ARGUMENT ELLIPSIS IN CHILD JAPANESE REVISITED

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1 Introduction

Ellipsis has been of central interest both to theoretical and acquisition research within the generative framework, primarily because elided parts of the sentence are not “visible” in the primary linguistic data available to children and hence investigations into the nature and the acquisition of ellipsis constructions provide us with a privileged window onto biologically-determined UG.

The best investigated instances of ellipsis include VP-ellipsis as in (1), and sluicing as in (2).

(1) VP-ellipsis: John can play the guitar, and Mary can, too.
(2) Sluicing: John can play something, but I don’t know what.

Detailed investigations of languages like Japanese, Korean, Mongolian, and Turkish suggest that these languages permit a different type of ellipsis which is not observed in languages like English or Spanish (see e.g. Kim 1999, Oku 1998, Saito 2007, Takahashi 2008, Saito & An 2010, Şener & Takahashi 2010, and Sakamoto 2012, among many others). In these languages, null arguments allow both strict-identity and sloppy-identity interpretations, and the latter interpretation is argued to follow from ellipsis of argument DPs (which is called argument ellipsis).

(3) Japanese (Saito & An 2010):

a. John-ga zibun-no konpyuutaa-o kowasita.
   John-NOM self-GEN computer-ACC destroyed

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b. Mary-mo  kowasita. Mary-also destroyed
‘John₁ destroyed his₁ computer. Mary₂ also destroyed his₁/her₂ computer.’

(4) Korean (Saito & An 2010)
b. Mary-to pwuswuessta. Mary-also destroyed
‘John₁ destroyed his₁ computer. Mary₂ also destroyed his₁/her₂ computer.’

(5) Mongolian (Sakamoto 2012):
a. Bat-Ø uuri-n bagsh-ig hundel-deg. Bat-NOM self-GEN teacher-ACC respect-HBT
‘Bat respects self’s teacher.’
b. Oyun-a-Ø ch hundel-deg. Oyun-a-NOM also respect-HBT
‘Oyun₂ also respects his₁/her₂ teacher.’

(6) Turkish (Şener & Takahashi 2010):
a. Can pro anne-si]-ni eleştir-di. John his mother-3SG-ACC criticize-PAST
b. Mete-yse öv-dü. Mete-however praise-PAST
‘John₁ criticized his₁ mother. Mete₂, however, praised his₁/2 mother.

This study conducts an experiment to determine whether Japanese-speaking preschool children permit such sloppy-identity interpretation for null objects. Building on and criticizing my own previous study (Sugisaki 2007), I will present a new piece of evidence that children rely not on VP-ellipsis (of the Hebrew-type), but on argument ellipsis, to obtain the relevant interpretation. The results are consistent with the parametric proposal that the availability of argument ellipsis is tightly connected to other prominent properties of Japanese, such as the absence of overt agreement (e.g. Saito 2007).

2 Argument Ellipsis and Its Parametric Variation

2.1 Sloppy Null Objects in Japanese: VP-ellipsis?

The availability of sloppy interpretation for an empty object is unexpected if the object position is occupied by a null pronoun pro, since pronouns typically do not permit sloppy-identity interpretation, as exemplified in (7b).

‘John₁ destroyed his₁ computer.’
b. Mary-mo sore-o kowasita. Mary-also it-ACC destroyed
‘Mary₂ also destroyed his₁ computer.’ / *‘Mary₂ also destroyed her₂ computer.’
In order to account for the availability of sloppy-identity interpretation for null objects in Japanese, Otani & Whitman (1991) built on Huang’s (1991) study on Chinese null objects, and put forth the analysis in which the relevant interpretation of (3b) stems from VP-ellipsis. One of the fundamental assumptions of their analysis is that Japanese has overt V-to-T raising, and hence the sentences in (7) are represented as in (8) in overt syntax.¹ In the LF component, the antecedent VP is copied onto the empty VP, yielding (9b), which contains an anaphor in its object position as well. The LF representation in (9b) accounts for the sloppy-identity interpretation of the sentence involving a null object.

(8) In Overt Syntax:
   a. \[ TP \quad [\quad [ T' \quad [ VP \quad zibun-no \quad konpyuutaa-o \quad t_v \quad ] \quad [ T \quad kowasi_{v-ta_T} \quad ] \quad ] \quad ] \quad ] \quad John-NOM \quad self-GEN \quad computer-ACC \quad destroyed \\
   b. \[ TP \quad [\quad [ T' \quad [ VP \quad Mary-mo \quad ] \quad [ T \quad kowasi_{v-ta_T} \quad ] \quad ] \quad ] \quad Mary-also \quad destroyed \\

(9) In the LF Component:
   a. \[ TP \quad [\quad [ T' \quad [ VP \quad zibun-no \quad konpyuutaa-o \quad t_v \quad ] \quad [ T \quad kowasi_{v-ta_T} \quad ] \quad ] \quad ] \quad John-NOM \quad self-GEN \quad computer-ACC \quad destroyed \\
   b. \[ TP \quad [\quad [ T' \quad [ VP \quad zibun-no \quad konpyuutaa-o \quad t_v \quad ] \quad [ T \quad kowasi_{v-ta_T} \quad ] \quad ] \quad ] \quad Mary-also \quad self-GEN \quad computer-ACC \quad destroyed \\

This VP-ellipsis analysis of the sloppy-identity interpretation for null objects gains plausibility from Goldberg’s (2005) proposal that a corresponding derivation is also available in languages like Hebrew, Irish, and Swahili (see also Doron 1990, 1999 and McCloskey 1991). For example, Goldberg suggests that the Hebrew example in (10) is derived from ellipsis of a VP out of which the verb has moved overtly to a higher, inflectional position.

(10) Q: Šalaxt etmol et ha-yeladim le-beit-ha-sefer ?
    send[Past2Fsg] yesterday ACC the-children to-house-the-book
    ‘Did (you) send yesterday the children to school?’
    A: Šalaxti.
    send[Past1sg]
    ‘(I) sent [yesterday the children to school].’
    (Doron 1999:129, Goldberg 2005:44)

The existence of such \textit{V-stranding VP-ellipsis} for Hebrew is motivated by two observations. First, in Hebrew, VP-edge elements such as manner adverbials must follow the main verb, which indicates that verbs in this language raise obligatorily into the inflectional domain in overt syntax.

(11) a. Dani patax be-'adinut et ha-delet.
    Dani open[Past3Msg] in-gentleness ACC the-door
    ‘Dani opened gently the door.’

¹ For a detailed discussion of why some languages permit ellipsis of such ‘headless’ phrases but others don’t, see Funakoshi (2012).
Second, while Hebrew permits ellipsis of more than one VP-internal element (such as a goal PP and a time adverbial), these VP-internal constituents other than direct objects cannot elide independently. For example, the second clause in (12), which contains an overt object, cannot include a goal PP in its interpretation (Goldberg 2005:45).

(12) Karmela natna et ha-sefer le-Xagit,
Karmela give[Past3Fsg] ACC the-book to-Chagit
ve-Yosef zarak et ha-kadur.
and-Yosef throw[Past3Msg] ACC the-ball
‘Karmela gave the book to Chagit, and Yosef threw the ball.’ /
* ‘Karmela gave the book to Chagit, and Yosef threw the ball to her.’

These two observations together constitute compelling evidence that Hebrew has ellipsis of VPs which is accompanied by overt verb raising.

2.2 Sloppy Null Objects in Japanese: Not VP-ellipsis

Even though the VP-ellipsis analysis for sloppy null objects in Japanese is quite plausible in light of the existence of V-stranding VP-ellipsis in languages like Hebrew, it faces a variety of problems (see e.g. Hoji 1998, Oku 1998, Saito 2007, and Takahashi 2008). The simplest among these problems would be the observation by Oku (1998) that even null subjects allow the sloppy-identity interpretation, as illustrated in (13): The sentence in (13b) can mean not only that Taroo also thinks that Hanako’s proposal will be accepted (the strict-identity interpretation) but also that Taroo also thinks that Taroo’s proposal will be accepted (the sloppy-identity interpretation). Given that subjects arguably stay outside of VP in overt syntax and in LF, the VP-ellipsis analysis by Otani & Whitman (1991) would predict that the latter interpretation should not be possible with null subjects, contrary to facts.

(13) a. Hanako-wa [ zibun-no teian-ga saiyousareru to ] omotteiru.
Hanako-TOP self-GEN proposal-NOM accepted-be that think
‘Hanako1 thinks that her1 proposal will be accepted.’

b. Taroo-mo [ _______ saiyousareru to ] omotteiru.
Taroo-also accepted-be that think
‘Taroo2 also thinks that her1/his2 proposal will be accepted.’

Another, more recalcitrant problem comes from the observation by Goldberg (2005) that V-stranding VP-ellipsis in Hebrew must satisfy the constraint in (14).

(14) **Verbal Identity Requirement on VP Ellipsis** (Goldberg 2005:171):
The antecedent- and target-clause main Vs of VP Ellipsis must be identical, minimally, in their root and derivational morphology.
The constraint in (14) yields ungrammaticality when the two verbs differ in their roots or in their derivational morphology, as illustrated in (15) and (16). These two verbs can be distinct only with their tense and subject-verb agreement, as exemplified in (17).

(15) * Non-Matching Root, Matching Derivational Morphology:

Q: Rivka his'i'a otax le-beit ha-sefer ?
   ‘(Did) Rivka drive you to school?’

A: * Ken, hi hevi'a.
   yes she bring[Past3Fsg]
   ‘Yes, she brought [me to school].’
   (Goldberg 2005:163)

(16) * Non-Matching Derivational Morphology, Matching Root:

Q: His'a'ta etmol et L'ora le-Tel Aviv ?
   drive[Past2Msg] yesterday ACC Liora to-Tel Aviv
   ‘(Did) you drive yesterday Liora to Tel Aviv?’

A: * Ken, hi nas'a.
   yes, she travel[Past3Fsg]
   ‘Yes, she traveled [to Tel Aviv yesterday.]’
   (Goldberg 2005:165)

(17) OK Future 2Fsg Antecedent V, Past 1sg Target V:

Q: Tazmini et Dvora la-mesiba ?
   invite[Fut2Fsg] ACC Dvora to-the-party
   ‘(Will) (you) invite Dvora to the party?’

A: Kvar hizmanti.
   already invite[Past1sg]
   ‘(I) already invited [Dvora to the party].’
   (Goldberg 2005:163)

As a consequence of the requirement in (14), apparent null objects in Hebrew can receive sloppy-identity interpretation only when VP-ellipsis option is available, namely when the verb in the target clause is identical with the one in the antecedent clause (Doron 1990:9).²

(18) a. Q: Dina soreget et ha-svederim še-hi lovešet ?
   Dina knit.PRTCPL.F.S. ACC the-sweaters that-she wears
   ‘Does Dina knit the sweaters that she wears?’

   no, but mother hers knit.PRTCPL.F.S.
   ‘No, but her mother does.’
   √strict-identity reading, *sloppy-identity reading

c. A2: Lo, ima šera kona (l-a).
   no mother hers buys.PRTCPL.F.S. (to-her)
   ‘No, her mother buys them (for her).’
   √strict-identity reading, *sloppy-identity reading

² This is what Doron observed in her 1990 manuscript: In its published version (Doron 1999:130-131), Doron argues against the claim that Hebrew VP-ellipsis is licit only when its antecedent and target clause V-stems are held identical, and suggests that sloppy-identity interpretation is available even when these verbs are distinct. See Goldberg (2002, 2005) for evidence that supports Doron’s initial (1990) claim that VP-ellipsis option is available only when the verb in the target clause is identical with the one in the antecedent clause.
The example in (18c), which includes a verb that is morphologically different from the one in the antecedent clause in (18a), is still grammatical, even though the example lacks sloppy-identity interpretation. According to Goldberg (2002, 2005), the sentence in (18c) contains a null (direct) object: In Hebrew, null objects are licit only when they are inanimate. Cases in which null direct objects are animate, however, are strongly ungrammatical (Goldberg 2005:48).

(19) * Šmu'el hošiv et ha-yeladot al ha-mita, Shmuel sit[Past3Msg] ACC the-girls on the-bed and-Dina hilbiša be-simlot.
‘Shmuel sat the girls on the bed, and Dina dressed (them) in dresses.’

Now, returning to the VP-ellipsis analysis of Japanese null objects, another problem for this analysis is brought about by an example like (20).

(20) Taroo-wa zibun-no gakusei-o semeta-ga Hanako-wa kabatta.
Taroo-TOP self-GEN student-ACC blamed-while Hanako-TOP defended
‘While Taroo1 blamed his1 student, Hanako2 defended his1 / her2 student.’

In this example, the null object is permitted to have the sloppy-identity interpretation, even though the antecedent clause and the target clause involve different verbs. Thus, the example in (20) suggests that Verbal Identity Requirement does not hold for Japanese null objects, which in turn nullifies cross-linguistic support for the VP-ellipsis approach to the sloppy-identity interpretation for Japanese null objects.

2.3 Parametric Variation in Argument Ellipsis

As we have seen in the previous subsections, even though the VP-ellipsis analysis for sloppy null objects in Japanese could be plausible in light of the existence of V-stranding VP-ellipsis in languages like Hebrew, the availability of sloppy interpretation for null subjects, as well as the absence of Verbal Identity Requirement on sloppy null objects, casts serious doubt on the VP-ellipsis approach to Japanese null objects.

An alternative approach proposed in a number of theoretical studies is the postulation of argument ellipsis, in which only the argument DPs are elided (e.g. Kim 1999; Oku 1998; Otaki 2012; Saito 2003, 2007; Takahashi 2008, 2014; Takita 2011, among many others). Under this analysis, the null-subject sentence in (13) has the representations in (21) in overt syntax. After the derivation enters into LF, the antecedent DP, namely the anaphoric subject in (21a), is copied onto the empty subject position in (21b), resulting in the LF representation in (22b), which successfully yields the sloppy-identity interpretation of the null subject.

(21) In Overt Syntax:
    a. Hanako-wa [CP [DP zibun-no teian-ga ] [T saiyoosareru to ]]
       Hanako-TOP self-GEN proposal-NOM be.adopted C
       omotteiru.
       think
Oku (1998) observes that the availability of argument ellipsis is subject to cross-linguistic variation: Argument ellipsis is permitted in Japanese but is not allowed in languages like Spanish or English. As illustrated in (23b), Spanish permits null subjects, but these null subjects do not have sloppy-identity interpretation: (23b) only means that Juan believes that Maria’s proposal will be accepted, and it never means that Juan believes that Juan’s proposal will be accepted. In the English example (24), which contains a verb that optionally allows an empty object, the second clause simply means that John did some eating activity, and never permits sloppy-identity interpretation.

(23) Spanish (Oku 1998:305):

a. Maria cree [ que su propuesta será aceptada ]
   ‘Maria believes that her proposal will be accepted and …’

b. Juan también cree [ que ser a aceptada ].
   ‘Juan also believes that his proposal will be accepted.’
   * ‘Juan also believes that his proposal will be accepted.’

(24) English (Oku 1998:311): Bill ate his shoe, and John ate, too.

To account for the cross-linguistic difference between Japanese (and Korean) on one hand and English and Spanish on the other, Saito (2007) builds on Kuroda’s (1988) proposal and claims that argument ellipsis in Japanese stems from the absence of overt agreement in this language. As illustrated in (25), Japanese lacks overt agreement: While the sentence (with present tense) in (25a) has a first-person singular subject and the one in (25b) has a third-person singular subject, the verbs in these sentences take exactly the same form.

   ‘I eat an apple every morning.’

3 See also Takahashi (2007) for a detailed cross-linguistic survey concerning the availability of argument ellipsis.
4 See Oku (1998), Saito (2003), and Takahashi (2008) for a different parametric proposal, in which the relevant parameter relates the availability of argument ellipsis to the existence of (Japanese-type) scrambling. See Takahashi (2014) for problems for this “scrambling approach” to the parameter of argument ellipsis.
b. Taroo-wa mai-asə ringo-o taberu.
   ‘Taroo-TOP every-morning apple-ACC eat
   ‘Taroo eats an apple every morning.’

Saito’s (2007) “anti-agreement approach” to the parameter of argument ellipsis adopts Chomsky’s (2000) system of agreement, in which agreement is a probe-goal relation induced by a set of uninterpretable φ-features on the functional heads of T and v. In the case of object agreement illustrated in (26), the uninterpretable φ-features of v agree with the matching, interpretable φ-set of the object DP. The object satisfies the condition that the goal must have an uninterpretable Case feature (the Activation Condition), and hence qualifies as a goal. The agreement relation results in the deletion of the uninterpretable φ-features on v and the uninterpretable Case feature of the DP.

(26) a. … [vP v_{(up)}] [VP V DP_{[ip, uCase]}]
   b. … [vP v_{(up)}] [VP V DP_{[ip, uCase]}]

Saito (2007) argues that the agreement relation illustrated above is obligatory in languages like English and Spanish, and that this obligatory nature of agreement excludes argument ellipsis from these languages. For example, the derivation of the English examples in (27) proceeds as shown in (28). The object DP his friend in (27a) must be copied into the object position of (27b) for the latter sentence to be properly interpreted. If we assume that only LF objects can be employed in LF-copying, the DP his friend must be copied into (28c) from the LF representation of the antecedent clause in (28b). However, this DP has already agreed with its v in (28a) and hence, the uninterpretable Case feature that rendered this DP active has already been deleted. Then, given the Activation Condition, it does not qualify as a goal in the required Agree relation in (28c), and consequently, the derivation crashes due to the remaining uninterpretable φ-features of v.

(27) a. John brought [DP his friend].
   b. * But Bill did not bring _____.

(28) Derivation:
   a. In Overt Syntax: John [vP v_{(up)}] brought [DP his friend_{[ip, uCase]}].
   b. At LF: John [vP v_{(up)}] brought [DP his friend_{[ip, uCase]}].
   c. In Overt Syntax: Bill did not [vP v_{(up)}] bring [DP his friend_{[ip, uCase]}].

The corresponding derivation converges in Japanese, however, given that Japanese lacks overt agreement, which, according to Saito (2007), indicates that the uninterpretable φ-features on T and v are optional in this language. The derivation of the Japanese examples in (29) proceeds as shown in (30). In (28), the object DP zibun-no tomodati ‘self’s friend’ is copied from the LF representation of (29a) into the object position of (29b), as in (30c). Since φ-features on a

\footnote{See Saito (2007) for evidence that only LF objects can be employed in the LF-copying operation involved in argument ellipsis.}
functional head are optional, \( \phi \) in (29b) need not have uninterpretable \( \phi \)-features. Thus, the object DP in (29a) can be successfully copied into (29b) even though its uninterpretable Case feature has already been deleted, and the derivation converges.\(^6\)

   John-TOP self-GEN friend-ACC brought
   ‘John\(_1\) brought his\(_1\) friend.’

   b. Demo Mary-wa [ ] tureteko-nakatta.
      but Mary-TOP brought-not
      ‘But Mary\(_2\) did not bring her\(_2\) friend.’

(30) Derivation:
   a. In Overt Syntax:
      John-wa [vP [DP zibun-no tomodati-o {i\(\phi\), uCase}] turetekita v\(_{\text{op}}\) ].
      John-TOP self-GEN friend-ACC brought
   b. At LF:
      John-wa [vP [DP zibun-no tomodati-o {i\(\phi\), uCase}] turetekita v\(_{\text{np}}\) ].
      John-TOP self-GEN friend-ACC brought
   c. In Overt Syntax:
      Mary-wa [vP [DP zibun-no tomodati-o {i\(\phi\), uCase}] tureteko-nakatta {…} ].
      Mary-TOP self-GEN friend-ACC brought-not

One piece of evidence for this anti-agreement approach to the parameter of argument ellipsis comes from the interpretation of null arguments in Kaqchikel (Otaki et al. 2013).\(^7\) Kaqchikel is a Mayan language of the Kichean branch, spoken in Guatemala. Like other Mayan languages, Kaqchikel exhibits obligatory ergative-absolutive agreement with both subject and object noun phrases.\(^8\)

(31) Transitive:
   a. rat x-Ø-aw-axa-j ri achin.
      you (SG) PEFV-3SG.ABS-2SG.ERG-hear-ACT the man
      ‘You (SG) heard the man.’
   b. ri achin x-a-r-axa-j rat
      the man PEFV-2SG.ABS-3SG.ERG-hear-ACT you (SG)
      ‘The man heard you (SG).’

(32) Intransitive:
   a. ri achin x-Ø-uk’lun.
      the man PEFV-3SG.ABS-arrive
      ‘The man arrived.’

\(^6\) See Kitahara (2011) for discussion of the theoretical problems in the anti-agreement approach and an alternative analysis.

\(^7\) See Sato (2014) for evidence from the interpretation of null arguments in Colloquial Singapore English for the anti-agreement approach.

\(^8\) ‘Ø’ indicates a phonologically empty exponent.
In the transitive sentence in (31b), for example, the verb *axa* ‘hear’ agrees with both the object *rat* ‘you’ and the subject *ri achin* ‘the man’: It receives the second person singular absolutive marker -a(t)- for the object, and the third person singular ergative marker -r- for the subject. Note that agreement must take place obligatorily in Kaqchikel: If any one of the agreement markers is missing, the sentence becomes ungrammatical. In the intransitive sentence in (32b), the agreement marker for the subject coincides with the one for the transitive object in (31b), confirming that Kaqchikel exhibits an ergative-absolutive agreement pattern.

Turning to null arguments, Kaqchikel allows productive use of null subjects and null objects, just like Japanese.

(33) a.  X-e-ru-tïj       nimamixku’  a   Xwan, iwir.
PERV-3PL.ABS-3SG.ERG-eat apple   CLF Juan yesterday
‘Juan ate apples yesterday.’

b.  Po      man  x-Ø-u-tïj ta _____ wakami.
but NEG PEFV-3SG.ABS-3SG.ERG-eat NEG now
Lit. ‘but ______ didn’t eat ______ today.’

Even though neither the subject nor the object is phonologically expressed in (33b), the sentence is grammatical, which indicates that given appropriate contexts, null arguments can be extensively used in this language.

Since Kaqchikel exhibits fairly robust morphological agreement with both subjects and objects, the anti-agreement approach predicts that argument ellipsis is available neither for the subject position nor for the object position, and hence that null subjects and objects in Kaqchikel uniformly exclude sloppy-identity interpretation. This prediction is indeed borne out: The example in (34) demonstrates that null objects in Kaqchikel do not allow sloppy-identity interpretation. The sentence in (34c) indicates that, if the null object in (34b) is replaced by the overt full-fledged NP, the sentence becomes ambiguous.

(34) a.  A   Xwan n-Ø-u-na’oj-ij          [  chi 
CLF Juan IMPF-3SG.ABS-3SG.ERG-know-ACT COMP
xta Mari’y tikir-el n-Ø-u-chäp ri ru-syan      ]
CLF Maria can IMPF-3SG.ABS-3SG.ERG-catch the 3SG.ERG-cat
‘Juan₁ thinks that Maria can catch his₁ cat.’

b.  Chuqa’ a   Kalux n-Ø-u-na’oj-ij          [  chi 
also CLF Carlos IMPF-3SG.ABS-3SG.ERG-know-ACT COMP
ri xta Mari’y tikir-el n-Ø-u-chäp                    ]
the CLF Maria can IMPF-3SG.ABS-3SG.ERG-catch
Lit. ‘Carlos also thinks that Maria can catch ______.’

strict-identity interpretation, *sloppy-identity interpretation
c. Chuqa’a Kalux n-Ø-u-na’oj-ij [chi also CLF Carlos IMPF-3SG.ABS-3SG.ERG-know-ACT COMP ri xta Mari’y tikir-el n-Ø-u-chäp ri ru-syan ].
the CLF Maria can IMPF-3SG.ABS-3SG.ERG-catch the 3SG.ERG-cat Lit. ‘Carlos also thinks that Maria can catch his/her cat.’
√strict-identity interpretation, \sloppy-identity interpretation

The example in (35) shows that null subjects in Kaqchikel do not allow sloppy-identity interpretation, either.

(35) a. A Xwan n-Ø-u-na’oj-ij [chi CLF Juan IMPF-3SG.ABS-3SG.ERG-know-ACT COMP ri ru-syan tikir-el y-e-ru-chäp taq ch’øy ].
the 3SG.ERG-cat can IMPF-3PL.ABS-3SG.ERG-catch PL mouse ‘Juanı̂ thinks that his cat can catch mice.’

b. Chuqa’ ri a Kalux n-Ø-u-na’oj-ij [chi also the CLF Carlos IMPF-3SG.ABS-3SG.ERG-know-ACT COMP tikir-el y-e-ru-chäp taq ch’øy ].
the 3SG.ERG-cat can IMPF-3PL.ABS-3SG.ERG-catch PL mouse
Lit. ‘Carlos also thinks that his cat can catch mice.’
√strict-identity interpretation, *sloppy-identity interpretation

c. Chuqa’ ri a Kalux n-Ø-u-na’oj-ij [chi also the CLF Carlos IMPF-3SG.ABS-3SG.ERG-know-ACT COMP ri ru-syan tikir-el y-e-ru-chäp taq ch’øy ].
the 3SG.ERG-cat can IMPF-3PL.ABS-3SG.ERG-catch PL mouse ‘Carlos also thinks that his cat can catch mice.’
√strict-identity interpretation, \sloppy-identity interpretation

To summarize this section, argument ellipsis is subject to parametric variation: While languages like Japanese permit this type of ellipsis, languages like Spanish do not. The parametric proposal by Saito (2007) developed the idea of Kuroda (1998), and claimed that the possibility of argument ellipsis in Japanese is closely tied to the absence of overt agreement in this language. In the following sections, we draw a prediction from this parametric proposal for the acquisition of Japanese, and evaluate that prediction by conducting experiments with Japanese-speaking preschool children.

### 3 Prediction for Child Japanese

As we have seen in the previous section, theoretical studies on Japanese syntax suggest that argument ellipsis is tightly connected to other prominent characteristics of Japanese, such as the lack of overt agreement. Previous acquisition literature reports that children appear to be sensitive to the agreement patterns of their target language from very early, at least by the age of three. For example, Hyams (2002) summarizes the results of various acquisition studies, and observes that children acquiring “rich” agreement languages such as Italian and Catalan obey subject-verb agreement requirements from the earliest stage (before or around the age of two),
even before they produce all the forms in a paradigm. To be more specific, singular verb morphology is typically acquired before plural morphology, and first- and third-person forms appear earlier than second-person forms. Nevertheless, agreement is almost always correct for those forms that are used. According to Hyams (2002), across children and languages, agreement errors are under 4%, as shown in Table 1. Given the finding that agreement errors are quite rare in the acquisition of “rich” agreement languages, we can reasonably speculate that children acquiring agreementless languages like Japanese would also be sensitive to the absence of overt agreement from the early stages of acquisition.

<table>
<thead>
<tr>
<th>Child</th>
<th>Language</th>
<th>Age</th>
<th>n</th>
<th>% error</th>
<th>Source</th>
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<tr>
<td>Simone</td>
<td>German</td>
<td>1;07-2;08</td>
<td>1732</td>
<td>1</td>
<td>Clahsen and Penke 1992</td>
</tr>
<tr>
<td>Martina</td>
<td>Italian</td>
<td>1;08-2;07</td>
<td>478</td>
<td>1.6</td>
<td>Guasti 1994</td>
</tr>
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<td>Italian</td>
<td>1;10-2;06</td>
<td>610</td>
<td>1.5</td>
<td>Guasti 1994</td>
</tr>
<tr>
<td>Guglielmo</td>
<td>Italian</td>
<td>2;02-2;07</td>
<td>201</td>
<td>3.3</td>
<td>Guasti 1994</td>
</tr>
<tr>
<td>Claudia</td>
<td>Italian</td>
<td>1;04-2;04</td>
<td>1410</td>
<td>3</td>
<td>Pizzuto and Caselli 1992</td>
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<tr>
<td>Francesco</td>
<td>Italian</td>
<td>1;05-2;10</td>
<td>1264</td>
<td>2</td>
<td>Pizzuto and Caselli 1992</td>
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<tr>
<td>Marco</td>
<td>Italian</td>
<td>1;05-3;00</td>
<td>415</td>
<td>4</td>
<td>Pizzuto and Caselli 1992</td>
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<td>Marti</td>
<td>Catalan/Spanish</td>
<td>1;09-2;05</td>
<td>178</td>
<td>0.56</td>
<td>Torrens 1992</td>
</tr>
<tr>
<td>Josep</td>
<td>Catalan/Spanish</td>
<td>1;09-2;06</td>
<td>136</td>
<td>3</td>
<td>Torrens 1992</td>
</tr>
<tr>
<td>Gisela</td>
<td>Catalan</td>
<td>1;10-2;06</td>
<td>81</td>
<td>1.2</td>
<td>Torrens 1992</td>
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<td>Guillem</td>
<td>Catalan</td>
<td>1;09-2;06</td>
<td>129</td>
<td>2.3</td>
<td>Torrens 1992</td>
</tr>
</tbody>
</table>

Table 1: Percentage of Subject-Verb Agreement Errors in Child Language (Hyams 2002:231)

Since we have reasons to believe that the property that is allegedly connected to argument ellipsis is acquired before the age of three, the parameter of argument ellipsis discussed in the previous section should make the following prediction:

(36) **Prediction for Child Japanese:** Japanese-speaking preschool children have knowledge of argument ellipsis.


In order to determine whether Japanese-speaking preschool children permit sloppy-identity interpretation as a consequence of argument ellipsis, Sugisaki (2007) conducted an experiment with 10 Japanese-speaking children, ranging in age from 3(years);01(month) to 5;07 (mean age 4;05). The experiment employed a modified version of the Truth-Value Judgment Task (Crain & Thornton 1998). In this task, each child was told a story, which was accompanied by a series of pictures presented on a laptop computer. At the end of each story, a puppet described verbally what he thought had happened in the story. The task for the child was to judge whether the puppet’s description was true or false, by feeding him either a nice strawberry or a horrible green
pepper. The experiment contained (i) two sentences with null objects, and (ii) two sentences with overt pronouns, in order to determine whether children allow the sloppy-identity interpretation for null objects while disallowing that interpretation for overt pronouns. A sample story and the test sentences that followed this story are presented in (37) and (38).

(37) Sample Story:
Today, Panda and Pig enjoyed riding on their favorite tricycles. Now they decided to wash them. Panda said, “Oh! My tricycle is very dirty.” Pig said, “Shall I help you wash your tricycle?” Panda replied, “No, thanks. I will try to do it by myself, so you can work on your own.” They started washing their favorite tricycles.

(38) Sample Test Sentences:
   a. Pandasan-ga zibun-no sanrinsya-o aratteru yo.
      panda-NOM self-GEN tricycle-ACC washing PRT
      ‘Panda1 is washing his1 tricycle.’
   b. Butasan-mo sore-o aratteru yo.
      pig-also it-ACC washing PRT
      ‘Pig is also washing ______ / it.’

The results of this experiment are summarized in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>Acceptance Rate for Sentences with Null Objects</th>
<th>Acceptance Rate for Sentences with Overt Pronouns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90% (18/20)</td>
<td>15% (3/20)</td>
</tr>
</tbody>
</table>

Table 2: Summary of the Results of Sugisaki’s (2007) Experiment

The obtained results clearly indicate that Japanese-speaking preschool children permit the sloppy-identity interpretation for null-object sentences, while disallowing that interpretation for overt pronouns. These results are in conformity with the prediction in (36), and hence Sugisaki (2007) interpreted these results as indicating that the knowledge of argument ellipsis is already in the grammar of Japanese-speaking preschool children.9

A significant problem arises, however, if we take account of Goldberg’s (2005) discussion of V-stranding VP-ellipsis in Hebrew. In Sugisaki’s (2007) experiment discussed above, the antecedent clause and the target clause of the test sentences contained exactly the same verb. According to Goldberg (2005), this is exactly the situation in which V-stranding VP-ellipsis is

9 See Matsuo (2007) for a related study which also investigated children’s interpretation of null-object sentences. Otaki & Yusa (2012) confirmed that Japanese-speaking children permit ellipsis of object DPs, by demonstrating that children have access to quantificational interpretation of null objects. However, the study by Otaki & Yusa (2012) appears to share the same problem as Sugisaki (2007) in their design of the test sentences.
possible in Hebrew. Then, in light of the various proposals that children may undergo an intermediate stage in which they entertain target-inconsistent parametric values (e.g. Hyams 1986, Thornton 2008), there remains a possibility that Japanese-speaking children’s sloppy-identity interpretation for null objects stems not from argument ellipsis, but from Hebrew-type V-stranding VP-ellipsis. A new experiment to be reported in the next section is an attempt to overcome this problem and to provide a more convincing piece of evidence for children’s knowledge of argument ellipsis.

5 Revisiting Argument Ellipsis in Child Japanese: New Experiment

In order to overcome the problem remained in Sugisaki’s (2007) experiment and to reconfirm children’s knowledge about argument ellipsis, a new experiment was conducted with 10 Japanese-speaking children, ranging in age from 3;10 to 4;07 (mean age, 4;04). As in my own previous study, this experiment made use of a modified version of the Truth-Value Judgment Task (Crain & Thornton 1998). In this task, each child was told a story, which was accompanied by a series of pictures presented on a laptop computer. At the end of each story, a puppet described verbally what he thought had happened in the story. The task for the child was to judge whether the puppet’s description was true or false, by pointing out one of the two cards the puppet has in his hands, a circle ○ (which means correct) or a cross × (which means wrong).

The experiment consisted of (i) two sentences with null objects, (ii) two sentences with overt referential DP objects, and (iii) two filler items. As for the test sentences in (i) and (ii), the antecedent clause and the target clause contained different verbs, in order to make sure that children have to rely not on Hebrew-type VP-ellipsis but on Japanese-type argument ellipsis. A sample story and the test sentences that followed this story are presented in (39) and (40).

(39) Sample Story:
Today, Anpanman is doing his workout with his dog, Cheese. Then, Miffy and her dog Snuffy appeared, and asked Anpanman: “What kind of workout are you doing today?” Anpanman replied, “I am jumping over my dog. Look at this!” Anpanman successfully jumped over his dog. Looking at Anpanman’s marvelous jump, Miffy now wants to give a try. “Now let me do it. Look at this!” Miffy also successfully jumped over Anpanman’s dog. Miffy then said, “Let me do it again!” She is now going to jump over her own dog. But unfortunately, she failed to jump high this time, and she stepped on her dog.
(40) Sample Test Sentences:

a. **Sentence with a null object: TRUE**
Anpanman-wa zyoozuni zibun-no wantyan-o tobikoeta
Anpanman-TOP successfully self-GEN puppy.dog-ACC jumped.over
kedo, Miffy-wa hinzuketyatta yo.
‘While Anpanman successfully jumped over his dog, Miffy stepped on _____.’

b. **Sentence with an overt DP object: FALSE**
Anpanman-wa zyoozuni zibun-no wantyan-o tobikoeta
Anpanman-TOP successfully self-GEN puppy.dog-ACC jumped.over
kedo, Miffy-wa Anpanman-no wantyan-o hinzuketyatta yo.
while Miffy-TOP Anpanman-GEN puppy.dog-ACC stepped.on PRT
‘While Anpanman successfully jumped over his dog, Miffy stepped on Anpanman’s dog.’

Note that the test sentences in the target trials as in (40) involved *animate direct objects*, in light of the observation that Hebrew permits null objects only when they are inanimate (see (18)). This would avoid the possibility that Japanese-speaking children assign a null-object structure even though they have the knowledge of Hebrew-type V-stranding VP Ellipsis.

The results of this new experiment are summarized in Table 3.

<table>
<thead>
<tr>
<th>Acceptance Rate for Sentences with Null Objects as in (40a)</th>
<th>85% (17/20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance Rate for Sentences with Overt DP Objects as in (40b)</td>
<td>10% (2/20)</td>
</tr>
</tbody>
</table>

Table 3: Summary of the Results of New Experiment

The obtained results suggest that Japanese-speaking preschool children permit the sloppy-identity interpretation for null-object sentences, even when the verb in the null-object sentence is completely different from the one in the antecedent sentence. This finding excludes the possibility that the relevant sloppy-identity interpretation in child Japanese stems from children’s use of the Hebrew-type V-stranding VP Ellipsis, and reconfirms the claim made in the previous acquisition studies that the knowledge of argument ellipsis is already in the grammar of Japanese-speaking preschool children.

6 Conclusion

This study investigated experimentally whether Japanese-speaking preschool children have the knowledge of argument ellipsis. Saito’s (2007) parametric proposal argues that the availability of argument ellipsis is tightly connected to another prominent property of Japanese, the absence of overt agreement. In light of the observations concerning the acquisition of agreement in other languages, this parametric proposal predicts that the knowledge of argument ellipsis is already in the grammar of Japanese-speaking preschool children. Even though Sugisaki (2007) attempted to verify the validity of this prediction, the experiment conducted in that study was not successful in excluding the possibility that children entertain target-inconsistent parametric values and rely not
on argument ellipsis but on Hebrew-type V-stranding VP-ellipsis. The present study conducted a new experiment to overcome this problem, and provided a new piece of evidence that Japanese-speaking preschool children indeed have the knowledge of argument ellipsis. This finding confirms that children’s acquisition of argument ellipsis is consistent with the parametric proposal that its availability is closely tied to other prominent properties of Japanese, and hence lends acquisitional support to the existence of a parameter regulating the possibility of argument ellipsis in a given language. A broader implication of this study is that the acquisition of argument ellipsis is potentially a very fruitful area to deepen our understanding about the nature of the innate constraints on language variation.

References


