Fragments vs. Null Arguments in Korean

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Abstract

Korean has two types of answers shorter than full sentential answers: Fragments and null argument constructions. Apparently the two constructions have the same interpretative processes. However, there are some cases where the fragment and null argument construction behave differently: e.g., *wh*-puzzles, sloppy interpretation. We suggest that the two constructions involve two different types of anaphora and that the sources of sloppy(-like) 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 which are pragmatically induced by the explicature that can be cancelled unlike genuine sloppy readings in fragments. Evidence (*wh*-ellipsis, quantifier ellipsis) all lends substantial support to our claim 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).

1 Introduction

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

(1) A: na-nun John-uy hyeng-ul   manna-ss-ta.
      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.   (Null Argument)
     I-too   meet-Pst-Dec
    'I also met (John's brother).'

(1B) and (1B') seem to have the same interpretation. However, there are contexts where the fragment and null argument construction show different semantic behavior. In Korean, the pronoun *nwukwu* is ambiguous between indefinite interpretation 'someone' and *wh*-interpretation 'who'. Consider the following sentences:

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(2) 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: Kulssey, kulem Yenghi-nun?
    Well,   then   Y.-Top?
    'Well, then, who did Yenghi meet?' or
    'Well, then, did Yenghi meet anyone?'
  B': Kulssey, 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?'

(2A) is interpreted as either yes-no interrogative or *wh*-interrogative. Note further that the fragment (2B) is also ambiguous between yes-no interpretation and *wh*-interpretation. Interestingly, however, the null object construction in (2B') is unambiguous: it is interpreted only as yes-no question. The puzzle on *wh*-ellipsis seems to shed light on the analysis of the fragment and null argument construction.

    We further 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 for our claim regarding the two types of reduced constructions. Section 3 deals with the *wh*-puzzles and further extend our analysis of *wh*-puzzles to the quantifier floating constructions and examples containing negative polarity items. Concluding remarks are provided in Section 4.

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.

(3) 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 (3B-B'). Prior to ellipsis, (3B) and (3B') have the following derivation.

(4) a. Yenghi-ka ku chayk-ul   sa-ss-ta.
       Y.-Nom   the book-Acc buy-Pst-Dec
       'Yenghi bought the book.'
    b. *Yenghi-lul ku chayk-ul   sa-ss-ta.
        Y.-Acc   the book-Acc buy-Pst-Dec

Now it is clear why (3B') is ruled out while (3B) is in since their source structures before ellipsis directly reflect the contrasts, as shown in (5):

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

(6) 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 (6a), the correlate of the fragment *nwukwu* 'who' is marked with accusative case, but the fragment answers can be marked with either accusative (6b) or nominative case (6c). If syntactic well-formedness of fragments were to depend totally upon their correlates, (6c) 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 (6b-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 (6a): namely, (7a) and (7b), which underlie the fragment answers (6b) and (6c), respectively.

(7) a. Yenghi-nun Chelswu-lul manna-ko   siph-ess-ta
       Y.-Top   C.-Acc   meet-Comp want-Past-Dec
       'Yenghi wanted to meet Chelswu.'
    b. Yenghi-nun Chelswu-ka manna-ko   siph-ess-ta
       Y.-Top   C.-Nom   meet-Comp want-Past-Dec
       'Yenghi wanted to meet Chelswu.'

(7a) and (7b), then, have the following derivations. Before ellipsis, the fragments undergo movement to the sentence-initial position.[2]

(8) a. [[$_{DP}$ Chelswu lul]$_i$ [~~Yenghi-nun t$_i$ manna-ko siph-ess-ta~~]]
    b. [[$_{DP}$ Chelswu ka]$_i$ [~~Yenghi-nun t$_i$ 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 (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.

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[2] 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, 2010a for detailed discussion). Thus, (1B), for example, can be derived in the following manner:
(i) [$_{CP}$ Na-to$_i$ [$_{TP}$ t$_i$ ~~John-uy hyeng-ul mannass-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'.

Park (1994), for example, has extensively discussed the problems of VP ellipsis analysis of null object constructions in Japanese and Korean. Among many arguments against Otani & Whitman's (1991) claim, Park (1994:164-165) observes the following contrasts between English and Korean, as also noted in Oku (1998) for Japanese.

(9) a. John studies English hard, and Mary does (study English hard), too.
　　b. John came home early, but Mary didn't (come home early).
(10) a. Mary-ka ppalli talli-ko　John-to *(ppalli) 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
　　　　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 (10) would be predicted to have an equivalent reading of (9), contrary to fact. Note that (10) does not tell us anything about how John runs 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, 2011a,c, 2012a) 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 (11) under the *pro* analysis of null arguments:

(11) [$_{TP}$ 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 (11) 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 (12B) is a direct challenge to the *pro* analyses of null arguments.

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

Many people indicate that (12B) 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 (13B).

(13) A: Chelswu-ka sensayngnim-ul sey pwun manna-ss-ta.
　　　　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
　　　　'Yenghi met them, too.'

Note that (13B) only yields strict interpretation in contrast to (12B) in which both sloppy and strict readings are possible.

　　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 only bear an [E] feature (cf. Merchant 2001, Ahn & Cho 2009a, 2010b).

(14)　　　　*VP　　　　　Ellipsis is barred
　　　　　　V　　　　　XP = DP, PP, TP, CP …etc
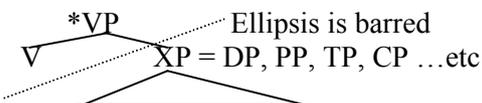
Since DP is arguably a complement of a theta-role assigning lexical category like V which cannot have an [E] feature, DP ellipsis cannot occur. On this view, absence of DP ellipsis (and CP ellipsis, for example), as shown in the following, can be accounted for in Korean and English in a unified

way (see Ahn & Cho 2009a, 2010b, 2011b for discussions of absence of CP ellipsis in Korean).

(15) A: John thought that we buy the charcoal grill.
    B: I also thought *(that we buy the charcoal grill).
(16) A: I met John's brother.
    B: *I also met [DP ~~John's brother~~].
(17) A: na-nun [Yenghi-ka Toli-lul salangha-n-ta-ko] sayngkakha-n-ta.
    I-Top   Y.-Nom T.-Acc love-Pres-Dec-C think-Pres-Dec
    'I think Yenghi loves Toli.'
    B: *na-to __ sayngkakha-n-ta.[3]
    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

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[3] Kiyong Lee (by p.c.) points out that although (17B) 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:
(ii) a. Chelswu-ka chenchenhi ttwuy-ess-ta.
    C.-Nom   slowly   run-Past-Dec
    'Chelswu ran slowly.'
  b. Yenghi-to ttwuy-ess-ta.
    Y.-too   run-Past-Dec
    'Yenghi also ran.'
  c. Yenghi-to kulehkey ttwuy-ess-ta.
    Y.-too   so   run-Past-Dec
    'Yenghi also ran so.'
(iii) a. Chelswu-ka wuyam-ulo   cwuk-ess-ta.
    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'.

sentence in Korean can be uttered without any relevant discourse when the teacher comes into the classroom:

(18) *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, 2012a for discussion).

3 *Wh*-puzzles and other related constructions

The puzzle on *wh*-ellipsis such as (2) repeated here as (19) seems to shed light on the sources of interpretation of null argument and fragment construction.

(19) 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: Kulssey, kulem Yenghi-nun?
        Well,   then   Y.-Top?
        'Well, then, who did Yenghi meet?' or
        'Well, then, did Yenghi meet anyone?'
    B': Kulssey, 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?'

On the analysis advanced here, the fragment (19B) has the structure similar to (19A), as shown in (20).

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

Then, (20) can be interpreted as either yes-no question or *wh*-question on a par with (19A). (19B'), by contrast, is not ambiguous, it only yields yes-no question reading.
    Under DP-ellipsis analyses of null arguments such as Kim (1999), Oku (1998), Saito (2004, 2007), Takahashi (2008), Lee & Kim (2010), and Lee (2011) inter alia, (19B') should have the structure like (21).

(21) Yenghi-nun [n̶w̶u̶k̶w̶u̶-̶l̶u̶l̶]   manna-ss-ni?
     Y.-Top   who-Acc   meet-Pst-Q

Then, (21) is predicted to be interpreted as either yes-no question or *wh*-question on a par with (19A), contrary to fact.

If *pro*, on the other hand, can directly refer to *nwukwu-lul* 'who-acc', (19B') is also expected to be ambiguous (parallel to (19B)), contrary to fact.

(22) Yenghi-nun pro(=nwukwu-lul) manna-ss-ni?
     Y.-Top   who-Acc   meet-Pst-Q

Recall that (19B') is not ambiguous: it yields only indefinite reading but not WH reading.

We suggest that single *wh*'s in Korean can be analyzed as complex *wh*-phrases; namely, [$_{whP}$ NP + *wh*]. The property of the preceding NP (which can be null *pro*) is determined by an appropriate context that the modifying *wh* is employed.

(23) 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 *pro*(=salamtul-ul) manna-ss-ni?
        Y.-Top   people-Acc   meet-Pst-Q
        'Did Yenghi meet people?'

The null argument *pro* in (23B), then, can refer to the unpronounced *salamtul-ul* 'people-Acc'. Consequently, apparent *wh*-argument ellipsis can be an instance of *pro* replacement of the NP parts of this structure. Hence, (23B') is predicted to be interpreted only as yes-no question under this proposal.

Likewise, we can explain the contrast between (24B) and (24B').

(24) A: Chelswu-ka mwuess-ul sa-ss-ni?
        C.-Nom   what-Acc buy-Pst-Q
        'What did Chelswu buy' or 'Did Chelswu buy anything?'
     B: Kulssey, kulem Yenghi-nun?
        Well,   then, Y.-Top
        'Well, then, what did Yenghi buy?' or
        'Well, then, did Yenghi buy anything?'
     B': Kulssey, kulem Yenghi-nun sa-ss-ni?
        Well,   then   Y.Top   buy-Pst-Q
        'Well, then, did Yenghi buy anything?'
        *'Well, then, what did Yenghi buy?'

(24B) has the structure like (25).

(25) Yenghi-nun [~~mwuess-ul sa-ss-ni~~]?
    Y.-Top   what-Acc   buy-Pst-Q

Then, (25) can be interpreted as either yes-no question or *wh*-question on a par with (24A).

Again, apparent *wh*-argument ellipsis is an instance of *pro* replacement of the NP part of this structure which is phonetically unrealized in (26B').

(26) A: Chelswu-ka (mwulken-ul) mwuess-lul sa-ss-ni?
        C.-Nom   thing-Acc   what-Acc buy-Pst-Q
        'What did Chelswu buy?' or 'Did Chelswu buy anything?'
     B: Yenghi-nun *pro*(=mwulken-ul) sa-ss-ni?
        Y.-Top   buy-Pst-Q
   'Did Yenghi buy things?'

The null argument *pro* in (26B) refers to the unpronounced *mwulken-ul* 'thing-Acc'. Hence, (26B) is interpreted only as yes-no question

We would further extend our analysis of *wh*-constructions to the quantifier floating constructions below. Consider examples containing a cardinal quantifier *sey pwun-ul* 'three Cl-Acc', as shown in (27).

(27) 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, (27B') gives rise to sloppy reading: 'Yenghi met three teachers, too'.

We propose that the sources of apparent sloppy 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) parallel to *wh*-constructions. We suggest that the source of apparent sloppy reading hinges on the possibility that the null argument *pro* refers to the NP part of this QP. This reading, however, is not genuine sloppy reading under our proposal assuming the following Q-float structure like (28).

(28)   QP

               Q^{1}

     Pro →NP   Q

        sensayngnim-ul sey pwun(-ul)
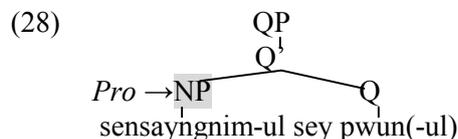
Notice that (27B') in fact conveys the meaning 'Yenghi met teachers, too' if *pro* refers to the NP *sensayngnim-ul* 'teacher-Acc' in (28). Then, the apparent sloppy reading occurs as a result of explicatures under our *pro* analysis of null arguments.[4]

Note further that the apparent sloppy interpretation (which is called sloppy-like interpretation by Hoji 1998) of the null argument is cancellable as shown in (29). Thus, (29) is possible as a reply to (27A).

> (29) 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 non-cancellable as shown in (30); i.e., (30) isn't possible as a reply to (27A).

> (30) #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.

> (31) A: Swunhi-ka sensayngnim-ul sey   pwun-ul manna-ss-e.

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[4] 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.

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 old men.'

'*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.'

Note that (31B) is impossible only under the interpretation that who Yenghi met are three old men. In other words, (31B) should involve the structure [*noin-ul* pro] 'students-Acc *pro*' in which *pro* refers to *sey pwun(-ul)* 'three Cl(-Acc)', as shown in (32).

(32) Yenghi-to manna-ss-e. kulentey Yenghi-nun [noin-ul *pro*] manna-ss-e. (*pro* = sey pwun-ul)

Note further that the ill-formedness in (27B) can be explained under the assumption that *pro* cannot directly refer to the "X^o head" *sey pwun-ul* 'three Cl-Acc' since proforms in general are XP categories. On this view, *pro* replaces either the whole QP *sensayngnim-ul sey pwun-ul* 'teacher-Acc three Cl-Acc' or the complement phrase NP *sensayngnim-lul* 'teacher-Acc', but not the head of the phrase.[5]
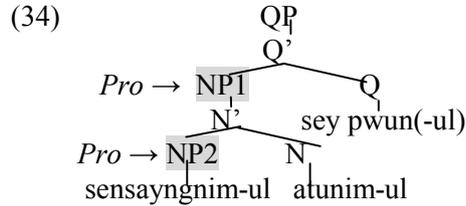
A similar pattern is observed in multiple accusative constructions, as shown in (33).

(33) 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.'

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[5] For example, in English an indefinite proform 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)

The multiple accusative constructions can be structured as follows.

(34)
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                        QP
                        |
                        Q'
        Pro → NP1              Q
              N'         sey pwun(-ul)
   Pro → NP2      N
        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 (35) as replies to (33A).
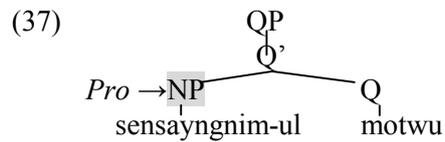
(35) a. Yenghi-to manna-ss-e. kulentey Yenghi-nun sensayngnim-ul
         Y.also   meet-Pst-Dec but   Y.-Top   teacher-Acc
        atunim-ul twu pwun(-u1) manna-ss-e.
        son-(Acc) two Cl-Acc   meet-Pst-Dec
         'Yenghi met a teacher's sons, too. But she met a teacher's two
           sons.'
    b. Yenghi-to manna-ss-e. kulentey Yenghi-nun sensayngnim-ul
         Y.also   meet-Pst-Dec but   Y.-Top   teacher-Acc
        ttanim-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, (33B') cannot convey the meaning like 'Yenghi met someone who has three sons, and that someone is her uncle, for example'.

    The examples containing universal quantifiers can be analyzed in a similar way. Consider (36).

(36) A: Swunhi-ka sensayngnim-ul motwu(-lul) 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.'

(36B') yields sloppy-like reading 'Yenghi met all teachers, too'. This reading, too, is a pragmatic explicature under *pro* analysis of null arguments assuming the following Q-float structure like (37).

(37)
```
                    QP
                    |
                    Q'
     Pro →NP _____/  _____
            |              Q
      sensayngnim-ul     |
                       motwu
```

As shown in (38), sloppy-like reading of null arguments is cancellable.

(38) Yenghi-to manna-ss-ta. kulentey Yenghi-nun sensayngnim-ul
    Y.also   meet-Pst-Dec but   Y.-Top   teacher-Acc   some-
    ilpwu-man manna-ss-e.
    only meet-Pst-Dec
    'Lit. Yenghi met, too. But Yenghi met some teachers.'
    'Intended reading: Yenghi met teachers, too. But she met only some
    (but not all) teachers.'

As shown in (39), genuine sloppy reading of fragments isn't cancellable.

(39) #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.

(40) 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.'

Our *pro* analysis of null arguments can further be extended to examples containing negative polarity items.

(41) 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 (41B') is pragmatically derived from the following structure where *pro* refers to *sensayngnim-ul* 'teacher-Acc' in (42):[6]

(42) 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 (43). In (43), *pro* refers to NP

(43)   QP
                  Q'
    Pro →NP   Q
      sensayngnim-ul amwuto

Sloppy-like reading of null arguments seems to be marginally cancellable.

(44) 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:

---

[6] Kawashima & Kitahara (1992), Ko (2005), Lee & Um (2004), and Shi (1997) independently suggest that NPs and negative polarity items form a constituent.

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

(46) 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
         manna-ss-e.
         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.'

Thus, our *pro* analysis of null arguments along with clausal ellipsis analysis of fragments gains further supports from the observed asymmetries in the above Q-floating structures in Korean.

4 Concluding Remarks

In sum, fragments pattern differently with null arguments in that only the former may display genuine sloppy readings. The latter may yield sloppy-like (i.e., apparent sloppy) readings which are pragmatically induced by the explicature that can be cancelled unlike genuine sloppy readings in fragments. Thus, the above evidence (*wh*-ellipsis, weak/strong quantifier ellipsis, NPI ellipsis) all lends crucial support 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).

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