

## Notes on East Asian Argument Ellipsis\*

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### 1. Introduction

It is argued in S.-W. Kim 1999 that argument ellipsis is one of the distinguished characteristics of East Asian languages. Oku (1998) proposed argument ellipsis for Japanese independently, presenting examples such as the following to substantiate his claim:

- (1) a. Hanako-wa [ zibun-no teian -ga saiyoosareru to ] omotte iru  
-TOP self -GEN proposal-NOM accepted-be that think  
'Hanako thinks that her proposal will be accepted'
- b. Taroo-mo [ \_\_\_\_ saiyoosareru to ] omotte iru  
-also accepted-be that think  
'Taroo also thinks that her/his proposal will be accepted'

The missing embedded subject in (1b) can be construed either as *Hanako's proposal* (strict reading) or *Taroo's* (sloppy reading). The latter construal is unexpected if the position is occupied by a null pronoun, *pro*, which is also attested in East Asian languages. As shown in (2), pronouns do not allow sloppy interpretation.

- (2) Taroo-mo [ sore-ga saiyoosareru to ] omotte iru  
-also it -NOM accepted-be that think  
'Taroo also thinks that her proposal will be accepted'

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Oku (1998) concludes then that (1b) has a structure where *zibin-no teian* ‘self’s proposal’ is elided in the embedded subject position and presents an LF copying analysis. Further arguments in support of this argument ellipsis hypothesis can be found, for example, in Saito 2004a and Takahashi 2006.

The main purpose of this paper is to explore the consequences of Oku’s analysis. In particular, I will try to relate argument ellipsis with two other properties of East Asian languages; radical pro-drop and the absence of overt agreement. I will argue that the presence of DP argument ellipsis implies the absence of agreement, as conceived, for example, in Chomsky 2000. This conclusion, in turn, necessitates the reconsideration of Case licensing in East Asian languages, as it cannot be a reflex of agreement. I will also suggest that radical pro-drop is a kind of argument ellipsis. The basic idea is that argument ellipsis is possible in those languages because they allow LF copying of linguistic objects provided by the discourse, including *pro*.<sup>1</sup>

In the following section, I will briefly discuss Hoji’s (1998) influential *pro* analysis of the relevant phenomenon, and show that we still have a strong case for argument ellipsis. In Section 3, I will consider Shinohara’s (2006) supporting evidence for Oku’s LF copying analysis. The main evidence is that a CP containing a trace of scrambling cannot be elided. I will present her data and an updated version of her analysis due to Kensuke Takita. Then, in Section 4, I will examine the mechanism of LF copying in more detail. I will argue that it introduces LF objects already constructed in the preceding discourse into the derivation of a new sentence, and hence, that the copied objects lack uninterpretable features. This implies that they cannot participate in agreement, given Chomsky’s (2000) activation condition. It follows that LF copying of DP arguments is possible only in languages without forced agreement in the sense of Kuroda 1988. In Section 5, I will present a piece of suggestive evidence, based on the distribution of genitive subjects in Japanese, that radical pro-drop involves LF copying of discourse *pro*. This leads to a speculation that argument ellipsis and radical pro-drop arise from the same source. Section 6 concludes the paper.

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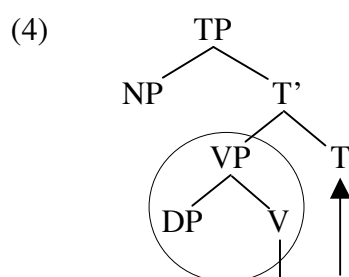
<sup>1</sup> I will consider Japanese data throughout this paper on the assumption that the analysis extends to other East Asian languages. It should be noted, however, that the argument ellipsis hypothesis is not quite established for Chinese. The generalization to all East Asian languages is, in this sense, still tentative. See Xu 1986 and Huang 1987 for relevant discussion on Chinese.

## 2. Ellipsis or *pro*?

S.-W. Kim (1999) and Oku's (1998) argument ellipsis hypothesis developed out of Otani and Whitman's (1991) VP-deletion analysis of examples such as (3).

- (3) Hanako-wa zibun-no koppu-o mitte kita; Taroo-mo \_\_\_ motte kita  
 -TOP self -GEN glass -ACC brought -also brought  
 'Hanako brought her glass, and Taroo also brought her/his glass'

They observe that the second sentence of (3) allows sloppy interpretation, and propose to explain this with a VP-deletion analysis illustrated in (4).



The verb raises to T by hypothesis, and consequently VP ellipsis yields the deletion only of the object DP.<sup>2</sup> S.-W. Kim and Oku both point out examples that are similar to (3) but cannot be analyzed in terms of VP-deletion, such as (1), and propose that DP arguments can be elided.

Hoji 1998 is a detailed critique of Otani and Whitman 1991. He first presents examples that do not allow sloppy interpretation, contrary to the predictions of the VP-deletion analysis. As far as I can see, the clearest is the one shown in (5).

- (5) a. Subete-no nihonzin huuu -ga betubetu-no gakusei-o suisensita  
 all -GEN Japanese couple-NOM different-GEN student -ACC recommended  
 'Every Japanese couple recommended different students'
- b. Subete-no amerikazin huuu -mo \_\_\_ suisensita  
 all -GEN American couple-also recommended  
 'Every American couple also recommended (them)'

<sup>2</sup> This analysis closely follows Huang's (1987) proposal for similar examples in Chinese.

(5a) allows the reading that (for each couple) the husband and wife recommended different students. However, this interpretation is difficult to obtain in (5b), where the object is missing. Note that the parallel English example with VP-deletion allows the relevant reading, as shown in (6).

- (6) Every Japanese couple recommended different students; and every American Couple did \_\_\_\_, too

Thus, (5b) seems problematic for Otani and Whitman's VP-deletion analysis, as Hoji points out. This carries over to the argument ellipsis hypothesis because it also predicts the availability of the relevant reading for (5b).

Hoji (1998), then, suggests alternative accounts for what he calls the 'sloppy-like' readings observed with examples such as (3). His conclusion is that all the relevant examples involve *pro* and not ellipsis. For example, he suggests that an indefinite *pro* occupies the object position of (7b).

- (7) a. Subete-no itinensei<sub>i</sub> -ga soitu<sub>i</sub> -no booru-o ketta  
 all -GEN first-grader-NOM that guy-GEN ball -ACC kicked  
 'All first-graders kicked their own balls'
- b. Subete-no ninensei -mo \_\_\_\_ ketta  
 all -GEN second-grader-also kicked  
 'All second-graders also kicked their own balls'

As indicated, sloppy reading is possible with (7b). Hoji points out that if *pro* can stand for an indefinite argument, then (7b) can be interpreted as (8) with an indefinite *pro*.

- (8) Subete-no ninensei -mo booru-o ketta  
 all -GEN second-grader-also ball -ACC kicked  
 'All second-graders also kicked balls'

This sentence does not mean that 'all second-graders kicked their own balls', but is consistent with the situation. That is, one can truthfully say that 'all second-graders kicked balls' when

each of them kicked his or her own ball. Hoji suggests then that (7b) appears to allow sloppy interpretation because it is an appropriate sentence to express the situation.

Hoji 1998 contains illuminating discussion, but as far as I can see, his arguments against the ellipsis analysis are not at all conclusive. First, the indefinite *pro* analysis of (7b) makes a wrong prediction as soon as the sentence is negated. Consider (9) for example.

- (9) a. Sensei -wa subete-no itinensei<sub>i</sub> -ni zibun<sub>i</sub>-no booru-o kasetta  
 teacher-TOP all -GEN first-grader-DAT self -GEN ball -ACC kick-made  
 ‘The teacher let all first-graders kick their own balls’
- b. Demo, ninensei -ni -wa \_\_\_\_ krasenakatta  
 but second-grader-DAT-TOP kick-make-did not  
 ‘But she/he did not let the second-graders kick their own balls’

Again, (9b) has sloppy interpretation, as indicated. That is, the sentence is appropriate in the situation where the teacher did let the second-graders kick balls but just did not allow them to use their own. In this situation, an indefinite *pro* fails to serve the purpose because (10) simply means that the teacher did not let the second-graders kick balls at all.

- (10) Demo, ninensei -ni -wa booru-o krasenakatta  
 but second-grader-DAT-TOP ball -ACC kick-make-did not  
 ‘But she/he did not let the second-graders kick balls’

It is thus dubious that the sloppy reading arises because of indefinite *pro* in examples like (7b) and (9b). The argument ellipsis hypothesis, on the other hand, predicts the sloppy interpretation of (9b) as well as (7b) straightforwardly.

Aside from this problem, Hoji’s (1998) approach raises an issue on how far we can stretch the possible interpretation of *pro*. It is already non-standard to assume that *pro* can be construed as indefinite. If *pro* is simply a pronoun without phonetic content, we would expect it to be definite in interpretation.<sup>3</sup> In addition, Shinohara (2004) presents examples such as (11) and (12), which seem difficult, if not impossible, to analyze with *pro*.

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<sup>3</sup> But see Jaeggli 1986 and Rizzi 1986 for limited cases where pronouns, overt or empty, receive ‘arbitrary’ interpretation.

- (11) Ano ryokan-wa iti -niti-ni okyaku-o san -kumi-izyoo tomeru ga,  
 that inn -TOP one-day-in guest -ACC three-group-more than let-stay though  
 kono ryokan-wa \_\_\_\_ tomenai  
 this inn -TOP let-stay-not  
 ‘That inn takes more than three groups of guests per day, but this inn does not’
- (12) Sono toki, Taroo-wa nanika katta ga, Hanako-wa \_\_\_\_ kawanakatta  
 that time -TOP something bought though -TOP bought-not  
 ‘At that time, Taroo bought something, but Hanako did not (buy anything)’

If *pro* occupies the null object positions in these examples, it would have to stand for the quantified argument, *okyaku-o san-kumi-izyoo* ‘more than three groups of guests’, in (11) and for the negative polarity item, *nanimo* ‘anything’, in (12).<sup>4</sup> Given examples like these, it is difficult to reject argument ellipsis in favor of the *pro* analysis. As far as I know, there is no language that allows a pronoun in place of a quantified DP or a negative polarity item. In this case also, the argument ellipsis hypothesis accounts for the data without any stipulation.

The discussion above, I believe, has shown that the ellipsis analysis covers a wide range of data and has a firm empirical basis. Hoji’s (1998) example in (5), repeated below as (13), remains problematic.

- (13) a. Subete-no nihonzin huuhu -ga betubetu-no gakusei-o suisensita  
 all -GEN Japanese couple-NOM different-GEN student -ACC recommended  
 ‘Every Japanese couple recommended different students’

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<sup>4</sup> Note that (12) has implications for the analysis of negative polarity items. Similar examples are possible in English with VP-deletion.

- (i) a. John bought something, but Mary did not (= Mary did not **buy anything**)  
 b. John did not buy anything, but Mary did (= Mary **bought something**)

Examples such as these indicate that *anything* is not a wide scope universal, but a morphological variant of the indefinite *something*. (12) shows that the same is true of its Japanese counterpart *nanimo*.

- b. Subete-no amerikazin huuhu -mo \_\_\_\_ suisensita  
 all -GEN American couple-also recommended  
 ‘Every American couple also recommended (them)’

But I suspect that the unavailability of the relevant reading has to do with the quantificational or focal nature of the elided item *betubetu-no gakusei* ‘different students’. The following illicit examples of gapping, indeed, indicate that verbs cannot be elided when they are focused:

- (14) a. \*John even threw the dishes, and Mary \_\_\_\_ the glasses  
 b. \*John never ate pizza, and Mary \_\_\_\_ sushi

If (13) can be accounted for along this line, even this problem disappears.

### 3. The LF Copying Analysis of Argument Ellipsis

Having confirmed the plausibility of the argument ellipsis hypothesis, I would like to turn to the analysis. As noted at the outset of this paper, Oku (1998) proposes to analyze the phenomenon with LF copying, which he considers a covert application of Merge. According to this analysis, the embedded subject is absent in (14b) (= (1b)) in the overt syntax.

- (14) a. Hanako-wa [ zibun-no teian -ga saiyoosareru to ] omotte iru  
 -TOP self -GEN proposal-NOM accepted-be that think  
 ‘Hanako thinks that her proposal will be accepted’
- b. Taroo-mo [ \_\_\_\_ saiyoosareru to ] omotte iru  
 -also accepted-be that think  
 ‘Taroo also thinks that her/his proposal will be accepted’

Then in LF, the antecedent *zibun-no teian* ‘self’s proposal’ in (14a) (= (1a)) is merged with the embedded clause of (14b) and becomes the subject.<sup>5</sup> Shinohara (2006) examines this

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<sup>5</sup> Note that this analysis is not necessarily inconsistent with the EPP requirement of T. If overt and

analysis and presents an argument for it based on the interaction of scrambling and argument ellipsis. In what follows, I will discuss her data and a modified version of her argument.

Shinohara first notes that argument ellipsis applies, as expected, to complement CPs. Thus, the embedded CPs in the second conjuncts of (15a-b) can be elided.

- (15) a. Hanako-wa [<sub>CP</sub> zibun-no teian -ga saiyoosareru to] omotte iru ga,  
           -TOP self -GEN proposal-NOM accepted-be that think though  
       Taroo-wa \_\_\_\_\_ omotte inai  
           -TOP think not

‘Hanako thinks that her proposal will be accepted, but Taroo does not think that her/his proposal will be accepted’

- b. Taroo-ga [<sub>CP</sub> Hanako-ga hon -o katta to] itta si,  
       -NOM -NOM book-ACC bought that said and  
       Ziroo-mo \_\_\_\_\_ itta  
       -too said

‘Taroo said that Hanako bought a book, and Ziroo also said that she bought a book’

Then, she observes that this type of CP ellipsis becomes illicit when a phrase is scrambled out of the relevant CP. This is shown in (16).

- (16) \*Hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub> Hanako-ga *t*<sub>i</sub> katta to] itta ga,  
       book-ACC -TOP -NOM bought that said though  
       zassi -o<sub>j</sub> Ziroo-wa \_\_\_\_\_ itta  
       magazine-ACC -TOP said

‘Taroo said that Hanako bought a book, but Ziroo said that she bought a magazine’

(17) shows that examples of this kind remain ungrammatical even when the scrambled phrases are identical in the two conjuncts.

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covert operations are “interwoven,” as proposed, for example, by Bobaljik (1995) and Nissenbaum (2000), then *zibun-no teian* ‘self’s proposal’ can be merged covertly as the embedded TP/CP of (14b) is constructed, and check the EPP feature of the embedded T.



- (17) \*Sono hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub> Hanako-ga t<sub>i</sub> katta to] itta si,  
 that book-ACC -TOP -NOM bought that said and  
 sono hon -o<sub>j</sub> Ziroo-mo \_\_\_\_\_ itta  
 that book-ACC -also said  
 ‘Taroo said that Hanako bought that book, and Ziroo also said that she bought that book’

Shinohara argues that this state of affairs is unexpected if argument ellipsis is derived by PF deletion. First, the PF deletion operation would apply to a CP that is identical to its antecedent in both (16) and (17). (18) illustrates this for (17).

- (18) \*Sono hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub> Hanako-ga t<sub>i</sub> katta to] itta si,  
 that book-ACC -TOP -NOM bought that said and  
 sono hon -o<sub>j</sub> Ziroo-mo [<sub>CP</sub> ~~Hanako-ga t<sub>j</sub> katta to~~] itta  
 that book-ACC -also -NOM bought that said  
 ‘Taroo said that Hanako bought that book, and Ziroo also said that she bought that book’

Further, the presence of a trace within the CP should not be the cause of the ungrammaticality because we know that constituents that contain traces can be elided. In fact, typical examples of sluicing involve ellipsis of TP with a *Wh*-trace, as in (19).

- (19) He bought something, but I don’t know what (= [<sub>CP</sub> what<sub>i</sub> [<sub>TP</sub> he bought t<sub>i</sub>]])

Thus, the ungrammaticality of (16) and (17) is puzzling under the PF deletion analysis. On the other hand, it is predicted, Shinohara argues, if argument ellipsis involves LF copying.<sup>6</sup> I will present an updated version of the LF copying analysis of (16) and (17), due to Kensuke Takita, in the remainder of this section.

Suppose that the second conjuncts of (16) and (17) are interpreted by LF copying. Suppose further, as seems plausible, that what is copied at the ellipsis sites is an LF object, or

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<sup>6</sup> Shinohara’s (2006) conclusion is that argument ellipsis involves LF copying while sluicing is derived by PF deletion as argued by Merchant (2000) and others. I will focus on argument ellipsis in this paper, and will not discuss whether Shinohara’s argument provides indirect support for the LF copying analysis of other types of ellipsis.

more precisely, an object that syntax transfers to semantics. Given these, let us examine the antecedent clause in (17) more closely. Its spell-out form is as indicated and repeated in (20).

- (20) Sono hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub>Hanako-ga t<sub>i</sub> katta to] itta  
 that book-ACC -TOP -NOM bought that said  
 ‘Taroo said that Hanako bought that book’

But what is its LF representation?

It is argued in Saito 1989 and Tada 1993 that scrambling need not affect interpretation and that a phrase preposed by scrambling is placed back at its initial site at LF.<sup>7</sup> One piece of evidence given in Saito 1989 is (21).

- (21) a. [<sub>TP</sub>Taroo-ga [<sub>CP</sub>[<sub>TP</sub>Hanako-ga dono hon -o yonda] ka] siritagatte iru]  
 -NOM -NOM which book-ACC read Q know-want  
 (koto)  
 fact  
 ‘(the fact that) Taroo wants to know which book Hanako read’
- b. [<sub>TP</sub>Dono hon -o<sub>i</sub> [Taroo-ga [<sub>CP</sub>[<sub>TP</sub>Hanako-ga t<sub>i</sub> yonda] ka] siritagatte iru]]  
 which book-ACC -NOM -NOM read Q know-want  
 (koto)  
 fact

(21a) is a straightforward example that contains an embedded question. The *Wh*-phrase *dono hon* ‘which book’ is in the embedded object position and takes scope at the embedded CP. In (21b), on the other hand, the *Wh*-phrase is scrambled out of the embedded CP to the initial position of the matrix clause. If the *Wh*-phrase stays at its surface position at LF, we expect the example to be ungrammatical because it is known on independent grounds that a *Wh*-phrase must be contained within the CP where it takes scope. The generalization is illustrated by the ungrammatical example in (22).

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<sup>7</sup> I will assume this simplified version of ‘radical reconstruction’ because the precise mechanism need not concern us here. See, for example, Saito 2005 for an analysis that assumes cyclic interpretation.

- (22) \*<sub>[TP Dare-ga</sub> [<sub>CP</sub> [<sub>TP Hanako-ga</sub> sono hon -o yonda] ka] siritagatte iru]  
 -NOM -NOM that book-ACC read Q know-want  
 (koto)  
 fact  
 ‘\*(the fact that) who wants to know Hanako read that book’

Yet, (21b) is grammatical. And the grammaticality can be accounted for if the scrambled *Wh*-phrase is placed back at its initial site in LF. According to this analysis, the LF representation of (21b) is identical to that of (21a).

If scrambling is subject to total reconstruction as illustrated above, the LF representation of (20) is as in (23) with the scrambled phrase back in the embedded object position.

- (23) Taroo-wa [<sub>CP</sub> Hanako-ga sono hon -o katta to] itta  
 -TOP -NOM that book-ACC bought that said  
 ‘Taroo said that Hanako bought that book’

Then, when the embedded CP is copied into the ellipsis site of (17), the second conjunct will be as in (24).

- (24) \*Sono hon -o Ziroo-mo [<sub>CP</sub> **Hanako-ga sono hon -o katta to**] itta  
 that book-ACC -also -NOM that book-ACC bought that said  
 ‘Ziroo also said that Hanako bought that book’

This is clearly ungrammatical as it contains two instances of the embedded object. Similarly, the LF copying operation will yield the ungrammatical (25) for (16).

- (25) \*Zassi -o Ziroo-wa [<sub>CP</sub> **Hanako-ga hon -o katta to**] itta  
 magazine-ACC -TOP -NOM book-ACC bought that said  
 ‘Ziroo said that Hanako bought a magazine/a book’

The LF copying analysis, thus, predicts the ungrammaticality of (16) and (17) correctly.

The analysis also successfully accounts for another important piece of data discussed by Shinohara (2006). That is, (17) is grammatical without scrambling in the second conjunct, as shown in (26).

- (26) Sono hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub>Hanako-ga t<sub>i</sub> katta to] itta si,  
 that book-ACC -TOP -NOM bought that said and  
 Ziroo-mo \_\_\_\_\_ itta  
 -also said  
 ‘Taroo said that Hanako bought that book, and Ziroo also said that she bought that book’

This may appear surprising because the elided CP does not seem identical to its antecedent on the surface. However, since the LF representation of the first conjunct is as in (23), we obtain proper interpretation by copying the embedded CP of this conjunct into the ellipsis site at LF, as shown in (27).

- (27) Sono hon -o<sub>i</sub> Taroo-wa [<sub>CP</sub>Hanako-ga t<sub>i</sub> katta to] itta si,  
 that book-ACC -TOP -NOM bought that said and  
 Ziroo-mo [<sub>CP</sub>**Hanako-ga sono hon -o katta to**] itta  
 -also -NOM that book-ACC bought that said  
 ‘Taroo said that Hanako bought that book, and Ziroo also said that she bought that book’

It was shown in this section that examples such as (16)-(17) and (26) constitute evidence for the LF copying analysis of argument ellipsis. In the following section, I will argue that this analysis implies the absence of obligatory agreement. That is, LF copying of an argument DP is possible only in languages without agreement in the usual sense. This seems to capture a significant correlation as argument ellipsis is proposed for East Asian languages, which are known also for the total absence of overt agreement phenomenon.

#### 4. Kuroda’s (1988) Agreement Parameter and the Activation Condition on Agree

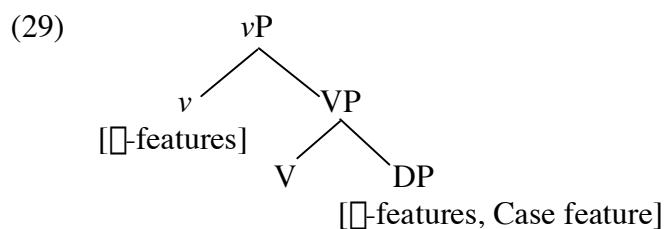
Kuroda (1988) proposes that one of the main differences between English and Japanese is the presence vs. absence of obligatory agreement. It is simply a fact that Japanese lacks overt agreement. But what Kuroda proposes is that although agreement relation is present in both languages, it is obligatory and 1-1 in English while it is optional and can be many-1 in Japanese. Among the phenomena in Japanese that he attempts to explain with this parameter are the multiple subject construction and A-scrambling, which he considers to be movement of the object to TP Spec. Without committing myself to Kuroda’s specific analysis of these

phenomena, I will argue in this section that the LF copying analysis of argument ellipsis provides support for his main idea that agreement is obligatory in English but not in Japanese.

It is a widely accepted assumption that agreement is closely tied with Case. Chomsky (2000), for example, maintains that agreement is a probe-goal relation roughly as in (28).<sup>8</sup>

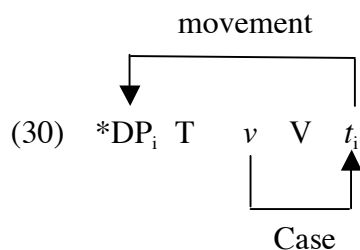
- (28) a. A set of uninterpretable  $\bar{\phi}$ -features on a functional head (= T or  $v$ ) searches for a matching  $\bar{\phi}$ -set in its domain. (A probe searching for a goal.)
- b. The operation is implemented by uninterpretable features. In particular, the goal must have an uninterpretable Case feature.
- c. The matching of  $\bar{\phi}$ -feature sets is agreement, and it induces the deletion of the probe and the Case feature of the goal.

Let us consider the case of object agreement in (29) as an example.



The  $\bar{\phi}$ -features of  $v$  are uninterpretable, and they agree with those of the object DP. The object qualifies as a goal because it has an uninterpretable Case feature though its  $\bar{\phi}$ -features are interpretable. The agreement relation results in the deletion of the uninterpretable  $\bar{\phi}$ -features on  $v$  and the uninterpretable Case feature of the DP.

(28b), called the ‘activation condition’, derives part of Burzio’s (1986) generalization, which states that a verb assigns an external  $\bar{\phi}$ -role if and only if it assigns objective Case. A relevant case is the classical Last Resort violation as in (30).



<sup>8</sup> The system of Chomsky 2000 is chosen here for the ease of exposition. The choice is not crucial, as far as I can see.

If the Case feature of the DP is deleted in the object position through agreement with  $v$ , then its  $\bar{\lambda}$ -features can no longer be the goal for those of T because of the activation condition. Consequently, the EPP-feature of T fails to raise the DP to its specifier position.

If the agreement operation illustrated above is obligatory, argument DP ellipsis should be impossible. Let us consider the concrete examples in (31) to illustrate this point.

- (31) a. John brought [<sub>DP</sub>his friend]  
 b. \*But Bill did not bring \_\_\_\_

The object DP *his friend* of (31a) must be copied into the object position of (31b) at LF for the latter sentence to be properly interpreted. Suppose then that LF copying is an available option universally and can be applied in English as well. However, one of the crucial assumptions in the analysis of the Japanese (16)-(17) and (26) above was that only LF objects can be employed in LF copying. The ungrammaticality of (16)-(17) as well as the grammaticality of (26) in fact constitute strong evidence for this assumption. Then, *his friend* must be copied into (31b) from the LF representation of (31a). But, this DP has already agreed with its  $v$  in (31a) and hence, its uninterpretable Case feature is deleted. This implies that it does not qualify as a goal in the required agree relation in (31b). Consequently,  $v$  is left with its uninterpretable  $\bar{\lambda}$ -features in (31b) and the derivation crashes.

The same conclusion should hold for Japanese if the agree operation in (28) applies in the language. But the Japanese counterpart of (31) is grammatical as shown in (32).

- (32) a. Taroo-wa [<sub>DP</sub>zibun-no tomodati-o] turete kita  
           -TOP self -GEN friend -ACC brought  
           ‘Taroo brought his friend’  
 b. Demo Hanako-wa \_\_\_\_\_ turete konakatta  
    but                -TOP                brought-not  
    ‘But Hanako did not bring her friend’

The object DP *zibun-no tomodati* ‘self’s friend’ in (32a) must lack uninterpretable features in the LF representation for otherwise the example should be ungrammatical. Hence, when it is copied into the object position in (32b) as in (33), it cannot participate in agreement as a goal and cause the deletion of the uninterpretable  $\bar{\lambda}$ -features on  $v$ .

- (33) Demo Hanako-wa [<sub>DP</sub>zibun-no tomodati-o] turete konakatta  
 but -TOP self -GEN friend -ACC brought-not  
 ‘But Hanako did not bring her friend’

Then, the grammaticality of (32b) indicates that the  $v$  in this example lacks uninterpretable  $\bar{\lambda}$ -features to begin with. This implies that  $v$  in Japanese need not have  $\bar{\lambda}$ -features, which amounts to saying that object agreement is not obligatory in the language. Thus, even if LF copying is an operation that is available in any language, Kuroda’s (1988) agreement parameter correctly predicts the absence of argument DP ellipsis in English as well as its presence in Japanese.<sup>9</sup>

Before I conclude this section, I would like to present one piece of evidence that those DP arguments that are copied into ellipsis sites in Japanese indeed lack Case features that need to be deleted. As pointed out by Oku (1998), argument ellipsis does not require “Case matching” between the elided argument and its antecedent. Let us first consider the grammatical examples in (34).

- (34) a. Taroo-wa [<sub>DP</sub>zibun-no hahaoya-o] tazune,  
           -TOP self -GEN mother -ACC visit  
       Hanako-wa \_\_\_ denwa-o sita  
                   -TOP phone -ACC did  
       ‘Taroo visited his mother, and Hanako called her mother’
- b. Taroo-wa [<sub>DP</sub>zibun-no hahaoya-ni] atta ga,  
           -TOP self -GEN mother -DAT met though  
       Hanako-wa \_\_\_ oikaesita  
                   -TOP chased-away  
       ‘Taroo met his mother, but Hanako chased her mother away’

After LF copying, the second conjunct of (34a) will be as in (35).

- (35) Hanako-wa [<sub>DP</sub>zibun-no hahaoya-o] denwa-o sita

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<sup>9</sup> Here, the discussion is confined to DP ellipsis. Whether this account in terms of the obligatoriness of agreement can be extended to CP and PP arguments remains to be seen. I will come back to this briefly in Section 6.

However, dative but not accusative is licensed in the copied position as shown in (36).

- (36) Hanako-wa zibun-no hahaoya-ni /\*-o denwa-o sita  
 -TOP self -GEN mother -DAT -ACC phone-ACC did  
 ‘Hanako called her mother’

Similarly, LF copying yields (37) for (34b), which also shows “Case mismatch.”

- (37) Hanako-wa [<sub>DP</sub> zibun-no hahaoya-ni] oikaesita  
 -TOP self -GEN mother -DAT chased-away  
 ‘Hanako chased her mother away’

Dative Case is not licensed in the complement position of the verb *oikaes* ‘chase away’, as shown in (38).

- (38) Hanako-wa zibun-no hahaoya-o /\*-ni oikaesita  
 -TOP self -GEN mother -ACC -DAT chased-away  
 ‘Hanako chased her mother away’

The grammaticality of (34a-b) shows then that there is no need to license Case after a DP is copied into an ellipsis site. For example, if *zibun-no hahaoya-ni* ‘self’s mother-DAT’ in (34b) is introduced into the first conjunct with an uninterpretable dative Case feature, the feature must have already been checked and deleted by the time the DP is copied into the second conjunct in LF. Thus, the examples of “Case mismatch” in (34) indicate that copied DPs indeed lack uninterpretable Case features.

The fact noted above reinforces the earlier discussion where it was claimed that DPs that are copied at ellipsis sites cannot participate in agreement because of the activation condition. At the same time, it raises a question concerning the licensing of Case in Japanese. If Case is an uninterpretable feature in Japanese, as it seems to be, then how is it deleted in the derivation? The discussion so far indicates that even if overt DPs in Japanese are introduced into derivations with uninterpretable Case features, the main role of those features is not to accommodate agreement and further, that those features are not deleted through agreement. This is so because if Case is tied to agreement as in (28) and agreement is optional in Japanese, then the presence of Case should also be optional in this language. However, Case is a necessary feature of overt DPs in Japanese as much as it is in obligatory agreement



languages. Case, then, must be serving quite a different role in Japanese.

Although it is beyond the scope of this paper to examine the Japanese Case system, I would like to note one possibility. First, nominative and genitive in Japanese may be contextual Cases as suggested in Saito 1982. Suppose that the nominative Case feature is checked and deleted when the DP is merged with a projection of T. Then, it is not surprising that the language allows multiple subjects as in the examples below from Kuno 1973.

- (39) a. Yama -ga ki -ga kirei -da  
 mountain-NOM tree-NOM pretty-is  
 ‘It is in the mountains that trees are pretty’
- b. Bunmeikoku -ga dansei-ga heikinzyumyoo -ga mizikai  
 Civilized country-NOM male -NOM average life span-NOM short  
 ‘It is in civilized countries that the male population has a short life-span’

Similarly, if genitive Case is checked and deleted within the (extended) projection of N, multiple genitive should also be possible as in (40).

- (40) kyonen -no Hanako-no Taroo-no hihan  
 last year-GEN -GEN -GEN criticism  
 ‘Hanako’s criticism of Taroo last year’

On the other hand, dative and accusative may be inherent Cases, closely tied with  $\square$ -role assignment, as suggested in Kikuchi and Takahashi 1991. Then, they are checked and deleted by lexical heads such as V.

The Case system just sketched is consistent with the discussion in this section as it is independent of agreement. Needless to say, further research is required before it is concluded that this kind of Case system can be maintained for Japanese and other East Asian languages.

##### 5. A Speculation on Radical Pro-drop

If the discussion in the preceding section is on the right track, then East Asian languages allow argument DP ellipsis at least in part because agreement is not obligatory (or possibly totally absent). As noted above, this is consistent with the fact that these languages lack overt agreement altogether. Another characteristic of these languages that is often tied with the

absence of overt agreement is radical pro-drop. It is widely assumed that *pro* is licensed by rich agreement, for example, in the subject position of a finite clause in Italian and Spanish. At the same time, it has been observed that *pro* appears rather freely in argument positions in East Asian languages despite the fact that they lack overt agreement. The generalization then seems somewhat paradoxical: either rich or no agreement licenses *pro*.

If radical pro-drop is in fact possible because of the absence (or non-obligatoriness) of agreement, it is tempting to relate this phenomenon to argument ellipsis. One possibility is that *pro*, without Case feature, is always available for LF copying in any language. The analysis of argument ellipsis presented above relies on the idea that a derivation can use LF objects that are constructed in the preceding discourse. This implies that aside from objects in the numeration, taken from the Lexicon, there is a set of LF objects, given by the discourse, that can be employed in a derivation.<sup>10</sup> It is conceivable then that *pro*, being a typical discourse entity, is always included in this set. This discourse *pro* lacks an uninterpretable Case feature, and hence fails to take part in an agreement relation. Then, it can be copied into a DP argument position only in languages that do not require agreement.

The possibility just mentioned implies that *pro* in East Asian languages is quite different from its counterpart in Italian and Spanish, where agreement is obligatory. The latter is included in the numeration with an uninterpretable Case feature, and enters the derivation exactly like overt lexical items. The former, on the other hand, originates in the discourse and is introduced into the derivation by LF copying. Although this is still very much a speculation, there is some evidence indicating that it may not be far from the truth. First, the distribution of genitive subjects in Japanese shows that discourse *pro* need not have its Case licensed, and hence that it lacks an uninterpretable Case feature. Secondly, the distributions of argument ellipsis and radical pro-drop seem identical if we abstract away from the differences that arise from the properties of ellipsis and pronouns; the former requires a linguistic antecedent and allows sloppy interpretation whereas the latter received definite interpretation. I will discuss these in turn in the remainder of this section.

It has been known that subjects in Japanese sentences can be marked genitive instead of nominative in limited environments, typically in prenominal sentential modifiers. Thus, a genitive subject is allowed in (41a), but not in (41b).

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<sup>10</sup> If covert operations are by definition those operations that do not involve the introduction or displacement of phonetic features, those LF objects are subject only to covert Merge (LF copying). See Footnote 5 above for relevant discussion.

(41) a. [ Taroo-ga /-no itta ] tokoro  
 -NOM/-GEN went place  
 ‘the place where Taroo went’

b. Taroo-ga /\*-no soko-e itta  
 -NOM/ -GEN there-to went  
 ‘Taro went there’

Interestingly, as discussed by Harada (1971), Watanabe (1996), and Hiraiwa (2000), among others, this genitive subject is impossible when an accusative object appears between the subject and the verb. (42) is ungrammatical despite the fact that the genitive subject appears in a prenominal sentential modifier.<sup>11</sup>

(42) \*[ Taroo-no hon -o katta ] mise  
 -GEN book-ACC bought shop  
 ‘the shop where Taroo bought a book’

Hiraiwa (2000) argues that the genitive subject in examples like (41a) is licensed because the adnominal T, as opposed to its declarative counterpart, is capable of checking genitive as well as nominative Case. He then proposes (43) to account for the intervention effect induced by an accusative DP.<sup>12</sup>

(43) Spell-out of morphological accusative case by *v* triggers nominative Case checking on T in the next strong phase.

Slightly modifying this, I proposed in Saito 2001 that the genitive-licensing adnominal T blocks the checking of accusative Case on the object. Without going into the specifics of the proposal, I simply note here that it is consistent with the data in (44).

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<sup>11</sup> Harada (1971) notes that an idiolectal variation is observed here. According to him, some speakers accept (42) but others do not. As far as I know, the variation concerns the degree of ungrammaticality and is not as clear-cut as Harada suggests.

<sup>12</sup> It will be clear directly why Hiraiwa refers to ‘spell-out of morphological accusative case’ in (43).

- (44) a. [ Taroo-no kinoo itta ] tokoro  
 -GEN yesterday went place  
 ‘the place where Taroo went yesterday’
- b. [ Taroo-no<sub>i</sub> t<sub>i</sub> taihosareta ] tokoro  
 -GEN arrested-was place  
 ‘the place where Taroo was arrested’
- c. \*[ hon -o<sub>i</sub> Taroo-no t<sub>i</sub> katta ] mise  
 book-ACC -GEN bought shop  
 ‘the shop where Taroo bought a book’

If it is accusative Case that is prevented in a genitive subject sentence, we expect that non-accusative phrases, such as adverbs, can freely occur intervening between the genitive subject and the verb. This is confirmed by (44a). (44b) contains a passive sentence, and an NP-trace occupies the object position. Genitive subject is possible as expected since an NP-trace need not be checked for Case. Finally, a trace of scrambling appears in (44c), and a genitive subject is excluded in this example. This is, again, expected since traces of scrambling, as opposed to NP-traces, require Case licensing.

One case that is surprising in this context is the pattern *pro* exhibits. Hiraiwa (2000) and Miyazawa (2001) point out that there is no intervention effect with *pro* in the object position. The following examples from Miyazawa 2001 illustrate this point:

- (45) Ziroo-ga hazimete Nagoya-ni kuru -node, minna-ga  
 -NOM for the first time -to come-since all -NOM  
 iroirona basyo-ni kare-o turete iku yotei-desu  
 various place -to he -ACC take plan -is  
 ‘Since Ziroo is coming to Nagoya for the first time, the plan is for everyone to take him to various places’
- (46) a. \*[ Hanako-no kare-o turete iku ] tokoro-wa Nagoya-zyoo -desu  
 -GEN he -ACC take place -TOP Nagoya Castle-is  
 ‘The place that Hanako is taking him is the Nagoya Castle.’

- b. [ Hanako-no *pro* turete iku ] tokoro-wa Nagoya-zyoo -desu  
 -GEN take place -TOP Nagoya Castle-is

(45) sets up the context for (46). In (46a), the overt pronoun *kare* ‘he’ with accusative Case blocks the genitive subject as expected. But as (46b) shows, the substitution of *pro* for the overt pronoun makes the sentence grammatical. This goes against the widely accepted assumption that *pro* needs to be licensed for its Case.

The particular example in (46b), as noted in Saito 2004b, can be analyzed as an instance of argument ellipsis instead of postulating *pro* in the object position. The analysis would go as follows with the LF copying analysis discussed above. First, there is no *pro* and the object is missing in the overt syntax. In LF, *kare* ‘he’ is copied from the LF representation of (45) to that of (46b). Since *kare* comes from an LF representation, it has no uninterpretable feature, in particular, no uninterpretable Case feature. Then, it need not be licensed for accusative Case in (46b), and the grammaticality of the example is correctly predicted.

However, there are cases where *pro* clearly fails to exhibit the intervention effect. It has been known since Harada 1971 that a gap in a relative clause does not block genitive subjects. Thus, (47) is perfectly grammatical.

- (47) [ Taroo-no [e] katta ] hon  
 -GEN bought book  
 ‘the book that Taroo bought’

It is difficult to analyze (47) as an instance of argument ellipsis. Further, the standard analysis for the gap in Japanese relative clauses, due to Perlmutter (1972), has been that it is *pro*.<sup>13</sup> This analysis straightforwardly accounts for the fact, noted by Kuno (1973), that Japanese relativization is not subject to Subjacency. One of Kuno’s celebrated examples is shown in (48).

- (48) [ [ *pro*<sub>i</sub> kite iru ] yoohuku-ga] yogorete iru ] sinsi<sub>i</sub>  
 wearing-is suit -NOM dirty-is gentleman  
 ‘the gentleman who the suit that he is wearing is dirty’

It seems then that *pro* indeed does not exhibit the intervention effect on genitive subjects.

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<sup>13</sup> See Murasugi 1991 for extensive discussion on this hypothesis.

This goes quite well with the possibility discussed at the outset of this section that radical pro-drop involves the LF copying operation that is responsible for argument ellipsis. If *pro* is among those LF objects that can be copied into a structure, then it should be void of uninterpretable features. Hence, it should not require licensing of Case feature in particular. It follows then that it can be copied into the object position of a genitive subject sentence because it is not affected by the failure to license accusative Case. The intervention effect on genitive subjects, thus, provides a piece of suggestive evidence for the unified treatment of DP argument ellipsis and radical pro-drop: both involve LF copying of arguments, which in turn is possible only in languages that lack obligatory agreement.

Another suggestive evidence for the unified treatment of the two phenomena concerns their distributions. As discussed in detail in Murasugi 1991, *pro* can stand not only for argument DPs but also for locative and temporal PPs in Japanese. The following example shows that the relativization of locative PP is not subject to subjacency:

- (49) [Hanako-ga [ [*pro*<sub>i</sub> sunde iru] hito -o] sitte iru] mati<sub>i</sub>  
 -NOM live person-ACC know town  
 ‘the town that Hanako knows a person who lives in it’

This is predicted if there is a locative PP *pro*. On the other hand, Murasugi also notes that *pro* cannot be used for reason and manner adjuncts. (50) is ungrammatical with the intended interpretation.

- (50) \*[Hanako-ga [ [*pro*<sub>i</sub> kubi-ni natta] hito -o] sitte iru] riyuu<sub>i</sub>  
 -NOM was-fired person-ACC know reason  
 ‘the reason that Hanako knows a person who was fired for it’

This example can only refer to the reason that Hanako knows the person, and not to the reason that the person was fired. This shows that *pro* cannot stand for a reason adjunct. Murasugi concludes that *pro* can occur only in argument positions, and locative and temporal PPs are arguments of the event predicate.

Interestingly, argument ellipsis exhibits the same distribution. Thus, locative PPs can be elided as shown in (51).

(51) a. Taroo-wa [zibun-no oya -no ie -ni] sunde iru  
 -TOP self -GEN parent-GEN house-in live  
 ‘Taroo lives in his parents’ house’

b. Demo, Hanako-wa \_\_\_\_\_ sunde inai  
 but -TOP live-not  
 ‘But Hanako does not live in his/her parents’ house’

(51b) allows sloppy interpretation as indicated, and this shows that locative PPs are subject to argument ellipsis. Note that if an overt pronoun appears at the ellipsis site, then the strict reading is forced.

(52) Demo, Hanako-wa soko-ni sunde inai  
 but -TOP there-in live-not  
 ‘But Hanako does not live in his parents’ house’

On the other hand, reason and manner adjuncts cannot be elided. Let us consider the following example:

(53) a. (Watasi-wa) [Taroo-ga [zibun-no sippai -de] kubi-ni natta to] kiite iru  
 I -TOP -NOM self -GEN mistake-for was-fired that hear  
 ‘I hear that Taroo was fired because of his mistakes’

b. \*Demo, [Hanako-ga \_\_\_\_\_ kubi-ni natta to] kiite inai  
 but -NOM was-fired that hear-not  
 ‘But I have not heard that Hanako was fired because of her mistakes’

(53b) cannot receive the intended sloppy interpretation; it can only mean that I have not heard that Hanako was fired. The intended interpretation obtains when *zibun-no sippai-de* ‘for self’s mistakes’ appears overtly, as shown in (54).

(54) Demo, [Hanako-ga [zibun-no sippai -de] kubi-ni natta to] kiite inai  
 but -NOM self -GEN mistake-for was-fired that hear-not  
 ‘But I have not heard that Hanako was fired because of her mistakes’

This sentence is appropriate even when I have heard that Hanako was fired, but not because of her mistakes. Then, if *zibun-no sippai-de* ‘for self’s mistakes’ in (53a) can be copied into (53b) at LF, sloppy interpretation should be available in (53b) as well. (53), thus, shows that reason adjuncts cannot be elided.<sup>14</sup>

This distributional similarity between radical pro-drop and argument ellipsis constitutes indirect, but suggestive evidence for their unified treatment. If the LF copying of discourse items is responsible for both of these phenomena, their distributional similarity is not at all surprising.

## 6. Conclusion

In this paper, I have tried to relate three properties of East Asian languages; argument ellipsis, radical pro-drop, and the absence of overt agreement. In Section 2, I argued that the argument ellipsis hypothesis is on firm empirical grounds. Then in Section 3, I discussed Shinohara’s (2006) supporting evidence for Oku’s (1998) LF copying analysis. In Williams’ (1977) classical LF copying analysis of VP ellipsis, it is argued that what is copied at the ellipsis site is a logical form. I argued that this holds for argument ellipsis as well.

Based on this, I showed in Section 4 that argument DP ellipsis should be possible only in languages without obligatory agreement. Given this conclusion, it is tempting to attribute the presence/absence of argument ellipsis entirely to the optionality/obligatoriness of agreement, but I did not quite attain this result. In English, for example, not only DPs but also argument CPs and PPs cannot be elided. An illicit example of CP ellipsis is shown in (55).

(55) \*John says [<sub>CP</sub> that she is a genius], but Bill doesn’t think \_\_\_\_\_

If the absence of argument ellipsis is to be derived completely from obligatory agreement, then it must be shown that CPs and PPs (including locatives and temporals) also participate in agreement. This is conceivable as Rackowski and Richards (2005) argue on the basis of detailed examination of Tagalog that there is agreement between *v* and a complement CP. But further research is necessary to find out whether this is the correct approach or an independent factor plays a role in the presence/absence of CP and PP ellipsis.

Finally, in Section 5, I suggested that radical pro-drop is a kind of argument ellipsis.

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<sup>14</sup> It would be interesting to investigate why (argument) ellipsis is constrained in this way. But I do not have a clear hypothesis at the moment.



Although the discussion was quite speculative, I believe that the suggestion has a desirable conceptual aspect. It seems clear that *pro* is required independently of argument ellipsis in East Asian languages. For example, in Japanese, a student can utter (56) without any relevant prior discourse when the teacher comes into the classroom.

- (56) *pro* kita  
       came  
       ‘She/he came’

But the contexts for radical pro-drop and argument ellipsis show much overlap, as was shown in the preceding section, and it has been somewhat puzzling that both are attested in the same languages. In this situation, one would hope to reduce one to the other. If the suggestion made in this paper is on the right track, the mystery is resolved to a large extent. Those languages that have argument ellipsis can use LF objects provided by the discourse in the derivation of a new sentence, and radical pro-drop is an instance of this operation.

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