

Argument ellipsis vs. V-stranding VP ellipsis in Korean: Evidence from disjunction*

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Lee, Wooseung. 2016. **Argument ellipsis vs. V-stranding VP ellipsis in Korean: Evidence from disjunction.** *Linguistic Research* 33(1), 1-20. This paper revisits null arguments in Korean (and Japanese) by observing an interesting set of data involving disjunction. Recently, Sakamoto (2013) proposed a new diagnosis for ellipsis, which is a disjunctive reading obtained from the gap of disjointed NPs. With this newly proposed diagnosis for ellipsis, it is confirmed that ellipsis IS required in *pro*-drop languages such as Korean and Japanese (J/K). In addition, although a current line of analyses of null arguments in Korean are argument ellipsis (AE) vs. *pro*, it turns out that some data still constitute strong evidence for verb-stranding VP ellipsis (VVPE) (cf. Gribanova 2013). This observation is significant since Korean has been classified as one of the languages without the VVPE strategy in an extensive cross-linguistic study by Goldberg (2005). On close scrutiny of a novel set of relevant data, this paper newly proposes that Korean has both AE and VVPE. (Konkuk University)

Keywords argument ellipsis, *pro*, V-stranding VP ellipsis, disjunction, negation scope, LF reconstruction

1. Introduction

Extensive interesting research has been carried out investigating the nature of null arguments, and a number of hypotheses have been postulated for the exposition of the occurrence of empty arguments in East Asian languages such as Korean (See Lee (2014) and references therein), Japanese (Hoji 1998; Otani and Whitman 1991; Oku 1998; Saito 2007; Takahashi 2008a, b; Sakamoto 2013; among others) and Chinese (Huang 1987, 1991; Li 2007; Aoun and Li 2008; Cheng 2013; among others) literature.¹ Representative are the following three hypotheses; null

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pronominals (*pro*), argument ellipsis (AE), and Verb-Stranding VP ellipsis (VVPE).² Despite a lot of competing analyses and interesting proposals with a variety of empirical evidence, no consensus has been reached yet, and recently, Sakamoto (2013) presented novel empirical evidence, so called "disjunction", as a *definitive* diagnosis for ellipsis. Given the novelty of his empirical test and relative recency of the proposal, this paper reviews Sakamoto (2013) and then examines if his new test corroborates the claim that ellipsis operation is at work in Korean. With AE set up as a working hypothesis, an alternative line of ellipsis approach, VVPE, is also examined with an interesting set of data, which mainly consists of disjunction and multiple constituents (Gribanova 2013).

This paper is structured as follows. Section 2 briefly reviews Sakamoto (2013). Section 3 explores two types of ellipsis accounts, AE and VVPE, that bear on Korean examples involving disjunction. We examine if AE is indeed available in Korean by resorting to Sakamoto's disjunction test as a method of diagnosing ellipsis. Another type of ellipsis account, VVPE, is then investigated with additional set of data with the aim of seeing if it can be a tenable alternative. Section 4 concludes.

2. Disjunctive reading as a diagnosis for ellipsis: Sakamoto (2013)

As is the case in Korean, Japanese null arguments have been analyzed to arise from three different sources: *pro* (Kuroda 1965; Hoji 1998; among others), VVPE (Otani and Whitman 1991) and AE (Takahashi 2008a, b; among others). A current line of proposal is that AE is required even in *pro*-drop languages such as Korean and Japanese, and sloppy and quantificational readings have been accepted as a clear sign of AE in a variety of languages in many linguistic literatures (Refer to footnote 1).³

¹ Refer to Simpson, Choudhury and Menon (2013) for covert nominals of three major South Asian languages such as Bangla, Hindi and Malayalam, and Takahashi (2008a, b), and Şener and Takahashi (2009) for the comparative study of null arguments in Japanese, Spanish and Turkish. Also, see Sato (2015) for (a subject-object asymmetry of) null arguments in Javanese, a Western Malayo-Polynesian language spoken in Indonesia.

² Lee (2014) and Park and Bae (2012) argue that both *pro* and argument ellipsis hypotheses are operative in Korean, presenting a hybrid analysis. Refer to Lee (2014) for representative works for each analysis in Korean.

³ As made explicit by Cheng (2013), AE refers to argument ellipsis or deletion *operation*, not the

With this backdrop, this section summarizes Sakamoto (2013), which presents "disjunction" as a new cross-linguistic diagnosis for ellipsis. Even though sloppy and quantificational readings (Q-readings) have been used as an indication of AE, they are not definitive in that even overt elements can generate these readings in some cases. Significantly, according to Runić (2014), object clitics in NP languages (Bošković 2008) can yield both sloppy and Q-readings under an appropriate context.⁴ For instance, object clitics in Serbo-Croatian allow sloppy readings and Q-readings as shown in (1). Given that object clitics are overt pronominal elements, sloppy and Q-readings obtained in (1) undermine the supposition that those readings are signs of AE.

- (1) a. Nicola je pozvao (svoju) djevojku na slavu
 Nicola Aux invited his girlfriend on slava
 a pozvao ju je i Danilo.
 and invited her.CL Aux and Danilo
 'Nicola invited his girlfriend to the slava, and Danilo invited her too.'
✓strict/✓sloppy Runić (2014: 121)
- b. Nicola gotivi cetiri nastavnika
 Nicola likes four teachers
 a gotivi ih i Danilo.
 and likes them.CL and Danilo
 'Nicola likes four teachers, and Danilo likes them too.'
✓E-reading/✓Q-reading <SC> Runić (2014: 114)

Specifically, as exemplified above, (1a) allows sloppy readings and (1b) Q readings without ellipsis. This shows that those readings are not necessarily dependent on AE. Given her observation that object clitics yield these readings only in articleless languages, Japanese (and other articleless languages including Korean) need to be re-examined in the relevant respects.⁵ Significantly, Sakamoto (2013), based on a

ellipsis phenomenon itself.

⁴ NP languages are so called since no articles exist in those languages.

⁵ Bae (2012) and Park (2015) among others also argue that Korean belongs to articleless languages. In particular, Park (2014b) made it clear that a *pro* substitutes for NPs, not DPs, given a different system of 'articles' or 'determiners' between English and articleless languages such as J/K. Specifically, quantifiers such as *taypwupwunuy* 'most' and *motun* 'all' in Korean are proposed to be

reading obtained through disjunction, argues that disjunctive reading is a more reliable signal for argument ellipsis in Japanese. His argument is based on the interesting observation that English pronouns anaphoric on disjunction only yield the Disjunctive E-type (DE) reading.⁶ Specifically, the pronoun *her* in (2b) can only be understood as the one that John scolded (DE-reading), but not the disjunctive NP 'either Mary or Nancy' (D(-isjunctive) reading).

- (2) a. John scolded [either Mary or Nancy].
 b. Bill scolded her, too.
√DE-reading/*D-reading

Note, however, that (VP) ellipsis can yield the D-reading as exemplified in (3), i.e. the second conjunct of (3) is interpreted as *Bill scolded either Mary or Nancy too*.

- (3) John scolded either Mary or Nancy, and Bill did [_{VP} *e*] too. √D-reading

Crucially, Japanese null arguments pattern with English ellipsis, not with English pronouns, yielding the D-reading as in (4), hence no availability of *pro* analysis.⁷

- (4) a. Taroo-wa [Kanako ka Ayaka]-o sonkeisiteiru.
 Taroo-TOP Kanako or Ayaka-ACC respects
 'Taroo respects either Kanako or Ayaka.'

similar to the numeral adjectives in English in that those quantifiers can be preceded by demonstratives or possessives in Korean. See Park (2014b) for a detailed discussion.

⁶ Refer to Evans (1980) for E-type reading.

⁷ A reviewer asked precisely what example (4) implicates; whether it argues for AE or whether null pronominal arguments in Japanese (and Korean) are English pronominal counterparts. We take it that example (4) argues for AE since, under the assumption that the null argument is a *pro*, only DE-reading is available as in (i).

- (i) a. Taroo-wa [Kanako ka Ayaka]-o sonkeisiteiru.
 Taroo-TOP Kanako or Ayaka-ACC respects
 'Taroo respects either Kanako or Ayaka.'
 b. Ziroo-mo kare-o sonkeisiteiru.
 Ziroo-also him-acc respects
 'lit. Ziroo also respects e.' √DE-reading, *D-reading

- b. Ziroo-mo [e] sonkeisiteiru.
 Ziroo-als respects
 ‘lit. Ziroo also respects e.’ ✓D-reading

On the other hand, VVPE and AE correctly predict the D-reading in (4b) since the ellipsis site in (4b), as schematized in (5), is proposed to involve disjunctive NPs under both analyses.

- (5) a. V-stranding VP ellipsis:
 [TP Ziroo [_{VP} [_{NP} ~~Kanako~~ or Ayaka] _{VP}] V+T (respects)]]
 b. AE:
 [TP Ziroo [_{VP} [_{NP} ~~Kanako~~ or Ayaka] respects]]

Interestingly, the D-reading can be obtained in English by using *one of them* instead of pronouns:

- (6) a. John scolded either Mary or Nancy.
 b. Bill scolded one of them, too.

In Japanese, *dotiraka* ‘one of the two’ as well as a null argument yield the D-reading:

- (7) a. Taroo-wa [Kanako ka Ayaka]-o sonkeisiteiru.
 Taroo-TOP Kanako or Ayaka-ACC respects
 ‘Taroo respects either Kanako or Ayaka.’
 b. Ziroo-mo dotiraka-o sonkeisiteiru.
 Ziroo-also one.of.the.two-ACC respects
 ‘Ziroo also respects one of the two.’

Now, if there is a null indefinite pronominal counterpart of *dotiraka* ‘one of the two’ in the sense of Hoji (1998), the D-reading should be available without postulating ellipsis. Given the intra-sentential context in (8)-(9) introduced by Abe (2009), however, it is dubious to posit a null indefinite pronoun.

- (8) John-wa [zibun-no musume]-ni
 John-TOP self-GENdaughter-DAT
 [sensei-ga [e] aitagatteiru to] itta.
 teacher-NOM wants.to.see C said
 ‘lit. John told self’s daughter that the teacher wanted to see e.’
√strict/*sloppy (Abe 2009)
- (9) a. John-wa [Kanako ka Ayaka]-ni
 John-TOP Kanako or Ayaka-DAT
 [sensei-ga [e] aitagatteiru to] itta.
 teacher-NOM wants.to.see C said
 ‘lit. John told either Kanako or Ayaka that the teacher wanted to see e.’
√DE-reading/*D-reading
- b. John-wa [Kanako ka Ayaka]-ni
 John-TOP Kanako or Ayaka-DAT
 [sensei-ga dotiraka-ni aitagatteiru to] itta.
 teacher-NOM one.of.the.two-DAT wants.to.see C said
 ‘John told either Kanako or Ayaka that the teacher wanted to see one
 of the two.’ √D-reading

Based on the lack of *sloppy* readings in (8), Abe (2009) proposes that arguments cannot be elliptic if c-commended by their antecedents in Japanese.⁸ Specifically, example (8) can only be construed as ‘John told John’s daughter that the teacher wanted to see John’s daughter, not the teacher’s daughter’. This *strict* reading reveals that the null argument is a *pro*, not AE. The same argument stands up for disjunction in (9), i.e. (9a) can only be interpreted as ‘John told Kanako or Ayaka that the teacher wanted to see whoever John told’. In (9b), *dotiraka* ‘one of the two’ occurs in the null object position, which yields the D-reading. If a null counterpart of *dotiraka* ‘one of the two’ does exist in Japanese, it would be incorrectly predicted that the D-reading is obtained in (9a). Conclusively, Hoji’s (1998) *pro* analysis is ruled out here.⁹

⁸ Refer to Park (2015) for a similar proposal in Korean.

⁹ Sakamoto (2013), in sum, implicitly acknowledges that both *pro* and AE are required to account for null arguments in Japanese. Lee (2014) put forward a similar proposal in Korean.

3. A proposal

In this section, with this newly proposed diagnosis for ellipsis, we revisit null arguments in Korean to reaffirm that ellipsis approach, AE or VVPE, is indeed valid as an explication of null arguments in Korean. In subsection 3.1, we will examine the ellipsis of a variety of arguments and then tentatively conclude that ellipsis, AE or AVVE, is operative in Korean. In subsection 3.2, we discuss some divergent aspects between Japanese and Korean that emerge from the ellipsis data involving disjunction and negation. We are then with AE approach rather than VVPE. In subsection 3.3, however, we find additional data that should be accounted for by having recourse to VVPE.

3.1 Ellipsis rather than a *pro*

A lot of research has shown that, based on ample empirical evidence such as sloppy and Q-readings, ellipsis operation is required in *pro*-drop languages such as Korean and Japanese. Still, equally many attempts have been made to generalize every occurrence of null arguments as a *pro* (See Lee (2014) and references therein). In this subsection, we thus revisit null arguments in Korean to confirm that *ellipsis operation* is indeed essential in Korean. Based on Sakamoto's (2013) new test, we investigate the ellipsis of a variety of arguments in Korean. In particular, we will consider examples involving disjunction as in (10)-(12).

(10) A: Chelswu-ka Yenghi-na Swuni-lul cohaha-n-ta.

Chelswu-nom Yenghi-or Swuni-acc like-pres-decl

'Chelswu likes Yenghi or Swuni.'

B: Minswu-to _____ cohaha-n-ta.

Minswu-also like-pres-decl

'Minswu also likes Yenghi or Swuni/either of them.'

*'Minswu also likes the one that Chelswu likes.'

✓D-reading/*DE-reading

(11) A: Chelswu-ka chayk-ul Yenghi-na Swuni-eykey ponay-ss-ta.

Chelswu-nom book-acc Yenghi-or Swuni-dat send-pst-decl

'Chelswu sent a book to either Yenghi or Swuni.'

B: Minswu-nun kkoch-ul _____ ponay-ss-ta.
 Minswu-top flower-acc send-pst-decl
 'Minswu sent a flower to either Yenghi or Swuni/either of them.'
 *'Minswu sent a flower to the one that Chelswu sent a book to.'
✓D-reading/*DE-reading

(12) A: Cheli-nun (thullimepsi)chayk-ul chayksang-wuy-na uyca-wuyey
 Cheli-nom (certainly) book-acc desk-on-or chair-on
 noh-ass-e.
 put-pst-Q

'Cheli put a book on the desk or on the chair.'

B: Mini-nun kongchayk-ul noh-ass-e.
 Mini-top notebook-acc put-pst-decl
 'Mini put a notebook on the desk or on the chair.'
 *'Mini put a notebook on the same place where Cheli put a book.'¹⁰
✓D-reading/*DE-reading

As indicated above, data (10)-(12) yield D-readings only. Simply put, in example (10), what Minswu likes (e.g. Yenghi) can be different than what Chelswu does (e.g. Swuni). A similar account applies to (11)-(12). In example (11), it is not guaranteed that the person Minswu sent a flower to is the one Chelswu sent a book to. In example (12), the place where Mini put a notebook (e.g. the desk) does not have to be where Cheli put a book (e.g. the chair).

The fact that all the above examples (10)-(12) yield disjunctive readings suggests that the null argument is not a null counterpart of an overt pronoun, but involves some kind of ellipsis. As noted by Lee (2014), an outstanding difference between a *pro* and the ellipsis site is that the former, as a pronominal element, has *no internal structure* while the latter does have. The presence of the internal structure in the ellipsis site allows various interpretations such as sloppy, Q- and even D-readings.

¹⁰ A reviewer pointed out that DE-reading seems marginally acceptable in (12B) while it is completely ruled out in (10B) and (11B). Still, given that DE-reading is much more degraded than D-reading in example (12), we leave it as one of the examples involving disjunction and constituting evidence for AE.

3.2 Evidence for AE over VVPE

Accepting ellipsis provisionally, Sakamoto (2013) further attempts to decide which one is more feasible between AE or VVPE for the account of null arguments in Japanese.¹¹ For this, he looks into data involving disjunction and negation as in (13):

- (13) a. Taroo-wa [supeingo ka huransugo]-o hanasanai.
 Taroo-TOP Spanish or French-ACC not.speak
 ‘lit. Taroo does not speak either Spanish or French.’
 b. Hanako-mo [e] hanasanai.
 Hanako-also not.speak
 ‘lit. Hanako also does not speak e.’
 ✓D-reading

According to Goro (2007), Japanese disjunction *-ka* takes scope over negation. Specifically, (13a) can only denote that Taroo either does not speak Spanish or does not speak French, not that Taroo speaks neither Spanish nor French. Interestingly, in (13b), the null object takes scope over negation and is assigned the D-reading, i.e. it is understood as either Spanish or French. This precludes a *pro* analysis. VVPE is not plausible, either, since given the relevant scope interpretation, the verb must be higher than negation, i.e., it is out of the ellipsis domain. Based on these considerations, Sakamoto (2013) argues that only AE can correctly capture the interpretation in (13b) since it allows the disjunctive NP to undergo ellipsis in a higher position than negation as illustrated in (14):¹²

- (14) [[~~Spanish or French~~]_i [_{TP} Hanako [_{NegP} [_{VP} *t_i* speak]]]]

As shown above, since the ellipsis site includes disjunction, the D-reading in (13b) is well explained.

¹¹ A notable difference between these two operations is that AE deletes arguments themselves while VVPE erases VPs subsequent to verb raising. A shared property between AE and VVPE is that both operations allow an internal structure at the missing argument position, unlike a *pro*.

¹² In accordance with Takahashi (2008b), the disjunctive NP is proposed to undergo scrambling beyond the subject and then is deleted at PF. This type of scrambling does not have any phonetic effect since it is to be "erased" at PF.

Interestingly, despite many empirical similarities, Korean diverges from Japanese in the scope interpretation of disjunction in relation to negation. As for an example like (13a), Korean disjunction *-tonun* can take scope over negation and vice versa as illustrated in (15).

- (15) a. Chelswu-nun phica ttonun sphakeythi-lul cohaha-ci anh-nun-ta.
 Chelswu-Top pizza or spaghetti-acc like-neg-pres-decl
 ‘lit. Chelswu does not like either pizza or spaghetti.’
 b. Tongswu-to _____ cohaha-ci anh-nun-ta.
 Tongswu-also like-comp neg-pres-decl
 ‘lit. Tongswu also does not like e.’ ✓D-reading

Specifically, when disjunction scopes over negation, example (15a) is construed as ‘Chelswu either does not like pizza or does not like spaghetti.’. When negation scopes over disjunction, it is understood as ‘Chelswu eats neither pizza nor spaghetti.’. Likewise, example (15b) is assigned two readings; (i) Tongswu either does not like pizza or does not like spaghetti (Disj > Neg). (ii) Tongswu eats neither pizza nor spaghetti (Neg > Disj). VVPE correctly predicts the second reading since it assumes that the null argument originates in a lower position than negation. The first reading, however, cannot be accounted for under the VVPE hypothesis. AE, on the other hand, predicts both readings to be available; the first reading is obtained under the schematized structure above in (14) and the second reading is proposed to be obtained by LF reconstruction. That is, at LF, the preposed disjunctive argument is placed back to its original position, which is lower than negation.

Presented below are some additional well-known evidence against VVPE (Kim 1999 cited in Goldberg 2005).

First, in (16), example (b) has sloppy interpretation, an indication of ellipsis, even though null DP’s Case in (b) does not match the Case of its antecedent. This suggests that the implied null argument in (b) is not derived by VVPE but generated by AE.

- (16) a. John-un [caki-uy kay]-wa/*lul kotcal sanpo-lul ha-n-ta.
 John-top self-gen dog-comit/*acc often walk-acc
 take-pres-decl

- 'John_i often takes a walk with his_i dog.'
- b. Kulena Bill-un kotcal ttayli-n-ta.
 but Bill-top often beat-pres-decl
 Strict: ?'But Bill often beats (John_i's dog).'
- Sloppy: ✓'But Bill_j often beats (self_j's dog).' (Kim 1999)

Second, in (17), the null DP in (b) is construed as either Jerry's child or Sally's child, which implies that it is derived by some kind of ellipsis. The survival of the *minor* object 'tali-lul' in (b) further indicates that the ellipsis involved here is not VVPE, but AE.

- (17) a. Jerry-nun [_{VP} [_{DP} caki-uy ai-lul] [_{DP} phal-ul] ttayli-ess-ta].
 Jerry-top self-gen child-acc arm-acc hit-pst-decl
 'Jerry_i hit his_i child on the arm.'
- b. Kulena Sally-nun [_{VP} [_{DP} ec] [_{DP} tali-lul] ttayli-ess-ta].
 but Sally-top leg-acc hit-pst-decl
 Strict: ✓'But Sally hit (Jerry_i's child) on the leg.'
- Sloppy: ✓'But Sally_j hit (her_j child) on the leg.' (Kim 1999)

Other than these, example (18) severely undermines VVPE (Park 1994) in that adverbs are not recovered in any of those three examples (a)-(c):¹³

- (18) a. Cheli-nun yelsimhi yenge-lul kongpwuhay-ss-ko,
 Cheli-Top hard English-acc study-pst-conj
 Yenghi-to e kongpwuhay-ss-ta.
 Yenghi-also e study-pst-conj
 'Cheli studied English hard and Yenghi studied English (*hard), too'
- b. Cheli-nun kulen iyu-lo cip-ul ttena-ss-ko,
 Cheli-Top that reason-for home-acc leave-pst-conj
 Yenghi-to e ttena-ss-ta.
 Yenghi-also e leave-pst-decl
 'Cheli left home for that reason and Yenghi left home (*for that

¹³ Park (1994) presented these data to be against VVPE although he argued that the null arguments included in the examples are null counterparts of overt pronouns rather than being derived by AE.

reason), too.'

c. Cheli-ka ecey Tongswu-lul manna-ss-ko,
 Cheli-nom yesterday Tongswu-acc meet-pst-conj
 Yenghi-to e manna-lkes-ita.
 Yenghi-also e meet-fut-decl
 'Cheli met Tongswu yesterday and Yenghi will meet
 Tongswu(*yesterday).'

Taken together, data discussed in this subsection provide a strong argument for AE rather than VVPE in Korean.

3.3 Some data still in support for VVPE over AE

As mentioned in subsection 3.2, the VVPE account to null arguments has been disregarded in J/K since an array of empirical findings by a lot of researchers. In particular, Goldberg (2005), in her cross-linguistic survey, proposed that Korean, Japanese, Italian and Spanish lack VVPE data, unlike Modern Hebrew, Modern Irish, and Swahili. Recently, however, Gribanova (2013) developed a VVPE analysis of constructions with missing arguments in Russian. Example (19) is among the core data concerned in his work.¹⁴

¹⁴ The initial example observed by Gribanova is (i) from Russian:

- (i) A: Kažetsja, čto Anja položila ručku na stol, i knigu na stul.
 seems that Anya put.PST.SG.F pen.ACC on table and book.ACC on chair
 'It seems that Anya put the pen on the table and the book on the chair.'
 B: Net, ne položila.
 no NEG put.PST.SG.F
 'No, she didn't put (the pen on the table and the book on the chair).'

This example, however, is amended as the above (19) since proponents of *pro* might argue that the conjunction is realized as *null* in the response. Consider Korean example (ii) for more explanation.

- (ii) A: Cheli-ka chayk-ul chayksang-ey kuliko kongchayk-ul uyca-ey noh-ass-ni?
 Cheli-nom book-acc desk-on and notebook-acc chair-on put-pst-Q
 'Did Cheli put the book on the desk or the notebook on the chair?'
 B: ani, noh-ci anh-ass-e.
 no put-neg-pst-decl
 'No, he didn't put (the book on the desk or the notebook on the chair).'

- (19) A: Ty položil ručku na stol, ili knigu na stul?
you put.PST.SG.M pen.ACC on table or book.ACC on chair
‘Did you put the pen on the table or the book on the chair?’
B: Net, ne položil.
no NEG put.PST.SG.M
‘No, I didn’t put (the pen on the table or the book on the chair).’
(Gribanova 2013: 148)

This example is significant in Korean syntax as well since it constitutes definitive evidence in support of VVPE:

- (20) A: ne-nun chayk-ul chayksang-ey ttonun kongchayk-ul uyca-ey
you-top book-acc desk-on or notebook-acc chair-on
noh-ass-ni?
put-pst-Q
‘Did you put the book on the desk or the notebook on the chair?’
B: ani, noh-ci anh-ass-e.
no put-neg-pst-decl
‘No, I didn’t put (the book on the desk or the notebook on the chair).’¹⁵

As for the example (ii), an analysis in favor of *pro* would postulate a null conjunction and then posit a *pro* for all the other argumental gaps in (B). Disjunction, however, cannot be realized as null in Korean. For instance, the disjunction ‘ttonun’ in (B) of example (iii) cannot be realized as zero since leaving it out results in a different interpretation ‘Tongswu *and* Jiswu’, not ‘Tongswu *or* Jiswu’.

- (iii) A: ku-ka Cheli ttonun Minhi-lul manna-n kes kaththa.
he-nom Cheli or Minhi-acc meet-seem
‘He seems to have met Cheli or Minhi.’
B: ani, Tongswu ttonun Jiswu-lul manna-ss-e.
No Tongswu or Jiswu-acc meet-pst-decl
‘No, he met Tongswu or Jiswu.’

In sum, conjunction can be realized as null while disjunction cannot. We thus employ a disjunction marker ‘ttonun’ rather than a conjunction ‘kuliko’ for discussion of relevant empirical phenomena concerned in this paper.

¹⁵ As noted by Gribanova (2013) for Russian, proponents of *pro* might argue that the response in example (20) above involves null pronominal elements as in (i).

- (i) ani, (kutul-ul) (keki-ey) noh-ci anh-ass-e.

As pointed out by Gribanova (2013) for a similar example in Russian, AE might be able to account for the missing parts of (20) under the assumption that the locative phrases can undergo elision together with DPs, or an alternate postulation that what is elided is a non-constituent coordination (the book on the desk or the notebook on the chair). However, as for the first view, we have difficulty accounting for the missing coordinator in Speaker B.¹⁶ The second view is also rejected for lack of evidence that a non-constituent coordination does exist in Korean (and other languages). We are thus left with VVPE, which offers a natural account of (20) by positing two disjoint VPs out of which the shared verb has moved or raised as in (21).¹⁷

No them there put-neg-decl
'(Lit.) No, I didn't put (those things) (there).'

This argument, however, does not stand up under the consideration of data (ii-iii). (cf. Gribanova 2013 for Russian) Specifically, polarity items, indefinite NPs or quantifiers cannot be replaced by pronouns in Korean since they are not appropriate referents of pronouns. (Lee 2013; among others)

- (ii)A: ne-nun etten mwulken-ul selap-ey kuliko mwuesinka-lul nayngcangko-ey
 you-top some stuff-acc drawer-in and something-acc fridge-in
 neh-ess-ni?
 put-pst-decl
 'Did you put any stuff in the drawer and anything in the fridge?'
 B:*ani, (kutul-ul) (keki-ey) neh-ci anh-ass-e.
 No them there put-neg-decl
 '(Lit.) No, I didn't put (those things) (there).'
- (iii)A:ne-nun chayk sey-kwen-ul etten selap-ey kuliko ku umsik-ul etinka-ey
 you-top book three-CL-acc some drawer-in conj the food-acc somewhere
 neh-ess-ni?
 put-pst-decl
 'Did you put three books in any drawer and the food anywhere?'
 B:*ani, (kutul-ul) (keki-ey) neh-ci anh-ass-e.
 No them there put-neg-decl
 '(Lit.) No, I didn't put (those things) (there).'

¹⁶ A reviewer pointed out that coordinators are assumed to be inserted at PF in many literatures as the last resort operation, mentioning that the problem involved here might be related to PF, not the overt syntax. This issue is left for further research.

¹⁷ The issue of VR, however, is quite controversial in Korean. For instance, Han et al. (2007), in their experimental study, proposed that some Koreans have VR while others do not (See references therein for or against VR). If VVPE is attested in Korean, it implies that Korean grammar has verb raising (VR) since VVPE involves VP deletion subsequent to VR. That is, VR must take place prior to VP deletion.

- (21) [_{Neg}[[_{VP} chayk-ul chayksang-ey _____] ttonun [_{VP} kongchayk-ul
uyca-ey _____] noh]-ci anh]

Still, let us take note of the following examples (22)-(23), which are similar to (20) in that multi-arguments are disjoined. Our proposed analysis in (21) predicts the utterances of Speaker B to be acceptable, but as marked below, the prediction is not borne out.

- (22) A: ne-nun Yenghi-eykey chincelhakey ttonun
you-Top Yenghi-dat kindly or
Tongswu-eykey ssalssalmackey tayhay-ss-ni?
Tongswu-dat coldly treat-pst-Q
'Did you treat Yenghi kindly or Tongswu coldly?'
B:* ani, tayha-ci anh-ass-e.
No treat-Neg-pst-decl
'(lit.) No, we didn't treat (Yenghi kindly or Tongswu coldly).'
- (23) A: ne-nun cip-eyse pelusepsi ttonun hakkyoeyse yeuypalukey
you-top home-at rudely or school-at courteously
hayngtonghay-ss-ni?
behave-pst-Q
'Did you behave rudely at home or courteously at school?'
B:* ani, hayngtongha-ci anh-ass-e.
No behave-neg-pst-decl
'(lit.) No, he didn't behave (rudely at home or courteously at school).'

How do we have to deal with these data then? Rather than rejecting VVPE right away, it is worth noting that the missing parts include *adverbial arguments*, which seem to resist null realization:¹⁸

¹⁸ (Manner) Adverbial arguments are found in English as well:

- (i) a. We treated John badly yesterday.
b. *We treated _____ badly yesterday.
c. *We treated John _____ yesterday.
d. We treated John badly.

- (24) A: ku-nun yeuypalukey hayngtonghay-ss-ni?
 he-top courteously behave-pst-Q
 'Did he behave courteously?'
 B:* ani, hayngtongha-ci anh-ass-e.
 No behave-neg-pst-decl
 'No, he didn't behave.'

As exemplified in (24), ellipsis of adverbial *arguments* leads to unacceptability regardless of whether they elide along with DP arguments or not. We then have to answer the question why adverbial arguments resist ellipsis, unlike DP or PP arguments. Given that this question is too large to answer right now, let me address one related thing instead. Let us take note of (25):

- (25) A: na-nun [Yenghi-ka keyulu]-ta-ko saynggakha-y.
 I-Top Yenghi-nom be.lazy-decl-comp think-decl
 'I think Yenghi is lazy.'
 *B: na-to _____ saynggakha-y.
 I-also think-decl
 (Lit.) 'I think.'
 B': na-to kulehkey saynggakha-y.
 I-also so think-decl
 'I think so, too.'

As is well-known, the utterance of Speaker B is ruled out. Considering that Korean readily allows null realization of arguments, we have to explain why these CP arguments cannot undergo ellipsis. We propose that this example be understood in a similar line to the one including adverbial arguments above, i.e., these CP arguments resist ellipsis since they are adverbial in that they have to be converted into an overt pro-form *kulehkey* to avoid repetition as shown in (B').¹⁹ In this light, the

This grammaticality contrast indicates that both 'John' and 'badly' are arguments in the example given above.

¹⁹ English patterns with Korean in these respects:

(ii) A: Did you treat John badly?
 B: Never! we didn't treat him so.

"complementizer" *-ko* in Korean is conjectured to be an adverbial Case marker rather than a Korean counterpart of English 'that'. (See Jeong (1999) for a proposal against C as a complementizer, and Lee (2005) for C as a Case-marker).

In sum, examples (22)-(23) do not undermine VVPE. Rather, they just do not behave as expected under the VVPE analysis since they include null realization of *adverbial* arguments.

4. Concluding remarks

In the present study, we demonstrated that some data consistently constitute evidence for AE while others for VVPE. Some crucial syntactic findings can be summarized as follows: [1] Examples allowing D-readings are taken to clearly involve AE rather than *pro* or VVPE in Korean. [2] Examples with disjunction and multi-constituents are proposed to be explained solely by VVPE, not by *pro* or AE. [3] (Manner) adverbial arguments are shown to resist zero realization, which apparently seem to frustrate AE or VVPE as a way of accounting for null argument constructions.²⁰ We, however, do not take it that those examples undermine the two ellipsis accounts. Rather, we set the question aside for further investigation why adverbial arguments cannot be null. Based on the observation and discussion so far, we accept both AE and VVPE as grammatical components of Korean, one of which might ultimately have to be chosen.²¹ Or, do we actually miss a third alternative hitherto unproposed in any previous literatures? For now, this question remains unanswered and left for future research.

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- (ii) A: Do you think John is honest?
 B: Yes, I think so.

As exemplified above, both AdvP and CP arguments are pro-formed by '*so*', which implicates that CPs in English are adverbial as in Korean.

²⁰ These adverbs denote manner of *behaving*, *treating* or *thinking* etc.

²¹ Malayalam is also proposed to have both AE and VVPE (Takahashi 2013).

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