

Extraction Asymmetries in Ellipsis Sites: Phase-based Approach

Seungwan Ha[†]

Kyungpook National University

ABSTRACT

This study investigates the intriguing asymmetries in overt extraction from ellipsis sites, with emphasis on how the grammaticality of extraction varies depending on the ellipsis target type. Using data from Korean and English, I examine various cases in which overt extraction from ellipsis sites is realizable or hindered. I argue that the phase-based generalization governing extraction from ellipsis sites (Bošković 2014) applies to Korean; namely, extraction from an ellipsis site is acceptable only if the ellipsis target is a phasal complement. To test this generalization, I examine NP argument ellipsis, clausal argument ellipsis, NP-ellipsis in numeral-classifier constructions, fragment answers, and VP-ellipsis in Korean. The findings show that most ellipsis types in Korean align with this generalization; however, the VP-ellipsis poses a unique challenge. In Korean, predicates such as *sayngkak-ha(-ta)* ‘think’ decompose into a nominal form *sayngkak* ‘thought’ and the light verb *ha* ‘do’ (Park, in press), thus complicating extraction from VP-ellipsis sites. I propose resolving this complication by introducing verb movement as a factor in the Korean syntax, which results in ungrammatical cases involving extractions from phasal ellipsis sites.

Keywords: Ellipsis, Extraction, Korean, Phasal complement ellipsis, Phasal ellipsis, Verb movement

1. Introduction

Recent literature has extensively examined the controversial phenomenon of extraction from ellipsis sites. Some studies focus on the derivation of the phenomenon (Merchant, 2001; Aelbrecht, 2010; Bošković, 2014), while others explore the asymmetry between overt and covert extractions (Saito, 2007; Sakamoto, 2017; Fujiwara, 2022; Park, in press). This paper primarily addresses the former issue, specifically investigating cases where overt extraction is permitted, as in (1a), versus cases where it is blocked, as in (1b).

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[†] Corresponding author: seungwan@knu.ac.kr



- (1) a. John met a student, but I don't remember who_i [_{TP} <he met t_i>]
 b. *Younghuy-ga Cheli-luli pabokati [_{CP} t_i hyunmyong-hata-ko]
 Y.-nom C.-acc stupidly genius-do-C
 mit-ess-ciman, Mina-nun casin-ul_i papokati
 believe-past-although M-top self-acc stupidly
 [_{CP} <t_i-hyunmyong-hata-ko>] mit-ess-ta.
 believe-past-C
 'Although Younghuy believed stupidly Cheli to be genius, Mina believed stupidly herself to do so.'

The asymmetry in overt extraction out of ellipsis sites appears to correlate with the type of ellipsis target. While a wh-word can undergo movement from the TP-ellipsis site in English (1a), the ECM subject in Korean cannot move out of the clausal ellipsis site, as shown in (1b). In these cases, the deleted phrase is TP in the former and CP in the latter. This raises the question of whether the grammaticality of extraction varies cross-linguistically—specifically, overt extraction out of an ellipsis site is allowed in English, but disallowed in Korean.

Consider, however, the following Dutch examples that show extraction out of ellipsis sites is possible in one case (2a), but prohibited in another (2b).¹⁾

- (2) a. Ik wou dat boek helemaal niet geven, maar ik_i moest
 I wanted him that book at.all not give but I must.PAST
 <t_i-hem dat boek geven>.
 him that book give
 'I didn't want to give him that book at all, but I had to.'
 b. *Ik weet niet wie Thomas moet uitnodigen, maar ik weet wel
 I know not who Thomas must invite but I know AFF
 wie_i hij niet mag <uitnodigen t_i>.
 who he not is.allowed
 'I don't know who Thomas HAS to invite, but I do know who he isn't ALLOWED to.'
 (Aelbrecht, 2010, pp. 57,128)

The examples above show that in Dutch, A-movement followed by deletion of

1) This is so called Modal Complement Ellipsis (MCE) found in Dutch where the infinitival complement of a modal is allowed to be omitted.

the infinitival complement of a modal is acceptable, as in (2a), but A'-movement followed by deletion is not, as in (2b). This suggests that the possibility of extraction from an ellipsis site is not determined by language.

To account for the distribution of extraction and ellipsis, Bošković (2014, p. 44) makes an insightful proposal: acceptable cases involve the deletion of a phasal complement following A'-extraction, whereas ungrammatical cases involve the deletion of the phase itself. In contrast, A-movement does not exhibit this asymmetry in ellipsis targets; that is, A-extraction from either phasal or phasal complement ellipsis is permitted.

(3) Extraction from ellipsis:

A'-extraction from an ellipsis site is only possible if the ellipsis target is the complement of the phase.

This paper examines whether the generalization in (3) holds in Korean by analyzing NP argument ellipsis, clausal argument ellipsis, NP-ellipsis in numeral-classifier constructions, fragment answers, and VP-ellipsis. I will demonstrate that while most cases align with the generalization, VP-ellipsis presents challenges. Specifically, in Korean, verbs like *sayngkak-ha(-ta)* 'think' decompose into a verbal noun *sayngkak* 'thought' and the light verb *ha* 'do' (Park, in press). This structure appears to create tension with the generalization regarding extraction from VP-ellipsis sites; however, I argue that it ultimately aligns with the generalization.

The paper is organized as follows. Section 2 provides the background necessary to address the generalization in (3), introducing Bošković's (2014) proposal on phase-based ellipsis targets and their impact on the acceptability of extraction from ellipsis sites. Section 3 examines various types of ellipsis in Korean to evaluate their compatibility with the generalization in (3) and addresses two further implications, one of which is discussed in more detail in Section 4. Section 4 focuses on Korean VP-ellipsis, as analyzed by Park (in press), which challenges the generalization. I will argue that this tension, involving extraction from Korean VP-ellipsis sites, can be resolved by positing verb movement in Korean. Finally, Section 5 concludes the paper.

2. Ellipsis and Phases

Bošković's (2014) proposes that ellipsis be closely correlated with phases, in that both entire phases and phasal complements can undergo ellipsis. Let us first explore how ellipsis is derived under Bošković's approach in details. He follows a dynamic approach to the definition of phases, suggesting that the highest projection of a lexical category becomes a phase and that immediately after the next phase head merges, the lower phase or phasal complement domain would be marked ellipsis.

2.1. Licensing ellipsis in phases

Let us examine his point with the following examples in (4). Note that when aspectual auxiliaries appear in between T and V, the possible targets of VP-ellipsis differ. While (4b) and (4c) are possible, (4a) and (4d) are impossible.²⁾

- (4) Betsy must have been being hassled by the police, and
- a. *Peter must <have been being hassled>.
 - b. Peter must have <been being hassled>.
 - c. Peter must have been <being hassled>.
 - d. *Peter must have been being <hassled>.

(Sag, 1976, p.31)

According to Bošković's dynamic phase analysis, the highest head within the layered VP projections functions as a phase. Since aspect heads are considered part of the verbal domain, the highest aspectual head in each example is treated as the

2) Independently, Aelbrecht (2010) addresses the derivation of VP-ellipsis in (4). Building on Merchant's (2001) analysis, she argues that ellipsis is syntactically licensed when a licensing head establishes an Agree relation with a head bearing an ellipsis feature ([E] feature). To be more specific, ellipsis takes place on the complement of [E] immediately after the ellipsis licensing head is merged in the structure and enters an Agree relation with [E].

In cases like (4b-c), there are intervening heads between the ellipsis-licensing head and the head with the [E] feature—specifically, T functions as the licensing head, while the aspectual head carries the [E] feature. When they enter into an Agree relation, the complement of the perfect aspect head is unpronounced at PF in (4b), and the complement of the progressive aspect head is unpronounced in (4c). However, Aelbrecht's analysis does not explain why the passive head cannot carry an [E] feature, resulting in the ungrammaticality of (4d).

In contrast, Bošković's (2014) dynamic phase analysis provides a straightforward explanation for all these cases in (4), which is why this paper adopts his approach to account for extraction from ellipsis sites.

phase in the verbal domain of the examples above. Bošković illustrates this with the underlying structure of the second clause in (5a).³⁾ The aspectual morphology undergoes PF-merger with the lexical component, leading to the structure shown in (5b).

- (5) a. [TP Peter_i must [VP_{f1} have [AspectP1 en [VP_{f2} be [AspectP2 ing [VP_{f3} be [VP hassled t_i by the police]]]]]]]]
 b. [TP Peter_i must [VP_{f1} have [AspectP1 be_j en [VP_{f2} t_j [AspectP2 be_k ing [VP_{f3} t_k [VP hassled t_i by the police]]]]]]]]]]

(Bošković, 2014, p.61)

In the structure of (5b), the only projections “in the middle field” that can be elided are a phase and its phasal complement, corresponding to AspectP1 and VP_{f2}, respectively. Thus, (4b) results from PF-deletion of the AspectP1 phase, while (4c) results from PF-deletion of its complement, VP_{f2}. Importantly, VP_{f1} cannot be elided because it is neither a phase nor a phasal complement, which explains the ungrammaticality of (4a). Similarly, AspectP2 cannot be elided for the same reason, ruling out (4d). This analysis straightforwardly accounts for the patterns of acceptability in the examples in (4).

2.2. Extraction out of an ellipsis site

Let us now examine how the dynamic phase approach accounts for the possibility of overt extraction from ellipsis sites. Standard assumptions about successive-cyclic movement, combined with the effects of phases and the Phase Impenetrability Condition (PIC), dictate that α must move to SpecYP (the phasal edge) before the higher phase head X is merged (Chomsky, 2000, 2001):

- (6) X ... [LP [YP α_i [ZP [KP ...t_i ...

When X is merged, Bošković (2014) argues that the lower phase YP becomes eligible for ellipsis marking, which is assumed to occur immediately upon the merger of X (see also Aelbrecht, 2010). Bošković suggests that, at this point, there are two

3) Bošković assumes that aspectual auxiliaries consist of two components—lexical and morphological. The lexical component of aspectual auxiliaries, such as *have* or *be*, lacks semantic content and, therefore, does not qualify as a phase.

options for ellipsis: first, the entire phase YP can be marked for ellipsis, making it unavailable for further syntactic computation and phonological realization, or second, only the complement of Y, ZP, can be marked for ellipsis at spell-out. In the second scenario, in particular, an element α can move out of the ellipsis-marked domain to a higher position X. On the other hand, in the first scenario, when X merges, the entire phase—including the phase edge—is marked for ellipsis. As a result, the element α becomes trapped within the ellipsis domain, making extraction from ellipsis sites impossible. This scenario aligns with the core idea of hypothesis (3): namely, extraction is permitted from ellipsis sites that function as phasal complements. Thus, the distinction between full-phase ellipsis and complement ellipsis effectively accounts for differences in extraction behavior.

With this in mind, let us examine concrete examples that demonstrate the asymmetry in overt extraction from ellipsis sites. In English, extraction from standard sluicing and VP-ellipsis sites can be easily accounted for using Bošković's approach.

- (7) a. John met a student, but I don't [_{VP} remember v [_{CP} who_i C [_{TP} <he met t_i >]]].
 b. John has finished his homework, and C [_{TP} Mary_i has [_{AspectP} Aspect [_{VP} < t_i finished his homework>]]], too.

The examples in (7a-b) illustrate extraction from TP-ellipsis and VP-ellipsis sites, respectively. The second clause of (7a) is derived as follows: wh-movement occurs within the embedded clause, moving the wh-element to the embedded SpecCP. The embedded TP is then marked for ellipsis by the phase head C. When the higher phase head, the matrix v, merges, TP-ellipsis is licensed. Similarly, the subject extraction from the VP-ellipsis site in (7b) is straightforward under Bošković's approach. Assuming that Aspect is the highest phase head within the verbal domain, its complement, VP, can be elided once the higher C phase head merges. In both cases, ellipsis does not block the extraction because PF-deletion only takes effect when the higher phase head is merged.

Note that both cases above involve phasal complement ellipsis. Bošković (2014) presents more intriguing examples where phasal ellipsis and phasal complement ellipsis yield different predictions for extraction from the verbal domain in English. Let us compare the examples in (8a-b).

- (8) a. ?*You wonder on which table your book must have been put, and I wonder on which table my CD must have.
 b. ?You wonder on which table your book must have been put, and I wonder on which table my CD must have been.

(Bošković, 2014, pp. 63-64)

The key difference between the examples above lies in whether phasal or phasal complement ellipsis is involved. Bošković argues that (8a) is ungrammatical because the ellipsis targets an Aspect phase, while (8b) is grammatical because it involves the deletion of a phasal complement. Let us examine (9a-b) that illustrate the derivation of (8a-b), respectively.

- (9) a. *... I wonder on which table C [TP my CD must [VP_{F1} have [AspectP₁ <t_{wh} been-~~[VP_{F2} put t_{wh}]]>]].
 b. ... I wonder on which table C [TP my CD must [VP_{F1} have [AspectP₁ t_{wh} been <[VP_{F2} put t_{wh}]]>]].~~

When C merges, the lower phase is immediately marked for ellipsis, causing the entire Aspect phrase in (8a) to become opaque to further syntactic operations. As a result, the wh-phrase *on which table* is trapped inside the Aspect phase and cannot move to SpecCP. In contrast, in (8b), the phasal complement VP_{F2} is marked for ellipsis, and since the wh-phrase is outside the ellipsis domain, it can move freely to SpecCP.

Bošković (2014) highlights an asymmetry between A- and A'-extraction from ellipsis sites. The contrast in grammaticality, as shown in (9a-b), clearly indicates that A'-extraction is prohibited when a phase is the target of ellipsis but is allowed when the target is a phasal complement. In contrast, A-extraction is permitted regardless of whether the target is a phase or a phasal complement. This point is illustrated in (4b-c), with their respective derivations shown in (10a-b). In (10a), the phase AspectP₁ is elided, while in (10b), the complement of the phase, VP_{F2}, is elided. In both scenarios, NP-movement remains possible.

- (10) a. [TP Peter_i must have [AspectP₁ t'_i [AspectP₁ <been-being hassled t_i-by the police>]]]
 b. [TP Peter_i must have [AspectP₁ t'_i [AspectP₁ been [VP_{F2} <being hassled t_i-by the police>]]]]

The attractor for A-movement is T. Before C is merged, T attracts the subject, and AspectP1 has not yet been marked for ellipsis. As a result, the subject in SpecAspectP1 is available for movement to SpecTP in the case of phasal ellipsis (10a), and the same applies to the phasal complement ellipsis case (10b).

To summarize, Bošković's (2014) dynamic phase approach explains why A'-extraction from an ellipsis site is sometimes allowed and sometimes not. Such extraction is possible when the ellipsis site is the complement of a phase because deletion does not affect the phase edge position, allowing an element to escape before PF-deletion. In contrast, A'-extraction from an ellipsis site is blocked when the deletion target is a phase itself. In this case, when a higher phase merges, PF-deletion applies to the phase before the extracted element has a chance to escape. Thus, Bošković's analysis supports the generalization in (3), repeated here as (11).

- (11) A'-extraction from an ellipsis site is only possible if the ellipsis target is the complement of the phase.

In the next section, I will examine various types of ellipsis in Korean, including NP-ellipsis in numeral-classifier constructions, argument ellipsis, clausal ellipsis, and fragment ellipsis, and test the generalization in (3) against these cases. I will demonstrate that argument ellipsis and clausal ellipsis involve phasal ellipsis, while NP-ellipsis and fragment ellipsis involve phasal complement ellipsis. I will argue that the patterns of extraction from ellipsis sites in Korean align with Bošković's (2014) dynamic phase approach.⁴

3. Extraction from Ellipsis Sites in Korean

The examples discussed in this section are presented in (12-15), all of which involve A'-extraction from ellipsis sites. The ellipsis sites involve a clausal complement in (12), an NP argument in (13), a numeral-classifier construction in (14), and a fragment in (15).

- (12) a. Ku chayk-ul_i Minswu-nun [_{CP} Yenghuy-ka t_i sass-ta-ko] malhass-ta.
that book-acc M.-top Y.-nom buy-past-C say-past

4) However, not all cases conform to the generalization. See sections 3.3 and 4 for further implications.

'That book, Minswu said that Yenghuy bought.'

- b. *Ku chayk-ul_i Chelswu-nun [_{CP} <Yenghuy-ka t_i sass-ta-ko>] malhass-ta.
 that book-acc C.-top Y.-nom buy-past-C say-past
 'That book, Chelswu said [_{CP} Δ].'

- (13) a. Na-nun Chelswu-y cha-lul boass-ko, ne-nun Yenghuy-uy cha-lul
 I-top C.-poss car-acc saw-conj. you-top Y.-poss car-acc
 boass-ta.
 saw-dec

'I saw Chelswu's car, and you saw Yenghuy's car.'

- b. *Na-nun [_{NP} Chelswu-y cha-lul] boass-ko, Yenghuy-uy_i ne-nun [_{NP} <t_i
 I-top C.-poss car-acc saw-conj. Y.-poss you-top
 cha-lul>] boass-ta.
 car-acc saw-dec

- (14) a. Na-nun Chomsky-uy chayk-ul sey-kwon ilkess-ko,
 I-top C.-poss book-acc three-cl read-conj.
 John-un Chomsky-uy chayk-ul twu kwon ilkess-ta.
 J.-top C.-poss book-acc two-cl read-dec.

'I read three Chomsky's book, and John read two Chomsky's book.'

- b. Na-nun [_{CIP} [_{NP} Chomsky-uy chayk-ul] sey-kwon] ilkess-ko,
 I-top C.-poss book-acc three-cl read-conj.
 twu-kwon-ul_i John-un [_{QP} twu-kwon <[_{KP} [_{NP} Chomsky-uy chayk]]>
 two-cl-acc J.-top C.-poss book-acc
 Ø-_{ti}]_i ilkess-ta.
 read-dec

- (15) A: Chelswu-nun ecey nwukwu-lul mannass-tako malhass-ni?
 C.-top yesterday who-acc met-C said-Q

'Who did Chelswu say that he met yesterday?'

- B: Yenghuy-(lul)_i C <[_{TP} Chelswu-nun acey t_i mannass-tako malhass-ta]>
 Y.(-acc)

In the following sections, I will analyze the above cases using the distinction between phasal and phasal complement ellipsis and examine the generalization in (3).

3.1. (Clausal) arguments and phasal ellipsis

(12b) and (13b) involve phasal ellipsis, which accounts for why extractions from

CP and NP argument ellipsis sites are prohibited. For scrambling to occur out of the embedded clause in (12b), the embedded object must stop at the embedded CP phase edge. However, once the higher phase head, the matrix *v*, merges, the embedded CP is immediately marked for ellipsis, blocking further syntactic operations. Consequently, overt movement out of the CP ellipsis site is prohibited, as illustrated in the simplified derivation in (16a).

- (16) a. Chelswu-nun [_{VP} v [_{CP} <NP_{Obj}_i [_{CP} NP_{subject} t_i-V-dec-C>]] V-dec]
 b. [_{TP} Ne-nun [_{VP} v [_{NP} <Yenghuy-uy cha-tul>]]] boass-ta

The same restriction applies to possessor raising out of the noun phrase followed by NP argument ellipsis in (13b). According to Bošković's (2014) dynamic phase analysis, the highest head in a noun phrase functions as a phase head. Bošković (2012) and Bošković & Şener (2014) argue that languages like English and Italian are DP languages, whereas languages like Korean, Japanese, and Serbo-Croatian lack determiners, making them NP languages. If this distinction holds, then DP, as the highest head in nominal projections, forms a phase in English-type languages, while NP forms a phase in Korean-type languages.

Under this framework, as illustrated in (16b), the possessor phrase *Yenghuy-uy* merges in SpecNP but cannot move further. When the higher *v* phase head merges, the noun phrase is immediately marked for ellipsis, blocking any additional syntactic operations. Therefore, overt movement out of the NP ellipsis site is prohibited.

Before concluding this section, let us briefly address the asymmetry in Left Branch Constraint effects followed by ellipsis in DP versus NP languages. In English, for instance, possessors are assumed to merge in SpecNP and then raise to SpecDP, as shown in (17a).⁵⁾ When the higher *v* phase head merges, the phasal complement of D is marked for ellipsis. This results in movement out of an elided phasal complement.

5) Internal arguments can be extracted from a DP ellipsis site. Consider a scenario where John's colleague, Bill, has written numerous biographies of U.S. presidents. While Bill is particularly proud of some of these biographies, he dislikes many others. In this context, a PP *about which president's biography* (as an NP complement) can be extracted from the ellipsis site.

(i) John mentioned that he recommended his colleague's book about a president's biography, and I'm curious about which president's biography_i John criticized of [_{DP} t_i [_{DP} his colleague's [_{NP}<book-t_i>]]]."

- (17) You like Faulkner’s novel, and I like [_{DP} Joyce_i’s [_{NP} <_{t_i} novel>]].
 (Bošković, 2014, p.44)

The asymmetry observed in (13b) and (17) raises the question of when to apply phasal versus phasal complement ellipsis. If both types were freely available, one could envision examples like (12b) and (13b) being grammatical.⁶⁾ Specifically, if phasal complement ellipsis were applied in these examples, extraction out of argument ellipsis sites would theoretically be allowed in Korean. Note that if the phasal complement were elided only after the embedded object had raised to the CP phase edge, it would no longer be included in the ellipsis marking, as shown in (18). This predicts that the NP object could be extracted out of the ellipsis site—contrary to the observed data.

- (18) [_{CP} NPobj_i Chelswu-nun [_{vP} v [_{CP} t_i C [_{TP} <NP-subject t_i V-dec-C>]] V-dec]]

Previous literature lacks a theoretical generalization on whether argument ellipsis involves phasal or phasal complement ellipsis, but some empirical observations have been made. Saito (2007) notes that argument ellipsis is restricted to languages without agreement, distinguishing Korean-type languages from English-type languages. This distinction explains why argument ellipsis is unavailable in English but permitted in Korean. Sakamoto (2017) offers a similar insight, observing that languages allowing argument ellipsis share a common trait: only radical *pro*-drop languages, such as Korean, Japanese, and Chinese—all NP languages—permit argument ellipsis (see also Bošković, 2008; Cheng, 2013).

Sakamoto further argues that argument ellipsis differs from sluicing and NP ellipsis in English by targeting a full argument—a complement of a lexical head rather than a functional head—therefore avoiding conditions that require functional head licensing for ellipsis. This implies that argument ellipsis in Korean-type languages involves phasal ellipsis, accounting for why the derivation shown in (18) is unavailable.

3.2. Phasal complement ellipsis in Korean

6) In cases of extraction from NP followed by phasal complement ellipsis, as in (13b), an independent factor prevents this. Since Korean disallows post-nominal complements, no constituent within the noun phrase qualifies as a phasal complement eligible for ellipsis.

Note that extraction from ellipsis sites is possible in (14b) and (15b), both involving phasal complement ellipsis. Let us first examine (14b), where a numeral-classifier escapes from the NP, followed by NP-ellipsis. The derivation of the NP component in the second clause is illustrated in (19). Following Watanabe (2006), I assume the underlying structure shown in (19a). For the NP to receive case-marking, it raises to SpecKP, yielding *Chomsky-uy chayk-ul twu kwon* in (19b). The quantifier head then merges with KP, and the numeral-classifier raises to SpecQP, resulting in *twu kwon(-uy) Chomsky-uy chayk-ul* in (19c).

- (19) a. [_{KP} [_{CIP} twu [_{NP} Chomsky-uy chayk] kwon] ul]
 two Chomsky's book Cl acc
 b. [_{KP} Chomsky-uy chayk_i [_{CIP} twu t_i kwon] K-ul]
 c. [_{QP} twu kwon [_{KP} Chomsky-uy t_i chayk K-ul] Q]
 d. [_{QP} twu-kwon <[_{KP} ~~Chomsky-uy t_i chayk t_k~~] Q-ul_k]
 e. ... [_{QP} twu-kwon-ul]_i C John-un [_{QP} Δ]_i ilkess-ta.

As shown in (19d), the numeral classifier is scrambled from SpecQP to the front of the clause.⁷⁾ Note that QP is the highest nominal projection, making Q a phase head in the current approach. The structure in (19d) results when KP is elided. Upon the merger of C, the phasal complement of Q (i.e., KP) is marked for ellipsis. The scrambling of the QP follows in (19e), deriving the second clause of (14b).

Now, let us consider (15B), repeated in (20). In Korean, fragments are argued to arise via focus movement, followed by the deletion of the remnant clause (Kim 1997; Merchant 2004; Park 2004; among others). The derivation of fragment answers is straightforward: the C head serves as a phase head, marking its complement TP for ellipsis, which allows the fragment answer *Yenghuy(-lul)* to remain after deletion.

- (20) [_{CP} Yenghuy(-lul)_i C <[_{TP} ~~Chelswu-nun acey t_i manness-tako malhass-ta~~]>

3.3. Further implications

Two points are worth considering. First, Sakamoto (2017) and Fujiwara (2022) make an interesting observation that A-movement from phasal ellipsis sites is

7) An anonymous reviewer points out that the accusative case can be marked on the numeral-classifier phrase, resulting in *Chomsky-uy chayk(-ul) twu kwon-ul*. To derive (19d), I assume that K raises to Q, followed by phasal complement ellipsis, i.e. deletion of KP.

unavailable in Japanese. Note that in (21) the embedded subject raises to the matrix object position, followed by clausal ellipsis, resulting in ungrammaticality.

- (21) a. Taroo-wa Kanako_i-o orokanimo [_{CP} t_i tensai da to] shutyoosi-ta.
 T.-top K.-acc stupidly genius pres C claim-past-C
 'Taro stupidly claimed that Kanako is a genius.'
- b. *Ziroo-wa Ayaka_i-o orokanimo [_{CP} <t_i tensai da to>] shutyoosi-ta.
 Z.-top A.-acc stupidly claim-past-C
 'Ziro stupidly claimed Ayaka is a genius.'

(Sakamoto, 2017, p.126)

The same distribution is found in Korean, as illustrated in (22).

- (22) a. Cheli-nun Minwoo_i-lul papokati [_{CP} t_i ttoktokha tako] mit-ess-ta.
 C.-top M.-acc stupidly brilliant C believe-past-C
 'Cheli stupidly believed that Minwoo is brilliant.'
- b. *Younghuy-nun Jina_i-lul papokati [_{CP} <t_i ttoktokha tako>] mit-ess-ta.
 Y.-top J.-acc stupidly believe-past-C
 'Younghuy stupidly believed that Jina is brilliant.'

It is important to note that the examples above do not align with the generalization (3), which predicts that A-movement should be possible from both phasal and phasal complement ellipsis sites. According to this generalization, the examples would be expected to be acceptable; however, they are, in fact, ungrammatical. This discrepancy suggests that the generalization is not entirely accurate to cover cross-linguistic data.

The current phase-based analysis explains this ungrammaticality. Specifically, the embedded clause functions as a phase, regardless of whether it is a CP, as the highest clausal projection is assumed to be a phase. In the derivation, the embedded subject raises to the CP phase edge and waits for the subsequent phase to merge. Upon the merging of the matrix v, the entire embedded clause is marked for ellipsis, consistent with the assumption (Section 3.1) that clausal argument ellipsis involves phasal ellipsis in Korean. Consequently, the embedded clause, including the ECM subject in SpecCP, is marked for ellipsis, thus accounting for the ungrammaticality of (22b).

This suggests that distinguishing A-extraction from A'-extraction out of phasal

ellipsis sites is unnecessary, as it can be derived within a phase-based system. Therefore, the generalization in (3) should be revised as presented in (23).

- (23) Extraction from an ellipsis site is only possible if the ellipsis target is the complement of the phase.

Second, Park (in press) proposes that Korean exhibits VP-ellipsis in examples like (24). Park argues that *ha* ‘do’ functions as a light verb, selecting a verbal noun such as *sayngkak* ‘thought’. Together with the complement selected by the verbal noun, this forms a VP. The light verb then selects the VP, thereby licensing VP-ellipsis, which is shown in (24b).

- (24) a. *Yenghwa-man-ul_i Kim-un [VP [CP t_i caymiiss-ta-ko] sayngkak]*
 movie-only-ACC K.-top exciting-D-C thought
 an-ha-n-ta.
 neg-do-pres-C
 ‘Kim doesn’t think that only movies are exciting.’
- b. *Na-nun <[VP [CP ~~Yenghwa-man-i caymiiss-ta-ko~~] sayngkak]> ha-n-ta.*
 I-top movie-only-nom exciting-D-C thought do-pres-C
 ‘I do think that only movies are exciting.’
- c. **Yenkuk-man-i na-nun <[VP [CP t_i caymiiss-ta-ko] sayngkak]>*
 play-only-acc I-top exciting-D-C thought
 an-ha-n-ta.
 neg-do-pres-C

(Park, in press, (27))

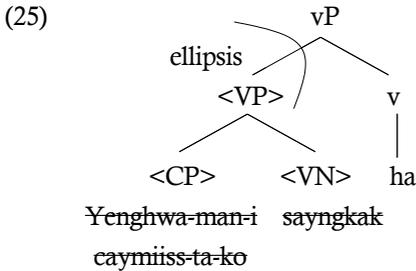
As shown in (24c), extraction out of the ellipsis site is prohibited. This raises an interesting question: is the ellipsis site a phase or a phasal complement? Since the light verb *v* functions as a licenser for the elision of its complement VP, it should function as a phase head within the current dynamic phase approach. In other words, while extraction out of the VP-ellipsis site in (24c) is prohibited, it still constitutes phasal complement ellipsis. However, note that all the observed examples in this paper so far have shown that extraction out of the phasal complement ellipsis is available. From this perspective, the phenomenon in Korean—where VP-ellipsis occurs but extraction is impossible, as described by Park (in press)—appears unique and does not align with the generalization in (23) proposed in this paper. Given

this tension between extraction availability and the generalization, further discussion is warranted in the next section to clarify this phenomenon.

4. Extraction out of Korean VP-ellipsis

4.1. Decomposition of predicates: verbal nouns and light verbs

In this section, we will expand on Park’s (in press) analysis of Korean VP-ellipsis and extraction from ellipsis sites. Park suggests that certain Korean verbs can be decomposed into a structure where the light verb *ha* merges morphologically with a verbal noun, a structure he terms the *VN-ha* construction. The verbal noun, along with its clausal complement, may then be licensed for ellipsis by the light verb. As shown in (24b), this process resembles VP-ellipsis, where *v* licenses the deletion of its VP complement. The internal structure of the *VN-ha* construction (24b) is shown in (25).⁸⁾



(Park, in press, (22))

While Park’s examples primarily focus on *sayngkak-ha-ta* ‘think-do-dec’, a variety of other Korean *VN-ha* constructions exist and display similar behavior, such as *yaksok-ha-ta* ‘promise-do-dec’, *mal-ha-ta* ‘speech-do-dec’, and *cwucang-ha-ta* ‘argument-do-dec’. In fact, these *VN-ha* constructions are more productive than *sayngkak-ha-ta*, as they allow both clausal argument ellipsis and VP-ellipsis. Given the antecedent sentence in (26a), both types of ellipsis are possible: clausal ellipsis in (26b) and VP-ellipsis in (26c).

8) Park (in press) takes a slightly different view on how VP-deletion is derived in (25). He proposes that the light verb *ha* bears an [E] feature, and once its licensing head merges, the complement of [E] is elided. This difference does not affect our discussion; the key point is that (25) involves the deletion of a complement, not a phase itself.

- (26) a. Kim-un [*pro* ipen kyengcayng-eyse Mary-lul iki-lkela-ko]
 K.-top this competition-in M.-acc defeat-fut.-C
 yaksok/mal/cwucang hay-ss-ta.
 promise/speech/argument do-past-C
 'Kim promised/said/argued that she would defeat Mary in the competition.'
- b. Na-to <[*pro* ipen kyengcayng-eyse Mary-lul iki-lkela-ko]>
 I-also this competition-in M.-acc defeat-fut.-C
 yaksok/mal/cwucang hay-ss-ta.
 promise/speech/argument do-past-C
 'I also promised/said/argued that I would defeat in the competition.'
- c. Na-to <[*pro* ipen kyengcayng-eyse Mary-lul iki-lkela-ko
 I-also this competition-in M.-acc defeat-fut.-C
 yaksok/mal/cwucang]> hay-ss-ta.
 promise/speech/argument do-past-C

Notably, for reasons that remain unclear, clausal argument ellipsis is marginal with the predicate *sayngkak-ha-ta*. In response to (24a), example (27) is degraded.

- (27) *Na-nun <[_{CP} Yenghwa-man-i caymiiss-ta-ko]> sayngkak ha-n-ta.
 I-top play-only-nom exciting-D-C thought do-pres-C
 'I do think that only movies are exciting.'

(Park, in press, (11b))

4.2. Extraction from ellipsis sites and verb-movement in Korean

Interestingly, in all instances of (26), scrambling out of ellipsis sites is prohibited. When the embedded object *Mary-lul* 'Mary-acc' is extracted from clausal ellipsis and VP-ellipsis sites, sentences (28a) and (28b) are rendered ungrammatical.

- (28) a. *Mary-lul Na-to <[*pro* ipen kyengcayng-eyse _{t_i} iki-lkela-ko]>
 M.-acc I-also this competition-in defeat-fut.-C
 yaksok/mal/cwucang] hay-ss-ta.
 promise/speech/argument do-past-C
 'I also promised/said/argued that I would defeat in the competition.'
- b. *Mary-lul Na-to <[*pro* ipen kyengcayng-eyse _{t_i} iki-lkela-ko]
 M.-acc I-also this competition-in defeat-fut.-C

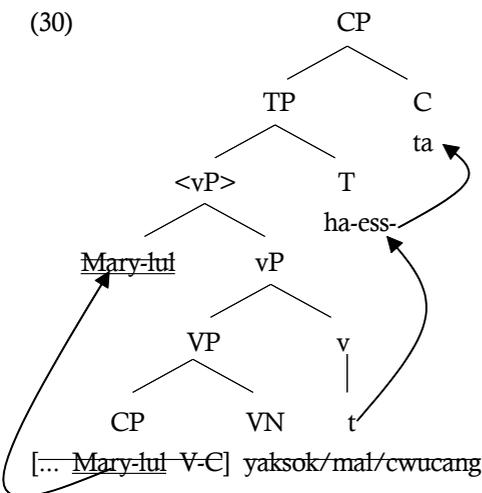
yaksok/maɪ/cwucang]> hay-ss-ta.
 promise/speech/argument do-past-C

Let us explore whether Bošković's (2014) dynamic phase approach can account for why these examples are ruled out. The derivations of (28a–b) are schematically illustrated in (29a–b), respectively.

- (29) a. Obj_i Subj [_{VP} [_{VP} <[_{CP} ... t_i ...]> VN] v] ...
 b. Obj_i Subj [_{VP} t'_i <[_{VP} [_{CP} ... t_i ...] VN]> v] ...

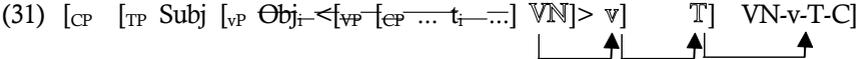
Note that *v* serves as the phase head in the verbal domain since it is the highest head. Therefore, clausal argument ellipsis in (29a) cannot be licensed, as CP is neither a phase nor a phasal complement. Consequently, the current system incorrectly predicts (26b) to be ungrammatical, making the ungrammaticality of (28a) trivial to explain. On the other hand, the current system correctly predicts that VP-ellipsis is acceptable in (26c), as it occurs in the complement of the *v* phase. However, the derivation of (29b) would incorrectly permit scrambling of the embedded object, contradicting the observed ungrammaticality in (28b).

The question for the remainder of this paper is whether the challenges posed to the current system can be addressed. Let us assume that verb-movement occurs in Korean (Otani & Whitman, 1991; Park, 1992; Choi, 1999; Koizumi, 2000; cf. Han et al., 2007). Specifically, I propose that *ha* raise and attach to the tense and declarative markers during the derivation, as illustrated in (30).



The crucial point is that the light verb escapes from the vP. When v raises to T, the vP phase is marked for phasal ellipsis, which will be sent to PF as soon as a higher phase head (i.e., the matrix C) merges. Consequently, vP phasal ellipsis essentially deletes the VP, thereby explaining the grammaticality of (26c). This also accounts for why overt extraction from the vP phasal ellipsis site is prohibited in (28b): the embedded object would be marked for ellipsis at the vP phase edge. Importantly, this aligns with our generalization that nothing can be extracted from a phasal ellipsis site. Both (24c) and (28b) qualify as instances of vP phasal ellipsis, rather than phasal complement ellipsis.

To account for the ungrammaticality of (28a), it is necessary to assume that the VN is also subject to verb movement, as shown in (31).⁹⁾ Once the VN-v morphological complex further raises to T, the vP phase is marked for ellipsis. The object cannot move further because the merger of the higher C phase would immediately send vP to be unpronounced at PF. Therefore, (28a) is also an instance of vP phasal ellipsis, fitting well within our generalization.



Before concluding this section, an interesting question remains: why is only VP-ellipsis possible with the VN *sayngkak*, while both VP-ellipsis and clausal argument ellipsis are possible with other VNs, as shown in (26b) and (27)? I do not have a solid theoretical answer to this, and the question remains open for future research. The only conjecture that can be offered at this point is that this difference may stem from the potential for morphological merger between the VN and *ha*—a possibility limited to the latter cases. Clearly, however, there is much more to be explored on this matter.

9) An anonymous reviewer raises the question of what would happen if a case marker attaches to the VN, presumably blocking the morphological merger between the VN and v, so that the VN cannot raise, escaping from the VP-ellipsis site. Consequently, the problem is that example (i) below cannot be derived.

(i) Na-to <[pro ipen kyengcaing-eyse Mary-tul iki-ikela-ko]> yaksok-ul/-un hay-ss-ta.
 I-also this competition-in M.-acc defeat-fut.-C promise-acc/-top do-past-C

It is necessary to assume that the derivation for (i) differs from the derivation for the VN-v constructions discussed in this paper. When case is attached to the VN, it no longer functions as a verbal noun but as an ordinary noun. Thus, in (i), the noun *yaksok-ul* ‘promise’ selects a clausal complement, and the CP argument ellipsis is derived, which differs from the examples in the paper, where the CP is contained within the VP-ellipsis.

5. Conclusion

This study extends our understanding of phase-based restrictions on extraction from ellipsis sites, particularly through a detailed analysis of Korean. The findings largely support the application of Bošković's (2014) phase-based generalization to Korean, affirming that extraction from ellipsis sites is viable when the ellipsis target functions as a phasal complement. We observed that this generalization holds across various ellipsis phenomena, including NP argument ellipsis, clausal argument ellipsis, NP-ellipsis in numeral-classifier constructions, and fragment answers, indicating a robust syntactic pattern that aligns Korean with other languages showing phase sensitivity in ellipsis contexts.

Some intriguing phenomena fall outside the scope of the initial generalization (3) presented in this paper. While Bošković's generalization accounts for the asymmetry between A- and A'-movement from ellipsis sites, the extraction of ECM subjects challenges this account: in Korean, A-extraction from phasal ellipsis sites is disallowed. In addition, the analysis of VP-ellipsis in Korean introduces a unique challenge. Here, the decomposition of predicates like *sayngkak-ha(-ta)* 'think' into nominal and light verb components complicates extraction, suggesting that an independent assumption be required in the application of the generalization.

This study underscores the importance of verb movement in phase-based extraction. By integrating verb movement into the phase-based generalization, this study not only provides a more refined account of Korean ellipsis but also contributes to the broader theoretical understanding of how languages manage extraction within ellipsis contexts. Future research might build on this by exploring similar phase-based variations across other languages, further refining the generalization and expanding the empirical scope of phase theory in generative syntax.

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Seungwan Ha
Professor
Department of English Language and Literature
Kyungpook National University
80 Daehak-ro, Buk-ku, Daegu 41566, Korea
E-mail: seungwan@knu.ac.kr

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