despite the fact that they still permitted null arguments. Accordingly, it seems that their L2 grammar is neither the one of L1 Japanese nor the target grammar in this case. This, therefore, leads us to question how the three JLEs' null object interpretations are captured.

One may think that an observation of L1 Spanish might provide us with some insight: while Spanish is a null subject language, it does not allow null objects. However, under conditions in which the referent is identifiable from the immediate discourse and the object is definite and specific, the object can be null (Campos, 1986; Masullo, 2003). We therefore may assume that the three JLEs' null object interpretation is consistent with that of the Spanish null objects. A sample test sentence for strict context in our experiment is presented in (14) again. Our participants were asked to judge whether a test sentence is correctly explaining a situation given in a dialogue.

(14) Bear and Hippo washed each other's bodies. Penguin and Rabbit did not wipe [e].

The test sentence was provided immediately after the dialogue so we assume that the meaning of the elided object [e] in (14) is easily identifiable from the immediate discourse. Here, however there are two options available, both of which are definite and specific: "Bear and Hippo's bodies" and "Penguin and Rabbit's bodies". The three JLEs interpreted sentences like the one presented in (14) as "True" in consideration of the dialogue where Penguin did wipe Rabbit's body and Rabbit did wipe Penguin's body. In their L2 grammar, both options were available, but they preferred the option of "Bear and Hippo's bodies" because only the option can fit the context with the negative test sentence. In contrast, if the test sentence was affirmative like *Penguin and Rabbit wiped [e]*, the three JLEs may have interpreted [e] as True because in that case it is assumed that they allowed [e] to have sloppy identity reading following the context. Therefore, the explanation under the observation of L1 Spanish cannot account for the three JLEs' results sufficiently.

VI. Conclusion

The current paper reports on the study in which experimental data showed that JLEs interpreted null arguments in a different way between the cases where antecedent is reciprocal *each other* and pronominal *one's own NP*. The JLE's responses were inconsistent with theoretical predictions by AE account in that reciprocal ellipsis and reflexive ellipsis are equally the results of AE. The JLEs permitted strict identity

reading with reciprocal pronoun ellipsis more than sloppy identity reading compared with pronominal ellipsis, and this is explained under the assumption that the Japanese reciprocal pronoun *otagai* 'each other' internal structure makes such interpretation available.

Moreover, JLEs can unlearn AE since some of them never allowed sloppy identity reading. We assume that they interpreted null objects in a way reminiscent of Spanish null objects, which are possible under a certain condition; this might indicate that context plays a role for availability of null objects in their L2 grammar. Pragmatics may also be relevant to the learners' responses.

For our future research, it should be noted that the experiment items used in our study, especially test sentences, need to be reconsidered. All the test sentences were negative sentences in order to exclude an indefinite NP interpretation. However, it may be that those negative sentences (e.g. *Mouse and Squirrel took each other's photos. Blue Cat and Rabbit did not look at.* in (7a)) were not pragmatically felicitous and it sounded arbitrary for JLEs. Because negative sentences are usually used in a context where what was expected to happen did not happen and vice versa, it is necessary that we provide proper context where negative sentences sound naturally. Alternatively, we could control an indefinite NP interpretation without using negative sentences. For example, consider a situation where John and Mary love each other, and Eric and Monica also love each other, but Eric hates himself and Monica hates herself. Here, we can use a test sentence such as *John and Mary like each other, but Eric and Monica hate [e]*. If JLEs reject the test sentence, they allowed [e] to have reciprocal reading [8]. On the other hand, if JLEs accepted the test sentence, they allowed an indefinite NP interpretation because Eric hates himself and Monica hates herself. Thus, it can be said that exploring learning and unlearning AE in L2 acquisition, reciprocal pronoun ellipsis should be offered with a better testing ground than reflexive pronoun ellipsis in that in the former case we can use affirmative test sentence to avoid contexts pragmatically infelicitous.

References

Aelbrecht, L. (2010). *The syntactic licensing of ellipsis*. Amsterdam: John Benjamins.
Campos, H. (1986). Indefinite object drop. *Linguistic Inquiry*, 17 (2), 354-359.
Chomsky, N. (2000). Minimalist inquiries: The framework. In R. Martin, D. Michaels, and J. Uriagereka

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8) Pronominal reading is also available if JLEs rejected the test sentence. We can manage it, for example, by controlling contexts where only either reading is available.

(Eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik* (pp. 89-155) Cambridge, Mass.: MIT Press.

Hoji, H. (2006). Otagai. In A. Ueyama (Ed.), *Theoretical and Empirical Studies of Reference and Anaphora — Toward the establishment of generative grammar as an empirical science* (pp. 126-138), a report of the Grant-in-Aid for Scientific Research (B), Kyushu University.

Huang, Y. (1995). On null subjects and null objects in generative grammar, *Linguistics*, 33, 1081-1123.

Kizu, M and K. Yamada (2020). Notes on Reciprocals in Korean and Japanese Ellipsis. *JELS,* 37, 197-203.

Miyamoto, Y. and K. Yamada (2020). On null arguments and phi-features in second language acquisition. *Journal of Japanese Linguistics*, 36 (2), 179-223.

Masullo, P. J. (2003). Clitic-less definite object drop in River Plate Spanish. Paper presented at LSRL, XXXIII, Indiana University.

Oku, S. (1998). *A Theory of Selection and Reconstruction in the Minimalist Perspective*. Doctoral dissertation, University of Connecticut.

Sakamoto, Y. (2015). Disjunction as a new diagnostic for (argument) ellipsis. In T. Bui & D. Ozyildiz (Eds.). *NELS 45: Proceedings of the 45th annual meeting of the North East Linguistic Society, vol. 3* (pp. 15-28) Amherst, MA: GLSA, University of Massachusetts, Amherst.

Sakamoto, Y. (2017). *Escape from silent syntax*. Doctoral dissertation, University of Connecticut.

Saito, M. (2007). Notes on East Asian argument ellipsis. *Language research*, 43, 203-227.

Takahashi, D. (2008). Noun Phrase Ellipsis. In S. Miyagawa & M. Saito (Eds.) *The Oxford Handbook of Japanese Linguistics* (pp. 394-422) Oxford: Oxford University Press.

Takahashi, D. (2014). Argument ellipsis, anti-agreement and scrambling. In M. Saito (Ed.) *Japanese syntax in comparative perspective* (pp. 88-116) Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199945207.003.0004

Takahashi, D. (2016). Ko-syoryaku (Argument Ellipsis). In K. Murasugi et. al (Eds.) *Nihongo-bunpo Handbook: Gengo-riron to gengo-kakutoku no kanten kara (Japanese Grammar Handbook: from a viewpoint of linguistic theory and acquisition)* (pp. 228-264), Tokyo: Kaitakusha.

Takahashi, D. (2020). Derivational Argument Ellipsis. *The Linguistic Review*, 37, 47-74. DOI: https://doi.org/10.1515/tlr-2019-2034

Takita, K. (2011). An Argument for Argument Ellipsis from -Sika NPIs. In S. Lima, K. Mullin, & B. Smith (Eds.) *NELS 39: Proceedings of the 39th Annual Meeting of the North East Linguistic Society* (pp. 771-784), Amherst, MA.: GLSA, University of Massachusetts, Amherst.

Yamada, K. (2020a). Language Transfer in the Interpretation of Null Arguments in L3 German. *Kwansei Gakuin University Humanities Review*, 24, 107-118.

Yamada, K. (2020b). Null Arguments in Intermediate L3 German: The Role of L1. *Language and Culture*, 23, 35-48.

Yamada K. and M. Kizu. (2019). Availability of the reciprocal reading in L2 Japanese. Paper presented at the 14th Generative Approaches to Language Acquisition conference (GALA 14), University of the Sacred Heart.

Yamada, K. and Y. Miyamoto. (2016). L2 Interpretation of Null Arguments by Japanese SFL learners and Spanish JFL learners. *The Japanese Society for Language Sciences 18th Annual International Conference (JSLS 2016) Hand Book*, 126-129.

Yamada, K. and Y. Miyamoto. (2017). On the Interpretation of null arguments in L 2 Japanese by European non-pro-drop and pro-drop language speakers. *Journal of the European Second Language Association*, 1, 73-89.

A Study of Reciprocal Pronoun Ellipsis in L2 English

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This paper examines the interpretation of null arguments by L1 Japanese-L2 learners (English) (JLEs) in cases where the antecedent is a reciprocal pronoun or a pronominal. JLEs are theoretically predicted to go through a similar process of unlearning null arguments in both cases because reciprocal pronoun ellipsis and pronominal ellipsis in Japanese are considered to be a result of argument ellipsis (Takahashi 2017). The results, however, show that JLEs interpreted null arguments in a different way between the two cases. They allowed sloppy identity reading with reciprocal pronoun ellipsis less than with pronominal ellipsis. The finding indicates that JLEs' performance arises from the Japanese reciprocal pronoun *otagai* 'each other' internal structure (cf. Hoji, 2006).