Argument Ellipsis, Anti-agreement, and Scrambling*

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1. Introduction

The phenomenon of components of clauses such as subjects and objects being unexpressed has attracted much attention from a number of researchers in generative syntax. It has been standard to assume that those clauses that apparently lack their subunits indeed have them syntactically and semantically, the unexpressed elements just being without phonetic content. This assumption has led to the very productive research program the central concern of which has been to uncover the exact identification of those “null” elements. Until the 1980s it was more or less accepted in the literature to regard them as pronouns of the sort devoid of phonetic features: to witness, they were often called zero or empty pronouns and the phenomenon in question was frequently referred to as pro-drop (see Jaeggli and Safir 1987, Kuroda 1965, Rizzi 1982, among many others; see Huang 1984 for a slightly different view). But since the 1990s, several linguists including Huang (1991), Kim (1999), Otani and Whitman (1991), and Oku (1998) have argued in one way or another that certain instances of empty subjects/objects (or null arguments) arise from elision of full-fledged structures, rather than involving empty pronouns. In particular, Kim (1999) and Oku (1998) argue that languages such as Japanese and Korean allow nominal arguments to undergo ellipsis (see also Saito 2004; 2007, and Takahashi 2006; 2008a for supportive arguments). This view is motivated partially by cases like the following:

(1) a. Taroo-wa zibun-no hahaoya-o sonkeisiteiru. 
   Taroo-TOP self-GEN mother-ACC respect 
   ‘lit. Taroo respects self’s mother.’

   b. Ken-mo e sonkeisiteiru. 
   Ken-also respect 
   ‘lit. Ken respects e, too.’

* Earlier versions of this article were presented chronologically at GLOW in Asia VI held at the Chinese University of Hong Kong in December, 2007, at a colloquium at Keio University in March, 2008, in graduate seminars at University of Connecticut in fall, 2008, at the third workshop of the international research project on comparative syntax and language acquisition at Nanzan University in March, 2009, in an intensive graduate course at Nanzan University in September, 2009, and at a ling lunch seminar at University of Connecticut in October, 2009. I have benefited from comments and/or questions from the audiences at those meetings and especially from Jun Abe, Željko Bošković, Johnny Cheng, Zhi-xin Fang, Jim Huang, Hyeonjeong Jeong, Hideki Kishimoto, Jaklin Kornfilt, Wen-chao Li, Jonah Lin, Hideki Maki, Hai-rong Meng, Keiko Murasugi, Leticia Pablos, Mamoru Saito, Serkan Şener, Koji Sugisaki, Asako Uchibori, Wulanqiqige, and Pei-pei Xu. The research reported here has been supported by Grant-in-Aid for Scientific Research (21520392) from Japan Society for the Promotion of Science.
The sentence in (1b) is a null object construction in Japanese. Anteceded by (1a), it is ambiguous in the following way: it means either that Ken respects Taroo’s mother (call it the strict reading), or that Ken respects his own (namely, Ken’s) mother (the sloppy reading).

The theory according to which null arguments are always pronominal would analyze (1b) as in (2), expecting (1b) to behave on a par with (3b), which is a sentence in English with a pronoun in object position.

(2) Ken-mo pro sonkeisiteiru Ken-also her respect

(3) a. John respects his mother.
   b. Bill respects her, too.

There is a significant difference between (1b) and (3b), however: Whereas (1b) is ambiguous as noted above, (3b) is not understood that way, being limited to the strict reading that Bill respects John’s mother, too. Therefore, the possibility of the sloppy interpretation in (1b) is difficult to accommodate under the pronom theory of null arguments.

On the other hand, it can be handled easily by the ellipsis theory, according to which (1) is analyzed as follows (hereafter, struck-through material represents ellipsis):

(4) a. Taroo-wa zibun-no hahaoya-o sonkeisiteiru
   Taroo-TOP self-GEN mother-ACC respect
   ‘lit. Taroo respects self’s mother’
   b. Ken-mo zibun-no hahaoya-o sonkeisiteiru
   Ken-also self-GEN mother-ACC respect
   ‘lit. Ken respects self’s mother, too’

The null object construction in (4b) in fact contains the full-fledged noun phrase zibun-no hahaoya ‘self’s mother’ in object position. It is supposed to be elided under identity with the object in (4a). Since (4b) actually contains the anaphor as the possessor of the object, it is straightforward that it means that Ken respects his own mother.

Thus the availability of sloppy interpretation for null arguments has been taken as an indication of ellipsis in the literature (we will see more diagnostic tests in section 2). Bearing this in mind, let us consider the data in Spanish in (5), which are cited from Oku 1998.

(5) 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.’

As is well known, Spanish is a language where subjects can be null. The sentence in (5a) is intended to antecede (5b), where the subject of the embedded clause is empty. Although (5b) itself is acceptable, the null subject exhibits behavior of the sort we observed for the pronoun in (3). Namely, it allows the strict interpretation, but not the sloppy reading: thus, (5b) means that Juan believes that María’s proposal will be accepted, but crucially it does not mean that
Juan believes that Juan’s proposal will be accepted. Arguably, null subjects in Spanish are pronouns, as has been standardly assumed. Comparing (1) and (5), one can simply say that while null objects in Japanese may be elliptic, null subjects in Spanish must be pronominal. But this raises a very important question with regard to the cross-linguistic availability of argument ellipsis: How can speakers of Japanese and Spanish come to know the facts about their languages? Since null arguments themselves do not contain any visible or audible sign leading to the difference, it is reasonable to assume that it is somehow related to another difference between the two languages that is easily detectable to learners.

In this respect, two hypotheses have been put forth in the literature. Oku (1998) claims that argument ellipsis is tied to the possibility of scrambling, a movement operation responsible for the free word order phenomenon. As is known, Japanese, but not Spanish, belongs to the category of free word order languages, and according to Oku (1998), this is crucial in the presence/absence of argument ellipsis in those languages. On the other hand, Saito (2007) proposes to relate argument ellipsis to agreement, arguing that ellipsis cannot apply to arguments that participate in agreement with functional heads. As is famous, Japanese is said to lack agreement between arguments and their associated functional categories (see Fukui 1996 and Kuroda 1988): hence, elision of arguments is permitted. On the other hand, Spanish shows very “rich” agreement between subjects and Tense (or T), which manifests itself on the form of verbs, so that null subjects cannot be elliptic there.

Looking only at Japanese and Spanish, however, we cannot determine which hypothesis is superior, because the two theories make the same prediction about them. It is necessary, therefore, to broaden the area of investigation to languages that have different properties. The purpose of this article is to resolve this issue by considering Turkish and Chinese, which are similar to Japanese and Spanish in allowing null arguments but differ from them with respect to the availability of scrambling and agreement, thus offering us good testing grounds. Specifically, I will argue that agreement, rather than scrambling, is crucial in accounting for the cross-linguistic distribution of argument ellipsis.

This article is organized as follows: In the next section, I will briefly review some basic observations made with regard to argument ellipsis in Japanese and provide an explication of the two hypotheses due to Oku (1998) and Saito (2007), setting the stage for the sections thereafter. In section 3, drawing on Şener and Takahashi (2009), I will consider data from Turkish, which clearly indicate the necessity of anti-agreement as a key factor in the licensing of argument ellipsis. In section 4, I will turn to Chinese, which seems to allow elision of arguments despite the fact that it is not a free word order language, providing a counter-example to the alleged correlation between argument ellipsis and scrambling. In section 5, I will conclude the entire discussion with a summary and some additional remarks about possible directions for future research.

2. Argument Ellipsis: Some Backgrounds

2.1. Some Basic Observations

The data in (1) showed the possibility of object ellipsis in Japanese. Additional support is obtained in cases like (6), which is constructed after the model of similar examples given in Kuno 1980 and Xu 1986.
(6)  Taroo-wa  zibun-o  semeta-ga  Ken-wa  e  kabatta.
    Taroo-TOP  self-ACC  blamed-while  Ken-TOP  defended
    ‘lit. While Taroo blamed self, Ken defended e.’

The second clause is a null object construction. If preceded by the first clause, which
contains a reflexive as the object, it allows the sloppy reading that Ken defended himself
(namely, Ken). If null objects were always pronouns, (6) would be analyzed as in (7) and
hence would be ungrammatical as a violation of Condition (B) of the Binding Theory just
like (8a-b) (Chomsky 1981)).

(7)  Taroo-wa  zibun-o  semeta-ga  Ken-wa  pro\(_1\) kabatta.
    Taroo-TOP  self-ACC  blamed-while  Ken-TOP  him  defended
    ‘while Taroo blamed self, Ken defended him\(_1\)’
(8)  a. * John\(_1\) defended him\(_1\).
    b. * Ken-wa  kare\(_1\)-o  kabatta.
    Ken-TOP  him-ACC  defended
    ‘Ken defended him.’

The ellipsis analysis, on the other hand, can handle the fact very easily. (6) is treated as
below:

(9)  Taroo-wa  zibun-o  semeta-ga  Ken-wa  zibun-o  kabatta
    Taroo-TOP  self-ACC  blamed-while  Ken-TOP  self-ACC  defended
    ‘lit. while Taroo blamed self, Ken defended self’

Here the second clause actually contains the reflexive in object position, and it is elided under
identity with the preceding object. The sloppy reading is directly obtained from (9).

The argument above involves anaphors. We can find confirmation in data using
quantifiers (Shinohara 2004, Takahashi 2008a; 2008b). Consider the following examples:

(10) a. Taroo-wa  sannin-no  sensei-o  sonkeisiteiru.
    Taroo-TOP  three-GEN  teacher-ACC  respect
    ‘Taroo respects three teachers.’
    b. Hanako-mo  e  sonkeisiteiru.
    Hanako-also  respect
    ‘lit. Hanako respects e, too.’

The sentence in (10b) is a null object construction anteceded by (10a), which contains a
quantifier as the object. (10b) means that Hanako respects the three teachers that Taroo
respects. What is important is the fact that it is alternatively understood to mean that Hanako
respects three teachers: in that case, (10b) is true when the set of teachers Hanako respects
diffs from the set of teachers Taroo respects. The possibility of the second interpretation
(hereafter, the quantificational interpretation) would not be expected if null objects were
always pronominal. To know why, let us consider the following data:
       b. Mary respects them, too.

Suppose that (11b) is anteceded by (11a) and that the pronoun in (11b) is anaphoric to the quantificational object in (11a). In this context, (11b) only means that Mary respects the three teachers that John respects. The pronoun here is limited to the “same set” reading (or the E-type reading (Evans 1980)). Thus, those who assume that null objects are always pronouns would wrongly expect (10b) to be restricted to the E-type reading just like (11b). On the other hand, the ellipsis analysis can directly accommodate the additional, quantificational interpretation, as (10b) is treated as follows:

(12)  Hanako-mo sannin-no sensei-o sonkeisiteiru
          Hanako-also three-GEN teacher-ACC respect
  ‘lit. Hanako respects three teachers, too’

Here the quantified phrase occurs in object position and is elided under identity with the object in the antecedent sentence in (10a). Thus, (10b) is somewhat similar to the case of VP-ellipsis in English in (13b).

(13)  a. John respects three teachers.
       b. Mary does, too.

Anteceded by (13a), (13b) can have the quantificational reading that Mary respects three teachers.

We have so far considered data involving null objects. We now turn to null subjects. It is shown in the literature that subjects can be elided as well in Japanese. Oku (1998) observes that null subjects can yield sloppy interpretation in Japanese, as indicated by cases like the following:

       Harry-TOP self-GEN child-NOM English-ACC speak that think
       ‘lit. Taroo thinks that self’s child speaks English.’
       b.  Ken-wa [ e furansugo-o hanasu to] omotteiru.
            Ken-TOP French-ACC speak that think
       ‘lit. Ken thinks that e speaks French.’

Of particular significance is the fact that (14b) can mean that Ken thinks his own (namely, Ken’s) child speaks French. In addition, null subjects in Japanese can yield quantificational interpretation. Consider the following data:

(15)  a. Sannin-no mahootukai-ga Taroo-ni ai-ni kita.
       three-GEN wizard-NOM Taroo-DAT see-to came
       ‘Three wizards came to see Taroo.’

One might wonder how the E-type reading is accounted for. I just assume with Takahashi (2008a) that null objects and subjects are ambiguous between elliptic and pronominal and that the E-type reading is obtained if the null object is an empty pronoun in (10b).
b.  e  Hanako-ni-mo  ai-ni  kita.
    Hanako-DAT-also  see-to  came
    ‘lit. e came to see Hanako, too.’

Preceded by (15a), (15b) can mean that three wizards came to see Hanako, in which case the sentence is true even if the set of the wizards that came to see Hanako is different from the set of the wizards that came to see Taroo.

Another remarkable property of the ellipsis phenomenon in question is that it is not limited to nominal phrases (see Saito 2007 and Takahashi 2006). As long as they are selected by predicates (namely, arguments), non-nominal phrases can be subject to elision (hence, the term argument ellipsis). Cases like the following illustrate the point:

(16) a.  Taroo to  Hanako-wa  otagai  kara  meeru-o  moratta.
    Taroo and  Hanako-TOP each.other  from  e-mail-ACC  received
    ‘Taroo and Hanako received e-mail from each other.’

b.  Ken to  Yumi-wa  epp  tegami-o  moratta.
    Ken and  Yumi-TOP letter-ACC  received
    ‘lit. Ken and Yumi received letters epp.’

(17)  Taroo-wa  [CP  zibun-ga  tensai  da  to]  omotteiru  ga
    Taroo-TOP    self-NOM  genius  be  that  think while
    Ken-wa  eCP  omotteinai.
    Ken-TOP   think.not
    ‘lit. While Taroo thinks that he is a genius, Ken does not think e.’

If (16b) is anteceded by (16a), its unrealized source argument, which should be categorically a PP headed by kara ‘from’, can be understood to mean from each other, so that the entire sentence can mean that Ken and Yumi received letters from each other. In (17), the second sentence can yield not only the strict interpretation that Ken does not think that Taroo is a genius, but also the sloppy reading that Ken does not think that Ken is a genius. The sloppy readings in (16b) and (17) indicate that the null PP and the null CP, respectively, can arise through ellipsis.

Argument ellipsis is so named in part to highlight the fact that adjuncts are not susceptible to elision (see Oku 1998 and Takahashi 2006). Consider the following data, cited from Oku 1998:

(18) a.  Bill-wa  kuruma-o  teineini  aratta.
    Bill-TOP  car-ACC  carefully  washed
    ‘Bill washed a car carefully.’

b.  John-wa  e  arawanakatta
    John-TOP washed.not
    ‘lit. John didn’t wash e.’

The example in (18b) is a null object construction anteceded by (18a). While (18a) contains the adjunct corresponding to carefully, the interpretation of (18b) does not contain the adverb; it just means that John did not wash a car, but not that John did not wash a car carefully.
This fact is important also in showing that the elliptic null object construction in Japanese does not involve VP-ellipsis as put forth by Otani and Whitman (1991). Following Huang (1991), Otani and Whitman (1991) propose to derive the relevant construction through VP-ellipsis with concomitant V-raising (or V-stranding VP-ellipsis in the sense of Goldberg (2005)). According to them, (1) is analyzed as below:\(^2\)

(19) a. Taroo-wa [VP zibun-no hahaoya-o t\(v\)] sonkeis\(i\)\(v\)-teiru\(T\) 
    Taroo-TOP self-GEN mother-ACC respect-T
b. Ken-mo [VP zibun-no hahaoya-o t\(v\)] sonkeis\(i\)\(v\)-teiru\(T\) 
    Ken-also self-GEN mother-ACC respect-T

In (19a-b), the verbs undergo raising to T, and VP-ellipsis applies to (19b), eliding the elements in VP. Note that in (19b), the verb survives ellipsis thanks to V-raising, yielding the superficial null object construction. Although this sort of VP-ellipsis is attested in languages such as Hebrew (Goldberg 2005) and Irish (McCloskey 1991), that it is not available in Japanese is indicated by (18). To see why, let us consider the English counterpart of (18).

(20) a. Bill washed a car carefully.
   b. John didn’t.

The example in (20b) is an irrefutable case of VP-ellipsis and importantly can mean that John didn’t wash a car carefully. The adjunct is understood in the interpretation of the sentence. This is natural because the manner adverb belongs to VP and hence is elided by VP-ellipsis, as shown below:

(21) John didn’t [VP wash a car carefully]

Returning to (18b), we notice that if it involved VP-ellipsis, it should be able to have the interpretation including the adverb, as illustrated below:

(22) John-wa [VP kuruma-o teineini t\(v\)] araw\(v\)-anaka\(\neg\)\(g\)-t\(a\) 
    John-TOP car-ACC carefully wash-not-PAST

Since the reading in question is impossible, we can conclude that V-stranding VP-ellipsis is not available in Japanese.

2.2. Correlating Argument Ellipsis with Scrambling

As observed just above, null subjects and null objects may arise through ellipsis in Japanese, whereas we noted in section 1 that null subjects in Spanish cannot be elliptic. How can this difference be accounted for? Since null elements themselves do not have visible or audible evidence leading to the discrepancy, it is reasonable to try to relate it to another, easily

\(^2\) Just for convenience, I indicate \textit{teiru} as a tense head, though it may well be a complex consisting of the aspect marker and the tense marker.
accessible difference between the two languages. In fact, Oku (1998) proposes that argument ellipsis be related to scrambling (henceforth, let us call it the scrambling analysis).

To implement the idea, Oku (1998) adopts Bošković and Takahashi’s (1998) analysis of scrambling. Since scrambling is not accompanied by any morphological or semantic effect, it has been an obstacle to the last resort view of movement (Chomsky (1986, 1995)). Bošković and Takahashi (1998) attempt to solve the problem by assuming that scrambling involves covert movement of “scrambled” elements. This is illustrated below:

(23) a. Taroo-ga Hanako-o aisiteiru.
   ‘Taroo loves Hanako.’
   Taroo-NOM Hanako-ACC love

(23b) represents the basic word order of the transitive sentence in Japanese (SOV). As is known, the word order can be altered as in (23b) without affecting the meaning of the sentence. The standard view is to postulate an overt movement operation that places the object in a position preceding the subject in (23b). As noted above, this analysis poses a problem to the last resort principle, which requires that movement be motivated by feature checking (Chomsky (1995)). Bošković and Takahashi (1998) claim that the “scrambled” object in (23b) is actually base-generated in its surface position (either in a TP-adjoined position or in an extra-specifier position of TP) and undergoes covert movement to the canonical object position, as indicated below:

(24) a. 
   [TP Hanako-o [TP Taroo-ga [T [VP aisiv] teiruT ]]]

(24a) is the overt representation of (23b), where the object is directly generated in its surface position. In the LF component, the object is moved to the complement position of VP so as to receive the internal θ-role of the verb. Since θ-roles are features for Bošković and Takahashi (1998) (see Hornstein 1999 for a supportive argument), the movement operation depicted in (24b) is amenable to the last resort principle: scrambling is a covert movement operation applying to check θ-role features. One may wonder, however, whether the derivation in (24) is licit with respect to θ-role checking (or θ-role assignment), because the transitive verb has no complement that should check (or be assigned) its internal θ-role in (24a). Bošković and Takahashi (1998) assume that θ-roles are weak features in Japanese in Chomsky’s (1995) sense of the strong/weak dichotomy of features. While strong features must be checked as soon as possible once lexical items containing them are introduced into derivations, weak features can wait to be checked till LF. Then the derivation in (24) can be made licit. The lack of free word order alternation in languages like English is accommodated by assuming that θ-roles are strong features in those languages, so that the sort of derivation given in (24) is never an option there.
Oku (1998) employs the idea that θ-roles are weak features in Japanese, crucially using it in his analysis of sentences with argument ellipsis. To illustrate, let us consider the case of object ellipsis in (25).

(25) a. Taroo-wa zibun-no hahaoya-o aisiteiru.
    Taroo-TOP self-GEN mother-ACC love
    ‘lit. Taroo loves self’s mother.’

b. Hanako-mo e aisiteiru.
    Hanako-also love
    ‘lit. Hanako loves e, too.’

Oku (1998) assumes that when (25b) involves ellipsis, it literally lacks an object in overt syntax just like the overt representation of the scrambled sentence in (24a), and has the object in the antecedent sentence copied onto the object position in the covert component. This is schematically indicated below:

(26) a. \[TP Taroo-wa [T' [VP zibun-no hahaoya-o aisiv] teiruT]]

b. \[TP Hanako-mo [T' [VP aisiv] teiruT]]

b’. \[TP Hanako-mo [T' [VP zibun-no hahaoya-o aisiv] teiruT]]

(26a) is the representation of the antecedent sentence in (25a). (26b-b’) show the derivation of (25b). (26b) is the overt form of the sentence, where the VP is simplex though the verb is transitive. This is allowed in Japanese by assumption because the internal θ-role does not have to be checked in overt syntax. When it enters the covert component, the object in (26a) is copied onto the complement position of VP as shown in (26b’) so as to check (or be assigned) the internal θ-role of the verb. Notice that this analysis captures the basic properties of cases of argument ellipsis: the overt form in (26b) is sent to the PF component, so that it is realized as a null object sentence; the LF representation in (26b’) contains zibun-no hahaoya ‘self’s mother’ in object position and hence its intended reading (Hanako loves her own mother) is obtained straightforwardly.

Given that argument ellipsis involves the sort of derivation shown in (26b-b’), it should not be allowed in those languages where θ-roles are strong: their counterpart of (26b) should be illicit because the strong θ-role of the verb would not be checked in overt syntax. The following examples show that Spanish does not possess scrambling ((27) and (28) are cited from Green 1987 and Jaeggli 1982, respectively):

(27) a. Elena compró un coche.
    Elena bought a car
    ‘Elena bought a car.’

b. * Elena un coche compró.

(28) a. Me parece que Juan no tiene el libro.
    I think that Juan not have the book
    ‘I think that Juan does not have the book.’

b. * El libro, me parece que Juan no tiene.

3 Thus, Oku (1998) basically follows Williams (1977) in embracing the copying theory of ellipsis.
While (27b) indicates the absence of scrambling to the VP edge, (28b) shows the impossibility of long-distance scrambling. The lack of scrambling means that θ-roles are strong in Spanish, which in turn entails that it does not permit argument ellipsis. This way, Oku (1998) relates argument ellipsis to scrambling, with weak θ-role features underlying both of them.4 5

2.3. Correlating Argument Ellipsis with the Lack of Agreement

An alternative to the scrambling analysis is put forth by Saito (2007), who argues that the absence or presence of agreement actually plays a key role in the cross-linguistic distribution of argument ellipsis. Put simply, the basic idea is that ellipsis of arguments is only allowed in the environment where they do not participate in agreement relation with functional heads such as T and v (hereafter, it is referred to as the anti-agreement analysis): As is well-known, Japanese lacks agreement between arguments and functional heads in general (but see section 3 for one complication), so that for Saito (2007), it permits ellipsis of arguments; on the other hand, Spanish boasts rather rich agreement between subjects and T, and hence it does not allow subject ellipsis.6

To implement the idea, Saito (2007) adopts the theory of agreement proposed by Chomsky (1995, 2000) along with the copying analysis of ellipsis. Let us illustrate Chomsky’s (1995, 2000) theory of agreement by using the schematic representations below:

(29)  a.  ... F₁{φ} ... DP₁{φ, Case} ...
     b.  ... F₁{φ} ... DP₁{φ, Case} ...

Suppose that in (29a), we have a functional head, indicated as F₁, with φ-features, which are uninterpretable for that head and thus must be erased by checking. Suppose also that there is a nominal phrase, shown as DP₁, in the “neighborhood” of F₁, so that they can participate in checking relation. The DP possesses φ-features as a general property of the category, and also it is supposed to have a Case feature, which “activates” DP₁ for the purpose of checking. Once they enter into checking relation, the uninterpretable φ-features of F₁ and the uninterpretable Case feature of DP₁ are erased, as shown in (29b). The Case feature of DP₁ plays a crucial role here: in order to enter into checking with F₁, DP₁ needs to have an unchecked Case feature. This is to capture the generalization, referred to as the last resort

4 As for the impossibility of adjunct ellipsis, Oku (1998) assumes that LF copying is an instance of Merge in the sense of Chomsky (1995) and that it must be motivated by θ-feature checking: as a consequence, LF copying is restricted to arguments. Though this idea is successful in ruling out adjunct ellipsis, it remains to be answered why the type of Merge instantiated as LF copying differs in this way from the usual type of Merge, which can apply to adjuncts as well as arguments. I will return to this issue in section 5.

5 It is pointed out in Takahashi 2007 that Korean and Mongolian, two other scrambling languages, allow argument ellipsis in the same way as Japanese. This conforms to the scrambling analysis. At the same time, they lack agreement just like Japanese, and thus the situation is also compatible with the anti-agreement analysis to be explicated below.

6 Spanish does not allow ellipsis of objects (in fact, it disallows null objects entirely), though it lacks object agreement at least superficially. To account for it, it is necessary to assume that the language, albeit abstractly, does have agreement between objects and a functional category (most probably, v).
effect, that once moved to Case positions, DPs cannot undergo further A-movement. Since its Case feature is checked in (29b), DP1 is no longer available for further checking of $\varphi$-features of another head.

Suppose that DP1 in (29b) serves as the antecedent of argument ellipsis in (30).

(30)  a. ... $F_2\{\varphi\}$ ... ___ ...
    b. * ... $F_2\{\varphi\}$ ... $DP_1\{\varphi, \text{Case}\}$ ...

In (30a), the functional head $F_2$ has uninterpretable $\varphi$-features and its associate argument DP is non-existent because it is intended to be elliptic (note that under the copying analysis, elliptic sites are vacant initially and materialized later). Copying DP1 in (29b) onto the elliptic site yields (30b). Notice that the resulting structure is ungrammatical because the copied DP1, whose Case feature has already been checked (or erased) in (29), should be inert and not be able to check the $\varphi$-features of $F_2$.

Let us consider what happens when we try to have subject ellipsis in languages with subject agreement like Spanish. (31) schematically represents the derivation of a clause with subject agreement.

(31)  a. ... $[TP\ T\{\varphi\}\ [v\ P\ ...\ DP\{\varphi, \text{Case}\}...\ ]]$ ...
    b. * ... $[TP\ T\{\varphi\}\ [v\ P\ ...\ DP\{\varphi, \text{Case}\}...\ ]]$ ...
    c. ... $[TP\ DP\{\varphi, \text{Case}\}\ [T'\ T\{\varphi\}\ [v\ P\ ...\ fDP\ ...\ ]]\ ]$ ...

By assumption, as shown in (31a), T has uninterpretable $\varphi$-features and it has a checking mate DP (or the subject) in vP. Checking results in (31b), where the uninterpretable $\varphi$-features of T and the uninterpretable Case feature of DP are erased. And then irrelevantly DP undergoes movement to the specifier position of TP for the purpose of satisfying the EPP requirement, as indicated in (31c). Now suppose that (31c) serves as the antecedent for a sentence with subject ellipsis, which is schematically shown below:

(32)  a. ... $[TP\ T\{\varphi\}\ [v\ P\ ...\ ___\ ]]$ ...
    b. * ... $[TP\ T\{\varphi\}\ [v\ P\ ...\ DP\{\varphi, \text{Case}\}...\ ]]$ ...

While T has uninterpretable $\varphi$-features, its associate subject is initially absent in (32a). If DP in (31c) is copied, (32b) is obtained. It should be ruled out because the copied subject cannot serve as a checking mate of T as its Case feature was already erased prior to copying. This way, subject ellipsis is correctly excluded in Spanish. Generally speaking, arguments that participate in agreement in the sense of Chomsky (1995, 2000) cannot be elliptic.

Turning to Japanese, we may understand the lack of agreement to mean that functional heads such as T and v are not endowed with $\varphi$-features in the language. As a consequence, whether or not copied antecedents have their Case features checked prior to copying, they do
not need to check uninterpretable \( \phi \)-features of functional heads, which are just absent (see Fukui 1996 for a precursor of the idea).\(^7\)

In this section, we have briefly reviewed the two hypotheses put forth by Oku (1998) and Saito (2007) to account for the cross-linguistic distribution of argument ellipsis. Unfortunately, as far as Japanese and Spanish are concerned, they make the same prediction: For Oku (1998), since Japanese, but not Spanish, possesses scrambling, the former, but not the latter, should allow argument ellipsis. For Saito (2007), the absence of agreement in Japanese and its presence in Spanish mean that only the former should allow argument ellipsis. To distinguish the two alternatives, therefore, we need to consider those languages that behave differently from Japanese and Spanish with respect to agreement and scrambling. In what follows, we will examine data from two other null argument languages, namely Turkish and Chinese. Turkish allows scrambling and exhibits subject agreement whereas Chinese lacks free word order and agreement, and hence they should help determine which hypothesis is superior.

3. Argument Ellipsis in Turkish

Let us begin by reviewing some basic properties of Turkish that are relevant to our concern.\(^8\) First of all, it is known to exhibit subject-predicate agreement in finite clauses, as exemplified below:

(33) a. (Ben) bu makale-yi yavaşyavaş oku-yacağım
    (I) this article-ACC slowly read-FUT-1SG
    ‘I will read this article slowly.’

    b. (Biz) her hafta sinema-ya gid-er-iz
    (we) every week movies-DAT go-AOR-1PL
    ‘We go to the movies every week.’

The agreement suffixes on the predicates in (33a-b) have different forms in accordance with the type of the subjects.

Secondly, Turkish is said to have scrambling. Thus, it allows free word order shift of the following sort:

(34) a. Can her hafta sinema-ya gid-er.
    John every week movies-DAT go-AOR
    ‘John goes to the movies every week.’

\(^7\) Questions arise as to how to license nominative and accusative Case in Japanese. Saito (1985) argues that nominative Case is contextually licensed in Japanese (in effect, phrases immediately dominated by T’s projections are assigned nominative Case), while Fukui and Takano (1998) suggest that accusative Case is inherent in Japanese. Those ideas are compatible with the assumption in the text that subjects and objects do not participate in agreement in the language.

\(^8\) The Turkish data discussed in this section are drawn from Şener and Takahashi 2009 unless indicated otherwise. For details, see the reference as well as those mentioned there.
b. Can sinema-ya her hafta gid-er.
   John movies-DAT every week go-AOR
   ‘John goes to the movies every week.’

In (34), the order of the dative phrase and the temporal adjunct may alternate as indicated without being accompanied by any semantic or morphological change.

Thirdly, the language is known to allow subjects and objects to drop, which is exemplified in the following sentence:

(35)   e  e  at-ti-m
       throw-PAST-1SG
   ‘lit. I threw e.’

This sentence apparently consists of the verb only, the subject and the object not being expressed overtly. The reference of the null subject is recovered from the agreement morpheme on the verb, while the reference of the null object is determined by the context in which the sentence is used.

Bearing these in mind, let us consider whether Turkish allows argument ellipsis. The following examples are to determine whether null objects permit sloppy interpretation:

       John his mother-3SG-ACC criticize-PAST
       ‘John criticized his mother.’

b. Filiz-se e öv-dü.
   Phylis-however praise-PAST
   ‘lit. Phylis, however, praised e.’

(37) a. Kim kendi-ni eleş-tir-di?
       who self-ACC criticize-PAST
       ‘Who criticized himself?’

b. Can e eleş-tir-di.
   John criticize-PAST
   ‘lit. John criticized e.’

Anteceded by (36a), (36b) is ambiguous between the strict and the sloppy interpretation. Of particular importance is the possibility of the sloppy reading that Phylis praised his own mother. Also, as a reply to the wh-question in (37a), (37b) means that John criticized himself. (37b) shows that the null object cannot be identified as an empty pronoun in this case as it would otherwise violate Condition (B). These data indicate that null objects may arise through ellipsis in Turkish. It is reinforced by the following data:

(38) a. Can üç hırsız yakala-di.
       John three burglars catch-PAST
       ‘John caught three burglars.’

b. Filiz-se e sorgula-di.
   Phylis-however interrogate-PAST
   ‘lit. Phylis, however, interrogated e.’
The antecedent sentence in (38a) contains the quantified phrase as the object. Preceded by it, (38b) can have the quantificational reading that Phylis interrogated three burglars, who can be different from the three burglars caught by John.

Further, the following data due to Serkan Şener (personal communication) shows that ellipsis is not limited to nominal phrases:

(39) a. Genc kadınlar birbirleri için kazak  ormus-ler.
    young women each.other for  sweater knit-3PL
    ‘Young women knit sweaters for each other.’

b. Yaşlı kadınlar-ise atki ormus-ler.
    old women-however scarf knit-3PL
    ‘Old women, however, knit scarfs.’

While the antecedent sentence in (39a) contains the benefactive PP corresponding to for each other, it is omitted in (39b). Nonetheless, (39b) can mean that old women knit scarfs for each other. Thus, not just nominal phrases but postposition phrases can be elided.

The elided PP is (39b) is thematically related to the verb; namely is is an argument. Let us examine whether adjuncts are subject to ellipsis.

(40) 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.’

The antecedent sentence in (40a) contains the adverb corresponding to quickly. It is followed by the null object construction in (40b). Our concern here is whether the adverb can be understood in the interpretation of (40b). The answer is in the negative: (40b) may mean that Phylis did not solve the problem, but cannot mean that Phylis did not solve the problem quickly. This fact is also important in ruling out the possibility that elliptic null object constructions in Turkish involve V-stranding VP-ellipsis. If it were available, (40b) should be able to have the non-existent reading, just like the case of VP-ellipsis in English in (41b).

(41) a. John solved the problem quickly.

b. But Bill didn’t.

As we have observed that Turkish allows elision of objects or of internal arguments more generally, let us turn to subject ellipsis. Given that Turkish is like Japanese in allowing scrambling, the scrambling analysis of argument ellipsis should expect it to permit subject ellipsis just like Japanese; on the other hand, since Turkish is unlike Japanese in exhibiting subject agreement, the anti-agreement analysis should predict that it should not allow subjects to be elided. Thus, the two theories make different predictions here. It turns out that relevant data favor the anti-agreement analysis. Consider the following examples first:
John his son-3SG English learn-PRES COMP know-PRES
‘John knows that his son learns English.’
b. Filiz-se [e Fransızca öğreniyor diye] biliyor.
Phylis-however French learn-PRES COMP know-PRES
‘lit. Phylis, however, knows that e learns French.’

(42a) is intended to serve as the antecedent for (42b), where the embedded subject is empty. Significantly, (42b) does not allow the sloppy interpretation that Phylis knows that his own son learns French; it is limited to the strict reading that Phylis knows John’s son learns French. The impossibility of subject ellipsis is confirmed by the following examples:

John his proposal-3SG-GEN accept do-PASS-NM-3SG-ACC think-PRES
‘John thinks that his proposal will be accepted.’
b. Aylin-se [e redded-il-eceğ-i]-ni düşünüyor.
Eileen-however reject-PASS-NM-3SG-ACC think-PRES
‘lit. Eileen, however, thinks that e will be rejected.’

These sentences involve nominalized embedded clauses, which, as is well known, do exhibit subject agreement in Turkish. The embedded subject is null in (43b), which is intended to take (43a) as the antecedent. Just like (42b), (43b) is confined to the strict interpretation. Arguably the null subjects in (42b) and (43b) are pronominal just like the null subject in the Spanish example in (5b). That they cannot arise through ellipsis is precisely what the anti-agreement analysis of argument ellipsis predicts.

This conclusion is reinforced by the fact that null subjects in Turkish do not allow quantificational interpretation, either.

(44) a. Üç öğretmen Can-ı eleştir-di.
three teacher John-ACC criticize-PAST
‘Three teachers criticized John.’
b. e Filiz-i-yse öv-dü.
Phylis-ACC-however praise-PAST
‘lit. e praised Phylis.’

Anteceded by (44a), (44b) contains a null subject. While the subject can be understood as the three teachers that criticized John, it cannot be taken as the quantificational phrase three teachers. This observation again shows that null subjects in Turkish can be pronominal but cannot be elliptic.

That agreement is responsible for the impossibility of subject ellipsis in the data above is bolstered by the observation due to Şener and Takahashi (2009) that ellipsis indeed can apply to subjects of clauses that do not exhibit agreement. Öztürk (2006) points out that certain adverbial clauses can have null subjects despite the fact that they do not show agreement. This is exemplified by the following data due to Öztürk (2006):
The embedded subject in (45B) is null and is understood to refer to Bill in this particular context. Şener and Takahashi (2009) observe that null subjects of adjunct clauses in question can induce sloppy interpretation, a sign of ellipsis. The following is a case in point:

John his son-3SG.POSS English learn-because
sevin-di.
be.pleased-PRES.PERF
‘John is pleased because his son has learned English.’

b. Filiz-se [e Fransızca öğrenince] sevin-di.
Phylis-however French learn-because be.pleased-PRES.PERF
‘lit. Phylis, however, is pleased because e has learned French.’

Preceded by (46a), (46b) can have the sloppy reading that Phylis is pleased because his own son learns French, in addition to the strict interpretation that Phylis is pleased because John’s son learns French.

Additional support is obtained from the so-called ECM construction in Turkish, exemplified below:

Pelin I/you/he/she-ACC high-school-DAT start-FUT think-PRES
‘Pelin thinks I/you/he/she will start high school.’

The embedded subjects are marked accusative, and the form of the embedded predicate is invariant irrespective of the type of the subjects. To see whether subjects in question can be elliptic, let us consider the following data:

Pelin her niece-3SG-ACC high-school-DAT start-FUT think-PRES
‘Pelin thinks her niece will start high school.’

Susan-however grade-school-DAT start-FUT think-PRES
‘Susan, however, thinks that e will start grade school.’

Şener and Takahashi (2009) observe that (48b) can be understood sloppily, meaning that Susan thinks that her own niece will start grade school.

To sum up, we have noted in this section that argument ellipsis is available in Turkish in general: objects and argumental PPs can be elided. This is expected equally by the
scrambling analysis and the anti-agreement analysis, because Turkish is a scrambling language and shows no agreement between internal arguments and predicates. The two analyses diverge in ellipsis of subjects, which do agree with predicates in finite and nominalized clauses. The crucial observation is that they do resist ellipsis, favoring the anti-agreement analysis. That agreement is a culprit in the impossibility of subject ellipsis in those environments is supported by the fact that subject ellipsis indeed becomes possible in the clauses that do not exhibit agreement, such as in (46) and (48).

4. Argument Ellipsis in Chinese

Let us turn to Chinese. As is known, it allows null arguments in finite clauses just like Japanese, but crucially it does not permit free word order and exhibits no agreement. Thus, it should offer us another opportunity to examine the two alternative hypotheses on the cross-linguistic distribution of argument ellipsis. Let us begin by reviewing some basic characteristics of the language pertaining to our interest.

First of all, it exhibits no agreement at all between arguments and predicates, as shown below:

(49) a. Wo/Ni/Ta/Women/Nimen/Tamen kanjian Zhangsan le.  
     I/You/He/We/YouPL/They see Zhangsan ASP  
     ‘I/You/He/We/You/They saw Zhangsan.’

   b. Zhangsan kanjian wo/ni/ta/women/nimen/tamen le.  
      Zhangsan see me/you/him/us/youPL/them ASP  
      ‘Zhangsan saw me/you/him/us/you/them.’

In (49), the form of the verb remains intact irrespective of the type of the subjects and objects.

Secondly, it is not a free word order language.

(50) a. Zhangsan xihuan Xiaomei.  
      Zhangsan like Xiaomei  
      ‘Zhangsan likes Xiaomei.’

   b. * Zhangsan Xiaomei xihuan.  
      Zhangsan Xiaomei like  
      ‘lit. Zhangsan Xiaomei likes.’

   c. Xiaomei, Zhangsan xihuan.  
      Xiaomei Zhangsan like  
      ‘lit. Xiaomei, Zhangsan likes.’

The example in (50a) represents the basic word order for the transitive construction. The word order cannot be changed without affecting the grammaticality or the meaning of the sentence. For example, if the object is placed between the subject and the verb as in (50b),
the result is degraded. Also, if it is preposed beyond the subject as in (50c), the sentence itself is possible but only with an additional meaning characteristic of topicalization.9

Thirdly, Chinese permits subjects and objects to be null, which is illustrated succinctly in the following data drawn from Huang 1984:

(51) a. Zhangsan kanjian Lisi le ma?
    Zhangsan see Lisi ASP Q
    ‘Did Zhangsan see Lisi?’
b. e kanjian e le.
    see ASP
    ‘He saw him.’

The sentence in (51b) is intended as a reply to the question in (51a). The subject and the object are empty, and their references are determined on the basis of the context (in this case, the subject and the object most naturally refer to Zhangsan and Lisi, respectively).

We are now ready to consider whether Chinese allows argument ellipsis. The following data cited from Otani and Whitman (1991) seem to show that objects can be elided:

(52) a. Zhangsan bu xihuan guanyu ziji de yaoyan.
    Zhangsan not like about self of rumor
    ‘Zhangsan does not like rumors about himself.’
b. Lisi ye bu xihuan e.
    Lisi also not like e
    ‘lit. Lisi does not like e, either.’

According to Otani and Whitman (1991), (52b), if preceded by (52a), is ambiguous between the strict and the sloppy interpretation, and in particular the possibility of the latter reading is an indication of ellipsis.10 The following example drawn from Li (2008a) indicates that null objects in Chinese permit quantificational interpretation as well:

(53) Wo zhaodao-le liangben shu; ta ye zhaodao-le e.
    I find-ASP two book he also find-ASP
    ‘I found two books; he also found e.’

---

9 That movement to clause-initial positions in Chinese is different from scrambling in Japanese is also shown by the following example due to Li (2008b):

(i) Shei de zhaopian, Zhangsan zhidao shei mai-le.
    who of picture Zhangsan know who bought
    ‘lit. Whose picture, Zhangsan knows who bought?’

Saito (1989) points out that scrambling in Japanese can be fully reconstructed, so that the Japanese counterpart of (i) may allow the preposed wh-phrase to take embedded scope. The example in (i) does not allow the possibility: if it is to be acceptable at all, the dislocated wh-phrase must take matrix scope, making the entire sentence a wh-question.

10 Otani and Whitman (1991) actually follow Huang (1991), embracing an analysis of the relevant data in terms of VP-ellipsis. The idea is refuted by Li’s (2008a) observation that the construction in question does not allow ellipsis of adjuncts (see the text below).
Anteceded by the first sentence, the second sentence has a null object and can mean that he found two books too, the crucial point being that the books he found may be different from those I found.

Ellipsis is not limited to nominal phrases; non-nominal categories such as CP and PP can be elided, as Cheng (2009) argues on the basis of the following examples:¹¹

(54)  
Wo renwei [CP Zhangsan hen congming]. Tamen que bu renwei e.  
I think Zhangsan very smart they whereas not think  
‘lit. I think Zhangsan is smart. On the other hand, they do not think e.’

(55) a. Akiu jieshao Lisi [PP gei ziji de meimei].  
Akiu introduce Lisi to self of younger.sister  
‘Akiu introduced Lisi to his younger sister.’

b. Wangwu zeshi jieshao Aming [PP e].  
Wangwu whereas introduce Aming  
‘lit. On the other hand, Wangwu introduced Aming e.’

(56) a. Zhangsan fang-le yiben shu [PP zai ziji de fangjian].  
Zhangsan put-ASP one book at self of room  
‘Zhangsan put a book in his room.’

b. Lisi zeshi fang-le yifu hua [PP e].  
Lisi whereas put-ASP one painting  
‘lit. On the other hand, Lisi put a painting e.’

The second sentence in (54) has the complement CP elided. In (55b) and (56b), the parts where their antecedent sentences have PPs are empty. Nonetheless, they can be understood sloppily: (55b) can mean that Wangwu introduced Aming to Wangwu’s younger sister, and (56b) that Lisi put a painting in Lisi’s room. This is readily accounted for if we assume that the PPs are in fact elided under identity with the PPs in the antecedent sentences.¹²

The data mentioned above might be able to be accounted for by the analysis due to Huang (1991) and Otani and Whitman (1991) that utilizes VP-ellipsis with concomitant V-raising (or V-stranding VP-ellipsis).¹³ This possibility, however, is proven to be untenable by the following data cited from Li (2008a):

¹¹ Li (2008b) observes that ellipsis of CP is disallowed in Chinese, on the basis of cases like the following:

(i) * Wo renwei ta hen congming; tamen ye renwi e.  
I think he very smart they also think  
‘lit. I think he is very smart; they also think.’

The second sentence here differs from the second sentence in (54) in that the former is not negated. Johnny Cheng (personal communication) as well as my informant pointed out that (i) is actually not so bad as indicated by Li (2008b) albeit not perfect, and that it becomes completely acceptable if negated as in (54). Though I have no explanation of this contrast at present, it seems that CP ellipsis in Chinese necessitates some kind of contrast between antecedent and elliptic clauses.

¹² The categorial status of gei and zai in cases like those seems to be debated in the literature on Chinese syntax (see Li 1990). Whether they are prepositions or a kind of verb is immaterial to our main concern here, which is to show that non-nominal phrases can undergo ellipsis in the language.

¹³ Takahashi (2007) suggests this possibility, but it is refuted by (57).
(57) a. Wo jian-guo ta san ci le; tamen mei jian-guo e.
I see-ASP him three times LE they not see-ASP ‘I have seen him three times; they have not seen e.’
b. Wo renshi ta hen jiu le; (keshi) wo baba bu/*mei renshi e.
I know him very long LE (but) my father not know ‘I have known him for a long time; (but) my father does not know e.’

Although the antecedent sentences here contain postverbal adjuncts (the frequency adjunct in (57a) and the duration adjunct in (57b)), they are not included in the interpretations of the second sentences ((57b) is actually ungrammatical with the negation marker mei). If sentences with null objects (or more generally, with null complements) were derived by VP-ellipsis in Chinese, (57a-b) should be able to have the impossible readings, as VP-ellipsis can generally elide adjuncts as well as complements as long as they belong to VP (as shown by cases like John saw Mary only once, and Bill did, too; the elliptic sentence can mean that Bill saw Mary only once, too). It is then concluded that argument ellipsis is available in Chinese.14

Let us consider at this point how the two analyses of argument ellipsis, that is, the scrambling analysis and the anti-agreement analysis, fare with the conclusion we have just reached. According to the scrambling analysis, since Chinese is not a free word order language (namely, it does not allow scrambling), it should disallow argument ellipsis. On the other hand, the anti-agreement analysis expects that the language should in principle be able to have argument ellipsis as it lacks agreement. Obviously, the facts given above favor the latter analysis.

There is a complication, however. As noted by Takahashi (2007, 2008a), Chinese does not allow subjects to be elided. Let us consider the following data cited from Takahashi 2007:

(58) a. Zhangsan shuo ziji de haizi xihuan Xiaohong.
Zhangsan say self of child like Xiaohong ‘Zhangsan said his child liked Xiaohong.’
b. Lisi shuo e xihuan Xiaoli.
Lisi say e like Xiaoli ‘lit. Lisi said e liked Xiaoli.’

Preceded by (58a), (58b) has an empty embedded subject. While it has the strict reading that Lisi said that Zhangsan’s child liked Xiaoli, it does not have the sloppy interpretation that Lisi said that his own child liked Xiaoli. The absence of the sloppy interpretation implies that the null subject is not derived by ellipsis (rather, it is arguably a pronoun, as noted by Huang (1984)). Why, then, does Chinese disallow subjects to be elliptic though apparently it lacks agreement?

Here I assume with Cheng (2009) and Miyagawa (2009) that Chinese does have agreement between subjects and T. Miyagawa (2009) supports the hypothesis by considering the so-called blocking effect on long-distance binding (see Y.-H. Huang 1984 and Tang 1989, among others). As is known, the reflexive ziji ‘self’ can be bound long-distance, as shown

14 Thus, I basically follow Cheng (2009). Li (2008a, b) puts forth a similar idea though she assumes that ellipsis in question is restricted to nominal phrases.
below (the examples in (59) and (60) are those discussed by Miyagawa (2009), who attributes them to Pan 2000):

(59)  Zhangsan zhidao Lisi dui ziji mei xinxin.  
      Zhangsan know Lisi to self not confidence  
      ‘lit. Zhangsan knows Lisi has no confidence in self.’

The reflexive in the embedded clause may be bound either by the embedded subject Lisi or by the matrix subject Zhangsan. The long-distance construal, however, is blocked if the intervening subject is changed to the first person or second person pronouns, as indicated below:

(60)  Zhangsan juede wo/ni dui ziji mei xinxin.  
      Zhangsan think I/you to self not confidence  
      ‘lit. Zhangsan thinks I/you have no confidence in self.’

Here the reflexive can only be bound the embedded subject. According to Miyagawa (2009), this fact is understood in the following way: Suppose that ziji undergoes LF movement to T, where it establishes local relation with its antecedent in the specifier position of TP (Battistella 1989, Cole, Hermon, and Sung 1990, and so on), and that when remotely bound, it undergoes successive cyclic T-to-T movement. Suppose also that the reflexive receives the value of the person feature from the T head that it attaches to first. When (59) has the long-distance interpretation, for example, ziji first moves to the embedded T, which assigns it the value [3rd person], and then to the matrix T to have local relation with the intended antecedent. The person values of the reflexive and its final landing site (the matrix T) match, both being [3rd]. On the other hand, if the reflexive were to be bound by the matrix subject in (60), it would move first to the embedded T to receive the value [1st (or 2nd)] before landing at the matrix T. In this case, the person value of the reflexive, which is [1st] or [2nd], would not match that of the matrix T, which is [3rd], so that the resulting representation should be ruled out. Note that this explanation presupposes that Chinese possesses agreement between subjects and T so that T can take on the φ-feature value of the subjects.

The reasoning along this line leads us to expect that Japanese should not exhibit the blocking effect in question because it lacks agreement. In fact, Miyagawa (2009) points out an example of the following sort, noting that there is no blocking effect:

(61)  Taroo-wa boku/kimi-ga zibun-no syasin-o tota to itta.  
      Taroo-TOP I/you-NOM self-GEN picture-ACC took that said  
      ‘lit. Taroo said that I/you took self’s picture.’
According to Miyagawa (2009), the reflexive *zibun* may take the remote subject *Taroo* as its antecedent in (61) though the intervening subject is the first or second person pronoun.\(^{15}\)

### 5. Concluding Remarks

To sum up, we have considered how argument ellipsis emerges in Turkish and Chinese, with the aim of determining whether its cross-linguistic distribution correlates with the presence of scrambling or the absence of agreement. We have noted, among others, that subjects are not subject to ellipsis in Turkish when they participate in agreement, and that Chinese allows argument ellipsis in general. These facts would not be expected by the scrambling analysis, which should predict that subjects as well as objects should be able to undergo ellipsis in Turkish because it permits scrambling and that Chinese should prohibit argument ellipsis entirely because it disallows scrambling. On the other hand, the anti-agreement analysis can accommodate most facts noted in this article fairly straightforwardly, the only complication having to do with the impossibility of subject ellipsis in Chinese. Superficially, the anti-agreement analysis predicts that subjects as well as objects should be able to be elliptic in Chinese since it lacks agreement. It is amenable to the anti-agreement analysis, however, given the assumption, independently made by Miyagawa (2009), that the language does have agreement between subjects and T albeit in an abstract way.

The preference of the anti-agreement analysis over the scrambling analysis is not only based on empirical considerations; it is favored on conceptual grounds as well. Recall that the scrambling analysis crucially posits that \(\theta\)-roles are weak features in languages that allow argument ellipsis. The strong/weak dichotomy of features is a notion proposed by Chomsky (1995), but it is abandoned by Chomsky (2000) for a good reason: it amounts to postulating features of features, which should be avoided if possible. The anti-agreement analysis, on the other hand, does not need such a notion; the general theory of agreement suffices.

Further, the scrambling analysis crucially employs counter-cyclic application of LF copying. Given a pair of an antecedent and an elliptic sentence, an argument in the former is copied into the latter to check a weak \(\theta\)-role feature at LF. The current trend in syntactic theory is, however, to assume one-cycle syntax (Chomsky 2000) rather than the traditional view of syntax as having two cycles (namely, the overt and the covert (LF) cycle). Any analysis involving counter-cyclic operations, therefore, should be reconsidered. One might think that this argument is not fair, since the anti-agreement analysis assumes copying of antecedents onto elliptic structures as well. Saito (2007) notes, however, that the copying operation for the anti-agreement analysis does not need be counter-cyclic. To illustrate, let us consider the following schematic structure:

\[
(62) \quad [CP \ C_1 [TP \ SUB_1 [T^* \ T_1 [\_P \ TSUB \ [\_v \ V_1 \ [\_P \ V_1 \ OBJ ]]]]]]
\]

\(^{15}\) To approach the absence of subject ellipsis in Chinese vis-à-vis its presence in Japanese, one might take recourse to another difference between subjects in the two languages: Chinese imposes the well-known specificity effect on subjects whereas Japanese exhibits no such effect. It might be made workable if it could be shown somehow that specificity interferes with ellipsis. As Serkan Şener (personal communication) pointed out, this possibility seems to be refuted readily by the data in Turkish in (36) and (37), where the accusative objects are elided. As is well-known, accusative phrases are interpreted as specific in Turkish, but they can undergo ellipsis.
According to Chomsky (2000), spell-out applies to constituents that he calls phases, which are CP and vP. Further, he assumes that when a phase is formed and is subject to spell-out, what is actually affected is its complement. Thus, at the point when vP is constructed in (62), VP undergoes spell-out, transferred to the interpretive components. On the semantic (or LF) side, we have the elements in VP, namely V₁ and OBJ, devoid of phonetic features; on the phonetic side, we have V₁ and OBJ without semantic or formal features. Saito (2007) assumes that copying is nothing but reuse (or recycling) of spelled-out elements. Thus, OBJ without phonetic features, which is indicated as OBJ for convenience, may be reused for copying (or Merge). If it is merged with a new verb V₂, the following structure is formed:

\[
(63) \quad [\text{VP } V_2 \text{ OBJ}]
\]

This can be further embedded, yielding the following clausal configuration:

\[
(64) \quad [\text{CP } C_2 [\text{TP } \text{SUB}_2 [\text{T'} T_2 [\text{T} T_2 [\text{vP } \text{SUB} [\text{v' } v_2 [\text{VP } V_2 \text{ OBJ} ]]]]]]]
\]

The formation of (64) does not involve any counter-cyclic application of merger. Note also that the resulting structure is a null object construction because the object is devoid of sound. The scrambling analysis, on the other hand, could not employ this kind of derivation for sentences with argument ellipsis, since it necessarily posits that copying applies to check a weak θ-role feature and hence must take place in covert syntax.

The conclusion that the lack of agreement is a key factor in licensing argument ellipsis is interesting especially if we consider the history of the research on null arguments in the field. The standard view (with a few exceptions) has been that null arguments are pronouns, which are licensed by agreement morphology (see Jaeggle and Safir 2007 for an overview of the idea). If the result obtained in this article is correct, there is another type of null argument in natural languages, which arises through ellipsis, and elliptic null arguments are licensed in exactly the opposite way to their pronominal counterpart. Thus, this study sheds a new light on the research on null arguments.

I am aware, however, that the empirical coverage in this article is far from sufficient. In order to have a more solid generalization, it is necessary to examine more closely the relation between argument ellipsis and agreement, for example, by considering those languages where agreement manifests itself in different ways than in the languages discussed here. In fact, Takahashi (2007) considers Basque, which allows null arguments just like Japanese and exhibits both subject and object agreement (see Ortiz de Urbina 1989), providing the following data:

\[
(65) \quad \text{a. } \text{Jon-ek} \quad \text{bere} \quad \text{ama} \quad \text{ikusi} \quad \text{zuen}.
\]
\[
\quad \text{Jon-ERG} \quad \text{his} \quad \text{mother} \quad \text{see} \quad \text{AUX}
\]
\[
\quad \text{‘Jon saw his mother.’}
\]

\[
\text{b. } \text{Peru-k} \quad \text{aldiz} \quad \text{ez} \quad \text{zuen} \quad e \quad \text{ikusi}.
\]
\[
\quad \text{Peru-ERG} \quad \text{however} \quad \text{Neg} \quad \text{AUX} \quad \text{see}
\]
\[
\quad \text{‘lit. However, Peru did not see e.’}
\]

\[
(66) \quad \text{a. } \text{Jon-ek} \quad \text{esan} \quad \text{du} \quad [\text{bere} \quad \text{ama-k} \quad \text{Miren} \quad \text{ikusi} \quad \text{duela}].
\]
\[
\quad \text{Jon-ERG} \quad \text{say} \quad \text{AUX} \quad \text{his} \quad \text{mother-ERG} \quad \text{Miren} \quad \text{see} \quad \text{AUX}
\]
\[
\quad \text{‘Jon says his mother has seen Miren.’}
\]
b. Peru-ERG say AUX Arantza see AUX ‘lit. Peru says e has seen Arantza.’

The sentence in (65b) is intended to follow (65a) and has an empty object. Takahashi (2007) points out that the sloppy reading is possible in (65b). This seems to indicate that objects can undergo ellipsis in Basque despite the fact that it has object agreement. The example in (66b) is anteceded by (66a) and its embedded subject is empty. According to Takahashi (2007), (66b) cannot be understood sloppily, showing that subjects cannot undergo ellipsis. The subject-object asymmetry is like what we have observed in Turkish and Chinese, but Basque crucially differs from them in exhibiting object agreement. Apparently the possibility of object ellipsis in (65) is not compatible with what the anti-agreement analysis predicts. However, we have to take various possibilities into account before reaching any conclusion based on cases like these. For instance, Basque may have V-stranding VP-ellipsis. In that case, (65b) may involve VP-ellipsis, ceasing to contradict the anti-agreement analysis of argument ellipsis. This line of analysis also could accommodate the fact in (66b): the subject is outside of VP and hence is not elided by VP-ellipsis. Then, null subjects must be empty pronouns in Basque, confined to strict interpretation. Unfortunately, I have to leave it for future research to examine this and other possibilities for Basque while widening the empirical scope of this study.

Another issue that merits attention has to do with the impossibility of adjunct ellipsis. Because adjuncts generally do not participate in agreement with functional heads, the anti-agreement analysis would expect them to be able to undergo ellipsis, contrary to the fact (see (18), (40), and (57)). Though I cannot offer a definite solution to this problem at the moment, I suspect that the idea due to Lobeck (1995) and Saito and Murasugi (1990) that elliptic sites must be licensed by heads may be relevant. Elliptic parts in constructions involving VP-ellipsis, sluicing, or NP-ellipsis (previously known as N'-deletion) are complements of functional heads like T, C, and D and hence they are selected. Empty sites in sentences with argument ellipsis are argument positions and thus they are related to lexical categories by selection (or θ-role assignment). On the other hand, adjuncts do not have any such association with heads, and this may well be responsible for their inability to undergo ellipsis.

Although I have assumed that Japanese lacks agreement, some researchers argue that agreement sometimes shows up in the language. For example, Toribio (1990) and Boeckx and Niinuma (2004) argue that so-called honorification counts as a kind of agreement. It is illustrated below:

(67) a. {Tanaka sensei / * Taroo}-ga eigo-o o-hanasi-ninatta.
Tanaka teacher Taroo-NOM English-ACC HON-speak-HON.PAST
‘Prof. Tanaka / Taroo spoke English.’

b. Boku-wa {Tanaka sensei / * Taroo}-o o-mikake-sita.
I-TOP Tanaka teacher Taroo-ACC HON-see-HON.PAST
‘I saw Prof. Tanaka / Taroo.’

---

16 Duguine (2006) makes the same observation based on a similar example.
The honorific markers are discontinuous morphemes occurring on verbs. (67a-b) are cases of subject and object honorification, respectively. If they are instances of agreement as sometimes argued, the anti-agreement analysis would predict that they should be incompatible with argument ellipsis. The following are relevant examples:

(68) a. Taroo-wa [zibun-no sensei-ga eigo-o o-hanasi-ninaru to] omotteiru.
        Taroo-TOP self-GEN teacher-NOM English-ACC HON-speak-HON that think
    ‘Taroo thinks that his teacher speaks English.’

        b. Hanako-wa [e furansugo-o o-hanasi-ninaru to] omotteiru.
            Hanako-TOP French-ACC HON-speak-HON that think
    ‘lit. Hanako thinks that e speaks French.’

(69) a. Taroo-wa zibun-no sensei-o eki de o-mikake-sita.
        Taroo-TOP self-GEN teacher-ACC station at HON-see-HON.PAST
    ‘Taroo saw his teacher at the station.’

        b. Hanako-wa e gakkoo de o-mikake-sita.
            Hanako-TOP school at HON-see-HON.PAST
    ‘lit. Hanako saw e at school.’

The embedded clause in (68b) has a null subject and its predicate is accompanied by the subject honorification marker. In (69b), the object is empty and the predicate takes on the object honorification marker. Several speakers were consulted for their judgments of these cases. The result was as follows: First of all, all of them had no problem getting the strict readings. As for the sloppy interpretation, they were divided into halves: About a half could find it without difficulty, while it was impossible or quite hard for the remaining half. The latter judgment is compatible with the prediction by the anti-agreement analysis, but something needs to be said about the former. The resolution will require a careful consideration of the phenomenon in question.

Despite the loose ends just noted, I believe that argument ellipsis provides us with a lot of possibilities worth pursuing further. To account for the presence or absence of argument ellipsis in a language, it is necessary to look into its clausal structure in detail, finding out exactly how agreement (or feature checking) is carried out there. A case in point is subject ellipsis in Chinese, which necessitates us to postulate abstract subject agreement there. Also, we need to subject argument ellipsis to cross-linguistic investigation. Since ellipsis can only be detected by often very delicate methods such as by considering whether relevant sentences have sloppy interpretation or quantificational construal, superficial comparison of null argument languages would not be sufficient. I hope that the present study will facilitate further inquiry into comparative syntax of argument ellipsis.

References


Li, Yen-hui Audrey. 2008a. Generating empty categories. MS. USC.

Li, Yen-hui Audrey. 2008b. Identifying empty categories. MS. USC.


Şener, Serkan and Daiko Takahashi. 2009. Argument ellipsis in Japanese and Turkish. MS. University of Connecticut and Tohoku University. (A shortened version will appear in *the proceedings of the 6th Workshop in Altaic Formal Linguistics*).


Takahashi, Daiko. 2007. Argument ellipsis from a cross-linguistic perspective. Paper read at GLOW in Asia VI, the Chinese University of Hong Kong.