Argument Ellipsis via C-Probing in Japanese and Korean*

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1 Introduction

Japanese and Korean exhibit argument ellipsis, by which *arguments* can be *elided* following an overt antecedent given in the previous discourse context (Oku 1998; Kim 1999; Saito 2007, *inter alia*). This phenomenon has been treated as a kind of ellipsis operation due to the variability in interpretation. If an argument is elided under the presence of an overt antecedent, such a null argument can refer either to the same entity in the antecedent utterance (*i.e.*, the strict reading) or to a newly introduced entity in the following utterance (*i.e.*, the sloppy reading). This is on a par with the observation for predicate ellipsis such as VP-ellipsis, hence the terminology. The availability of sloppy reading thus has been used as the main diagnostics for argument ellipsis (Oku 1998; Kim 1999). The exemplary cases of argument ellipsis with the sloppy

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reading in Japanese and Korean are given in (1) and (2) respectively.

(1) *Japanese: argument ellipsis with sloppy reading*

a. Taroo$_i$-wa [zibun$_i$-no hahaoya]-ni at-ta.
Taroo-TOP [self-GEN mother]-DAT meet-PAST
'Taroo$_i$ met his$_i$ mother.'

b. Hanako$_j$-mo _____ at-ta.
Hanako-also meet-PAST
'Hanako$_j$ also met his$_i$/her$_j$ mother.' (✓strict / ✓sloppy)

(2) *Korean: argument ellipsis with sloppy reading*

a. Suho$_i$-nun [caki$_i$ emma]-lul manna-ass-ta.
Suho-TOP [self mother]-ACC meet-PAST-DECL
'Suho$_i$ met his$_i$ mother.'

b. Mina$_j$-to _____ manna-ass-ta.
Mina-also meet-PAST-DECL
'Mina$_j$ also met his$_i$/her$_j$ mother.' (✓strict / ✓sloppy)

In both (1) and (2), the *self*-anaphor in the elided direct object may refer either to the entity in the previous utterance (*i.e.*, the strict reading), or to the newly introduced entity that is local to the elided argument (*i.e.*, the sloppy reading). The interpretation is thus ambiguous.

More recently, the possibility of argument ellipsis has been investigated on a par with the possibility of scrambling and the absence of overt agreement in Japanese and Korean (Saito 2007, 2016; Takahashi 2014, 2020). This line of conjecture was based on the typological consideration that languages which allow scrambling and lack overt agreement typically exhibit the phenomenon of argument ellipsis. Further, it was argued that argument ellipsis in Korean is subject to a syntactic constraint since there exists an empirical parallelism between argument ellipsis and scrambling (Y-H Kim 2019). Put simply, only those which can undergo scrambling can be eligible for argument ellipsis. I will briefly introduce this claim and the relevant data in Section 2.

Building upon this analysis, in Section 3 it is argued that argument ellipsis in Japanese and Korean is subject to such a syntactic constraint as it involves a syntactic probing from the C-domain. This is done by a discourse operator which consists of twofold operations, in an analogous manner to Sigurðsson (2011) for Germanic-type null arguments. First, *context scanning* by which a proper discourse referent is linked to a null argument. Second, *downward probing* which searches for a to-be-elided argument. Extending the claim, the resultative constructions in Japanese and Korean will be illustrated in Section 4, for which the diverging empirical observation in two languages receives a unified explanation under the analysis proposed here. Section 5 concludes.

2 Parallels between Argument Ellipsis and Scrambling

In addition to the sloppy reading diagnostics, Y-H Kim (2019, 2020) suggests that there exists a structural constraint in play for argument ellipsis in Korean as well. Compare (3) and (4):

(3) Suho-ka Mina-eykey chayk-ul cwu-ess-ta.
Suho-NOM Mina-DAT book-ACC give-PAST-DECL
'Suho gave Mina a book.'

(4) Suho-ka Mina-eykey kep-ul cwu-ess-ta.
Suho-NOM Mina-DAT fear-ACC give-PAST-DECL
'Suho scared Mina.' (*fear* + *give* → *scare*)

(3) and (4) involve the same linear sequence of the dative argument and the accusative argument with the identical verb *cwu* 'give', but (3) is ditransitive whereas (4) is idiomatic. Interestingly, they show an asymmetric behavior as to argument ellipsis. First, consider the following example for distransitives.[1]

(5) a. Suho-ka Mina-eykey chayk-ul cwu-ess-ta.
Suho-NOM Mina-DAT book-ACC give-PAST-DECL
'Suho gave Mina a book.'

b. ✓Hani-nun _____ notu-lul cwu-ess-ta.
Hani-TOP note-ACC give-PAST-DECL
'Hani gave Mina a notebook.'

c. ✓Hani-nun Siwu-eykey _____ cwu-ess-ta.
Hani-TOP Siwu-DAT give-PAST-DECL
'Hani gave Siwu a book.'

When following the antecedent sentence in (5a), argument ellipsis of the indirect object and the direct object is readily possible as shown in (5b) and (5c) respectively. However, the observation is different for idioms. See (6):

(6) a. Suho-ka Mina-eykey kep-ul cwu-ess-ta.
Suho-NOM Mina-DAT fear-ACC give-PAST-DECL
'Suho scared Mina.'

b. ✓Hani-to _____ kep-ul cwu-ess-ta.
Hani-also fear-ACC give-PAST-DECL
'Hani scared Mina as well.'

c. *Hani-nun Siwu-eykey _____ cwu-ess-ta.
Hani-TOP Siwu-DAT give-PAST-DECL
(intended) 'Hani scared Siwu.'

[1] Although the examples in this paper are constructed without sloppy reading for the simplicity of exposition, any argument that can be elided is possible with sloppy reading in the data presented.

When following the antecedent sentence in (6a), argument ellipsis of the indirect object is possible as in (6b), yet the direct object cannot be elided in (6c) as it fails to convey the intended idiomatic reading. This asymmetry was attributed to structural differences in Y-H Kim (2019). For ditransitives, two internal arguments are introduced by distinctive heads (Lee 2004). For idioms, however, they belong to a single VP (O'Grady 1998). This difference is schematized as follows.

(7) *ditransitives:* DAT *in vP vs.* ACC *in VP*
[$_{\text{VoiceP}}$ NOM [$_{v\text{P}}$ **DAT** [$_{\text{VP}}$ **ACC** V] *v*] Voice]

(8) *idioms:* DAT *and* ACC *in VP*
[$_{\text{VoiceP}}$ NOM [$_{\text{VP}}$ **DAT** **ACC** V] Voice]

A structural constraint for argument ellipsis was suggested based on this: only the leftmost element of a given syntactic unit is eligible for argument ellipsis. This unit corresponds to a *predication* domain (*à la* den Dikken 2006) and to a *linearization* domain (*à la* Fox and Pesetsky 2005). In particular, the latter accounts for the parallel observation between scrambling and ellipsis. In ditransitives, both internal arguments can be scrambled over the subject as shown in (9). However, in idioms, only the indirect object, not the direct object, can be scrambled over the subject as shown in (10).

(9) a. ✓Mina-eykey Suho-ka $t_{\text{Mina-eykey}}$ chayk-ul cwu-ess-ta.
Mina-DAT Suho-NOM book-ACC give-PAST-DECL
'To Mina, Suho gave her a book.'

b. ✓chayk-ul Suho-ka Mina-eykey $t_{\text{chayk-ul}}$ cwu-ess-ta.
book-ACC Suho-NOM Mina-DAT give-PAST-DECL
'The book, Suho gave it to her.'

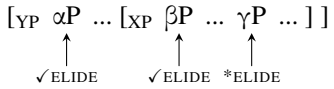
(10) a. ✓Mina-eykey Suho-ka $t_{\text{Mina-eykey}}$ kep-ul cwu-ess-ta.
Mina-DAT Suho-NOM fear-ACC give-PAST-DECL
'Mina, Suho scared her.'

b. *kep-ul Suho-ka Mina-eykey $t_{\text{kep-ul}}$ cwu-ess-ta.
fear-ACC Suho-NOM Mina-DAT give-PAST-DECL
(intended) 'Suho scared Mina.'

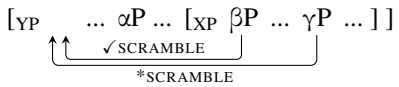
Under the cyclic syntactic linearization system (Fox and Pesetsky 2005; Ko 2007), such an asymmetry holds for scrambling since the relative order established within XP has to be maintained after the syntactic linearization of XP: ACC cannot be scrambled over DAT in the idiom structure in (8), since the scrambling will disrupt the already established relative ordering between DAT and ACC within VP. On the other hand, in (7) DAT in *v*P and ACC in VP belong to different linearization domains for ditransitives, thus each can

undergo scrambling without disrupting the relative order of the respective linearization domain. Now the parallelism obtains: only the leftmost element in a given syntactic unit can be scrambled or be elided. This generalization is summarized in (11) and (12):

(11) *Argument ellipsis targets the leftmost element*



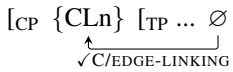
(12) *Scrambling is sensitive to the domain order*



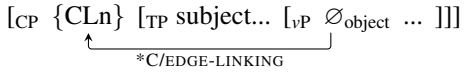
3 Argument Ellipsis via C-Probing

Given this generalization, a question arises as to why argument ellipsis has to be constrained this particular way in these languages. I argue that this can be construed as a C-domain operation where discourse information is encoded. Any elided argument has to be *salient*, *old information* whose referent must be retrieved from the discourse context. This is done by *context scanning* in Sigurðsson (2011) whereby {CLn} in [Spec,CP] retrieves a proper referent from the discourse context. At the same time, he argues that null arguments of Germanic-type languages require a proper linking with a lower element as in (13), which is also done by the same {CLn} operator. However, depending on the languages, this C/Edge-Linking may be hampered if there exists an intervener as in (14).

(13) *C/Edge-Linking with no intervener* (*à la* Sigurðsson 2011)



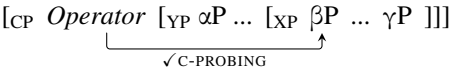
(14) *Subject intervener for C/Edge-Linking* (*à la* Sigurðsson 2011)



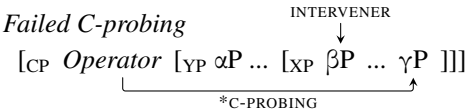
I argue that argument ellipsis in Japanese and Korean can be understood in an analogous manner, in that null arguments in these languages also require a proper discourse referent and they are subject to the aformentioned structural constraint (*i.e.*, (11)). In the probe-goal system, being the leftmost element in a given syntactic domain indicates that it can be targeted by an upper probe by virtue of being the closest candidate in the searching domain. At the same

time, the highest (thus linearly leftmost) element within a unit functions as an intervener for any lower element. Then, the generalization that argument ellipsis targets only the leftmost element can be restated as the generalization that argument ellipsis targets arguments that can be probed by this C-operator. The relevant configurations are given in (15) and (16).

(15) *Succeeded C-probing*



(16) *Failed C-probing*



In (15), *Operator* in [Spec,CP] is first in charge of the *context scanning* by which it retrieves a proper discourse referent from the previous utterance (*i.e.*, antecedent). At the same time, it functions as a probe which searches its c-commanding domain, and by this *downward probing* it establishes the connectivity with an eligible argument that is to be elided. In (15), C-probing succeeds as *Operator* can probe βP, which is the highest (leftmost) element in a given syntactic unit XP. On the other hand, in (16), C-probing fails as *Operator* cannot probe down to γP, due to the presence of the intervener βP. These are the configurations we observed in the data: if two arguments are in the same domain (*i.e.*, idioms), only the leftmost element can be elided; if two arguments belong to different domains (*i.e.*, ditransitives), both can be elided. This is also desirable in that the restriction for argument ellipsis is known to be much more lenient than the null arguments of Germanic-type languages which are constrained by *clause* (see (14)).

Now, the existence of such a syntactic constraint for argument ellipsis is tied to the C-domain operation. As in (15), *Operator* in the discourse domain takes the dual responsibilities: it retrieves the proper discourse referent for a null argument; it also probes down to find an eligible argument to be elided, which is syntactically constrained per the linearization domain. In the above schematizations, the eligible domains are either YP or XP. In each domain, the highest (thus leftmost) element can be targeted by argument ellipsis.

4 Resultatives in Japanese and Korean

The C-probing mechanism coupled with the syntactic constraint can nicely capture the differences observed for Japanese and Korean resultatives as well. In both languages, two internal arguments co-occur to denote the initial state and the resulting state with a change-of-state verb, deriving the interpretation of resultatives. Compare (17) and (18).

(17) mazyo-ga isi-o hebi-ni kae-ta.
witch-NOM rock-ACC snake-DAT change-PAST
'The witch turned a rock into a snake.' (Japanese)

(18) manye-ka tol-ul paym-ulo pakkwu-ess-ta.
witch-NOM rock-ACC snake-RES change-PAST-DECL
'The witch turned a rock into a snake.' (Korean)

In (17), the accusative-marked argument denotes the initial state and the dative-marked argument denotes the resulting state, deriving the resultative interpretation together. In (18), the accusative-marked argument denotes the initial state, and the resultative-marked argument denotes the resulting state. The difference lies in the case marking: the designated resultative marking is used in Korean, whereas the dative case is used in Japanese for the same purpose. The interesting observation here is that Korean is more restricted in allowing argument ellipsis of these arguments. In Japanese, both arguments can be elided given the overt antecendent in the previous utterance. This is shown in (19).

(19) a. mazyo-ga isi-o hebi-ni kae-ta.
witch-NOM rock-ACC snake-DAT change-PAST
'The witch turned a rock into a snake.'

b. ✓mahoutsukai-wa ___ ari-ni kae-ta.
wizard-TOP ant-DAT change-PAST
'The wizard turned a rock into an ant.'

c. ✓mahoutsukai-wa kusa-o ___ kae-ta.
wizard-TOP grass-ACC change-PAST
'The wizard turned a grass into a snake.'

As shown in (19b) and (19c), both the initial state and the resulting state argument can be elided. However, the observation is different for Korean, as only the initial state argument, not the resulting state argument, can be elided. This is shown in (20): note the contrast between (19c) and (20c).

(20) a. manye-ka tol-ul paym-ulo pakkwu-ess-ta.
witch-NOM rock-ACC snake-RES change-PAST-DECL
'The witch turned a rock into a snake.'

b. ✓mapepsa-nun ____ kaymi-lo pakkwu-ess-ta.
wizard-TOP ant-RES change-PAST-DECL
'The wizard turned a rock into an ant.'

c. *mapepsa-nun phwul-ul _____ pakkwu-ess-ta.
wizard-TOP grass-ACC change-PAST-DECL
(intended) 'The wizard turned a grass into a snake.'

The difference can receive an explanation with the structures proposed for resultatives in Japanese and Korean. In Japanese, the resulting state element is marked with the dative case. This is assumed to be a structurally assigned case which describes the result state for resultatives in Japanese (Sadakane and Koizumi 1995), thus each internal argument is introduced by a distinctive functional heads, here ApplP for the dative argument. On the other hand, for Korean, it was argued that both internal arguments are contained within RelatorP (Ko 2015), which is the domain of a resultative predication. This is schematized as follows:

(21) *Japanese:* ACC *in VP vs.* DAT *in ApplP*
[$_{VP}$ *rock*-**ACC** [[$_{ApplP}$ *snake*-**DAT** Appl] *change*]]

(22) *Korean:* ACC *and* RES *in RelatorP (RP)*
[$_{VP}$ [$_{RP}$ *rock*-**ACC** [*snake*-**RES** R]] *change*]

With the different structures in (21) and (22), the contrasting observation for argument ellipsis can now be accounted for. In Japanese resultatives, two internal arguments belong to different domains (*i.e.*, VP and ApplP), thus both can be elided according to the structural constraint: they are the leftmost element in their respective domain. On the other hand, in Korean resultatives two internal arguments belong to the same RP domain, thus only the leftmost element (*i.e.*, the initial state argument) can be elided according to the same structural constraint.

This can be further corroborated by the observation from scrambling. An interesting asymmetry holds again, and this is systematically parallel to the pattern of argument ellipsis, which is expected under the present analysis. First, in Japanese, both internal arguments can be scrambled over the subject in (23).

(23) a. ✓isi-o mazyo-ga $t_{isi\text{-}o}$ hebi-ni kae-ta.
rock-ACC witch-NOM snake-DAT change-PAST-DECL
'The rock, the witch turned that into a snake.'

b. ✓hebi-ni mazyo-ga isi-o $t_{hebi\text{-}ni}$ kae-ta.
snake-DAT witch-NOM rock-ACC change-PAST
'The snake, the witch turned a rock into that.'

However, in Korean, only the initial state argument can be scrambled over the subject. If the resulting state argument is scrambled over the subject, this results in the ungrammaticality.[2] See (24).

[2] It has to noted that the resultative marking in Korean is homophonous with the instrumental case marking. If RES in (24b) were to be construed as the instrumental marking, the only possible reading of (24b) is that the witch exchanged a rock using a snake, which is not even close to the intended resultative reading.

(24) a. ✓tol-ul manye-ka $t_{tol\text{-}ul}$ paym-ulo pakkwu-ess-ta.
rock-ACC witch-NOM snake-RES change-PAST-DECL
'The rock, the witch turned that into a snake.'

b. *paym-ulo manye-ka tol-ul $t_{paym\text{-}ulo}$ pakkwu-ess-ta.
snake-RES witch-NOM rock-ACC change-PAST-DECL
(intended) 'The snake, the witch turned a rock into that.'

This asymmetric difference in Japanese and Korean resultatives follows from the suggested structural differences. In Japanese, two arguments belong to different domains, so either can be elided or be scrambled over each other. However, in Korean, two arguments belong to the same domain, so only the leftmost element (*i.e.*, the initial state one) can be elided or be scrambled. The resulting state element cannot be elided or be scrambled over the initial state element. As for argument ellipsis, it is because the leftmost (thus higher) argument functions as the intervener for the C-probing. As for scrambling, it is because such a scrambling operation would result in disrupting the already linearized unit within RP.

5 Conclusion

In the present paper, argument ellipsis in Japanese and Korean is argued to be derived by the C-probing operation with a discourse operator. This was built upon the previous claim on the parallel observation between argument ellipsis and scrambling: those which can be scrambled can only be targeted by argument ellipsis. This observation was attributed to a structural constraint, by which only the leftmost element in a given syntactic linearization domain can be elided. With this, the discourse operator in the C-domain takes dual duties: *context scanning* by which it retrieves a proper referent from the discourse context, and *downward probing* by which it looks for an eligible argument for ellipsis. Coupled with the structural constraint, the present analysis could provide an explanation for why such a constraint holds, and could account for the systematic parallelism between argument ellipsis and scrambling in Japanese and Korean resultatives in a uniform manner.

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