Delayed argument saturation in Korean double ACC constructions

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1 Proposal

I argue for an analysis of delayed internal argument (IA) saturation (drawing insights from Higginbotham 1985; Yoon 1990; Chung & Ladusaw 2004; Legate 2014), utilizing a high applicative head (APPL) as a general tool for introducing an IA into the structure (above the Root, but below Voice), effectively binding an unsaturated argument variable.

Motivation comes from Korean double accusative (ACC) constructions (DACs), and the challenges they pose for theories of argument structure (AS).

- I argue that DACs, despite surface form similarity to double object constructions (DOCs), are underlyingly transitive.
- What looks like a lower IA is in fact an ACC-marked modifier (Jo 2024), which *restricts* the transitive predicate (Chung & Ladusaw 2004; Legate 2014).
  - This analysis places the lower IAs in DACs in conversation with a broader literature on (pseudo-)incorporation (Mithun 1984; Massam 2001; van Geenhoven 1998; Chung & Ladusaw 2004)
- The "affected object" constraint (Larson 1988; Yoon 1990; Tomioka & Sim 2005) that DACs share with DOCs then arises due to both constructions having IAs introduced by APPL.

2 Background: Korean DACs

There are two Korean DACs of interest– a lot of prior work within the Korean syntax literature has looked at both of these constructions, but largely separately.

Inalienable possession (1) (IPCs; Choe 1987; Cho 2000; Tomioka & Sim 2005; Ura 1996; Yoon 1990, 1991, 2015).

(1)   a.   *nikho-ka* **hanyengi**-*lul* **phal**-*ul* *ttayli-ess-eyo*
           Niko-NOM Hanyoung-ACC arm-ACC hit-PST-DECL

           "Niko hit Hanyoung's arm."   니코가 한영이를 팔을 때렸어요

    b. *acwumeni-ka* **cak-un** *ai*-lul **son**-ul *cap-ass-eyo*
        older.woman-NOM small-ADN child-ACC hand-ACC grab-PST-DECL

        "The woman grabbed the small child's hand."   아주머니가 작은 아이를 손을 잡았어요

AS-Nominals (2) (ASNs; Ahn 1992; Chae 1996, 2003; Grimshaw & Mester 1988; Jun 2003, 2006; J. R. Kim 1993; J. B. Kim et al. 2007; S. W. Kim 1994; Manning 1993; Pak 2001; K. B. Park 1995; C. W. Park 2013; Sells 1995; Yoon 1997).

(2)   a. *yenkwuwen-i* **tongwul**-ul **thamkwul**-ul *ha-yss-eyo*
        researcher-NOM cave-ACC   exploring-ACC do-PST-DECL

        "The researcher explored the cave."   연구원이 동굴을 탐구를 했어요
   b. *kyoswunim-i* **kwangsok**-ul **kyeysan**-ul   *ha-yss-eyo*
        professor-NOM light.speed-ACC calculating-ACC do-PST-DECL

        "The professor calculated light speed."   교수님이 광속을 계산을 했어요

Despite (1-2) involving lexical items which do not intuitively share any similarity in their lexical semantics, their syntactic parallels suggest underlying structural similarity.

2.1 Affected object restriction

Yoon (1990) observes that part-whole DACs are sensitive to predicate choice, and only work with predicates that select an "affected object" (3–4) (Larson 1988; Tomioka & Sim 2005).

(3)   * *nikho-ka* **hanyengi**-lul **phal**-ul *salang.ha-yss-eyo*
      Niko-NOM Hanyoung-ACC arm-ACC love-PST-DECL

      Intended: "Niko loved Hanyoung's arm."   * 니코가 한영이를 팔을 사랑했어요

- The same restriction holds for ASN constructions too, when tested with other, non-light, verbs (4).

(4)   a. *yenkwuwen-i* **tongwul**-ul **thamkwul**-ul *kkuth.nay-ss-eyo*
        researcher-NOM cave-ACC   exploring-ACC finish-PST-DECL

        "The researcher finished exploring the cave."   연구원이 동굴을 탐구를 끝냈어요
   b. * *yenkwuwen-i* **tongwul**-ul **thamkwul**-ul *coha.ha-yss-eyo*
        researcher-NOM cave-ACC   exploring-ACC like-PST-DECL

        Intended: "The researcher liked exploring caves." 연구원이 동굴을 탐구를 좋아했어요

This affectedness restriction links DACs to a semantic characterization found within the ditransitive literature about DOCs and "affectedness"/"affected objects" (Yoon 1990; Tomioka & Sim 2005; Larson 1988):

- Larson (1988) notes, for example, that there seems to be an extra dimension of "affectedness" that results in a favoring of the double object vs. the prepositional dative construction in English, e.g. (5–7).

(5) a. Mary gave John a cold.

  b. */# Mary gave a cold to John.

(6) a. Mary gave John a broken arm.

  b. */# Mary gave a broken arm to John.

(7) a. Mary gave John a kiss.

  b. */# Mary gave a kiss to John. (Larson 1988: p. 376)

2.2 Alternative NP-constituent construction

Additionally, both DACs (1-2) have an NP-constituent construction, such as (8) (diagnosed by lack of case on the first noun; see Webster under review). That is, a construction where the two satellites of a DAC are instead expressed as a constituent together. This constituent can be modified by nominal modifiers, and moved higher (Topicalized, scrambled, etc.).

(8) a. *nikho-ka **hanyengi phal**-ul ttayli-ess-eyo*
      Niko-NOM Hanyoung arm-ACC hit-PST-DECL

      "Niko hit Hanyoung's arm."　　　　　　　　　　니코가 한영이 팔을 때렸어요

  b. *yenkwuwen-i **tongwul thamkwul**-ul ha-yss-eyo*
      researcher-NOM cave exploring-ACC do-PST-DECL

      "The researcher explored the cave."　　　　연구원이 동굴 탐구를 했어요

It is useful to note that with this alternative construction, we lose all traces of an "affected object" predicate restriction:

(9) *acwumeni-ka **ai son**-ul cap-ass-eyo / cohahay-ss-eyo*
    older.woman-NOM child hand-ACC grab-PST-DECL / like-PST-DECL
    "The woman grabbed/liked the child's hand."　　아부머니가 아이 잡았어요/좋아했어요

(10) *yenkwuwen-i **tongwul thamkwul**-ul kkuth.nay-ss-eyo / cohahay-ss-eyo*
    researcher-NOM cave exploring-ACC finish-PST-DECL / like-PST-DECL
    "The researcher finished/liked exploring the cave."　연구원이 동굴 탐구를 끝냈/좋아했어요

3 Two prior analyses and their empirical issues

3.1 Against a derivational approach

There are empirical issues with trying to derive DACs from their complement-head alternatives.

Tomioka & Sim (2005) observe that some Korean idiom chunks utilize the DAC, whose meanings are not maintained in complement-head alternatives.

For example, the idiom *son-ul po-ta*, meaning "(lit.) to see the hand; (idiom) to deal with", has its idiomatic reading in the double ACC construction (11a), but not in the complement-head construction (11b):

(11) a. *chelswu-ka   senhuy-lul   son-ul   po-ass-eyo*
Chelswu-ɴᴏᴍ Sunhee-ᴀᴄᴄ hand-ᴀᴄᴄ see-ᴘsᴛ-ᴅᴇᴄʟ

Literal: "Chelswu saw Sunhee's hand."
Idiom: "Chelswu dealt with/punished Sunhee."   철수가 선희를 손을 봤어요

b. *chelswu-ka   senhuy son-ul   po-ass-eyo*
Chelswu-ɴᴏᴍ Sunhee hand-ᴀᴄᴄ see-ᴘsᴛ-ᴅᴇᴄʟ

Literal: "Chelswu saw Sunhee's hand."
***Idiom (impossible):** "Chelswu dealt with/punished Sunhee."

If one assumes (11a) to be derived from (11b), one would need to assume that syntactic movement can create an idiomatic reading— while work on idioms often deals with movement data and whether or not an idiomatic reading survives under movement, the reverse concept is completely unattested (Tomioka & Sim 2005).

3.2 Against a DOC approach

Appealing to the "affectedness" restriction that links DACs descriptively to a characterization found within the ditransitive literature on DOCs (Yoon 1990; Larson 1988), researchers posit a variety of ditransitive structures, where both ᴀᴄᴄ-phrases are, structurally, arguments of the predicate (drawing a parallel to Korean beneficiary predicates and synthetic causatives, which both also can surface with double ᴀᴄᴄ-marking) (12–13).

(12) *cwuhuy-ka   **nam.tongsayng**-ul **pyenci**-lul ponay-**cwu**-ess-eyo*
Joohee-ɴᴏᴍ boy.sibling-ᴀᴄᴄ   letter-ᴀᴄᴄ send-ᴀᴘᴘʟ-ᴘsᴛ-ᴅᴇᴄʟ

"Joohee sent her little brother a letter."   주희가 남동생을 편지를 보내줬어요

(13) *cwunkwu-ka **na**-lul   **aisukulim**-ul mantule-**cwu**-ess-eyo*
Jungu-ɴᴏᴍ 1ᴘ.sɢ-ᴀᴄᴄ ice.cream-ᴀᴄᴄ make-ᴀᴘᴘʟ-ᴘsᴛ-ᴅᴇᴄʟ

"Jungu made me ice cream."   준구가 너를 아이스크림을 만들어줬어요

However, ditransitive analyses of DACs are still empirically inadequate, because the DACs still have a crucial difference in syntactic behavior from true DOCs: the predicate-adjacent ᴀᴄᴄ-phrase does not actually behave like a nominal argument: it cannot be targeted for A-bar extraction (14), nor receive adnominal modification (15).

(14) * ***son**$_i$-un   acwumeni-ka   **ai**-lul t_i cap-ass-eyo*
hand$_i$-ᴛᴏᴘ older.woman-ɴᴏᴍ child-ᴀᴄᴄ t_i grab-ᴘsᴛ-ᴅᴇᴄʟ
Intended: ?? "As for hands, the woman grabbed the child's."

(15) * *yenkwuwen-i   **tongwul**-ul chelceha-n   **thamkwul**-ul kkuthnay-ss-eyo*
researcher-ɴᴏᴍ cave-ᴀᴄᴄ   thorough-ᴀᴅɴ exploring-ᴀᴄᴄ finish-ᴘsᴛ-ᴅᴇᴄʟ
Intended: "The researcher did/finished thorough exploring (of) the cave."

The predicate-adjacent ᴀᴄᴄ-phrase must be a deficient NP in some way, lacking (at least) a D layer.

- This characterization is remarkably similar to the description of pseudo-incorporated items, in the literature on incorporation (Mithun 1984; Borik & Gehrke 2015), in particular with respect to similarly observed restrictions on modification.
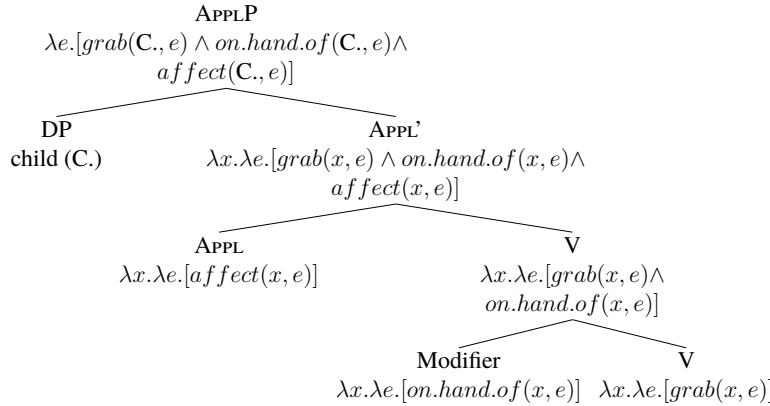
4 Analysis

I argue for an analysis of DACs that treats the second ACC-phrase as a modifier, which combines with the predicate via *restrict* (Chung & Ladusaw 2004), leaving the thematic argument slot unsaturated.
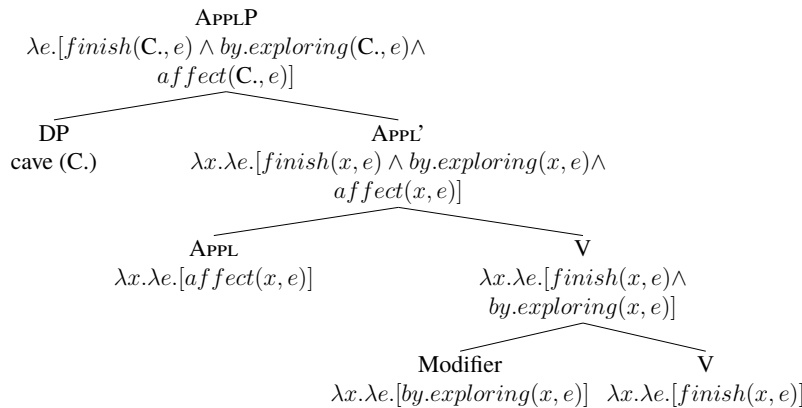
- APPL then serves to introduce the IA and saturate the still-open argument slot, deriving the "affectedness" interpretation observed in the literature.

- Consequently, Korean DACs only in fact contain one internal argument, that gets added to the structure after predicate modification.

Building on the semantics proposed for external possession by Yoon (1990), who argues for the lower IA of an inalienable possession construction to be introduced by "theta-identification" (Higginbotham 1985), I draw on the formal semantics of *restriction* and *saturation* (Chung & Ladusaw 2004; Legate 2014), to derive the structures in (16) and (17) for each DAC.
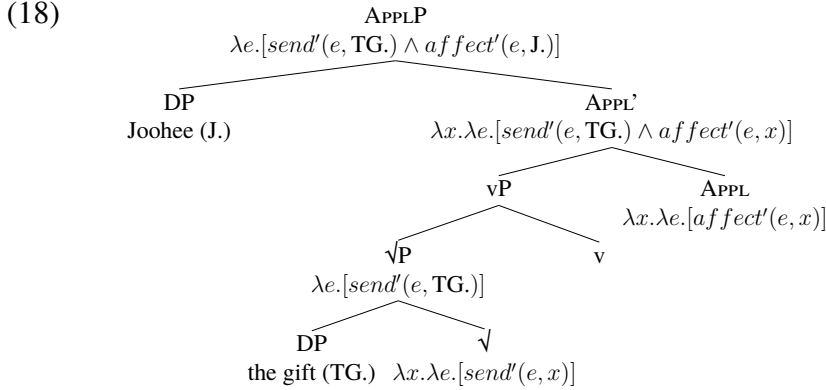
(16) "inalienable possession" DAC

APPLP
$\lambda e.[grab(\mathbf{C.}, e) \wedge on.hand.of(\mathbf{C.}, e) \wedge affect(\mathbf{C.}, e)]$

- DP
  child (C.)
- APPL'
  $\lambda x.\lambda e.[grab(x, e) \wedge on.hand.of(x, e) \wedge affect(x, e)]$
  - APPL
    $\lambda x.\lambda e.[affect(x, e)]$
  - V
    $\lambda x.\lambda e.[grab(x, e) \wedge on.hand.of(x, e)]$
    - Modifier
      $\lambda x.\lambda e.[on.hand.of(x, e)]$
    - V
      $\lambda x.\lambda e.[grab(x, e)]$

(17) "AS-Nominal" DAC

APPLP
$\lambda e.[finish(\mathbf{C.}, e) \wedge by.exploring(\mathbf{C.}, e) \wedge affect(\mathbf{C.}, e)]$

- DP
  cave (C.)
- APPL'
  $\lambda x.\lambda e.[finish(x, e) \wedge by.exploring(x, e) \wedge affect(x, e)]$
  - APPL
    $\lambda x.\lambda e.[affect(x, e)]$
  - V
    $\lambda x.\lambda e.[finish(x, e) \wedge by.exploring(x, e)]$
    - Modifier
      $\lambda x.\lambda e.[by.exploring(x, e)]$
    - V
      $\lambda x.\lambda e.[finish(x, e)]$

5

I assume Korean beneficiary predicates to be real DOCs, with a high APPL structure that licenses two DP arguments (Marantz 1993; Pylkkänen 2008; Bruening 2021).

(18)

$$\text{APPLP}$$
$$\lambda e.[send'(e, \text{TG.}) \wedge affect'(e, \text{J.})]$$

- DP
  Joohee (J.)
- APPL'
  $\lambda x.\lambda e.[send'(e, \text{TG.}) \wedge affect'(e, x)]$
  - vP
    - $\sqrt{}$P
      $\lambda e.[send'(e, \text{TG.})]$
      - DP
        the gift (TG.)
      - $\sqrt{}$
        $\lambda x.\lambda e.[send'(e, x)]$
    - v
  - APPL
    $\lambda x.\lambda e.[affect'(e, x)]$

More on the DACs: the second ACC-phrase is syntactically and semantically a modifier to the predicate (like the Korean ACC-marked adverbials investigated in Jo 2024), and receives a locative-like interpretation.

The transitive predicate is modified before its argument variable is saturated: the modifier is only licit if it also necessarily has a thematic argument.

- In (16), the inalienable possessee "hand" restricts the possible locations being grabbed on the potential IA to a specific sub-part of that IA.

- In (17), "exploring", when used as a modifier, accomplishes something similar to eventive coercion (Pustejovsky 1995): in the same way that "I finished the book" implicates that the thing finished was actually an event acted upon the book, e.g. "by reading it", the semantic composition in (17) communicates the equivalent of "finished the cave (by exploring it)".

When does APPL come into play? This happens as a consequence of predicate modification: the analysis additionally constrains the timing of argument saturation. Compatible with previous phenomena analyzed as *restriction* (e.g., Legate 2014), I suggest that direct *saturation* occurs locally to the head that introduces the IA.

If *restriction* applies instead, V looses its ability to saturate its argument directly, and consequently, APPL is added to the structure, introducing the IA as its specifier to saturate the open variable.

- This derives the "affectedness" restriction of DACs, given that APPL is present, and also provides an explanatory account for why, in Legate (2014)'s analysis of Acehnese passives, *restriction* applied to a Voice head results in a passive interpretation:

- *restriction* blocks overt realization of the thematic Agent denoted by Voice, requiring the language to employ other means to saturate the open variable via existential closure or with a by-phrase.

In sum, I derive the empirical generalizations of Korean DACs, while bringing new theoretical insights to the nature of *restriction* and *saturation*.

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