

# Two Types of VP-ellipsis in Korean\*

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**Lee, Jeong-Shik. (2017). Two types of VP-ellipsis in Korean.** *The Linguistic Association of Korea Journal*, 25(2), 85-120. In this paper, based on some arguments for VP-ellipsis (VPE) in null object constructions in Korean, I propose that VPE be classified into two types: Additive VPE (or *To*-VPE) and Contrastive VPE (or *Nun*-VPE). I then show that some perplexing contrasts can be properly accounted for by VPE, but not by NP-ellipsis, Argument-ellipsis, or *pro*. I also attempt to offer a new account for the appearance of the additive particle *-to* in Additive VPE and the contrastive particle *-nun* in Contrastive VPE in terms of a principle of language use, called Maximize Presupposition. VPE thus appears as a common property across languages, particularly, in both English and Korean, and VPE thereby correlates with sloppy readings in general (Huang, 1991).

**Key Words:** additive VPE, contrastive VPE, additive *-to*, contrastive *-nun*, sloppy reading, Maximize Presupposition, NP-ellipsis, argument ellipsis, *pro*

## 1. Introduction

Null object phenomena in Korean have received much attention in recent Korean syntax. The nature of the phenomena, however, is somewhat murky, so they have invited several distinct analyses such as VP-ellipsis (henceforth, VPE), NP-ellipsis (henceforth, NPE), Argument ellipsis (henceforth, AE), and *pro*. In this paper, I argue that some perplexing contrasts that the null object

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phenomena exhibit can receive reasonable treatments under the VPE. I propose that the VPE constructions in Korean be classified into two types, which I call Additive VPE and Contrastive VPE, as representatively presented in (1) and (2), respectively. Assuming for discussion's sake at this point that the gap in the elliptic clauses results from VPE, it is noted that the Additive VPE in (1) requires the additive particle *-to* 'also' on the subject in the elliptic clause,<sup>1)</sup> and the Contrastive VPE in (2) requires the contrastive particle *-nun* on the subject in the elliptic clause.<sup>2)</sup>

(1) **Additive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**to** [ e ] sa-ass-ta.  
Yengswu-also buy-Past-Dec  
'Yengswu bought a car, also.'
- c. \*Yengswu-ka [ e ] sa-ass-ta.  
Yengswu-Nom buy-Past-Dec  
'Yengswu bought a car, also.'

(2) **Contrastive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**nun** [ e ] an.sa-ass-ta./sa-ci anh-ass-ta.  
Yengswu-Cont not.buy-Past-Dec/buy-CI not-Past-Dec  
'Yengswu did not buy a car.'
- c. \*Yengswu-ka [ e ] an.sa-ass-ta./sa-ci anh-ass-ta.  
Yengswu-Nom not.buy-Past-Dec/buy-CI not-Past-Dec  
'Yengswu did not buy a car.'

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1) The additive particle is also obligatory in English (see, e.g., Green, 1968; Kaplan, 1984).

(i) John bought a car, and Bill did [ e ], \*(too/also).

2) Here the contrasts in (1, 2) are intended to arise from the narration. By contrast, these contrasts may be neutralized in the enumeration; that is, (1c) and (2c) may be possible in the context of enumeration.

With this classification, I show that we can deal with some perplexing VPE phenomena involving some interesting contrasts that were untouched or even misanalyzed in the previous studies. In this paper, I also attempt to offer a new account for the contrast between *-to* and *-ka* in the additive VPE and that between *-nun* and *-ka* in the contrastive VPE, the contrasts that have not been discussed in the literature. For this, I resort to a principle of language use, called Maximize Presupposition, traced back to Heim (1991).

Since Otani and Whitman's (1991) VPE analysis, however, there has been a controversy over whether there exists VPE in Korean or not in the literature. This is partly because it is unclear whether main verb raises or not in Korean, being a head-final language. As a result, alternative analyses such as NPE, AE, or *pro*, to be introduced in section 3.1, were proposed against VPE. In the course of discussion, thus, I also discuss examples that point to VPE rather than the above alternatives.

In section 2, I introduce other VPE contexts in Korean. But I do not intend to enumerate all of the possible variations here as I am mainly concerned with the two types of VPE: Additive VPE (or *To*-VPE) and Contrastive VPE (or *Nun*-VPE), as introduced in (1) and (2), respectively. In section 3, I briefly argue for the existence of VPE in Korean. Although there are many alleged counterexamples to VPE in the literature, I do not intend to deal with them all here, given space consideration, assuming that they can be accommodated in one way or another (for this, see J-S Lee 2017). In section 4, I discuss some interesting contrasts in VPE that crucially motivate the two types of VPE. In doing this, I also take side of VPE, pushing away the alternatives. In section 5, two contrasts are accounted for from the pragmatic point of view--the contrast between *-to* and *-ka* in the Additive VPE and that between *-nun* and *-ka* in the Contrastive VPE. Finally, in section 6, summary and conclusion are offered.

## 2. Other VPE Contexts

In addition to the VPE context considered in (1) and (2), namely, adjacent sentences, the same contrasts also appear in other VPE contexts, for example, in compound and complex sentences. First, the compound sentence conjoined by the

dependent coordinate conjunction *-ko* 'and' in (3) presents the contrast in question and shows that the additive particle *-to* is required in the elliptic clause.

- (3) Chelswu-ka cha-lul sa-ass-ko Yengswu-to/\*-ka [ e ] sa-ass-ta.  
 Chelswu-Nom car-Acc buy-Past-and Yengswu-also/Nom buy-Past-Dec  
 'Chelswu bought a car, and Yengswu bought a car, also.'

The dependent coordinate conjunction *-ciman* 'but' can also be used in the Contrastive VPE, and the same contrast still obtains, as seen in (4); that is, the contrastive particle *-nun* is required in the elliptic clause.

- (4) Chelswu-ka cha-lul sa-ass-ciman Yengswu-nun/\*-ka  
 Chelswu-Nom car-Acc buy-Past-but Yengswu-Cont/Nom  
 [ e ] sa-ci anh-ass-ta.  
 buy not-Past-Dec  
 'Chelswu bought a car, but Yengswu did not buy a car.'

Second, the same contrasts are observed in the two types of complex sentences as well. Consider the following examples:

- (5) a. Na-nun [Chelswu-ka cha-lul sa-ass-ko  
 I-Top Chelswu-Nom car-Acc buy-Past-and  
 Yengswu-to/\*-ka [ e ] sa-ass-ta-ko] mit-nun-ta.  
 Yengswu-also/Nom buy-Past-Dec-Comp believe-Pres-Dec  
 'I believe that Chelswu bought a car, and Yengswu bought a car, also.'
- b. [(Manil) Chelswu-ka cha-lul sa-ko Yengswu-to/\*-ka  
 if C-Nom car-Acc buy-Past-and Y-also/Nom  
 [ e ] sa-n-tamyen] na-nun acwu kippul kes-i-ta.  
 buy-Pres-if I-Top very pleased.will-be-Dec  
 'I will be very pleased if Chelswu buy a car, and Yengswu  
 buy a car, also.'

The same effects appear in the embedded contexts, as seen above.

Another third type of VPE may exist. This is illustrated with the following examples:

## (6) Conditional VPE

- a. (Manil) Chelswu-ka cha-lul sa-myeon  
 if Chelswu-Nom car-Acc buy-if  
 Yengswu-to/\*-ka/\*-nun [ e ] sa-l kes-i-ta.  
 Yengswu-also/-Nom/-Cont buy-will-be-Dec  
 'If Chelswu buy a car, Yengswu will buy a car.'
- b. (Manil) Chelswu-ka cha-lul sa-myeon  
 if Chelswu-Nom car-Acc buy-if  
 Yengswu-nun/\*-to/\*-ka [ e ] an.sal kes-i-ta./sa-ci  
 Yengswu-Cont/-also/-Nom not.buy.will-be-Dec/buy-CI  
 anhul kes-i-ta.  
 not.will-be-Dec  
 'If Chelswu buy a car, Yengswu will not buy a car.'

The conditional VPE in (6a) patterns with the Additive VPE, and the one in (6b) patterns with the Contrastive VPE. Thus, I will not consider the Conditional VPE a separate type of VPE in Korean.

Other VPE contexts are conceivable, but they do not exhibit the properties of the Additive VPE and the Contrastive VPE. In Yes/No interrogatives, the answer can involve VPE, as shown below:

- (7) A: Chelswu-ka cha-lul sa-ass-ni?  
 Chelswu-Nom car-Acc buy-Past-Q  
 'Did Chelswu buy a car?'
- B: Ani. Yengswu-ka/\*-to/\*-nun [ e ] sa-ass-ta.  
 No Chelswu-Nom/-also/-Cont buy-Past-Dec  
 'No, Yengswu bought a car.'

As seen in (7B), the additive particle *-to* and the contrastive particle *-nun* are excluded, which is in contrast with the Additive VPE in (1) and the Contrastive VPE in (2). Next, Antecedent-Contained Deletion (ACD) constructions may involve VPE (see J-S Lee, 1997).

- (8) a. Chelswu-nun caki-tongsayng-eykey [Yengswu-ka [ e ]  
 Chelswu-Top self-brother-Dat Yengswu-Nom  
 phwulecwu-ci anh-un] mwuncey-lul phwulecwu-ess-ta.  
 solve.give-CI not.do-Rel question-Acc solve.give-Past-Dec  
 'Lit. Chelswu<sub>i</sub> solved for his<sub>i</sub> brother a question that  
 Yengswu<sub>j</sub> did not solve for his<sub>j</sub> brother.'
- b. [[Yengswu-ka [ e ] phwulecwu-ci anh-un] mwuncey-lul]  
 Yengswu-Nom solve.give-CI not.do-Rel question-Acc  
 Chelswu-nun caki-tongsayng-eykey t phwulecwu-ess-ta.  
 C-Top self-brother-Dat solve.give-Past-Dec  
 'Lit. [A question that Yengswu<sub>j</sub> did not solve for his<sub>j</sub>  
 brother] Chelswu<sub>i</sub> solved for his<sub>i</sub> brother.'

In (8a), the gap does not allow sloppy reading; in (8b), it allows this reading. In (8a) VPE cannot apply because the target VP is contained within the antecedent VP, hence VPE is not possible. This accounts for the absence of sloppy reading in (8a), whose gap is thus regarded as *pro*. In (8b), on the other hand, the entire direct object has moved to the sentence initial position, so that the target VP can have a parallel antecedent VP. Thus, VPE is possible in (8b), accounting for the presence of sloppy reading. The two constructions in (7, 8), however, do not display the contrasts that the two types of VPE exhibit: additive *To*-VPE and contrastive *Nun*-VPE. Thus, they are put outside the current concern.

As is well-known, however, the existence of VPE in Korean has been denied by most of the researchers. So I first argue that there is indeed an operation like VPE in the Korean grammar in the next section, and then turn to the classification of VPE into two types, thereafter eventually focusing on accounting for different properties of each VPE type and the contrasts on the subject in the two types of VPE (i.e., *-to* vs. *-ka* and *-nun* vs. *-ka*).

### 3. VPE over Other Alternatives

#### 3.1. Verbal Identity Condition

Consider the following Korean example (Otani & Whitman, 1991):

- (9) John-un caki-uy pyenci-lul pelie-ess-ta.  
 John-Top self-Gen letter-Acc throw.away-Past-Dec  
 Mary-to [ e ] peli-ess-ta.  
 Mary-also throw away-Past-Dec  
 'John threw away his letter. Mary did [VP e], too.'  
 ('[VP e]: throw away his/her letter, also')

The gap in the elliptic clause in (9) can have either strict reading, *John's letter*, or sloppy reading, *Mary's letter* (just as seen in the English counterpart). Various analyses are proposed to get the gap in question: verb stranding VPE (henceforth, VVPE) with LF VP-copying (Huang, 1991; Otani & Whitman, 1991) or PF VP-deletion (J-S Kim, 1997; J-S Lee, 1997); NPE (S Kim, 1999; Um, 2011); AE (W Lee, 2014, 2016); *pro* (M-K Park, 1994, 1997; Ahn & Cho, 2009, 2010; Moon, 2015). In this paper, I argue that VPE can be maintained, adopting PF VP-deletion, as illustrated below:

- (10) a. Verb raising and VP-deletion at PF:  
 John-un [VP [NP caki-uy pyenci-lul] t<sub>peli-</sub>] peli-ess-ta.  
 Mary-to [~~VP [NP caki-uy pyenci-lul] t<sub>peli-</sub>~~] peli-ess-ta.  
 b. Mary-to [VP e ] peli-ess-ta.

Under the LF VP-copying analysis, the stranded verb in (10b) must be base-generated in Infl (or T), unlike its antecedent verb in (10a). The PF VP-deletion approach can avoid this problematic situation.

Particularly, I note that the two main verbs in VPE contexts must be identical, as seen in the contrast between (9) and (11).

- (11) John-un caki-uy pyenci-lul **pelie**-ess-ta.  
 John-Top self-Gen letter-Acc throw.away-Past-Dec  
 \*Mary-to [ e ] **ponay**-ess-ta.  
 Mary-also send-Past-Dec  
 'Lit. John threw away his letter. Mary sent it, also.'

This can be defined as in (12) (cf. Goldberg, 2005, p. 171).<sup>3)</sup>

(12) **Verbal Identity Condition**

The main verb stem in the antecedent clause must be identical to the stranded verb stem in the elliptic clause.

The NPE/AE/*pro* analyses can blindly apply to the elliptic clause in (11), with no verb raising assumed, so they must resort to the above condition separately to account for the absence of ellipsis here. On the other hand, this condition naturally follows from parallelism required for VPE. In (11), the parallelism domain relevant for VPE in the antecedent clause should be [*caki-uy pyenci-lul pelie-*] and that in the target clause [*[caki-uy pyenci-lul] ponay-*]. Thus, under the VPE analysis, assuming verb raising, the parallelism domain in the antecedent clause can be defined as the first maximal projection containing the raised main verb; the relevant parallelism domain in the elliptic clause is the first maximal projection containing the elliptic site and the stranded verb. For (11), now, it can be said that the above two domains are not parallel/identical to each other, and thus, VPE is not applicable. In (9), by contrast, parallelism is satisfied, so VPE is applicable. In this respect, I claim that the NPE/AE/*pro* analyses should eventually converge to the VPE analysis.

I also assume with Otani and Whitman (1991) that the availability of sloppy

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3) The identity is limited to the verb stems (and their derivational morphology) since their inflectional morphology may vary; in (9), for example, the verb stem *pe*li- in the elliptic clause can appear in the present form (i.e., *pe*li-*n-ta* 'throw.away-Pres-Dec'), or in the future form (i.e., *pe*li-*l kes-i-ta* 'throw.away-Fut-be-Dec'). The Verbal Identity Condition holds in VPE in English as well.

(i) John threw away his letter. \*Mary did [ e ], also.

'Intended. John threw away his letter. Mary sent his/her letter, also.'

readings in the null object constructions under concern indicates the existence of VPE, as suggested by Huang (1991) for Chinese. This assumption makes sense in light of the recognition that sloppy readings correspond to a VP but not to an NP since NPs denote individuals but not properties (Huang, 1991).

### 3.2. Substantial VPE

There are examples in which the size of the gap is substantially bigger than NP and therefore must be analyzed as VPE.

- (13) a. Chelswu-ka yonguyca-lul mihayng~~ha~~-ess-ko  
 Chelswu-Nom suspect-Acc tail-Past-Dec-and  
 Yengswu-to [ e ] ha-ess-ta.  
 Yengswu-also do-Past-Dec  
 'Chelswu tailed a suspect, and Yengswu did, also.'
- b. Yengswu-to [~~yonguyca-lul mihayng~~] ha-ess-ta.
- (14) a. Chelswu-ka casin-uy kok-ul yencwuha-ess-ko  
 Chelswu-Nom self's song-Acc play-Past-Dec-and  
 Yengswu-to [ e ] ha-ess-ta.  
 Yengswu-also do-Past-Dec  
 'Chelswu played his song. and Yengswu did, also.'
- b. Yengswu-to [~~casin-uy kok-ul yencwu~~] ha-ess-ta.

The above ellipsis sites allow either strict or sloppy reading. Elements like *mihayng* and *yencwu* may be called a nominal verb (in the presence of the Acc case marker *-(l)ul* on their objects), and they are morphosyntactically separable from the light verb *ha-* 'do.' The relevant VP structure mostly assumed in the literature is as given in (15) (K Park, 1992; J-S Lee, 1997; H-D Ahn, 2007, among others).

- (15)
- $$\begin{array}{c}
 \text{VP} \\
 / \quad \backslash \\
 \text{VP} \quad \text{ha-} \\
 / \quad \backslash \\
 \text{NP} \quad \text{V} \\
 \text{yonguyca-lul mihayng}
 \end{array}$$

The nominal verb projects VP here (cf. S-H Ahn, 2002 for LP (Lexical Phrase)). Under the current approach, VVPE applies to the higher VP, with the light verb *ha-* 'do' raised.<sup>4)</sup> The size of the ellipsis in (13b, 14b) is obviously bigger than that of the object NP, confirming the existence of substantial VPE.<sup>5)</sup> The *pro* analysis is not able to represent the gap in (13b, 14b). This is because the verbal strings *yonguyca-lul mihayng* and *casin-uy kok-ul yencwu* cannot be replaced by the pronoun *ku kes-ul* 'it.'<sup>6)</sup>

### 3.3. An Elliptic PP within VP

Consider the following:

- (16) a. Chelswu-nun caki ciyekkwu-eyse miyekkwuk-ul mek-ess-ta.  
 Chelswu-Top self electoral area-in seaweed.soup-Acc eat-Past-Dec  
 'Lit. Chelswu ate seaweed soup in his electoral area.'  
 'Idiom. Chelswu got unelected in his electoral area.'
- b. Yengswu-to [ e ] mek-ess-ta.  
 Yengswu-also eat-Past-Dec  
 'Lit. Yengswu also ate seaweed soup in his electoral area.'  
 'Idiom. Yengswu also got unelected in his electoral area.'

The gap in (16b) allows both strict and sloppy reading. The string

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4) A different structure is suggested in Grimshaw and Mester (1988): [*VP* [*NP yonguyca*] [*V* [*NP mihayng*] [*V ha-*]]], for instance. Here, the ellipsis site in question can be obtained by VVPE, with the light verb *ha-* raised. However, NPE/AE/*pro* are not applicable because the two NPs do not constitute a constituent in this structure.

5) Some other examples behave differently: VPE is absent here.

(i) \*Chelswu-ka hayngbokha/phikonha-ess-ko Yengswu-to [ e ] ha-ess-ta.  
 Chelswu-Nom be.happy/be.tired-Past-Dec-and Yengswu-also do-Past-Dec  
 'Chelswu was happy/tired, and Yengswu was, also.'

Elements like *hayngbok/phikon* are morphosyntactically inseparable from the light verb *ha-* (cf. *mihayng-ul ha-* vs. *\*hayngbok-ul ha-*). This suggests a different structure from (15) (S-H Ahn, 2002; H-D Ahn, 2007), so the claim that VPE exists in (13, 14) is not undermined.

6) Note also that *mihayng* or *yencwu* alone cannot be deleted or replaced by *pro*.

(i) a. \*Yengswu-to [VP yonguyca-lul ~~mihayng~~/pro] ha-ess-ta.  
 b. \*Yengswu-to [VP casin-uy kok-ul ~~yencwu~~/pro] ha-ess-ta.

*miyekkwuk(-ul) mek-* ‘eat seaweed soup’ in (16a) also has an idiomatic meaning, ‘get unelected.’

To get the gap in (16b), the NPE/AE analyses should be able to elide [*PP caki ciyekkwu-eyse*] and [*NP miyekkwuk-ul*] together. The *pro* analysis should be able to replace them together. Unfortunately, the string [*PP NP*] here does not form a constituent, so it cannot be elided by NPE/AE or replaced by *pro*. The other possibility to derive (16b) is to elide the PP and the NP individually, as seen in (17a). NPE and AE, however, cannot apply to the PP to derive (17b), not being an NP and an argument, respectively. This means that NPE/AE cannot apply individually to the PP to derive (17a). Whether the PP can be replaced by *pro* is not clear, either. Even if it can, being a locative, as assumed in M-K Park (1997), the intended PP reading is no longer available in (17b). If the NP alone is elided by NPE/AE or replaced by *pro* as in (17c), the idiomatic reading disappears.

- (17) a. Yengswu-to [ e ] [ e ] mek-ess-ta.  
 b. Yengswu-to [ e ] miyekkwuk-ul mek-ess-ta.  
 c. Yengswu-to caki ciyekkwu-eyse [ e ] mek-ess-ta.

Under the *pro* analysis (and any version of NPE/AE/*pro* analyses), it also remains curious how the loss of the PP reading in (17b) and the loss of the idiomatic reading in (17c) can be fully recovered in (17a), indicating that individual ellipsis possibility does not work. Now that it turns out that the NPE/AE/*pro* analyses collapse, the VPE analysis eventually emerges as the most viable option.

- (18) Yengswu-to [~~VP [caki ciyekkwu-eyse][miyekkwuk-ul] mek-~~] mek-ess-ta.

The current VPE analysis is distinguished from others (i.e., NPE/AE/*pro*) in another respect: in the former, the main verb raises; in the latter, it does not. (See also examples like (2b) where the main verb raises over the negation *an* ‘not’ in Korean.) This also leads us to state the difference between Korean and English as follows: a lexicalized functional category formed by main verb raising licenses VPE in Korean, whereas an auxiliary verb does so in English (cf. Lobeck, 1995). Thus, the VPE analysis enables us to draw a bigger picture: both Korean and

English have VPE in common, a cross-linguistic property now. In the ensuing discussion, I attempt to deal with some representative alleged counterexamples to VPE and show that they can be subjected to the VPE analysis.

#### 4. Two Types of VPE

In section 1, I introduced two typical types of VPE, namely, *To-VPE* and *Nun-VPE*, where VPE occurs in the adjacent sentences. They are repeated from (1) and (2) below with some additions.

(19) **Additive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**to** [ e ] sa-ass-ta./\*phal-ass-ta.  
Yengswu-also buy-Past-Dec/sell-Past-Dec  
'Yengswu bought a car, also.' '#Yengswu sold a car, too.'

(20) **Contrastive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**nun** [ e ] an.sa-/\*an.phal-ass-ta.  
Yengswu-Cont not.buy/not.sell-Past-Dec  
'Yengswu did not buy a car.' '#Yengswu did not sell a car.'
- b'. Yengswu-**nun** [ e ] sa-ci/\*phal-ci anh-ass-ta.  
Yengswu-Cont buy/sell not-Past-Dec  
'Yengswu did not buy a car.' '#Yengswu did not sell a car.'

The contrast in the additive VPE in (19b) shows that the additive particle *-to* requires the presence of the same verb as that in the antecedent clause. The same is true of the Contrastive VPE in (20b,b'). As aforementioned, this was made sure by parallelism required for VPE. The contrastive particle *-nun* additionally requires a different form of the verb; that is, for the purpose of

contrast, the affirmative verb in the antecedent matches the negative form of the verb in the target. Put differently, the contrastive particle *-nun* requires the contrastive focus to be realized on an element in the ellipsis target. In (20), thus, the negative form of the verb in the ellipsis target contrasts with the affirmative verb in the antecedent to manifest a contrastive focus.

#### 4.1. Some Perplexing Contrasts in VPE

It is predicted under the current VPE analysis that the verb in the target may be different from that in the antecedent in Contrastive VPE as long as it can appropriately contrast with the verb in the antecedent. This predication is indeed borne out, as illustrated in the following examples from S Kim (1999, (13)):

- (21) a. John-un [caki-uy kay]-wa kotcal sanpoha-n-ta.  
 J-Top self-Gen dog-Com quite.often take.a.walk-Pres-Dec  
 'John quite often takes a walk with his dog.'
- b. Kulena Bill-un [ e ] kotcal ttayli-n-ta.  
 but Bill-Top quite.often beat-Pres-Dec  
 'But Bill quite often beats his dog.'

(21b) is allowed since the contrastive focus can fall on the verb, *ttayli-* 'beat,' which is in contrast with the antecedent verb, *sanpoha-* 'take a walk.' This reasoning also accounts for the contrast between (21b) and (21c).

- (21) c. \*Kulena Bill-un [ e ] kotcal sanpoha-n-ta.  
 but Bill-Top quite.often take.a.walk -Pres-Dec  
 'But Bill quite often takes a walk with his dog.'

Under the current VPE approach, the verb in (21c) does not contrast with that in the antecedent in (21a), so that the contrastive focus required by the contrastive particle *-un* cannot be realized. This constitutes a reason why (21c) is bad. Other alternatives (i.e., NPE/AE/*pro*), however, will blindly allow (21c).

S Kim (1999) considered case mismatch between (21a) and (21b) problematic

to the VVPE analysis. He claims that the gap in (21b) allows sloppy reading. When the antecedent VP is copied onto the gap, case mismatch arises since the verb *sanpoha-* assigns a comitative case *-wa* and the verb *ttayli-* assigns an accusative case *-lul* to the object (i.e.,  $[VP\ NP\text{-}wa/*\text{-}lul\ t_{sanpoha}]$  vs.  $[VP\ NP\text{-}*wa/\text{-}lul\ t_{ttayli}]$ ). But the same case mismatch arises under his NPE analysis, also. So the difference in case particles should not play any serious role in measuring the identity for ellipsis at least in examples like (21).

As for the parallelism between the antecedent and the ellipsis target, it can be said that the trace left behind by LF raising of the focused verb turns into a variable-like element, so that parallelism in question can be obtained as follows:

(22) Kulena [Bill-un [<sub>First</sub> <sub>MaxP</sub> caki-uy kay-lul t<sub>i</sub>] [kotcal ttayli-n]<sub>i</sub>]-ta.

I assume that in (22) the adverb *kotcal* undergoes restructuring with the following verb *ttayli-*, and thus,  $[kotcal\ ttayli-]$  has raised as a restructured complex verb (see also T-G Chung 1993 for this restructuring analysis). This restructuring can also be supported by the repetition of this complex, as evidenced by the VP-cleft in (23) in which this complex has raised out of VP.

(23) Bill-un [caki-uy kay]-lul kotcal ttayli-ki-nun  
 Bill-Top self-Gen dog-Acc quite.often beat-KI-Top  
 kotcal ttayli-n-ta.  
 quite.often beat-Pres-Dec  
 'Beating the dog, John beat the dog quite often.'

This fact constitutes one piece of evidence for verb raising in Korean, which is in turn consistent with the current VPE analysis.

Consider another contrast between (21b) and (21d).

(21) d. \*Bill-to [ e ] kotcal ttayli-n-ta.  
 Bill-also quite.often beat-Pres-Dec  
 'Bill also quite often beats his dog.'

In (21d) the subject takes the additive particle *-to* 'also.' Although (21b) can be ruled in, (21d) cannot be ruled out, under S Kim's (1999) NPE analysis. This problem was not addressed in S Kim (1999), either. The NPE analysis may resort to the Verbal Identity Condition in (12) to rule out (21d) (and other AE/*pro* analyses may, also). But then it remains obscure how these analyses can allow (21b), where the verb is not identical to its antecedent verb, and how they can exclude (21c), where the verb is identical to its antecedent verb. This perplexing situation can only be accounted for under the current approach involving two types of VPE.

Under the current analysis, the additive particle *-to* requires the same verb in the ellipsis target, so the verbal identity automatically follows. Thus, (21d) is bad, while (21e) is good.

- (21) e. Bill-to [ e ] kotcal sanpoha-n-ta.  
 Bill-also quite.often take a walk-Pres-Dec  
 'Bill also quite often takes a walk with his dog.'

Here the most common contrast pattern in the VPE context is the one that has a pair of positive and negative verb.

- (24) a. John-un [caki-uy kay]-wa kotcal sanpoha-n-ta.  
 J-Top self-Gen dog-Com quite.often take.a.walk-Pres-Dec  
 'John quite often takes a walk with his dog.'
- b. Kulena Bill-un [ e ] kotcal sanpoha-ci anh-nun-ta.  
 but Bill-Top quite.often take.a.walk-CI not.do-Pres-Dec  
 'But Bill does not quite often take a walk with his dog.'

Now it becomes clear how (21b) and (24b) can have sloppy readings under VVPE.

- (25) a. Kulena Bill-un [~~VP caki-uy kay~~]-lul t<sub><kotcal ttayli></sub>] kotcal ttayli-n-ta.  
 b. Kulena Bill-un [~~VP caki-uy kay~~]-wa t<sub><kotcal sanpoha></sub>] kotcal sanpoha-ci anh-nun-ta.

In sum, some perplexing contrasts observed in null object constructions in Korean can best be accounted for by setting up two types of VPE.

- (26) a. Additive VPE: *To*-VPE  
 b. Contrastive VPE: *Nun*-VPE

Unlike in Additive VPE, in Contrastive VPE there must be an element in the target VPE clause which contrasts with an element in the antecedent clause. The Verbal Identity Condition in (12) strictly applies to Additive VPE, while it applies to Contrastive VPE with an exception; that is, when the contrastive focus falls on the verb itself in the elliptic clause, as seen in (21b), a different verb appears in the antecedent clause. The NPE/AE/*pro* analyses, under which verbal identity in most examples is a mere coincidence, need to assume the Verbal Identity Condition separately but inconsistently. Although they appear to allow (21b), they still require a separate explanation for why (21f) is bad.

- (21) f. \*Kulena Bill-un [ e ] kotcal ttayli-ci anh-n-ta.  
 but Bill-Top quite.often beat-CI not.do-Pres-Dec  
 'But Bill quite often does not beat his dog.'

The current system with two types of VPE in (26a,b) has the right explanation. In the Contrastive VPE in (21f), the negative verb *ttayli-ci anh-* 'not beat' does not contrast with the antecedent verb *sanpoha-* 'take a walk.' The right verb that contrasts with the positive verb *sanpoha-* 'take a walk' in (21a) could be the negative verb *sanpoha-ci anh-* 'not take a walk' in (24b) or another verb like *ttayli-* 'beat' in (21b). Requiring a separate Verbal Identity Condition, thus, the NPE/AE/*pro* analyses should ultimately converge to the current VPE analysis.<sup>7)</sup>

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7) There are pros and cons about the *pro* analysis in the literature, which I do not intend to replicate here for space reasons. Proponents of the *pro* analysis include Ahn and Cho (2012) and Park and Cho (2015) in Korean. Opponents of the *pro* analysis include J.-S. Lee (1997) for Korean and Takahashi (2008) and Sakamoto (2015) for Japanese, for instance. Saito (2007) also provides an argument against Hoji's (1988) *pro* approach in Japanese.

## 4.2. Accommodation of Some Alleged Counterexamples to VPE

Kim (1999, p. 259, (8)) rejects VVPE based on the following data:<sup>8)</sup>

- (27) a. Jerry-nun [caki-uy ai]-lul phal-ul ttayli-ess-ta.  
 Jerry-Top self-Gen child-Acc arm-Acc hit-Past-Dec  
 'Jerry hit his child on the arm.'
- b. Kulena Sally-nun [NP e ] tali-lul ttayli-ess-ta.  
 but Sally-Top leg-Acc hit-Past-Dec  
 'But Sally hit his/her child on the leg.'

He points out that under VPE, *caki-uy ai* and the trace of the verb,  $t_{ttayli-}$  from (27a) need to be copied onto the VP in (27b) at LF to get  $[VP [caki-uy ai] [tali] t_{ttayli-}]$ , but that they are not copiable, being a discontinuous constituent. Relying on the fact that the body-part *tali* is not allowed to move out of VP to precede its possessor 'caki ai', thereby losing adjacency to the verb, as seen in (28a), he further excluded the otherwise possible derivation under VPE, as given in (28b).

- (28) a. \*Kulena Sally-nun tali<sub>i</sub>-lul [VP [NP caki-uy ai]-lul  $t_i$  ttayli-]-ess-ta.  
 b. Kulena Sally-nun tali-lul [VP e ] ttayli-ess-ta.

S Kim's point is not conclusive, however. Since *tali* receives contrastive focus against *phal*, its movement can be sufficiently motivated. Although the movement in (28a) is not allowed, its adverse effects may be neutralized by later VVPE, the so-called "repair by ellipsis" (H-D Ahn, 2012, p. 131), as seen in (29a) below – *tali* recovers adjacency to the verb at PF. Alternatively, without such a movement, a certain process, call it VP-sludging, may apply to the accommodated structure in the form of a VP-cleft, as illustrated in (29b) a *la* TP-sludging with a cleft source, as illustrated in (30) (Nishiyama et al., 1996; M-K Park, 2001, among others).

8) The contrastive focus in question in (27b) is realized on the non-verbal element, *tali* 'leg.'

- (29) a. Kulena Sally-nun [tali<sub>i</sub>-lul [VP [~~NP caki-uy ai~~]-lul t<sub>i</sub> t<sub>tayli</sub>]]  
 ttayli-ess-ta.  
 b. Kulena Sally-nun [VP [~~NP caki-uy ai~~]-lul e<sub>i</sub> ttayli-ki-nun]  
 [tali<sub>i</sub>-lul] ttayli-ess-ta.
- (30) a. Chelswu-ka nwukwunka-lul manna-ass-ta-nuntey,  
 Chelswu-Nom someonew-Acc meet-Past-Dec-hear say  
 na-nun nwukwu-i-nci molu-n-ta.  
 I-Top who-be-Q not.know  
 'I heard it said that Chelswu met someone, but I do not know who.'  
 b. ..., na-nun [[~~Chelswu-ka e mannan-kes-i~~] nwukwu-i-nci] molu-n-ta.  
 I-Top Chelswu-Nom meet-KES-Nom who-be-Q not.know

Moon (2015, p. 222) provides the following example to deny the existence of VPE in Korean:

- (31) ?\*John-un kitah-lul chi-ess-ciman Bill-un [ e ] an.ha-ess-ta.  
 John-Top guitar-Acc play-Past-though Bill-Top not.do-Past-Dec  
 'John played the guitar, but Bill did not.'  
 (The gap is [~~VP kitah-lul chi-ci~~].)

The verb *ha-* 'do' in the elliptic clause above is inserted to support the stranded affix, thus corresponding to the English dummy auxiliary verb *do*. It is noted that the NPE/AE/*pro* analyses cannot account for the badness of (31) as the gap corresponds to VP. Moon (2015, p. 223) claims that the VPE in (31) is not allowed since the auxiliary verb *ha-* does not license VPE, and thus, Korean has no English type VPE.<sup>9)</sup> Moon's claim, however, involves circularity. Why is the auxiliary verb *ha-* not a licenser of VPE? This is because VPE in (31) is not allowed. Why is (31) bad? This is because the auxiliary verb *ha-* does not license VPE. Other than saying that the auxiliary verb *ha-* is not a licenser of VPE, what makes (31) bad, then?

A possible solution can be found from the contrast between (31) and (32a,b).

9) Note also that the negation *an* 'not' in (31) does not license VPE in contrast with *not* in English: *John played the guitar, but Bill did not e*.

- (32) a. John-un kitah-lul chi-ess-ciman Bill-un [ e ] an.chi-ess-ta.  
 John-Top guitar-Acc play-Past-though Bill-Top not.play-Past-Dec  
 'John played the guitar, but Bill did not.'  
 (The gap is *pro*, [NP ~~kitah-lul~~], or [VP ~~kitah-lul t<sub>chi-</sub>~~].)
- b. John-un kitah-lul chi-ess-ciman Bill-un [ e ]  
 John-Top guitar-Acc play-Past-though Bill-Top  
 chi-ci an.ha-ess-ta.  
 play-CI not.do-Past-Dec  
 'John played the guitar, but Bill did not.'  
 (The gap is *pro*, [NP ~~kitah-lul~~], or [VP ~~kitah-lul t<sub>chi-</sub>~~].)

Although NPE/AE/*pro* may apply to (32a,b), the contrast between (31) and (32) points to the VPE analysis. What distinguishes (31) from (32) is that in (31), the main verb *chi-* 'play' in the antecedent clause is not sufficiently identical to the stranded verb *ha-* 'do' in *anha-* 'not.do' in the elliptic clause; in (32), by contrast, the antecedent main verb is identical to the stranded verb in the target clause. Thus the Verbal Identity Condition in (12) can come into play. While (32a,b) meet the condition, (31) does not. In (31), there is no verb in the elliptic clause identical to the one in the antecedent clause.

As the verbal identity is intended to follow from parallelism required for VPE under the current approach, a little more discussion is needed. In section 3.1, the parallelism domain is defined as the first maximal projection containing the raised main verb in the antecedent clause and that containing the elliptic site and the stranded verb in the elliptic clause. With this in mind, I consider (32a,b), and then turn to (31). The parallelism domain of (32a,b) is represented as the First Max below.

- (33) a. antecedent clause: John-un [<sub>First Max</sub> [kitah-lul t<sub>chi-</sub>] chi-]  
 b. elliptic clause: Bill-un [<sub>First Max</sub> [VP ~~kitah-lul t<sub>chi-</sub>~~] an.chi-] (for (32a))  
 c. elliptic clause: Bill-un [<sub>First Max</sub> [VP ~~kitah-lul t<sub>chi-</sub>~~] chi-ci] an.ha-  
 (for (32b))

It is noted that both (32a) and (32b) satisfy the parallelism requirement for VPE in that the first maximal categories as specified in (33b,c) are parallel and

identical to that as specified in (33a), thus ensuring the identity of the verb *chi*-here.<sup>10</sup> VPE is then allowed in (33b,c), and thus, in (32a,b).

Next, why is (31) bad? This time, the main verb is inside the elliptic site. As the parallelism domain of the elliptic clause in (31) thereby includes the stranded verb *ha-*, the First Max is to be represented as follows:

- (33) d. elliptic clause: Bill-un [<sub>First Max</sub> [[~~kitah-lul t<sub>chi</sub>~~]-chi-ci] an.ha-]  
(for (31))

Now it becomes clear that (31) does not satisfy the parallelism requirement for VPE in that the first maximal category as specified in (33d) is not parallel and identical to that as specified in (33a), failing to ensure the identity of the verb here. Thus, VPE is not allowed in (33d), and thus, in (31).<sup>11</sup>

In passing, a counterexample to VPE from Japanese discussed in Oku (1998, p. 170, (24)), rephrased in (34) in the matching Korean examples, could also be handled in a similar way. (The judgment ? for (34b) is Oku's in the matching Japanese example.) The example is designed to ensure that the Acc object is not allowed to overtly precede or move to the left of the Dat object. If this is allowed, Binding Condition C is violated, as seen in (34c).

10) In measuring parallelism and identity, lexically non-core elements like *an* and *-ci* in (33b,c) are ignored (see W Lee, 2014 for relevant discussion).

11) The current VPE analysis can also deal with the following examples from Korean, presented as counterexamples to VVPE in Park (1997, (17, 18)).

- (i) a. John-i Mary-lul manna-ki-nun ha-ess-ta.  
John-Nom Mary-Acc meet-KI-Top do-Past-Dec  
Bill-to e ?\*(manna-ki-nun) ha-ess-e.  
Bill-also meet-KI-Top did
- b. John-i Mary-lul manna-ci-nun an.ha-ess-e.  
John-Nom Mary-Acc meet-CI-Top not.do-Past-Dec  
Bill-to e ?\*(manna-ci) an.ha-ess-e.  
Bill-also meet-CI-Top did.not

When the material within the parentheses appear, verbal identity is guaranteed – the main verb *manna-* is identical; when this material is absent, it is not – the main verb *manna-* is not identical to the stranded verb *ha-*. On the other hand, the light verb *ha-* 'do' in (13, 14) is regarded as a kind of main verb (Moon, 2015, p. 223), and thus, the Verbal Identity Condition is satisfied here.

- (34) a. Bill-un [kyosil-eyse [[caki-uy haksayng-tul]-eykey  
 Bill-Top classroom-in self's students-Dat  
 [selo-lul t<sub>v</sub>]] sokayha-ess-ta.  
 each other-Acc introduce-Past-Dec  
 'Bill introduced (to) his students each other in the classroom.'
- b. ?John-un [samwusil-eyse [VP1 [caki-uy haksayng-tul]-eykey  
 John-Top office-in self's students-Dat  
 [VP2 selo-lul t<sub>v</sub>]] sokayha-ess-ta.  
 each other]-Acc introduce-Past-Dec  
 'Lit. John introduced [ e ] each other in the office.'
- c. \*John-un [samwusil-eyse [selo-lul<sub>i</sub> [VP1 [caki-uy  
 John-Top office-in each other-Acc self's  
 haksayng-tul]-eykey [VP2 t<sub>i</sub> t<sub>v</sub>]]] sokayha-ess-ta.  
 students-Dat introduce-Past-Dec  
 'Lit. John introduced each other to his students in the office.'

If VP-sludging applies to the accommodated VP-cleft, as illustrated in (35), the surface of (34b) can be derived.

- (35) John-un [samwusil-eyse [~~caki-uy haksayng-tul~~]-eykey  
 sokayha-ki-nun] selo-lul sokayha-ess-ta.

There are still some other possibilities that can derive the surface of (34b) under the VPE analysis. One comes from the possibility of restructuring of the Acc object and the verb, as shown in (36a), so that VPE can apply to the VP1, excluding the Acc object as illustrated in (36b).

- (36) a. ?..... selo-lul sokayha-ki-nun selo-lul sokayha-ess-ta  
 b. ?Bill-un [kyosil-eyse [VP1 [~~caki-uy haksayng-tul~~]-eykey-  
 [VP2 t<sub>i</sub> t<sub>v</sub>]] selo-lul<sub>i</sub> sokayha-ess-ta.

Another is the following. If VP2 moves out of VP1, the Accusative object can survive after the ellipsis of VP1.

- (37) ?John-un [samwusil-eyse [[VP2 selo-lul t<sub>v</sub>]<sub>i</sub> [~~VP1 [caki-uy-  
haksayng-tul]-eykey t<sub>i</sub>]]] sokayha-ess-ta.~~

Here the Acc object is within the moved VP, so it does not c-command out of it, thereby evading the binding problem.

Actually, the elliptic surface of (34b) in the Korean counterpart is somewhat degraded (note ? in Oku's (24b)). This is presumably because the repetition of old information (i.e., the Acc object) is somewhat redundant (see Funakoshi, 2015 for relevant discussion). In (34), *kyosil-eyse* contrasts with *samwusil-eyse*, and thus, it seems that the repetition of the object is not really necessary. Indeed, (34b) sounds better without the object. Put differently, the presence of the Acc object in question means that it is somehow necessary, and thus, it may well carry something like focus, which can then motivate the above proposed VP-cleft, restructuring, or movement analysis. In this connection, one last possibility is considered below:

- (38) a. Bill-un [kyosil-eyse [~~VP1 [caki-uy haksayng-tul]-eykey  
[VP2 selo-lul t<sub>v</sub>]]] sokayha-ess-ta.  
b. Bill-un [kyosil-eyse [~~VP1 [caki-uy haksayng-tul]-eykey  
[VP2 selo-lul t<sub>v</sub>]]] sokayha-ess-ta.~~~~

In (38a) VPE has applied to the whole VP1 including the Acc object; in (38b) to lay a bit of focus on the deleted Acc object, it is phonetically recovered at PF (see J-S Lee, 2017 for a relevant proposal).<sup>12)</sup>

12) Oku (1998, p. 166, (17)) also discusses a subject ellipsis construction similar to the pair of (34a) and (34b) in Japanese. The following are Korean counterparts:

- (i) a. Bill-un [caki-uy haksayng-i sihem-ey hapkyekha-ess-ta-ko] sayngkakha-n-ta.  
Bill-Top self-Gen student-Nom exam-Dat pass-Past-Comp think-Pres-Dec  
'Bill thinks that his student passed the exam.'  
b. ?John-to [ [ e ] sihem-ey hapkyekha-ess-ta-ko] sayngkakha-n-ta.  
John-also exam-Dat pass-Past-Comp think-Pres-Dec  
'John also thinks that his student passed the exam.'

Under the VPE analysis, the subject is deleted in the VP-internal position, and the surviving Dat element within VP can be obtained by its movement out of VP or by phonetic resumption for reasons considered above.

M.-K. Park (1994, pp. 164-165) rejects VVPE based on the following contrast between English and Korean (see also Oku, 1988 for Japanese):

- (39) a. John studies English hard, and Mary does [ e ], too.  
 b. John came home early, but Mary didn't [ e ].
- (40) a. Yenghi-ka ppali tali-ko Chelswu-to tali-n-ta.  
 Yenghi-Nom fast run-and Chelswu-also run-Pres-Dec  
 'Yenghi runs fast, and Chelswu does, also.'  
 b. Yenghi-ka kulen iyu-lo ttena-ass-ta.  
 Yenghi-Nom that reason-for left  
 Chelswu-to ttena-ass-ta.  
 Chelswu-also leave-Past-Dec  
 'Yenghi left for that reason, and Chelswu did, also.'

In English (39), the VPE sites include adverbial interpretation of *hard* and *early*; by contrast, in Korean (40), adverbial interpretation of *ppali* 'fast' and *kulen iyu-lo* 'for that reason' is absent.<sup>13</sup> Under the usual head-final structure for Korean given in (41) below, the adverbial interpretation in question is incorrectly expected under VVPE. (If there appears an object in (40a,b), e.g., *wuntongcang-ul* 'paly ground-Acc' in (40a) and *Yengswu-lul* 'Yengswu-Acc' in (40b), it will be replaced by *pro* or elided by NPE/AE. In this connection, I use the terms, the NPE/AE/*pro* analyses here, which assume no verb raising, and thus, when the object is absent, as in (40a,b), there is no ellipsis under these analyses.)

- (41) Korean  
 Subject [VP-Adjunct [VP-t<sub>Verb</sub>]] Verb

13) Funakoshi (2015) assumes that reason adverbials in Japanese lie outside the VP, and thus, they are not subject to VVPE. The following *kuleha-* 'do so' replacement, however, indicates that they are VP-elements in Korean.

- (i) Yenghi-ka kulen iyu-lo ttena-ass-ta. Chelswu-to kuleha-ass-ta.  
 Y-Nom that reason-for left C-also do.so-Past-Dec  
 'Yenghi left for that reason, and Chelswu also did so.'

As I see, however, the lack of adverbial interpretation in (40) is neither a decisive evidence against the VVPE analysis nor a decisive evidence for M-K Park's *pro* analysis (and NPE/AE analyses as well). This is because the above argument presupposes that (40a,b) are actually derived from (42a,b) under VVPE, as offered in (43).

- (42) a. Yenghi-ka ppali tali-ko Chelswu-to ppali tali-n-ta.  
 Yenghi-Nom fast run-and Chelswu-also fast run-Pres-Dec  
 'Yenghi runs fast, and Chelswu does, also.'
- b. Yenghi-ka kulen iyu-lo ttena-ass-ta.  
 Yenghi-Nom that reason-for leave-Past-Dec  
 Chelswu-to kulen iyu-lo ttena-ass-ta.  
 Chelswu-also that reason-for leave-Past-Dec  
 'Yenghi left for that reason, and Chelswu did, also.'
- (43) a. Chelswu-to [VP ppali [VP tali-]] tali-n-ta.  
 b. Chelswu-to [VP kulen iyu-lo [VP ttena-]] ttena-ass-ta.

If the higher VP is deleted under VVPE in (43a,b), the surfaces of (40a,b) are derived. Truly, the lack of adverbial interpretation is incorrectly allowed. However, my point is that under M-K Park's *pro* analysis, the surfaces of (40a,b) can be derived by the deletion of the adverbials in the second clauses in (42a,b). Since the manner and reason adverbials here, *ppali* and *kulen iyu-lo*, cannot be replaced by *pro*, they are to be deleted. If this deletion is allowed, the lack of adverbial interpretation is incorrectly allowed under his *pro* analysis as well. This state of affairs requires a stipulation that adverbials cannot be deleted individually. Given this, it is concluded that under M-K Park's analysis, (40a,b) cannot be derived from (42a,b) and can be derived only if there appears no adverbials in the second clauses from the start as in (40a,b). If so, (40a,b) can be subject to the VVPE analysis as well--VVPE can take as its antecedent the lower VP excluding the adverbials in the first clauses in (40a,b). The fact that VPE excluding adverbials is possible in (42) suggests that the lower VP can be targeted, as represented in (44).

- (44) a. Chelswu-to [VP ppali [~~VP-t<sub>tail</sub>~~]] tali-n-ta.  
 b. Chelswu-to [VP kulen iyu-lo [~~VP-t<sub>ttena</sub>~~]] ttena-ass-ta.

Just as other alternatives need the stipulation that adverbs cannot be deleted independently, the current VPE analysis still faces a difficulty. It is unclear what prevents the higher VP in (43) from undergoing VPE to derive the surfaces in (40a,b). Goldberg (2005, p. 92) actually considered the following operation to exclude adverbials from the VPE: Elide the lower VP. But she eventually discarded it, saying that Japanese/Korean (hereafter, J/K) are different from English in adjunct ellipsis and that sloppy readings in J/K do not correlate with VPE in English. From a different angle, however, the apparent size difference in VPE between J/K and English may be ascribed to certain structural reasons. English does not allow main verb raising, and thus, an auxiliary verb licenses VPE, while J/K allow it, and thus, the lower VP is somehow forced to undergo VPE, with no deletion of adverbials. I explore one possible way to derive this difference below.<sup>14)</sup>

It is well known that adverbs are not capable of licensing VPE in English, as represented in (45a), which suggests that there is a strong bond between the adverb and its VP complement of which the main verb is a head. This relation can be attributed to the following consideration: An adverb has a semantic function that takes its VP complement as an argument and gives the same type of VP back (Oku, 1988, p. 198). I propose that the strong bond under consideration be kept intact. Under this proposal, then, VPE in English can only target the higher VP, as shown in (45b), and an auxiliary verb in T licenses the VPE site, with the main verb remaining inside the VP.

- (45) English  
 a. \*Subject Aux-T [VP Adjunct [~~VP-Verb~~]]  
 b. Subject Aux-T [~~VP-Adjunct~~ [~~VP-Verb~~]]

On the other hand, an adverb appears to be separated from its VP complement via ellipsis in Korean, as seen in the elliptic clause in (42a,b),

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14) Another possibility was elaborated under a head-initial phrase structure for Korean in J.-S. Lee (2016).

as represented in (46a). If VPE targets the higher VP, as indicated in (46b), (40a,b) can be derived.

(46) Korean

- a. Subject [VP Adjunct [~~VP (Object) t<sub>i</sub>]~~] [Verb<sub>i</sub>-T]
- b. #Subject [~~VP Adjunct [~~VP (Object) t<sub>i</sub>]~~] [Verb<sub>i</sub>-T]~~

As a result, adverbial interpretation in the surfaces in (40a,b) is incorrectly allowed; that is, the lack of adverbial interpretation cannot be accounted for here.

The parametric difference between English and Korean obviously lies in the absence of the main verb raising and presence of it, respectively, as mentioned above. (See examples like (2b), (23) and (47a,b) for verb raising in Korean.) In English, the higher VPE site includes both the adverb and its VP complement or the main verb, as seen in (45b), and thus, the strong bond between the adverb and the verbal head inside the VP remains unaffected; the lower VPE site excludes the adverb, as seen in (45a), and thus, the strong bond between them is broken. This then constitutes a reason why VPE includes the adverb in English. In Korean, on the other hand, because of the main verb raising, the higher VPE site will separate the adverb from the raised verb, as seen in (46b), and thus, the strong bond between them is broken; the lower VPE site excludes the adverb, as seen in (46a), and thus, the strong bond in question remains maintained.<sup>15)</sup> It is also observed that the adverb and the verb are often restructured into a complex verb in Korean, as evidenced by the VP-cleft in (47), in which this complex has raised out of VP.

- (47) a. Chelswu-ka ppali tali-ki-nun ppali tali-n-ta  
Chelswu-Nom fast run-KI-Top fast run-Pres-Dec  
'Lit. Running fast, Chelswu runs fast.'
- b. Chelswu-ka kulen iyu-lo ttena-ki-nun kulen iyu-lo  
C-Nom that reason-for leave-KI-Top that reason-for

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15) I leave open further cross-linguistic attestation of the current proposal about the strong relation between the adverb and the verb (see Goldberg, 2005, p. 45 for related Hebrew data, for instance).

ttena-ass-ta.  
 leave-Past-Dec  
 'Lit. Leaving for that reason, Chelswu left for that reason.'

This then constitutes a possible reason why VPE excludes the adverb in Korean.<sup>16)</sup>

## 5. Maximize Presupposition

Now that two types of VPE are established, I return to the contrasts observed in the VPE contexts in section 1. Particularly, I am concerned with the question of why the additive particle *-to* is required in the additive VPE and the contrastive particle *-nun* is required for the contrastive VPE, both excluding the Nominative case marker *-ka*. To answer the question, I will turn to a principle of language use called Maximize Presupposition (Heim 1991). Before discussing the contrasts in question, let us consider the following discourse contexts to get an idea of any help:

- (48) A: Onul acwu culkewp-ess-e!  
           today great have fun-Past-Dec  
           'We had a great fun today!'  
 B: Kulay! **Tto** po-ca.  
       Yeah! again see-Hortative  
       'Yeah! See you again.'  
 B': \*Kulay! Po-ca.  
       Yeah! see-hortative  
       'Yeah! See you.'

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16) There are some more alleged counterexamples to VPE collected in Goldberg (2005) for J/K and discussed in Sakamoto (2016) for Japanese, among others. Sakamoto (2016) argues for AE based on disjunctive reading, but her argument against VPE is dependent on the supposition that the lack of adverbial interpretation in Japanese examples corresponding to those like (40) fails VPE. Now the adverbial interpretation problem is overcome under the VPE analysis. In J-S Lee (2016), I treated Sakamoto's disjunction data and Goldberg's collection successfully under the VPE analysis. I do not bring them in here for space reasons.

- (49) A: Amwuto cenhwa an pat-a. I pen-i sey pen ccay-ya!  
 anyone phone not get-Dec this time-Nom third time-be  
 'No one gets the phone. This is the third time!'  
 B: **Han pen te** hay-powa!  
 one time more try-Imp  
 'Try once more!'  
 B': \*Hay-powa!  
 try-Imp  
 'Try!'
- (50) A: Cha han can ha-l-lay?  
 tea one cup drink-Q  
 'Do you want a cup of tea?'  
 B: Ung. Mas coh-ney.  
 Yes taste good-Dec  
 'Yes. It tastes good.'  
 A: Han can **te** ha-l-lay?  
 one cup more drink-Q  
 'Do you want another cup of tea?'  
 A': \*Han can ha-l-lay?  
 one cup drink-Q  
 'Do you want a cup of tea?'

It is seen that *tto* 'again' in (48), *han pen te* 'once more' in (49), and *te* 'another' in (50) are additive particles and they invoke a presupposition in each context that refers to a proposition in the preceding discourse. In this sense, it can be said that they function as presupposition triggers. The above contrasts reveal that expressions with presupposition triggers are chosen over those without them. Thus, the additive particles here appear to optimally contribute to carrying a stronger presupposition, leading to the following principle, traced back to Heim (1991):

(51) Maximize Presupposition

An expression with a stronger presupposition must be chosen.

The contrasts above look pretty much the same as those observed in the two types of VPE. Let us first consider the following contrast from (1), repeated below:

(1) **Additive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**to** [ e ] sa-ass-ta.  
Yengswu-also buy-Past-Dec  
'Yengswu bought a car, also.'
- c. \*Yengswu-ka [ e ] sa-ass-ta.  
Yengswu-Nom buy-Past-Dec  
'Yengswu bought a car, also.'

What is prominent above is the appearance of the additive particle *-to* 'also' in the elliptic clause in (1b). Without this additive particle, the elliptic clause is infelicitous, as seen in (1c). The proper question is then why the infelicity of (1c) disappears by the replacement of the nominative case marker *-ka* with the additive particle *-to* on the subject. The answer is likely to be found in the following consideration. The two elliptic clauses subsequent to (1a) compete each other, and (1b) wins over (1c) (see, e.g., Amsili and Beyssade 2006 for pertinent discussion). Note that (1b) and (1c) have the same new information. The crucial distinguishing factor lies in the additive particle *-to* on the subject in (1b) and the nominative case particle *-ka* on the subject in (1c). The fact is that without the additive particle, (1c) fails to win over (1b).

For the purpose of comparison between the two, let us first consider the LF of the pair of (1a) and (1c). Under the focus theory of Rooth (1992),<sup>17)</sup> the discussion will be briefly made informally (cf. Singh, 2008 for related discussion of English data). The symbol  $\gamma$  in the elliptic conjunct in (52) is intended to be a presupposition (i.e., Someone other than Yengswu bought a car), which is introduced by the symbol  $\circlearrowright$ , called a squiggle operator or a focus interpretation

17) Here I do not intend to introduce a fully elaborated semantics-based formulation of this theory.

operator. Details set aside, this tagging of presupposition follows from focus interpretation principle assumed in Rooth (1992). The LF of the pair of (1a) and (1c) is given in (52); the LF of the pair of (1a) and (1b) is given in (53), in which the presupposition is introduced by the additive particle *-to* (see Singh, 2008 for a relevant proposal regarding this extension). ((52) and (53) are LFs, and the VPs in the second clauses here are strikethroughed to indicate the ellipsis sites.)

(52) LF of (1a) and (1c):

[Chelswu-ka [VP cha-lul t<sub>i</sub>] sa<sub>i</sub>-ass-ta]<sub>γ</sub> +  
 [[Yengswu]<sub>F</sub>-ka [~~VP cha-lul t<sub>i</sub>~~] sa<sub>i</sub>-ass-ta] ∞ γ

(53) LF of (1a) and (1b):

[Chelswu-ka [VP cha-lul t<sub>i</sub>] sa<sub>i</sub>-ass-ta]<sub>γ</sub> +  
 [[Yengswu]<sub>F</sub>-t<sub>j</sub> [~~VP cha-lul t<sub>i</sub>~~] sa<sub>i</sub>-ass-ta]-to<sub>j</sub> γ

I suggest that in (53) the additive particle *-to* ‘also’ raises to the squiggle position at LF for its scope taking as a focus interpretation operator.<sup>18)</sup> With this much, then, the elliptic clauses in (52) and that in (53) can undergo a fair competition in that the two structures now have equal complexity on a scale with ∞ and *-to*. While the presuppositions of the elliptic clause in (52) follow from the theory of focus in Rooth (1992), as alluded to above, those of the elliptic clause in (53) containing a lexical entry *-to* require additional condition such that *-to* is co-indexed with the antecedent clause, namely, *-to<sub>j</sub>* = [*Chelswu-ka cha-lul sa-ass-ta*]<sub>j</sub>; (see also Singh, 2008 for relevant discussion). This means that the antecedent clause in (53) must be true, which would be that Chelswu, in fact, bought a car. Thus, the additive particle *-to* on the subject in (1b) contributes to carrying a stronger presupposition than the unmarked nominative case particle *-ka* on the subject in (1c) does. This points to the principle of language use descriptively stated in (51). I assume that this much suffices for the present purpose and set aside a more semantics-based formulation of the principle and discussion based on it (see Heim, 1991; Sauerland, 2008; Singh, 2008, among others).

Next, consider another contrast from (2), repeated below:

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18) This raised focus particle is further anaphoric to the subject in the antecedent clause.

(2) **Contrastive VPE**

- a. Chelswu-ka cha-lul sa-ass-ta.  
Chelswu-Nom car-Acc buy-Past-Dec  
'Chelswu bought a car.'
- b. Yengswu-**nun** [ e ] an.sa-ass-ta./sa-ci anh-ass-ta.  
Yengswu-Cont not.buy-Past-Dec/buy-CI not-Past-Dec  
'Yengswu did not buy a car.'
- c. \*Yengswu-ka [ e ] an.sa-ass-ta./sa-ci anh-ass-ta.  
Yengswu-Nom not.buy-Past-Dec/buy-CI not-Past-Dec  
'Yengswu did not buy a car.'

In the contrastive VPE, the contrastive particle *-nun* appears on the subject in the elliptic clause, and it requires an element that contrasts with another element in the antecedent clause. In (2), the contrast falls on the verbs: as the verb in the antecedent clause is in the affirmative, the verb in the elliptic clause will be in the negative.<sup>19</sup> Without the contrastive particle, the elliptic clause is infelicitous, as seen in (2c). The proper question is thus why the infelicity of (2c) disappears by the replacement of the nominative case marker *-ka* with the contrastive particle *-nun*. Again, the two elliptic clauses subsequent to (2a) compete each other, and (2b) wins over (2c).

Under the present approach, the elliptic clause in (2b) containing the presupposition trigger *anh-nun* carries a stronger presupposition than that in (2c) containing only *anh* (the presupposition is that someone other than Yengswu bought a car). This should be represented at LF as well. The LF of the pair of (2a) and (2c) is given in (54); the LF of the pair of (2a) and (2b) is in (55).

(54) LF of (2a) and (2c):

$$[\text{Chelswu-ka } [\text{VP cha-lul } t_i] \text{ sa}_i\text{-ass-ta}]_{\bar{y}} + \\ [[\text{Yengswu}]_{\text{F-ka}} \{\text{VP-cha-lul-}t_i\} \text{ sa}_i\text{-ci } t_j\text{-ass-ta}] \text{ anh}_j \infty \bar{y}$$

19) If the verb in the antecedent clause is in the negative, the verb will be in the affirmative in the elliptic clause for the purpose of contrast. The current discussion is limited to common cases like (2), setting aside other cases like (21) and (27).

(55) LF of (2a) and (2b):

[Chelswu-ka [VP cha-lul t<sub>i</sub>] sa<sub>i</sub>-ass-ta]<sub>Y</sub> +  
 [[Yengswu]<sub>F-t<sub>k</sub></sub> [~~VP-cha-lul-t<sub>i</sub>~~] sa<sub>i</sub>-ci t<sub>j</sub>-ass-ta] an<sub>h</sub>-nun<sub>k</sub> Y

I suggest that in (53) the contrastive particle *-nun* also raises to the squiggle position for its scope taking at LF as a focus interpretation operator. The negation *anh* is also raised at LF to take a scope, thereby forming a complex focus interpretation operator *anh-nun*. The presupposition is introduced by the contrastive particle *-nun* in place of the squiggle operator. The negation *anh* appears as a reflection of the contrast that falls on the pair of verbs; as the antecedent verb is in the affirmative, the verb in the elliptic clause should be in the negative. Here, the elliptic clause with the contrastive particle *-nun* on the subject in (55) implies a presupposition that another person already bought a car. As in the case of the additive particle *-to*, then, the contrastive particle *-nun* on the subject in (2b), being an additional lexical entry, contributes to carrying a stronger presupposition than the unmarked nominative case particle *-ka* on the subject in (2c) does, namely, the presupposition that Chelswu, in fact, bought a car. This again points to the principle of language use descriptively stated in (51). The set of focus interpretation operators in Korean can include other members, e.g., *-cocha* 'even,' not discussed here, and thus, this set may look like { $\infty$ , *to*, *nun*, *cocha*, *te*, *tto*, .....}.

## 6. Summary and Conclusion

In this paper, I made a meaningful challenge to the recognition that Korean does not have VPE, which has been popular in most of the literature. I attempted to defend the existence of VPE in Korean, and I think the arguments are largely successful. Starting with showing some instances of substantial VPE, it was shown that some of the alleged representative counterexamples to VPE can be accommodated under the VPE analysis. Through the discussion, it turned out that VPE is a common property across languages, particularly, in both English and Korean (and possibly Japanese). The parametric difference between the two languages is attributed to (non)raising of the main verb, and

this difference is manifested in the area of adverbial interpretation in VPE. With the results obtained, it was also shown that VPE can still correlate with sloppy reading in Korean, which is a welcome result in that sloppy readings correspond to a VP but not to an NP since NPs denote individuals but not properties (Huang, 1991). At the end of the paper, it was briefly shown that the particular appearance of particles such as the additive *-to* and the contrastive *-nun* in the two types of VPE can be accounted for in terms of a principle of language use, called Maximize Presupposition (Heim, 1991).

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