Notes on Apparent $X^0$ Replacement of Pro*

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Ahn, Hee-Don & Cho, Sungeun. 2013. Notes on Apparent $X^0$ Replacement of Pro. *Korean Journal of Linguistics*, 38-2, 397-412. This paper aims to resolve the puzzle that certain interpretations are systematically missing in null argument constructions related to multiple case marking. According to Ahn & Cho (2012a,b), the interpretations cannot be obtained because pro cannot replace $X^0$ category. An (2012, 2013), by contrast, suggests that apparent NP ellipsis in some multiple case constructions involves pronominalization. In this paper, we suggest that apparent instances of $X^0$ replacement of pro as observed in An (2012, 2013) indeed involve XP replacement. (Konkuk University & Yeungnam University)

Key words: NP ellipsis, multiple case constructions, pro, $X^0$ replacement, XP replacement

1. Introduction

Ahn & Cho (2012b) observe that a certain interpretation is missing in the null argument construction related to the multiple accusative construction. (1A) has two accusative case-marked elements, sensaygnim-ul ‘teacher-Acc’ and sey pwun-ul ‘three Cl-Acc’.

(1) A: Swunhi-ka sensaygnim-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.1  Kulentey Yenghi-nun noin-ul

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1 In this context the sentence is potentially ambiguous in three ways depending on the follow-up sentence as shown below:
Y.-also meet-Pst-Dec but Y.-Top old man-Acc manna-ss-e.

'Lit. Yenghi met, too. But Yengi 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.'

We note that the follow-up sentence in (1B) is not interpreted as ‘Yenghi
met three old men’; It simply means that Yenghi met some old men
(not necessarily three).

A similar effect is observed with the macro-micro construction, as
shown in (2). (2A) has two accusative case-marked elements, paci-lul

(2) A: Swunhi-ka paci-lul ppalkansayk-ul sa-ss-e.
S.-Nom pants-Acc red-Acc buy-Pst-Dec
'Swunhi bought red pants.'

B: Yenghi-to sa-ss-e. Kulente 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 she bought socks.'

'* if: Yenghi bought a red one, too. But she bought red socks.'

'ok if: Yenghi bought something, too. But she bought socks.'

Y.-also someone-Acc meet-Pst-Dec but old man-Acc meet-Pst-Dec

'Yenghi met someone, too. But she met old men.'

Y.-also teachers-Acc meet-Pst-Dec but two Cl-Acc meet-Pst-Dec

'Yenghi met teachers, too. But she met two (teachers).'

c. Yenghi-to sey pwun-ul manna-ss-e. Kulente noin-ul manna-ss-e.
Y.-also three Cl-Acc meet-Pst-Dec but old man-Acc meet-Pst-Dec

'Yenghi met three people, too. But she met (three) old men.'

We note that the readings (i-a) and (i-b) are available for (1B), while the reading (i-c)
is not, and we will explore the contrast between (i-a) and (i-c) in this paper. We will
not, however, deal with the nature of the reading (i-b) in this paper. See Ahn & Cho
(2012ab) for extensive discussion on pro analysis of this reading.
Again, we note that the second sentence of (2B) may not be naturally interpreted as 'she bought red socks'. Ahn & Cho (2012a,b) call this phenomenon "No first NP cancellation effect": In an [NP, NP] or [NP, QP] sequence, the first NP leaving the second element cannot be denied.

Ahn & Cho (2012a,b) suggest that the missing interpretations in (1B) and (2B) are closely related to the structure of the Q-float and macro-micro construction. The multiple case-marked elements in the Q-float construction in (1A) and macro-micro construction in (2A) are structurally represented as (3a-b), respectively.

(3) a. \[
\begin{array}{c}
\text{Pro} \rightarrow \text{NP} \\
\text{sensayngnim-ul}
\end{array}
\begin{array}{c}
\text{QP} \\
\text{seypwun-(ul)}
\end{array}
\]

b. \[
\begin{array}{c}
\text{NP} \\
\text{pro}
\end{array}
\begin{array}{c}
\text{Q} \\
\text{paci-ul ppdikansayk-ul}
\end{array}
\]

(3a) and (3b) show why particular interpretations of (1B) and (2B) are impossible. The ill-formed interpretations occur when pro directly refers to the 'X' head. Given that pro-forms in general are XP categories, the absence of the interpretation is well accounted for.

However, we need to note that there are examples that pro seems to refer to the X' head, as observed in An (2012):

(4) a. John-i Tom-uy sonkalak-un pwulettuli-ess-ciman Mary-nun
\begin{array}{c}
\text{an} \\
\text{pwulettli-ess-ta}
\end{array}
\begin{array}{c}
\text{not break-Pst-Dec} \\
'\text{Although John broke Tom's finger, (he) didn't break Mary's.}'
\end{array}

\begin{array}{c}
\text{J.-Nom T.-Acc finger-Acc break-Pst-Dec} \\
'\text{John broke Tom's finger.}'
\end{array}
\text{An (2012:350-351)}

An (2012) suggests that the well-formedness of (4a) is closely related to the well-formedness of (4b) containing inalienable possession-type multiple accusative elements. More specifically, An (2012) suggests that in the multiple case construction, the Minor Argument is replaced by a null pronoun. In (4a), the nominal sonkalak 'finger' seems to be
replaced by pro.

Now let us compare (4a) with (2B). Two accusative nominals Tom-ul sonkalak-ul ‘Tom-Acc finger-Acc’ seem to be similar to the two accusative nominals in the macro-micro construction, paci-lul ppalkansayk-ul ‘pants-Acc red-Acc’. In the latter, pro cannot replace the second nominal ppalkansayk-ul ‘red-Acc’ as shown in (2B). By contrast, in (4a), pro seems to be able to replace the second nominal, sonkalak-ul ‘finger-Acc’. Then the following question arises: Why is the pronominalization in (4a) possible unlike the one in (2B)?

This paper is organized as follows: Section 2 reviews An (2012) in necessary details. Section 3 further explores the structures of several types of multiple case constructions and shows in which configuration pro replacement occurs. Concluding remarks are presented in section 4.

2. NP Ellipsis in Disguise: Null Pronominalization in MCM

An (2012:350) suggests that a sentence like (5) doesn’t result from NP ellipsis (NPE), unlike (6) in English. He points out that the ill-formedness of (7) evidences the absence of NP ellipsis in Korean.

   J.-Gen attitude-Top good-though M.-Top good not-Dec
   ‘Though John’s attitude is good, Mary’s isn’t.’
(6) [Lincoln’s portrait] didn’t please me as much as [Wilson’s portrait]. (Saito & Murasugi 1990).
   not-Dec
   ‘Though John’s attitude is good, Mary’s isn’t.’ (An 2012:346)

An (2012) proposes that the apparent NPE in (5) is derived from multiple case marking (MCM) via null pronominalization of second

refers to the non-initial NPs in nominative and accusative multiple case marking (MCM) as ‘Minor Arguments.'
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nominative phrase with the optional introduction of a relevant discourse particle such as the topic marker nun.3 This is illustrated in (8).

(8) Mary-ka thayto-ka cohci anh-ta.
   M.-Nom attitude-Nom good not-Dec
⇒ Mary-ka pro cohci anh-ta. (null-pronominalization)
⇒ Mary-nun pro cohci anh-ta. (discourse particle)
   (Cf. Mary-uy thayto-ka cohci anh-ta.)
   M.-Gen attitude-Nom good not-Dec

3 As pointed out by Lee (2012), in some contexts, a topic-marked remnant may show up in the subsequent clause even when the antecedent genitive phase in the preceding clause does not allow an MCM clause. An anonymous reviewer points out the similar examples below.

(i) a. Hankwuk-i namkuk-uy kici-lul seywusu-ess-ciman pwukkuk-un
   Korea-Nom the Antarctic-Gen base-Acc construct-Pst-though the Arctic-Top
   seywuci mos hay-ss-ta.
   construct not do-Pst-Dec
   ‘Though Korea constructed a base in the Antarctic, it does not in the Arctic.
   (cf. *Hankwuk-i namkuk-ul kici-lul seywusu-ess-ta.)
   Korea-Nom the Antarctic base-Acc construct-Pst-Dec
   ‘Korea constructed a base in the Antarctic.’
   b. Chelswu-ka thongilsinlasitay-uy yucekci-lul tapsahay-ss-ciman
   C.-Nom United Silla-Gen historic site-Acc explore-Pst-though
   Korea dynasty-Top explore not-Pst-Dec
   ‘Though Chelswu explored United Silla historic sites, he does not the Korea
   Dynasty’s
   (cf. *Chelswu-ka thongilsinlasitay-lul yucekci-lul tapsahay-ss-ta.)
   C.-Nom United Silla-Acc historic site-Acc explore-Pst-Dec
   ‘Chelswu explored United Silla historic sites.’
   c. Kim kyoswu-ka yengkwuksik-uy yenge-lul yenkwhuhay-ss-ciman
   Kim Prof.-Nom British-Gen English-Acc research-Pst-though
   American-Top research not-Pst-Dec
   ‘Though Prof. Kim researched British English, he didn’t American (English).’
   (cf. *Kim kyoswu-ka yengkwuksik-ul yenge-lul yenkwhuhay-ss-ta.)
   Kim Prof.-Nom British-Acc English-Acc research-Pst-Dec
   ‘Prof. Kim researched British English.’

The examples in (a-c) seem not to be derived from the minor argument pronominalization. Rather, they are regarded as gapless topic constructions (see related discussion in An (2013)).
An (2012) suggests that the same line of analysis extends to genitive phrases in object positions like (4) repeated here as (9).

(9) a. John-i Tom-uy sonkalak-un pwulettuli-ess-ciman Mary-nun
   J.-Nom T.-gen finger-Top break-Pst-though M.-Top
   an pwulettli-ess-ta.
   not break-Pst-Dec
   'Although John broke Tom’s finger, (he) didn’t break Mary’s.

   J.-Nom T.-Acc finger-Acc break-Pst-Dec
   'John broke Tom’s finger.’                       (An 2012:350-351)

The ill-formedness of (10b) may support An’s (2012) analysis.

(10) secem-eyse     Kim kyoswu-uy chayk-ul phan-ta.
    bookstore-loc Kim Prof-Gen   book-Acc sell-Dec
    'They sell Prof. Kim’s book at the bookstore.’
   a. haciman, Park kyoswu-uy chayk-un an phan-ta.
      but,       Park Prof.-Top book-Top neg sell-Dec
       'But, (they) don’t sell Prof. Park’s book.’
   b. *haciman, Park kyoswu-lul/nun chayk-ul an phan-ta.
      but,       Park Prof.-Acc/Top book-Acc neg sell-Dec
   c. *haciman, Park kyoswu-lul/nun an phan-ta.
      but,       Park Prof.-Acc/Top neg sell-Dec   (An 2012:351-352)

Since the multiple accusative construction isn’t allowed, as seen in (10b), pronominalization is expected to be disallowed, as shown in (10c).

However, Ahn & Cho (2012b, fn. 12) show that the analysis advanced by An (2012) may not be extended to other MACs.

(11) a. John-un uysa-lul     sey myeng manna-ss-ciman kanhosa-nun
    J.-Top doctor-Acc three CI   meet-Pst-though nurse-Top
    an manna-ss-ta.
    neg meet-Pst-Dec
    '*' if: Although John met three doctors, he didn’t meet three
    nurses.’

b. John-un moca-lul huin sayk-ul sa-ss-ciman
    J.-Top cap-Acc white color-Acc buy-Pst-though
Unlike the inalienable possession-type MAC in An (2012), pro cannot replace the second element in Q-float and variety type MAC (hence, the ill-formed reading cannot be obtained). Closer scrutiny on each structure is needed.

Ahn & Cho (2012b) also show that pro replacement of second nominal isn’t allowed in the kinship-type MAC, a subtype of inalienable possession-type MAC, as shown in (12).

"* if: Although John met Mary’s mom, he didn’t meet Bill’s mom.’
(Ahn & Cho 2012b, fn.12)

The intended reading of (12) is obtained when pro replaces the second nominal, emeni-lul ‘mother’. The unavailability of the reading should be discussed.

3. X⁰ Replacement in Disguise: XP Replacement

If we focus only on the linear order, we might not know in which configuration pro replacement occurs. As pointed out in Section 2, it is dubious whether all the multiple case constructions have the similar structure. A clear understanding of the different structure of the constructions can provide a basis for explaining pro replacement possibilities. Hence, our analysis starts with structural consideration of several types of multiple case constructions in what follows.

Consider the Q-float type MAC like (13) first.

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4 There will be speakers’ variations with respect to the availability of the reading in (12). We will discuss it in Section 3.
Given that the temporal adverb ecey ‘yesterday’ intervenes uyasa-lul ‘doctor-Acc’ and sey myeng-(ul) ‘three Cl-(Acc)’, we assume the relevant structure is like (14).

\[(14)\]

Since \(X^0\) replacement is impossible, \(pro\) cannot replace the Q itself. The other option is QP replacement by \(pro\). In this case, it has the copy \(<uyasa-lul>\). Then, the \(pro\) should be interpreted as ‘three doctors’, so the interpretation ‘he didn’t meet three nurses’ isn’t possible.

The following Q-float example is accounted for in the same way:

\[(15)\]

The follow-up clause of (15) only yields the reading ‘He didn’t receive a doctorate’. The reading doesn’t involve pronominalization. Since the structure of seksa hakwi-nun sey kay-lul ‘three master’s degrees’ is like (16), the \(pro\) replacement of sey kay-lul ‘three Cl-Acc’ (which may induce
the reading 'he didn’t receive three doctorates.') is missing.

(16)

Again, Q replacement by pro isn’t possible, and the remaining option, QP replacement by pro contains the copy <seksa hakwi-nun>, which yields the wrong interpretation 'he didn’t receive three master’s degrees.' Accordingly, the reading 'he didn’t meet three doctorates.' isn’t possible.

The variety MAC like (17) is accounted for in the same way.

(17) John-un moca-lul ecey huin sayk-ul sa-ss-ci-man
     J.-Top cap-Acc yesterday white color-Acc buy-Pst-though
cangkap-un an sa-ss-ta.
glove-Top neg buy-Pst-Dec
  */ if: Although John bought a white cap yesterday, he didn’t buy
     white gloves.’

The string moca-lul ecey huin sayk-ul ‘cap-Acc yesterday white-Acc’ has the structure like (18).

(18)
Again, here too both the N and NP cannot be substituted by pro, and hence, the interpretation 'he didn’t buy white gloves.' isn’t possible.

Now consider the inalienable possession-type MAC like (9b), repeated here as (19).

    J.-Nom T.-gen finger-Top break-Pst-though M.-Top
    not break-Pst-Dec
    ‘Although John broke Tom’s finger, (he) didn’t break Mary’s.

    J.-Nom T.-Acc finger-Acc break-Pst-Dec
    ‘John broke Tom’s finger.’

Ura (1996), Cho (2000) and many others suggest that the possessor NP is in the specifier position of D. The possessor-possessum has the structure like (20).

(20)

In (20), pro can replace NP, sonkalak-ul ‘finger-Acc’, so the interpretation 'he didn’t break Mary’s finger’ is obtained in the second clause of (19).

Likewise, we can account for the (im)possible interpretation of (21).

(21) Yenghi-uy tongsayng-uy tali-nun kil-ciman,
    Y.-gen sister-Gen leg-Top long-though
    Swuni-nun ccalp-ta.
    S-Top short-Dec
    ‘Though Yenghi’s sister’s legs are long, Swuni’s (leg) are short.’
    “Though Yenghi’s sister’s legs are long, Swuni’s sister’s (leg) are short.’
Consider the structure of Yenghi-uy longsayng-uy tali 'Yenghi’s sister’s legs' as shown in (22).

\[\begin{array}{c}
\text{Yenghi-uy} \\
\text{longsayng-uy} \\
\text{tali} \\
\end{array}\]

In (22), *tali*, 'leg', which is an NP, can be replaced by *pro*. However, *longsayng-uy tali* 'sister’s leg’ doesn’t make a constituent, so *pro* replacement is impossible. Therefore, the interpretation ‘Swuni’s sister’s legs are short.’ cannot be obtained.

Likewise, we can account for the absence of the particular reading in (23).\(^5\)

(23) Chelswu-uy hyeng-uy phal-uy thel-i kil-ciman
C.-Gen elder.brother.Gen arm.Gen hair-Nom long-though
I.-Top short-Dec
   (i) ‘Though Chelswu’s elder brother’s arm’s hair is long, Inho’s arm’s hair is short.’
   (ii) ‘#Though Chelswu’s elder brother’s arm’s hair is long, Inho’s elder brother’s hair is short.’ (Lee 2012:674)

Given that *Chelswu-uy hyeng-uy phal-uy thel* ‘Chelswu’s elder brother’s arm’s hair’ has the structure like (24), we can explain why the interpretation (ii) is not possible.

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\(^5\) Lee (2012) states that (23) also has the interpretation like (i).

(i) Though Chelswu’s elder brother’s arm’s hair is long, Inho’s general hair is short.

As An (2013) pointed out, however, the reading isn’t available to us, either.
In (24), *thel*, 'hair', which is an NP, can be replaced by *pro*. However, *hyeng-uy phal-uy thel* ‘elder brother’s arm’s hair’ doesn’t make a constituent, so *pro* replacement is impossible. Therefore, the interpretation, ‘Inho’s elder brother’s arm’s hair is short.’ cannot be obtained.

At this point, the following question arise. Although *phal-uy thel* ‘arm Gen hair’ does not make a constituent in (24), why is the reading possible? We assume that after reanalysis occurs as shown in (25), *pro* replacement is possible.

In (25) NP *phal(-uy) thel* ‘arm’s hair’ can be replaced by *pro*. Note that reanalysis is somewhat restricted. For example, *tali thel* ‘leg hair’ and *phal thel* ‘arm hair’ undergo reanalysis whereas *tongsayng tali* ‘brother leg’ may not.

Now let us consider the kinship possessor-possessum example (12), repeated here as (26).


*a* if: Although John met Mary’s mom, he didn’t meet Bill’s mom.

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6 Daeho Chung and an anonymous reviewer raise the question.
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(Ahn & Cho 2012b, fn.12)

Mary-uy emeni-lul 'Mary’s mother’ in (26) may have the structure like (27).

\[
\begin{array}{c}
\text{DP} \\
\text{Mary-uy} \\
\text{NP} \\
\text{D} \\
\text{emeni-lul}
\end{array}
\]

In (26), emeni-lul 'mother-Acc' is an NP, which can be replaced by pro. Hence, the unavailability of the intended reading raises a question. Although pro replacement is structurally possible, why is the reading missing? We suggest that the reading ‘He didn’t meet Bill.’ seems to bleed the reading ‘He didn’t meet Bill’s mom.’ The following examples support our claim.

(28) a. John-un Mary-uy meili-lul call-ass-ciman \\
    J.-Top M-Gen hair-Acc cut-Pst-though \\
    Bill-un an cal-ass-ta. \\
    B-Top not cut-Pst-Dec. \\
    ‘Although John cut Mary’s hair, he didn’t cut Bill’s.’ \\

b. John-un Mary-uy catongcha-lul phalacwu-ess-ciman \\
    J.-Top M-Gen car-Acc sell-Pst-though \\
    Bill-un phalacwuci anh-ass-ta. \\
    B-Top sell not-Pst-Dec. \\
    ‘Although John sold Mary’s car, he didn’t sell Bill’s.’

7 There seems to be speakers’ variation with respect to the interpretation of (28b). An anonymous reviewer points out the unavailability of the interpretation in (i). To our ears, the presence of the morpheme *cwu with phala ‘buy’ makes the interpretation possible. Let us compare (28b) with (i).

(i) John-un Mary-uy catongcha-lul phal-ass-ciman Bill-un phalci anh-ass-ta. \\
    J-Top M-Gen car-Acc sell-Pst-though B-Top sell not-Pst-Dec. \\
    ‘* if: Although John sold Mary’s car, he didn’t sell Bill’s.’

Unlike (28b), the reading is not possible in (i). The presence of the morpheme seems to play an important role here.
In the examples mentioned above, the possessum NPs meli ‘hair’ and catongcha ‘car’ are replaced by pro. Unlike (26), the bleeding problem doesn’t arise here since the following interpretations aren’t pragmatically plausible: ‘he didn’t cut Bill.’ and ‘he didn’t sell Bill.’

The presence of the following example might result in a tentative problem under our analysis.8

(29) John-un emma-uy caysan-i manh-ciman Bill-un  
J.-Top mother-Gen fortune-Nom large-though B.-Top  
cek-ta.  
small-Dec  
‘Although John’s mother’s fortune is large, Bill’s mother’s fortune is small.’

First, consider the structure of John-uy emma-uy caysan-i ‘John’s mother’s fortune’, as shown in (30).

The word sequence emma-uy caysan ‘mother’s fortune’ doesn’t form a constituent, hence it cannot be replaced by pro. (29), thus, seems to involve not pronominalization but base-generated topic (cf. Kuno 1973).

8 Regarding the availability of the interpretation in (29), there are speakers’ variation, which has something to do with pragmatics such as topic, comment, and characterization. An anonymous reviewer points out that the reading in (31) is awkward. Let us compare (29) with (i).

(i) Sunhi-nun emma-uy elkwul-i yeppu-ciman Yeonghi-nun an yeppu-ta.  
S.-Top mother-Gen face-Nom pretty-though Y.-Top neg pretty-Dec.  
‘* if: Although Sunhi’s mother’s face is pretty, Yeonghi’s mother’s face isn’t.’

The other anonymous reviewer raises a question about the unavailability of the reading in (i). Her mother’s beauty doesn’t seem to characterize Yeonghi. Hence, the topic option is not possible. It seems that due to pragmatic factors, the judgement is not categorial but continuous or variable.
In other words, John is a topic and the rest of the sentence is "about" the topic, namely, comment; His mother's fortune characterizes Bill. This topic option is possible when the rest of sentence can plausibly characterize the topic. Reconsider (21), repeated here as (31).

(31) Yenghi-uy tongsayng-uy tali-nun kil-ciman,
    Y.-gen sister-Gen leg-Top long-though
    Swuni-nun ccalp-ta.
    S.-Top short-Dec

’Though Yenghi’s sister’s legs are long, Swuni’s (leg) are short.’

*’Though Yenghi’s sister’s legs are long, Swuni’s sister’s (leg) are short.’

Recall that the second reading isn’t available because pro cannot replace non-constituent. Topic construction isn’t available in (31), either, because her sister’s legs’ length usually cannot characterize Swuni.

4. Concluding Remarks

We have shown that a clear understanding of the different structure of the multiple constructions can provide a basis for explaining pro replacement possibilities. By exploring several kinds of multiple case constructions such as Q-float, macro-micro, (in)alienable possession constructions, we have shown that apparent X' replacement of pro indeed involves XP replacement and that some interpretations are missing because non-constituents cannot be replaced by pro.

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