On the Restricted Distribution of *pro* in Double Argument Constructions: A Processing Account

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ABSTRACT

This paper discusses the restricted distribution of *pro* in Double Argument Constructions (DArC). While it is generally assumed that Korean rather freely allows *pro* in argument positions, it appears that in certain DArCs, *pro* is not permitted in the second NP position. I argue that this restriction results from the processing mechanisms that discern the overtness of an argument. In particular, extending upon the works of Bae and Park's (2018), I show that when an overt argument and a *pro*/null argument compete for a potentially matching predicate, the overt argument is chosen over the *pro* for processing in order to reduce the processing load. Subsuming the apparent restricted distribution, this analysis leads to the conclusion that in DArCs, *pro* does not take part in processing regardless of its position. I further show that the same processing effects arise in fragments that do not involve *pro*.

Keywords: Double Argument Constructions, *pro*, processing, double nominative, double accusative, ellipsis, fragments

1. Introduction

As is widely assumed, Korean/Japanese is a "radical" *pro*-drop language that allows *pro* for argument positions rather freely, as illustrated below:

(1) A: Chelswu-ka Yenghi-ekey chayk-ul cwu-ess-ni?
  C.-Nom   Y.-Dat   book-Acc gave-Pst-Q
   'Did Chelwu give Yenghi a book?'

B: ung, *pro pro pro* cwu-ess-e
   yes   gave-Pst-Q
   'Yes, Chelswu gave Yenghi a book.'
B': ung, Chelswu-ka *pro pro* cwu-ess-e
   yes C.-Nom   gave-Pst-Q
B": ung, Chelswu-ka Yenghi-ekey *pro* cuw-ess-e
   yes C.-Nom   Y.-Dat   gave-Pst-Q

However, in certain constructions, the distribution of *pro* is quite restricted. In this paper, I will discuss the restricted distribution of *pro* in Double Argument Constructions (DArC). The constructions are categorized into Double Nominative Constructions (DNC) and Double Accusative Constructions (DAC), as in (2) and (3), respectively (cf. J HS Yoon 2004):

(2) [DNC]
   a. <u>Chelswu-ka</u> <u>tali-ka</u>   kil-ta   [Inalienable relation]
      C.-Nom   legs-Nom long-Dec
      'Chelswu's legs are long.'
   b. <u>Chelswu-ka</u> <u>tongsayng-i</u> chencay-ta   [Alienable relation]
      C.-Nom   brother-Nom genius-Dec
      'Chelswu's brother is genius.'

(3) [DAC]
   a. Chelswu-ka <u>Yenghi-lul</u> <u>phal-ul</u> pwuthcap-ass-ta   [Inalienable]
      C.-Nom   Y.-Acc   arm-Acc grab-Pst-Dec
      'Chelswu grabbed Yenghi by the arm.'
   b. Chelswu-ka <u>Yenghi-lul</u> <u>tongsayng-ul</u> ttayli-ess-ta.   [Alienable]
      C.-Nom   Y.-Acc   brother-Acc hit-Pst-Dec
      'Chelswu hit Yenghi's brother.'   (cf. J HS Yoon 2001)

As indicated above, for expository purpose, each construction is divided into two types, depending on whether the two NPs with the identical case-maker are in inalienable or alienable relation.[1]

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1) I use the term "Double Argument Constructions" for expository purpose without any theoretical implications. (I abbreviate this term as "DArC" to distinguish it from Double Accusative Constructions (DAC).) Various analyses have been proposed for the DArCs with focus on the relation between the

In this paper, I investigate how the distribution of *pro* is restricted and attempt to provide an account. I argue that the restricted distribution arises due to general processing mechanisms operating on the contrast between overt and null arguments. It is also shown that the processing effects are also induced in fragment contexts.

2. Restricted Distribution of *pro*

Let us consider DNCs in (4), which involve a question-answer pair between Speaker A and B. In (4a), the two NPs in inalienable relation appear to freely allow *pro* for each NP. However, when they are in alienable relation, an interesting fact arises. As seen in (4bB''), when the second NP is realized as a *pro*, it becomes infelicitous as an answer to the question in (4bA), in that the answer can, if ever, only mean that Chelswu, not Chelswu's brother, is a genius. Likewise, the inalienable DAC in (5bB'') is an infelicitous answer as it can only mean Chelswu hit Yenghi.[2]

(4) [DNC]
    a. A: Chelswu-ka tali-ka   ki-ni?   [Inalienable]
             C.-Nom   legs-Nom long-Q
             'Are Chelswu's legs are long?'
      B: ung, *pro pro* kil-e
          yes   long-Dec
          'Yes, Chelswu's legs are long.'
      B': ung, *pro*   tali-ka   kil-e
          yes   leg-Nom long-Dec
      B'': ung, Chelswu-ka *pro* kil-e
           yes C.-Nom   long-Dec

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two NPs and licensing of the identical case on them (H S Choe 1986; J Y Yoon 1989; Schűtze 2001; J HS Yoon 2001, 2004, 2009; S Cho 2003; Tomioka and Sim 2007; K Choi 2008; to name only a few). As far as I can see, for purpose of the paper differences among the analyses are immaterial. (See some related discussion in Section 2 and 3.)

    Note also that it has been reported that some speakers find (3b) somewhat marginal, although it sounds almost perfect to me and my informants. Tomioka and Sim 2007 report that the marginality improves with a pause between the two NPs. In this paper, I take it to be acceptable.

2) I acknowledge that (combinatory) factors like focus and pause might affect individual's judgements on the relevant facts. However, the initial data collection suggests that no systematic patterns seem to exist. Note also that (5bB') sounds slightly degraded (for some speakers). (See Section 3 for relevant discussion.)

    In other contexts, J-S Koh 1999 also notes a similar contrast between Inalienable and alienable DNCs as in (4) without providing a detailed analysis (cf. K-S Kim 1995).

b. A: Chelswu-ka tongsayng-i chencay-ni? [Alienable]
C.-Nom brother-Nom genius-Q
'Is Chelswu's brother a genius?'

B: ung, *pro pro* chencay-ya
yes genius-Dec
'Yes, Chelswu's brother is a genius.'

B': ung, *pro* tongsayng-i chencay-ya
yes brother-Nom genius-Dec

B'': #ung, Chelswu-ka *pro* chencay-ya
yes C.-Nom genius-Dec
'#Yes, Chelswu is a genius.'

(5) [DAC]

a. A: Chelswu-ka Yenghi-lul phal-ul pwuthcap-ass-ni? [Inalienable]
C.-Nom Y.-Acc arm-Acc grab-Pst-Q
'Did Chelswu grab Yenghi by the arm?'

B: ung, Chelswu-ka *pro pro* pwuthcap-ass-e
yes C.-Nom grab-Pst-Dec
'Yes, Chelswu grabbed Yenghi by the arm.'

B': ung, Chelswu-ka *pro* phal-ul pwuthcap-ass-e
yes C.-Nom arm-Acc grab-Pst-Dec

B'': ung, Chelswu-ka Yenghi-lul *pro* pwuthcap-ass-e
yes C.-Nom Y.-Acc grab-Pst-Dec

b. A: Chelswu-ka Yenghi-lul tongsayng-ul ttayli-ess-ni? [Alienable]
C.-Nom Y.-Acc brother-Acc hit-Pst-Dec
'Did Chelswu hit Yenghi's brother?'

B: ung, Chelswu-ka *pro pro* ttayli-ess-e
yes C.-Nom hit-Pst-Dec
'Yes, Chelswu hit Yenghi's brother.'

B': [?]ung, Chelswu-ka *pro* tongsayng-ul ttayli-ess-e
yes C.-Nom brother-Acc hit-Pst-Dec

B'': #ung, Chelswu-ka Yenghi-lul *pro* ttayli-ess-e
yes C.-Nom Y.-Acc hit-Pst-Dec
'#Yes, Chelswu hit Yenghi.'

Note also that the unacceptability of alienable DNCs like (4bB) becomes more conspicuous when they involve agreement relations between the second argument and predicate/adjunct. In (6a), the honorific marker must agree with the second NP, and in (6b) the plural marker attached to the adjunct also must agree with the second one (cf. Y-T Hong 2001). With the putative *pro* for the second NP, the constructions are severely degraded:

(6) [DNC: Alienable]
    a. A: Chelswu-ka   cito   kyoswu-**nim**-i   o-**sy**-ess-ni?
            C.-Nom   guide   prof-Hon-Nom come-Hon-Pst-Q
            'Did Chelswu's advisor come?'
      B: *ung, Chelswu-ka   *pro*   o-**sy**-ess-e
         yes   C.-Nom   come-Hon-Pst-Dec
         Intended: 'Yes, Chelswu's advisor came.'
    b. A: Chelswu-ka   ttal-**tul**-i   sinnakey-**tul** chwumchw-ess-ni?
            C.-Nom   daughter-Pl-Nom excitingly-Pl dance-Pst-Q
            'Did Chelswu's daughters dance excitingly?'
      B: *ung, Chelswu-ka   *pro* sinnakey-**tul** chwumchwu-ess-e
         yes   C.-Nom   excitingly-Pl dance-Pst-Dec
         Intended: 'Yes, Chelswu's daughters danced excitingly.'

The agreement relations between the second NP and the verb in A-examples in (6) can be taken as an argument that (at least) the second NP plays a role as the subject (argument). And as a matter of fact, the majority of the previous analyses on DNC leans towards the same general direction (although they diverge in treating the first NP) (cf. K-S Hong 1991, S Rhee 1999, J Yoon 1986, J-B Kim 2001, Schűtze 2001, B-S Park 2001, J HS Yoon 2003, S-y Lee 2007, H-R Chae and I Kim 2008, K Choi 2008. a.o.). Under this general direction, the "apparent" unavailability of *pro* for the second NP in (the alienable) DNCs is puzzling. Likewise the same unavailability of *pro* in DACs like (5bB") is also puzzling if we naturally assume that (at least) the second NP in (5bA) is the object of the verb (cf. J HS Yoon 2004, 2015).[3]

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3) As for the first NP, some authors suggest that it is a Topic and/or focused element, although the details are different (cf. S. Rhee 1999, K-S Hong 1991, B-S Park 2001). In line with these, one might suggest that the first NP in alienable DNCs like (4bB)/(4bB') is focused/topicalized and may not be realized as a *pro*. A reviewer raises a related question. The reviewer asks whether there is evidence for positing that in examples like (4bB'), the first NP is indeed realized as a *pro*. To my best

The data discussed above show that in alienable DNC/DACs, *pro* for the second NP is disallowed. In the next section, I show that the *pro* restriction arises due to general processing mechanisms discerning the overtness/nullness of arguments.[4]

3. Processing *pro* in Double Argument Constructions

I suggest that the *pro* restriction in DArCs can be captured by extending Bae and Park's (2018) processing-based account of the Clause-Mate Condition (CMC) effects in fragments. (Their account of the CMC effects will be discussed in Section 3.2.) Abstracting away the details, the gist of their analysis is as follows. Bae and Park (2018) (B&P, henceforth) claim that when both overt argument and null argument/ *pro* compete for a predicate as a potentially "matching" argument, the parser strongly tends to process the overt argument, not the null argument/*pro*, as the matching argument. In other words, in a (linear) configuration like [NP1-Acc < *pro* (=NP2-Acc) < Predicate], where the predicate can potentially match with either of the two NPs, the parser chooses the first, overt NP1 over the *pro*/NP2 for processing. B&P ground their claim on a version of the Minimal Attachment Principle (cf. Frazier and Foder 1978; Yoon 2009):

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knowledge, no theoretical/empirical arguments have been presented against the availability of the *pro*. Since there are no reasons to reject it, I continue to assume that the *pro* exists in syntax. However, I would like to note that (somewhat ironically) it will be suggested below that this *pro* is assumed to be "ignored" for processing purposes (Section 3.1).

Note also that K Choi (2008) distinguishes between alienable and inalienable DNCs. He argues that while in alienable DNCs like (4bA) both NPs are subject, in inalienable DNCs like (4aA) the second NP is the complement of the following predicate. In line with this, one might assume that the *pro* for the second NP in (4aB") should not be posited because it is a complement. However, as in (i), an ordinary complement NP can be construed as a *pro*:

(i) A: Chelswu-ka uysa-ka   toy-ess-ni?
       C.-Nom   doctor-Nom become-Pst-Q
       'Did Chelswu become a doctor?'
    B: ung, Chelswu-ka *pro* toy-ess-e
       yes C.-Nom   become-Pst-Dec
       'Yes, Chelswu became a doctor.'

4) Ahn and Cho (2016) point out a similar restriction in other contexts. Without further elaborations, they note (as a generalization) that *pro* cannot occur with prenominal element, unlike overt pronouns. One of my goals, however, is to derive the restriction (Section 3). Furthermore, I will later show that the restriction of *pro* is not conditioned by its position and that the same effects are detected in elliptical contexts that do not necessarily involve *pro*.

(7) **Minimal Attachment Principle (MAP)**

   The parser chooses the best way to minimize the processing load: The parser processes the sentence in a linear order as soon as possible.

The "choose-over" effect arises since when there is a potentially matching overt argument, the parser has no reason to assume that there also exists a (competing) null argument/*pro*: Otherwise, it would require the unnecessary processing load.

Let us now consider how the processing mechanism can capture the relevant facts. (5b) is repeated as (8). It is now obvious why (8B") is an infelicitous answer: The two "object" NPs, *Yenghi* and *pro*(=*tongsayng*), are competing for the potentially matching transitive verb *ttayli* 'hit'. However, the parser processes the overt NP as the sole matching object, "ignoring" the following *pro*. This results in the infelicitous interpretation that Chelswu hit Yenghi:[5]

(8) [DAC: Alienable]
   A: Chelswu-ka Yenghi-lul tongsayng-ul ttayli-ess-ni?
      C.-Nom   Y.-Acc   brother-Acc hit-Pst-Dec
      'Did Chelswu hit Yenghi's brother?'
   B: ung, Chelswu-ka *pro* *pro* ttayli-ess-e
      yes C.-Nom   hit-Pst-Dec
      'Yes, Chelswu hit Yenghi's brother.'
   B': ?ung, Chelswu-ka *pro* tongsayng-ul ttayli-ess-e
       yes C.-Nom   brother-Acc hit-Pst-Dec
   B": #ung, Chelswu-ka Yenghi-lul <u>*pro*</u> ttayli-ess-e
        yes C.-Nom   Y.-Acc   hit-Pst-Dec
      '#Yes, Chelswu hit Yegnhi.'

If the processing account holds, we can raise the possibility that in this competing situation, *pro* should also be ignored regardless of its positions. This means that in (8B'), the preceding *pro* will be ignored and the overt NP *tongsayng-ul* 'brother-Acc' will be processed as the sole object of the predicate. However, (8B') seems to give rise to the felicitous interpretation that Chelswu hit Yenghi's brother. This is

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5) The infelicitousness shows that the mere presence of the second NP object in the antecedent does not affect the processing mechanism operating in the answer. However, If it can for some speakers, they could recover the referent of the ignored *pro*, finding the answer acceptable. I leave the potential speaker variation for future research.

because although the preceding *pro* is ignored, the following, overt NP is a kinship term/relational noun and naturally cues the parser to search for an argument that it can be in kinship relation with. During the search process, it could pick up *Yenghi* from the antecedent and relate it with the overt NP, resulting in the felicitous answer. During the search process, however, it could also pick up the subject *Chelswu* in the answer. If it does it will be an infelicitous answer with the interpretation that Chelswu hit his brother. The latter possibility could account for why some speakers find (8B') somewhat marginal.6),7) What about the answer in (8B)? Since both the NPs are null, no processing issues arise here: their references can be identified from the antecedent on a equal status. The same account can straightforwardly extend to the alienable DNCs in (4b).

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6) Note that compared to the alienable DAC in (8B')(=5bB'), for the DNC (4bB'), repeated below, no speaker variation seems to arise. This is because in this context there is only one argument, i.e., *Chelswu*, that can be in kinship relation with *tongsayng* 'brother', unlike (8B'):

  (i) A: Chelswu-ka tongsayng-i   chencay-ni?   [Alienable DNC]
         C.-Nom   brother-Nom genius-Q
         'Is Chelswu's brother a genius?'
     B': ung, *pro* tongsayng-i   chencay-ya
         yes   brother-Nom genius-Dec
         'Yes, Chelswu's brother is a genius.'

  A reviewer raises the following issue: In processing of (8B'), *Chelswu* appears to be closer to *tongsayng* 'brother' than *Yenghi* is and thus only *Chelswu* is expected to be chosen, contrary to what is reported in this paper. I speculate that the search process, once invoked (by an element like the kinship term, *tongsayng*), may not be affected by the closeness in terms of linearity. This in turn amounts to saying that when similar search processes are not invoked as in (8B"), the processing mechanism becomes deterministic, giving rise to the choose-over effect.
  Note also that in (iiB) the *pro* in the embedded subject can refer to *Yenghi* in the antecedent. B&P suggests that this is possible due to an reanalysis induced by the matrix predicate:

  (ii) A: Chelswu-ka Yenghi-ka olke-lako   malhay-ss-ni?
          C.-Nom   Y.-Nom   will.come-C say-Pst-Q
          'Did Chelswu say Yenghi would come?'
      B: ung, Chelswu-ka [*pro* olke-lako]   malhay-ss-e
          yes, C.-Nom.   will.come-C say-Pst-Dec
          'Yes, Chelswu said Yenghi would come.'
          '#Yes, Chelswu said that he would come'

7) Alternatively, we can assume that while the *pro* in (8B") is ignored, the one in (8B') is not. This might be a viable assumption if in accordance to MAP, processing is sensitive to strict linearity in the context where an overt NP and *pro* are competing. In (8B"), the parser processes the overt NP as the potentially matching argument of the verb since it is the closest overt NP, ignoring the *pro* that intervenes between them. In contrast, the *pro* in (8B') is not intervening and thus may not be affected by processing. That is, the parser only ignores the intervening *pro*. A potential merit of this assumption is that the *pro* in (8B') can be identified in the same way it would be done under normal environments, without resorting to the pragmatic processes, stated above. I leave investigating this possibility for future research.

Naturally, the processing mechanism will not discern alienability unless there are reasons to do it. If true, this means that the available interpretations in the inalienable DNC/DACs in (4a) and (5a) should come from a different source, since even here the *pro* in the second NP position will be ignored for processing. To see this more clearly, let us consider the inalienable DACs in (5a), repeated as (9):

(9) [DAC: Inalienable]

    A: Chelswu-ka Yenghi-lul phal-ul   pwuthcap-ass-ni?
           C.-Nom   Y.-Acc   arm-Acc   grab-Pst-Q
           'Did Chelswu grab Yenghi by the arm?'

    B: ung, Chelswu-ka *pro* *pro* pwuthcap-ass-e
        yes   C.-Nom   grab-Pst-Dec
        'Yes, Chelswu grabbed Yenghi by the arm.'

    B': ung, Chelswu-ka *pro* phal-ul   pwuthcap-ass-e
        yes   C.-Nom   arm-Acc grab-Pst-Dec

    B": ung, Chelswu-ka   Yenghi-lul *pro* pwuthcap-ass-e
        yes   C.-Nom   Y.-Acc   grab-Pst-Dec

Under the processing account, the *pro* in (9B") will not take part in processing, but it seems to allow the same felicitous interpretation that Chelswu grabbed Yenghi by the arm, as (9B)/(9B') does. I speculate that it has to do with the potential inalienable relation (or, body-part relation) that may arise in the context of (9) and that the relation gives rise to a source of the meaning via pragmatic processes. In particular, under normal contexts when one hears the sentence 'Chelswu grabbed Yenghi' s/he can naturally infer/assume that Chelswu grabbed Yenghi by some body part of hers. From this assumption and given the content of the antecedent (which involves an inalienable relation between the two objects), s/he could pragmatically derive the intended, felicitous interpretation in (9B").[8]

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8) In contrast, the alienable constructions like (8B") are not susceptible to the same pragmatic processes since these constructions do not involve inalienable relation in the antecedent.

    At this point, it is instructive to discuss J-M Yoon's (1997) analysis of inalienable DACs and its potential relevance. She proposes that in examples like (9A), the two "objects" are categorized differently: While the first object is DP the second is NP. She claims that being an NP, the object NP, *phal-ul* 'arm-Acc', resists various syntactic operations/extractions like scrambling and clefting. Extending this, one might suggest that the second object cannot be construed as a *pro*, either. However, it is dubious that construal of *pro* for this object is done via a syntactic operation like scrambling. Note also that J-M Yoon's proposal is directly against the cross-linguistic generalization by Bošković (2008, 2012, 2013) that only NP-languages like Korean allows scrambling and *pro*-drop. (See also B-S Park 2019 for some counter-examples to the general claim that the second object resists

((9B') also undergoes similar pragmatic processes.)

Example (10) below makes the same point. Suppose that Speakers A and B are mutual friends of Chelswu and Yenghi and that not knowing what happens to Chelswu and Yenghi on a given day, Speaker B hears Speaker A's utterance in (10A). Since no further contexts, linguistic or not, provided, Speaker B has no reason to assume that there is a *pro* after Yenghi that refers to *phal* 'arm' in question (10A). The fact that fragmental questions are allowed in this context suggests that similar pragmatic processes are operative:[9]

(10) A: pwasse? (com ceney) Chelswu-ka   Yenghi-lul   pwuthcap-ass-e
          saw   little ago   C.-Nom   Y.-Acc   grab-Pst-Dec
          'Did you see it? Chelswu grabbed Yenghi.'
     B: (eti-lul?)   phal-ul?
          where-Acc   arm-Acc
          'By what? He grabbed her by the arm?'

The inalienable DNC in (4a) is accounted for in the same way. The relevant example (4aB''), for our discussion, is repeated in (11):

(11) A: Chelswu-ka tali-ka   ki-ni?   [DNC: Inalienable]
          C.-Nom   legs-Nom long-Q
          'Are Chelswu's legs are long?'
     B: ung,   Chelswu-ka *pro*   kil-e
          yes   C.-Nom   long-Dec
          'Yes, his legs are long.'

Note here that the acceptability of (11B) sharply contrasts with that of (12B). The question (12A) is constructed from (11A) by embedding *tongsayng* 'brother' between

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syntactic operations.)

9) Such pragmatic processes expect varying degrees of acceptability among speakers as in (i), since pragmatic factors would vary from speaker to speaker (to a certain degree):

   (i) A: Chelswu-ka Yenghi-lul meli-lul   ppop-ass-ni?   [Adapted from Tomioka and Sim 2007]
           C.-Nom   Y.-Acc   hair-Acc pull-Pst-Q
           'Did Chelswu pull Yenghi's hair.'
       B: %ung,   Chelswu-ka   Yenghi-lul *pro* ppop-ass-e
             yes   C.-Nom   Y.-Acc   pull-Pst-Dec
           'Yes, Chelswu pulled Yenghi's hair.'

the two NPs. As an answer to this question, (12B) is infelicitous since it can only mean what (11B) means: Chelswu's legs are long. This is exactly what we expect to get because the two putative *pro*s in (12B) are ignored (and thus the referent of *pro* i.e., *tongsayng*, does not emerge). As predicted, a way of constructing an acceptable answer is to overtly realize the second NP as in (12B'), from which the felicitous interpretation arises via the same pragmatic processes. Note also that (12B") is also infelicitous as (12B) is, since the *pro* is ignored:

(12) A: Chelswu-ka   tongsayng-i   tali-ka   ki-ni?
         C.-Nom   brother-Nom   leg-Nom   long-Q
         'Are Chelswu's brother's legs are long?'

    B: #ung, Chelswu-ka *pro* *pro*   kil-e
          yes   C.-Nom   long-Dec
          '#Yes, Chelswu's legs are long.'

    B': ?ung, Chelswu-ka tongsayng-i *pro*   kil-e
          yes   C.-Nom   brother   long-Dec
         'Yes, Chelswu's brother's legs are long.'

    B": #ung, Chelswu-ka *pro*   tali-ka   kil-e
          yes   C.-Nom   leg-Nom   long-Dec
         '#Yes, Chelswu's legs are long.'

In this section, I have shown that in DArCs when competing with an overt argument, *pro* is ignored (for processing) in any positions regardless of the sub-types of the constructions (But the restriction might be weaker: As stated in fn. 7., there is a possibility that only the intervening *pro* between the overt NP and the predicate is ignored, as in (12B")). I have suggested that this can be derived from a version of the Minimal Attachment Principle in the sense of B&P.

If the processing-based account is on the right track, we expect that the same processing mechanism should also be operative in other contexts. In the next section (Section 4), I will show that in elliptical contexts where *pro* is not posited, the same processing mechanism indeed operates. In Section 4.1 I will first discuss the relevance of B&P's analysis of CMC effects in fragments, and in Section 4.2 I will discuss how DNCs/DACs behave in fragments with respect to the processing mechanism.

4. Elaboration and Extension

4.1. CMC Effects in Fragments: B&P (2018)

In Section 3, extending B&P's analysis, I provided an account for why *pro* in DArCs does not take part in processing. To rehearse, B&P claim that when an overt NP and non-overt argument/*pro* compete for the same predicate as a potentially matching argument, the overt NP is chosen to lessen the processing load. B&P argue that this processing mechanism holds in certain elliptical constructions that exhibit the same competing environments. In particular, they claim that the mechanism captures the variability of the Clause-Mate Condition (CMC) effects in Korean fragments. First, note that the contrast between fragments in (13) and (14)/(15) appears to show that Korean is subject to the CMC, which bans extraction of remnants from different clause boundaries as in (14) and (15). [Examples in (13)~(17) are taken from B&P]:[10]

(13) A: Max-nun [CP **nwu-ka   mwues-ul**   mekess-ta-ko]   malhayss-ni?
         Max-Top   who-Nom   what-Acc   ate-Dec-C   said-Q
         'Who did Max say ate what?'
     B: John-i   ppang-ul
        John-Nom   bread-Acc
        'Max said John ate bread.'

(14) A: **nwu-ka** [CP   John-i   **mwues-ul** mekess-ta-ko]   malhayss-ni?
         who-Nom   J.-Nom   what-Acc ate-Dec-C   said-Q
         'Who said that John ate what?'
     B: ?*Max-ka   ppang-ul   [CMC effect]
         Max-Nom   bread-Acc
        [intended meaning]: 'Max said John ate bread.'

(15) A: **nwu-ka** [CP John-i   **nwukwu-ekey** ppang-ul   cwuess-ta-ko] malhayss-ni?
         who-Nom   J.-Nom who-Dat   bread-Acc gave-Dec-C said-Q
         'Who said that John gave bread to whom?'

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10) The judgements are not absolute. For instance, B&P report that some speakers find (14) better compared to (15).

B: *Max-ka   Mary-ekey
   Max-Nom Mary-Dat
   [intended meaning]: 'Max said that John gave Mary bread.'

However, as B&P observe, certain fragments do not exhibit the CMC effect, as in (16) and (17):

(16) A: Max-ka   **nwukwu-ekey** [$_{CP}$ **nwu-ka**   ppang-ul mekess-ta-ko]
       Max-Nom who-Dat   who-Nom bread-Acc ate-Dec-C
       malhayss-ni?
       said-Q
       'To whom did Max say that who ate bread?'
   B: Bill-ekey   John-i   [No CMC effect]
      Bill-Dat   John-Nom
      'Max told Bill that John ate bread.'

(17) A: Max-ka   **nwukwu-ekey** [$_{CP}$ John-i   **mwues-ul**   mekess-ta-ko]
       Max-Nom who-Dat   John-Nom   what-Acc   ate-Dec-C
       malhayss-ni?
       said-Q
       'To whom did Max say that John ate what?'
   B: Bill-ekey ppang-ul   [No CMC effect]
      Bill-Dat   bread-Acc
       'Max told Bill that John ate bread.'

Demurring the CMC as a syntactic constraint (cf. Lasnik 2013, Abels and Dayal 2017), B&P argue that the unacceptability of (14) and (15) arises as a result of wrong parsing (see also B-S Park 2018). Below, I will briefly introduce their analysis. Assuming that fragments are derived via clausal ellipsis, preceded by fronting of remnants/fragments (Merchant 2004, B-S Park 2005), they claim that (14) is derived as follows:[11]

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11) This is somewhat simplified representation. B&P in fact claim that the derivation may be derived by what they call "double clausal ellipsis" that involves separate elliptical processes of embedded clause and matrix clause following remnant extractions. For simplicity and purpose of this paper, I represent the derivation as in (18), since it can capture the relevant facts discussed in this paper and will not affect the proposed analysis.

(18) B: $^{?*}$Max-ka$_i$ ppang-ul$_j$ [t$_i$..[$_{CP}$ ~~John-i~~ t$_j$ ~~mekess-ta-ko]~~   ~~malhaysse]~~
       M.-Nom   bread-Acc   J.-Nom   ate-Dec-C   said
       [intended meaning]: 'Max said that John ate bread.'

In (18), being overt, the two fragments strongly tend to be processed as potentially matching arguments of the embedded predicate and this results in wrong parsing, where the matrix subject *Max* is parsed as the subject of the embedded predicate. Crucially, the elided embedded subject *John* is ignored since it is null/elided.

By contrast, such wrong parsing is not induced in (16) and (17). The derivation of (16B) is illustrated in (19):

(19) B: Bill-ekey$_i$ ppang-ul$_j$ [~~Max-ka~~ t$_i$ .. [$_{CP}$ ~~John-i~~ t$_j$ ~~mekess-ta-ko]~~ ~~malhaysse]~~
       Bill-Dat bread-Acc M.-Nom   J.-Nom   ate-Dec-C   said

In (19), the first fragment is the matrix dative argument and thus cannot match with the embedded transitive predicate, as desired. Since no element in the matrix domain is incorrectly parsed with the embedded predicate, at a later stage of processing, *John* is correctly invoked and processed as the embedded subject, rendering the fragments acceptable.

This section introduced B&P's analysis of the CMC effects. The crucial assumption of their analysis is that when competing with overt arguments, elided arguments are ignored for processing, as depicted in (18) (where the embedded subject *John* is ignored). Recall that I adopted the same processing mechanism to capture the restricted distribution in DArCs (Section 3). The next question that arises is how DArCs behave in fragment contexts. This is the goal of the next section, and it will be shown that when carefully constructed, DArCs in fragment indeed exhibit the same processing effects.

4.2. Double Argument Constructions in Fragments

In this section, I discuss how Double Argument Constructions (DArC) behave in fragments. If the proposed analysis holds, we expect to observe that fragments are also subject to the same processing mechanism, since (in certain contexts) fragments may involve both overt arguments/remnants and null/elided arguments. Before constructing relevant data, however, as a starting stage for subsequent discussion I will first discuss a potential problem, and show that it is only apparent.

To see the nature of the potential problem, let us consider the alienable DNC in (4bB") again, repeated as (20). I have claimed that the infelicitousness of (20B") arises because being null, the *pro* is ignored:

(20) A: Chelswu-ka   tongsayng-i   chencay-ni?   [DNC: Alienable]
         C.-Nom   brother-Nom   genius-Q
         'Is Chelswu's brother a genius?'
     B: #ung, Chelswu-ka   *pro*   chencay-ya
          yes   C.-Nom   genius-Dec
         '#Yes, Chelswu is a genius.'

However, this analysis leads to a potential problem in fragment contexts. Let us consider (21). In (21B), the first NP of the DNC appears as a fragment. The problem is that if (21B) were derived via ellipsis as shown in (21B'), its acceptability would remain mysterious given that being elided, the second NP *tongsayng* 'brother' should be ignored and thus should pattern with (20B"), contrary to fact. This potential problem is not unique to the DNCs. DACs like (22) raise the same problem:

(21) A: nwu-ka /   Chelswu-ka   tongsayng-i   chencay-ni?
         who-Nom   C.-Nom   brother-Nom   genius-Q
         'Whose brother a genius?/Is Chelswu a genius?'
     B: (ung,) Chelswu-ka
         yes   C.-Nom
         'Chelswu's brother is a genius./ Yes, Chelswu's brother is a genius.'
     B': Chelswu-ka$_i$ [t$_i$ tongsayng-i   chencay-ya]   [Not allowed]
         C.-Nom   brother-Nom   genius-Dec

(22) A: Chelswu-ka $^?$nwukwu-lul/Yenghi-lul tongsayng-ul   ttayli-ess-ni?
          C.-Nom   who-Acc   Y.-Acc   brother-Acc   hit-Pst-Q
         'Whose brother did Chelswu hit?/Did Chelswu hit Yenghi's brother?'
     B: (ung,)   Yenghi-lul
          yes   Y.-Acc
          'Chelswu hit Yenghi's brother./Yes, Chelswu hit Yenghi's brother.'
     B': Yenghi-lul$_i$ [Chelswu-ka t$_i$ tongsayng-ul ttayli-ess-e]   [Not allowed]
         Y.-Acc   C.-Nom   brother-Acc   hit-Pst-Dec

I claim that the problem is only apparent because the fragments in question can be salvaged since an alternative underlying source is available. In particular, I suggest that the elliptical constituent in (21B) and (22B) may optionally involve *kulay* 'so' anaphora (in the underlying source prior to ellipsis) that can substitute for/refer to various constitutes like TP, VP, and AP (cf. M H Yang 1998, M-K Park 2015), as represented in (23a) and (23b), respectively:

(23) a. B: Chelswu-ka kulay   [source of (21B)]
            C.-Nom   so
            'Chelswu's brother is a genius.'
      B": Chelswu-ka$_i$ [t$_i$ kulay]

  b. B: $^?$Chelswu-ka Yenghi-lul kulay-ss-e   [source of (22B)]
            C.-Nom   Y.-Acc   so-Pst-Dec
            'Chelswu hit Yenghi's brother.'
      B": Yenghi-lul$_i$ [Chelswu-ka t$_i$ kulay-ss-e]

In (23aB), the anaphora (overtly) substitutes for the sentential constituent *tongsayng-i chencay-ya* 'brother-Nom genius-Dec' excluding the first subject NP, *Chelswu*. In (23bB) it substitutes for the constituent *tongsayng-ul ttayli* 'brother-Acc hit', excluding the first object NP, *Yenghi*, as in (23bB).[12] When clausal ellipsis targets this source, the fragments are derived as shown in (23aB") and (23bB"), respectively. Given the possibility of the anaphora substitution in B-examples, we can assume that the anaphora is interpreted/processed as unstructured "inseparable chunk", hence a processing failure is not induced.

With this in mind, let us consider the DNC in (24). In (24B), the object and the first subject NP appear as fragments. However, (24B) is an infelicitous answer. It can only mean that Chelswu likes bread very much. Why is this so? I claim that the unacceptability can straightforwardly be captured by the processing-based analysis. Under the ellipsis approach, the fragments are derived as in (24B'). Since

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12) The anaphora substitution may also target a smaller constituent, excluding the second NP *tongsayng-i* 'brother-Nom' in (21B), as in (i):

  (i) A: nwu-ka   tongsayng-i   chencay-ni?
          who-Nom   brother-Nom   genius-Q
          'Whose brother is a genius?'
      B: $^?$Chelswu-ka tongsayng-i (kulay)
          C.-Nom   brother-Nom so
          'Chelswu's brother is a genius.'

the second NP is contained in the elliptical site and thus is null, it will be ignored for processing. This yields the infelicitous interpretation where Chelswu is interpreted as the sole subject of the predicate.[13] Under this analysis, (24B) is unacceptable

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13) As predicted, (24B) improves when the second NP *tongsayng* 'brother' appears as an additional fragment at the end as in (i), where the object *Yenghi* in (iA) is fronted in a parallel way to (1B) (but this change does not affect the infelicitousness of (24B)):

(i) A: ?Yenghi-lul$_i$ Chelswu-ka tongsayng-i t$_i$ ttayli-ess-ni?
      Y.-Acc   C.-Nom   brother-Nom   hit-Pst-Q
      'Did Chelswu's brother hit Yenghi?'
   B: ung, ??/?*Yenghi-lul   Chelswu-ka tongsayng-i
      yes   Y.-Acc   C.-Nom   brother-Nom
      'Yes, Chelswu's brother hit Yenghi.'
   B': ung, ?Yenghi-lul$_i$ Chelswu-ka   tongsayng-i t$_i$ ttayli-ess-e
      yes Y.-Acc   C.-Nom   brother-Nom   hit-Pst-Dec

A reviewer notes that for him/her (1B) is as degraded as (24B). (?* is marked to indicate the reviewer's judgment). The reviewer suggests that its degradedness might arise due to a potential ban on focus movement (of *Yenghi*) over a topic, with the assumption that *Chelswu* is a topic, and that (24B) might be degraded for the same reason. I agree that (iB) is marginal. However, the reviewer's suggestion as such is not sustainable because without ellipsis as in (iB') and with focus on *Yenghi*, the sentence sounds as good as (1A) (with redundancy aside).

One could ascribe the marginal status of (1B) to the following two reasons. First, it involves three remnant NPs and this would lead to the general marginality, compared to one or two remnants, as is often reported in the literature, which might be due to complexity. (This complexity can get even more severe by the fact that scrambling in this context already leads to slight marginality, indicated with '?'.) Second, it might (also) have to do with a MaxElide effect (Merchant 2008), which demands ellipsis of the biggest elidable constituent that contains a trace of A'-extraction. A MaxElide effect is observed in non-DArC environments as in (iiB) and its marginality (with three remnant NPs) seems to pattern with that of (iB). Crucially, however, though involving fewer remnant NPs, i.e., two remnants, (24B) is not only more severely "degraded", but also (unlike (iB) and (iiB)) exhibits infelicitousness as an answer. (Note that the infelicitousness of (iiB') arises from a CMC-effect (cf. B&P and Section 4.1)), independently of MaxElide or complexity). Finally and more interestingly, notice that in non-embedding environments, two remnants seem insensitive to MaxElide, as in (iiiB), which sharply contrasts with (24B). This shows that the infelicitousness of (24B) must be due to some other factor, which, I claim in this paper, is processing-related:

(ii) A: Yenghi-lul$_i$ Chelswu-ka [Bill-i t$_i$ mana-ss-ta-ko] mal-hay-ss-ni?
      Y.-Acc.   C.-Nom.   B.-Nom meet-Pst-Dec-C say-do-Pst-Q
      'Did Chelswu say that Bill met Yenghi?'
   B: ung, Yenghi-lul$_i$ (??Chelswu-ka Bill-i) ~~(t$_i$~~ ~~mana-ss-ta-ko~~ ~~mal-hay-ss-e)~~
      yes. Y.-Acc.   C.-Nom.   B.-Nom   meet-Pst-Dec-C say-do-Pst-Dec
      'Yes Chelswu said that Bill met Yenghi.'
   B': ung, #Yenghi-lul   Chelswu-ka
      yes   Y.-Acc.   C.-Nom

(iii) A: Yenghi-lul$_i$ Chelswu-ka t$_i$ mana-ss-ni?
      Y.-Acc   C.-Nom   meet-Pst-Q
      'Did Chelswu meet Yenghi?'
   B: ung, Yenghi-lul Chelswu-ka
      yes Y.-Acc.   C.-Nom
      'Yes, Chelswu met Yenghi.'

just like the non-elliptical construction in (25B)/(25B') is, where the *pro* for the second subject NP is also ignored for the same reason:

(24) A: ?Chelswu-ka tongsayng-i Yenghi-lul ttayli-ess-ni?   [DNC]
         C.-Nom   brother-Nom Y.-Acc   hit-Pst-Q
         'Did Chelswu's brother hit Yenghi?'

    B: #ung, Yenghi-lul   Chelswu-ka
         yes Y.-Acc   C.-Nom
         'Yes, Chelswu hit Yenghi.'

    B': ung, Yenghi-lul$_j$ Chelswu-ka$_i$ [t$_i$ ~~tongsayng-i~~ t$_j$ ~~ttayli-ess-e~~]
         yes Y.-Acc   C-Nom   brother-Nom   hit-Pst-Dec

(25) A: ?Chelswu-ka tongsayng-i   Yenghi-lul ttayli-ess-ni?   (=24A)
         C.-Nom   brother-Nom   Y.-Acc   hit-Pst-Q
         'Did Chelswu's brother hit Yenghi?'

    B: #ung, Chelswu-ka *pro* Yenghi-lul   ttayli-ess-e
         yes C.-Nom   Y.-Acc   hit-Pst-Dec
         '#Yes, Chelswu hit Yenghi.'

    B': #ung, Yenghi-lul$_i$ Chelswu-ka *pro* t$_i$ ttayli-ess-e
         yes   Y.-Acc   C.-Nom   hit-Pst-Dec
         '#Yes, Chelswu hit Yenghi.'

Note that the (un)availability of the alternative source with *kulay*-substitution for (24B) will not affect the proposed analysis. This is because, regardless of its (un) availability we should still consider how the unacceptability/infelicitousness of (24B) can be captured with the elliptical derivation in (24B'), which clearly should be a potential derivation under the ellipsis approach to fragments.

Yet, I will consider the (un)availability of the alternative source to see what it might tell us about the relevant facts. As shown above, the verb *ttayli* 'hit' is amenable to the anaphora *kulay* 'so' substitution as in (26B) below. However, even if (26B) underlies (24B) as represented in (26B'), we reach the same conclusion that the second NP *tongsayng* is still ignored in the elliptical site and thus the fragments are infelicitous. Note that there is another possibility that *kulay* replaces a higher constituent including the second NP, *tongsayng*, as discussed above. However, in this context, this substitution is not allowed with the intended reading, as shown in (26B''). One might assume that (24B) is unacceptable since (26B'') is the only

source of it. But why should it be so? Furthermore, as M.-K. Park (2015) independently points out, the unacceptability/infelicitousness of (26B″) may well be due to impossibility of extraction (of *Yenghi*) to A′-position out of the substituted anaphora.[14]

(26) A: ?Chelswu-ka   tongsayng-i   Yenghi-lul   ttayli-ess-ni?   (=24A)
          C.-Nom   brother-Nom   Y.-Acc   hit-Pst-Q
          'Did Chelswu's brother hit Yenghi?'

    B: ung, Chelswu-ka   tongsayng-i   Yenghi-lul   kulay-ss-e
       yes C.-Nom   brother-Nom   Y.-Acc   so-Pst-Dec
       'Yes, Chelswu's brother hit Yenghi.'

    B′: #ung, Yenghi-lul$_j$ Chelswu-ka$_i$ [t$_i$ tongsayng-i t$_j$ kulay-ss-e]
        yes Y.-Acc   C.-Nom   brother-Nom   so-Pst-Dec

    B″: */#ung, Yenghi-lul Chelswu-ka kulay-ss-e
         yes Y.-Acc   C.-Nom   so-Pst-Dec

What about DACs? (27) is a relevant example. In contrast to (24B), the fragments in (27B) seem to improve. The elliptical derivation as in (27B′) cannot capture it, since being elided, the second object NP *tongsayng-ul* 'brother-Acc' will be ignored. I suggest that (27B) improves since an alternative source is available with this DAC, as shown in (27B″), where the anaphora substitutes for the constituent containing the second object NP and VP, excluding the first object NP. When the subject *Chelswu* and the first object NP *Yenghi* are fronted and subsequently clausal ellipsis applies, (27B) is derived, as shown in (27B‴):

(27) A: Chelswu-ka Yenghi-lul   tongsayng-ul   ttayli-ess-ni?   [DAC]
        C.-Nom   Y.-Acc   brother-Acc   hit-Pst-Q
        'Did Chelswu hit Yenghi's brother?'

---

14) (26B″), however, may yield the same infelicitous interpretation that (24B) does. This is what is expected since in this context, the anaphora in (26B″) can only substitute for a smaller constituent excluding the object, as represented below. This in turn suggests that the second NP *tongsayng-i* 'brother-Nom' is construed as *pro* in syntax. This *pro*, however, is ignored in processing, yielding the infelicitous interpretation:

  (i) ung, Yenghi-lul$_j$ Chelswu-ka *pro*(=tongsayng-i) t$_j$ kulay-ss-e
      yes Y.-Acc   C.-Nom   brother-Nom   so-Pst-Dec
      'Yes, Chelswu hit Yenghi.'

B: ^{??}ung, Yenghi-lul Chelswu-ka
     yes Y.-Acc   C.-Nom
     'Yes, Chelswu hit Yenghi's brother.'
B': ung, Yenghi-lul_j   Chelswu-ka_i [t_i t_j ~~tongsayng-ul   ttayli-ess-e~~]
     yes Y.-Acc   C.-Nom   brother-Acc   hit-Pst-Dec
B": [?]ung, Chelswu-ka Yenghi-lul **kulay-ss-e** (=tongsayng-ul ttayli-ess-e)
     yes C.-Nom   Y.-Acc   so-Pst-Dec brother-Acc hit-Pst-Dec
B"': ung, Yenghi-lul_j Chelswu-ka_i [t_i t_j ~~**kulay-ss-e**~~]
     yes Y.-Acc   C.-Nom   so-Pst-Dec

In this section, I have shown that the processing account can straightforwardly extend to fragments. This extension is well expected since the processing mechanism advocated in this paper hinges on the overtness of arguments, and fragments are one area that allow both overt and null/elide arguments as in DArCs.[15]

5. Tightening Some Loose Ends

In the preceding sections, I have claimed that in DArCs, *pro* is ignored for processing. However, there appears to be an exceptional case. Although the judgements are subtle and might be varying, the inalienable DNC in (28) seems acceptable, which is not expected under the proposed account. If (28) is indeed acceptable, it requires an explanation:

(28) A: Kim kyoswu-ka   chayk-i   cal phali-ni /cal naka-ni?
         Kim professor-Nom book-Nom well sell-Q?   well go-Q?
         'Do Prof. Kim's books sell well?'
     B: [?]ung, Kim kyoswu-ka   *pro* cal phalli-e / cal   naka
         yes Kim professor-Nom   well sell-Dec well go
         'Yes, Prof. Kim's books sell well.'

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15) A reviewer asks if there are any differences between DArCs and fragments expected under the proposed analysis since fragments differ from DArCs in that they delete more than arguments. The main claim of this section is that we will generally expect parallel patterns between the two constructions. (Although fragments involve ellipsis of predicate, this by itself will not yield any differences.) However, I note that as discussed above, the acceptability of B-examples of (21)/(22) is due to the unique property of fragments in that the elliptical site may contain the anaphora substitution.

I speculate that the improved acceptability is due to the specific use of the predicate. In (28B), the predicate *cal phallye/cal naka* 'sell well' is used and this type of predicates can give rise to a "figurative" interpretation when combined with the human subject. It appears that in colloquial speech, the denotation of the predicate can be extended (figuratively) to describe a person's (social) success or popularity, as shown in (28). Given the context provided by the antecedent, one can figure that the properties of *Kim kyoswu* 'Prof. Kim' that make him/her popular include his book selling well among others:

(29) A: yocum Kim kyoswu-ka/ku yenyeyin-i cal   ?phali-ni / cal naka-ni?
      recently Kim prof-Nom the entertainer-Nom well sell-Q well go-Q?
      'Is Prof. Kim/the entertainer getting more and more popular recently'
   B: ung, chayk-to cal phalli-ko phangsong-ey-to manhi   chwulyenhay
      yes book-also well sell-and TV-Loc-also   very.often appear
      'Yes, their books sell well and they appear in TV programs very often.'

When a predicate is used that does not readily allow such figurative interpretations, it will lead to a degraded status. Indeed, (30) seems degraded compared to (28):[16]

(30) A: Kim   kyoswu-ka   chayk-i   hweysontway-ss-ni?
      Kim   prof.-Nom   book-Nom   damage-Pst-Q
      'Was Prof. Kim's book damaged?'
   B: #/??ung, Kim kyoswu-ka   hweysontway-ss-e
      yes Kim prof.-Nom   damage-Pst-Dec
      '#Yes, Prof. Kim was damaged.'

This account also explains why embedding another NP between the two NPs in (28) makes the construction infelicitous, as shown in (31). (31) differs from (30) in that the NP, *ceyca-ka* 'student-Nom' is embedded between the two NPs, and the answer in (31B) means that Chomsky's books sell well and thus is an infelicitous answer. This is because the first *pro*, as well as the second, does not take part in processing:[17]

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16) (30) improves for some speakers. For them, some other (pragmatic) factors might be involved (see related discussion below.)

17) A reviewer asks, "In (31), isn't it the case that the second *pro* can take part in processing without the answer "yes"? It seems that the absence of *ung* 'yes' does not give rise to any significant contrast. What is suggested for (31) is that although the two *pro*s are ignored for processing, the

(31) A: Chomsky-ka   ceyca-ka   chayk-i   cal   phali-ni?
       Chomsky-Nom student-Nom book-Nom   well   sell-Q
       'Do Chomsky's students' books sell well?'

   B: #ung, Chomsky-ka *pro pro*   cal   phally-e
      yes   Chomsky-Nom   well   sell-Dec
      '#Yes, Chomsky's books sell well.'

However, a reviewer notes that if (28) is an example of metonymy (as in "Shakespeare sells well") and that the improved status of (28B) is due to the fact that the sentence *Kim kyoswu-ka cal phallye* 'Prof. Kim sells well' can metonymically (or figuratively) mean Prof. Kim's books/works sell well, it is expected that (30B) should be as much acceptable as (30B). In other words, the reviewer continues, "we can assume that the two sentences can both be interpreted figuratively".

To verify whether there is a contrast in acceptability between (28) and (30), an experiment involving acceptability-judgement tasks was conducted. The experiment consisted of a series of questionnaire and the subjects were 29 undergraduates students (Age: 22.5, F:21, M:8).[18] One of the constructions in the questionnaire is the representative the alienable DNC in (4bB"), which is reported infelicitous in this paper. (4bB") is reproduced as (32B'). The questionnaire also included (32B), where the second NP is overtly realized, for comparison with (32B'):

(32) A: Chelswu-ka tongsayng-i chencay-ni?   [Alienable DNC]
        C.-Nom   brother-Nom genius-Q
        'Is Chelswu's brother a genius?'

   B: ung, Chelswu-ka <u>tongsayng-i</u>   chencay-ya   [rating: 3.31]
      yes C.-Nom   brother-Nom genius-Dec
      Yes, Chelswu is a genius.'

   B': ung, Chelswu-ka (*pro*) chencay-ya   (=4bB")   [rating: 1.1]
       yes   C.-Nom   genius-Dec
       Yes, Chelswu is a genius.'

The subjects were asked to respond to the following questions: Can (32B) be used as a natural/appropriate answer to (32A)? Can (32B') be used a natural/appropriate answer with the same meaning as (32A)? They were instructed to mark a number

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infelicitous reading that Chomsky's books sell well arise figuratively/metonymically as in (28).
18) Excluding 2 outliers.

from the 1-to-5 scale with 1 indicating that it is no appropriate at all and 5 that it is very appropriate. (They were also instructed to write their opinions on their ratings, if they wish to.) The results show that the average rating for (32B) is 3.31 and the average rating for (32B') is 1.1. The difference is 2.21. The low rating of (32B') is consistent with the judgments reported here.[19]

Like (32B), for (28B), which contains the predicate *cal phalli-e* 'sell well', the questionnaire also included the answer with the overt NP for the second NP position[20] (We call this "Answer with the overt NP"). The rating of the answer with the overt NP is 3.76, and the rating of the answer without the overt NP (posited as *pro*) in (28B) is 2.21. The difference between them is 1.55. This shows that (28B) is (somewhat) improved compared to (32B'), as reported in this paper.

For (30B), involving *hweysontway-ss-e* 'was damaged', the results show that it is slightly degraded compared to (28B): The rating of the answer with the overt NP is 3.52 and the one without the overt NP is 1.59, with the difference of 1.93. Although the degradedness of (30B) might not be significant, it was shown that speakers generally tend to find contrast between (28B) and (30B), as reported here.

To further track the general tendency, the predicate was further manipulated with the predicate *pwul-ey tha-ss-e* 'was burned in fire', as shown below:

(33) A: Kim kyoswu-nim-i   chayk-i   pwul-ey tha-ss-ni?
         Kim prof.-Hon-Nom book-Nom fire-with burn-Pst-Q
         'Was Prof. Kim's book burned?'
     B: ung, Kim kyoswu-ka   chayk-i   pwul-ey tha-ss-e
         yes Kim prof.-Nom   book-Nom fire-with burn-Pst-Dec
         Yes, Prof. Kim was burned.'
     B': ung, Kim kyoswu-ka   pwul-ey   tha-ss-e
          yes Kim prof.-Nom   fire-with burn-Pst-Dec
          Yes, Prof. Kim was burned.'

---

19) Note that the rating of (32B) is not high enough (3.52/5). This is not surprising since as some students wrote, this may well be related with the preference of the genitive marker *-uy* 'Gen' to *-ka* 'Nom', as in *Chelwu-uy* 'Chelswu-Gen' in the questionnaire.

20) The answer is shown below:

   (i) Kim kyoswu-nim-i   chayk-i   cal   phalli-e
       Kim prof.-Hon-Nom book-Nom well   sell-Dec
       Prof. Kim's books sell well'

   Note that in the experimental material, the honorific marker *-nim* is added to the first NP as in as shown above, since the subjects are all students, who expect the marker when a professor is addressed.

The rating of (33B) with the overt NP is 3.69 and the rating of (33B') without the overt NP is 1.31. The difference is <u>2.38</u>. This shows that not only that (33B') is more degraded than (30B), it is as severely degraded as the baseline data in (32B'). (As stated above, the difference between (32B) and (32B') is <u>2.21</u>.) The results are summarized below:

Table 1. Acceptability of DNC with different predicates

	(32): baseline	(28): 'sell well'	(30): 'damaged'	(33): 'burned'
With overt NP	3.31	3.76	3.52	3.69
Without overt NP	1.1	2.21	1.59	1.31
Difference	**2.21**	**1.55**	**1.93**	**2.38**

I agree that metonymy may also be the relevant notion in describing (28), but the general tendency towards more degraded status between (28), (30) and (33) and the fact that (33) is as degraded as the baseline data in (32) suggest that the notion metonymy alone is not sufficient. I speculate that (33) with the predicate '(was) burned' is severely degraded because it strongly disallows the figurative interpretation, unlike (28) with the predicate 'sell well'. (The intermediate status of (30), if real, may suggest that the process of metonymy is operating to a certain degree for (30), as the reviewer seems to suggest.) Needless to say, a more conclusive account requires more data collections and statistical analyses, not to mention that the notion "figurative interpretation" needs to be elaborated.[21]

Related to judgements on data, I also address the following issue raised by another reviewer. The reviewer reports that for him/her the DNC in (6B), repeated below as (34B), becomes improved with the status of '?' when it changes into the negative answer in (34B'), where *Chelswu* and *Yenghi* contrast with each other. The reviewer states that the improved status may constitute a non-trivial problem for the proposed analysis:

(34) A: Chelswu-ka cito   kyoswu-**nim**-i   o-**sy**-ess-ni?
        C.-Nom   guide prof.-Hon-Nom   come-Hon-Pst-Q
        'Did Chelswu's advisor come?'

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21) I leave this for future research.

B: *ung, Chelswu-ka _pro_ o-**sy**-ess-e
   yes C.-Nom   come-Hon-Pst-Dec
   intended: 'Yes, Chelswu's advisor came.'

B': ^{?/?*}ani, Yenghi-ka _pro_ o-**sy**-ess-e
   no Y.-Nom   come-Hon-Pst-Dec
   'No, it was Yenghi whose advisor came.'

To confirm the reviewer's judgements, the experiment also included the following materials:

(35) A: Chelswu-ka cito   kyoswu-nim-i   o-sy-ess-ni?
    C.-Nom   guide prof.-Hon-Nom come-Hon-Pst-Q
    'Did Chelswu's advisor come?'

   B: ung, Chelswu-ka <u>cito kyoswu-nim-i</u>   o-sy-ess-e [with overt NP]
    yes C.-Nom   guide prof.-Hon-Nom come-Hon-Pst-Dec
    'Yes, Chelswu's advisor came.'

   B': ung, Chelswu-ka   o-sy-ess-e   [without overt NP]
    yes C.-Nom   come-Hon-Pst-Dec
    [intended]: 'Yes, Chelswu's advisor came.

(36) A: Chelswu-ka cito   kyoswu-nim-i   o-sy-ess-ni?
    C.-Nom   guide prof-Hon-Nom   come-Hon-Pst-Q
    'Did Chelswu's advisor come?'

   B: ani, Yenghi-ka <u>cito   kyoswu-nim-i</u> o-sy-ess-e [with overt NP]
    no Y.-Nom   advisor prof-Hon-Nom come-Hon-Pst-Dec
    'No, it was Yenghi whose advisor came.'

   B': ani, Yenghi-ka o-sy-ess-e   [without overt NP]
    no Y.-Nom   come-Hon-Pst-Dec
    [intended]: 'No, it was Yenghi whose advisor came.'

The results are shown below:

Table 2. Contrastiveness effects

	(35)	(36)
With overt NP	3	3.28
Without overt NP	1.21	1.55
Difference	1.79	1.72

The results show that (36) with/without the overt NP improves but very slightly, as indicated by difference gap between (35) and (36) (1.79 vs. 1.72).[22] If true, the (almost) same degraded status of (35) and (36) supports my analysis.

Although for the relevant data, the subjects were instructed to put contrastiveness or pause as they desire, there is still a possibility that their markings might not be appropriate. To adjust this, the experiment also included the data that explicitly mark the contrastiveness of the subject in the antecedent, as shown below:

(37) A: Chelswu-ka cito   kyoswu-nim-i   o-sy-ess-ni?   Yenghi-ka
        C.-Nom   guide prof-Hon-Nom   come-Hon-Pst-Q Y.-Nom
        cito kyoswu-nim-i   o-sy-ess-ni?
        guide prof.-Hon-Nom   come-Hon-Pst-Q
        'Did Chelswu's advisor come? (or) Did Yenghi's advisor come?'
    B: Yenghi-ka <u>cito   kyoswu-nim-i</u> o-sy-ess-e   [with overt NP]
        Y.-Nom   advisor prof.-Hon-Nom come-Hon-Pst-Dec
        'It was Yenghi whose advisor came.'
    B': Yenghi-ka o-sy-ess-e   [without overt NP]
        Y.-Nom   come-Hon-Pst-Dec
        [intended]: 'It was Yenghi whose advisor came.'

The rating of (37B) is 3.76 and the rating of (37B') is 1.86. The difference is <u>1.9</u>, showing that no (significant) improvement is induced. This generally patterns with the preceeding results.

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22) There was one subject who perceived a keen contrast between (35) and (36). The subject gave 2 for both (35B) and (35B') and 5 for both (36B) and (36B'), (partially) consistent with the reviewer's judgements. I acknowledge that contrastiveness might ameliorate the processing effects (at the individual level). In this case, I speculate that (contrastive) focus might play a role in facilitating reanalysis (to a certain degree such that the ignored *pro* is recovered). (cf. B-S Park 2017)

6. Conclusion

In this paper, I have shown that in DArCs, *pro* is ignored for processing when it compete with an overt argument for a potentially matching predicate. In line with B&P, I suggest that the effects arise due to the general tendency of the parer to reduce the processing load. Apparent exceptions are ascribed to the availability of pragmatic processes in those situations. This shows that Double Argument Constructions make an interesting case where it is observable that both the general processing mechanisms and pragmatic processes operate. When none of them work properly, it yields the *pro* restriction discussed in this paper. To support the account, I have discussed Double Argument Constructions in fragment contexts and showed that the account can straightforwardly capture the relevant facts.

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