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VSO Languages and Argument Ellipsis: A Case Study in Tagalog*

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1. Introduction

The syntax of null arguments has been widely discussed in Japanese, which is assumed to be a (radical) *pro*-drop language (Sakamoto 2017); subjects and objects can be dropped in certain situations, as shown in (1).

(1)   a.   Taro-wa   doo simasita ka?
                   Taro-TOP how did   Q
                   'What happend to Taro?'

         b.   [e] ie-ni   kaerimashi-ta.
                     home-to return-PAST
                'lit. [e] returned home.'

         c.   Sensei-ga   [e] sikarimasi-ta.
                     teacher-NOM   scold-PAST
                'lit. The teacher scolded [e].   (Takahashi 2008a:394, slightly modified)

(1b) and (1c) are the responses to the question of (1a). Even though the subject in (1b) and the object in (1c) are not pronounced, these sentences are acceptable, and the missing arguments are interpreted as indicating Taro.

The above property is not limited to Japanese. Various languages allow null arguments even though the word order is not SOV as in Japanese. For example, Tagalog, a language of the Philippines, is a VSO language, as in (2), and is permitted to include null arguments in both subjects and objects, as shown in (3b) and (4), respectively. [1]

(2)   Pinagalitan ni   Mike ang   estudyante niya. (VSO)
        scolded-OV GEN Mike NOM student   his
        'Mike scolded his student.'

(3)   a.   Nasaan si   Juan?
                where   NOM Juan
                'Where's Juan?'

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    [1] Tagalog has the rich voice system, and the voice marker reflects the role of the nominative argument in a sentence. See Kroeger (1993) for relevant discussion. The abbreviations of the voice markers in this paper are AV = Active Voice; OV = Object Voice; and DV = Dative Voice.

b. Umalis na   [e]
    left   now
    lit. '[e] has left.'   (Richards 2003:226, slightly modified)

(4) Huhugasan ko   ang=mga=pinggan, at   pupunasan mo   [e] .
     wash-DV   1.SG.GEN NOM=PL=dish   and dry-DV   2.SG.GEN
     'I will wash the dishes, and you dry (them).'   (Kroeger 1993:32)

Even if the subject in (3b) is phonologically null, the sentence is accepted, and the null argument is understood to be Juan. Moreover, the second conjunct of (4) has the null argument in the object position. According to Kroeger (1993), the sentence is also acceptable, and the missing argument can refer to the dishes. Based on these data, Kroeger (1993) mentions that Tagalog is a *pro*-drop language.

In this paper, I investigate the properties of null arguments in Tagalog. I focus particularly on their interpretation in the subject position. There is cross-linguistic variation in the interpretation in the position. I show that a null subject in Tagalog is very similar to that in Japanese. Based on test results differentiating V-stranding VP ellipsis (VVPE) (Goldberg 2005) and argument ellipsis (Oku 1998, Saito 2007, Takahashi 2008a,b, Sakamoto 2017), I argue that a null argument is derived from argument ellipsis. The final section concludes with additional remarks about possible directions for future research.

2. The Property of Null Arguments in Pro-drop Languages

Japanese is a language in which arguments can be dropped freely, as shown in (5).

(5) a. Taro-wa   zibun-no kuruma-o arat-ta.
         Taro-TOP self-GEN car-ACC   wash-PAST
         'Taro washed self's car.'

     b. Hanako-wa   [e] arawa-nakat-ta.
         Hanako-TOP   wash-NEG-PAST
         lit. 'Hanako didn't wash [e].'

     c. Hanako-wa   sore-o arawa-nakat-ta.
         Hanako-TOP it-ACC wash-NEG-PAST
         'Hanako didn't wash it.'

The sentence in (5a) is the antecedent sentence of (5b). (5b) is acceptable even if the object is not pronounced. (5b) is ambiguous in that the null argument can be understood as Taro's car (strict reading) or Hanako's car (sloppy reading).

Many studies examine null arguments in Japanese, and the traditional analysis was to assume that they are uniformly empty pronouns *pro* (see Kuroda 1965). Since null arguments always correspond to *pro* under the analysis, the interpretation of (5b) must be identical to that of (5c). However, many researchers (Oku 1998, Takahashi 2008a,b, Sakamoto 2017, among others) reveal a problem in the traditional analysis with respect to the existence of the sloppy reading. The traditional analysis wrongly predicts that, contrary to fact, (5b) would only have the strict reading. Many researchers claim that the sloppy reading must be derived from ellipsis. Under the ellipsis analysis, when a noun phrase including

zibun-no kuruma 'self's car' is deleted, the sloppy reading is accessible.

There is further evidence that the traditional analysis is not sufficient to explain the interpretation of null arguments. Takahashi (2008a, b) observes that the *pro* theory is confronted with a problem regarding the reading of quantifiers, as shown in (6).

(6) a. Taro-wa   hotondo-no kuruma-o arat-ta.
        Taro-TOP most-GEN car-ACC   wash-PAST
        'Taro washed most cars.'

    b. Hanako-mo [e] arat-ta.
        Hanako-also   wash-PAST
        lit. 'Hanako washed [e].'

    c. Hanako-mo sorera-o arat-ta.
        Hanako-also it-ACC   wash-PAST
        'Hanako washed them.'

The sentence in (6b) is ambiguous in that the set of cars Taro washed can correspond to or differ from the set of cars Hanako also washed. The former interpretation is called the E-type reading (Evans 1980) while the latter is called the quantificational reading. In (6c), which involves a pronoun, only E-type reading is available. If the null object in (6b) is derived via only *pro*, the interpretation of (6b) would be equivalent to that of (6c), contrary to fact. By contrast, the ellipsis analysis can accommodate the availability of quantificational reading, because the argument with the quantifier can be included in the ellipsis sites.

In addition to an object position, an argument in a subject position can be null in Japanese, as shown in (7) (cf. Oku 1998) and (8).

(7) a. Taro-wa   [zibun-no teian-ga   saiyoosareru to   ] omotte-iru.
        Taro-TOP   self-GEN proposal-NOM accepted   that think-PRES
        'Taro thinks that his proposal will be accepted.'

    b. Hanako-mo [[e] saiyoosareru to   ] omotte-iru.
        Hanako-also   accepted   that think-PRES
        lit. 'Hanako also thinks [e] will be accepted.'

(8) a. Hotondo-no seito-ga   Ken-ni   att-ta.
        Most-GEN   student-NOM Ken-DAT see-PAST
        'Most students saw Ken.'

    b. [e] Tom-ni-mo   att-ta.
            Tom-DAT-also see-PAST
        lit. '[e] also saw Tom.

The null argument in (7b) can be interpreted as Taro's proposal (strict reading) or Hanako's proposal (sloppy reading). As for the null arguments in (8b), the students who saw Ken can be either identical to (E-type reading) or different from (quantificational reading) the students who saw Tom. These facts suggest that not only arguments in the object position but also those in the subject position can be deleted.

However, not all pro-drop languages permit the sloppy or quantificational reading for null subjects. For example, these relevant readings for null subjects are not available in Spanish and Bangla, which

are pro-drop languages.

(9) Spanish (Oku 1998)

    a.   María cree   que su propuesta será   aceptada.
        Maria believes that her proposal will.be accepted
        'Maria believes that her proposal will be accepted.'

    b.   Juan también cree   que [e] será   aceptada.
        Juan also   believes that it will.be accepted
        'Juan also believes that it will be accepted.'   (Strict-only)

(10) Bangla (Simpson et al. 2013)

    a.   tin-jon SonnyaSi Abhik-er   sathe dEkha korte   elo.
        three-CL priests   Abhik-GEN with meet   do-INF come-PST.3
        'Three priests came to see Abhik.'

    b.   Arun-er   sathe-o [e] dEkha korte elo.
        Arun-GEN with   also   meet do-INF come-PST.3
        lit. '[e] came to see Arun too.'   (E-type-only)

(11)   a.   Mini bhabe je or chhele puraSkar-Ta pabe
        Mini thinks C her son   prize-CL   win-FUT.3
        'Mini$_i$ believes that her$_i$ son will win the prize.'

    b.   Rini-o   bhabe je [e] pabe.
        Rini-also thinks C   win-FUT.3
        lit. 'Rini also believes that [e] will win the prize.'   (Strict-only)

Based on the above data, the pro-drop languages can be divided into two categories in that the sloppy or quantificational reading is available for null subjects:

(12) The category of null arguments in pro-drop languages

    a.   Japanese-type: the quantificational or sloppy reading must be available for a null argument in subject (and object) position.

    b.   Non Japanese-types (e.g., Bangla): these relevant readings must be unavailable in a null argument in subject position.

The next section examines which types in (12) null arguments for Tagalog belong to and what null arguments are derived from.

3. Null Arguments in Tagalog

3.1. The availability of sloppy and quantificational reading in both subject and object positions

The objects of verbs in Tagalog can be dropped and can be available for the sloppy reading, as illustrated in (13).

(13)   Sinuntok ni   Mike [ang   anak niya], at   sinuntok din ni   Mary [e].
       hit-OV   GEN Mike NOM child his   and hit-OV   also GEN Mary
       lit. 'Mike hit his child and Mary hit [e], too.'   (strict / sloppy)   (Richards 2003:232)

In addition to the sloppy reading, quantificational elements can also be omitted in the object position and allow for quantificational reading, as in Japanese. Here is a relevant example:

(14) Nagbigay si   Juan ng   bulaklak [sa   tatlo=ng   guro   ], at nagbigay naman   si
      gave-AV NOM Juan GEN flower   DAT three=linker teachers , and gave-AV NAMAN NOM
      Bill ng   tsokolate [e].
      Bill GEN chocolate
      lit.'Juan gave flowers to three teachers, and Bill, on the other hand, gave [e] chocolate.'

                                                                              (E-type / Q-reading)

We move on to a case of null arguments in the subject position. Subjects in Tagalog can be deleted and allow quantificational reading when a quantificational phrase is included in an elided site in the subject position, as shown in (15).[2]

(15) a. Sinuntok ang   lalaki [ng   tatlo=ng   guro   ]
          hit-OV   NOM boy   GEN three=linker teacher
          'Three teachers hit the boy.'

      b. At   sinuntok din ang   babae [e] .
          And hit-OV   also NOM girl
          lit. 'And [e] also hit the girl.   (E-type / Q-reading)

Table 1 summarizes the availability of sloppy and quantificational readings in the subject and object positions. As seen in the table, the null arguments of Tagalog are very similar to those of Japanese rather than Bangla in that null subjects can yield the quantificational reading in both Japanese and Tagalog. Therefore, I conclude that null arguments in Tagalog have the same properties as those in Japanese.

Table 1: Patterns of availability of sloppy and quantificational readings of null subjects (NSs) and null objects (NOs) in Tagalog, Japanese, and Bangla

	Sloppy in NSs	Sloppy in NOs	Quantificational in NSs	Quantificational in NOs
Tagalog	n/a	YES	YES	YES
Japanese	YES	YES	YES	YES
Bangla	NO	YES	NO	YES

3.2. Argument Ellipsis and V-stranding VP-ellipsis

As discussed in section 2, the availability of sloppy or quantificational reading of null arguments suggests that the null arguments are derived not from *pro* but from an elliptical operation. In English, it is assumed that sloppy reading of null objects appears as the result of VP-ellipsis, as illustrated in (16).

(16) a. Taro washed his car, and Ziro did, too.

      b. Taro washed his car, and Ziro did ~~[wash his car]~~, too.   (Strict / Sloppy)

_____

[2]It appears to be impossible to delete the subject of an embedded clause, so I cannot examine whether a subject is available for the sloppy reading. For now, I do not know the reason, and I leave this issue open.

In Irish, which is a VSO language, it has been assumed that verbs may raise out of VP before applying VP-ellipsis. This can give rise to a null argument in object position and also allow for the sloppy reading. This kind of deletion is called VVPE (Goldberg 2005). In addition to VVPE, there is another approach to bring about the sloppy reading: argument ellipsis (Oku 1998, Saito 2007, Takahashi 2008a.b, Sakamoto 2017), where arguments can directly undergo deletion. Based on the above discussion, VVPE and argument ellipsis can straightforwardly accommodate the availability of the sloppy reading in (17) in the following ways:

(17) a. Ziro-wa   zibun-no kuruma-o arat-ta.
      Ziro-TOP self-GEN car-ACC   wash-PAST
      'Ziro washed his car.'

    b. Hanako-wa   [e] arawa-nakat-ta.
      Hanako-TOP   wash-NEG-PAST
      lit. 'Hanako didn't wash [e].'   (Strict / Sloppy)

(18) a. [Hanako [$_{NegP}$[$_{vP}$ [$_{VP}$ self's car t_V] t_v] t_{Neg}] V+v+Neg+T]   (VVPE)

    b. [Hanako [$_{NegP}$ [$_{vP}$ [$_{VP}$ self's car V] v] Neg] T]   (Argument Ellipsis)

In (18a) and (18b), a self-anaphor is in the deletion sites, so both approaches can explain the production of the sloppy reading. It is important to examine how null arguments are created in Tagalog. The rest of this section investigates this issue and shows that argument ellipsis is a plausible option in Tagalog rather than VVPE.

    First, according to Goldberg (2005), VVPE arises in V-stranding languages only when the same verbs between the antecedent sentence and the elliptic sentence are used, and this type of deletion is impossible if different verbs are used. Let us consider the following examples of VVPE:

(19) a. Ar cheannaigh siad teach?
      Q bought   they house
      'Did they buy a house?'

    b. Creidim gur cheannaigh [ ].
      I-believe that bought
      lit. believe-I that they bought they house.   (McCloskey 1991:274)

(20) *Leigh   me an clan ach nfor   thuig   [e] .
    read-PAST I   the poem but not-PAST understand-PAST
    lit. 'Read I the poem, but not understood [I the poem].'   (Goldberg 2005:183)

In (19b), VVPE can apply to the sentence since the same verbs (here, *cheannaigh* 'bought') appear in the two sentences. However, VVPE is not applicable to the clause where the verb that is used is different from the antecedent, as in (20). On the other hand, argument ellipsis does not involve the restriction. According to Şener and Takahashi (2010), a null argument in Turkish is derived via argument ellipsis and can yield the sloppy reading, as shown in (21).

(21) a. Can [*pro* anne-si]-ni   eleştir-di.
      John his   mother-3SC-ACC criticize-PAST
      'John criticized his mother.'

    b.   Mete-yse   [e] öv-dü.
             Mate-however   praise-PAST
             lit.'Mate, however, praised [e].'   (Strict / Sloppy)   (Şener and Takahashi 2010:87)

The important thing here is that the sloppy reading of the null argument is possible even if the verb differs between the two sentences. This discussion can lead to the following predictions on null arguments in Tagalog. If the null arguments that can yield the sloppy reading are derived via VVPE, the verbs in an antecedent and an elliptic sentence must be identical. In contrast, if the null arguments are created via argument ellipsis, the verbs do not have to be the same. Let us check which predictions are plausible using (22).

(22)   Pinagalitan ni   Mike ang estudyante nya, pero pinuri   naman   ni   Tom [e].
          scolded-OV GEN Mike NOM student   his, but   praised-OV NAMAN GEN Tom
          lit. 'Mike scolded his student, but Tom praised [e].'   (Strict / Sloppy)

Significantly, in Tagalog, the verb in the first and second conjuncts can be different, and the sloppy reading of the null object is accessible. The example supports the approach of argument ellipsis rather than VVPE.

    Second, adjuncts can be deleted and understood as present under VVPE (or VP-ellipsis) when another VP-internal element is also deleted, as illustrated in (23) and (24).

(23)   Hebrew (Doron 1999, Goldberg 2005)

    a.   Šalaxt   etmol   et   ha-yeladim le-beit-ha-sefer?
          send.Pst.2Fsg yesterday ACC the-children to-house-the-book
          '(Did you) send [yesterday the children to school]?'

    b.   Šalaxti.
          send.Pst.1sg
          '(I) sent ~~[yesterday the children to school]~~.'

(24)   English

    a.   Hanako washed a car carefully.

    b.   Tom didn't [~~VP~~ ~~wash a car carefully~~].

Taking (23a) and (24a) as the antecedent sentence, the deletion occurs in (23b) and (24b). Although the adverbs with the arguments are elided in both sentences, the interpretation of adjuncts remains available. However, the approach of argument ellipsis expects that adjuncts cannot be included in ellipsis sites because the elliptic candidate can only be an argument. We illustrate the example of Turkish as in (25).

(25)   a.   Can sorun-u   hızla   çöz-dü.
           John problem-ACC quickly solve-PAST
           'John solved the problem quickly.'

     b.   Filiz-se   [e] çöz-me-di.
           Phylis-however   solve-NEG-PAST
           lit. 'Phylis, however, did not solve [e]. '   (Şener and Takahashi 2010:89)

(26)   The interpretation of (25b)

    a.   Phylis did not solve the problem.

    b.   *Phylis did not solve the problem quickly.

The sentence in (25a) includes the adverb and the direct object. (25b) contains a null object, and it does not have the interpretation with the adjunct; that is, Phylis did not solve the problem quickly. The sentence only means that Phylis did not solve the problem. Keeping this in mind, let us consider the following example in Tagalog:

(27)   hinugasan ni   Mike ang   kotse niya nang   madali, pero hindi hinugasan   ni   Tom [e].
    washed-OV GEN Mike NOM car   his   NANG quickly, but   not   washed-OV GEN Tom
    lit. 'Mike washed his car quickly, but Tom didn't wash.'

(28)   The interpretation of the second conjunct

    a.   Tom didn't washed his car at all.

    b. ?*Tom didn't washed his car quickly.

In (27), the null object is in the second conjunct. Note that the first conjunct has the adverb (*madali* 'quickly'), but the second does not contain the reading of the adjunct, which means that Tom didn't wash his car at all, but not that Tom didn't wash his car quickly. If VVPE applied to the sentence, the adjunct interpretation would be available like the data in Hebrew. The above discussion leads to the conclusion that null arguments that can produce the sloppy reading in Tagalog must be derived from argument ellipsis, not VVPE.

4. Concluding Remarks

In this paper, we have seen what properties null arguments in Tagalog contain. Although it has been argued that Tagalog is a *pro*-drop language, little attention has been paid to the issue of whether null arguments in both subjects and objects can produce the sloppy or quantificational reading. The quantificational reading is available for not only null objects but also null subjects. This fact suggests that the properties of the null arguments in Tagalog are close to those of the arguments in Japanese. Moreover, the VVPE approach could not explain the null arguments that give rise to the sloppy reading, and the null arguments must be derived via argument ellipsis.

In the rest of this section, I discuss why Tagalog is allowed to have the syntactic operation of argument ellipsis. There are many studies on cross-linguistic variation of the availability of argument ellipsis. One of the major approaches is on the absence of ϕ-feature agreement (Saito 2007). Saito (2007) considers the correlation between ϕ-feature agreement and argument ellipsis and claims that the absence of agreement leads to the availability of argument ellipsis. Adopting the system of agreement in Chomsky (2000), Saito (2007) argues that, in languages with obligatory syntactic agreement, the argument copied from an antecedent sentence onto an empty slot in the second sentence at LF cannot take part in agreement in this sentence because the case feature, which is an uninterpretable feature, is already checked in the antecedent sentence. Therefore, Saito (2007) proposes that the deletion

of arguments is only allowed when the arguments do not participate in an agreement relation with functional heads.

Keeping this in mind, we will check whether Saito's proposal can apply to null arguments in Tagalog. According to Kroeger (1993), Tagalog has a syntactic number agreement, and Tagalog predicates can be marked as plural when the argument with nominative case is plural. Kroeger (1993) shows that plural-making on the predicate is illicit if the argument with the nominative case is singular, as shown in (29).

(29)   a.   Ma-ta-talino   ang=mga=bata=ng   Intsik.
               STAT-PL-smart NOM=PL=child=LNK Chinese
               'The Chinese children are bright.'

        b. *Ma-ta-talino   si=Armand.
            STAT-PL-smart NOM=Armand
            lit.'Armand is bright.'   (Kroeger 1993:24)

In addition to the case of adjectives in the predicate position, verbs can also be marked as plural, as illustrated in (30) and (31).

(30)   Pinag-bu-buks-an niya   [ang   lahat ng=mga=bintana.]
       PERF-PL-open-DV 3.SG.GEN   NOM all   GEN=PL=window
       'She had opened all the windows.'   (Aspillera 1969:123)

(31)   a.   Pinag-bu-buks-an ni   Mary [ang   lahat ng=mga=bintana   ng   kanyang bahay.]
               PERF-PL-open-DV GEN Mary   NOM all   GEN=PL=window GEN her   house
               'Mary_i had opened all the windows of her_i house.'

        b. *Pinag-bu-buks-an ni   Mary [ang   bintana ng   kanyang bahay.]
               PERF-PL-open-DV GEN Mary   NOM window GEN her   house
               'Mary_i had opened the window of her_i house.'

Based on the proposal of Saito and the above data, we predict that the argument with number agreement cannot be deleted under argument ellipsis as number agreement is a kind of ϕ-feature agreement. To check whether the prediction is correct, let us consider the following example:

(32)   Pinagbu-buks-an   ni   Mary [ang   lahat ng=mga=bintana   ng   kanyang bahay], at
       PERF.PL-open-DV GEN Mary   NOM all   GEN=PL=window GEN her   house   and
       Pinagbubuksan   din ni   Hanako [e].
       PERF.PL-open-DV also GEN Hanako
       lit. 'Mary_i had opened all the windows of her_i house, and Hanako also had opened [e].

                                                   (Strict / Sloppy)

The number agreement between the verb and the nominative argument does occur in the second conjunct in (32). Saito predicts that the argument could not be deleted, but it can be elided and interpreted as all the windows of Hanako's house (sloppy reading). Although it seems that the example in Tagalog poses a potential problem for Saito's proposal, it might not be problematic. Kroeger (1993) mentions that Tagalog predicates can **optionally** be marked as plural. However, if this is a "true" syntactic agreement, the predicates should **obligatory** agree with the nominative arguments. For example, ϕ-feature agreement must **obligatorily** occur in syntax. Since the number agreement in question may

not be irrelevant to the syntactic agreement, the fact that the argument with the number agreement can be deleted might not pose any problem for Saito's proposal. I leave this issue for future research.

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