Ellipsis Interpretations in L2 Japanese by Spanish Learners[1)]

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1. Introduction

Japanese is one of the pro-drop languages where both subject and object can be elided as long as the referent is clearly understood within the given context. We would like to focus on null object construction in Japanese. Suppose the Japanese sentence in (1a) precedes (1b).

(1) 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	[e] = Penguin's car
√ strict identity reading	√ sloppy identity reading

(1b) with a null argument is grammatical in Japanese. The null argument in (1b) has

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two potential interpretations: Bear's car or Penguin's car. When it refers to Bear's car, it has strict identity reading. 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. In the same way, suppose (2a) precedes (2b).

(2) English
a. Bear wiped his own car.
b. Penguin also wiped it.
c. *Penguin also wiped [e].

The pronoun *it* in (2b) refers to *Bear's car* in (2a). However, the sentence (2c) with a null argument is ungrammatical in English. Spanish example sentences are presented in (3). Spanish does not allow null objects with definite NPs as antecedents[2], and thus (3c) including a null object is ungrammatical, as we saw in the English example sentence in (2c) above.

(3) Spanish
a. El oso limpió su propio coche.
the bear clean-PST-3sg his own car
'The bear cleaned his own car.'
b. El pingüino también lo limpió.
the penguin also it clean-PST-3sg
'The penguin also cleaned it.'
c. *El pingüino también limpió [e].
the penguin also clean-PST-3sg [e]
'*The penguin also cleaned [e].'

2. Theoretical background

In addition to the sloppy identity reading for reflexive pronouns, Takahashi (2016) argues that reciprocal pronoun ellipsis also allows the sloppy identity reading (which we refer to as reciprocal reading in the current paper) as shown in (4).

2) It is allowed in the following example:
(a) Juan comió paella (Juan ate paella)
(b) José también comió [e] (José also ate [e])
Here, it is understood that "José also ate paella" but, obviously, the antecedent is not the same paella as Juan's. "Paella" is an indefinite referent.

(4) Reciprocal reading

Harii	to	Jinii-wa	otagai-o	sonkeisiteiru.
Harry	and	Ginny-Top	each other-Acc	respect
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 (4) can refer to either *Harry and Ginny*, which is strict identity reading, or *Ron and Hermione*, which is sloppy identity reading. Thus, in Japanese not only reflexive pronoun ellipsis can observe sloppy identity reading, as we saw in (1b), but also reciprocal pronoun ellipsis can do so.

As we saw in section 1 above, Japanese null arguments can be interpreted as having not only strict identity reading but also sloppy identity reading. Based on this observation, many researchers highlight the case that the status of Japanese null arguments does not fall under *pro*-analysis because *pro* does not allow sloppy identity reading. Thus, it is suggested that the status of the null subject and object in Japanese is rather argument ellipsis (AE), which tell apart Japanese null arguments from null pronouns in so-called *pro*-drop languages (Oku 1998, Saito 2007, Takahashi 2008, Takita 2011, and Sakamoto 2015, among others).

According to Saito's (2007) anti-agreement analysis, the presence of AE implies the absence of ϕ-feature agreement. Japanese does not observe the ϕ-features of T and v, and thus AE is allowed. On the contrary, in English and Spanish, T and v accompany ϕ-features that need to be valued. This means that the DPs in subject and object position should go into an agreement relation with the T and v, and therefore, AE is not allowed in these languages.

3. L2 acquisition literature: null arguments in L2 Japanese

There are not many L2 studies that have investigated cross-linguistic influences regarding null arguments from the view of AE. One of the few such L2 studies is from Yamada and Miyamoto (2017), who investigated how reflexive pronoun ellipsis would be interpreted by Spanish speakers, observing whether sloppy identity reading is available in L2 Japanese.

(5) Reflexive pronoun ellipsis

Kuma-wa zibun-no kuruma-o huita.
Bear-Top self-Gen car-Acc cleaned
'Bear wiped his own car.'
Pengin-mo [e] huita.
Penguin also [e] cleaned
'Penguin also wiped [e].'

Their prediction was that Spanish speakers would not allow sloppy identity reading because Spanish counts as an agreement language.

However, as Table 1 indicates, there is no clear contrast in the acceptance rate between sloppy and strict interpretations. The Spanish speakers from all the three levels accepted both sloppy and strict interpretations with null arguments.

Table 1: Acceptance rate- null arguments judged appropriate

		Null subject		**Null object**	
		Sloppy	**Strict**	**Sloppy**	**Strict**
Control	(n=11)	95.5%	77.3%	100%	77.3%
Pre-advanced	(n=6)	75.0%	75.0%	66.7%	66.7%
Intermediate	(n=11)	63.6%	81.8%	77.3%	77.3%
Elementary	(n=11)	86.4%	86.4%	81.8%	72.7%

An ANOVA confirmed that there is no significant main effect for each condition. The acceptance rates of null arguments in sloppy identity reading do not differ among the four groups including the Japanese native speakers. Therefore, their Spanish participants allowed sloppy identity reading with null arguments, contrary to prediction. Yamada and Miyamoto argue that the availability of sloppy identity reading in their L2 Japanese follows as a result of applying a different licensing mechanism from that of L1 Japanese speakers.

4. The current study

To verify Yamada and Miyamoto (2017) we need to test the null argument interpretation of Spanish learners of L2 Japanese (S-JFLs) with both cases of the antecedents: reflexive and reciprocal pronoun.

4.1 Research question and prediction

Our research question is presented below.

- If S-JFLs allow null arguments in their L2 Japanese, do they permit sloppy identity reading with both reciprocal and reflexive antecedents in the same way?

Based on Takahashi (2020) and the anti-agreement hypothesis by Saito (2007), which is adopted for the current paper, we predict:

- Regardless of the types of antecedents, S-JFLs may face difficulty interpreting L2 Japanese null arguments with sloppy identity reading due to their L1 property: uninterpretable ϕ-features, which S-JFLs are likely to transfer to their interlanguage.
- Like English, Spanish observes ϕ-feature agreement so that S-JFLs need to "unlearn" this L1 feature to acquire AE in the target language.

4.2 Participants

In order to examine our predictions, we conducted a pilot study. We tested seven L1 Spanish speakers learning Japanese and eight L1 Japanese speakers as a control group. The Japanese proficiency of the L2 learners was from elementary to intermediate level. They had attained N2, N3, N4 or N5 at JLPT (Japanese Language Proficiency Test), which roughly correspond to CEFR B1, A2, and A1. The starting age of learning Japanese was in the range of 15 to 21.

Table 2: Participants

	N	Age	Level	Starting age
L1 Spanish-L2 Japanese (S-JFL)	7	20-24 (mean=22.1)	elementary to intermediate JLPT CEFR N2 (n=1) => B1 N3 (n=1) => A2 N4 (n=3) => A1-2 N5 (n=2) => A1	15-21 (mean=18)
Japanese native speakers	8	18-19 (mean=18.2)		

4.3 Stimuli and procedures

We conducted two tasks. A screening task was conducted to select participants who allowed null arguments in their L2 Japanese. A truth-value judgment task (TVJT) was also conducted to observe how participants interpret null arguments. S-JFLs were tested with the TVJT first, followed by the screening task. This task order was selected to prevent participants from ascertaining that the focus of the study would be on interpretation of null arguments.

In the screening task, which was conducted after the main task, the participants were asked to judge whether each Japanese sentence which included a null argument was correct. The aim of this task was to identify participants who allow null arguments in their L2 Japanese. In the screening task, we also asked the participants to correct a sentence if they judged Japanese sentences incorrect. The screening task consisted of 12 stimuli: six sentences including a null argument and the other six sentences as distractors. By way of an example, consider (6).

(6) Example

Taroo-ga konpyuutaa-o kowasite simaimasita ga otoosan-ga naosimasita.

"Although Taro broke the computer, his father fixed **[e]**."

S-JFLs circled either natural/correct or unnatural/incorrect. The participants were instructed to answer quickly, and not to modify responses to previous items.

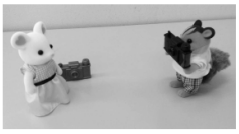
In the TVJT, the main study in our experiment, the participants judged whether sentences with null arguments in the target question correctly explained the situation in the dialogue. There were 4 contexts as Table 3 shows. A test sentence including reciprocal pronoun ellipsis is judged in a sloppy identity reading context and a strict identity context, respectively. Reflexive pronoun ellipsis was also judged in these two contexts. Each context had three tokens. In the actual experiment, 36 stimuli including 12 contexts were involved, but we report only the relevant results.

Table 3: Sentence types

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

*among 36 stimuli / 12 sentence types

In the TVJT, the procedure was as follows: first, the participants were given a dialogue among animal figures or people with the corresponding photos on a screen while listening to the corresponding audio. The dialogues were spoken in Spanish so that the participants could fully understand the context. Each dialogue was followed by a Japanese test sentence. The participants listened to the Spanish sentences and were required to judge whether the test sentences correctly explained the situation in the dialogue. An example is shown in Figure 1. This is one of the test cases where the context of the dialogue requires sloppy identity reading for the test sentence.

1.	2.	3.	4.
			
Ratón: Di “patata”. **Ardilla:** ¿Qué? ¿Ya me has sacado una foto? Me temo que he puesto una cara muy rara.	**Ratón:** Sácame bien en la foto, ¿vale? **Ardilla:** Vale. Di “patata”.	**Gato Azul:** ¡Oye! Conejo. ¿Puedes echar un vistazo a mi foto? **Conejo:** ¿Puedes echar un vistazo a mi foto tú también?	**Gato Azul:** ¡Vaya! Se te ve muy bien. **Conejo:** ¡Se te ve genial, Gato Azul!
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***Mouse**: Say cheese.* ***Squirrel**: 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: *Nezumi to Risu-wa otagai-no shasin-o totta. Aoneko to Usagi-wa minakatta.* (Mouse and Squirrel took pictures of each other. Blue cat and Rabbit did not look [e].) (False => sloppy identity reading) True or False			

Figure 1: TVJT experiment item- reciprocal/sloppy reading context

As Figure 1 shows, a Japanese test sentence was given such as “ネズミとリスはお互いの写真を撮った。青ネコとウサギは見なかった” (Mouse and Squirrel took each other's photos. Blue Cat and Rabbit did not look at). This Japanese test sentence includes the elided object referring to the reciprocal pronoun. The participants judged whether this Japanese test sentence correctly explained the situation in the dialogue. If the participants judged the test sentence as ‘False’, this implied that the participants accepted sloppy identity reading with reciprocal pronoun ellipsis. ‘False’ means Blue Cat

and Rabbit did look at each other's photo. Note that all of the test sentences given in the TVJT were negative sentences, because we needed to prevent the interpretation of null arguments as indefinite NPs in a sloppy identity context, namely, "Blue Cat and Rabbit looked at some photo."

4.4 Results

The data from the screening task were analyzed first to observe the extent to which the S-JFLs allow null arguments in L2 grammar, irrespective of the interpretation of null arguments. The results are summarized in Table 4. We found that all S-JFLs allowed sentences with null arguments. They were therefore included in the TVJT analysis, which is the main study.

Table 4: Number of participants who accepted null objects

		0 token	**1 token**	**2 tokens**	**3 tokens**
S-JFLs	(n=7)	0	0	0	7

Next, the results of the TVJT are presented in Table 5. The S-JFLs allowed elided objects under sloppy identity reading 52.4% of the time, and the control group, 72% of the time.

Table 5: Acceptance rates

		Reciprocal pronoun ellipsis		**Reflexive pronoun ellipsis**	
		Sloppy	**Strict**	**Sloppy**	**Strict**
S-JFLs	(n=7)	52.4%	100%	81.0%	95.2%
Control	(n=8)	72.0%	94.4%	79.2%	99.8%

Table 6 shows the breakdown of S-JFLs' acceptance of sloppy identity reading. As we can see, most of the S-JFLs fall under one and two tokens in the case of reciprocal pronoun ellipsis, while in the case of reflexive pronoun ellipsis, more than half of the learners allowed sloppy identity reading in all three contexts.

Table 6: Breakdown of S-JFLs' acceptance of sloppy identity reading

	0 token	**1 token**	**2 tokens**	**3 tokens**
Reciprocal pronoun ellipsis	1	2	3	1
Reflexive pronoun ellipsis	0	1	2	4

Did they really allow sloppy identity reading in their L2 grammar like Japanese first language speakers?

5. Discussion

According to the results, the answer to the research question: "If S-JFLs allow null arguments in their L2 Japanese, do they permit sloppy identity reading with both reflexive and reciprocal antecedents?", is positive. Crucially, however, we should note that the acceptance rates between the two types of ellipsis are not the same. We mainly found the following:

(7) a. In our main study, S-JFLs allowed elided objects under sloppy identity reading more than 80% of the time when an antecedent involved a reflexive expression. This result is consistent with the results in Yamada and Miyamoto (2017) .
b. On the other hand, S-JFLs allowed elided objects under sloppy identity reading only 52.4% of the time when the antecedent was reciprocal.

Therefore, our further questions are:

(8) a. Is it that the S-JFLs successfully unlearned the relevant L1 features?
b. Although reflexive and reciprocal ellipsis are equally considered argument ellipsis, why do we observe these mixed results?

We propose two possible accounts: one is that the S-JFLs have not yet successfully unlearned the relevant L1 features but they adopt a different mechanism in their L1 that enables AE. The other possibility is that they incidentally allow 'sloppy interpretations' due to the design of the experiment.

First, regarding failing to unlearn the relevant L1 features but adopting a different mechanism, as analyzed by Duguine (2014), Spanish may in fact allow 'sloppy identity' interpretations for a null subject as long as it occurs with its clitic. According to Saito (2007), uninterpretable ϕ-features on T enter into an Agree relationship with interpretable ϕ-features of a clitic, and hence, no agreement relation needs to be established between the null subject and the T. Therefore, AE is allowed in Spanish. Based on this analysis, Yamada and Miyamoto (2017) extended this idea, adopting Otaki (2014), to items in object position and propose that the Spanish learners of L2 Japanese consider the Japanese case particle (or K in KP) as a holder of an uninterpretable Case

feature for ϕ-feature agreement just like their clitic in Spanish, which enables the learners to allow argument ellipsis. In this way, they can interpret null arguments in L2 Japanese under sloppy identity reading.

With regards to the incidental allowance of sloppy interpretations, Yamada and Kizu's (2021) follow-up study, whose English-JFLs' results are similar to the present results, suggests that S-JFLs possibly disregarded null objects and were not interested in interpreting the elided object but chose either T(rue) or F(alse) simply by looking at whether the participants of the context given took the action described by the verb or not. So they simply chose F to judge the negative test sentences since the participants of the story conducted the action in all the situations of the task. Another possibility is that S-JFLs did not interpret the elided objects as reciprocals, but rather as pronominals, relying on the context (that is, *Blue cat and Rabbit did not look at [e] (=them (=pictures))*) (cf. Yamada & Kizu 2021). Therefore, the design of the experiment may have accidentally produced 'correct' answers for the cases with sloppy identity reading.

6. Summary

The present paper has argued that the S-JFLs, at least at the beginner and intermediate levels, have not unlearned the relevant features to acquire argument ellipsis in Japanese, and suggests two possible accounts:

- They adopt another mechanism to enable argument ellipsis.
- They do not properly interpret missing elements: either disregarding the null objects or replacing the null objects with *pro*.

As we found from the current study, S-JFLs interpreted null objects under sloppy identity reading less with the reciprocal antecedents and more with the reflexive antecedents (cf. Yamada & Kizu 2022). It can be said that these two types of ellipsis may differ in their grammar, but how they are different should be explored in our future research.

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This paper discusses a pilot study on null argument interpretation by Spanish learners of L2 Japanese (S-JFLs), examining the possibility of L1 influence from an argument ellipsis (AE) perspective. AE is allowed in Japanese because uninterpretable ϕ-features are not available (Saito 2007) while not allowed in Spanish since ϕ-features are available. Thus, S-JFLs need to "unlearn" this L1 feature to acquire AE. In Yamada and Miyamoto (2017), S-JFLs allowed sloppy identity reading with null arguments, as a Japanese control group did. We included test items with both cases of an antecedent of null arguments, *zibun no* DP and *otagai no* DP (one's own DP and each other's DP in English), the latter was not tested in Yamada and Miyamoto (2017). The results show an interesting contrast in sloppy identity reading between the two cases, as observed in Yamada and Kizu (2022). This may indicate that S-JFLs still retain their L1 features.