On the Distribution of Missing Arguments and Adjuncts under the Pro Approach

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ABSTRACT

This paper focuses on different behaviors of missing arguments and adjuncts. More specifically, this paper shows that interpretations of missing arguments can be freely recovered regardless of their environments while those of missing adjuncts can be recovered in very restricted environments. With respect to this difference, we suggest that missing arguments are syntactically present as silent forms. Hence, their interpretations are relatively less influenced by pragmatic processes. We also suggest that missing adjuncts can be classified into two types. Adjunct reading of one type is obtained through mandatory pragmatic enrichment processes like saturation, and that of the other type is obtained through optional free pragmatic enrichment. Hence, interpretations of missing adjuncts are more influenced by context. We further show that the analysis advanced here can provide a solid explanation for the data pointed out by Yim (2020). We also discuss some advantages of pronoun analysis in comparison to argument ellipsis analyses and Verb-Stranding VP ellipsis analyses.

Keywords: missing argument, missing adjunct, pronoun analysis, argument ellipsis, saturation, free pragmatic enrichment

1. Introduction

Some languages such as Korean and Japanese allow missing arguments even in finite clauses but other languages such as English allow missing arguments in very restricted environments like subject position of nonfinite clauses. As pointed out by Murasugi (1991), Saito (2007) and Takahashi (2008), as long as PPs are selected by predicates (namely, arguments), they can be subject to elision; Hence, it is named "argument ellipsis."

(1) a. Taroo-wa [zibun-no oya-no ie-ni] sunde iru
     T.-Top self-Gen parent-Gen house-in live
     'Taroo lives in his parents' house.'

  b. Demo, Hanako-wa [e] sunde inai
     but H.-Top live-not
     'But Hanako does not live in his/her parents' house.'

As we can infer from the name "argument ellipsis," pure adjuncts are generally not subject to elision (see Oku 1998, Takahashi 2008), as shown in (2) which is taken from Oku (1998: 172).[1]

(2) a. Bill-wa kuruma-o teineini aratta.
     Bill-Top car-Acc carefully washed
     'Bill washed a car carefully.'

  b. John-wa ____ arawanakatta
     John-Top washed.not
     'lit. John didn't wash e.'

While (2a) contains the adjunct corresponding to *carefully*, the interpretation of (2b) does not contain the adverb. (2b) just means that John did not wash a car, but not that John did not wash a car carefully.[2]

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1) Along similar lines, Park (1997: 631-632) shows that in Korean, phonetically null manner or reason adverbials cannot be recovered from a previous discourse:

(i) a. John-i ppalli talli-ko Mary-to *(ppalli) tallinta.
     J.-Nom fast runs-and M.–also fast runs
     (intended: 'John runs fast and Mary runs fast too.')
  b. John-i kulen iwu-lo ttenaass-ko Mary-to *(kulen iwu-lo) ttenaassta.
     J.-Nom that reason-for left-and M.–also that reason-for left
     (intended: 'John left for such a reason and Mary left for such a reason too.')

2) Saito (2007: 23) shows that reason PPs (in contrast to locative PPs) in Japanese are not subject to elision, as shown in (ib), which dictates that only argument PPs can undergo ellipsis.

(i) a. (Watashi-wa) [Taroo-ga [zibun-no sippai-de] kubi-ni natta to] kite iru.
     I-Top T.-Nom self-Gen mistake-for was-fired that hear
     'I hear that Taroo was fired because of his mistakes.'
  b. Demo, [Hanako-ga _____kubi-ni natta to] kite inai.
     but H.-Nom was-fired that hear-not
     '*But I have not heard that Hanako was fired because of her mistakes.'

(ib) doesn't have the interpretation that I have not heard that Hanako was fired because of her mistakes. (ib) only means that I have not heard that Hanako was fired.

Many researchers have explored the distribution and interpretation of missing arguments in object position in generative grammar. Pro analyses suggest that missing arguments are covert pronouns (Ahn & Cho 2009, 2011a,b, 2012a,b,c, 2013, 2019, 2020a,b, Hoji 1998, Moon 2010, 2015, 2017, 2019, Park 1994, 2014). On this view, only pro drop languages allow missing arguments in finite clauses. Argument ellipsis (AE) analyses, in contrast, suggest that missing arguments result from deletion of NP, CP and PP in argument positions (Kim 1999, Lee & Kim 2010, Lee 2011, 2014, 2016, Oku 1998, 2016, Saito 2007). Verb-Stranding VP ellipsis (VVPE) analyses, on the other hand, take the view that missing arguments result from V movement and VP deletion (Otani and Whitman 1991, Funakoshi 2012, 2013). Regarding cross-linguistic difference, the AE analyses and VVPE analyses need to explain why languages like English do not have missing arguments in finite clauses if they indeed result from ellipsis of sorts.

Ahn & Cho (2009) shows that pro analyses are superior in explaining empirical data in Korean. They note the fact that missing CP is sensitive to the selection of matrix verb, as shown in (3-4).[3)]

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3) There seems to be speakers' variation about the judgment related to (4B). A reviewer judges (4B) to be marginal. The reviewer states that the null object is possible only when the antecedent is an NP complement, as shown in (iB).

(i) A: Na-nun   sin-uy   concay-lul   mite.
       I-Top   God-Gen   existence-Acc   believe
       'I believes in the existence of God.'
    B: Na-to ____ mite.
       I-also   believe
       'I believe _____ too.'

The reviewer states that when the antecedent has a clausal complement, *kulehkey* 'so' is obligatory, as shown in (iiB).

(ii) A: Na-nun [Yenghi-ka   Toli-lul   salanghanta-ko]   mitnunta.
        I-Top   Y.-Nom   T.-Acc   love-C   believe
        'I believe Yenghi loves Toli.'
     B: Na-to   kulehkey   mitnunta.
        I-also so   believe
        'Lit. I believe so too.'

Likewise, the reviewer states that all the examples including a clausal antecedent cannot take a null complement and always need *kulehkey* 'so'. We speculate that for some speakers there may be some matching requirements between syntactic categories of antecedents and pro-forms. This strict category matching condition, however, can be loosened for speakers like us and others in the previous literature. Thus, the contrastive judgments noted in the text are relevant only for this population. The reviewer raises the possibility that the null argument in (4B) is a silent form of *kulehkey* 'so'. This approach, however, cannot explain the grammatical contrast between (3B) and (4B). More specifically, this approach should answer to the question of why the silent form of *kulehkey* is not possible in (3B).

(3) A: Na-nun [Yenghi-ka   Toli-lul   salanghanta-ko]   sayngkakhanta.
        I-Top   Y.-Nom   T.-Acc   love-C   think
        'I think Yenghi loves Toli.'
     B: *Na-to ___ sayngkakhanta.
        I-also   think
        'Lit. I think too.'

(4) A: Na-nun [Yenghi-ka   Toli-lul   salanghanta-ko]   mitnunta.
        I-Top   Y.-Nom   T.-Acc   love-C   believe
        'I believe Yenghi loves Toli.'
     B: Na-to ___ mitnunta.
        I-also   believe
        'Lit. I believe too.'

The puzzle is why missing argument is possible in (4B), but it is impossible in (3B). Ahn & Cho (2009) notes in particular that ellipsis analyses such as AE and VVPE cannot account for the contrast without additional stipulations. Under the AE analysis, (3B) and (4B) have the structure like (5a) and (5b), respectively.

(5) a. Na-to [CP ~~Yenghi-ka Toli-lul salanghanta-ko~~] sayngkakhanta
    b. Na-to [CP ~~Yenghi-ka Toli-lul salanghanta-ko~~] mitnunta

Although a notable difference is not found between (5a) and (5b), the deletion in (5a) makes the sentence (3B) ill-formed. We have to note that a similar deletion process to (5a) applies to (5b). Hence, without additional mechanism or stipulation, AE would predict (3B) well-formed, contrary to fact.

Under the VVPE, (3B) and (4B) are derived from (6a) and (6b), respectively.

(6) a. Na-to [VP ~~Yenghi-ka Toli-lul salanghanta-ko~~ t_i] sayngkakhanta$_i$
    b. Na-to [VP ~~Yenghi-ka Toli-lul salanghanta-ko~~ t_j] mitnunta$_j$

Again, there is no notable difference between (6a) and (6b). Hence, 1ike AE analyses, VVPE analyses cannot account for the contrast between (3B) and (4B).[4]

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[4] Park (1997) shows that VP ellipsis is not allowed in Korean. In this line of reasoning, VVPE analysis is not applicable for missing arguments in Korean. Oku (1998: 165) shows that VVPE analyses cannot account for the following three types of data in Japanese. First, VVPE ellipsis cannot account for the

Ahn & Cho (2009) notes licensing mechanism of ellipsis proposed by Merchant (2001): only functional heads such as C, T, and D can bear an [E] feature. In (3B) and (4B) CP is a complement of a theta-role assigning lexical category like V (or v), which cannot have an [E] feature.[5] Hence, CP ellipsis is expected to be ruled out in both (3B) and (4B).

Ahn & Cho (2009) further suggests that (4B) is not derived through CP deletion but that it contains (null pronoun) pro in the complement position. Given that pro occurs in NP position, the difference between *sayngkakhata* 'think' and *mitta* 'believe' is easily accounted for since only the latter takes an NP complement, as shown in (7-8).

(7) A: Na-nun   [Yenghi-ka   Toli-lul   salanghanta-ko]   sayngkakhanta.
       I-Top   Y.-Nom   T.-Acc   love-C   think
       'I think Yenghi loves Toli.'
    B: *Na-to kukes-ul   sayngkakhanta.
        I-too   it-Acc   think
       'I think it.'

(8) A: na-to   [Yenghi-ka   Toli-lul   salanghanta-ko]   mitnunta.
       I-too   Y.-Nom   T.-Acc   love-C   believe
       'I believe that Yenghi loves Toli.'
    B: Na-to   kukes-ul   mitnunta.
       I-too   it-Acc   believe
       'I believe it.'

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sloppy identity interpretation which is available for null subject because the relevant reading is not necessarily contingent on VP-ellipsis. Second, null argument is available even when VP-ellipsis cannot derive the relevant structure. Third, VP-ellipsis cannot derive the structure in which the head verb remains unelided in Japanese. In addition, Landau (2020) also shows that the following two phenomena related to missing arguments are problematic under VVPE: missing PPs are attested and verb-identity is not imposed between the antecedent and the target clauses. This paper further offers substantial empirical evidence against the VVPE analysis.

5) In English, complements of V cannot undergo ellipsis, as shown in (i).

(i) a. *I saw John's brother and Mary also saw [DP ~~John's brother~~].
    b. *I regret that we bought the charcoal grill and my wife don't regret [CP ~~that we bought the charcoal grill~~].
    c. *Joe can talk to Mag Wildwood and Holly can talk [PP ~~to Mag Wilwood~~] too. (Johnson 2001:441)
    d. *John seems to solve the problem, and Mary also seems [TP ~~to solve the problem~~]. (Johnson 2001:441)

On this view, the missing argument in (4B) is not a CP but a pro, a silent form of *kukes-ul* 'it-Acc'. We call this type of pro analysis "pronoun analysis." Ahn & Cho (2009, 2010, 2011a,b, 2019, 2020a,b) suggest that pro is a silent form of overt pronouns such as *ku* 'he', *kunye* 'she', *kukes* 'it', *kutul* 'they(human)', and *kukestul* 'they(nonhuman)'. Under the pronoun analysis, (4B) is parallel to (8B) while (3B) is parallel to (7B), and hence the contrast is naturally captured.

The pronoun analysis can also account for sloppy interpretation as shown in (9) (Ahn & Cho 2009: 140).[6]

(9) A: Chelswu-ka caki   tongsayng-i   tayhak-ey   hapkyekha-lke-la-ko
       C.-Nom   self   brother-Nom   university-at be accept-Fut-Dec-C
       mitnunta.
       believe
       'Chelswu believes that his brother will be accepted by the university.'
    B: Yenghi-to   mitnunta.
       Yenghi-also   believe
       'Yenghi believes, too.'
    B': Yenghi-to   kukes-ul   mitnunta.
        Yenghi-also   it-Acc   believe
        'Yenghi believes it, too.'

(9B) can be interpreted as 'Yenghi believes that her own brother will be accepted by the university'. The sloppy reading is also possible in (9B') which contains an overt pronoun. Under the pronoun analysis, the null argument in (9B) can be treated as a silent form of *kukes-ul*, so the parallelism between (9B) and (9B') is well explained.

Unlike missing arguments, however, behaviors of missing adjuncts have less been focused under the generative grammar. Hence, a couple of questions arise: When an adjunct is not overtly realized, is adjunct reading impossible? If interpretation of missing adjunct is possible in some restricted cases, is interpretation of missing

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6) A reviewer judges (9B) and (9B') to be ill-formed. The reviewer does not accept null counterpart of clausal complement and its replacement by *kukes*. The reviewer shows the same judgment about the similar examples discussed later in this paper. The speaker's variation seems to support our claim that missing clausal complement is closely tied to the presence of pronominal replacement. As pointed out by Han et al (2020), in the case of speakers' variation, there is a correlation between related phenomena. A speaker's acceptance of null clausal complement seems to positively correlate with acceptance of replacement by *kukes* 'it'.

adjuncts obtained through the same process as that of missing arguments? This paper explores not only interpretations of missing arguments but also interpretations of missing adjuncts.

Furthermore, recently, Yim (2020) argues that a wide range of missing CP/PP arguments can be well accounted for not under pro analyses but under AE analyses. This paper discusses distribution and interpretation of missing CPs and PPs including the data discussed in Yim (2020) and shows that a close examination of missing CPs and PPs can lead to a solid explanation to this phenomenon. More specifically, we show that Yim's (2020) data cannot be arguments against Ahn & Cho's (2009) analysis and that the interpretation of missing PPs and CPs does not result from a uniform source. We highlight the premise that pro can only occur in argument positions and that interpretation of missing adjuncts are provided through pragmatic processes like saturation and free pragmatic enrichment (cf. Recanati 1989, 2010).

This paper is organized as follows. Section 2 suggests an elaborate analysis of missing PPs. Section 3 shows that the analysis advanced for missing PPs can be extended to missing CPs. Concluding remarks are presented in Section 4.

2. Three Types of Missing PPs

This section explores missing PPs and classifies them into three types. Among them, only one type of PPs can be silent forms of proforms. The other two types are not present in syntax and are interpreted only through pragmatic processes like saturation and free pragmatic enrichment (cf. Recanati 1989, 2010).[7]

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7) The notions of saturation and free pragmatic enrichment (otherwise known as completion and expansion) have played a central role in recent development of semantics and pragmatics. Below are a pair of representative examples taken from Depraetere and Salkie (2017:12) to show the difference:

(i) This bridge isn't strong enough. [to support the weight of a train]
(ii) You won't die. [soon/from that cut]

Depraetere & Salkie (2017) indicates that cases like (i) may be an instance of saturation, while (ii) is supposed to be an instance of free pragmatic enrichment: (i) can be analyzed as semantically incomplete without something like the words in brackets as a reply to clarification. By contrast, although (ii) is similar to (i) in sharing semantic incompleteness, unlike (i) it is literally false without the addition of extra information such as the information expressed by the words in brackets.
To sum up, what we should note in recovery of missing adjuncts is that lexical semantics of verbs, context and world knowledge work together in the process of saturation and free pragmatic enrichment. What specific constraint works in each case is beyond the scope of this paper. We leave

Ahn & Cho (2009) shows that some PPs are complements of verbs and can be null. Under the pronoun analysis, missing PPs selected by verbs are silent versions of overt proforms. For instance, (10a) is accounted for in a parallel way with (10b).

(10) a. Chelswu-nun [PP caki   choyko   kilok-ey]   tocenhayssta.
        C.-Top   self   best   record-to   challenged
        Myengswu-to ___ tocenhayssta.
        M.-also   challenged
        Lit. 'Chelswu challenged to self's best record. Myengswu challenged too.'
                                                                            (Yim 2020: 438)
    b. Chelswu-nun [PP caki   choyko   kilok-ey]   tocenhayssta.
        C.-Top   self   best   record-to   challenged
        Myengswu-to kukes-ey tocenhayssta.
        M.-also   it-to   challenged
        Lit. 'Chelswu challenged to self's best record. Myengswu
        challenged it too.'

Tocenhata 'challenge' selects goal PPs, and under the pronoun analysis, the complement in the second sentence of (10a) can be a silent form of *kukes-ey*.[8]

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this issue for future research.

8) Unlike *tocenhata*, *kyengsinhata* 'break' takes an NP complement. When the first clause contains *tocenhata* and the second clause contains *kyengsinhata*, form mismatch occurs between the antecedent and its elided element. The pronoun analysis accounts for the data containing form mismatch in (ia). (ia) is accounted for in a parallel way with (ib). Under the pronoun analysis, the complement in the second sentence of (ia) is a silent form of *kukes-ul*.

(i) a. Chelswu-nun [PP caki   choyko   kilok-ey]   tocenhayssta.   kulentey
        C.-Top   self   best   record-at   challenged   but
        Myengswu-nun   imi ____ kyengsinhayssta.
        M.-Top   already   broke
        Lit. 'Chelswu challenged to self's best record. Myengswu already broke___.'
    b. Chelswu-nun [PP caki   choyko   kilok-ey]   tocenhayssta.   kulentey
        C.-Top   self   best   record-at   challenged   but
        Myengswu-nun   imi   kukes-ul   kyengsinhayssta.
        M.-Top   already   it-Acc   broke
        Lit. 'Chelswu challenged to self's best record. Myengswu already broke it.'

As shown in (ib), when form mismatch of the complements is observed, missing argument in (ia) can be problematic under ellipsis analyses like AE and VVPE, as shown in (ii), since ellipsis requires syntactic identity condition particularly concerning argument structure and abstract Case (see Chung 2013).

Dative PPs can also be missing, as shown in (11-12) (Yim 2020: 440).

(11) a. Chelswu-nun   CeA-lul   caki   pwumonim-eykey
        C.-Top   C.-Acc   self   parent-to
        sokayhayssta.   Yenghi-to   Celin-ul ___sokayhayssta.
        introduced   Y.-also   C.-Acc   introduced
        Lit. 'Chelswu introduced Ce-A to self's parents.
        Yenghi introduced Celin __, too.'
   b. Chelswu-nun   CeA-lul   caki   pwumonim-eykey
        C.-Top   C.-Acc   self   parent-to
        sokayhayssta.   Yenghi-to Celin-ul   kutul-eykey   sokayhayssta.
        introduced   Y.-also   C.-Acc   them-Dat   introduced
        Lit. 'Chelswu introduced Ce-A to self's parents.
        Yenghi introduced Celin __, too.'

(12) a. Chelswu-nun   CeA-lul   chengwatay-ey   chwuchenhayssta.
        C.-Top   C.-Acc   Blue.House-to   recommended
        Yenghi-to Celin-ul _____chwuchenhayssta.
        Y.-also   C.-Acc   recommended
        Lit. 'Chelswu recommended CeA to the Blue House.
        Yenghi recommended Celin __, too.'
   b. Chelswu-nun   CeA-lul   chengwatay-ey   chwuchenhayssta.
        C.-Top   C.-Acc   Blue.House-to   recommended
        Yenghi-to Celin-ul kekiey chwuchenhayssta.
        Y.-also   C.-Acc there   recommended
        Lit. 'Chelswu recommended CeA to the Blue House.
        Yenghi recommended Celin there, too.'

We suggest that the complement in the second sentence of (11a) is a silent form
of *kutul-eykey* in (11b), and the complement in the second sentence of (12a) is a

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(ii) a. Chelswu-nun [PP caki choyko kilok-ey] tocenhayssta.
        *Myengswu-nun imi [PP caki choyko kilok-ey] kyengsinhayssta.
   b. Chelswu-nun [PP caki choyko kilok-ey] tocenhayssta.
       Myengswu-nun imi [PP caki choyko kilok-ul] kyengsinhayssta.

In order to account for the categorial mismatch and case mismatch, ellipsis analyses like AE and
VVPE need additional stipulation or mechanism. However, the pronoun analysis advanced here
simply explains that the relevant case involves a silent form of overt pronouns.

silent form of *kekiey*.

Following Ahn & Cho (2011a,b, 2020b), we suggest that when a locative PP is selected, missing PP is a silent form of *kekiey*. The verb *salta* 'live' takes a locative PP as its complement, as shown in (13). (13b) has the same interpretation with (14b).[9)10)]

(13) a. Chelswu-nun   caki-uy   pwumo-uy   cip-ey   santa.
        C.-Top   self-Gen   parents-Gen house-in live
        'Chelswu lives in his parents' house.'
    b. kulentey   Yenghi-nun _____ salciahnnunta.
       but   Y.-Top   live.not
       'But Yenghi does not live in her parents' house.'

(14) a. Chelswu-nun   caki-uy   pwumo-uy   cip-ey   santa.
        C.-Top   self-Gen   parents-Gen house-in live
        'Chelswu lives in his parents' house.'
    b. kulentey   Yenghi-nun   kukosey   salciahnnunta.
       but   Y.-Top   there   live.not
       'But Yenghi does not live there.'

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9) Yim (2020) argues that the pro analysis should postulate numerous kinds of pros in proportion to the number of postpositions in Korean and that various kinds of pros can be theoretical burden in the pro analysis. However, the existence of various kinds of pros cannot be a problem at all. In Korean, we can assume that there are various kinds of overt pronouns which may have corresponding silent forms.

We also note that in Korean, one of radical pro drop languages, pro is extremely productive. Thus, pro is needed anyways independently of apparent argument ellipsis in Korean. For example, when a teacher or a student comes into the classroom, a student can utter (ia-b) in Korean (cf. Saito 2007: 225).

(i) a. pro o-sy-ess-e.
           come-Hon-Pst-Dec
    b. pro o-ass-e.
           come-Pst-Dec.

Considering Occam's razor, pronoun analysis advanced here is better than AE and VVPE analyses because pronoun analysis can capture interpretations of missing arguments in Korean without postulating separate operations like AE and VVPE. More specifically, on missing arguments, ellipsis analyses postulate two separate mechanisms, pro and ellipsis whereas pronoun analysis postulates only pro. In this regard, pro analysis is conceptually simple.

10) Tomioka (2014: 253-254) shows that plural overt pronouns can have sloppy interpretation. Ahn & Cho (2019, 2020a,b) show that although there is speakers' variation, overt pronoun in Korean can have sloppy reading and that strict interpretation is strongly preferred.

We further note that only some locative PPs can be served as adjuncts. Consider (15).

(15) a. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
       C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
       Tongswu-nun _____ Hamlet-ul ilkciahnassta.
       T.-Top   H.-Acc   read.not
       'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ didn't read Hamlet.'
       (*'Dongswu didn't read Hamlet in his room.')   (cf. Oku 2016)
    b. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
       C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
       Tongswu-nun _____ King Lear-lul   ilkciahnassta.
       T.-Top   King Lear-Acc   read.not
       'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ didn't read King Lear [e].'   (*'Dongswu didn't read King Lear in his room.')

In (15), the PP *caki-uy pang-eyse* 'in his room' is not selected by the verb *ilk-* 'read'. When the adjunct locative PP is missing, the interpretation is not obtained. The second conjunct in (15a) does not mean that 'Dongswu didn't read Hamlet in his own room' (adjunct reading). The second conjunct in (15b), either, does not mean that 'Dongswu didn't read King Lear in his own room' (adjunct reading).

The absence of locative reading in (15a-b) contrasts with the presence of locative reading in (13b). When a locative PP in an adjunct position is not overtly present, the relevant reading disappears. By contrast, even though a locative PP in a complement position is not overtly present, the relevant reading is obtained.
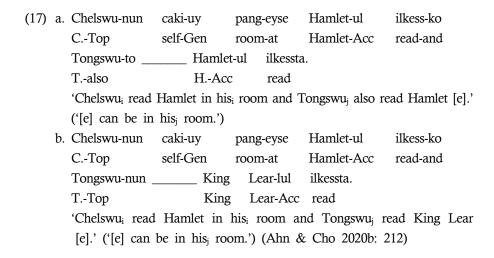
If (15a) and (15b) contain a silent form of locative proform *kukoseyse* 'there', the adjunct reading should be possible, contrary to fact.

(16) a. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilk-ko
       C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
       Tongswu-nun   kukoseyse   Hamlet-ul   ilkciahnassta.
       T.-Top   there   H.-Acc   read.not
       'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ didn't read Hamlet there.'('there can be his$_j$ room.') (cf. Ahn & Cho 2020b: 213)

b. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilk-ko
   C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
   Tongswu-nun   kukoseyse   King Lear-lul   ilkciahnassta.
   T.-Top   there   King Lear-Acc   read.not
   'Chelswu_i read Hamlet in his_i room and Tongswu_j didn't read King
   Lear there.' ('there can be in his_j room.')   (cf. Ahn & Cho 2020b: 212)

Since *kukoseyse* is present, adjunct reading is obtained in both (16a) and (16b). The contrast between (15) and (16) leads us to the conclusion that missing adjuncts cannot be pros.

   Interestingly, however, when the second conjunct doesn't have negation, adjunct reading of missing adjunct seems to be possible, as shown in (17).

(17) a. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
        C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
        Tongswu-to _____ Hamlet-ul   ilkessta.
        T.-also   H.-Acc   read
        'Chelswu_i read Hamlet in his_i room and Tongswu_j also read Hamlet [e].'
        ('[e] can be in his_j room.')
     b. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
        C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
        Tongswu-nun _____ King   Lear-lul   ilkessta.
        T.-Top   King   Lear-Acc   read
        'Chelswu_i read Hamlet in his_i room and Tongswu_j read King Lear
        [e].' ('[e] can be in his_j room.') (Ahn & Cho 2020b: 212)

The second conjunct in (17a) can mean that Tongswu also read Hamlet in his own room, and the second conjunct in (17b) can mean that Tongswu read King Lear in his own room. At this point, the following question arises: what controls presence or absence of interpretations of missing PPs?

   In order to account for interpretations of missing PPs, it seems necessary to consider the relation between linguistic meaning and context. We have to note that the semantic content of the sentence that is uttered generally underdetermines what is said. Hence, what is said depends more on pragmatic processes such as various enrichment and adjustment processes (Clark 2013, Walczak 2016 among others). It is generally assumed that these pragmatic enrichment processes (sometimes known

as "explicature") is a combination of linguistically encoded and contextually inferred conceptual features from implicit materials.

Recanati (2010: 83-85) notes that the location of an event is closely tied to lexical semantics of a verb. Consider the following dialogue.

(18) A: John has arrived.
     B: Where has he arrived?
     A: #I have no idea.   (Recanati 2010: 83)

Since *arrive* includes information about location, B's second statement is infelicitous.

According to Recanati (2010: 83-84), this test determines whether there is an argument slot in the lexical semantics of a verb: if there is one, the slot has to be filled, whether explicitly or contextually. In an arrival event the goal location is the destination of the motion which culminates in that event. When that location is not overtly specified, it must be contextually understood, as shown in (19).

(19) $\exists e$ [ARRIVING (e) $\land$ AGENT (John, e) $\land$ LOCATION (l.e)]
                                                   (Recanati 2010: 83)

Because the location slot is given as part of lexical semantics of *arrive*, the information must be provided. In this case, unspecified location is specified as a result of saturation, which is an obligatory pragmatic enrichment process.

In contrast to *arrive*, an activity predicate *dance* does not express telic event, so the location of the dancing event need not be specified, explicitly or contextually, as the following dialogue shows:

(20) A: John has danced.
     B: Where has he danced?
     A: I have no idea.   (Recanati 2010: 84)

Since *dance* does not carry information about a location, B's second statement is felicitous. The first utterance in (20), which has present tense with prefect aspect, refers to non-specific event. The first utterance in (20A) may be understood in a location-indefinite manner, as shown in (21).

(21) $\exists e$ [DANCING (e) $\land$ AGENT (Mary, e)]   (Recanati 2010: 83)

Note, however, that the first utterance in (20A) contrasts with the second utterance in (22).

(22) A: Was John present at the ball?
　　 B: Yes. He danced all night.　　　　　　　　(Recanati 2010: 85)

In (22B), the predicate occurs with past tense and (22B) refers to a specific event. Hence, a location for the event may also be contextually provided as part of the interpretation of the utterance. (22B) means that John danced all night at the ball. In a case like *dance*, the location of the event may be contextually understood even though this is not imposed by lexical semantics of the verb. The adjunct reading is possible through free pragmatic enrichment.[11] Although there is no locative PP in the sentence 'He danced all night.' in (22B), the speaker is understood to tacitly refer to the ball in this context.

According to Recanati (2010: 92), the free pragmatic enrichment is not mandated by the linguistic material but responds to wholly pragmatic considerations. The tacit reference to a location can be illustrated as in (23). An extra conjunct, LOCATION (*the-ball*, e) is contextually provided.

(23) $\exists e \exists t$ [PAST (t) $\land$ TIME (t.e) $\land$ Dancing (e) $\land$ AGENT (John, e)
　　　 $\land$ ALL-NIGHT (e) $\land$ LOCATION (*the-ball*, e)]

　　　　　　　　　　　　　　　　　　　　(Recanati 2010: 92)

Hence, the utterance 'He danced all night' is understood in a more specific sense like 'He danced all night at the ball'.

The following example of free pragmatic enrichment can be handled similarly

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11) The following explanation made by Recanati (2010) is helpful in order to understand what free pragmatic enrichment process is like.

Free enrichment is a pragmatic process through which the actual interpretation of an utterance is made more specific than the literal meaning of the uttered sentence. Recanati (2010: 94) suggests that verbs like *dance* are temporally and locationally neutral. In the case of *dance,* there is no temporal and locative argument in the lexical entry. Times are introduced into the logical form at the sentence level via the tense of verb. Locations can be optionally introduced into the (bare) logical form at the syntagmatic level by means of locative phrases, or they can be introduced into the (modified) logical form at the pragmatic level, via free enrichment. There's bound to be a location for the event. (Recanati 2010: 84)

With the help of the preceding utterance (22A), the location of the dancing event in (22B) is understood if not explicitly specified in (22B).

through the addition of an extra conjunct about location. The interpretations of bracketed implicit materials in (24) are conveyed through free pragmatic enrichment (Blackmore 1987).

(24) a. He ran to the edge of the cliff and jumped. [from the cliff]
　　 b. John went on vacation in Austria and skied. [in Austria]

As pointed out by Carston (1988: 165), in most contexts of utterance, (24a) will be interpreted as follows: He ran to the edge of the cliff and jumped from the cliff. In (24a), the verb *jump* does not subcategorize the PP *from the cliff*. One can naturally interpret the second conjunct as expressing the proposition that he jumped from the cliff. The location of the event of jumping is contextually assumed to be the same as the location mentioned in the first conjunct. In (24b), the verb *ski* does not subcategorize the PP *in Austria*. However, one naturally understands that skiing took place in Austria although the linguistic content of the utterance does not contain the locative phrase.

As suggested by Recanati (2010), free pragmatic enrichment, namely, contextual provision of an extra locative conjunct is optional. It is perfectly okay to interpret a sentence like 'He jumped' as saying that he jumped from some place, without the place in question being contextually specified or specifiable. Likewise, in (24b), the event of skiing is understood as having taken place in Austria since John's vacation to Austria has just been mentioned.

Similar phenomena are found in Korean, as shown in (25).

(25) a. Chelswu-ka celpyek-ulo　　　　 tallyekassta kuliko ttwienaylyessta.
　　　 C.-Nom　 edge.of.the.cliff-to　ran　　　　 and　 jumped
　　　 'Chelswu ran to the edge of the cliff and jumped.'
　　 b. Chelswu-ka Austria-lo　hyuka-lul　　 kassta kuliko ski-lul　thassta.
　　　 C.-Nom　　 Austria-to vacation-Acc went　 and　 ski-Acc skied
　　　 'Chelswu went on vacation in Austria and skied.

Through free pragmatic enrichment processes, the locative interpretations in the second conjuncts in (25) are conveyed; that is, (25a) can mean that Chelswu jumped from the cliff and (25b) can mean that Chelswu skied in Austria.[12] Even

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12) As pointed out by a reviewer, (iB) does not mean that Minswu was kicking 'at the school'.

when the second conjunct contains negation, the location reading is possible, as shown in (26).[13]

(26) a. Chelswu-ka   celpyek-ulo   tallyekassta   kulena
   C.-Nom   edge.of.the.cliff-to   ran   but
   ttwienaylicianhassta.
   jumped.not
   'Chelswu ran to the edge of the cliff and didn't jump.'

  b. Chelswu-ka   Austria-lo   hyuka-lul   kassta   kulena   ski-lul
   C.-Nom   Austria-to   vacation-Acc   went   but   ski-Acc
   thacianhassta.
   skied.not

(i) A: Cheli-ka   hakkyo-eyse   wutungsayng-i-ta.
   C.-Top   school-at   honor.student-Cop-Dec
   'Cheli is a honor student at the school.'
  B: Minswu-ka   kong-ul   chakoissta.
   M.-Nom   ball-Acc   was.kicking
   'Minswu was kicking a ball.'

We suggest that the addition of location via free enrichment does not arise in (iB). Given that the event of (iA) has nothing to do with the event of (iB), the location of the event of kicking a ball is not contextually assumed to be the same as the location mentioned in A's utterance. Hence, the addition of location of 'at the school' does not occur in Minswu's kicking event.

A reviewer raises the possibility that ellipsis analysis which assumes parallelism requirement like (ii) accounts for the impossibility of missing adjunct interpretation as shown in (iB).

(ii) Parallelism (Collins 2015: 8)
  Adjunct deletion is only possible in the following structure:
  $[_{XP1}\cdots..A\cdots.$ Adjunct $\cdots..]$ and/than $[_{XP2}\cdots..B\cdots.<Adjunct> \cdots..]$
  where B is focused and XP1 is a member of F(XP2), the focus value of XP2.

However, the ellipsis analysis cannot account for the contrast between (iiia) and (iiib).

(iii) a. Cheli-ka   ppalli   ttwiessta   kuliko   Yenghi-to   ttwiessta.
   C.-Nom   fast   ran   and   Y.-also   ran
  b. Cheli-ka   hakyo-eyse   ttwiessta   kuliko   Yenghi-to   ttwiessta.
   C.-Nom   school-at   ran   and   Y.-also   ran.

The second conjunct in (iiib) can mean 'Yengi also ran at school'. However, the second conjunct in (iiia) does not mean 'Yenghi also ran fast'. It only means 'Yenghi also ran'. Since the parallelism requirement is satisfied in (iii), the adjunct ellipsis should be possible. As a result, adjunct reading is predicted to be obtained in the second conjunct of (iiia), too, contrary to fact. Careful investigations related to the parallelism requirement are solicited for future research.

13) One might raise the following question: why is the interpretation of missing locative PP possible in (26) although the second sentence contains negation? In (26) both the conjuncts have the same subject, so the event is shared. As a result, they occupy the same space and time. Thus, locative interpretations are possible in the second conjuncts in (26).

'Chelswu went on vacation in Austria and didn't ski.'

(26a) can mean that Chelswu didn't jump from the cliff and (26b) can mean that Chelswu didn't ski in Austria. The presence of adjunct reading in (26) sharply contrasts with the absence of adjunct reading in (15), repeated here as (27).[14]

(27) a. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
      C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
      Tongswu-nun _____ Hamlet-ul ilkciahnassta.
      T.-Top   H.-Acc   read.not
      'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ didn't read
      Hamlet.'
      (*'Tongswu$_j$ didn't read Hamlet in his$_j$ room.') (cf. Oku 2016)

    b. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilkess-ko
      C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
      Tongswu-nun _____ King Lear-lul   ilkciahnassta.
      T.-Top   King Lear-Acc read.not
      'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ didn't read King
      Lear.' (*'Tongswu$_j$ didn't read King Lear in his$_j$ room.')

The difference seems to lie in subjects. The subjects in (26) are shared in both the conjuncts while in (27), the subjects in the first conjuncts are different from those of the second conjuncts. Hence, we can think that the predicates in both the

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14) A reviewer points out the possibility that when the second sentence contains negation, in some cases, the adjunct recovery seems to be allowed, as shown in (iB).

   (i) A: Cheli-nun   caki   hakkyo   tosekwan-eyse   kongpwuhacianhassta.
         C.-Top   self   school   library-at   study.not
         'Cheli didn't study at his school library.'
     B: (myengpaykhi) Yengi-to   kongpwuhacianhassta.
        Obviously   Y.-also   study.not
        'Obviously Yenghi didn't study, either. '

The reviewer claims that (iB) seems to be understood like 'Yenghi didn't study at her school library'. If the missing location in (iB) were added, it ought to allow (though not force) the inclusion of the adjunct *caki hakkyo tosekwan-eyse* 'at her school library' (*at his school library* present in the antecedent clause). This should give rise to the reading 'Yenghi didn't study at her library', which in turn allows the interpretation 'Yenghi studied but not at her school library'. In the case of denying the studying event, 'Yenghi didn't study at her school library' could be true because Yenghi didn't study at all. In this case, apparent missing adjunct interpretation seems to some speakers to be possible.

conjuncts in (26) refer to one event. Therefore, the location in the first conjuncts naturally applies to the second conjuncts. By contrast, since the subjects differ in both the conjuncts of (27), we can think that the event in the first conjunct is different from that of the second conjunct. Hence, to obtain locative reading in the second conjunct, free pragmatic enrichment should occur. However, it seems that in the scope of negation, a location slot is not inserted through free pragmatic enrichment. As a result, locative reading is not possible in (27).

However, without negation, location slot can be provided through free pragmatic enrichment and the value is contextually provided, as shown in (17), repeated here as (28).[15]

(28) a. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilk-ko
        C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
        Tongswu-to _____ Hamlet-ul   ilkessta.
        T.-also   H.-Acc   read
        'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ also read
        Hamlet [e].' ([e] can be in his$_j$ room.')
    b. Chelswu-nun   caki-uy   pang-eyse   Hamlet-ul   ilk-ko
        C.-Top   self-Gen   room-at   Hamlet-Acc   read-and
        Tongswu-nun _____ King Lear-lul   ilkessta.
        T.-Top   King Lear-Acc read
        'Chelswu$_i$ read Hamlet in his$_i$ room and Tongswu$_j$ read King Lear [e].'
        ([e] can be in his$_j$ room')

_____

15) As pointed out by a reviewer, (28) reminds us of the following example discussed by Collins (2015:1), as shown in (i).

  (i) John wants to dance at the prom and Bill wants to sing (Collins 2015: 1).

  (i) has two interpretations (iia) and (iib).

  (ii) a. John wants to dance at the prom and Bill wants to sing. (not specifically at the prom)
        b. John wants to dance at the prom and Bill wants to sing at the prom.

  Collins (2015: 1) suggests that the two interpretations of (ii) can be distinguished by context. Collins (2015) mentions two possibilities to resolve the ambiguity of (i). One is to suggest that the adjunct is actually present in the syntax and the other is to suggest that the adjunct is absent from the syntax and deduced by some kind of semantic or pragmatic inference. Collins (2015) simply presents a syntactic deletion account, and leaves it to future work to attempt a comparison to semantic and pragmatic account.

In other words, (28ab) can give rise to the sloppy-like interpretations that Tongswu read Hamlet/King Lear in his own room. We suggest that the locative (sloppy-like) reading in the second conjuncts of (28) results from free pragmatic enrichment.

To sum up, when a locative PP is absent, the relevant reading is possible in three ways. If the locative PP is a complement of a verb, the missing locative reading is possible due to a silent proform. If the locative PP is required by lexical semantics of a verb like *arrive*, an empty location slot of the event is given and the value is obligatorily assigned with the help of its context. As a result, the missing locative reading is conveyed. If the locative PP is not required by lexical semantics of a verb like *dance*, a location slot of the event is optionally inserted and the value is assigned with the help of its context. In the third case, insertion of a location slot is restricted: for instance, in the scope of negation, insertion of location slot does not occur; accordingly, locative reading is absent.

Missing temporal adverbials pattern with missing locative adverbials concerning the availability of the relevant reading.

(29) a. Chelswu-ka caknyen-ey Austria-lo hyuka-lul   kassta kuliko
        C.-Nom   last.year-in Austria-to vacation-Acc went   and
        ski-lul   thassta.
        ski-Acc   skied
        'Chelswu went on vacation in Austria last year and skied.'
    b. Chelswu-ka caknyen-ey   Austria-lo hyuka-lul   kassta kulena
        C.-Nom   last.year-in Austria-to vacation-Acc went   but
        ski-lul   thacianhassta.
        ski-Acc   skied.not
        'Chelswu went on vacation in Austria last year and didn't ski.'

(29a, b) yield the interpretations that Chelswu skied/didn't ski last year. The presence of temporal reading seems to be due to the fact that the subjects in (29) are shared in both the conjuncts, and the predicates in both the conjuncts refer to the same event and the time in the first conjuncts naturally applies to second conjuncts.

Note further that temporal reading of missing adjunct is possible in the positive sentences like (30), but it is impossible in the negative sentences like (31).

(30) a. Chelswu-nun   caknyen-ey   Hamlet-ul   ilkess-ko
       C.-Top   last.year-in   Hamlet-Acc   read-and
       Tongswu-to _____ Hamlet-ul   ilkessta.
       T.-Also   H.-Acc   read
       'Chelswu read Hamlet last year and Tongswu also read Hamlet.'
       ('Tongswu read Hamlet last year.')

    b. Chelswu-nun   caknyen-ey   Hamlet-ul   ilkess-ko
       C.-Top   last.year-in   Hamlet-Acc   read-and
       Tongswu-to _____ King Lear-lul ilkessta.
       T.-Also   King Lear-Acc read
       'Chelswu read Hamlet last year and Tongswu read King Lear.'
       ('Tongswu read Hamlet last year.')

(31) a. Chelswu-nun caknyen-ey Hamlet-ul   ilkess-ko
       C.-Top   last.year-in Hamlet-Acc   read-and
       Tongswu-nun _____ Hamlet-ul   ilkciahnassta.
       T.-Top   H.-Acc   read.not
       'Chelswu read Hamlet last year and Tongswu didn't read Hamlet.'
       (*'Tongswu didn't read Hamlet last year.')

    b. Chelswu-nun   caknyen-ey Hamlet-ul   ilkess-ko
       C.-Top   last.year-in Hamlet-Acc   read-and
       Tongswu-nun _____ King Lear-lul   ilkciahnassta.
       T.-Top   King Lear-Acc read.not
       'Chelswu read Hamlet last year and Tongswu didn't read King Lear.' (*'Tongswu didn't read Hamlet last year.')

We can account for the contrast in (30) and (31) in a way similar to missing locative PPs; I.e., free pragmatic enrichment is not possible within the scope of negation, so missing temporal reading cannot be obtained in (31) unlike (30).

   Note also that missing adjunct reading is always impossible in the case of manner and reason adverbials, as shown in (32) and (33).[16]

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16) A reviewer points out the examples in (i-ii).

  (i) A: Cheli-ka   kal-lo   ccilliessta.
         C.-Nom   knife-from got.a.cut
         'Cheli got a cut from a knife.'
     B: Minswu-ka   kwail-ul   kkakassta.
         M.-Nom   fruit   peeled.

(32) a. Chelswu-ka   caki   koyangi-chelem   ttwiessta   kuliko   Yenghi-to
      C.-Nom   his   cat-like   ran   and   Y.-also
      twiessta.
      ran
      'Chelswu ran like his cat and Yenghi ran.'
      (≠Yenghi also ran like her cat.)

   b. Chelswu-ka   caki   koyangi-chelem   ttwiessta   kulena   Yenghi-nun
      C.-Nom   his   cat-like   ran   but   Y.-Top
      twicianhassta.
      ran.not
      'Chelswu ran like his cat and Yenghi didn't run.'
      (≠Yenghi didn't run like her cat.)

(33) a. Chelswu-ka   caki   chinkwu-ttaymwuney   wulessta   kuliko
      C.-Nom   his   friend-for   cried   and
      Yenghi-to   wulessta.
      Y.-also   cried
      'Chelswu cried because of his friend and Yenghi cried.'
      (≠Yenghi cried because of her friend.)

   b. Chelswu-ka   caki   chinkwu-ttaymwuney   wulessta   kulena
      C.-Nom   his   friend-for   cried   but
      Yenghi-nun   wulcianhassta.
      Y.-Top   cried.not
      'Chelswu cried because of his friend and Yenghi didn't cry.'
      (≠Yenghi didn't cry because of her friend.)

'Minswu peeled fruit.'

(ii) A: Cheli-ka   Seoul-lo   kankes-un   catongca-lo-i-ta.
      C.-Nom   S.-to   go-Top   car-by-Cop-Dec
      'It was by car that Cheli went to Seoul.'
   B: Minswu-ka   wassta.
      M.-Nom   came
      'Minswu came.'

(iB) does not mean that Minswu peeled fruit 'with a knife', and (iiB) does not mean that Minswu came 'by car'. The missing adjunct reading is not possible because addition of instrument through free pragmatic enrichment does not arise in (iB) and (iiB) due to non-parallel or incoherent contexts given in the antecedent sentences.

In (32), the second conjuncts do not yield manner reading; and in (33), the second conjuncts do not involve reason reading. The absence of manner and reason reading appears to be tied to properties of event arguments.

Given that free pragmatic enrichment is a process of addition of an extra conjunct about events, only location and temporal slot are added. In other words, reason slot and manner slot are not inserted through free pragmatic enrichment. Hence, in order for the manner and reason reading to be conveyed, the relevant linguistic expressions must be overtly present in the utterances.

Further, a negative event may not denote an event since a negative sentence is interpreted as stating the non-existence of any event of some kind. In this respect, negative events may contrast with positive sentences which assert the existence of some events. Thus, it might be naturally assumed that the free pragmatic enrichment (or explicatures) cannot be survived by negative events, as seen above.[17] Thus, the correlations of absence of the free pragmatic enrichment with negative events lend another support to our claim that missing adjunct interpretation does not hinge upon syntactic ellipsis but remains as a pragmatic residue.[18]

3. More on the Interpretation of Missing CPs

We note that missing CP examples are classified into two types. In the first type, the predicate selects missing arguments. We have claimed that a missing argument is a silent version of an overt proform. In the second type, the predicate does not

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[17] According to Bernard (2018), under the standard analysis of negation in event semantics, a negative sentence is interpreted as stating the non-existence of any event of some kind in contrast with positive sentences which assert the existence of some events. According to Asher (1993, 2000), a negative NP such as the nonarrival of the train does not denote an event, as it is not compatible with perfect nominal containers (Vendler 1967) as shown in (i).

(i) *The nonarrival of the train occurred at 10 A.M. (lasted many hours; took place at the station in Victoria)   (Bernard 2018: 13)

The ill-formedness of (i) is explained by first distinguishing between actual and non-actual events and then introducing a Neg function sending any event-predicate P to the not-P event and obeying a single axiom. In this line of reasoning, we suggest that in the negative sentence, addition of time and location slot do not occur by free pragmatic enrichment.

[18] As an alternative of free pragmatic enrichment, we might consider the possibility that the manner PP in (32a) and the reason PP in (33a) involve pro. As pointed out by a reviewer, this possibility doesn't become real. If we consider Huang's (1982) analysis of 'when' and 'where' in English, which can be taken as a quasi-argument, only 'then' and 'there' can have silent forms.

select any complements, and we have suggested that missing CP readings result from free pragmatic enrichment processes.

3.1 Complements

Yim (2020) notes that *mwutta* 'ask' and *malhata* 'say' differ in the subcategorial features that they select for. The former takes only $CP_{[+Q]}$ and the latter takes only $CP_{[-Q]}$.

(34) a. CeA-ka   caki   appa-ka   cip-ey   osyess-nunci
        C.-Nom   self   dad-Nom   house-at   came-whether
        mwulessta. Celin-to ___ mwulessta.
        asked   C.-also   asked
        Lit. 'Ce-A asked if self's dad came home. Celin asked__, too.'

    b. CeA-ka   caki   appa-ka   cip-ey   osyessta-ko
        C.-Nom   self   dad-Nom   house-at   came-that
        malhayssta. Celin-to ____ malhayssta
        said   C.-also   said
        Lit. 'CeA said that self's dad came home. Celin asked __, too.'
        (Yim 2020: 439)

Yim (2020) raises the following problem: For the pro analysis to account for this fact, two kinds of pro distinct with respect to the subcategorial feature [Q] should be posited: $pro_{CP[+Q]}$ and $pro_{CP[-Q]}$. Yim (2020) claims that this can be a weak point of pro analyses.

However, unlike Yim's (2020) claim, under the pronoun analysis, the second sentences in (34) both have a silent form of *kukes-ul*. (34a-b) can be analyzed in parallel with (35a, 35b).

(35) a. CeA-ka   caki   appa-ka   cip-ey   osyess-nunci
        C.-Nom   self   dad-Nom   house-at   came-whether
        mwulessta. Celin-to   kukes-ul   mwulessta.
        asked   Celin-also it-Acc   asked
        Lit. 'Ce-A asked if self's dad came home. Celin asked__, too.'

    b. CeA-ka   caki   appa-ka   cip-ey   osyessta-ko
        C.-Nom   self   dad-Nom   house-at came-that

malhayssta.　　Celin-to　　kukes-ul　　malhayssta
said　　　　　Celin-also　it-Acc　　said
Lit. 'Ce-A said that self's dad came home. Celin asked __, too.'

Hence, pronoun analysis doesn't need to postulate two kinds of pros here.

In the same line of reasoning, we can account for the complementizer mismatch in (36) (cf. Lee 2014: 13-14).

(36) A: Na-nun　[Cheli-ka　Swumi-lul　salanghanta-ko]　sayngkakhay.
　　　　I-Top　　C.-Nom　S.-Acc　　love-C$_{[-Q]}$　　　　think
　　　　'I think that Cheli loves Swumi.'
　　B: Nay-ka　　Yenghi-eykey _____ mwulepoasse.
　　　　I-Nom　　Y.-Dat　　　　　　　asked
　　　　'I asked Yenghi if Cheli loves Swumi.'
　　　　(e = if Cheli loves Swumi)
　　C: Nay-ka　Yenghi-eykey　kukes-ul　mwulepoasse.
　　　　I-Nom　Y.-Dat　　　　it-Acc　　asked
　　　　'I asked Yenghi if Cheli loves Swumi.'
　　D: #Nay-ka　　Yenghi-eykey　[Cheli-ka　Swumi-lul　salanghanta-ko]
　　　　I-Nom　　Y.-Dat　　　　[C.-Nom　S.-Acc　　love-C$_{[-Q]}$]
　　　　mwulepoasse.
　　　　asked　　　　　　　　　　　　　　　(Ahn & Cho 2019: 97)

The bracketed antecedent clause in (36A) is declarative but the implicit complement in (36B) is interrogative. As shown in (36D) the implicit complement in (36B) cannot be derived through the deletion of [*Cheli-ka Swumi-lul salanghanta-ko*]. Hence, under AE, an additional assumption or more complex mechanism is needed to account for the mismatch between the antecedent (37A) and its elided argument (37B).

(37) A: Na-nun Yenghi-eykey [Cheli-ka Swumi-lul salanghanta-ko]
　　　　 sayngkakhay.
　　B: Nay-ka　Yenghi-eykey [~~Cheli-ka Swumi-lul salangha-nunci~~]
　　　　mwulepoasse.

By contrast, the mismatch is not problematic under pronoun analysis since the missing argument in (36B) can be a silent form of *kukes-ul* (NB: (36B) and (36C) are interpreted in a parallel way).

3.2 Adjuncts

Yim (2020: 438) indicates that the verb *taykkwuhata* 'reply, talk back' takes a CP complement but not a (theme) NP as shown in (37).

(37) a. Chelswu-nun (wuli-eykey) [CP caki-ka   ta alase ha-kessta-ko]
         C.-Top   we-Dat   self-Nom all know do-will-C
         taykkwuhayssta.
         replied
         'Chelswu replied (to us) that he would do it all on his own.'
    b. *Chelswu-nun (wuli-eykey) [NP cinsil-ul]   taykkwuhayssta.
         C.-Top   we-to   truth-Acc replied
         Lit. 'Chelswu replied (to us) for the truth.'

Based on the ill-formedness of (37b), Yim (2020) stressed that the missing argument in (38a) cannot be an NP but a CP.

(38) a. Chelswu-ka [CP caki-nun   molunta-ko]   taykkwuhayssta.
          C.-Nom   self-Top   not.know-C   replied
          Myengswu-to   taykkwuhayssta.
          M.-also   replied
          Lit. 'Chelswu replied that self did not know. Myengswu replied too.'
     b. Myengswu-to [CP caki-nun   molunta-ko]   taykkwuhayssta.
          M.-Nom   self-Top   not.know-C   replied
          Myengswu-to *kukes-ul   taykkwuhayssta.
          M.-also   it-Acc   replied
          Lit. 'Chelswu replied that self did not know. *Myengswu replied
          it, too.'   (Yim 2020: 436)

Yim (2020: 437) further points out that Ahn & Cho's (2009) pro analysis should assume Pro_CP. Otherwise, the pro analysis can't account for the well-formdeness of (38a).

We, however, suggest that (38a) does not contain missing arguments. According to Standard Korean Dictionary made by the National Institute of the Korean Language, *taykkwuhata* can be used as an intransitive verb, as shown in (39).[19]

(39) a. Ku-nun   naynglaynghi   taykkwuhassta.
     He-Top   coldly   replied.
     'He replied coldly.'

  b. Ku   cemwen-un   kwichanhuntusi   taykkwuhassta.
     the   clerk-Top   with.an.annoyed.look   replied
     'The clerk replied with an annoyed look.'

  c. elun   malssum-ey   ilili   taykkuhaysen   mosssunta.
     adult   talk-at   in.everything   talk.back   don't
     'Don't talk back in everything when an adult is talking to you.'

On this view, *taykkwuhata* in (38a) is an intransitive predicate. Then, the CP in (38a) is not a complement of the verb. We note that the CP in (38a) is served as an adjunct. Nevertheless, the follow-up sentence in (38a) can be interpreted as involving missing CP through free pragmatic enrichment process. Thus, (38a) cannot be understood as a substantial case of argument (CP) ellipsis.

As pointed by Carston (1988), Walczak (2016) and many others, cancellability is a property of any and all aspects of utterance meaning which are derived pragmatically. Since free pragmatic enrichment process (also known as "explicature") is linguistic/pragmatic hybrid, some content of this pragmatic process is cancellable. This is found with (40).

(40) Chelswu-ka [CP caki-nun   molunta-ko]   taykkwuhayssta.
     C.-Nom   self-Top   not.know-C   replied
     Myengswu-to   taykkwuhayssta,   caki-nun   alkoissesstako.
     M.-also   replied   self-Top   knew
     Lit. 'Chelswu replied that self did not know. Myengswu$_i$ replied too. (He said that) he$_i$ knew (it).'

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19) A reviewer suggests that *taykkwuhata* 'reply' takes a manner adverb phrase as its complement and to his ears, (38a) sounds ill-formed. However, according to Standard Korean Dictionary made by the National Institute of the Korean Language, *taykkwuhata* can occur without an ADVP, as shown in (i).

(i) pwuin-un   taykkwuhaci   anhko   ccalpun   phyencok   kelumulo
    wife-Nom   reply   not.and   short   one.leg   stride
    cokumssik   twittwungtwittwung   keleka   pelyessta.
    little.by.little staggeringly   walked   away
    'His wife staggeringly walked away with one leg with a short stride.'

If (38a) is derived through CP deletion of *caki-nun moluntako*, the contrast between (40) and the following (41) cannot be explained under ellipsis analyses like AE and VVPE.

(41) Chelswu-ka [CP caki-nun molunta-ko] taykkwuhayssta.
     C.-Nom   self-Top   not.know-C   replied
     *Myengswu-to   caki-nun   molunta-ko   taykkwuhayssta,
     M.-also   self-Top   not.know-C   replied
     caki-nun   alkoissesstako.
     self-Top   knew
     Lit. 'Chelswu replied that self did not know. Myengswu$_i$ replied that he$_i$ didn't know it too. (He said that) he$_i$ knew (it).'

In other words, the apparent missing CP interpretation in (38a) does not directly support a syntactic ellipsis analysis, but may display another instance of free pragmatic enrichment process and the like.

Like interpretations of missing adjunct PPs, when the clause contains negation, adjunct CP interpretation is absent as shown in (42).

(42) Chelswu-ka [CP caki-nun molunta-ko] taykkwuhayssta.
     C.-Nom   self-Top   not.know-C   replied
     kulena   Myengswu-nun   taykkwuhacianhassta.
     but   M.-Top   replied.not
     Lit. 'Chelswu replied that self did not know. But Myengswu didn't reply.'

In (42), the second sentence just means that Myengswu didn't reply.

On a par with the sentence involving *taykkwuhata*, we can also account for the missing CP reading in the second sentence of (43).

(43) Chelswu-ka [CP caki-nun molunta-ko] palppaymhayssta.
     C.-Nom   self-Top   not.know-C   made.an.excuse
     Myengswu-to   palppaymhayssta.
     M.-too   made.an.excuse
     'Chelswu$_i$ made an excuse that he$_i$ did not know. Myengswu made an excuse, too.'

According to Standard Korean Dictionary made by the National Institute of the Korean Language, the verb *palppaymhata* belongs to an intransitive verb class which patterns alike *taykkwuhata*. A typical intransitive usage is illustrated in (44).

(44) Kutul-un   selo   nam eykey   chaykim-ul   milwumyense
     They-Top   each   other-to   responsibility-Acc   shift
     palppaymhanunteyeyman   kupkuphayssta.
     made.an.excuse   be.busy
     'They were busy trying to make an excuse shifting responsibilities to others.'

On this view, *palppaymhata* in (43) is an intransitive predicate, and through free pragmatic enrichment process, (43) can have the interpretation that Myengswu made an excuse that he did not know it.

Again, missing CP interpretation disappears within the scope of negation as shown in (45), which indirectly supports the pragmatic nature of this interpretation.

(45) Chelswu-ka [CP caki-nun   molunta-ko]   palppaymhayssta.
     C.-Nom   self-Top   not.know-C   made.an.excuse
     kulena   Myengswu-nun   palppaymhaci   anhassta.
     but   M.-Top   made.an.excuse   didn't
     'Chelswu$_i$ made an excuse that he$_i$ did not know. But Myengswu didn't make an excuse.'

We also suggest that the second sentence in (46-47) does not have missing CPs, and the apparent missing CP reading, if possible, in the second sentence may be a combination of linguistic meaning and free pragmatic enrichment.

(46) Chelswu-ka [CP caki-nun   molunta-ko]   hwa-lul   nayssta.
     C.-Nom   self-Top   not.know-C   anger-Acc   got
     Myengswu-to   hwa-lul   nayssta.
     M.-too   anger-Acc   got
     'Chelswu got angry (saying) that he did not know. Myengswu got angry, too.'

(47) Chelswu-ka [CP caki-nun molunta-ko] nwunmwul-ul hullyessta.
C.-Nom self-Top not.know-C tear-Acc shed
Myengswu-to nwunmwul-ul hullyessta.
M.-too tear-Acc shed
'Chelswu shed tears (saying) that he did not know. Myengswu shed tears, too.'

The second sentence in (46) may mean that Myengswu got angry saying that he didn't know it. Since the free pragmatic enrichment is an optional process, the missing interpretation of CP is also optional. Without the operation, the second conjunct in (46) can mean that Myengswu got angry without saying anything about the issue. A similar explanation is possible for the second conjunct in (47). The second sentence in (47) conveys a complete proposition without CP as 'Myengswu also shed tears'. As a result of optional application of free pragmatic enrichment, the second sentences in (47) may yield the reading that Myengswu also shed tears saying that he didn't know it.

4. Conclusion

We have shown that interpretations of missing arguments can be freely recovered regardless of their environments while those of missing adjuncts can be recovered in very restricted environments. With respect to the difference, we have attempted to defend the premise that missing arguments are syntactically present as silent proforms. Hence, their interpretations are relatively less influenced by pragmatic processes. We have further indicated that missing adjuncts are classified into two types. Adjunct reading of one type is obtained through mandatory pragmatic enrichment processes like saturation and that of the other type is obtained through optional free pragmatic enrichment. Accordingly, interpretations of missing adjuncts are more influenced by contexts. We have also shown that the analysis advanced here can give a solid explanation to the data pointed out by Yim (2020).

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