On Null Arguments and Clausal Ellipsis in Korean*

Hee-Don Ahn** & Sungeun Cho***
(Konkuk University & Yeungnam University)

Hee-Don Ahn & Sungeun Cho. 2012. On Null Arguments and Clausal Ellipsis in Korean. Language and Linguistics 56, 1–29. This paper aims to show that two types of answers shorter than full sentential answers involve two different anaphora and that the sources of interpretation are fundamentally distinct. Fragments pattern differently with null arguments in that only the former may display genuine sloppy readings. The latter may yield sloppy-like readings pragmatically induced by the explicature that can be cancelled unlike genuine sloppy readings in fragments. Evidence from ellipsis in Q-float & macro-micro constructions lends substantial support to our claim that fragments are analyzed as an instance of clausal ellipsis while null arguments are analyzed as null pronoun pro.

Keywords: null arguments, fragments, sloppy reading, sloppy-like reading, ellipsis, pro

1. Introduction

Korean has two types of answers shorter than a full sentential

---

*Portions of this paper were presented at the 19th International Conference on Head-Driven Phrase Structure Grammar held at Chungnam National University (July 2012), and at the 14th Seoul International Conference on Generative Grammar held at Dongguk University (August 2012). We thank the participants of the conferences and three anonymous reviewers of this journal for useful comments. This paper was supported by the Yeungnam University research grant in 2011 (Corresponding author).

**First author  *** Corresponding author
answer, as shown in (1B-B').

    I-Nom J.-Gen brother-Acc meet-Pst-Dec
    'I saw/met John's brother.'
B: na-to.
    'I also (met John's brother).'
    (Fragment)
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. Then, a question arises as to how we can explain the identical interpretation we get in the reduced constructions in (1).

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 of our claim regarding the two types of reduced constructions. Section 3 deals with some empirical arguments related to macro-micro constructions and quantifier floating constructions that correlate with our account of sloppy-(like) interpretation of the reduced constructions. Concluding remarks are provided in Section 4.

2. The two types of reduced constructions: Some conceptual arguments
2.1. Fragments & clausal ellipsis

Fragment conveys the same propositional content as its full sentential counterpart. The case connectivity noted by Morgan (1989) supports the premise 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 derivations.

(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 given in (3) directly reflect the contrasts in (2B-B') that are derived via (4a-b) respectively:

(4) a. Yenghi-ka (kuchayk-ul sa-ss-ta)
b. *Yenghi-lul [kuchayk ul-sa-sa-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 the 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 siph-ess-ni?
   Y.-Top who-Acc meet-Comp want-Past-Q
   ‘Who did Yenghi want to meet?’

b. Chelswu-lul.
   C.-Acc

c. Chelswu-ka.
   C.-Nom

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 that don’t rely on ellipsis analysis cannot 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.

   Y.-Top C.-Acc meet-Comp want-Past-Dec
   'Yenghi wanted to meet Chelswu.'

   Y.-Top C.-Nom meet-Comp want-Past-Dec
   'Yenghi wanted to meet Chelswu.'

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

(7) a. \[[[\text{DP Chelswu-lul}]]_{i} (Yenghi nun t, manna ko siph ess ta)]

b. \[[[\text{DP Chelswu-ka}]]_{i} (Yenghi nun t, manna ko siph ess ta)]

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 (5) provides substantial evidence that the fragment involves clausal ellipsis.

1) We 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, 2010a for detailed discussion). Thus, (1B), for example, can be derived in the following manner:

(i) [[\text{TP Na-to}]]_{i} [[[\text{TP t, John uy hyeng ul manna ss ta}]]_{i}]

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.'
2.2 Null arguments \( = Pro \)

Otani & Whitman (1991) propose, following Huang (1987), that a null argument construction 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).

   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
   M.-Nom such reason-for leave-Past-Conj J.-also
   *(kulen iyu-lo) ttena-ss-ta.
   such reason-for 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 a null pronoun 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 pro but not surface anaphora ellipsis. Hence (1B') should be represented as (10) under the pro analysis of null arguments:

\[
\text{(10) } [\text{TP Na-to pro manna-ss-ta}]
\]

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, Takahashi 2008, Um 2011 and others), however, claim that sloppy identity interpretation in (11B) is a direct challenge to the pro analyses of null arguments.

\[
\text{(11) A: Chelswu-ka sensayngnim-ul sey pwun manna-ss-ta.} \\
\text{C.-Nom teacher-Acc three Cl meet-Pst-Dec} \\
\text{Chelswu met three teachers.'} \\
\text{B: Yenghi-to _____ manna-ss-ta.} \\
\text{Y.-also meet-Pst-Dec} \\
\text{Yenghi met (three teachers), too.'}
\]

Many people indicate that (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 ku-tul-ul manna-ss-ta.
   Y.-also he-Pl-Acc meet-Pst-Dec
   'Yenghi met them, too.'

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

2) An anonymous reviewer points out the possibility that ku-tul 'they' can get the sloppy interpretation as a situationally prominent entity. Following Kang’s (2011:16) claim that the Korean plural pronoun ku-tul 'they', but not the singular pronoun ku 'he', induces group reading and bound variable reading, Ahn & Cho (2011c) suggest that only plural overt pronouns can be interpreted as bound variables in Korean, which may result in sloppy interpretation. We speculate that for those who get sloppy interpretation in (12B) may interpret ku-tul 'they' as a bound variable that is linked to the QP in the antecedent clause.

3) Regarding sloppy reading, clitic pronouns in Macedonian seem to show the same behavior as pronouns in Korean: Runcić (2012) indicates that clitic pronouns in Macedonian do not display sloppy reading, as shown in (i).

(i) Viktor vide (eden) film, a Dimitar go vide.
   Viktor saw a film and Dimitar saw it.
   'Viktor saw a movie and Dimitar saw it too.'

In (i), the clitic pronoun go refers to one and the same movie. It does not refer to two different movies. Thus, overt pronouns appear to pattern together cross-linguistically with respect to the possibility of sloppy reading.

However, unlike overt pronouns in Korean and clitic pronouns in Macedonian, clitic pronouns in Serbian/Croatian (SC) seem to allow sloppy reading if an appropriate context is given, as noted by Runcić (2012).
Ahn & Cho in their recent papers, however, have proposed that this issue seems to be related to the possible interpretation of pro. By exploring the cases where apparent sloppy readings arise, they have shown 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, etc) which can bear an [E] feature (cf. Merchant 2001, Ahn & Cho 2009a, 2010b).

(13)  \[ \*VP \text{ Ellipses is barred} \]

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 we buy the charcoal grill.

B: I also thought *(that we buy the charcoal grill).

(ii) Nikola je vidio film, a ga je i Danilo.

Nikola AUX.3SG saw film and saw it.CL.ACC and Danilo

'Nikola saw a movie and Danilo saw it/one too.'

In other words, ga either refers to one and the same movie (strict reading) or ga refers to two movies (sloppy reading) in (ii). It seems that null pronouns in Korean pattern with clitic pronouns in SC, while overt pronouns in Korean parallel clitic pronouns in Macedonian. This contrast may be subsumed to more general parametric differences: for example, SC and Korean are both lacking in articles/determiners unlike Macedonian (Željko Bošković by p.c.).
(15) A: I met John's brother.
    B: I also met *(John's brother).

(16) A: na-nun [Yenghi-ka Toli-lul salangha-n-ta-ko]
    I-Top Y.-Nom T.-Acc love-Pres-Dec-C
    sayngkakha-n-ta.
    think-Pres-Dec
    'I think Yenghi loves Toli.'
    B: *na-to _ sayngkakha-n-ta.4)

4) 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 well-formedness of (i) raises a non-trivial question: why kulehkey 'so'
cannot be replaced by pro to yield (16B).

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-to twuy-ess-ta.
    Y.-too run-Past-Dec
    'Yenghi also ran.'
    c. Yenghi-to kulehkey twuy-ess-ta.
    Y.-too so run-Past-Dec
    '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.-too so die-Past-Dec
    'Yenghi also died from stomach cancer.'
Note that in (ii-iii)b, the adverbial readings are all absent: that is, (ii-iii)b
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 (ii-iii)b would be the same as the
one of (ii-iii)c, respectively, contrary to fact. Thus, we conclude that pro can
only refer to NP/DP but not adverbial kulehkey 'so'.
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 linguistic antecedents 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 including discourse-bound null arguments (see Ahn & Cho 2011b,c, 2012 for discussion).

3. Revisiting sloppy reading

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 derived by pragmatic explicatures that can be cancelled unlike genuine sloppy readings in fragments.

3.1 Quantifier floating constructions

We propose that the sources of sloppy–like readings in Q–float
constructions are due to peculiar double object/accusative constructions in Korean, roughly equivalent to \( [Q_{NP} \text{NP-Acc } Q_{-}\text{Acc}] \) (here \( Q \) includes (general) quantifiers & quantifier-like modifiers). We suggest that the source of sloppy-like readings hinges on the possibility that the null argument \( pro \) refers to the NP part of this QP structure whose content is pragmatically retrieved.

Consider examples containing a cardinal quantifier \( seypwun-ul \) 'three Cl-Acc', as shown in (18).

(18) 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.
     'Y.-also.'
B': Yenghi-to _____ manna-ss-e.
     Y.-also meet-Pst-Dec
     'Lit. Yenghi met, too.'

At first glance, (18B') 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 (19).\(^5\)

\(^5\) An anonymous reviewer points out that overt pronoun can replace the NP in \( [\text{NP } + \text{QP}] \), which may be source of sloppy reading.

(i) A: Swunhi-ka haksayng-ul yel meyng manna-ss-e.
     S.-Nom student-Acc 10 Cl meet-Pst-Dec
     'Swunhi met 10 students.'
B: Yenghi-to kutul-ul yel meyng manna-ss-e.
     Y.-also them-Acc 10 Cl meet-Pst-Dec
     'Yenghi met 10 students, too.'

The well-formedness of (i) seems to be related to the peculiar property of the plural pronoun \( kutul \), which induces group reading or bound variable reading. Unlike the plural pronoun, singular one cannot replace the NP in \( [\text{NP } + \text{QP}] \).
(19) \[
\begin{array}{c}
\text{QP} \\
\text{Pro} \rightarrow \text{NP} \\
\text{sensayngnim-ul sey pwun(-ul)}
\end{array}
\]

Notice that (18B’) in fact conveys the meaning ‘Yenghi met teachers, too’ if pro refers to the NP sensayngnim-ul ‘teacher-Acc’ in (19).\(^6\) Then, the sloppy-like reading results from “explicatures” under our pro analysis of null arguments.\(^7\)

(ii) A: Swunhi-ka haksayng-ul han meyng manna-ss-e.
   S.-Nom student-Acc one Cl meet-Pst-Dec
   ‘Swunhi met one student.’
   B: ‘Yenghi-to ku-lul han meyng manna-ss-e.
   Y.-also him-Acc one Cl meet-Pst-Dec
   ‘Yenghi met one student.’
Thus, plurality seems to closely related to sloppy reading possibility in Korean. See Ahn (2012, chapter 6) for further discussion of this issue.

6) An anonymous reviewer indicates that if pro refers to the whole QP in (19), it may yield sloppy reading. However, if pro refers to the whole QP, it would only result in strict reading like ‘Yenghi met the same three teachers Swunhi met’ under our analysis.

7) Explicature is mainly discussed in relation to the semantics-pragmatics interface. The notion explicature is very similar to the notion ‘implicature’, but they are usually analyzed as distinct concepts. The term explicature comes from Sperber & Wilson (1986) and Carston (1988, 2002). According to Grice (1975) and Levinson (2000), explicature is equivalent to generalized implicature, while Bach (1994) and Recanati (1989) term it as implicature and enrichment, respectively. The common view on explicature is summarized as (i):

(i) Implicitures/explicatures go beyond what is said (in a strict sense) and yet fall short of being implicatures. (Bach 2006:1)

Here are standard examples, with the implicit materials in brackets. The implicit materials are derived through explicature.

(ii) a. Jack and Jill are married [to each other].
   b. Bill insulted his boss and [as a result] got fired.
   c. You’ll got promoted if [and only if] you work hard.
   d. Ralph is ready [to go to work].
Note further that the sloppy-like interpretation of the null argument is cancellable as shown in (20). (20) is possible as a reply to (18A).\(^8\)

\[(20)\] 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 Cl-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 hardly cancellable as shown in (21); i.e., (21) isn't a possible reply to (18A).\(^9\) \(^10\)

---

e. Nina has had enough [pasta to eat].

f. He is meeting a woman [who is not his wife, mother, or sister] this evening.

Explicature is a combination of linguistically encoded and contextually inferred conceptual features from implicit materials. In other words, explicature is derived from 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.

8) An anonymous reviewer does not get the sharp contrasts like ours. Experimental studies such as Matsuo (2007) and Kim (2012) indirectly support the contrast between fragments vs. null arguments concerning sloppy reading.

9) An anonymous reviewer points out the following example.

\[(i)\] A: Ec\(\text{e}^\text{cy}\) Yenghi-ka yen\(\text{ey}\)in-ul myech myeng-ul po-ass-tay.

yesterday Y.-Nom entertainer-Acc several Cl-Acc see-Pst-Dec

'Yesterday Yenghi saw several entertainers.'

B: Chelswu-to.

C. -also

The reviewer claims that Chelswu can make the utterance like \((i\text{B})\) even in the context that he saw only one entertainer. Given the fact that meaning of \textit{one} is
(21) #Yenghi-to. kulentey Yenghi-nun sensayngnim-ul
    Y.also but Y.-Top teacher-Acc
twu pwun(-u1) manna-ss-e.
two cl-(Acc) meet-Pst-Dec
'Yenghi, too. But Yenghi met two teachers.'

Furthermore, in the null argument construction, the first NP isn't denied in the discourse.

(22) 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 noin-ul
    Y.also meet-Pst-Dec but Y.-Top old man-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 old men (but not three teachers).'
'ok if: Yenghi met someone, too. But Yenghi met old men.'

subsumed under the meaning of several, such utterance might be semantically O.K. However, when (i) is uttered in the context, it violates the maxim of quantity in Grice's cooperative principle. Generally, when the speaker utters like (iB), the listener expects that Chelswu saw more than one entertainer.

10) An anonymous reviewer points out the possibility that if the elided part of clausal ellipsis in (21) contains only sensayngnim-ul 'the teacher-Acc' without a quantifier, fragments like (18B) is no different from null argument constructions like (18B'). In such case, however, clausal ellipsis isn't possible because it violates (semantic or morpho-syntactic) 'identity condition on ellipsis.'
Note that (22B) is impossible only under the interpretation that who Yenghi met are three old men. If it were possible, (22B) should involve the structure \([\text{noin-ul pro}] \text{old men-Acc pro}\) in which pro refers to \(\text{sey pwun}(-ul)\) 'three Cl(-Acc)', as in (23), which we consider syntactically deviant.

(23) \(\text{Yenghi-to manna-ss-e. kulentye Yenghi-nun [noin-ul pro]}\)
\(\text{manna-ss-e. (pro = sey pwun-ul)}\)

Note that the ill-formedness in (22B)/(23) can be explained under the assumption that pro cannot directly refer to the "X° head" \(\text{sey pwun-ul}\) 'three CL-Acc' since proforms in general are XP categories. On this view, pro replaces either the whole QP \(\text{sensayngnim-ul} \text{sey pwun-ul}\) 'teacher-Acc three CL-Acc' or the complement phrase NP \(\text{sensayngnim-lul}\) 'teacher-Acc', but not the head of the phrase.11)

12) An anonymous reviewer indicates that if it turns out that pro in Korean and one in English are not similar in the relevant respects, it will weaken our claim that pro cannot refer to X°. We note that one replaces not N° but N', which is a phrasal category. Hence, the similarity between pro in Korean and one in English does not harm our proposal.

11) For example, in English an indefinite proform like one can only replace phrasal constituents bigger than a X° 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)

An anonymous reviewer indicates that if it turns out that pro in Korean and one in English are not similar in the relevant respects, it will weaken our claim that pro cannot refer to X°. We note that one replaces not N° but N', which is a phrasal category. Hence, the similarity between pro in Korean and one in English does not harm our proposal.

12) An anonymous reviewer points out that our analysis is contrary to An's (2012) claim that the second object can be replaced by pro in the multiple accusative construction (MAC), as shown in (i) (An 2012: 350).

(i) \(\text{John-i Tom-uy sonkalak-un pwulettuli-ess-ciman}\)
\(\text{John-Nom T.-Gen finger-Top break-Pst-though}\)
\(\text{Mary-nun an pwulettuli-ess-ta.}\)
\(\text{Mary-Top neg break-Pst-Dec}\)

'Although John broke Tom's finger, (he) didn't break Mary's.'
A similar pattern is observed in multiple accusative constructions (MAC), as shown in (24).

(24) A: Swunhi-ka sensayngnim-ul atunim-ul sey pwun(-ul)
S.-Nom teacher-Acc son-Acc three Cl-Acc
manna-ss-e. meet-Pst-Dec
'Swunhi met a teacher's three sons.'
B: Yenghi-to _____ manna-ss-e.

An (2012) argues that the second conjunct is derived from MAC via null pronominalization like (iia-b).

(ii) a. Mary-lul pro an pwulettuli-ss-ta.
b. Mary-nun pro an pwulettuli-ss-ta.

However, it is dubious whether such analysis is also applied to other MAC we discussed here:

(iii) a. John-un uysa-lul sey myeng manna-ss-ciman
   John-Top doctor-Acc three Cl meet-Pst-though
   kanhowen-un an manna-ss-ta.
   nurse-Top neg meet-Pst-Dec
   * if: Although John met three doctors, he didn't meet three nurses.'
   John-Top cap-Acc white color-Acc buy-Pst-though glove-Top neg bought
   * if: Although John bought a white cap, he didn't buy white gloves.'

Note that unlike the inalienable possession-type MAC in An (2012), pro cannot replace the second object in Q-float and variety-type MAC (hence, sloppy reading cannot be obtained). This shows us that the MAC that we discuss in this paper has the structure different from the one in the inalienable possession-type MAC.

Alienable MAC does not seem to pattern with inalienable MAC in this respect:

   John-Top Mary-Acc mom-Acc meet-Pst-though Bill-Top neg meet-Pst-Dec
   * if: Although John met Mary's mom, he didn't meet Bill's.'
To our ear, sloppy reading is not possible in (iii), which indicates that pro cannot refer to the second object in alienable MAC, either.
The multiple accusative construction can be structured as follows.

\[
(25) \quad \begin{array}{c}
\text{QP} \\
\text{Pro} \rightarrow \text{NP}_1 \\
\text{Pro} \rightarrow \text{NP}_2 \\
\end{array}
\]

\[
\begin{array}{c}
\text{Q} \\
\text{NP}_1 \quad \text{NP}_2 \\
\text{sey pwun-ul} \\
\text{sensayngnim-ul} \quad \text{atunim-ul} \\
\end{array}
\]

The sloppy-like interpretations occur due to the possibilities of denoting either NP1 or NP2 by \( \text{pro} \). If \( \text{pro} \) refers to the NP2, the sentence means 'Yenghi met teachers' (\( \Rightarrow \) explicature: 'Yenghi met a teacher’s three family members or offsprings'). If \( \text{pro} \) refers to the NP1, the sentence means 'Yenghi met sons' (\( \Rightarrow \) explicature: 'Yenghi met a teacher’s three sons'). Since these sloppy-like interpretations are pragmatically induced, they are cancellable, as shown in (26) as replies to (24A).

\[
(26) \quad \begin{array}{l}
a. \quad \text{Yenghi-to manna-ss-e. kulentey Yenghi-nun} \\
\text{Y. also meet-Pst-Dec but Y.-Top} \\
\text{sensayngnim-ul atunim-ul twu pwun(-ul) manna-ss-e.} \\
\text{teacher-Acc son-(Acc) two Cl-Acc meet-Pst-Dec} \\
\text{Yenghi met a teacher’s sons, too. But she met a teacher’s} \\
\text{two sons.} \\
\end{array}
\]

\[
b. \quad \text{Yenghi-to manna-ss-e. kulentey Yenghi-nun} \\
\text{Y. also meet-Pst-Dec but Y.-Top} \\
\text{sensayngnim-ul ttanim-ul manna-ss-e.} \\
\text{teacher-Acc daughter-(Acc) meet-Pst-Dec} \\
\end{array}
\]
'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, (24B') cannot convey the meaning like Yenghi met someone who has three sons, and that someone is her uncle, for example.

In sum, our pro analysis of null arguments can explain all the contrasts as observed in this section which cannot be captured under argument ellipsis analysis of null arguments: namely, (i) the difference between fragments and null argument constructions regarding sloppy-like reading, and (ii) the replaceabity of NP and Q in the QP structure [QP NP Q].

3.2 Macro–micro constructions

Korean has various kinds of double object/accusative constructions. Among these, we explore fragments and null arguments in variety-type macro–micro constructions, as shown in the following (cf. O’Grady 1998, Sim 2005, Yoon 1998 and others).

   S.-Nom pants-Acc red-Acc buy-Pst-Dec
   'Swunhi bought red pants.'
B: Yenghi-to.
   Y-also
   'Yenghi, too.'
B’: Yenghi-to sa-ss-e.
   Y-also buy-Pst-Dec
   'Lit. Yenghi bought, too.'

We suggest that parallel to Q-float constructions, the macro-micro
construction *paci-lul* ppalkansayk-ul 'pants-Acc red-Acc' makes a constituent as shown in (28).

(28) \[
\begin{array}{c}
\text{Pro} \\
\text{NP} \\
\text{N} \\
\text{paci-lul} \\
\text{ppalkansayk-ul}
\end{array}
\]

We further suggest that the sloppy-like interpretation occurs when *pro* in (27B') refers to the first NP *paci-lul* 'pants-Acc' in (28):

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

In other words, (27B') conveys the reading like the following (30a), which, under this particular context through pragmatic explication, can be further understood as (30b).

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

The sloppy-like reading (30b), which is pragmatically induced, is cancellable, as shown in (31). As a reply to (27A), (31) is possible.

(31) Yenghi-to sa-ss-e. kulentey Yenghi-nun phalansayk-ul
    Y.-also buy-Pst-Dec but Y.-Top blue-Acc
    sa-ss-e.
    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 (27B) is genuine sloppy reading. As a result, the reading isn’t cancellable: Thus, as a reply to (27A), (32) isn’t possible.

(32) #Yenghi-to. Kulentey Yenghi-nun phalansayk-ul sa-ss-e. Y-also but Y.-Top blue-Acc buy-Pst-Dec 'Yenghi, too.' But she bought a blue one.'

We observe the first NP paci-lul isn’t denied in the discourse:

(33) A: Swunhi-ka paci-ul ppalkansayk-ul sa-ss-e. 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 (33B) is impossible only under the interpretation that what Yenghi bought is red socks. In other words, (33B) should involve the structure [yangmal-ul pro] 'socks-Acc pro' in which pro refers to ppalkansayk(-ul) 'red(-Acc)', as shown in (34).

(34) Yenghi-to sa-ss-e. kulentey Yenghi-nun [yangmal-ul pro] sa-ss-e. (pro = ppalkansayk-ul)
The *pro* replaces either the whole NP *paci-lul ppalkansayk-ul* 'pants.Acc red.Acc' or the complement NP *paci-lul* 'pants.Acc', but it cannot refer to the head of the phrase, *ppalkansayk-ul* 'red.Acc'.

A similar pattern is observed in multiple object constructions:

   S.-Nom pants.Acc Japan-made.Acc red.Acc buy-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 Accusative construction *paci-lul ilcey-lul ppalkansayk-ul* pants.Acc Japanese-made red.Acc can be structurally represented as (36).

(36)

```
Pro→ NP1
     N'
     Pro→ NP2 N
     N'
    / |  \ ppalkansayk-ul
   /   \ 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, this pragmatically induced sloppy-like reading is cancellable, as shown in (37). As a reply to (35A), (37) is possible.13)

13) The structure of (36) is partly based on Cho's (2000) claim that multiple case-marked phrases in Korean form a constituent.
(37) Yenghi-to sa-ss-e. kulentey Yenghi-nun phalansayk-ul Y.-also buy-Pst-Dec but Y.-Top blue-Acc sa-ss-e. 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 also cancellable, as shown in (38). As a reply to (35A), (38) is possible.

(38) Yenghi-to sa-ss-e. kulentey Yenghi-nun micy-lul sa-ss-e. Y.-also buy-Pst-Dec but Y.-Top US-made-Acc buy-Pst-Dec 'Lit. Yenghi also bought, but she bought a US-made one.'
= 'Intended reading: Yenghi bought pants, too, but she bought a US-made one.'

Observe further that the first NP paci-lul 'pants-Acc' alone isn't denied in the discourse, as shown in (39).

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 \textit{ilcey-ul}'Japanese made' nor \textit{ppalkansayk-ul}'red' in the structure (36) can be replaced by \textit{pro} since they are heads of the phrases (recall that proforms can only replace XPs). This brings forth the above contrast that \textit{(39B')} is ill-formed with the intended interpretation: Note that in order to get the starred intended reading given in \textit{(39B')}, the relevant structure for the missing object should be either \textit{pro}(= \textit{ilcey-ul}) or \textit{pro}(= \textit{ppalkansayk-ul}).

The delicate contrasts discussed so far do not seem to occur when fragments are involved:

\begin{enumerate}
\item [(40)] A: Swunhi-ka paci-ul ilcey-lul ppalkansayk-ul sa-ss-e.
\hspace{1cm} S.-Nom pants-Acc Japan-made-Acc red-Acc buy-Pst-Dec
\hspace{1cm} 'Swunhi bought Japan-made red pants.'
\item B: Yenghi-to.
\hspace{1cm} Y-also
\hspace{1cm} 'Yenghi, too.' = 'Yenghi did too.'
\end{enumerate}

In other words, fragments yield sloppy reading only; i.e., the reading that Yenghi bought red Japanese-made pants, too. Thus, multiple accusative constructions lend another supports to the distinction between fragments and null arguments in Korean.

4. 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 result from the pragmatic explicature that can be cancelled unlike genuine sloppy readings in fragments. The aforementioned pieces of evidence (macro-micro constructions and Q-float) all lend crucial 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).\(^{14}\)

**References**


Ahn, H.-D. and S. Cho (2009b) Notes on fragments in English &

---

\(^{14}\) An anonymous reviewer asks how our *pro* analysis differs from other *pro* analysis such as Moon (2010). Moon (2010), for example, proposes various types of *pro* in Korean to cover some of facts that we discussed in this paper. Moon's analysis, however, cannot systematically account for apparent sloppy reading that we have discussed here. In contrast to Moon's analysis, we propose only two types of *pro* for Korean: definite *pro* for discourse-bound null pronouns, and indefinite *pro* for bare NPs that may induce sloppy-like interpretation.


Sim, C-Y. (2005) “To make a case for all: Syntactic structure,

[143-701] 서울시 광진구 능동로 120 건국대학교 영어영문학과
E-mail: hdahn@konkuk.ac.kr

[447-791] 경상북도 경산시 대학로 280 영남대학교 영어교육과
E-mail: scho1007@ynu.ac.kr

논문접수: 2012년 9월 30일
수정완료: 2012년 11월 25일
게재확정: 2012년 11월 25일