On Some Ellipsis Phenomena in Korean

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1. Introduction

Korean has two types of answers shorter than a full sentential answer, as shown in (1B-B’).

(1)

   I-Nom J.-Gen brother-Acc meet-Pst-Dec
   ‘I saw/met John's brother.’

B: na-to.                                                (Fragment)
   ‘I also (met John’s brother).’

B’: na-to __ manna-ss-ta.
   I-too meet-Pst-Dec                                     (Null Argument)
   ‘I also met (John’s brother).’

(1B), the fragment construction and (1B’), the null argument construction, seem to have the same interpretation.

In this paper we argue that the sources of interpretation given in (1B-B’) are fundamentally distinct. We propose that fragments are analyzed as an instance of clausal ellipsis while null arguments are analyzed as an instance of null pronoun pro; hence, the former is surface anaphora whereas the latter is deep anaphora in the sense of Hankamer & Sag (1976).

This paper is organized as follows. Section 2 discusses some conceptual arguments regarding the two types of reduced constructions. Section 3 discusses some empirical arguments related to macro-micro constructions, inalienable possession constructions, and quantifier floating constructions. Section 4 discusses further implication such as parallelism and wh-puzzles. Section 5 explores some experimental arguments. Concluding remarks are provided in Section 6.

2. The two types of reduced constructions: Some conceptual arguments

2.1 Fragments as clausal ellipsis
Fragment conveys the same propositional content as its fully sentential counterpart. The case connectivity noted by Morgan (1989) supports that the fragment has the source of full sentential structure.

(2) A: Nwu-ka ku chayk-ul sa-ss-ni?
   Who-Nom the book-Acc buy-Pst-Q
   ‘Who bought the book?’
B: Yenghi-ka.
   Y.-Nom
B’:*Yenghi-lul.
   Y.-Acc

In the case of a fragment which functions as subject, only nominative case-marked fragment is grammatical. The ellipsis analysis correctly predicts the grammatical contrast shown in (2B-B’). Prior to ellipsis, (2B) and (2B’) have the following derivation.

(3) a. Yenghi-ka ku chayk-ul sa-ss-ta.
   Y.-Nom the book-Acc buy-Pst-Dec
   ‘Yenghi bought the book.’
   Y.-Acc the book-Acc buy-Pst-Dec

Now it is clear why (2B’) is ruled out while (2B) is in since their source structures before ellipsis directly reflect the contrasts:

(4) a. Yenghi-ka [ku chayk-ul sa ss ta].
b. *Yenghi-lul [ku chayk-ul sa ss ta].

On the ellipsis analysis, no additional assumptions are necessary to license the cases on fragments. That is, the usual mechanisms that are responsible for shaping cases internal to clauses can be also relevant to cases on fragments.

Ahn & Cho (2006) indicate the following examples that involve case-alternation in emotional constructions in Korean which further support the claim that fragments have hidden sentential structures.

(5) a. Yenghi-nun nwukwu-lul manna-ko sip-ess-ni?
   Y.-Top who-Acc meet-Comp want-Past-Q
   ‘Who did Yenghi want to meet?’
b. Chelswu-lul.
Note that Jackendoff & Culicover (2005) (a version of direct interpretation analyses) assume that fragments which don’t have their own syntactic structure depend on the one of its antecedent. In (5a), the correlate of the fragment nwukwu ‘who’ is marked with accusative case, but the fragment answers can be marked with either accusative (5b) or nominative case (5c). If syntactic well-formedness of fragments were to depend totally upon their correlates, (5c) would be ill-formed, contrary to fact. Hence, the direct interpretation analyses don’t predict that case alternation is possible in some contexts.

By contrast, the ellipsis analysis correctly predicts the case alternation shown in (5b-c) because we assume that fragmentary utterances are derived via ellipsis of the full-fledged sentential structures. Note that there are two possible full sentential answers to (5a): namely, (6a) and (6b), which underlie the fragment answers (5b) and (5c), respectively.

(6) a. Yenghi-nun Chelswu-lul manna-ko sip-ess-ta
   Y.-Top C.-Acc meet-Comp want-Past-Dec
   ‘Yenghi wanted to meet Chelswu.’
   
   b. Yenghi-nun Chelswu-ka manna-ko sip-ess-ta
   Y.-Top C.-Nom meet-Comp want-Past-Dec
   ‘Yenghi wanted to meet Chelswu.’

(6a) and (6b), then, have the following derivations. Before ellipsis, the fragments undergo movement to the sentence-initial position.¹

(7) a. [[DP Chelswu lul], [Yenghi-nun t manna ko sip ess ta]]
   b. [[DP Chelswu ka], [Yenghi-nun t manna ko sip ess ta]]

¹ We further assume that fragments are derived from movement of remnants followed by PF-deletion on a par with fragments in English put forward in Merchant (2004) (see Ahn & Cho 2006, 2009b, 2010 for detailed discussion). Thus, (1B), for example, can be derived in the following manner:

(i) [[CP Na-to, [TP John-uy hyeng-ul manna-ss-ta]]

In (i), the fragment na-to ‘I also’ undergoes movement to Spec of C, and TP undergoes ellipsis. Although the object and the verb aren’t pronounced in (i), they remain at LF for clausal interpretation. Consequently, (1B) has the same interpretation as its full sentential counterpart, Na-to John-uy hyeng-ul manna-ss-ta ‘I also met John’s brother’.
Thus, under Ahn & Cho’s (2006) ellipsis analysis, case alternation in fragment answers is expected irrespective of case-forms on wh-phrases in antecedent clauses since fragments parallel their non-elliptical sentential counterparts, and case alternation in (6) provides substantial evidence that the fragment involves clausal ellipsis.

2.2 Null arguments = Pro

Otani & Whitman (1991) propose, following Huang (1987), that a sentence like (1B’) is an instance of VP ellipsis where the head V has been evacuated via V-raising. Park (1994), Hoji (1998), Oku (1998), Kim (1999) and many others have pointed out non-trivial problems that the VP ellipsis analysis encounters.


(8) a. John studies English hard, and Mary does (study English hard), too.
   b. John came home early, but Mary didn’t (come home early).

(9) a. Mary-ka ppalli talli-ko John-to *(ppali) talli-n-ta.
    M.-Nom fast run-Conj J.-also fast run-Pres-Dec
    ‘Intended: Mary runs fast and John does too.’
   b. Mary-ka kulen iyu-lo ttena-ss-ko John-to *(kulen iyu-lo)
    M.-Nom such reason-for leave-Past-Conj J.-also such reason-for
tena-ss-ta.
    leave-Pst-Dec
    ‘Intended: Mary left for such a reason and John did too.’

Park (1994) points out that if VP ellipsis were available in Korean, the sentence in (9) would be predicted to have an equivalent reading of (8), contrary to fact. (9) does not tell us anything about how John run or why John left. Thus, he argues that Otani & Whitman’s VP ellipsis analysis of null object arguments may not be maintained in Korean.

As one alternative to the VP ellipsis analysis, Oku (1998) and Kim (1999) propose that Japanese and Korean have an ellipsis process like argument ellipsis. Under this analysis, an argument DP itself may directly undergo ellipsis.

On the other hand, Ahn & Cho (2009, 2010b, 2011b,c) propose that the
Korean examples of apparent DP ellipsis exemplified in (1B’) are all instances of *pro* (see also Park 1994, Hoji 1998, Moon 2010 *inter alia*); that is, Ahn & Cho argue that null arguments such as (1B’) involve deep anaphora (null pronoun) *pro* but not surface anaphora ellipsis. Hence (1B’) should be represented as (10) under the *pro* analysis of null arguments:

(10) *[TP Na-to pro manna-ss-ta]*

Ahn & Cho (2011b) further suggest that the content of the null argument is supplied by the context: The noun takes a salient discourse element as its referent, and the *pro* in (10) may be understood as *John-uy hyeng-ul ‘John’s brother’*.

Many researchers (Oku 1998, Kim 1999, Saito 2007, Um 2011 and others), however, claim that sloppy identity interpretation in (11B) is a direct challenge to the *pro* analyses of null arguments.

   C.-Nom teacher-Acc three Cl meet-Pst-Dec
   ‘Chelswu met three teachers.’
B: Yenghi-to manna-ss-ta.
   Y.-also meet-Pst-Dec
   ‘Lit. Yenghi met (three teachers), too.’

(11B) can be interpreted as either ‘Yenghi also met the same teachers Chelswu met.’ (strict reading) or ‘Yenghi also met three teachers different from the ones Chelswu met.’ (sloppy reading).

The crucial argument against *pro* analyses comes from the absence of sloppy interpretation when the null argument is replaced by an overt pronoun as shown in (12B).

   C.-Nom teacher-Acc three Cl meet-Pst-Dec
   ‘Chelswu met three teachers.’
B: Yenghi-to kutul-ul manna-ss-ta.
   Y.-also them-Acc meet-Pst-Dec
   ‘Lit. Yenghi met them, too.’

Note that (12B) only yields strict interpretation in contrast to (11B) in which both sloppy and strict readings are possible.

This issue, however, seems to be related to the possible interpretation of *pro*. By exploring the cases where apparent sloppy readings arise, we show
how far the possible interpretation of pro is stretched. In this paper we offer additional pieces of evidence to show that what are considered to be sloppy identity readings in the null argument construction in Korean are not in fact genuine sloppy interpretations.

Our pro analysis is conceptually based on the proposal that ellipsis of DP (and other XPs) is not possible since they are not complements of functional heads (e.g., C, D, T … etc) which can bear an [E] feature (cf. Merchant 2001, Ahn & Cho 2009a, 2010b).

(13) *VP Ellipsis is barred
\[ V \]
\[ XP = DP, PP, TP, CP \ldots \text{etc} \]

Since DP is arguably a complement of a theta-role assigning lexical category like V which cannot have an [E] feature, DP ellipsis cannot occur. On this view, absence of DP ellipsis (and CP ellipsis, for example) can be accounted for in Korean and English in a unified way.

(14) A. John thought that that we buy the charcoal grill.
   B: I also thought *(that we buy the charcoal grill).
(15) A: I met John’s brother.
   B: *I also met [John’s brother].
   I-Top Y.-Nom T.-Acc love-Pres-Dec-C think-Pres-Dec
   ‘I think Yenghi loves Toli.’
   B: *na-to __ sayngkakha-n-ta.\(^2\)

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\(^2\) Although (16B) is not grammatical, the following sentence is possible.

(i) na-to kulehkey sayngkakha-n-ta.
   I-also so think-Pres-Dec
   ‘I thought so.’

The wellformedness of (i) raises a non-trivial question: why doesn’t the covert counterpart of kulehkey ‘so’ exist?

Ahn & Cho (2011b) show that there is crucial evidence that pro cannot substitute kulehkey in Korean. Witness the following contrasts:

   C.-Nom slowly run-Past-Dec
   ‘Chelswu ran slowly.’
   b. Yenghi-\(\text{to}\) twuwy-ess-ta.
   Y.-\(\text{to}\) run-Past-Dec
   ‘Yenghi also ran.’
   c. Yenghi-\(\text{to}\) kulehkey twuwy-ess-ta.
   Y.-\(\text{to}\) so run-Past-Dec
I also think-Pres-Dec

As noted in some previous literature, pro is needed independently of argument ellipsis in Korean (cf. Saito 2007). For example, the following sentence in Korean can be uttered without any relevant discourse when the teacher comes into the classroom:

(17) pro o-si-ess-e.
    come-Hon-Pst-Dec-
    ‘She/he came.’

Our pro analysis of null arguments is conceptually simple (hence, desirable under minimalist spirits) since it provides a uniform account for all null argument cases (see Ahn & Cho 2011b,c, 2012 for discussion).

3. The two types of reduced constructions: Some empirical arguments

We claim that the interpretive processes are different in these two types of short answers: Fragments yield canonical ellipsis phenomena while null arguments exhibit general properties of (indefinite) null pronoun. Following Hoji (1998), Ahn & Cho (2011a,b,c, 2012) and Ahn (2012), we argue that the interpretations considered to be sloppy identity readings in the null argument construction in Korean are not in fact genuine sloppy interpretations but more or less similar to “sloppy-like” readings which are

‘Yenghi also ran so.’
    C.-Nom stomach cancer-from die-Past-Dec
    ‘C-Nom died from stomach cancer.’
b. Yenghi-to cwuk-ess-ta.
    Y.-too die-Past-Dec
    ‘Yenghi also died.’
c. Yenghi-to kulehkey cwuk-ess-ta.
    Y.-also so die-Past-Dec
    ‘Yenghi also died from stomach cancer.’

Note that in (iib) and (iiib), the adverbial readings are all absent; that is, (iib) and (iiib) only denote plain events of Yenghi’s running and dying without specifications of how and why. If, however, kulehkey ‘so’ in Korean can undergo ellipsis or be replaced by pro, the interpretation of (iib) and (iiib) would be the same as the one of (iic) and (iiic), respectively, contrary to fact. Thus, we conclude that pro can only refer to NP/DP but not adverbial kulehkey ‘so’.
instances of pragmatic explicatures that can be cancelled unlike genuine sloppy readings in fragments.

Korean has various kinds of double object/accusative constructions. Among these, we explore three kinds: macro-micro constructions, inalienable possession constructions and quantifier floating constructions. We propose a unified double object/accusative construction that underlies the syntactic and semantic sources of null argument constructions.

We propose that the sources of sloppy-like readings are due to peculiar double object/accusative constructions in Korean, roughly equivalent to \([X_P \text{NP-Acc } X]\)-Acc. We suggest that the null argument \textit{pro} refers to the NP part of this complex structure (but not to the X head, in particular). Our proposal can account for the sloppy reading asymmetries of the fragments and null constructions as widely observed in \textit{wh}-phrases, weak/strong quantifiers, NPIs, and macro-micro constructions.

3.1 Macro-micro constructions

The macro-micro constructions discussed here are classified into three types: varieties, hyponyms and brands. The classification is based on the semantic relation between two NP and X in the structure \([X_P \text{NP-Acc } X]\)-Acc.

3.1.1 Type I: varieties

This section explores fragments and null arguments in variety-type macro-micro constructions (cf. O’Grady 1998, Sim 2005, Yoon 1998 and others)

\[(18) A: \text{Swunhi-ka paci-ul ppalkansayk-ul sa-ss-e.} \\
\text{S.-Nom pants-Acc red-Acc buy-Pst-Dec} \\
\text{‘Swunhi bought red pants.’} \\
\text{B: Yenghi-to.} \\
\text{Y-also} \\
\text{‘Yenghi, too.’} \\
\text{B’: Yenghi-to sa-ss-e.} \\
\text{Y-also buy-Pst-Dec} \\
\text{‘Lit. Yenghi bought, too.’} \]

We suggest that \textit{paci-lul ppalkansayk-ul ‘pants-Acc red-Acc’} makes a constituent as shown in (19).

\[(19) \NP \]
We suggest that the sloppy-like interpretation occurs when pro in (18B’) refers to the first NP paci-lul ‘pants-Acc’ as shown in (20).

(20) Yenghi-to pro(=paci-lul) sa-ss-e.

In other words, (18B’) in fact conveys the reading like the following (21a), which, under this particular context through pragmatic explicature, can be further understood as (21b).

(21) a. Yenghi bought pants, too.
    b. Yenghi bought red pants, too.

The sloppy-like reading, which is pragmatically induced, is cancellable, as shown in (22). As a reply to (18A), (22) is possible.

(22) Yenghi-to sa-ss-e. kulentey Yenghi-nun phalansayk-ul sa-ss-e. Y.-also buy-Pst-Dec but Y.-Top blue-Acc buy-Pst-Dec ‘Lit. Yenghi also bought, but she bought a blue one.’
    = ‘Intended reading: Yenghi bought pants, too, but she bought a blue one.’

In contrast, the sloppy reading observed with the fragment as in (18B) is genuine sloppy reading. As a result, the reading isn’t cancellable as shown in (23). As a reply to (18A), (23) isn’t possible.

(23) #Yenghi-to. Kulentey Yenghi-nun phalansayk-ul Y.-also but Y.-Top blue-Acc sa-ss-e.

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3 According to Sperber & Wilson (1986:182), an explicature is a combination of linguistically encoded and contextually inferred conceptual features. Consider (i-ii):
   (i) a. He is meeting a woman this evening.
       b. He is meeting a woman [who is not his wife, mother, or sister] this evening.
   (ii) a. I have had breakfast.
       b. I have had breakfast [today] (Agerri & Korta 2004:15)
   (ib) and (iib) are the explicature of (ia) and (iia), respectively. (ib) and (iib) are the development of the logical form encoded by the utterance or the result of the process of the reference assignment and enrichment to the logical form.
buy-Pst-Dec
‘Yenghi, too.’ But she bought a blue one.’

We also note that the first NP paci-lul ‘pants.Acc’ isn’t denied in the discourse, as shown in (24).

   S.-Nom pants.Acc red.Acc buy-Pst-Dec
   ‘Swunhi bought red pants.’
B: #Yenghi-to sa-ss-e. kulentey Yenghi-nun yangmal-ul
   Y.-also buy-Pst-Dec but Y.-Top socks.Acc
   sa-ss-e. buy-Pst-Dec
   ‘Lit. Yenghi bought, too, but, Yenghi bought socks.’
   ‘* if: Yenghi bought a red one, too, but, Yenghi bought red socks.’
   ‘ok if: Yenghi bought something, too, but, Yenghi bought socks.’

Note that (24B’) is impossible only under the interpretation that what Yenghi bought is red socks. In other words, (24B’) should involve the structure [yangmal-ul pro] ‘socks.Acc pro’ in which pro refers to ppalkansayk-(ul) ‘red(-Acc)’, as shown in (25).

   (pro = ppalkansayk-ul)

Note further that the ill-formedness in (24B’) can be explained under the assumption that pro cannot directly refer to the ‘X’ head ppalkansayk-ul ‘red-Acc’ since pro-forms in general are XP categories. On this view, pro replaces either the whole NP paci-lul ppalkansayk-ul ‘pants-Acc red-Acc’ or the complement phrase NP paci-lul ‘pants-Acc’, but not the head of the phrase.4

A similar pattern is observed in multiple object constructions, as shown in (26).

(26) A: Swunhi-ka paci-ul ilcey-lul ppalkansayk-ul

4 For example, in English an indefinite pro-form like one can only replace phrasal constituents bigger than a head.
(i) a. Which [student] were you referring to? *The one of Physics with long hair?
   (Radford 1988:186)
   b. *The [student] of chemistry was older than the one of Physics.
   (Lightfoot 1982:54)
S.-Nom  pants-Acc  Japanese-made-Acc  red-Acc
sa-ss-e.
bruy-Pst-Dec
'Swunhi bought red Japanese-made pants.'
B: Yenghi-to sa-ss-e.
Y-also  buy-Pst-Dec
'Lit. Yenghi bought, too.'

We suggest that the multiple Acc-construction paci-lul ilcay-lul
ppalkanyak-ul ‘pants-Acc Japanese-made red-Acc’ can be structurally
represented as (27).

(27)

\[
\begin{array}{c}
\text{Pro} \\
\text{NP1} \\
\text{N}
\end{array}
\rightarrow
\begin{array}{c}
\text{Pro} \\
\text{NP2} \\
\text{N'}
\end{array}
\rightarrow
\begin{array}{c}
\text{Pro} \\
\text{NP3} \\
\text{N}
\end{array}
paci-lul  ilcey-lul
\]

When pro refers to the higher NP2, the following sloppy-like reading
occurs: ‘Yenghi bought red Japanese-made pants, too.’ However, the
pragmatically induced sloppy-like reading is cancellable, as shown in (28).
As a reply to (26A), (28) is possible.

(28) Yenghi-to sa-ss-e.  kultekey Yenghi-nun phalansayk-ul sa-ss-e.
Y-also buy-Pst-Dec but  Y.-Top blue-Acc  buy-Pst-Dec
'Lit. Yenghi also bought, but she bought a blue one.'
= ‘Intended reading: Yenghi bought Japanese-made pants, too, but
she bought a blue one.’

When pro refers to the lower NP3, the following sloppy-like reading occurs:
‘Yenghi bought Japanese-made pants, too.’ This pragmatically induced
sloppy-like reading is cancellable, as shown in (29). As a reply to (26A),
(29) is possible.

(29) Yenghi-to sa-ss-e.  kultekey Yenghi-nun micey-lul
Y-also buy-Pst-Dec but  Y.-Top American-made-Acc
sa-ss-e.

\footnote{The structure of (27) is partly based on Cho’s (2000) claim that multiple case-
marked phrases in Korean form a constituent.}
buy-Pst-Dec
‘Lit. Yenghi also bought, but she bought an American-made one.’
= ‘Intended reading: Yenghi bought pants, too, but she bought an
American-made one.’

We also note that the first NP paci-ul ‘pants-Acc’ alone isn’t denied in the
discourse, as shown in (30).6

(30) A: Swunhi-ka paci-ul ilcey-lul ppalkansayk-ul
   S.-Nom pants-Acc Japanese-made-Acc red-Acc
   sa-ss-e.
buy-Pst-Dec
   ‘Swunhi bought red pants.’
B’: #Yenghi-to sa-ss-e. kulentey Yenghi-nun yangmal-ul
   Y also buy-Pst-Dec but Y.-Top socks-Acc
   sa-ss-e.
buy-Pst-Dec
   ‘Lit. Yenghi bought, too, but, Yenghi bought socks.’
   ‘* if: Yenghi bought a red one, too, but, Yenghi bought red
Japanese socks.’
   ‘ok if: Yenghi bought something, too, but, Yenghi bought socks.’

Note that neither ilcey-ul ‘Japanese made’ nor ppalkansayk-ul ‘red’ in the
structure (27) can be replaced by pro since they are heads of the phrases
(recall that pro-forms can only replace XPs). This brings forth the above
contrast that (41B’) is ill-formed with the intended interpretation: Note that
in order to get the starred intended reading given in (30B’), the relevant
structure for the missing object should be either pro (=ilcey-ul) or pro (=ppalkansayk-ul).

6 The delicate contrasts discussed so far do not seem to occur when fragments are
involved:
   S.-Nom pants-Acc Japanese-made-Acc red-Acc buy-Pst-Dec
   ‘Swunhi bought red Japanese-made pants.’
B: Yenghi-to.
   Y also
   ‘Yenghi, too.’ = ‘Yenghi did too.’
In other words, fragments yield sloppy reading only; i.e., the reading that Yenghi
bought red Japanese-made pants, too. Thus, multiple Acc-constructions lend another
supports to the distinction between fragments and null arguments in Korean.
3.1.2 Type II: hyponyms

This section discusses superordinate-hyponym macro-micro constructions. In this construction, the first accusative case-marked NP is interpreted as superordinate of the second accusative case-marked NP.

   S.-Nom lunch-Acc pipimpap-Acc eat-Pst-Dec
   ‘Swunhi had pipimpap for lunch.’
B: Yenghi-to.
   Y-also
   ‘Yenghi, too.’
B’: Yenghi-to mek-ess-e.
   Y-also eat-Pst-Dec
   ‘Lit. Yenghi had too.’

Parallel to variety-type, we suggest that hyponym-type has the following structure.

(32) \[
\text{NP} \rightarrow \text{NP} \rightarrow \text{NP} \\
\text{pro} \rightarrow \text{cemsim-ul pipimpap-ul}
\]

(31B’), then, conveys the reading like the following (33), which under this particular context through pragmatic explicature, can be further understood as ‘Yenghi had pipimpap for lunch’.

(33) Yenghi-to pro(=cemsim-ul) mek-ess-e.

This sloppy-like reading is further cancellable, as shown in (34). As a reply to (31A), (34) is possible.?

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7 Even single object counterparts like following can be analyzed in a similar way.

(i) A: Swunhi-ka pipimpap-ul mek-ess-e.
   S.-Nom pipimpap-Acc eat-Pst-Dec
   ‘Swunhi had pipimpap.’
B: Yenghi-to pro mek-ess-e.
   Y-also eat-Pst-Dec
   ‘Lit. Yenghi had, too.’
(34) Yenghi-to mek-ess-e. kulentey Yenghi-nun nayngmyen-ul
    Y.-also eat-Pst-Dec but Y.-Top cold noodles-Acc
    mek-ess-e.
eat-Pst-Dec
    ‘Yenghi had (lunch), too, but she had cold noodles.’

By contrast, the sloppy reading observed with the fragment as in (31B) is a
genuine sloppy reading. As a result, the reading isn’t cancellable as shown in (35).

(35) # Yenghi-to. kulentey Yenghi-nun nayngmyen-ul
    Y.-also but Y.-Top cold noodles-Acc
    mek-ess-e.
eat-Pst-Dec
    ‘Yenghi, too. But she had cold noodles.’

Further, the first NP cemsim-ul ‘lunch-Acc’ isn’t denied in the discourse, as
shown in (36).

    S.-Nom lunch-Acc pipimpap-Acc eat-Pst-Dec
    ‘Swunhi had pipimpap for lunch.’
B’: #Yenghi-to mek-ess-e. kulentey Yenghi-nun cenyek-ul mek-ess-e
    Y.-also eat-Pst-Dec but Y.-Top dinner
    ‘Lit. Yenghi had, too, but she had dinner.’
    ‘* if: Yenghi had pipimpap, too, but she had it for dinner.’
    ‘ok if: Yenghi had a meal, too, but she had dinner.’

Here we assume that an NP pap ‘meal’ or an NP indicating a particular meal (e.g.
cemsim-ul ‘lunch-Acc’, cenyek-ul ‘supper-Acc’ or achim-ul ‘breakfast-Acc’) can
implicitly form a construction like [pro(=meal) pipimpap-ul], and the pro in (iB)
can refer to this implicit nominal, namely, another instance of pro (the property of this
preceding nominal is determined by an appropriate context that the object is
employed). Thus, (iB) may simply mean ‘Yenghi had a meal’ which can
pragmatically yield an explicature that ‘Yenghi had pipimpap for her meal’ in this
context.

The similar cancellation pattern of the pragmatically induced reading is observed
in both the single object construction and the double object construction. As a reply
to (iA), (ii) is possible.

(ii) Yenghi-to mek-ess-e. kulentey Yenghi-nun nayngmyen-ul mek-ess-e.
    Y.-also eat-Pst-Dec but Y.-Top cold noodles-Acc eat-Pst-Dec
    ‘Yenghi had a meal, too, but she had cold noodles.’
A similar pattern is observed in multiple object constructions, as shown in (37).

(37) A: Swunhi-ka cemsim-ul yangsik-ul haympeke-lul
   S.-Nom lunch-Acc western food-Acc hamburger-Acc
   mek-ess-e.
   eat-Pst-Dec
   ‘Swunhi had western food hamburger for lunch.’

B: Yenghi-to mek-ess-e.
   Y-also eat-Pst-Dec
   ‘Lit. Yenghi had, too.’

We suggest that cemsim-ul yangsik-ul haymbege-lul ‘lunch-Acc western food-Acc hamburger-Acc’ makes a constituent as shown in (38).

(38)

When pro refers to the higher NP, the following sloppy-like reading occurs: ‘Yenghi had western food hamburger for lunch.’ The sloppy-like reading, as is predicted under our approach, is cancellable, as shown in (39). As a reply to (37A), (39) is possible.

(39) Yenghi-to mek-ess-e. kulenty Yenghi-nun suphakeythi-ul
   Y.-also eat-Pst-Dec but Y.-Top spaghetti-Acc
   mek-ess-e.
   eat-Pst-Dec
   ‘Yenghi had (western food for lunch), too, but she had spaghetti.’

When pro refers to the lower NP, the following sloppy-like reading occurs: ‘Yenghi had western food for lunch, too.’ This sloppy-like reading, as expected, is also cancellable, as shown in (40). As a reply to (37A), (40) is possible.

(40) Yenghi-to mek-ess-e. kulenty Yenghi-nun hansik-ul
   Y.-also eat-Pst-Dec but Y.-Top Korean food-Acc
Further, the first NP censim-ul ‘lunch-Acc’ isn’t denied in the discourse, as shown in (41).

(41) A: Swunhi-ka censim-ul yangsik-ul haympeke-lul
   S.-Nom lunch-Acc western food-Acc hamburger-Acc
   mek-ess-e
   eat-Pst-Dec
   ‘Swunhi had western food hamburger for lunch.’
B’: #Yenghi-to mek-ess-e. kulentey Yengi-nun cenyek-ul mek-ess-e.
   Y-also eat-Pst-Dec but Y.Top dinner
   ‘Lit. Yenghi had, too, but she had dinner.’
   ‘* if: Yenghi had (western food) hamburger, too, but she had it for dinner.’
   ‘ok if: Yenghi had a meal, too, but she had dinner.’

Note that neither yangsik-ul ‘western food’ nor haympeke-lul ‘hamburger’ in the structure (38) can be replaced by pro since they are heads of the phrases. Hence (41B’) is predicted to be ill-formed with the intended interpretation.

3.1.3 Type III: brands

This section discusses brand-type macro-micro constructions. Here, the second accusative case-marked NP specifies brand of the first accusative case-marked NP.

   S.-Nom A/C-Acc Samsung-Acc buy-Pst-Dec
   ‘Swunhi bought a Samsung air conditioner.’
B: Yenghi-to.
   Y-also
   ‘Yenghi, too.’
B’: Yenghi-to sa-ss-e.
   Y-also bought-Pst-Dec
   ‘Lit. Yenghi bought, too.’

Here too we propose [NP-Acc N]-Acc for the brand-type double Acc constructions where brand (here, Samsung) heads the complex phrase. Then,
(42B’) can be analyzed as (43) where pro replaces the NP part of the structure.

(43) Yenghi-to pro(=eyekhon-ul) sa-ss-e.

The evidence for this structure comes from the sloppy-like reading in (42B’), namely, the reading ‘Yenghi bought a Samsung air conditioner’ which is pragmatically induced from the reading ‘Yenghi bought an air conditioner’ in (43) as an explicature.

This sloppy-like reading, pragmatically induced, is predicted to be cancellable, as shown in (44). As a reply to (42A), (44) is possible.

(44) Yenghi-to sa-ss-e. kulentey Yenghi-nun LG-lul sa-ss-e.
   Y-also buy-Pst-Dec but Y.-Top LG-Acc buy-Pst-Dec
   ‘Lit. Yenghi bought too, but she bought an LG.’
   ‘* if: Yenghi bought an air conditioner, too, but she bought an LG air conditioner.’
   ‘ok if: Yenghi bought something (not necessarily an A/C), too, but she bought an LG product.’

Interestingly, however, the first NP eyekhon-ul ‘air conditioner -Acc’ can be denied in the discourse (unlike the first NP in variety-type and hyponym-type), as shown in (45). As a reply to (42A), (45) is possible.

(45) Yenghi-to sa-ss-e. kulentey Yenghi-nun khemphwuthe-lul sa-ss-e.
   Y-also bought-Pst-Dec but Y.-Top computer-Acc
   buy-Pst-Dec
   ‘Lit. Yenghi bought too, but she bought a computer.’
   ‘*’Intended reading: Yenghi bought a Samsung product, too, but she bought a computer.’

We think that the contrast hinges on the fact that the brand-type construction shows freer word order compared with previous two types perhaps due to semantic reasons (the precise nature of semantic differences awaits further research, though).

(46) a. Type I: varieties
   *Swunhi-ka ppalkansayk-ul paci-ul sa-ss-e.
   S.-Nom red-Acc pants-Acc buy-Pst-Dec
   ‘Swunhi bought red pants.’
b. Type II: hyponyms
   *Swunhi-ka pipimpap-ul cemsim-ul mek-ess-e.
   S.-Nom pipimpap-Acc lunch-Acc eat-Pst-Dec
   ‘Swunhi had pipimpap for lunch.’

c. Type III: brands
   Swunhi-ka Samsung-ul eyekhon-ul sa-ss-e.
   S.-Nom Samsung-Acc air conditioner-Acc buy-Pst-Dec
   ‘Swunhi bought a Samsung air conditioner.’

Thus, in Type III macro-micro structures, both (47a) and (47b) may antecede the null argument structures, which results in the acceptable (45) in contrast to Type I & II.

\[(47)\] a. \[\text{NP} \quad \text{b.} \quad \text{NP}\]
\[
\begin{array}{c}
\text{NP} \\
\text{A/C-ul} \quad \text{Samsung-ul} \\
\end{array}
\quad \begin{array}{c}
\text{NP} \\
\text{Samsung-ul} \quad \text{A/C-ul} \\
\end{array}
\]

3.2 Inalienable possession constructions

The double object construction we discuss in this section is the inalienable possession construction. A sub-type of this construction is the kinship and body-part construction (body-part construction is discussed shortly). Two identically case-marked NPs have kinship relation such as father-son and mother-daughter.

\[(48)\] A: Swunhi-ka Tongswu-lul apeci-lul manna-ss-e.
   S.-Nom T.-Acc father-Acc meet-Pst-Dec
   ‘Swunhi met Tongswu’s father.’
   B: Yenghi-to.
   Y.-also
   ‘Yenghi, too.’
   B’: Yenghi-to manna-ss-e.
   Y.-also meet-Pst-Dec
   ‘Lit. Yenghi met, too.’

Here too we propose [NP-Acc N]-Acc for the inalienable possession constructions where kinship term (here, apeci) heads the complex phrase. The null argument in \((48B’)\), then, is pro (=Tongswu) that replaces the NP part of the complex structure, which conveys the reading like the following.
(49a), which under this particular context through pragmatic explication, can be easily interpreted as (49b).

(49) a. Yenghi met some member of Tongswu’s family, too.
   b. Yenghi met Tongswu’s father, too.

The pragmatically induced sloppy-like reading is further cancellable, as shown in (50). As a reply to (48A), (50) is possible.

(50) Yenghi-to manna-ss-e. kulentey Yenghi-nun emeni-lul
    Y.-also meet-Pst-Dec but Y.-Top mother-Acc
    manna-ss-e.
    meet-Pst-Dec
   ‘Lit. Yenghi met, but Yenghi met mother.’
   ‘Intended reading: Yenghi met some member of Tongswu’s family, but she met his mother (not his father).’

In contrast, the sloppy reading observed with the fragment as in (48B) is genuine sloppy reading which isn’t cancellable as shown in (51).

(51) # Yenghi-to. kulentey Yenghi-nun emeni-lul manna-ss-e.
    Y.-also but Y.-Top mother-Acc meet-Pst-Dec
   ‘Yenghi, too.’ ‘But she met his mother.’

Further, here too the first NP can’t be denied in the discourse due to the same reason as the other double Acc constructions that we have discussed above.

(52) A: Swunhi-ka apeci-lul manna-ss-e.
    S.-Nom father-Acc meet-Pst-Dec
   ‘Swunhi met her father.’

B: #Yenghi-to manna-ss-e. kulentey Yenghi-nun Chelswu-lul
    Y.-also meet-Pst-Dec but Y.-Top C.-Acc
    manna-ss-e.
    meet-Pst-Dec
   ‘Lit. Yenghi met, too, but Yenghi met Chelswu.’
   ‘* if: Yenghi met someone’s farther, too, but she met Chelswu’s father (not Swunhi’s).’
   ‘ok if: Yenghi met someone, too, but she met Chelswu.’
A similar pattern is observed in multiple object constructions, as shown in (53). (53A) contains another type of inalienable possession construction, namely, body part.

(53) A: Swunhi-ka Tongswu-lul apeci-lul elkwul-ul
   S.-Nom T.-Acc father-Acc face-Acc
   tayli-ess-ta
   hit-Pst-Dec
   ‘Swunhi hit Tongswu’s father’s face.’
   B: Yenghi-to tayli-ess-ta.
   Y.-also hit-Pst-Dec
   ‘Lit. Yenghi hit, too.’

Here too a pragmatically induced sloppy-like reading is cancellable, as shown in (54). As a reply to (53A), (54) is possible.

(54) Yenghi-to tayli-ess-e. kulentey Yenghi-nun tali-lul
   Y.-also hit-Pst-Dec but Y.-Top leg-Acc
   tayli-ess-ta.
   hit-Pst-Dec
   ‘Lit. Yenghi hit, but Yenghi hit a leg.’
   ‘Intended reading: Yenghi hit Tongswu’s father, but she hit his leg (not his face).’

Another sloppy-like reading may occur: ‘Yenghi hit some member of Tongswu’s family, too.’ This sloppy-like reading is also cancellable, as shown in (55). As a reply to (53A), (55) is possible.

(55) Yenghi-to tayli-ess-e. kulentey Yenghi-nun emeni-lul
   Y.-also hit-Pst-Dec but Y.-Top mother-Acc
   tayli-ss-ta.
   hit-Pst-Dec
   ‘Lit. Yenghi hit, but Yenghi hit mother.’
   ‘Intended reading: Yenghi hit some member of Tongswu’s family, but she hit his mother (not his father).’

Further, the first NP isn’t denied in the discourse, either.

(56) A: Swunhi-ka Tongswu-lul apeci-lul elkwul-ul
   S.-Nom T.-Acc father-Acc face-Acc
   tayli-ess-ta
hit-Pst-Dec
‘Swunhi hit Tongswu’s father’s face.’
B: #Yenghi-to tayli-ss-e. kulentey Yenghi-nun Chelswu-lul
Y-also hit-Pst-Dec but Y.-Top C.-Acc
tayli-ess-e.
hit-Pst-Dec
‘Lit. Yenghi hit, too, but Yenghi hit Chelswu.’
‘* if: Yenghi hit someone’s father’s face, too, but she hit
Chelswu’s father ‘s face (not Swunhi’s).’
‘ok if: Yenghi hit someone, too, but she hit Chelswu.’

Thus, inalienable possession constructions pattern with other macro-
micro double Acc constructions in all respects for our purposes.

So far, we have shown that sloppy-like readings in the null argument
constructions (Type I, II, III) are all illusory. They all result from
cancellable pragmatic explicatures, and hence there’s no evidence for
ellipsis analysis for null arguments in Korean. The pro analysis of null
arguments, on the other hand, gains strong supports from the observed
asymmetries in the above macro-micro double object/Acc constructions
in Korean.

3.3 Quantifier floating constructions

We would further extend our analysis of macro-micro constructions to
the seemingly unrelated quantifier floating constructions below. We propose
that the sources of sloppy-like readings in Q-float constructions are also due
to peculiar double object/accusative constructions in Korean, roughly
equivalent to [QP NP-Acc Q]-Acc (here Q includes (general) quantifiers &
quantifier-like modifiers). We suggest that the source of sloppy-like reading
hinges on the possibility that the null argument pro refers to the NP part
of this QP.

3.3.1 Cardinal quantifiers

Consider examples containing a cardinal quantifier sey pwan-ul ‘three
Cl-Acc’, as shown in (57).

(57) A: Swunhi-ka sensayngnim-ul sey pwan(-ul) manna-ss-e.8

8 Unlike macro-micro constructions, Acc markers in quantifiers in Q-floating
constructions are optional. It is not our direct concern here to discuss the nature of
this difference. For reasons of space, we will ignore the difference here (cf. Ko 2005).
At first glance, (57B’) gives rise to sloppy reading: ‘Yenghi met three teachers, too’. This reading, however, is not genuine sloppy reading under our proposal assuming the following Q-float structure like (58).

```
(58) \[ Pro \rightarrow NP \\
    QP \rightarrow Q' \\
    sensayngnim-ul sey pwun(-ul) \]
```

Notice that (57B’) in fact conveys the meaning ‘Yenghi met teachers, too’ if pro refers to the NP sensayngnim-ul ‘teacher-Acc’ in (58). Then, the sloppy-like reading results from explicatures under our pro analysis of null arguments.

Note further that the sloppy-like interpretation of the null argument is cancellable as shown in (59). (59) is possible as a reply to (57A).

```
(59) Yenghi-to manna-ss-e. kulentey Yenghi-nun sensayngnim-ul 
    Y.also meet-Pst-Dec but Y.-Top teacher-Acc 
    twu pwun(-ul) manna-ss-e. 
    two CI-Acc meet-Pst-Dec 
    ‘Lit. Yenghi met, too. But Yenghi met two teachers.’ 
    ‘Intended reading: Yenghi met teachers, too. But she met two (but not three) teachers.’
```

By contrast, the genuine sloppy interpretation of fragments is non-cancellable as shown in (60); i.e., (60) isn’t possible as a reply to (57A).

```
(60) #Yenghi-to. kulentey Yenghi-nun sensayngnim-ul twu pwun(-ul) 
    Y.also but Y.-Top teacher-Acc two-(Acc) 
    manna-ss-e. 
    meet-Pst-Dec 
    ‘Yenghi, too. But Yenghi met two teachers.’
```
In the null argument construction, the first NP isn’t denied in the discourse.

(61) A: Swunhi-ka sensayngnim-ul sey pwun-ul manna-ss-e.
   S.-Nom teacher-Acc three Cl-Acc meet-Pst-Dec
   ‘Swunhi met three teachers.’
B: # Yenghi-to manna-ss-e. kulentey Yenghi-nun haksayng-ul
   Y.-also meet-Pst-Dec but Y.-Top student-Acc
   manna-ss-e.
   meet-Pst-Dec
   ‘Lit. Yenghi met, too. But Yenghi met students.’
   ‘* if: Yenghi met three people, too. But Yenghi met three students
     (but not three teachers).’
   ‘ok if: Yenghi met someone, too. But Yenghi met students.’
A similar pattern is observed in multiple accusative constructions, as shown in (62).

(62) A: Swunhi-ka sensayngnim-ul atunim-ul sey pwun(-ul)
   S.-Nom teacher-Acc son-ul three Cl-Acc
   manna-ss-e.
   meet-Pst-Dec
   ‘Swunhi met a teacher’s three sons.’
B’: Yenghi-to manna-ss-e .
   Y.-also meet-Pst-Dec
   ‘Lit. Yenghi met, too.’

The multiple accusative constructions can be structured as follows.

(63)

\[
\begin{array}{c}
Pro \rightarrow NP_1 \\
Q' \\
\end{array}
\]

\[
Pro \rightarrow NP_2 \\
\]

sensayngnim-ul atunim-ul

The sloppy-like interpretations occur due to the possibilities of denoting either NP1 or NP2 by pro. If pro refers to the NP2, the sentence means ‘Yenghi met teachers’ (=> explicature: ‘Yenghi met a teacher’s three family members or offsprings’). If pro refers to the NP1, the sentence means ‘Yenghi met sons’ (=> explicature: ‘Yenghi met a teacher’s three sons’).
Since these sloppy-like interpretations are pragmatically induced, they are cancellable, as shown in (64) as replies to (62A).

(64) a. Yenghi-to manna-ss-e. kulentey Yenghi-nun sensayngnim-ul
   Y.also meet-Pst-Dec but Y.-Top teacher-Acc
   atunim-ul twu pwun(-ul) manna-ss-e.
   son-(Acc) two Cl-Acc meet-Pst-Dec
   ‘Yenghi met a teacher’s sons, too. But she met a teacher’s two sons.’

b. Yenghi-to manna-ss-e. kulentey Yenghi-nun sensayngnim-ul
   Y.also meet-Pst-Dec but Y.-Top teacher-Acc
   tnanim-ul manna-ss-e.
   daughter-(Acc) meet-Pst-Dec
   ‘Yenghi met a teacher’s three family members or offsprings, too. But
   she met a teacher’s three daughters.’

Here too, NP2 isn’t denied in the discourse; that is, (62B’) cannot convey the meaning like ‘Yenghi met someone who has three sons, and that
someone is her uncle, for example’.

3.3.2 Universal quantifiers

The examples containing universal quantifiers can be analyzed in a similar way. Consider (65).

(65) A: Swunhi-ka sensayngnim-ul motwu(-ul) manna-ss-e.
   S.-Nom teacher-Acc all-Acc meet-Pst-Dec
   ‘Swunhi met all the teachers.’

B: Yenghi-to. ‘Y.-also.’

B’: Yenghi-to manna-ss-e.
   Y.-also meet-Pst-Dec ‘Lit. Yenghi met, too.’

(65B’) yields sloppy-like reading ‘Yenghi met all teachers, too’. This reading, too, is a pragmatic explication under pro analysis of null arguments
assuming the following Q-sample structure like (66).

(66)

```
Pro → NP
sensayngnim-ul motwu
```

As shown in (67), sloppy-like reading of null arguments is cancellable.
As shown in (68), genuine sloppy reading of fragments isn’t cancellable.

(68) #Yenghi-to. kulentey Yenghi-nun sensayngnim-ul ilpwu-man
Y.also but Y.-Top teacher-Acc some-only
manna-ss-e.
meet-Pst-Dec
‘Yenghi, too. But Yenghi met only some teachers.’

In the null argument construction, the first NP isn’t denied in the discourse.

(69) A: Swunhi-ka sensayngnim-ul motwu(-lul) manna-ss-e.
S.-Nom teacher-Acc all.Acc meet-Pst-Dec
‘Swunhi met all teachers.’
B:# Yenghi-to manna-ss-e. kulentey Yenghi-nun haksayng-ul
Y.also meet-Pst-Dec but Y.-Top student-Acc
manna-ss-e.
meet-Pst-Dec
‘Lit. Yenghi met, too. But Yenghi met students.’
‘* if: Yenghi met all, too. But Yenghi met all students (but not teachers).’
‘ok if: Yenghi met someone, too. But Yenghi met students.’

3.3.3 Negative polarity items (NPIs)

Our pro analysis of null arguments extends to examples containing negative polarity items.

(70) A: Swunhi-ka sensayngnim-ul amwuto an manna-ss-e.
S.-Nom teacher-Acc anyone not meet-Pst-Dec
‘Swunhi didn’t meet any teachers.’
B: Yenghi-to.
   ‘Y.-also.’
B': Yenghi-to ______ an manna-ss-e.
   Y.-also neg meet-Pst-Dec
   ‘Lit. Yenghi didn’t meet, either.’

Under our pro analysis, the sloppy-like reading ‘Yenghi didn’t meet any teachers, too’ in (70B’) is pragmatically derived from the following structure where pro refers to sensayngnim-ul ‘teacher-Acc’ in (71):\(^9\)

(71) Yenghi-to pro an manna-ss-e.
    Y.-also neg meet-Pst-Dec
    ‘Yenghi didn’t meet pro (=teachers), either.’

We assume the structure like (72). In (72), pro refers to NP

(72)

\[
\begin{array}{c}
\text{Pro} \\
\text{sensayngnim-ul} \\
\text{amwuto}
\end{array}
\]

\[
\begin{array}{c}
\text{NP} \\
\text{Q'}
\end{array}
\]

\[
\begin{array}{c}
\text{Q}
\end{array}
\]

Sloppy-like reading of null arguments is marginally cancellable.

(73) Yenghi-to an manna-ss-e. kulentey Yenghi-nun sensayngnim-ul
    Y.-also not meet-Pst-Dec but Y.-Top teacher-Acc
    amwuto an manna-n kes-un an-i-ta.
    anyone not meet-Mod Comp-Top not-be-Dec
    ‘Lit. Yenghi didn’t meet, either. But it is not the case that Yenghi
didn’t meet any teachers.’
    ‘Intended reading: Yenghi didn’t meet teachers, either. But it is not the
case that Yenghi didn’t meet any teachers.’

By contrast, genuine sloppy reading of fragments isn’t cancellable at all:

(74) Yenghi-to. kulentey Yenghi-nun sensayngnim-ul amwuto an manna-n.
    Y.-also but Y.-Top teacher-Acc anyone not meet-Mod
    kes-un an-i-ta Comp-Top not-be-Dec

\(^9\) Kawashima & Kitahara (1992), Ko (2005), Lee & Um (2004), and Shi (1997) suggest that NPs and negative polarity items form a constituent.
‘Yenghi, too. But it is not the case that Yenghi didn’t meet any teachers.’

Further, in the null argument construction the first NP isn’t denied in the discourse.

(75) A: Swunhi-ka sensayngnim-ul amwuto an manna-ss-e.
     S.-Nom teacher-Acc anyone not meet-Pst-Dec
     ‘Swunhi didn’t meet any teachers.’

B:# Yenghi-to an manna-ss-e. kulentey Yenghi-nun haksayng-ul an
     Y.-also not meet-Pst-Dec but Y.-Top student-Acc not
     meet-Pst-Dec
     ‘Lit. Yenghi didn’t meet, either. But Yenghi didn’t meet students.’
     ‘* if: Yenghi didn’t meet anyone, either. But Yenghi didn’t meet
     any students (but not teachers).’
     ‘ok if: Yenghi didn’t meet someone, either. But Yenghi didn’t meet
     students.’

In sum, Q-floating structures seem to pattern with macro-micro constructions with respect to fragments vs. null arguments, and our pro analysis of null arguments gains further supports from the observed asymmetries in the above Q-floating structures in Korean.

4. Further implications

4.1 Parallelism

Hankamer & Sag (1976) observe that surface anaphora such as VP ellipsis exhibits syntactic parallelism effects:

(76) a. Someone had to put out the garbage. But I didn’t want to.
    b. The garbage had to be put out. *But I didn’t want to.
    c. It annoyed Sally if anyone mentioned her sister’s name. Tom did, out of spite
    d. The mention of her sister’s name annoyed Sally. *Tom did, out of spite.

Deep anaphora such as VP anaphora, by contrast, does not show syntactic parallelism effects:
(77) a. Someone had to put out the garbage. But I didn’t want to do it.
   b. The garbage had to be put out. But I didn’t want to do it.
   c. It annoyed Sally if anyone mentioned her sister’s name. Tom did it, out of spite
   d. The mention of her sister’s name annoyed Sally. Tom did it, out of spite.

If null argument constructions are instances of deep anaphora, it is expected that they do not exhibit syntactic parallelism, and it is indeed borne out.

Given that the double object/accusative construction (78a) is semantically equivalent to the modifier-N construction (78b), we expect that the null argument construction (78c) as a reply to (78b) exhibits parallel sloppy-like reading effects, as we have seen in the previous sections.

(78) a. Swunhi-ka paci-ul ppalkansayk-ul sa-ss-e.
   S.-Nom pants-Acc red color-Acc buy-Pst-Dec
   ‘Swunhi bought red pants.’
   b. Swunhi-ka ppalkan/ppalkansayk-uy paci-ul sa-ss-e.
   S.-Nom red/red color-Gen pants-Acc buy-Pst-Dec
   ‘Swunhi bought red pants.’
   c. Yenghi-to sa-ss-e.
   Y-also buy-Pst-Dec
   ‘Lit. Yenghi bought, too.’

Note that (78a) and (78b) are syntactically distinct: that is, (78a) involves \[[SP NP-Acc N]\], while (78b) involves either \[[SP AP N]\] or \[[SP NP-Gen N]\]. However, they are semantically non-distinct (at least for our purposes here). Thus, it is expected that (78c) as a reply to (78b) patterns with the one as a reply to (78a) in all respects. This is indeed the case, and we omit concrete discussion here for reasons of space.

Mutatis mutandis, Q-float constructions can be explained along the similar lines. Here too we sidestep concrete discussion here for reasons of space.

(79) a. Swunhi-ka sensayngnim-ul sey.pwun(-ul) manna-ss-e.
   S.-Nom teacher-Acc three.Cl-Acc meet-Pst-Dec
   ‘Swunhi met three teachers.’
   b. Swunhi-ka sey/sey.pwun-uy sensayngnim-ul manna-ss-e.
   S.-Nom three/three.Cl-Gen teacher-Acc meet-Pst-Dec
   ‘Swunhi met three teachers.’
   c. Yenghi-to manna -ss-e.
4.2 Wh-puzzles

In Korean, the pronoun *nwukwu* is ambiguous between indefinite interpretation ‘someone’ and *wh*-interpretation ‘who’. Hence, (80A) is interpreted as either yes-no interrogative or *wh*-interrogative. The fragment (80B) is also ambiguous between yes-no interpretation and *wh*-interpretation. Interestingly, the null object construction in (80B’) is unambiguous: it is interpreted only as yes-no question.

(80) A: Chelswu-ka nwukwu-lul manna-ss-ni?
   C.-Nom who-Acc meet-Pst-Q
   ‘Who did Chelswu meet?’ or ‘Did Chelswu meet anyone?’
B: Kulissey, kulem Yenghi-nun?
   Well, then Y.-Top?
   ‘Well, then, who did Yenghi meet?’ or
   ‘Well, then, did Yenghi meet anyone?’
B’: Kulissey, kulem Yenghi-nun manna-ss-ni?
   Well, then Y.Top meet-Pst-Q
   ‘Well, then, did Yenghi meet anyone?’
   *‘Well, then, who did Yenghi meet?’

The fragment (80B) has the structure similar to (80A), as shown in (81).

(81) Yenghi-nun [nwukwu-lul manna-ss-ni]?
   Y.-Top who-Acc meet-Pst-Q

Then, (81) can be interpreted as either yes-no question or *wh*-question on a par with (80A). (80B’), by contrast, is not ambiguous. We suggest that even single *wh*’s in Korean can be analyzed as complex *wh*-phrases on a par with other QP constructions discussed before; namely, [s\_NP + *wh*]. The property of the preceding NP is determined by an appropriate context that the modifying *wh* is employed.

(82) A: Chelswu-ka (salamtul-ul) nwukwu-lul manna-ss-ni?
   C.-Nom people-Acc who-Acc meet-Pst-Q
   ‘Who did Chelswu meet?’ or ‘Did Chelswu meet anyone?’
B: Yenghi-nun *prot*=(salamtul-ul) manna-ss-ni?
   Y.-Top meet-Pst-Q
‘Did Yenghi meet people?’

The null argument \(pro\) in \((82B)\) refers to the unpronounced \(salamtul-ul\) ‘people-Acc’. Then, apparent \(wh\)-argument ellipsis is an instance of \(pro\) replacement of the NP parts of this structure. Hence, \((80B’)\) is interpreted only as yes-no question, which cannot be captured under ellipsis analyses of null arguments such as Kim (1999), Oku (1998), Saito (2004, 2007), Takahashi (2008), Lee & Kim (2010), and Lee (2011) inter alia.

5. The two types of reduced constructions: Some experimental arguments

This section discusses experimental studies related to null argument constructions, which may in part support our \(pro\) analysis Matsuo (2007) and Kim (2012) experimentally investigate null object constructions in Japanese and Korean, respectively.

According to Kim (2012), Korean adult participants were asked to carefully read each short story and then to judge whether a statement presented at the end of each story was correct by marking ‘TRUE’ or ‘FALSE’ on the questionnaire sheet. Kim (2012) created three types of story context: (i) a full-match context, (ii) a color-mismatch context, (iii) an object-mismatch context. A test sentence is shown in \((83)\).

\[(83) \text{Sungki-ka phalan kapang-ul sa-ess-yo. Sunhuy-to sa-ss-e-yo.} \]
\[\text{S.-Nom blue bag-Acc buy-Pst-Dec S.-also buy-Pst-Dec-Po;}\]
\[\text{‘Lit. Sungki bought a blue bag. Sunhuy bought too.’}\]

There are two interpretive options regarding null objects. The one is the interpretation that the null object refers to the higher \(N’\). The other is the interpretation that the null object refers to the lower \(N’\).

\[(84) \text{a. Anaphoric to the higher } N’ \quad \text{b. Anaphoric to the lower } N’\]

\[\text{NP} \quad \text{NP}\]
\[\text{D} \quad \text{D}\]
\[\text{NP} \quad \text{NP}\]
\[\text{AP} \quad \text{AP}\]
\[\text{N’} \quad \text{N’}\]
\[\text{phalan} \quad \text{phalan}\]
\[\text{N} \quad \text{N}\]
\[\text{kapang} \quad \text{kapang}\]
When *Pro* can refer to either the lower N’, the color of the bag doesn’t matter, which is a color mismatch context. In the color mismatch context, one character buys a blue bag and the other buys a white bag. In the object-mismatch context, one character buys a bag and the other buys a wallet. The result is given in Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Full-match</th>
<th>Color-mismatch</th>
<th>Object-mismatch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptance rates</td>
<td>98.3%</td>
<td>6.6%</td>
<td>1.66%</td>
</tr>
</tbody>
</table>

Table 1

Kim (2012) argues that participants comprehend null arguments by reconstructing the entire object NP from the antecedent clause. This result shows us that speakers seem to have strong tendencies to use the linguistic antecedent maximally in recovering null objects. We have to note that this result is based on not grammaticality judgment test but comprehension test. Hence, the result seems to have a bias towards preferred interpretation (but not grammaticality). Thus, Kim’s (2012) results concerning the status of null arguments are far from conclusive.

One substitution experiment conducted by Kim (2012) has non-trivial implications on the interpretation of null arguments in Korean. According to Hankamer & Sag (1976), one substitution is classified as deep anaphora because it does not require a linguistic antecedent.

(85) a. [Sag produces an apple.]
   Hankamer: Did you bring one for me?
b. [Observing Max ride by on his camel]
   Did you ever ride on the one Sue used to have?

One can have a linguistic antecedent.10

(86) a. Look at this blue bag.
b. Now, look at another one.

10 We also note that *one* can replace non-constituent as indicted by Radford (1988:221)
(i) a. Jane has a big black dog, and Jean has a brown one.
   b. … a big brown dog
   c. … a brown dog
(i) can have either of the interpretations (ib) or (ic). (ic) shows non-constituent *one* substitution.
One substitution brings about ambiguity. As shown in (87a), one can be anaphoric to the higher N’. As shown in (87b), one can be anaphoric to the lower N’.

(87) a. Anaphoric to the higher N’  

NP

D  N'  

this  AP  N

blue  N

bag

b. Anaphoric to the lower N’

NP

D  N’

this  AP  N

blue  N

bag

A test sentence is given in (88).

(88) John bought a blue bag. Mary bought one, too.

English L1 Speakers rejected one substitution in the color-mismatch context (0.83%-acceptance rates) and the object mismatch contexts (0.83%-acceptance rates). However, compared with ones of English L1 speakers, acceptance rates of Korean L2 learners of English were higher in both the contexts, as follows.

<table>
<thead>
<tr>
<th>Acceptance rates</th>
<th>Full-match</th>
<th>Color-mismatch</th>
<th>Object-mismatch</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.5%</td>
<td>97.5%</td>
<td>22.5%</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Table 2

22.5 % Korean L2 learners of English answered “TRUE” to the color mismatch contexts. The participants considered the pronoun one to be anaphoric to the lower N’, ‘bag’. The difference in acceptance rates of English L1 speakers and Korean L2 learners of English might show that Korean L2 speakers use situational context more actively.

Matsuo’s (2007) experiments show that Japanese-speaking adults accepted the null object construction in the color-mismatch reading context 36% of the time. Japanese-speaking children accepted the color-mismatch context over 70% of the time and the object mismatch reading context approximately 52% of the time. This shows that the Japanese speakers allowed the null object to correspond either to just the lower N’ or N in the
antecedent clause 70% or to a previously mentioned referent in the context but not in the antecedent clause 52%.

An example from Matsuo (2007:24-25) reminds us of cancellable sloppy-like interpretation.

(89) Puppet: Usi-san-ga asupara-o tabemasita.
   Cow-Mr.-Nom asparagus-Acc eat-Pst
   Sosite zoo-san-mo tabemasita.
   And elephant também eat-Pst
   ‘The cow ate asparagus and the elephant ate, too.’
   Participant: un, atteru yo. ninjin-o ne.
   Yes correct-part carrot-Acc-Part
   ‘yes correct, carrots.’

The subject cancelled the object asupara-o ‘asparagus-Acc’. This is similar to the cancellation pattern of sloppy-like reading a shown in (90).

   S.-Nom pipimpap-Acc eat-Pst-Dec
   ‘Swunhi had pipimpap.’
   B: Yenghi-to mek-ess-e. kulentey Yenghi-nun nayngmyen-ul
   Y.-also eat-Pst-Dec but Y.-Top cold noodles-Acc
   mek-ess-e.
   eat-Pst-Dec
   ‘Yenghi had (lunch), too, but she had cold noodles.’

The experimental studies indirectly support our proposal that sloppy-like interpretation of null objects is not genuine.

6. Concluding Remarks

We have shown that fragments pattern differently with null arguments. Only the former may display genuine sloppy readings. The latter may yield sloppy-like readings which are pragmatically induced by the explication that can be cancelled unlike genuine sloppy readings in fragments. The above pieces of evidence (macro-micro constructions, Q-float, wh-puzzles) all lend substantial supports to our claim that fragments and null arguments are fundamentally different: Fragments are instances of ellipsis (surface anaphora), while null arguments are instances of pro (deep anaphora).

References


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