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An Argument for Argument Ellipsis from -*Sika* NPIs[*]

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1. Introduction

Japanese is among the languages that allow null arguments. Thus, both subjects and objects can be null, as shown in (1).[1]

(1) Taroo$_i$-wa Hanako$_j$-ni [kinoo Δ_i kooen-de Δ_j mikaketa to] itta
Taroo-TOP Hanako-DAT yesterday park-in saw C said
'(lit.) Taroo$_i$ said to Hanako$_j$ that [Δ_i (= he) saw Δ_j (= her) in the park yesterday]'

Since Kuroda 1965, these null arguments have been analyzed as *pro*, which is the phonologically null counterpart of pronouns.

It has been noticed that there are some cases where this *pro* analysis does not seem to work, however. The examples in (2), discussed in Otani and Whitman 1991, illustrate one such case (see also Huang 1987 for similar observations in Chinese).

(2) a. Taroo-wa [zibun-no hahaoya]-o sonkeisiteiru
Taroo-TOP self-GEN mother-ACC respect
'Taroo respects his mother'
b. Hanako-mo Δ sonkeisiteiru
Hanako-also respect
'(lit.) Hanako also respects Δ (= Taroo's mother/Hanako's mother)'
c. Hanako-mo kanozyo-o sonkeisiteiru
Hanako-also her-ACC respect
'Hanako also respects her (= Taroo's mother/*Hanako's mother)'

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[1] Throughout this paper, I use the symbol Δ to indicate a null element theory-neutrally.

(2a) sets up the context for (2b-c). The example in (2b) is ambiguous, allowing the missing object to refer to either Taroo's mother or Hanako's mother. The former reading is called the strict reading, and the latter the sloppy reading (cf. Sag 1976, Williams 1977). On the other hand, the example in (2c), where the overt pronoun appears in the object position, is unambiguous; the sloppy reading is not possible. This suggests that it is not likely that the null element in (2b) is *pro*, given that *pro* is the phonologically null counterpart of overt pronouns.

To accommodate this observation, several types of analyses have been proposed in the literature. This paper provides support for a particular type of analysis, based on a novel observation regarding the behavior of Negative Polarity Items formed with the suffix *-sika* (henceforth *-sika* NPIs). Specifically, I show that *-sika* NPIs can be null when they qualify as arguments, while they cannot be null when they are construed as adjuncts. I also argue that the Argument Ellipsis analysis proposed by Oku (1998) and Kim (1999) (see also Saito 2004, 2007, and Takahashi 2007, 2008) naturally capture the observation, while the VP-ellipsis analysis proposed by Otani and Whitman (1991) and the null indefinite analysis advocated by Hoji (1998) have difficulties accounting for it.

This paper is organized as follows: Section 2 briefly reviews the previous analyses. In addition to introducing some relevant properties of *-sika* NPIs, Section 3 provides the novel observation concerning *-sika* NPIs. In Section 4 I argue that the Argument Ellipsis analysis is empirically superior to the others. Section 5 concludes the paper.

2. Previous Analyses of the Basic Data

This section reviews the previous analyses by illustrating how they account for the basic data exemplified by (2). I start with Otani and Whitman's (1991) VP-ellipsis analysis. Let us first consider the English VP-ellipsis example in (3a), where the second clause has the schematic structure in (3b) (hereafter, elided parts are indicated by strike-through).[2]

(3) a. John respects his mother, and Mary does Δ, too
b. …, and [$_{TP}$ Subj T ~~[$_{VP}$ V Obj]~~]

The fact that (3a) allows both the strict and sloppy readings suggests that the sloppy reading results from ellipsis.

Adopting Huang's (1987) analysis of similar examples in Chinese, Otani and Whitman (1991) propose that (2b) has the schematic structure in (4), where VP-ellipsis is preceded by V-to-T raising.

(4) [$_{TP}$ *Hanako-also* ~~[$_{VP}$ [*self's mother*] t$_{V}$]~~ V+T]

[2] Although I indicate ellipsis in terms of PF-deletion for ease of exposition, it can be easily translated into a framework that adopts LF-copying, without affecting the main arguments of this paper.

Due to V-to-T raising, VP-ellipsis elides only the object, deriving the surface string in (2b). Moreover, the availability of the sloppy reading naturally follows, since ellipsis is involved in (4), just as in (3b).

The Argument Ellipsis analysis proposed by Oku (1998) and Kim (1999) is similar to the VP-ellipsis analysis in that it invokes ellipsis. However, under this analysis what is elided is not VP but an argument of the predicate.[3] Thus, (2b) is analyzed as having a structure like (5) under the Argument Ellipsis analysis, where the object is directly elided.[4]

(5) [$_{TP}$ *Hanako-also* [$_{VP}$ ~~[*self's mother*]~~ V] T]

Since ellipsis is involved, the availability of the sloppy reading also follows.[5]

Let us turn to the null indefinite analysis proposed by Hoji (1998). Under this analysis, Japanese is claimed to have a null indefinite noun (cf. Ishii 1991). Thus, (2b) is analyzed to have a structure like (6) (*ec*$_{indef}$ stands for the null indefinite).[6]

(6) [$_{TP}$ *Hanako-also* [$_{VP}$ *ec*$_{indef}$ V] T]

Notice that unlike the other analyses discussed above, ellipsis is not involved in this analysis. Why then is the sloppy reading available for (2b)?

Hoji (1998) explicitly denies that (2b) has the sloppy reading. According to this analysis, the relevant reading is possible because it is compatible with the situation described by a sentence like (7), which has the overt indefinite noun *hahaoya* 'mother' as its object.

(7) Hanako-mo hahaoya-o sonkeisiteiru
Hanako-also mother-ACC respect
'Hanako also respects a mother'

That is, the reading where Hanako respects her own mother is available for (2b) because it can be inferred from (7).

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[3] Although Oku (1998) and Kim (1999) call the ellipsis process *NP*-ellipsis, I use the term *Argument* Ellipsis, following Saito (2004). One of the reasons behind this choice is to stress that being an argument is a crucial factor for an element to be subject to this ellipsis process (see Section 4.2 for this point).

[4] Unlike the VP-ellipsis analysis, the Argument Ellipsis analysis does not directly bear on the issue of whether V raises to T. Throughout this paper I use the structure where a verb remains in-situ if V-to-T raising is not an issue in order to avoid unnecessary complications.

[5] Although space limitations prohibit me from going into detail, Tomioka (2003) and Moriyama and Whitman (2004) suggest that the null arguments in question result from NP-ellipsis (traditionally called N'-ellipsis; see Jackendoff 1971, Lobeck 1990, and Saito and Murasugi 1990, among many others). I leave for future research the comparison of their analyses with the Argument Ellipsis analysis.

[6] As far as the materials discussed in this paper are concerned, V-to-T raising is not an issue for the null indefinite analysis. Hence, I use the structure where V remains in-situ.

So far, all the previous analyses can account for the basic data in some way or another. In the next section, I provide a crucial observation regarding *-sika* NPIs, which helps us to decide which analysis is empirically superior to the others.

3. Observation

3.1. Properties of *-Sika* NPIs

Since the crucial observation provided in this section has to do with *-sika* NPIs, I begin by illustrating some of their relevant properties.[7] Let us consider the examples in (8).

(8) a. Taroo-ga ringo-o tabeta
Taroo-NOM apple-ACC ate
'Taroo ate apples'
b. Taroo-ga ringo-sika tabe-**na**-katta
Taroo-NOM apple-SIKA eat-NEG-PAST
'Taroo ate only apples'
c. Taroo-ga ringo-o tabe-**na**-katta
Taroo-NOM apple-ACC eat-NEG-PAST
'Taroo didn't eat apples'

(8a) is the baseline example. In (8b), the object *ringo* 'apple' is turned into an NPI by the suffix *-sika* (henceforth *-sika* NPIs are underlined). Consequently, the negation is required ((8b) is ungrammatical if the negation is missing). Taken together with the negation, X-*sika* means 'only X'. One property that becomes crucial in the later discussion can be seen by comparing (8b) with (8c), which contains the negation but not the *-sika* NPI. Although both of them have negation, (8b) is truth-conditionally incompatible with (8c); (8b) entails (8a) whereas (8c) contradicts (8a).[8]

Let us consider the examples in (9). (9a) is repeated from (8b). As observed by Aoyagi and Ishii (1994), a *-sika* NPI may co-occur with another NP which is associated with it, as shown in (9b) (hereafter the associated NPs are boxed).

(9) a. Taroo-ga ringo-sika tabe-**na**-katta
Taroo-no apple-sika eat-neg-past
'Taroo ate only apples'
b. Taroo-ga ringo-sika kudamono-o tabe-**na**-katta
Taroo-nom apple-sika fruits-acc eat-neg-past
'Among fruits, Taroo ate only apples'

[7] See, for instance, Muraki 1978, Takahashi 1990, Aoyagi and Ishii 1994, Kato 1994, Tanaka 1997, and Saito 2005 for detailed discussion of other properties of *-sika* NPIs. The examples I provide mainly contain object *-sika* NPIs, but subject *-sika* NPIs basically behave in the same way.

Although I cannot go into detail due to space limitations, the suffix *-pakkey* in Korean seems to share some basic properties with *-sika* but has a slightly different distribution. I thank Hiroshi Aoyagi (p.c.) and Jungmin Kang (p.c.) for discussion.

[8] In this respect, *-sika* NPIs are different from the 'any-'type NPIs in Japanese, which are formed by combining indeterminate nouns such as *dare* 'who' and *nani* 'what' with the particle *-mo*.

In addition to the linear order exemplified by (9b), all of the following linear orderings between a subject, a *-sika* NPI, and its associated NP are possible, keeping the position of the verb constant (glosses and translations are omitted):

(10)	a.	Taroo-ga	kudamono-o	ringo-sika	tabe-**na**-katta
	b.	Kudamono-o	Taroo-ga	ringo-sika	tabe-**na**-katta
	c.	Kudamono-o	ringo-sika	Taroo-ga	tabe-**na**-katta
	d.	Ringo-sika	Taroo-ga	kudamono-o	tabe-**na**-katta
	e.	Ringo-sika	kudamono-o	Taroo-ga	tabe-**na**-katta

This indicates that the linear ordering of a *-sika* NPI and its associated NP is quite free. Note that they can even be separated by other constituents such as a subject, as in (10b) and (10d), suggesting that they do not form a constituent at least at surface structure.[9]

Finally, I assume that the *-sika* NPIs in sentences like (9a), which do not have an associated NP, are arguments but those in sentences like (9b), which do have an associated NP, are adjuncts. Accordingly, I refer to the former as *argumental -sika* NPIs, and the latter as *adverbial -sika* NPIs. In the rest of this subsection, I provide some evidence for this assumption.[10]

One standard diagnostic that distinguishes arguments from adjuncts is the possibility of long-distance scrambling. That is, adjuncts, unlike arguments, resist long-distance scrambling. Thus, (11a) does not have the intended reading where the sentence-initial adverb *yukkurito* 'slowly' modifies the embedded verb.

(11) a. *Yukkurito$_i$ Hanako-ga [Taroo-ga booru-o t_i nageta to] itta
slowly Hanako-NOM Taroo-NOM ball-ACC threw C said
'(lit.) Slowly$_i$, Hanako said [that Taroo t_i threw a ball]'

b. Yukkurito-sika$_i$ Hanako-ga [Taroo-ga booru-o t_i nage-**na**-katta to] itta
slowly-SIKA Hanako-NOM Taroo-NOM ball-ACC throw-NEG-PAST C said
'(lit.) Only slowly$_i$, Hanako said [that Taroo t_i threw a ball]'

Sugisaki (2000), however, observes one interesting exception. As shown in (11b), if an adjunct is turned into a *-sika* NPI and the negation appears in the lower clause, it can undergo long-distance scrambling. That is, the argument/adjunct asymmetry with respect to long-distance scrambling seems to break down when it comes to *-sika* NPIs.

There is a way to avoid this interfering factor, however. First, compare (12a) with (12b) below. In both cases, the negation appears in the matrix clause. If the *-sika* NPI remains within the embedded clause as in (12a), the sentence is ungrammatical. This

[9] In this respect, the relation of a *-sika* NPI and its associated NP is similar to that of a floating quantifier and its host NP. As far as the materials discussed in this paper are concerned, it is irrelevant to the analysis whether a *-sika* NPI and its associated NP form a constituent in the course of the derivation. Hence, I leave this open.

[10] I thank an anonymous reviewer of NELS 39 for raising this issue, and Hiroshi Aoyagi (p.c.) and Masahiko Takahashi (p.c.) for detailed discussion on this matter.

indicates that *-sika* NPIs obey a certain kind of clause-mate condition. The grammaticality of (12b), then, suggests that long-distance scrambling provides a way to circumvent a violation of the clause-mate condition (cf. Tanaka 1997 and Saito 2005).

(12) a. *Hanako-ga [Taroo-ga ringo-sika tabeta to] iw-**ana**-katta
Hanako-NOM Taroo-NOM apple-SIKA ate C say-NEG-PAST
'Hanako said [that Taroo ate only apples]'
b. Ringo-sika$_i$ Hanako-ga [Taroo-ga t_i tabeta to] iw-**ana**-katta
apple-SIKA Hanako-NOM Taroo-NOM ate C say-NEG-PAST
'(lit.) Only apples$_i$, Hanako said [that Taroo ate t_i]'
c. *Yuukurito-sika$_i$ Hanako-ga [Taroo-ga booru-o t_i nageta to] iw-**ana**-katta
slowly-SIKA Hanako-NOM Taroo-NOM ball-ACC threw C say-NEG-PAST
'(lit.) Only slowly$_i$, Hanako said [that Taroo t_i threw the ball]'

On the other hand, the ungrammaticality of (12c) indicates that long-distance scrambling of adjunct *-sika* NPIs cannot prevent a violation of the clause-mate condition. That is, unlike (11b), (12c) does not have the intended reading.[11]

Let us now compare (13a), which is repeated from (12b), with its adverbial *-sika* NPI counterpart in (13b).

(13) a. Ringo-sika$_i$ Hanako-ga [Taroo-ga t_i tabeta to] iw-**ana**-katta
apple-SIKA Hanako-NOM Taroo-NOM ate C say-NEG-PAST
'(lit.) Only apples$_i$, Hanako said [that Taroo ate t_i]'
b. *Ringo-sika$_i$ Hanako-ga [Taroo-ga t_i kudamono-o tabeta to] iw-**ana**-katta
apple-SIKA Hanako-NOM Taroo-NOM fruits-ACC ate C say-NEG-PAST
'(lit.) Among fruits, only apples$_i$, Hanako said [that Taroo ate t_i]'

(13b) patterns with (12c), indicating that the *-sika* NPI in (13b) behaves as an adjunct. The contrast between (13a) and (13b) in turn suggests that the *-sika* NPI in (13a), namely the argumental *-sika* NPI, qualifies as an argument.[12]

3.2. Crucial Observation

This subsection provides a crucial observation regarding *-sika* NPIs. Let us start with the examples in (14), which involve the argumental *-sika* NPIs.

[11] Bošković and Takahashi (1998) observe that *wh*-adjuncts behave in a similar way.

[12] I thank Junko Shimoyama (p.c.) for pointing out the possibility that the *-sika* NPI in (13a) is base-generated in the matrix clause, so that (13a) has a meaning such as the following: Hanako said something only about apples, and what she said is that Taroo ate them. As in (i), however, the anaphor contained within the *-sika* NPI can be bound by the subject of the embedded clause. This suggests that the *-sika* NPI is indeed scrambled from the embedded clause.

(i) [Zibun$_{i/j}$-no ringo-sika]$_k$ Hanako$_i$-ga [Taroo$_j$-ga t_k tabeta to] iw-**ana**-katta
self-GEN apple-SIKA Hanako-NOM Taroo-NOM ate C say-NEG-PAST
'(lit.) Only self's apples$_i$, Hanako said [that Taroo ate t_i]'

(14) a. Taroo-wa [zibun-no tukutta ringo]-sika tabe-**na**-katta
Taroo-TOP self-GEN grew apple-SIKA eat-NEG-PAST
'Taroo ate only the apples that he had grown'
b. Hanako-mo Δ tabe-**na**-katta
Hanako-also eat-NEG-PAST
'(intended) Hanako also ate only the apples that she had grown'

(14a) sets up the context for (14b), in which the object is missing. The fact that (14b) allows the intended NPI reading indicates that the argumental *-sika* NPI can be null.

Let us now consider the adverbial *-sika* NPI counterpart of (14). The relevant examples are given in (15).

(15) a. Taroo-wa [zibun-no tukutta ringo]-sika kudamono-o tabe-**na**-katta
Taroo-TOP self-GEN grew apple-SIKA fruits-ACC eat-NEG-PAST
'Among fruits, Taroo ate only the apples that he had grown.'
b. *Hanako-mo Δ kudamono-o tabe-**na**-katta
Hanako-also fruits-ACC eat- NEG-PAST
'(intended) Among fruits, Hanako also ate only the apples that she had grown'

Unlike (14b), (15b) does not allow the intended reading. The same pattern is observed even though different associated NPs are used to avoid the awkwardness of repetition, as shown in (16) below.

(16) a. Taroo-wa [zibun-no tukutta mono]-sika yasai-o tabe-**na**-katta
Taroo-TOP self-GEN grew thing-SIKA vegetables-ACC eat-NEG-PAST
'Among vegetables, Taroo ate only the things that he had grown.'
b. *Hanako-mo Δ kudamono-o tabe-**na**-katta
Hanako-also fruits-ACC eat-NEG-PAST
'(intended) Among fruits, Hanako also ate only the things that she had grown'

The impossibility of the intended NPI reading for (15b) and (16b) indicates that adverbial *-sika* NPIs cannot be null, unlike their argumental *-sika* NPI counterparts.

To sum up, I first introduced the following properties of *-sika* NPIs: (i) sentences with *-sika* NPIs are truth-conditionally incompatible with those that have negation but not a *-sika* NPI; (ii) the relative linear order of a *-sika* NPI and its associated NP is quite free; (iii) a *-sika* NPI behaves like an argument if there is no associated NP, but it behaves like an adjunct if its associated NP is present. I then provided the crucial observation that argumental *-sika* NPIs can be null but adverbial ones cannot.

4. Discussion

In this section, I argue that the crucial observation made in the previous section provides support for the Argument Ellipsis analysis. In Section 4.1, I focus on the fact that

argumental *-sika* NPIs can be null. I illustrate that the null indefinite analysis does not work at least for this case, while the VP-ellipsis analysis and the Argument Ellipsis analysis can accommodate the facts, confirming Saito's (2007) argument against the null indefinite analysis. Section 4.2 turns to the fact that adverbial *-sika* NPIs cannot be null to show that the Argument Ellipsis analysis is superior to the VP-ellipsis analysis. More specifically, I argue that this helps us to complete Kim's (1999) argument against the VP-ellipsis analysis, and that the argument/adjunct asymmetry favors the Argument Ellipsis analysis over the VP-ellipsis analysis, as discussed by Oku (1998) and Saito (2007).

4.1. Ellipsis or Null Indefinite?

This subsection focuses on the fact that argumental *-sika* NPIs can be null. The crucial examples in (14) are repeated as (17).

(17) a. Taroo-wa [zibun-no tukutta ringo]-sika tabe-**na**-katta
Taroo-TOP self-GEN grew apple-SIKA eat-NEG-PAST
'Taroo ate only the apples that he had grown'
b. Hanako-mo Δ tabe-**na**-katta
Hanako-also eat-NEG-PAST
'(intended) Hanako also ate only the apples that she had grown'

What is important for our purposes is that (17b) allows the intended NPI reading.

Let us first consider the structure in (18), which the null indefinite analysis would assign to (17b). If the null indefinite in (18) is replaced by an overt indefinite noun, a sentence such as (19) results.

(18) … [$_{TP}$ *Hanako-also* [$_{VP}$ *ec*$_{indef}$ V] Neg T]
(19) Hanako-mo **ringo-o** tabe-**na**-katta
Hanako-also apple-ACC eat-NEG-PAST
'Hanako also didn't eat apples'

Crucially, however, the relevant reading available for (17b) cannot be inferred from (19), due to the peculiar semantic property of *-sika* NPIs. (cf. (8)). That is, the intended reading obtained in (17b) is truth-conditionally incompatible with the reading available for (19).

Suppose that the range of possible interpretations of the null indefinite is extended so as to include the data in (17). It then becomes mysterious as to why (20) lacks the intended NPI reading.

(20) Context: Taroo didn't eat anything but the apples that he had grown.
Speaker: #Taroo-wa Δ tabe-**na**-katta
Taroo-TOP eat-NEG-PAST
'(intended) Taroo ate only the apples that he had grown'

Hence, we can safely conclude that the null indefinite analysis is not adequate, at least in the case of argumental *-sika* NPIs.

This argument confirms Saito's (2007) argument against the null indefinite analysis. His argument is based on examples like (21).

(21) a. Sensei-wa subeta-no itinensei$_i$-ni zibun$_i$-no booru-o keraseta
teacher-TOP all-GEN first.grader-DAT self-GEN ball-ACC made.kick
'The teacher let all the first-graders kick their own balls'
b. Demo, ninensei-ni-wa Δ kerase-**na**-katta
but second.graders-DAT-TOP made.kick-NEG-PAST
'(lit.) But, she/he didn't let the second-graders kick Δ'
c. Demo, ninensei-ni-wa booru-o kerase-**na**-katta
but second.graders-DAT-TOP ball-ACC made.kick-NEG-PAST
'But, she/he didn't let the second graders kick balls'

(21a) sets up the context for both (21b) and (21c). Both (21b) and (21c) contain negation, but (21b) has a null object whereas (21c) has the overt indefinite noun *booru* 'ball' as its object. If the null object in (21b) is the null counterpart of the overt indefinite noun in (21c), these two sentences should have the same interpretation. However, this is not the case: Suppose that there are two second-graders, John and Bill. Although (21b) is true in the situation where John kicked Bill's ball and Bill kicked John's ball, (21c) is false in this situation. This leads Saito (2007) to conclude that the null indefinite analysis cannot deal with these cases. Note here that (21b) with the sloppy reading and (21c) are not truth-conditionally incompatible. In the case of *-sika* NPI, however, (17b) with the sloppy reading and (19) are indeed truth-conditionally incompatible. In this sense, our argument strengthens Saito's (2007) conclusion.

On the other hand, the VP-ellipsis analysis and the Argument Ellipsis analysis straightforwardly accommodate the data in (17), assigning the following structures to (17b):

(22) a. … [$_{TP}$ *Hanako-also* ~~[$_{VP}$ [*self's grew apples*] SIKA t$_V$]~~ V+Neg+T]
b. … [$_{TP}$ *Hanako-also* [$_{VP}$ ~~[*self's grew apples*] SIKA~~ V] Neg T]

In (22a) the VP that contains the *sika* NPI is elided, and in (22b) the *sika* NPI itself, being an argument (see Section 3.2.), is elided. Hence, the availability of the intended reading naturally follows. Moreover, it also follows that (20) lacks the intended NPI reading. Given that ellipsis is surface anaphora in the sense of Hankamer and Sag 1976, ellipsis is not licensed in (20) since it lacks a linguistic antecedent.

Summarizing so far, I illustrated that the null indefinite analysis has difficulties in accounting for the facts regarding argumental *-sika* NPIs, while the VP-ellipsis analysis and the Argument Ellipsis analysis do not. I also argued that the discussion strengthens Saito's (2007) argument against the null indefinite analysis.

4.2. What is Elided, VP or an Argument?

Turning to the observation regarding adverbial *-sika* NPIs, this subsection argues that the Argument Ellipsis analysis is empirically superior to the VP-ellipsis analysis. Before discussing the relevant facts, I introduce one of the strong arguments against the VP-ellipsis analysis of Kim (1999). His argument has to do with part-whole constructions in Korean, exemplified by (23a).[13]

(23) a. Mike-nun James-lul tali-lul ketecha-ss-ta
Mike-TOP James-ACC leg-ACC kich-PAST-IND
'Mike kicked James on the leg' (Kim 1999:258)
b. [$_{TP}$ Subj [$_{VP}$ whole-NP part-NP V] T]

As schematically shown in (23b), a whole-NP precedes a part-NP in this construction.

Let us then consider the examples in (24) below.

(24) a. Jerry-nun [caki-uy ai]-lul phal-ul ttayli-ess-ta
Jerry-TOP self-GEN child-ACC arm-ACC hit-PAST-IND
'Jerry hit his child on the arm'
b. Kulena Sally-nun Δ tali-lul ttayli-ess-ta
but Sally-TOP leg-ACC hit-PAST-IND
'(lit.) But Sally hit Δ (= Jerry's child/Sally's child) on the leg'
(Kim 1999:259)

(24a) has the anaphor *caki* 'self' within the whole-NP, and it sets up the context for (24b). (24b) allows the sloppy reading in which the missing whole-NP refers to Sally's own child. That is, the sloppy reading is possible for sentences with missing whole-NPs.

Given the structure in (23b) for the relevant construction, (24b) would be analyzed as having a structure like (25) under the VP-ellipsis analysis.

(25) … [$_{TP}$ *Sally* [$_{part\text{-}NP}$ *leg*]$_i$ ~~[$_{VP}$ [$_{whole\text{-}NP}$ *self's child*] t_i t_V]~~ V+T]

In order to derive the required surface string, the whole-NP must stay within the VP. Moreover, the part-NP must move out of the VP, crossing the whole-NP. The ungrammaticality of (26) below suggests that a part-NP cannot be moved across a whole-NP, however.

[13] See, for instance, Yoon 1989 and Maling and Kim 1992 for detailed discussions of the part-whole construction in Korean. It is not completely impossible to replicate Kim's (1999) argument using Japanese examples, but the result is obscured by the double-*o* constraint (cf. Harada 1973), which, roughly speaking, blocks a single predicate having more than one instance of Accusative marked NPs. I thank William Snyder (p.c.) for raising this issue.

(26) *Kulena Sally-nun tali-lul$_i$ [caki-uy ai]-lul t_i ttayli-ess-ta
but Sally-TOP leg-ACC self-GEN child-ACC hit-PAST-IND
'but Sally hit her child on the leg' (Kim 1999:259)

Hence, the VP-ellipsis analysis fails to capture the availability of the sloppy reading in sentences such as (24b).

On the other hand, (24b) has the structure depicted in (27) under the Argument Ellipsis analysis.

(27) … [$_{TP}$ *Sally* [$_{VP}$ ~~[$_{whole\text{-}NP}$ *self's child*]~~ [$_{part\text{-}NP}$ *leg*] V] T]

Since Argument Ellipsis directly targets the whole-NP, which is an argument of the verb, the part-NP does not have to move across it. Therefore, the availability of the sloppy reading is readily captured.

Bearing this argument in mind, let us return to the Japanese adverbial *-sika* NPI case. The crucial examples in (16) are repeated below as (28). Recall that (28b) does not allow the intended interpretation. Under the VP-ellipsis analysis, (28b) would be analyzed as having a structure like (29), where the associated NP and the verb have been moved out of the VP.

(28) a. Taroo-wa [zibun-no tukutta mono]-sika yasai-o tabe-**na**-katta
Taroo-TOP self-GEN grew thing-SIKA vegetables-ACC eat-NEG-PAST
'Among vegetables, Taroo ate only the things that he had grown.'
b. *Hanako-mo Δ kudamono-o tabe-**na**-katta
Hanako-also fruits-ACC eat-NEG-PAST
'(intended) Among fruits, Hanako also ate only the things that she had grown'

(29) … [$_{TP}$ *Hanako* *vegetables*$_i$ [$_{VP}$ ~~[*self's grew thing*] *SIKA* t_i t_V]~~ V+T]

As discussed in Section 4.1, ellipsis of a VP that contains a *-sika* NPI should be possible (cf. (22)). Recall here that the relative linear order of a *-sika* NPI and its associated NP is quite free (cf. (9b) and (10)). Hence, the structure in (29) should be legitimate. Thus, the VP-ellipsis analysis predicts that (28b) is grammatical with the intended reading, contrary to fact.

The examples given in (30) illustrate this point even more clearly.

(30) a. Yasai-o$_i$ Taroo-wa [zibun-no tukutta mono]-sika t_i tabe-**na**-katta
vegetables-ACC Taroo-TOP self-GEN grew thing-SIKA eat-NEG-PAST
'Among vegetables, Taroo ate only the thing that he had grown'
b. *Kudamono-o Hanako-mo Δ tabe-**na**-katta
fruits-ACC Hanako-also eat-NEG-PAST
'(intended) Among fruits, Hanako also ate only the things that she had grown'

(31) … [$_{TP}$ *vegetables*$_i$ *Hanako* [$_{VP}$ ~~[*self's grew thing*] *SIKA* t_i t_V]~~ V+T]

In (30), the associated NPs are presumably moved out of the VP. Nevertheless, (30b) lacks the intended reading. This indicates that the structure in (31), which the VP-ellipsis analysis would assign to (30b), is not available. Taken together with Kim's (1999) argument, the VP-ellipsis analysis undergenerates in the case of the part-whole constructions in Korean, and it overgenerates in the case of the adverbial *-sika* NPIs in Japanese.

On the other hand, the Argument Ellipsis analysis can capture the impossibility of the intended readings for (28b) and (30b). Let us first consider the examples given in (32), discussed by Oku (1998) and Saito (2007).

(32) a. Taroo-wa [zibun-no sippai]-de kaisya-o kubininatta
Taroo-TOP self-GEN mistake-for company-ACC was.fired
'Taroo was fired from the company because of his mistakes'
b. *Hanako-mo Δ zimusyo-o kubininatta
Hanako-also office-ACC was.fired
'(intended) Hanako was also fired from the office because of her mistakes'

In (32a), the anaphor is contained in the adjunct. The fact that (32b) lacks the intended sloppy reading suggests that adjuncts cannot be null.

The fact that arguments can be null as in (2) but adjuncts cannot be null as in (32) suggests that it is necessary for the required ellipsis process to be sensitive to the argument/adjunct distinction. VP-ellipsis is blind to such a distinction since it targets the VP without looking into it, while Argument Ellipsis meets this requirement by definition. Recall at this point that adverbial *-sika* NPIs are adjuncts, as discussed in Section 3.1. Hence, it follows that (28b) and (30b) lack the intended reading, just as the relevant reading is not available for (32b). Our observation that adverbial *-sika* NPIs cannot be null thus provides further support for the Argument Ellipsis analysis.

Summarizing so far, I illustrated that in the case of the part-whole constructions in Korean, ellipsis *is* possible, despite the *restricted* word order, while in the case of adverbial *-sika* NPIs in Japanese, ellipsis is *not* possible, despite the *free* word order. In this way, Kim's argument against the VP-ellipsis analysis is completed. I also argued that the required ellipsis process must be sensitive to the argument/adjunct distinction, and that our observation regarding adverbial *-sika* NPIs further confirms this distinction, supporting the Argument Ellipsis analysis.

5. Concluding Remarks

In this paper, I first provided a novel observation concerning the null argument phenomena in Japanese. In particular, I showed that the Negative Polarity Items formed with the suffix *-sika* can be null if they count as arguments, while they cannot be null if they are adjuncts. Based on this observation, I illustrated that the Argument Ellipsis analysis is empirically superior to the VP-ellipsis analysis and the null indefinite analysis.

Finally, I point out here some implications of this paper. One of the interesting research topics regarding Argument Ellipsis is its cross-linguistic distribution. As discussed by Takahashi (2007), it is controversial whether null arguments in languages other than Japanese, for instance, Chinese, Basque, and Mongolian, are also derived by Argument Ellipsis. Since the properties of *-sika* NPIs sharply distinguish the Argument Ellipsis analysis from the others, if we can find elements similar to *-sika* NPIs in those languages, they should help us to solve the controversy. In a similar vein, recent works by Sugisaki (2007) and Otaki (2008) examine whether Japanese-speaking children have knowledge of Argument Ellipsis from the earliest observable stages. *-Sika* NPIs should provide a more accurate tool for these attempts.

References

Aoyagi, H. and T. Ishii. 1994. On NPI licensing in Japanese. *Japanese/Korean Linguistics* 4:295-311.

Bošković, Ž. and D. Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29:347-366

Hankamer, J. and I. Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7:391-426.

Harada, S.-I. 1973. Counter Equi NP deletion. *Annual Bulletin* 7, 113-147. The Research Institute of Logopedics and Phoniatirics, University of Tokyo.

Hoji, H. 1998. Null objects and sloppy identity in Japanese. *Linguistic Inquiry* 29:127-152.

Huang, C.-T. J. 1987. Remarks on empty categories in Chinese. *Linguistic inquiry* 18:321-337.

Ishii, Y. 1991. Operators and empty categories in Japanese. Doctoral dissertation, University of Connecticut, Storrs.

Jackendoff, R. 1971. Gapping and related rules. *Linguistic Inquiry* 2:21-36.

Kato, Y. 1994. Negative polarity and movement. *MIT Working Papers in Linguistics* 24, 101-120.

Kim, S.-W. 1999. Sloppy/strict identity, empty objects, and NP Ellipsis. *Journal of East Asian Linguistics* 8:255-284.

Kuroda, S.-Y. 1965. Generative grammatical studies in the Japanese language. Doctoral dissertation, MIT, Cambridge, MA.

Lobeck, A. 1990. Functional heads as proper governors. *The Proceedings of North East Linguistic Society* 20, 348-362. GLSA, University of Massachusetts, Amherst.

Maling, J. and S.-W. Kim. 1992. Case assignment in the inalienable possession construction in Korean. *Journal of East Asian Linguistics* 1:37-68.

Moriyama, Y. and J. Whitman. 2004. Null objects in Japanese revisited. Paper presented at a linguistics colloquium at Nanzan University, September 2004.

Muraki, M. 1978. The *sika nai* construction and predicate restructuring. In *Problems in Japanese Syntax and Semantics*, ed. by J. Hinds and I. Howard, 155-177. Kaitakusha, Tokyo.

Oku, S. 1998. A theory of selection and reconstruction in the Minimalist Program. Doctoral dissertation, University of Connecticut.

Otaki, K. 2008. The null object construction and the availability of the sloppy identity interpretation in child Japanese. Ms., University of Connecticut.
Otani, K. and J. Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22:345-358.
Sag, I. 1976. Deletion and Logical Form. Ph.D. dissertation, MIT, Cambridge, MA.
Saito, M. 1985. Some asymmetries in Japanese and their theoretical implications. Doctoral dissertation, MIT, Cambridge, MA.
Saito, M. 2004. Ellipsis and pronominal reference in Japanese clefts. *Nanzan Linguistics* 1, 21-50. Center for Linguistics, Nanzan University, Nagoya.
Saito, M. 2005. Further notes on the interpretation of scrambling chains. In *The free word order phenomenon: Its syntactic sources and diversity*, ed. by J. Sabel and M. Saito, 335-376. Mouton de Gruyter, Berlin.
Saito, M. 2007. Notes on East Asian argument ellipsis. *Language Research* 43, 203-227. Seoul National University.
Saito, M. and K. Murasugi. 1990. N'-deletion in Japanese: A preliminary study. *Japanese/Korean Linguistics* 1:285-301.
Sugisaki, K. 2000. Scrambling of adjuncts and last resort. *Japanese/Korean Linguistics* 9:379-389.
Sugisaki, K. 2007. The configurationality parameter in the Minimalist Program: A view from child Japanese. In *Proceedings of the 31st Annual Boston University Conference on Language Development*, ed. by H. Caunt-Nulton, S. Kulatilake, and I-H. Woo, 597-608. Cascadilla Press, Somerville, MA.
Takahashi, D. 1990. Negative polarity, phrase structure, and the ECP. *English Linguistics* 7:129-146.
Takahashi, D. 2007. Argument ellipsis from a cross-linguistic perspective: An interim report. Paper presented at GLOW in Asia VI, Chinese University of Hong Kong, December 2007.
Takahashi, D. 2008. Quantificational null objects and argument ellipsis. *Linguistic Inquiry* 39:307-326.
Tanaka, H. 1997. Invisible movement in *sika-nai* and the Linear Crossing Constraint. *Journal of East Asian Linguistics* 6:143-188.
Tomioka, S. 2003. The semantics of Japanese null pronouns and its cross-linguistic implications. In *The interfaces: Deriving and interpreting omitted structures*, ed. by K. Schwabe and S. Winkler, 321-339. John Benjamins, Amsterdam.
Williams, E. 1977. Discourse and Logical Form. *Linguistic Inquiry* 8, 101-139.
Yoon, J. H.-S. 1989. The grammar of inalienable possession construction in Korean, Mandarin and French, in *Harvard Studies in Korean Linguistics III*, ed. by S. Kuno et al., 357-368. Hanshin Publishing Company, Seoul.

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