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문학석사학위논문

Syntactic Constraints on Argument Ellipsis in Korean

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Abstract

Syntactic Constraints on Argument Ellipsis in Korean

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The present thesis aims to investigate the issue of how argument ellipsis is syntactically constrained in Korean. It has been argued that elliptical phenomena can be generalized as ellipsis of complements by functional heads (Saito & Murasugi 1990; Lobeck 1995). Yet, this generalization doesn't seem to hold for elliptical phenomena in East Asian languages, since ellipsis in these languages targets an argument projection: namely, *subject* and *direct object*. Traditionally, researches focused on revealing the nature of the phenomenon: that is, on *why* argument ellipsis occurs (Oku 1998; S.W. Kim 1999; Saito 2007; Takahashi 2014). More recently, however, structural researches have been attempted in the hope of attributing the phenomenon to specific mechanisms: that is, focus has shifted towards *how* argument ellipsis occurs (*c-command* in Abe 2009, 2018; *phase* in Sakamoto 2016; and *the DP/NP parameter* in Cheng 2013; Bošković 2016). Yet, these endeavors fall short of

an explanation mainly due to two reasons. First, they don't elaborate the specific structural configurations in which arguments are elided. They provided only a plausible environment for argument ellipsis, simply postulating that subjects and direct objects are eligible for ellipsis. Second, apparent asymmetries are observed where only certain arguments resist ellipsis, asymmetries which remain unaccounted for in the structural researches attempted thus far. These indicate that further structural examination is still called for. The present thesis embarks on this investigation in an attempt to deal with these drawbacks.

Asymmetries in ellipsis are observed for *inalienable possession* and *resultatives*: if we have double occurrence of arguments in the verbal domain, only the first argument can be elided. This is unexpected from previous researches and calls for a further explanation. In the present thesis, in response, the Constraint on Argument Ellipsis (CAE) is proposed: an argument can be elided only if it is placed in the specifier of a phase. Phase here refers to a syntactic Spell-Out domain after which linearization occurs (Fox & Pesetsky 2005), and to a semantic predication (den Dikken 2006). Therefore, the concept of phase pursued in the present thesis is closer to argument-introducing phases (McGinnis 2001; Pylkkänen 2008) than propositional phases (Chomsky 2000).

The aforementioned asymmetries can be straightforwardly accounted for under the CAE. It is demonstrated that both *resultatives* and *inalienable possession* are subject to the CAE. The present proposal can be further corroborated if we look into other constructions, such as *ditransitives* and *high applicatives*. These argument structures are argued to be subject to the CAE as well. Moreover, canonical instances of ellipsis (*i.e.*, ellipsis of *subjects* and *direct objects*) are also proven to abide by the proposed CAE.

The crucial predictions that the CAE evokes are entertained as well. In contending that an argument is eligible for ellipsis only in the specifier of a phase, it is naturally predicted that the complement and the adjunct position must be strictly ineligible for ellipsis. These predictions are mainly tested via incorporated nouns and two types of passives in Korean. The predictions are borne out, thus the CAE is supported by various empirical evidence.

For the discussion, it is argued that the proposed constraint sheds an interesting light on the long-standing mystery and the generalization of ellipsis. Based on previous researches (Saito & Murasugi 1990; Lobeck 1995; Rouveret 2012; Bošković 2014) and the CAE, it is argued that the directionality of ellipsis operations is a way of differently parametrizing a linguistic operation: phase heads elide their specifier or their complement, depending on the respective option each language chooses. Also, the peculiarity of the target position of argument ellipsis is briefly mentioned in association with the scrambling property of the language, with reference to empirical data. Finally, several remaining issues are covered: CP-ellipsis as argument ellipsis in disguise; various types of null arguments in East Asian languages; and argument ellipsis phenomenon in need of a typological investigation.

To conclude, the present thesis generalizes a structural configuration whereby argument ellipsis is constrained. Through this, a promising blueprint emerges not only for argument ellipsis in particular, but also for ellipsis in general. If the present thesis is on the right track, it deepens our understanding of (argument) ellipsis in revealing both the nature and the mechanism underlying the phenomenon.

Keywords: ellipsis, argument ellipsis, phase, Spell-Out, linearization, predication

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List of Abbreviations

ACC	accusative Case	LOC	locative
AM	aspect marking	LV	light verb
APPL	applicative	NEG	negation
AUX	auxiliary	NMLZ	nominalizer
C(OMP)	complementizer	NOM	nominative Case
CI	<i>ci</i> morpheme (Korean)	PASS	passive
CL	classifier	PAST	past tense
CLT	clitic	PERF	perfective
COLL	collective	PL	plural
COP	copular	PRES	present tense
COM	comitative Case	PROG	progressive
DAT	dative	RES	resultative
DECL	declarative	SC	small clause
ERG	ergative Case	TOP	topic marking
FOC	focus particle	Q	question particle
FV	final vowel	1SG	first person singular
GEN	genitive Case	3SG	third person singular
H.APPL	high applicative		
IND	indicative	<i>e</i> / [e]	ellipsis site
INTER.COMP	interrogative complementizer	<i>ec</i>	empty category
KO	<i>ko</i> morpheme (Korean)	<i>pro</i>	null pronoun
LE	<i>le</i> morpheme (Chinese)	Δ	ellipsis site

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1

Introduction

The present thesis aims at investigating the issue of how argument ellipsis in Korean is syntactically constrained. The syntactic nature of semantically understood but phonetically unpronounced elements has been one of the most extensively discussed topics in the field of generative grammar. The cover term for the phenomena was *ellipsis*, by which a certain part of an utterance is *elided* from the full-fledged linguistic expression. The present thesis particularly focuses on the corresponding phenomenon attested for East Asian languages. For these languages, it has been argued that ellipsis seems to target nominal arguments, hence the term *argument ellipsis* (Oku 1998; S.W. Kim 1999; Saito 2004, 2007; Takahashi 2008, 2014, *inter alia*). A canonical example is presented below.

- (1) *Argument Ellipsis in Japanese* (Takahashi 2014; his (1))
- a. Taroo-wa [zibun-no hahaoya]-o sonkeisiteiru.
Taroo-TOP [self-GEN mother]-ACC respect
'Taroo_i respects his_i mother.'
- b. Ken-mo *e* sonkeisiteiru.
Ken-also respect
'Ken_j also respects his_{i/j} mother.'

In (1b), *e* stands for the elided part. When (1b) follows (1a), the sentence can be properly interpreted despite of the absence of the manifest linguistic expression. Crucially, what is

missing in (1b) is an argument whose syntactic composition is equal to *zibun-no hahaoya* ‘his mother’, uttered in (1a). The observation that *e* in (1b) can be interpreted either as *Taroo’s mother* or *Ken’s mother* indicates that this is truly an instance of ellipsis, the issue of which I will shortly elaborate. Based on this, the following consensus was established: the target of this elliptical phenomenon is an argument nominal whose θ -role is specified.

Previous studies attempted to reveal the mysterious nature of this elliptical operation in terms of its identity and recoverability: the interface issue related to PF and LF. However, more recently, many researchers have aimed to elucidate the structural mechanism which underlies this elliptical phenomenon, in the hope of generalizing the phenomenon with respect to Narrow Syntax *per se*. In the line of these, argument ellipsis was related with syntactic concepts such as *c-command* (Abe 2009, 2018), *phase* (Sakamoto 2016) and *the DP/NP parameter* (Cheng 2013; Bošković 2016). Despite these endeavors, however, the exact target position of argument ellipsis phenomenon still remains mysterious. Since the previous literature has primarily focused on *why* the phenomenon occurs and *how* the phenomenon can be structurally accounted for, the question of *where* the phenomenon can target has gone unmentioned in the literature. It is the last question that the present thesis aims to provide an answer for. Consider an example presented in S.W. Kim (1999):

(2) *Argument Ellipsis of Possessor in Korean* (S.W. Kim 1999; his (8))

- a. Jerry-nun [caki-uy ai]-lul phal-ul ttayli-ess-ta.
 Jerry-TOP [self-GEN child]-ACC arm-ACC hit-PAST-DECL
 ‘Jerry_i hit his_i child on the arm.’
- b. Kulena Sally-nun [_{NP} e] tali-lul ttayli-ess-ta.
 but Sally-TOP leg-ACC hit-PAST-DECL
 ‘But, Sally_j hit his_i/her_j child on the leg.’

S.W. Kim (1999) argues that the first nominal in (2b) can be elided and used this example to refute the VP-ellipsis account for ellipsis in East Asian languages: he argues instead that this should be treated as NP-ellipsis. However, interestingly enough, the second nominal whose θ -role is *theme* cannot be elided. This is apparently unexpected from the consensus, for the second nominal is also an argument whose θ -role is specified.

(3) *Argument Ellipsis of Possessee in Korean*

- a. Jerry-nun [caki-uy ai]-lul phal-ul ttayli-ess-ta.
 Jerry-TOP [self-GEN child]-ACC arm-ACC hit-PAST-DECL
 ‘Jerry hit his child on the arm.’
- b. #Sally-to [caki-uy ai]-lul [_{NP} e] ttayli-ess-ta.
 Sally-also [self-GEN child]-ACC hit-PAST-DECL
 (intended) ‘Sally also hit her child on the arm.’

As illustrated in (3), given the identical baseline sentence, it is unable to elide the second nominal: it is infelicitous, which means that we cannot yield the intended reading obtained under a usual elliptical occasion. This asymmetry in elidability is indeed problematic and immediately calls for an explanation. The present thesis embarks on such an investigation by accounting for this type of asymmetry found in Korean. In particular, I propose that the asymmetry can be properly captured if we introduce a constraint on the argument ellipsis phenomenon using the notion of syntactic phase as a Spell-Out domain, whereby the unit of syntactic computation corresponds to a semantic predication.

I will look into various types of arguments in Korean, and scrutinize whether argument ellipsis can (or cannot) be licensed according to their structural configurations. I contend

that various types of arguments can be clearly accounted for under the current proposal. In particular, the existence of arguments which are ineligible for argument ellipsis strongly supports the current proposal. This is because the eligibility for argument ellipsis must be dependent on the structural representation if the current proposal of imposing a syntactic constraint on argument ellipsis is on the right track. Subsequently, the crucial prediction of the proposal will be entertained with empirical evidence as well.

Finally, I claim that revealing the precise target position for argument ellipsis eventually provides us with some clues towards solving the long-standing mysteries lying under the phenomenon in the language: *why* it occurs and *how* it occurs. This will be elaborated in the discussion. A typological implication will come into view as a way of parameterizing different ellipsis licensing operations. The intriguing relationship between the scrambling property and the availability of argument ellipsis will be also briefly mentioned in tandem with this.

The present thesis is organized as follows. Chapter 2 reviews and summarizes previous researches which have been suggested both for ellipsis in general and for ellipsis in East Asian languages. This will provide background for the discussion. Chapter 3 presents the main puzzle and the main proposal. We will also take a brief look at the structure of VP, as it can provide structural grounds for the proposal. The next two chapters contain various analyses. In Chapter 4, I show that the asymmetric paradigms presented as the puzzle can be straightforwardly accounted for under the proposal. In Chapter 5, I examine some other constructions to firmly advocate the proposal. Chapter 6 looks into the crucial prediction evoked by the proposal. Chapter 7 covers some theoretical implications and considerations followed by some remaining issues. Chapter 8 concludes the thesis.

2

Previous Literature on (Argument) Ellipsis

The study of elliptical phenomena has been one of the most central and controversial issues in the field of generative syntax as it is interrelated with other theoretical issues such as Move or Agree in Narrow Syntax, and identity or recoverability at PF/LF. Some primary studies on elliptical phenomena have been carried out mainly for languages such as English or Dutch, yet the cognate phenomenon in East Asian languages (*i.e.*, Chinese, Japanese and Korean) went relatively unnoticed until recently. Such being the case, I will begin the review with the broadly accepted assumptions and analyses on ellipsis that have been suggested for decades, and then proceed to a ramification of ellipsis phenomena in East Asian languages accompanied by some of the notable researches that have been attempted to account for argument ellipsis specifically. Before starting, it is worthy of mentioning that a non-trivial conundrum exists: although the distribution and the typology of ellipsis have been relatively well described, debates on the nature and the mechanism of ellipsis are still ongoing. In what follows, I will cover the relevant issues in turn.

2.1 Ellipsis Phenomenon in General

It is safe to say that the study of ellipsis originally started from its *anaphoric* properties: it requires linguistic antecedent (*surface anaphora* in Hankamer & Sag 1976 or *discourse*

delta in Williams 1977, *to name a few*). As apparent from its name, the term *ellipsis* refers to a phenomenon where we are able to arrive at the appropriate semantic interpretation in spite of the absence of the manifest phonetic expression. To provide essential background, I will first review some issues concerning ellipsis phenomenon in general. Those include debates on its nature, diagnostics, its typological classification and the generalization of its mechanism, all of which have been focused on Germanic languages such as English or Dutch. Considering this, it is necessary to look into the general discussion on ellipsis first, in order to adequately cover the corresponding phenomenon in East Asian languages.

2.1.1 The Nature and the Diagnostics of Ellipsis

The literature on ellipsis phenomena was primarily concentrated on revealing the hidden nature of ellipsis: exactly how these peculiar linguistic phenomena emerge. It was after all difficult to conjecture that phonetically empty material can just magically be interpreted in the intended way. Therefore, what underlies those missing parts had to be elaborated in the terms of a linguistic theory. Various approaches have been attempted to reveal the nature of ellipsis, and the majority of these assumes the presence of syntactic structure during the derivation of the missing part¹. Approaches which claim that a certain structure must be present in the ellipsis site (*i.e.*, the ‘structural’ approaches) are divided into two branches following whether they hold that the presence of the syntactic structure is maintained throughout the derivation or not. One side contends that null elements are substituted for syntactic structure, and the intended meaning is obtained by copying the relevant semantic material at LF (*i.e.*, the LF-copying analysis: Williams 1977; Fiengo & May 1994; Chung

¹ Of course there is another branch of approaches which assumes that no structure is present in the ellipsis site. These ‘non-structural’ approaches account for elliptical occurrence by indirect licensing, which is indebted to contextual pragmatic knowledge (see, for example, Ginzburg & Sag 2000 and Culicover & Jackendoff 2005).

(6) *Surface Anaphora and Deep Anaphora*

- a. Tom studied linguistics, and Emma did [], too.
- b. Tom tried to study linguistics, and Emma tried [], too.

Although seemingly identical, the bracketed missing parts in (6) have different hallmarks. First of all, we can retrieve the missing part in each without any problem: *study linguistics* (6a); *to study linguistics* (6b). However, the surface anaphora (6a) and the deep anaphora (6b) exhibit different characteristics if we take a closer look. Several diagnostics can be applied to test whether ellipsis has occurred or not, and I will present the two of them: the possibility of sloppy reading and the possibility of extraction out of the ellipsis site⁴.

First, the possibility of sloppy reading. If we are dealing with ellipsis, it is possible to get a different reading which renders the subsequent clause ambiguous in its interpretation. I present the two canonical instances of ellipsis where we can yield different readings.

(7) *The Possibility of Sloppy Reading*

- a. Samantha called her mother, and Theodore did too.
- b. Chris will read three books, and Joshua will too.

In (7), we don't have a phonetic representation in the subsequent clauses. Yet, we are able to arrive at the same interpretation as if we did. What is interesting in (7a-b) is that it is possible to get different readings for the subsequent clause. The unpronounced part in (7a) can mean either Theodore called *Samantha's mother* or *his own mother*. The first reading

⁴ Other diagnostics include Agreement marking and Case (mis)matching. For a discussion and overview on this issue, I refer readers to Merchant (2013, 2016).

is called the strict reading since it derives the identical interpretation from the antecedent. The second reading, on the other hand, is called the sloppy reading since it derives the overall meaning from the preceding clause, but retrieves the referent of the pronoun from the local entity. This is semantically represented as below:

(8) *Semantic Representation of (7a)*

- a. $\lambda y.\lambda x[x \text{ called } x\text{'s mother \& } y \text{ called } x\text{'s mother}](\textit{Samantha})(\textit{Theodore})$.
- a'. $\lambda y.\lambda x[x \text{ called } x\text{'s mother \& } y \text{ called } y\text{'s mother}](\textit{Samantha})(\textit{Theodore})$.

According to the semantic representations above, (8a) corresponds to the strict reading (it gets the referent of the pronoun from the antecedent *Samantha*) and (8a') corresponds to the sloppy reading (it gets the referent of the pronoun from the local entity *Theodore*). The same logic goes for (7b) as well: the missing part can mean either Joshua will read *the same set of books that Chris reads*, or *a different set of books*. The former is called E-type reading (Evans 1980) and the latter is called quantificational reading (Takahashi 2008)⁵. Yet, this ambiguity disappears when the missing part is replaced with an overt pronoun:

(9) *Replacement with Overt Pronoun*

- a. Samantha called her mother, and Theodore called *her*, too.
- b. Chris will read three books, and Joshua will read *them*, too.

In (9), the italicized pronouns can only refer to the exact same entities with the antecedent: the other reading becomes impossible. That is, if we had a mere void in the unpronounced

⁵ Note that the former is roughly comparable with the strict reading, and the latter roughly with the sloppy reading. These distinct readings for numeral quantifiers were suggested in Takahashi (2008) for null arguments in Japanese. From now on, for the sake of simplicity, I will stylize quantificational reading as Q-type reading.

part, we would not expect such a divergence⁶. Based on this, the availability of sloppy and Q-type reading indicates that ellipsis has occurred⁷. Yet, there have been controversies on the reliability of this diagnostic⁸. Nonetheless, in the present thesis, I suppose that sloppy and Q-type reading can be used as a diagnostic for ellipsis, since the apparent contrast between the covert and the overt is not something that we can just take as an illusion.

The second (and more reliable, according to Merchant 2013) diagnostic is the possibility of extraction out of the ellipsis site. If there is a structure present in the ellipsis site, it must be possible to extract a certain part of it provided the conditions for movement are met. This is indeed so if we take sluicing phenomena into account. Sluicing (coined as such in Ross 1969) refers to an elliptical instance where we only have a *wh*-element left behind, eliding everything except that *wh*-element. This issue especially drew many researchers' attention, since it involves \bar{A} -movement of the *wh*-element to the [Spec, CP] position from the ellipsis site. In other words, the very existence of sluicing indicates that structure is present in the missing part. Otherwise, we would not have had the *wh*-element left alone.

⁶ This follows from the reasoning that null pronouns (which are stylized as *pro*) are covert counterparts of overt pronouns. However, for the possibility of various interpretations for null pronouns, see Tomioka (2003).

⁷ I have somewhat simplified the discussion for the sake of brevity, but I will revisit this issue when we look into the elliptical paradigm in East Asian languages. For now, it suffices to assume that the availability of sloppy and Q-type reading is a piece of evidence to confirm that ellipsis took place.

⁸ Regarding this, Merchant (2013) claims that some pronouns and overt expressions do yield sloppy reading.

- (i) *Sloppy Reading with Overt Expression* (Merchant 2013; his (7a) and (7d))
- a. Ralph ate his ice-cream with a spoon, and Seymour *did the same thing*.
 - b. A professor who pays down her mortgage with her paycheck is wiser than one who gambles *it* away in online poker.

In (ia), the overt expression can be interpreted as *Seymour ate Seymour's ice-cream with a spoon*, and in (ib), the overt pronoun *it* can be interpreted as a different professor's paycheck. Based on the observation, Merchant concludes that sloppy reading is not a genuine diagnostics for ellipsis. Similarly, Runić (2014) observed that certain clitics yield sloppy reading.

(10) *Sluicing Phenomena and Extraction of wh-element*

- a. Alfonso ate something, but I don't know what.
- a'. Alfonso ate something, but I don't know [_{CP} *what*_i [_C ~~he ate~~ *t*_i]].
- b. Alfonso spoke with someone, but I don't know with whom.
- b'. Alfonso spoke with someone, but I don't know [_{CP} *with whom*_i [_C ~~he spoke~~ *t*_i]].

As indicated by the trace in their representations, they involve movement from the ellipsis site to the [Spec, CP] position. If there was no structure in the first place, it is uncertain where these *wh*-elements would originate from: it is impossible to posit any movement operation from the non-existing structure unless we assume a base-generation approach. The pied-piping in (10b) also supports this: it has to be selected by the embedded verb, which was once present. The difference in (6) can also be captured under this diagnostic.

(11) *Surface Anaphora vs. Deep Anaphora: \bar{A} -Extraction* (Merchant 2013; his (2))

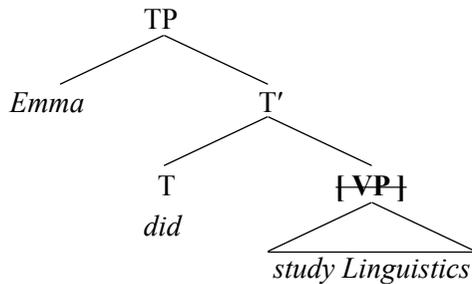
- a. Which films₁ did he refuse to see *t*₁, and which films₂ did he agree to [~~see~~ *t*₂]?
- b. *Which films₁ did he refuse to see *t*₁, and which films₂ did he agree?

(11a), an instance of VP-ellipsis, allows \bar{A} -extraction of the *wh*-element *which films*, while (11b), so-called Null Complement Anaphora (NCA; see Grimshaw 1990; Depiante 2000), does not allow \bar{A} -extraction of it. This naturally follows if only the surface anaphora has syntactic structure to provide the base position for a proper movement chain.

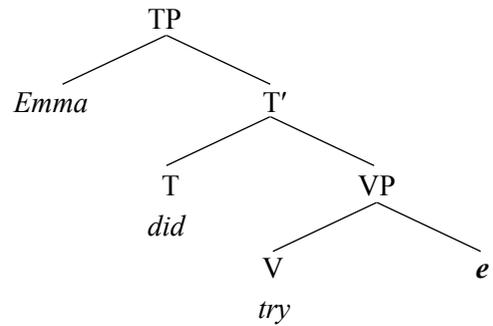
These two diagnostics together provide us with the guideline to distinguish occurrences of ellipsis from those of truly empty elements. To recapitulate, we schematize the structure of (6) as below:

(12) *Schematization: Surface Anaphora vs. Deep Anaphora*

a. *Surface Anaphora*



b. *Deep Anaphora*



In (12a), VP is elided under the identity: it is therefore VP-ellipsis. In (12b), there was no structure in the first place: meaning it is NCA. To briefly summarize, what I will cover in the present thesis is occurrence of ellipses (12a), and not truly empty elements (12b)⁹.

2.1.2 The Typology and the Generalization of Ellipsis

Since first proposed by Ross (1967), various elliptical constructions have been argued to exist both inter- and in intra-language. They differ depending on the size and the quality of the elided part, fundamentally sharing a common property that something is missing in the subsequent utterance. Among various typological classifications, here I present some of the major observations made in the previous literature.

⁹ Yet, the distinction between surface anaphora and deep anaphora in East Asian languages is not so easy to establish, since both types of anaphora target exactly identical constituents: nominal projections. I will present relevant data to show surface anaphora and deep anaphora in East Asian languages as the discussion proceeds. In East Asian languages, simply put, surface anaphora correspond to those that allow sloppy reading, whereas deep anaphora correspond to those that don't allow sloppy reading. Note that the latter can be stylized as *pro*, which was controversially identified with so-called discourse or radical *pro*-drop phenomena.

(13) *A Provisional Typology of Ellipsis* (Merchant 2016; his (1-3))

a. *Sluicing*

Lauren can play something, but I don't know what [].

... but I don't know [CP what [C [_{TP} ~~Lauren can play *t_{what}*]]]].~~

b. *VP-Ellipsis*

Lauren can play the guitar, and Mike can [], too.

... and [TP Mike [T can [_{VP} ~~play the guitar~~]]], too.

c. *N'-Ellipsis*

Lauren can play five instruments, and Mike can play six [].

... and Mike can play [DP six [D [_{NP} ~~instruments~~]]]].

What is elided in the subsequent clauses are *Lauren can play* in (13a), *play the guitar* in (13b), and *instruments* in (13c), respectively. From these instances we can clearly see that the part of the subsequent clause is missing under the identity, as represented in the second lines of each example: TP with the *wh*-trace in (13a); VP itself in (13b); NP in (13c). The difference among these elliptical constructions and the striking similarity in their apparent configurations captured many researchers' attention¹⁰. Regarding the typology, there are many other categories of ellipsis, such as gapping, pseudo-gapping, stripping, sprouting, and antecedent-contained deletion (ACD). Yet, I concern myself with those basic instances of ellipsis illustrated in (13), primarily for two reasons: first, ellipsis phenomena in East Asian languages were first treated as a mere ramification of VP-ellipsis; and second, the present thesis eventually tries to relate the elliptical phenomena in East Asian languages to a generalization proposed for the paradigm in (13)¹¹.

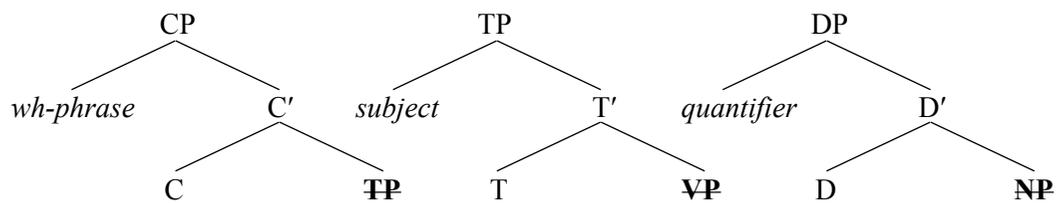
¹⁰ I have to say that I have oversimplified the explanation here for the sake of exposition, for each elided proportion in (13) certainly merits substantial discussion, some of which I will return to. For now, I simply want to clarify that this schematization is provided only to capture the general characteristics they share.

¹¹ To be specific, the main concern of this study is what had been considered a subtype of VP-ellipsis in East Asian languages, although it turned out to be significantly different from the alleged VP-ellipsis phenomenon.

We may now turn into the generalized configuration proposed for (13). For these three types of ellipsis, a unifying generalization on ellipsis constructions was attempted by Saito & Murasugi (1990) and Lobeck (1995), based on their structural similarities.

(14) *Generalization on Structural Configuration for Ellipsis* (Lobeck 1995)

a. *Sluicing (TP-Ellipsis)* b. *VP-Ellipsis* c. *N'-Ellipsis (NP-Ellipsis)*



As straightforward as it seems, the functional heads C, T and D license the ellipsis of their complement TP, VP and NP respectively. The detailed account for the configuration can be divided into two stances: Lobeck (1995) argues that Spec-Head agreement licenses ellipsis of these cases (*e.g.*, the [wh] feature in C agrees with the [wh] of a *wh*-element); and Saito & Murasugi (1990) argue that the requirement of specifier position to be filled with lexical material licenses ellipsis (*e.g.*, Sluicing is licit only if a *wh*-element occupies [Spec, CP]). The account of Saito & Murasugi (1990) was crucially based on the observation that East Asian languages seem to lack overt Agreement (for the relevant issue, see Saito 2007 or Saito *et al.* 2008). Further, based on this configuration, Merchant (2001) argues that these functional heads bear an [E]-feature where *E* stands for *ellipsis*, and that it is the licenser for the ellipsis operation. The crucial part of the [E]-feature is the *e*-givenness condition, by which the (semantic) identity is met via the operation of rendering certain expressions salient (for further discussion on this issue, see Merchant 2001, 2016; Aelbrecht 2010).

2.1.3 Apparent Limitations of a Unified Account

So far, the generalization proposed in (14) seems to hold true and neatly unify different ellipsis phenomena in an elegant way: what is elided is in the complement position of each functional head. However, as I briefly mentioned, this clear-cut account doesn't seem to hold for other languages, say, for East Asian languages. We now turn our attention to East Asian languages where we can observe different elliptical paradigms.

First, what looked like a typical VP-ellipsis in East Asian languages behaves differently from languages such as English or Dutch, since verbs cannot be elided: rather, only the object itself seems to undergo an ellipsis operation. This peculiarity was first observed by Xu (1986). His main examples include Chinese, Japanese and Korean. In (15), we observe similar patterns in terms of elidability (here, *e* stands for the gaps under discussion).

(15) *Ellipsis Occurrence in East Asian Languages* (Xu 1986; his (1))

a. *Chinese*

Ni	du	guo	zhe-ben	shu	ma?	—	<i>e</i>	du	guo	<i>e</i> .
you	read	AM	this-CL	book	Q			read	AM	
'Did you read this book?'							'I did.'			

b. *Japanese*

Kimi-wa	kono	hon-o	yomi-masi-ta	ka?	—	<i>e</i>	<i>e</i>	yomi-masi-ta.
you-TOP	this	book-ACC	read-PAST-C	Q				read-PAST-C
'Did you read this book?'						'I did.'		

c. *Korean*

ne-nun	i	chayk-ul	ilk-ess-ni?	—	<i>e</i>	<i>e</i>	ilk-ess-ta.
you-TOP	this	book-ACC	read-PAST-Q				read-PAST-DECL
'Did you read this book?'					'I did.'		

As we can see, verb ‘to read’ (*du* in Chinese; *yomi-* in Japanese; *ilk-* in Korean) survives the ellipsis operation. What crucially differs from the English counterparts is that not only objects, but also subjects can be elided under something like an ellipsis operation. This is drastically distinct from ellipsis phenomena attested in other languages: first, verbs have to be present after the ellipsis; second, subjects can be elided as well¹². The first difference is not that astonishing, since the observation that languages such as Irish show ellipsis after V-raising is pervasive. Irish is a well-known VSO language in which obligatory verb raising is attested. The elliptical pattern observed in Irish is thus different from other languages that we have covered, since it can leave the verb behind after VP-ellipsis.

(16) *Ellipsis in Irish*

(McCloskey 1991; his (25))

- Q. Ar chuir tú isteach air?
 INTER.COMP put.PAST you in on-it
 ‘Did you apply for it?’
- A. Chuir.
 put.PAST
 ‘Yes.’

Based on the observation that Irish lacks expressions corresponding to *yes* and *no*, the licit answer for *yes/no*-question in Irish is to reiterate only the verb, as in (16). This naturally follows from when we posit verb raising in Irish, since what is elided in (16) is the VP, not just the object. Still, the second difference that the subject can be null in East Asian languages calls for further explanation. This issue is particularly related with the *pro*-drop

¹² However, it has to be mentioned that they have not been simply treated as identical phenomena, since there is an apparent asymmetry between subjects and objects (observation due to Huang 1984). This issue will be shortly dealt with in Section 2.3.2.

parameter, since null subjects in Romance languages are known to be empty pronouns. From this perspective, the observation that East Asian languages exhibit a similar behavior is intriguing¹³. In a pioneering work, Huang (1984) suggests that Chinese allows for the subject and the object to be dropped, but that each originate from different mechanisms.

(17) *Empty Categories in Chinese* (Huang 1984; his (7), (31) and (36))

- a. Zhangsan kanjian Lisi le ma? — *e* kanjian *e* le.
 Zhangsan see Lisi LE Q see LE
 ‘Did Zhangsan see Lisi?’ (intended) ‘Zhangsan saw Lisi.’
- b. (neige ren_i), Zhangsan shuo [Lisi bu renshi *e_i].
 (that man), Zhangsan say [Lisi not know].
 (literal) ‘That man_i, Zhangsan said Lisi didn’t know *e_i*.’*
- c. Zhangsan_i shuo [*e_i* mingtian yao lai].
 Zhangsan say [tomorrow want come].
 (literal) ‘Zhangsan_i said that he_i wants to come tomorrow.’

Crucially he distinguished empty objects from empty subjects. Empty objects are variables bound by a null-topic operator, for it is co-indexed and licensed by a discourse topic as in (17b): this is apparent from the optionality of the sentence-initial topic. Empty subjects, on the other hand, are genuinely *pro* in (17c) like in Spanish or Italian: when in the embedded environments they cannot yield sloppy reading. For the matrix subject and object in (17a), he identified them with (17b): they are bound by a discourse-salient entity.

So far, we have seen that the observations and generalizations for ellipsis don’t hold in East Asian languages. If we try to apply the generalization in (14) to the ellipsis paradigms

¹³ Null subjects in various languages were typologically classified based on this insight (Neeleman & Szendrői 2007; Barbosa 2011a, 2011b; Sigurðsson 2011, *to name a few*). According to these, null subjects in East Asian languages are considered discourse or radical *pro*-drop, hence different from those in Spanish or Italian.

of (15), it will result in a mismatch. In order to solve this mystery, many approaches have been attempted during the last three decades, each aiming at providing different accounts for ellipsis in East Asian languages. These researches are broadly classified into three major approaches: a V-Raising VP-Ellipsis approach; an Argument Ellipsis approach; and an Indefinite *pro* approach. We will look into each of these strategies one by one.

2.2 Ellipsis Phenomena in East Asian Languages

As we have seen, ellipsis phenomena in East Asian languages exhibit a crucial difference from other languages: verbs *cannot* be elided and subjects *can* be elided. Therefore, many of the previous accounts that held true for other languages fall short of explanation in the case of East Asian languages. I will introduce three major approaches that have attempted to solve this discrepancy, starting from the V-Raising VP-Ellipsis approach.

2.2.1 V-Raising VP-Ellipsis Approach

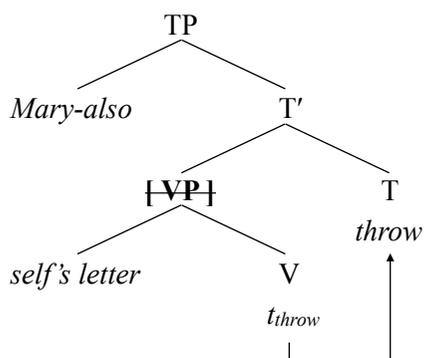
The V-Raising VP-Ellipsis approach was proposed by Otani & Whitman (1991) in the hope of providing a unified explanation for the ellipsis pattern in Japanese. As apparent from its name, V-raising VP-ellipsis is a relative of VP-ellipsis which requires that the verb raises prior to ellipsis. The ground for explanation here resembles the phenomenon illustrated in the Irish example in (16). Following the independent reasoning that Irish has V-raising, we can account for seemingly different phenomena under a unified mechanism. Otani & Whitman (1991)'s solution can be understood in a similar vein: it resembles the VP-ellipsis approach, only differing from it in that verb raising precedes ellipsis.

(18) *V-Raising VP-Ellipsis in Japanese* (Otani & Whitman 1991; their (4))

- a. John-wa [zibun-no tegami-o] sute-ta.
 John-TOP [self-of letter-ACC] discard-PERF
 ‘John_i threw out self_i’s letter.’
- b. Mary-mo [e] sute-ta.
 Mary-also discard-PERF
 ‘Mary_j also threw out self_{i/j}’s letter.’

In (18), the ellipsis site includes the trace of the verb *sute-* ‘to discard’: verb raising occurs prior to VP-ellipsis. As a result, what we see is the raised verb which is now located in T, outside of the domain for VP-ellipsis. Also, note that (18b) can yield a sloppy reading, by which it means *Mary threw out Mary’s letter*. Simultaneously, extraction from the ellipsis site is also possible since the verb raises from the elliptical VP¹⁴. Accordingly the structure can be schematized as below:

(19) *Derivation: V-Raising VP-Ellipsis in Japanese*



As we can see, even though the VP is elided by the VP-ellipsis operation, the verb still survives. This is especially desirable in that we can retain a unified account for the ellipsis

¹⁴ This is in fact a far more controversial issue, since head movement and phrasal movement can be different in their nature. On headless XP-ellipsis, compare Lasnik (1999) and Funakoshi (2012) for different views.

paradigms found in various languages¹⁵: what is elided is uniformly VP. In particular, the structure we have in (19) is highly comparable with the configuration in (14b).

In a similar vein, Funakoshi (2016) argues that the V-raising VP-ellipsis approach is on the right track, supporting his claim with the clause-mate adjunct condition. That is, a null object is the prerequisite for its clause-mate adjunct to be null.

(20) *Generalization on Null Adjuncts* (Funakoshi 2016; his (12))

In Japanese, an adjunct can be null only if the clause-mate object (or other VP-internal elements), if any, is also null.

This analysis was intended to prove that null adjunct reading is also possible under certain contexts, contrary to the previous consensus that an adverbial interpretation is not possible in the elliptical paradigm of East Asian languages. He argues that in a negated context, the focus particle *-mo* prefers the null adjunct reading in Japanese. This was the observation of Takahashi (2008).

(21) *Ellipsis in Negated Contexts with Focus Particle* (Funakoshi 2016; his (15))

- a. Bill-wa teineini kuruma-o araw-anak-atta.
 Bill-TOP carefully car-ACC wash-NEG-PAST
 ‘Bill didn’t wash the car carefully.’
- b. John-**mo** Δ araw-anak-atta.
 John-**also** wash-NEG-PAST
 (intended) ‘John didn’t wash the car carefully, either.’

¹⁵ This approach is not limited to East Asian languages, since it has been attested for various languages such as Russian (Gribanova 2013), Farsi (Toosarvandani 2009) and Polish (Ruda 2014). For the general typological investigation on V-raising VP-ellipsis, see Goldberg (2005).

(22) *Ellipsis in Disjunctive Connective Contexts* (Funakoshi 2016; his (16))

Bill-wa teineini kuruma-o arat-ta **kedo**, John-wa Δ araw-anak-atta.
Bill-TOP carefully car-ACC wash-PAST **but** John-TOP wash-NEG-PAST
(intended) ‘Bill washed the car carefully, but John didn’t wash the car carefully.’

One more piece of evidence comes from the observation that disjunctive connective *-kedo* also prefers the null adjunct reading (Funakoshi 2014), as illustrated in (22). Yet he did not contend that V-raising VP-ellipsis is the sole option for ellipsis in the language. Instead, he argues that V-raising VP-ellipsis is one of the possible options for ellipsis in Japanese.

So far, we looked into an approach by which V-raising precedes VP-ellipsis, in the hope of pursuing a unified account for ellipsis phenomena. Yet, this bears apparent drawbacks in accounting for some observations made in East Asian languages. As an alternative, the Argument Ellipsis approach emerged through consideration of those drawbacks.

2.2.2 Argument Ellipsis Approach

As I just hinted, there are some empirical problems if we claim that V-raising VP-ellipsis is on the right track¹⁶. Those were dealt with in Oku (1998) at some length, and he argued rather, that Japanese and Korean have NP-ellipsis. I will present some of the drawbacks in the V-raising VP-ellipsis approach, which in turn support the Argument Ellipsis approach.

First and most crucially, it is impossible to yield the adverbial reading that is contained in the VP domain of Japanese and Korean. If we had had VP-ellipsis after verb raising, the adverbial interpretation should be possible, contrary to what is actually attested.

¹⁶ Note that M.K. Park (1997) also suggests that the VP-ellipsis analysis doesn’t fit for Korean and Japanese.

(23) *Impossible Adverbial Interpretation of Ellipsis in Japanese* (Oku 1998; his (15))

- a. Bill-wa gohan-o sizukani tabeta.
Bill-TOP meal-ACC quietly ate
'Bill ate the meal quietly.'
- b. John-wa [e] tabe-nakat-ta.
John-TOP eat-NEG-PAST
(literal) 'John didn't eat [e].'

As the literal interpretation shows, it is hard to get the reading where the adverb *sizukani* 'quietly' is understood in the ellipsis site of (23b). It can only mean that *John didn't eat the meal at all*. In this case, we have to repeatedly utter the adverb to get the relevant reading. This sharply contrasts with languages such as English, in which we have no problem in yielding the intended adverbial reading. Second, Japanese and Korean allow null subjects as well. This also casts doubt on the V-raising VP-ellipsis approach, and this is even more problematic, considering that sloppy reading is possible for those null subjects.

(24) *Ellipsis of Subject in Japanese* (Oku 1998; his (3))

- a. Mary-wa [zibun-no teian-ga saiyo-sare-ru-to] omotteiru.
Mary-TOP [self-GEN proposal-NOM accept-PASS-PRES-COMP] think
'Mary thinks that her proposal will be accepted.'
- b. John-mo [[e] saiyo-sare-ru-to] omotteiru.
John-also [accept-PASS-PRES-COMP] think
(literal) 'John also thinks that [e] will be accepted.'

As the literal interpretation shows, the ellipsis site is ambiguous between two readings: it can mean either *Mary's proposal* or *John's proposal*. The observation that both the strict

and the sloppy reading are obtainable indicates that there is an ellipsis operation going on, following from the reasoning that the overt pronoun doesn't allow for a sloppy reading:

(25) *Pronoun Replacement for Japanese Subject Ellipsis*

John-mo [sore-ga saiyo-sare-ru-to] omotteiru.

John-also [that-NOM accept-PASS-PRES-COMP] think

'John also thinks that Mary's proposal will be accepted.'

Say, (25) is uttered after (24a). We lose the ambiguity as soon as we put the overt pronoun *sore* 'that' in the ellipsis site: it can only mean *Mary's proposal*. Back to the main point, it is crucial that null subjects can be elliptical in (24). Third and finally, we take a look at the double object construction. For ditransitives in Japanese, Nemoto (1994) observed that an accusative anaphor cannot precede a dative antecedent at the surface: the surface order is fixed between the two internal arguments. Following this observation, Oku presents the dataset below as a counter-example to V-raising VP-ellipsis.

(26) *Double Object Asymmetry of Ellipsis in Japanese* (Oku 1998; his (6))

a. Bill-wa kyositu-de [zibun-no gakuseitai-ni][otagai-o] shokaisita.

Bill-TOP classroom-in [self-GEN students-DAT] [each.other-ACC] introduced

(literal) 'Bill introduced (to) his students each other in the classroom.'

b. ?John-wa ofisu-de [e] [otagai-o] shokaisita.

John-TOP office-in [each.other-ACC] introduced

(literal) 'John introduced [e] each other in the office.'

Although slightly degraded when compared to the grammatical counterpart (indicated by the question mark), he argues that we can yield the sloppy reading in (26b). Then, it is

obvious that this is problematic under the V-raising VP-ellipsis approach, since we still have another VP-internal element other than the verb itself: *otagai-o* ‘each other-ACC’.

All of these can be taken as counter-examples to the V-raising VP-ellipsis approach. Based on this, Oku concludes that what seemed to be an instance of VP-ellipsis in Japanese is in fact NP-ellipsis¹⁷.

(27) *Oku's Proposal: NP-Ellipsis* (Oku 1998; his (25))

LF Copy of the argument can construct the contents of a phonologically missing argument.

NP-ellipsis is achieved by LF-copying of the relevant NP-argument into the position when θ -feature checking occurs, following the idea of Bošković & Takahashi (1998) that weak θ -feature can be checked later at LF¹⁸.

A similar analysis was attempted for Korean by S.W. Kim (1999) as well. He argues that null argument phenomena in East Asian languages are possible in the light of the Indexing Theory proposed by Fiengo & May (1994), since full-fledged reconstruction becomes possible in the languages at LF. This shares the premise with Oku's NP-ellipsis strategy, in that what seems to be null is not empty pronouns but empty phrase markers, hence the ellipsis operation. This approach was mainly based on two pieces of empirical evidence. First, inalienable possession.

¹⁷ Regarding this, he remains neutral on the status of nominals in Japanese. That is, this doesn't mean that NP is a complement of D head: we can put any maximal nominal projection in the place of NP.

¹⁸ They argue that scrambled NPs move back to the base-generated position at LF. Following this, Oku (1998) related NP-ellipsis with the scrambling property of the language, and I will return to this issue in Section 2.3.1.

(28) *Null Objects in Inalienable Possession in Korean* (S.W. Kim 1999; his (8))

- a. Jerry-nun [caki-uy ai]-lul phal-ul ttayli-ess-ta.
Jerry-TOP [self-GEN child]-ACC arm-ACC hit-PAST-DECL
'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-DECL
(reading A) 'But Sally hit her own child on the leg.'
(reading B) 'But Sally hit Jerry's child on the leg.'

Here, the ambiguity between two readings for (28b) demonstrates that there is some kind of ellipsis operation going on. However, V-raising VP-ellipsis cannot be the explanation for this, because θ -wise, the second NP requires the first NP for semantic saturation. In (28b), the unsaturated part-NP becomes syntactically inert: it cannot move out of the VP (S.W. Kim 1999:258). He also argues that the target of ellipsis should be confined to NP elements, since it is possible to get the sloppy reading in the case of distinct Case-marking paradigms¹⁹. This was his second piece of evidence.

(29) *Case-particle Mismatching of Ellipsis in Korean* (S.W. Kim 1999; his (13))

- a. John-un [caki-uy kay]-wa/*lul kotcal sanpo-lul ha-n-ta.
John-TOP [self-GEN dog]-COM/*ACC often walk-ACC take-PRES-DECL
'John often takes a walk with his dog.'
- b. Kulena Bill-un [_{NP} e] kotcal ttayli-n-ta.
but Bill-TOP often beat-PRES-DECL
(reading A) 'But, Bill often beats his (Bill's) dog.'
(reading B) 'But, Bill often beats his (John's) dog.'

¹⁹ This indicates that ellipsis may be in effect prior to Case assignment, considering the mismatch in (29). Yet, I will not proceed to any discussion concerning the timing of Case assignment and ellipsis paradigms for now.

Here, what is elided cannot be the comitative Case *-wa* phrase: it has to be the accusative Case-marked one. Considering that a sloppy reading is possible for (29b), this serves as a counter-example to the V-raising VP-ellipsis approach: structural (c-selectional) identity is required for sloppy reading to hold. Based on these examples, he proposed the NP-ellipsis strategy as shown in (30) below, by which the null elements can be reduced to anaphoric interpretations that are subject to Vehicle Change (*à la* Fiengo & May 1994).

(30) *S.W. Kim's Proposal: NP-Ellipsis* (S.W. Kim 1999)

Null argument NPs are genuine empty phrase markers,
and must undergo reconstruction at LF.

The relevant proposal can be summarized as follows. In (31b), the presence of reading A and B are expected under the diagnostics, but the presence of reading C is unexpected. Yet it can be accounted for under Vehicle Change: the null NP in (31b) retrieves the relevant indexical structure from any possible antecedent NP, thus all three readings are available.

(31) *Anaphoric Interpretation via Vehicle Change in Korean* (S.W. Kim 1999; his (32))

- a. Mike-ka [caki-uy ai]-lul ttayli-ess-ta.
Mike-NOM [self-GEN child]-ACC hit-PAST-DECL
'Mike hit his child.'
- b. Kuleca Jeanne-to ttohan [_{NP} e] ttayli-ess-ta.
then Jeanne-also too hit-PAST-DECL
(reading A) 'And then, Jeanne hit her own child, too.'
(reading B) 'And then, Jeanne hit Mike's child, too.'
(reading C) 'And then, Jeanne hit Mike, too.'

This approach was construed as an argument for NP-ellipsis in Korean. More specifically, S.W. Kim argues that this operation is implemented via LF-reconstruction.

So far, I have looked into foundational studies regarding the legitimacy of NP-ellipsis in East Asian languages. The term *argument ellipsis* was later coined in Saito (2004), where it was argued that null arguments in Korean and Japanese are derived by eliding only the nominal arguments. If we confine the quality of null elements to be nominal arguments, there is one more approach which needs to be covered: the Indefinite *pro* approach.

2.2.3 Indefinite *pro* Approach

As an extension of the long-debated empty category (EC) phenomenon, the Indefinite *pro* approach was proposed for null object constructions in Hoji (1998).

- (32) *Indefinite pro in Japanese* (Hoji 1998; his (35))
- | | | | |
|----|--|---------|--|
| a. | John-ga [zibun-no kuruma]-o | aratta. | |
| | John-NOM [self-GEN car]-ACC | washed | |
| | ‘John _i washed his _i car.’ | | |
| b. | Bill-mo <i>ec</i> | aratta. | |
| | Bill-too | washed | |
| | (literal) ‘Bill washed <i>ec</i> , too.’ | | |

In (32b), what null *ec* represents is an indefinite null pronoun whose referent is retrieved from the discourse. Hoji contends that sloppy reading, which was one of the supporting pieces of evidence for the ellipsis analyses, is in fact sloppy-like reading in that we instead get the indefinite reading under this interpretation.

In a similar vein, Tomioka (2003) argues that indefinite *pro* can serve null arguments at least for Japanese, providing various possible semantic interpretations for phonetically silent pronouns. Here I will present two of them, which roughly correspond to ellipsis.

(33) *Null Pronouns in Japanese* (Tomioka 2003; his (4) and (6))

a. *With an Pronominal-containing Antecedent*

Ken-wa zibun-no uti-o utta. — Erika-mo *pro* utta.
 Ken-TOP self-GEN house-ACC sold Erika-also sold
 (literal) ‘Ken₁ sold self₁’s house. Erika₂ sold (self₂’s house), too.’

b. *With Indefinite Interpretation*

Ken-wa kuruma-o kat-ta. — Erika-mo *pro* kat-ta.
 Ken-TOP car-ACC buy-PERF Erika-also buy-PERF
 (literal) ‘Ken bought a car. Erika bought (a car), too.’

Yet, the indefinite *pro* approach was later disputed in Saito (2007), where he argued that indefinite *pro* cannot be properly interpreted as soon as we negate the context.

(34) *Unavailability of Indefinite pro under Negation* (Saito 2007; his (9) and (10))

a. Sensei-wa subete-no itinensei-ni zibun-no booru-o ker-asetta.
 teacher-TOP all-GEN first.grader-DAT self-GEN ball-ACC kick-made
 ‘The teacher let all first graders kick their own balls.’

b. Demo, ninensei-ni-wa — ker-ase-nakatta.
 but second.grader-DAT-TOP kick-make-did.not
 ‘But she/he did not let the second-graders kick their own balls.’

c. Demo, ninensei-ni-wa booru-o ker-ase-nakatta.
 but second.grader-DAT-TOP ball-ACC kick-make-did.not
 ‘But she/he did not let the second-graders kick balls.’

If we posit indefinite *pro* in the empty slot in (34b) and turn this into the overt counterpart, we can only get the meaning of (34c). This is not the intended reading of (34b), as it can only mean that the teacher did not let the second graders kick balls *at all*. Considering this, the indefinite *pro* approach falls short of explanation: a null indefinite pronoun is not an adequate option to account for every occurrence of ellipsis found in the languages.

2.3 Investigation of the Nature of Argument Ellipsis

Having mentioned three approaches towards ellipsis phenomena in the languages, I will look into one among them in more detail: the Argument Ellipsis approach (henceforth, AE). Among the three approaches introduced, AE has gained favor in the ellipsis literature mainly because of the two aforementioned reasons: the unavailability of an adverbial interpretation, and the availability of subject ellipsis. In the present thesis, following this, I will take AE to be the most plausible option for null elements in Korean (and presumably for those in other East Asian languages as well). Assuming that AE is on the right track, I will first classify the previous studies into three subtypes according to what criterion they use to define the nature of AE. Then, I will go over the distinction between surface and deep anaphora in East Asian languages, followed by a brief summary of the theoretical debates that are ongoing in the ellipsis literature on Korean.

2.3.1 Three Accounts of the Origin of Argument Ellipsis

There are mainly three types of accounts in investigating the nature of AE phenomenon. As to an answer to the question of from where AE originates, different accounts have been

suggested in the literature: that it is based on the scrambling property (Oku 1998); that it has to do with variable-indexing (S.W. Kim 1999); or that it is due to the lack of Agree (Saito 2007; Takahashi 2014). I shall introduce these accounts in chronological order.

Oku (1998), who first proposed the NP-ellipsis strategy for Japanese and Korean, also argued that this phenomenon occurs due to the scrambling property present in these languages. His claim is based on the reasoning that scrambled phrases are base-generated at their surface positions (Bošković & Takahashi 1998): θ -feature checking occurs at LF.

(35) *Covert θ -checking in Japanese* (Oku 1998; his (29))

a. *Overt Syntax*

Sono hon-o Bill-ga [Mary-ga John-ni watasita to] omotteiru.
that book-ACC Bill-NOM [Mary-NOM John-DAT handed C] think
 (literal) ‘That book, Bill thinks that Mary handed to John.’

b. *Covert Syntax (LF)*

— Bill-ga [Mary-ga John-ni **sono hon-o** watasita to] omotteiru
 Bill-NOM [Mary-NOM John-DAT **that book-ACC** handed C] think
 ‘Bill thinks that Mary handed that book to John.’

Oku did not elaborate on this issue in more detail, though this correlation looks intriguing. However, he did mention that this captures a typological observation made by Hale (1983) that null anaphora is pervasively found in languages where freer word order is attested.

From a different perspective, S.W. Kim (1999) regarded the NP-ellipsis phenomenon as an instance of Vehicle Change (*à la* Indexing Theory in Fiengo & May 1994). In this way, we can easily account for the difference between Korean-type and English-type languages:

the latter has no other general way of licensing null objects. It is worth mentioning that this account shares its basic insight with Huang (1984) in which Chinese null subjects and null objects were considered to be an instance of the bound variable being licensed by a null topic-operator. Huang observed that null elements can be topic-bound, depending on the environment²⁰. The observation that a discourse-salient entity can be dropped when bound by a null operator resembles AE in the sense presented by S.W. Kim (1999), since it is said to be achieved by retrieving the referent from among the discourse-given entities.

More recently, AE was accounted for under the general absence of Agreement in East Asian languages: the lack of an Agreement system in these languages allows them to have the AE option. This account was elaborated in Saito (2007), and was further developed in a series of studies by Takahashi (2008, 2014). Interestingly enough, Şener & Takahashi (2010) argue that Saito (2007) is on the right track, since Turkish, a language with subject but not object agreement, exhibits AE only for objects.

(36) *Argument Ellipsis of Objects in Turkish* (Şener & Takahashi 2010; their (26))

- a. Can üç hırsız yakala-dı
 John three burglar catch-PAST
 ‘John caught three burglars.’
- b. Filiz-se *e* sorgula-dı.
 Phylis-however interrogate-PAST
 (literal) ‘Phylis, however, interrogated *e*.’ [✓E-type / ✓Q-type]

²⁰ However, as I briefly mentioned in Section 2.1.3, the asymmetry between embedded subjects and embedded objects should be noted: the latter exhibits more limitation. Specifically, while empty subjects can appear in any position, empty objects cannot appear freely. This can be accounted for if we posit different kinds of null categories in Chinese: empty subjects as genuine *pro*-drop; and empty objects as discourse-salient *topic*-drop. More crucially, an embedded object cannot be a mere pronoun, for it cannot be locally A-bound by the matrix argument, though it can be locally \bar{A} -bound by the topic (Huang 1984:543).

In (36b), both E-type and Q-type readings can be obtained for the elided object. However, similarly to Chinese, Turkish allows subjects only to be null pronominal²¹.

(37) *Argument Ellipsis of Subjects in Turkish* (Şener & Takahashi 2010; their (33))

- a. Can [[*pro* oğl-u] İngilizce öğren-iyor diye] bil-iyor.
 John [[his son-3SG] English learn-PRES C] know-PRES
 ‘John knows that his son learns English.’
- b. Filiz-se [*e* Fransızca öğren-iyor diye] bil-iyor.
 Phylis-however [French learn-PRES C] know-PRES
 (literal) ‘Phylis, however, knows that *e* learns French.’ [✓strict / ✗sloppy]

In (37b), contrary to (36b), it is impossible to yield a sloppy reading for the null subject. It is thus confirmed that Agreement might play a significant role in licensing AE. However, if we take Basque into account, there appears at least one more crucial drawback to this analysis. Basque, which allows AE for objects, has both subject and object agreement²².

(38) *Null Objects in Basque* (de Urbina 1989; cited in Takahashi 2014)

- a. Jon-ek bere ama ikusi zuen.
 John-ERG his mother see AUX
 ‘Jon saw his mother.’
- b. Peru-k aldiz ez zuen *e* ikusi.
 Peru-ERG however NEG AUX see
 (literal) ‘However, Peru did not see *e*.’ [✓strict / ✓sloppy]

²¹ See Öztürk (2006) for a different view, where Turkish null subjects and objects are analyzed in terms of *pro*.

²² Note that Basque also allows subjects to be null, but in those cases the sloppy reading is not obtained. This is expected under the current account, since Basque has subject agreement as well.

In (38b), the null object yields a sloppy reading, and this is rather unexpected under an Agreement-related account, since Basque has object agreement. To recapitulate, Turkish provides an argument for this account, whereas Basque provides a counter-argument to it.

The more we look into the various accounts for the nature of AE, the more unsettled the quality of null arguments in East Asian languages seems. This is indeed so considering the diagnostics suggested for ellipsis are difficult to demonstrate: the reliability of sloppy reading is dubious (Merchant 2013); and overt extraction out of the ellipsis site (a nominal projection, in the case of East Asian languages) seems impossible²³. Bearing this in mind, I will proceed to an overview on the distinction in terms of the quality of null arguments in East Asian languages: AE as surface anaphora *vs.* *pro* as deep anaphora.

2.3.2 Surface *vs.* Deep Anaphora in East Asian Languages

In this section, I revisit the aforementioned issue concerning the canonical distinction between surface and deep anaphora proposed in Hankamer & Sag (1976). Applying this to East Asian languages, surface anaphora corresponds to ellipsis of arguments, while deep anaphora corresponds to radical *pro*-drop phenomenon which retrieves its referent from a discourse-salient entity. These two are difficult to distinguish: they both target an identical type of constituent: a maximal nominal projection. Regarding this, Abe (2009) reports on an interesting dataset where a null argument whose antecedent is contained in a single utterance (*i.e.*, the null argument is subordinated) doesn't yield sloppy reading.

²³ Regarding this issue, Sakamoto (2018) argues that only covert extraction is possible out of the ellipsis site. His claim is based on empirical data which indicates that covert possessor raising (*i.e.*, covert A-movement) is possible in Japanese, an observation due to Kishimoto (2013). I will shortly make reference to the specific dataset in the following section.

(39) *Unavailable Sloppy Reading for Embedded Null Argument* (Abe 2009; his (40))

John-wa zibun-no musume-ni [sensei-ga [e] aitagatteiru to] itta.
 John-TOP self-GEN daughter-DAT [teacher-NOM want.to.see C] said
 ‘John told his own daughter that the teacher wanted to see [e].’ [✓strict / ✗sloppy]

As indicated by the unavailability of sloppy reading, it is impossible to postulate that this involves ellipsis of some kind. Based on this observation, Abe (2009) argues that there are three types of null anaphora in Japanese (and possibly in Korean too).

(40) *Three Types of Null Anaphora in Japanese* (Abe 2009; his (11), (10) and (25))

- a. John-wa [e] hihansita.
 John-TOP criticized
 (reading A) *‘John criticized himself.’
 (reading B) ‘John criticized someone else.’
- b. Hotondo subete-no hito-ga zibun-o hihansita-ga,
 almost every-GEN person-NOM self-ACC criticized-but
 John-dake-wa [e] hihansinakatta.
 John-only-TOP did.not.criticize
 ‘Almost everyone criticized themselves, but only John didn’t criticize himself.’
- c. John_i-wa [[e]_i anata-ni atta to] itta.
 John-TOP [you-DAT saw C] said
 ‘John_i said that he_i saw you.’

These are illustrated in (40). First, the null anaphora in (40a) is conditioned by a discourse salient entity and co-indexed by a null topic operator (*i.e.*, *topic-drop à la* Huang 1984). Second, the null anaphora in (40b) allows a sloppy reading, and is derived by NP-ellipsis (*i.e.*, AE). Third, the null anaphora in (40c) appears intra-sententially, and is subject to the bound pronoun strategy. It is by now clear that a discrepancy exists among null elements.

The primary criterion is whether the null element allows for sloppy reading or not: if it does, it is derived by the ellipsis strategy (*i.e.*, surface anaphora), as in (40b); if it does not, it is an empty *pro* (*i.e.*, deep anaphora), as in (40a) and (40c). The latter can be further dissected under the secondary criterion by the way the null element retrieves its reference: if it is from a discourse-salient entity, it is a *topic*-drop phenomenon, as in (40a); if it is from an intra-sentential matrix entity, it is a null bound pronoun, as in (40c).

Now, we turn our attention to the second diagnostic: extraction out of the ellipsis site. Sakamoto (2018) argues that only covert extraction is possible out of the ellipsis site in Japanese. His claim is based on empirical data that shows covert possessor raising (*i.e.*, covert A-movement) in Japanese, an observation first made by Kishimoto (2013).

(41) *Covert Possessor Raising in Japanese* (Kishimoto 2013; cited in Sakamoto 2018)

- a. Sono toki-no koto-ga [DP Hanako-no kioku]-ni nokotteiru.
 that time-GEN event-NOM [Hanako-GEN memory]-LOC remain
 ‘Hanako remembers the event at that time.’
- b. Hanako_i-ni sono toki-no koto-ga [DP t_i kioku]-ni nokotteiru.
 Hanako-DAT that time-GEN event-NOM [memory]-LOC remain
 ‘Hanako remembers the event at that time.’

Considering that (41a) and (41b) are logically equivalent, Kishimoto argues that *possessor* in (41a) undergoes covert possessor raising, whereas *possessor* in (41b) is overtly raised to the designated position. This renders the two examples in (41) parallel to each other. This claim is further supported by the variable binding effect: possessors can establish a new binding relation with a higher variable, which hints that covert movement has occurred.

(42) *Covert Possessor Raising and Binding in Japanese* (Sakamoto 2018; his (40))

[[Kyonen e_i sita] koto]-ga [hotondo-no gakusei_i-no kioku]-ni nokotteiru.
 [[last.year did] thing]-NOM [most-GEN student-GEN memory]-LOC remain
 ‘Most students_i remember what they_i did last year.’

[LF] [hotondo-no gakusei_i] [[kyonen e_i sita] koto]-ga [_{DP} t_i kioku]-ni nokotteiru.
 ↑

As the indices indicate, *possessor hotondo-no gakusei* ‘most-GEN student’ can establish a new binding relation with an empty nominal inside the structurally higher relative clause. Then, *possessor* in question must have been raised to a position higher than the relative clause: meaning that covert possessor raising has occurred. The relevant LF representation illustrates this point. We can see that when ellipsis occurs in the subsequent clause, as in (43), the binding relation is still retained.

(43) *Binding Relation Remains Intact After Ellipsis* (Sakamoto 2018; his (40-41))

- a. [[Kyonen e_i sita] koto]-ga [hotondo-nogakusei_i-no kioku]-ni nokotteiru.
 [[last.year did] thing]-NOM [most-GEN student-GEN memory]-LOC remain
 ‘Most students_i remember what they_i did last year.’
- b. [[Sannenmae-ni e_j sita] koto]-mo [_{DP} Δ] nokotteiru.
 [[three.years.ago-in did] thing]-also remain
 (intended) ‘Most students also remember what they did three years ago.’

The fact that the empty nominal in (43b) can still get the intended interpretation hints that covert extraction out of the ellipsis site has occurred in the same manner as with (42). This is the reason Sakamoto claims that only the covert extraction is allowed out of the ellipsis site. So far, the distinction made between surface anaphora (*i.e.*, AE) and deep anaphora (*i.e.*, *pro*) in East Asian languages can be accordingly summarized as below:

(44) *Two Types of Null Arguments in East Asian Languages*

- i. *Surface anaphora* derived by argument ellipsis: ✓sloppy reading; ✓extraction
- ii. *Deep anaphora* conditioned by context-salient *pro*: ✗sloppy reading; ✗extraction

In the next section, I will reconsider the issue in the ellipsis literature of Korean by briefly overviewing some studies that have covered the (non)compatibility of null arguments.

2.3.3 Debates on Null Arguments in Korean

Now, having established the difference between ellipsis and *pro* in East Asian languages, we take a brief look at the relevant literature on Korean. Since S.W. Kim (1999) suggested the AE strategy for Korean, various alternative researches to account for the null argument phenomenon in the language have been attempted. Some argue that we can retain both strategies (the hybrid approach; Lee & Kim 2010; W.S. Lee 2011; Park & Bae 2012; Park & Oh 2013): since it is difficult to explain every occurrence of null argument solely by *pro* or ellipsis, both approaches are needed if we intend to properly account for null arguments in Korean. Others argue that every ellipsis-like occasion can reduce to the occurrence of *pro* (the strict *pro* approach; Ahn & Cho 2009, 2011): since apparent counter-examples to *pro* can be accounted for from a different perspective, *pro* suffices for the language.

In line with Huang (1984) and Abe (2009), Lee & Kim (2010) argue that not every null argument is explained under the *pro* strategy in Korean: the ellipsis strategy is needed in order to fully cover every occurrence of null arguments in Korean. Their evidence comes from Negative Polarity Items (NPI) such as *amwukes-to* ‘anything’, indefinite expressions such as *mwuesinka* ‘something’, and free choice nouns such as *nwukwuna* ‘whoever’. Here, I provide a piece of the examples they present: ellipsis involving an NPI object.

(45) *NPI Null Object and Replacement in Korean* (Lee & Kim 2010; their (18))

- A. Na-nun amwukes-to an mek-ess-e.
 I-TOP anything NEG eat-PAST-DECL
 ‘I did not eat anything.’
- B. Na-to — an mek-ess-e.
 I-too NEG eat-PAST-DECL
 (intended) ‘I did not eat anything, either.’
- B’. Na-to kukes-ul an mek-ess-e.
 I-too it-ACC NEG eat-PAST-DECL
 (literal) ‘I did not eat it, either.’

It is possible to elide the NPI *amwukes-to* ‘anything’ under identity as in (45B): we can get the intended meaning. However, if we replace the ellipsis site with an overt pronoun as in (45B’), it only yields the literal interpretation: we cannot get the intended NPI reading. This obviously goes against the prediction of the *pro* strategy. Based on this, Lee & Kim argue that Korean has both the *pro* and the ellipsis strategies: they can co-exist in Korean. In this respect, W.S. Lee (2011) emphasizes that Korean is a *pro*-drop language, but that it occasionally resorts to AE in some limited environments (W.S. Lee 2011:1041)²⁴.

The claim by Lee & Kim (2010) that null objects cannot merely be *pro* was later refuted by Ahn & Cho (2011). They argue that only the *pro* strategy is available in Korean, since every ellipsis occurrence can be reanalyzed in terms of *pro*. For an illustration, I provide one of their examples on a free choice noun.

²⁴ Note that this account goes along with Sakamoto (2016) and Abe (2018), provided that both ellipsis and *pro* are available in Korean. As for the specific account given in Sakamoto (2016) and Abe (2018), I will elaborate on their accounts in Section 2.4.

(46) *Free Choice Null Object and Replacement in Korean* (Ahn & Cho 2011; their (11))

- A. Cheli-ka nwukwuna cohaha-y.
Cheli-NOM whoever like-DECL
'Cheli likes everyone.'
- B. Tongswu-to — cohaha-y.
Tongswu-also like-DECL
(intended) 'Tongswu likes everyone, too.'
- B'. Tongswu-to kutul-ul cohaha-y.
Tongswu-also they-ACC like-DECL
(intended) 'Tongswu likes everyone, too.'

Based on the possibility of identifying the interpretation of (46B) with (46B'), they argue that *nwukwuna* 'whoever' can be paraphrased as the overt pronoun *ku-tul* 'they' in (46B'), which equals to the plural definite expression²⁵. This yields the intended reading yet is postulated as *pro*²⁶. Yet subsequent studies (Park & Bae 2012; Park & Oh 2013, *inter alia*) argue that ellipsis still needs to be postulated, considering that it is unlikely that every null argument, such as quantified nouns and modified nouns, can be accounted for under the name of *pro*. From this, it is apparent that there is no general consensus yet.

Moreover, as Abe (2009) notably observes, there obviously exist null pronouns whose antecedent is not expressed overtly but rather provided contextually. The unavailability of sloppy reading is also a crucial factor which we cannot just disregard. To put emphasis on a quote, *ellipsis is pervasive* (Park & Oh 2013:800). In consideration of this, I will outline some of the structural approaches that investigated AE in terms of Narrow Syntax.

²⁵ In arguing this, Ahn & Cho provided data showing the scope identity that the ellipsis sentence and the overt pronoun sentence exhibit: they only allow the surface scope, eliminating scope ambiguity.

²⁶ If one goes beyond Korean, many researches attempted to provide a unified explanation for null arguments through typological consideration. For example, Duguine (2014) suggested a theory that equates AE with *pro*.

2.4 Investigation of the Structure of Argument Ellipsis

Up until this point, we have looked over the various researches on AE, mainly focusing on two issues: the origin of AE; and the possibility of a reconciliation between the AE and strict *pro* approaches. In behalf of these, many researches have recently investigated AE in terms of structural mechanisms, utilizing some syntactic notions in combination with AE: c-command; phase; and the DP/NP parameter. I will introduce these one by one.

2.4.1 C-Command and Argument Ellipsis

First, it has been argued that structural hierarchy plays a significant role in licensing the ellipsis in Japanese. I already provided Abe (2009)'s classification of the different types of null anaphora in Japanese: null topic; AE; and bound *pro*. He argues that the c-command relation between an antecedent and the target of the ellipsis is crucial in licensing AE.

(47) *Two Types of Null Anaphora in Japanese* (Abe 2009; his (39-40))

a. John-wa zibun-no musume-o kiratteiru-ga, Bill-wa [e] suiteiru.

John-TOP self-GEN daughter-ACC hate-but Bill-TOP like

‘John hates his own daughter, but Bill likes [e].’ [✓strict / ✓sloppy]

b. John-wa zibun-no musume-ni [sensei-ga [e] aitagatteiru to] itta.

John-TOP self-GEN daughter-ACC [teacher-NOM want.to.see C] said

‘John told his daughter that the teacher wanted to see [e].’ [✓strict / *sloppy]

In (47a), the two sentences are adjoined by the disjunctive connective *-ga*, and it is thus possible to yield sloppy reading. However, in (47b), the two clauses are in an embedding-

embedded relationship, and thus sloppy reading is unavailable. According to Abe, the null argument in (47b) is a bound *pro* while the null argument in (47a) is an elided argument. Crucially, they differ in terms of a c-command relation: it is effective in (47b), but not in (47a). Based on this observation, he provides the following generalization:

- (48) *Anti-C-Command Generalization on Argument Ellipsis* (Abe 2009; his (45))
 Ellipsis cannot hold when the antecedent c-commands the elliptic site.

Further developing this generalization, Abe & Park (2017) and Abe (2018) suggest a way to derive *pro* and AE distinctively via Move. First of all, *pro*, which exists in languages independently, undergoes Move to establish an anaphoric relation. Then, only when this is impossible, ellipsis of argument is derived via covert sideward movement as a Last Resort operation. In other words, AE is available only if *pro* and its antecedent cannot establish an anaphoric relation via Move. In this way, the asymmetry in (49) can be accounted for.

- (49) *Asymmetry between Argument and Adjunct* (Abe 2018; his (35))
- a. *John-wa e_i Mary_i-no syasin-o miseta.
 John-TOP Mary-GEN picture-ACC showed
 (intended) ‘John showed her₁ Mary₁’s picture.’
- b. John-wa e_j [Mary_j-ga ututteiru] syasin-o miseta.
 John-TOP [Mary-NOM be.seen] picture-ACC showed
 (intended) ‘John showed her₁ picture in which Mary₁ is seen.’

The only difference between (49a) and (49b) is the status of *Mary*: it is contained inside the relative clause, thus merged to the structure by adjunction in (49b). Therefore, only in (49b) can the null argument be derived by AE, since sideward movement is viable only for

this. To summarize, AE is available only when the null argument is not c-commanded by its antecedent, since the bound *pro* strategy has to be used if a c-command relation holds between those two. In conclusion, he contends that *pro* and AE should be distinguished in a given language.

2.4.2 Phase and Argument Ellipsis

Second, the notion of phase was variously utilized in the realm of ellipsis literature ever since it was introduced in Minimalist Program (Chomsky 1995, 2000). In accordance with the propositional phase proposed in Chomsky (2000), Sakamoto (2016) argues that the licensing of AE is closely related to the phase-bound transfer system. The proposal is that only arguments which have already been transferred to the interfaces can be an antecedent for elliptic arguments. The term *transferred* here refers to a condition that it is contained in the complement of phase *vP* and *CP* (*i.e.*, the Spell-Out domain *à la* Chomsky 2000). In other words, Sakamoto's proposal is imposed on the antecedent rather than the elliptic site itself in order to account for the impossibility of intra-sentential anaphora.

(50) *Binding Condition C on Japanese* (Sakamoto 2016; his (30a))

Hanako-wa [kare₁-no hahaoya]-ni [sensei-ga Taroo₁-ni aitagatteiru to] itta.
 Hanako-TOP [he-GEN mother]-DAT [teacher-NOM Taroo-DAT want.to.see C] said
 'Hanako told his₁ mother that the teacher wanted to see Taroo₁.'

(51) *Drawback of Anti-C-Command Generalization* (Sakamoto 2016; his (30b))

Hanako-wa [[zibun-no tomodati]-no hahaoya]-ni [sensei-ga Δ aitagatteiruto] itta.
 Hanako-TOP [[self-GEN friend]-GEN mother]-DAT [teacher-NOM want.to.seeC] said
 (literal) 'Hanako told the mother of her own friend that the teacher wanted to see Δ.'

In (50), *kare*₁ ‘he’ cannot c-command *Taroo*₁ ‘Taro’, following from binding condition C. Thus, according to Abe (2009, 2018), it is predicted that a sloppy reading must be possible in (51), since the underlined antecedent is in a position incapable of c-commanding the elliptic site. However, (51) doesn’t yield a sloppy reading. Yet, the unavailability of sloppy reading in (51) can readily be accounted for under Sakamoto’s proposal: the antecedent is not yet transferred, since the relevant phase (embedded CP here) is still not completed when the elliptical site requires an antecedent. Sakamoto (2016) also made a note of Abe’s proposal of AE as a Last Resort operation. Under Abe (2018)’s account, bound *pro* is preferred to AE, but it is difficult to capture why this should be the case. However, under Sakamoto’s proposal, there must be an appropriate (and already transferred) antecedent in order for AE to apply, hence AE is more marked than bound *pro* in its nature. Then, it is expected that generally *pro* is preferred to AE, considering that AE requires an additional condition for licensing.

2.4.3 The DP/NP Parameter and Argument Ellipsis

Third, the long-debated DP/NP parameter hypothesis has been dealt with in the context of ellipsis operation. To briefly introduce the matter, Bošković (2008, 2009) provided an interesting parameter controlling the quality of maximal nominal projections in a given language: languages without articles lack a DP projection, hence only projecting up to NP. Following this, Cheng (2013) proposes the following generalization on AE.

(52) *A Generalization on Argument Ellipsis* (Cheng 2013)

Only languages without articles (*i.e.*, NP-languages) may allow argument ellipsis.

Interestingly, Cheng’s proposal is related to the notion of phase as well. In particular, he contended that the syntactic status of an argument (DP or NP) determines the phase in a language. That is, in DP-languages, *v*P functions as a phase, whereas in NP-languages, VP functions as a phase. Following the well-known generalization that complement position can be elided (see (14)), he argued that in NP-languages, objects in the complement of VP are elided. Accordingly, ellipsis of subjects and other arguments (PP or CP) was attributed to a sort of deep anaphora illusion²⁷. In this way, VP-ellipsis and NP-ellipsis are unified as complement ellipsis, only differing in their licensers (*v* in the former; V in the latter).

Taking up Cheng’s insight, Bošković (2016) developed the theory of AE on the basis of semantic analyses. Crucially the availability of a sloppy reading for certain clitics reported in Runić (2014) was emphasized in the context of AE for NP-languages. In particular, it is observed that some pronominal clitics in Serbo-Croatian (a NP-language) allow the sloppy reading, while those in French (a DP-language) do not.

(53) *Sloppy Reading for Clitics in Serbo-Croatian* (Runić 2014; cited in Bošković 2016)

Nikola je pozvao (svoju) djevojku na slavu, a pozvao ju je i Danilo.
 Nikola is invited (his) girlfriend on slava and invited CLT is too Danilo
 ‘Nikola_i invited his girlfriend to the slava and Danilo_j invited his_{i/j} girlfriend, too.’

(54) *No Sloppy Reading for Clitics in French* (Runić 2014; cited in Bošković 2016)

Nicolas a invité sa petite.amie à la fête et Danilo l’a invitée aussi.
 Nicolas has invited his girlfriend to the party and Danilo CLT’has invited too
 ‘Nicolas_i invited his girlfriend to the party and Danilo_j invited his_{i/*j} girlfriend, too.’

²⁷ This line of explanation is compatible with that of Huang (1984) where the asymmetry between subjects and objects was accounted for. However, it is still mysterious why an embedded subject allows a sloppy reading.

(53) allows both strict and sloppy readings for the clitic *ju*, while the clitic *l(a)* in (54) only allows a strict reading. Following this, Bošković further argues that the semantic type has to do with the availability of AE: only NP-languages in which an argument is type $\langle e,t \rangle$ allow for AE. In NP-languages, arguments of type $\langle e,t \rangle$ become e type by the covert type shifting (*à la* Chierchia 1998). In DP-languages, on the contrary, the D head converts the $\langle e,t \rangle$ type into an e type. From a different perspective, this amounts to saying that only $\langle e,t \rangle$ type arguments can be LF-copied²⁸. Finally, he concludes that two types of ellipsis (VP-ellipsis vs. NP-ellipsis) can be unified under predicate ellipsis of the $\langle e,t \rangle$ type²⁹. He additionally notes that what counts for AE is the status of the θ -role bearing argument in the target sentence, not that of antecedent, providing the following contrast:

(55) *Contrast of Argument Ellipsis in Japanese* (Bošković 2016; his (27-28))

- | | | | | | |
|--------------|----------------------|------------|---------|------------|---------------------------|
| a. Karera-wa | gakusei-da. | — | Boku-wa | [e] | aisiteiru. |
| they-TOP | student-COP | | I-TOP | | love |
| | ‘They are students.’ | | | | (literal) ‘I love [e].’ |
| b. Boku-wa | gakusei-o | aisiteiru. | — | *Karera-wa | [e] -da. |
| I-TOP | student-ACC | love | | they-TOP | -COP |
| | ‘I love students.’ | | | | (literal) ‘they are [e].’ |

The elliptical site is a θ -position in (55a), and a non- θ -position in (55b). Therefore, the availability of (55a) (and the unavailability of (55b)) follows from the θ -role requirement. In this way, Bošković retained the consensus that the target of AE is a θ -given argument, but confined the typological possibility of AE to languages that exhibit the NP-argument.

²⁸ That is, both Cheng (2013) and Bošković (2016) argue that AE is derived via LF-copying.

²⁹ In fact, this approach is already pursued in Bošković (2014), where he distinguished two different types of ellipsis under the phase status of the ellipsis site. I will examine the implications of this approach later.

2.4.4 The Continuing Need for a Structural Investigation

In this chapter, we looked into previous researches on ellipsis phenomena in general, and subsequently, into corresponding phenomena in East Asian languages. We narrowed our focus down to the Argument Ellipsis approach specifically, and elaborated on some of the relevant researches along the two criteria: what the origin of AE is; and which structural mechanism is responsible for AE. This can be summarized as follows:

(56) *Summary: Approaches towards Elliptical Phenomena in East Asian languages*

Q1. What do the null elements represent?		
Verb Phrase	→ V-Raising VP-Ellipsis Approach (Otani & Whitman 1991; Goldberg 2005; Funakoshi 2016)	
Q2. Can Argument Ellipsis be identified with <i>pro</i> -drop phenomenon?		
Yes	→ A Unified <i>pro</i> -drop Approach (Hoji 1998; Ahn & Cho 2009; Duguine 2014)	
Compatible	→ Hybrid Approach: they are not mutually exclusive (Abe 2009; Lee & Kim 2010; Park & Bae 2012)	
Q3. To what syntactic property is AE attributed?		
Noun Phrase	Concern: Origin of AE	→ Scrambling-Based Account (Oku 1998)
		→ Variable-Indexing Account (S.W. Kim 1999)
		→ Agreement-Related Account (Saito 2007; Takahashi 2014)
	Concern: Structural Mechanism of AE	→ Anti-C-Command Relationship (Abe 2009, 2018)
		→ Phase-Bound Operation (Sakamoto 2016)
		→ The DP/NP Parameter (Cheng 2013; Bošković 2016)
No		

The general consensus is clear: AE in East Asian languages targets an argument whose θ -role is specified. However, despite the established consensus and plentiful researches on null argument phenomenon in these languages, we still do not have a concrete agreement: as apparent from divergent researches for the AE phenomena, the true origin and the exact mechanism of AE are as mysterious as ever. Along with many of the researches that have endeavored to provide structural accounts for AE, I aim to give a clue into revealing the mysteries of AE by generalizing the structural environment where AE occurs.

As a starting point, it is worth mentioning that AE was argued to be distinct from other elliptical phenomena such as VP-ellipsis: ellipsis is not licensed by an E-feature of any functional head in Korean, but is possible due to special characteristics of the language *per se* (Lee & Kim 2010:1027). That is, it is hard to identify VP-ellipsis with AE in hopes of offering a unified account, since they exhibit much more difference than similarity. Then, if we aim at providing a fundamental explanation for languages with AE, a thorough investigation has to be conducted: still, a structural investigation is called for.

I contend that elucidating the syntactic mechanism of AE can deepen our understanding of the phenomenon. The present thesis embarks on this investigation through focusing on the following: in what syntactic configurations can AE occur, and in what configurations can it not? This will be attempted in the hope of generalizing the ellipsis paradigm in Korean. As we will see shortly, apparent asymmetries found in the language indicate that previous accounts fall short of an explanation. I argue that these asymmetries can be accounted for under the proposal. Revealing the environment where AE occurs also has implications for typological studies on ellipsis, as well as for the underlying mechanism of ellipsis. Then, the need for a structural investigation of AE becomes more apparent.

3

The Puzzle and the Proposal

In this chapter, I present the main puzzle and accordingly the main proposal to argue that argument ellipsis (AE) phenomenon in Korean should be syntactically constrained. As we discussed in the previous chapter, more elaborated structural investigation is called for in order to elucidate the target position of the attested phenomenon in Korean. I present some new puzzling data in order to show that the consensus for AE (*i.e.*, that the target of AE is nominal arguments whose θ -role is given) falls short of an explanation. The data includes *inalienable possession* and *resultatives*. Notably, researches that investigated AE in terms of structural mechanism are incapable of accounting for this problematic dataset. Then, we take a short detour through the most canonical case of AE: *direct object ellipsis*. Based on what will be argued in the first two parts, I will move onto the proposal: the occurrence of AE in Korean is confined to a specific structural configuration. This is proposed in order to capture a uniform treatment for the structure posited for direct objects as well as the structure posited for *inalienable possession* and *resultatives*. It also aims to articulate the target position of AE which has remained rather unclear in the previous literature. In the course of developing this, the target position of AE will be defined in light of the notion of *syntactic phase* as the Spell-Out domain, which in turn corresponds to the unit of *semantic predication*. Several theoretical issues which the main proposal immediately gives rise to will be mentioned in a brief manner, with a detailed discussion postponed until Chapter 7.

3.1 The Main Puzzle

Many researchers who investigated AE came to the consensus that AE targets nominal arguments whose θ -role has already been given (Oku 1998; S.W. Kim 1999; Saito 2007; Takahashi 2008, 2014, *inter alia*)¹. In a very similar context, there have been attempts to investigate AE with respect to several structural mechanisms (*e.g.*, *c-command* in Abe 2009, 2018; *phase* in Sakamoto 2016; and *the DP/NP parameter* in Cheng 2013; Bošković 2016). Yet, none of these elaborated the exact target position of AE in detail. However, if we delimit the target of AE to be just a nominal argument, it is rather difficult to provide a satisfying explanation. This is because we can observe asymmetries in elidability when we have multiple occurrence of arguments. That is, not every nominal argument can undergo AE in the verbal domain. I will provide two sets of puzzling examples where we observe such an asymmetry in terms of elidability: *inalienable possession* and *resultatives*. In what follows, I will make reference to them one by one, starting from inalienable possession.

Korean allows double accusative Case-marking when two nouns denote an inalienable possessive relationship². Regarding this type of construction, S.W. Kim (1999) pointed out that the first nominal which refers to the whole entity (*the whole-NP*) can be elided as in (57B)³. But consider (57C): the second nominal which refers to a body part (*the part-NP*) cannot be elided despite its being parallel to (57B).

¹ To reiterate, subjects and objects have been considered the most canonical target of AE, since they are said to bear the θ -roles of *agent* and *theme* respectively.

² By definition, inalienable possession includes body parts, kinship terms or inherent properties such as names. In the present thesis, however, I will only concentrate on the possessives denoting body parts.

³ From now on, examples presented in this manner (with alphabet capital letters) indicate that it is a part of conversational context: (*nA*) provides antecedent sentence for (*nB*), (*nC*), and so on.

(57) *Asymmetry in Korean Inalienable Possession* ((57A-B) from S.W. Kim 1999)

- A. Siwu-ka Mina-lul phal-ul cap-ass-ta.
 Siwu-NOM Mina-ACC arm-ACC catch-PAST-DECL
 ‘Siwu caught Mina’s arm.’
- B. Hani-nun Δ tali-lul cap-ass-ta.
 Hani-TOP leg-ACC catch-PAST-DECL
 (intended) ‘Hani caught Mina’s leg.’
- C.#Hani-nun Suho-lul Δ cap-ass-ta.
 Hani-TOP Suho-ACC catch-PAST-DECL
 (intended) ‘Hani caught Suho’s arm.’

As we can see, we don’t get the intended reading for (57C): it is infelicitous, since it only can roughly mean that *Hani caught Suho*, without referring to the specific body part. This is unexpected for both Oku (1998) and S.W. Kim (1999) since *phal-ul* ‘arm-ACC’ in (57C) is an argument selected by the verb and θ -wise specified for *theme*. It renders a possessive interpretation with its possessor *Suho-lul* ‘Suho-ACC’ (Higginbotham 1985; Yoon 1989). The second nominal, then, given a θ -role and being a nominal argument, has no reason to be ineligible for AE. Following the reasoning in S.W. Kim (1999), two nominals do not form a syntactic constituent at any level of representation, and the part-NP is semantically unsaturated, thus syntactically inert. Based on this, S.W. Kim only accounted for AE of the first nominal. This account holds for the grammaticality of (57B), but the infelicitousness of (57C) remains unsolved, and it has received little attention in the literature.

A similar pattern holds for resultatives as well. When we have two nominals rendering a resultative interpretation, the first nominal denotes the initial state and the second nominal denotes the resultant state. Between them, only the first nominal can be elided.

(58) *Asymmetry in Korean Resultatives*

((58A) from Ko 2015)

- A. Mapepsa-nun wangca-lul kaykwuli-lo mantul-ess-ta.
wizard-TOP prince-ACC frog-RES make-PAST-DECL
'A wizard turned the prince into a frog.'
- B. Manye-nun Δ paym-ulo mantul-ess-ta.
witch-TOP snake-RES make-PAST-DECL
(intended) 'A witch turned the prince into a snake.'
- C.*Manye-nun kongcwu-lul Δ mantul-ess-ta.
witch-TOP princess-ACC make-PAST-DECL
(intended) 'A witch turned the princess into a frog.'

Only *wangca-lul* 'prince-ACC' in (58B) can be elided here, whereas *kaykwuli-lo* 'frog-RES' in (58C) cannot: it is strictly ungrammatical. Considering that the resultant nominal phrase is also considered to be a θ -received argument (Carrier & Randall 1992), it is obvious that, here, only a specific type of argument can be elided. This is unexpected from the previous literature on AE, since both nominals here are considered obligatory. Regarding this, it can be noted that D.H. Chung (2011) argues that resultant nominals are not elidable⁴.

The asymmetry pattern in (57-58) share a common property: only the first nominal can be elided between the two nominals. In order to capture this asymmetry, more elaborate investigation on the target of AE is called for. Specifically, note that this asymmetry is hard to account for even under the aforementioned structural researches. Let's take (57C) as an example. Abe (2009) predicts that it would be possible since the antecedent does not c-command the alleged ellipsis site. Sakamoto (2016) predicts the same, as the antecedent

⁴ The second nominal here is eccentric in this regard, as it is a nominal projection, yet behaves like a predicate of a resultative. For now, I focus on the asymmetry pattern, and will return to a relevant analysis shortly.

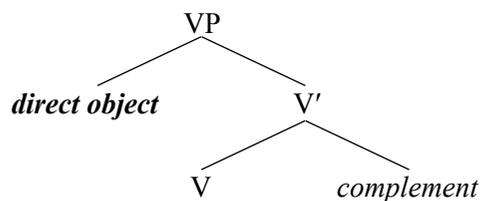
was already transferred to the interfaces. Cheng (2013) and Bošković (2016) also predict a similar consequence, for the nominal in question is an NP-argument whose type is $\langle e, t \rangle$. To sum up, this goes against their predictions, and thus requires further explanation.

3.2 The Structure of VP and Argument Ellipsis

Before moving onto the main proposal, we will take a glance at the structure of VP and the AE of direct objects. This is because delineating the structure of VP directly hints at elaborating the constraints on AE, considering that the null direct object has been seen as the most canonical case of AE in the previous researches. This was partly because it could illustrate subtle issues between competing approaches (e.g., V-Raising VP-ellipsis vs. AE) most overtly. In delving into direct objects, I shall examine the structure of transitives.

The parallelism between subject and object has been one of the central findings in the field of generative syntax (Barss & Lasnik 1986). Following this insight it was argued that a direct object whose θ -role is *theme* occupies the specifier of VP position (Bowers 1993), making objects parallel to subjects in the specifier position. Accordingly, the structure of the lexical VP is schematized as in (59):

(59) *The Structure of the Lexical VP Domain*



The structure in (59) mainly departs from the traditional literature in that the direct object is in the specifier of VP. The analysis of Bowers indeed penetrates the general assumptions on predicational argument structure, because it straightforwardly captures the asymmetry in passivization as well as the parallelism between subject and object⁵. In fact, postulating such a structure has advantages. Crucially, every case of A-movement is confined only to Spec-to-Spec movement, with θ -roles still being assigned in a strictly local manner. The structure in (59) especially gains support if we consider the complement position of VP. Although it was assumed to be a typical position for direct objects, the complement of VP can be occupied by other elements. Asymmetry in passivization clearly shows this.

- (60) *Illicit Passivization in English* (Bowers 1993; his (92))
- | | |
|---------------------------------|--|
| a. John resembles Bill. | b. The book cost ten dollars. |
| a'. *Bill is resembled by John. | b'. *Ten dollars was cost by the book. |

As soon as one confines A-movement to occurring only in a Spec-to-Spec manner, the ungrammatical (60a') and (60b') are readily accounted for: *Bill* and *ten dollars* occupy the complement of VP, and are impossible to passivize, while other (θ -wise *theme*) direct objects occupy the specifier of VP, and are possible to passivize. Despite their similarity with direct objects, the difference in passivization is reflected by their distinct syntactic structure. This idea has been carried over into a number of other researches (Harley 1995; Basilio 1998, *to name a few*). Following this, the insight that the direct object is located in the [Spec, VP] position will be maintained throughout the study⁶.

⁵ Regarding this, Bowers refers to direct objects as secondary subjects.

⁶ However, it has to be noted that subjects and objects show asymmetries as well. For example, I mentioned distinctive characteristics of null subjects and null objects in Chinese, proposed in Huang (1984). As for the current analysis, extractability (for movement) and predicationality (for argument structure) play a significant role in arguing that they are parallel to each other.

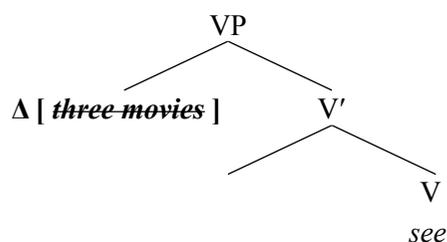
Having examined the structure of VP, we are now in a position to discuss direct object ellipsis. For the example below, I follow Takahashi (2008) in that two distinctive readings are obtainable when we have a quantified null object⁷.

(61) *Argument Ellipsis: Direct Objects in Korean*

- A. Mina-ka [sey-phyen-uy yenghwa]-lul po-ass-ta.
 Mina-NOM [three-CL-GEN movie]-ACC see-PAST-DECL
 ‘Mina watched three films.’
- B. Hani-nun Δ po-ci anh-ass-ta.
 Hani-TOP see-CI not-PAST-DECL
 (intended) ‘Hani didn’t watch three films.’ [√E-type / √Q-type]

In (61B), we obtain both an E-type reading and a Q-type reading: *sey-phyen-uy yenghwa* ‘three films’ can be interpreted as either the same set of movies with (61A) or a different set of movies from (61A). If we schematize the relevant structure, we get the following:

(62) *The Structural Configuration of Elided Direct Objects*⁸



⁷ In Takahashi (2008), these two were referred to as *E-type* reading and *Q-type* reading. For a quantified null element, the former denotes the same set of elements (thus comparable to the *strict* reading), while the latter denotes a different set of elements (thus comparable to the *sloppy* reading). See section 2.1.1 for the review.

⁸ Henceforth, as in (62), the notation Δ [~~struckthrough~~] indicates that the very element is eligible for AE.

The position of the elided direct object is important here: it is located in the [Spec, VP] position, following Bowers (1993). Bearing the structural configuration in mind, we move onto the main proposal wherein a unifying account bringing together the main puzzle and the ellipsis of direct objects is attempted.

3.3 The Main Proposal: the Constraint on Argument Ellipsis

In the present thesis, I argue that the asymmetries in (57) and (58) can be captured if we introduce a constraint on AE with the notion of syntactic phase. The puzzling paradigms presented in this chapter share a common property: on the existence of the two nominals that are necessary for the intended interpretation (*i.e.*, *possessive* or *resultative*), only the first nominal can be elided. This asymmetry, along with the canonical instance of direct object ellipsis in (61), can be accounted for under the Constraint on Argument Ellipsis.

Here, I present the main proposal: the Constraint on Argument Ellipsis. Argument ellipsis (AE) phenomenon in Korean, previously dubbed as such in Saito (2004), must target an argument projection. Specifically, it targets an argument whose θ -role has been already given. This assumption is essential in accounting for the phenomenon, since it delimits its target to be arguments selected by a syntactic head whose property is θ -role assignment. From this perspective, the constraint shares the essence with previous studies. However, most crucially, AE is eligible only for the specifier of a phase where phase is defined as a Spell-Out domain. The notion of syntactic phase as a Spell-Out domain can be attributed to the concept of semantic predication mapped onto syntactic representation, whereby a bipartite system of *subject-predicate* is built (den Dikken 2006). To recapitulate, when a

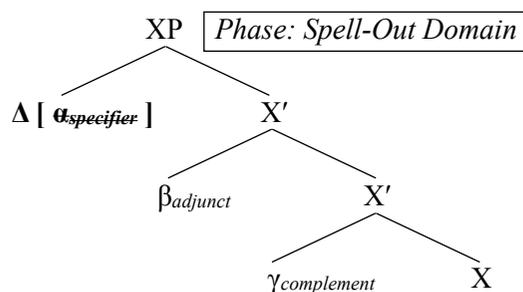
certain argument is to be eligible for AE, it has to be in the specifier position of a phase projection, and it corresponds to the subject of a predication. This is based on the premise that the size of each Spell-Out domain can differ as the structure builds up in a bottom-up manner. This constraint is paraphrased as:

(63) *The Constraint on Argument Ellipsis (CAE)*

Provided identity condition is met by the discourse antecedent, nominal argument α whose θ -role has been given is eligible for ellipsis only if α is placed in the specifier of phase XP, where XP corresponds to a Spell-Out domain and a predication unit.

Some basic assumptions are in order. First, *identity condition* requires that the elided parts have an identical representation⁹ and that this should be offered by a discourse antecedent. Second, *nominal argument* refers to a maximal syntactic projection to which a θ -role can be assigned¹⁰. (64) shows the structural configuration: only α is eligible for AE.

(64) *The Structural Configuration for the CAE*



⁹ For now, I remain neutral among different types of identity. For a general discussion on this issue, I refer readers to Section 2.1.1. Here, the condition simply assures that the elided parts have to be legitimate for the proper interpretation to be obtained.

¹⁰ Therefore, I remain neutral with regards to the DP/NP parameter proposed by Bošković (2008) and also to the claim that AE is possible only for NP-languages (Cheng 2013; Bošković 2016). The presence of DP is thus neither presumed nor denied here. The status of an argument is equal to a maximal nominal projection.

Having demonstrated the structural configuration for the CAE, now we turn to theoretical considerations that have to be made. First, the notion of phase as a Spell-Out domain. It has been assumed that syntactic operations and corresponding structures are not produced all at once: rather, it builds up in some chunks. These chunks were said to constitute each syntactic unit: a phase. Traditionally, vP and CP are considered phases, having a status of proposition, and accordingly, the complement of each phase (*i.e.*, the transfer domain) becomes syntactically inert after each Spell-Out, being transferred to the interfaces (Phase Impenetrability Condition; Chomsky 2000). Yet, various researches have shown that phase should be loosely and contextually confined (*e.g.*, McGinnis 2001; Fox & Pesetsky 2005; Bošković 2014, *among many*). In the present thesis, I mainly follow the notion of phase as a linearizing domain proposed in Fox & Pesetsky (2005).

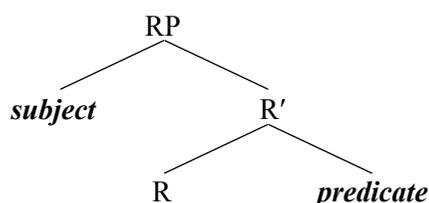
(65) *Order Preservation of Spell-Out Domain* (Fox & Pesetsky 2005:6)

Information about linearization, once established at the end of a given Spell-Out domain, is never deleted in the course of derivation.

The Spell-Out domain here dictates that the relative word order established in a phase can never be reversed. For example, in (64), Spell-Out of the XP domain fixes the linear order of $\alpha\text{-}\beta\text{-}\gamma\text{-}X$ once and for all: as a consequence, γ can never precede α . That is, the notion of phase here refers to the Spell-Out domain after which phonetic elements are syntactically linearized (Fox & Pesetsky 2005; Ko 2007). Simultaneously, the notion of predication provides a semantic foundation for phase as a Spell-Out domain: the semantic predication can be mapped onto the syntactic representation. This elaboration on the notion is mainly borrowed from the extensive work by den Dikken (2006): syntactic predication consists of *subject* and *predicate*. Roughly, *subject* expresses the topic of a proposition, and *predicate*

expresses a property ascribed to the subject (den Dikken 2006:17). This whole predication as a unit corresponds to the phase as the Spell-Out domain (Fox & Pesetsky 2005)¹¹. For example, in (64), XP phase (*i.e.*, XP predication) is divided into two parts: *subject* (α) and *predicate* (β - γ -X), where the former asymmetrically c-commands every node of the latter. The predicational RelatorP (RP), being the unit of predication, can be schematized as:

(66) *The Syntactic Configuration of Predication RP* (den Dikken 2006; his (1))



In this respect, the notion of predication being pursued here is the semantic notion which corresponds to the syntactic phase, a consequence of which is phonetic linearization. This provides the structural configuration for AE. Viewing this from a very similar perspective, phase is related to ‘argument-introducing’ domains (McGinnis 2001; Pyllkänen 2008)¹², where arguments are newly introduced to the derivation in the specifier. The relationship between predication and phase will be further entertained in the course of the analysis.

¹¹ This is therefore different from the phase system construed in den Dikken (2006, 2007). For den Dikken (2007), phase varies as the phase head undergoes movement: if head X of phase XP moves up to head Y of YP, it extends the phase to YP. He calls this *phase extension*. In arguing this, he follows the canonical premise of phase given in Chomsky (2000): the phase domain (*i.e.*, the complement of the phase) undergoes Spell-Out, and is invisible from outside; the phase edge (*i.e.*, the specifier and the phase head) is still visible. However, in the system of Fox & Pesetsky (2005), the Spell-Out domain is the entire phase and Spell-Out only ensures the linear order established among the elements: so long as they retain a relative order established at the end of a phase, they can still move even if they are not in the phase edge. I follow the system of Fox & Pesetsky (2005) here. Yet, for the semantic ground, I borrow the predication system of den Dikken (2006). In short, the phase system advocated here differs from the phase system in Chomsky (2000) and den Dikken (2007).

¹² This contrasts with the ‘propositional’ phases, ν P and CP, proposed in Chomsky (2000).

Syntactically speaking, the notion of phase (*i.e.*, Spell-Out domain; predication) under discussion can be manifested in a variety of structures. We just looked into the structure of VP in the previous section in which the direct object and the verb form the lexical VP. This is of course an instantiation of phase: a linear order between them is preserved after Spell-Out; as for predication, *direct object* stands for *subject* and *verb* for *predicate*. The lexical VP indeed is considered a phase (Ko 2008; Ha 2008). Other than the VP domain, we can enumerate the tentative typology of syntactic phases as in (67), varying in their conceptual sizes and syntactic or semantic qualities:

(67) *The Typology of Syntactic Phases*

- i. VP (direct object and main lexical verb; primary predication)
- ii. RP (smaller, tenseless secondary predication)
- iii. vP; ApplP (broader functional projection introducing additional arguments)
- iv. VoiceP (introduction of *agent*; the final event structure is here completed)
- v. TP; CP (higher phase denoting tense or discourse information)

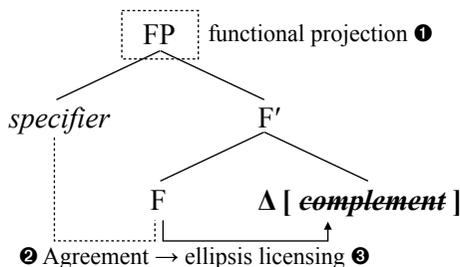
We already examined that in the lexical VP, ellipsis occurs strictly according to the CAE: *direct object* is eligible for AE, since it is placed in the specifier of the VP phase. In the next chapter, we will further dissect the structure of VP and examine several structures presented as the form of the main puzzle. Then, we will slightly broaden the realm of discussion and take a closer look at other argument-introducing domains in the subsequent chapter.

Before closing the chapter, I would like to mention two theoretical implications the CAE immediately evokes: the directionality of the ellipsis operation; and the peculiarity of the specifier position as a phase edge.

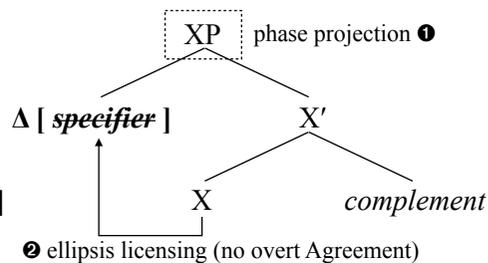
First, the directionality of the ellipsis operation. In Section 2.1.2, ellipsis was generalized as complement ellipsis operation: it renders the complement of functional heads null. This is conditioned either by Spec-Head Agreement (Lobeck 1995) or by a phonetic factor that requires the specifier position to be occupied (Saito & Murasugi 1990). In either case, it is functional head that licenses the ellipsis of its complement. However, it is the other way around in the case of the CAE. Under the CAE, it is phase heads which license the ellipsis of their specifier. Then, the directionality of ellipsis seems to be reversed in AE. This, along with the observation that East Asian languages do not show any overt Agreement (Saito 2007), casts an interesting discussion point. See the schematization in (68):

(68) *Reversed Directionality of Ellipsis Licensing*

a. *Generalization of Lobeck (1995)*



b. *The Constraint of Argument Ellipsis*



As illustrated in (68a), Spec-Head Agreement licenses the ellipsis of its complement in the case of the functional projection FP. However, in (68b), following the overall absence of Agreement in the language, the phase head X licenses the ellipsis of its specifier in the case of the phase XP. For the time being, I briefly note that this difference in directionality might have to do with differently parameterizing the ellipsis operation. I will return to this issue in the discussion chapter.

Second, the peculiarity of the specifier position as a phase edge. I proposed that AE can be licensed for a nominal element that is placed in the specifier position of each phase: the phase edge. This position is special in that it is usually the highest position in a given unit of the derivation. This issue was entertained in various researches, in terms of scrambling movement (Ko 2007, 2011, 2014) and as the intermediate landing site of \bar{A} -movement and partial stranding (Rockowski & Richards 2005; den Dikken 2009; Davis 2018, *inter alia*). I will revisit this issue in the discussion part as well.

Thus far, I have introduced the main proposal of the present thesis: *the constraint on Argument Ellipsis*. In the following two chapters, we will examine more specific data in order to firmly argue that AE is licensed in accordance with the CAE. Starting with the two puzzling data presented in this chapter, we will investigate various cases of argument structure that are deeply related to phase and the Spell-Out domain. In the course of elaborating this, I will contend that the AE phenomenon in Korean has to be syntactically constrained, and demonstrate that the proposed CAE is actually in effect in the language.

4

Outset:

‘Smaller’ Phases in the Verbal Domain

I have argued that argument ellipsis occurs in the configuration of phase, targeting the specifier of a Spell-Out domain (*i.e.*, a phase edge). In this chapter, I start the discussion by investigating relatively ‘smaller’ phases in terms of their size. Specifically, this chapter is devoted to addressing the issue of the main puzzle proposed in the previous chapter. I begin with resultatives, followed by inalienable possession. In addition to that, I will look into direct objects and their numeral quantifiers residing in the VP as well.

4.1 Resultatives

I will start the analysis with resultatives. First, I review the general researches that view resultative predication as a *small clause*, revisit the asymmetric puzzle we took a look at in Chapter 3, and provide an appropriate explanation for the puzzle.

4.1.1 The Structure of Resultatives

In the literature, resultatives have been analyzed in terms of *tenseless predication*, coined *small clause* (Stowell 1981; Hoekstra 1988; Aarts 1992; Napoli 1992; den Dikken 2006).

This is named as such since it serves the function of typical clause, but is smaller and does not bear any tense specification in its domain. In a similar vein, this tenseless predication (*i.e.*, *secondary predication*) is accompanied by a main clause (*i.e.*, *primary predication*). The small clause constitutes its own structural domain, thus projecting up to a maximal projection rendering their resultative interpretation. The canonical examples include small clauses (SC) made of a noun and an adjective.

(69) *Resultative Small Clause Constructions*

a. *Italian* (Napoli 1992; her (44))

Ho calciato [sc la palla nell'angolo].
 have.1SG kicked the ball in.the'corner
 'I kicked the ball into the corner.'

b. *Dutch* (Hoekstra 1988; his (34d))

Hij schreeuwde [sc zijn keel rauw].
 he screamed his throat raw
 'He screamed his throat sore.'

In (69a), the event of kicking a ball causes the result of the ball being in the corner, hence the terminology. Similarly, in (69b), the event of screaming causes the result of his throat being sore. These resultative small clauses are realized as a combined unit of a noun and a modifier. Alternatively, it is possible to compose a small clause made of two nouns.

(70) *Resultative Small Clause with Two Nouns*

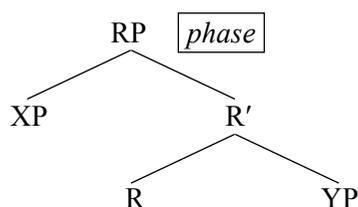
a. *Polish* (Bowers 2001; cited in Citko 2011)

Maria uważa [sc Jana za przyjaciela].
 Maria.NOM considers Jana.ACC as friend
 'Maria considers Jana as a friend.'

- b. *French* (Starke 1995; his (22a))
- Je considère le président **comme** un acteur.
 I consider the president **as** an actor
 ‘I consider the president an actor.’

In (70a), *Jana* is *a friend* after the event of considering. Similarly, in (70b), *the president* is *an actor* after the event of considering. Crucially, small clauses in (70) are composed of two nouns, one denoting inherent status and the other resulting status. Also, note that both (70a-b) connect the nouns with a word: *za* in Polish and *comme* in French. Regarding this, den Dikken (2006) proposes a unified projection for resultative small clauses, which he calls RelatorP (henceforth RP). It bears the predicational relation between two maximal projections included therein (in this case, two nominal projections). Accordingly, *za* and *comme* can be considered a lexical realization of this functional head, R.

- (71) *The Structure of Small Clause RP* (den Dikken 2006:11)



For example, in (70a), *Jana* ‘Jana.ACC’ and *przyjaciela* ‘friend’ correspond to XP and YP respectively, with the functional head being realized as *za*. Similarly, in (70b), *le president* ‘the president’ and *un acteur* ‘an actor’ correspond to those, *comme* being the realized R head. Crucially, the RP domain is considered a phase (den Dikken 2006; Ko 2015)¹.

¹ However, note that den Dikken (2006) considered the Spell-Out domain of RP to be YP, the complement of the phase. Contrary to this, I follow Fox & Pesetsky (2005) and Ko (2007) in that the entire phase undergoes Spell-Out, fixing their relative word order once and for all.

This kind of resultatives exists in Korean as well. Analogous to the observation that was just made, two nouns associated with each other can comprise a syntactic constituent RP, realizing the R head of the small clause as the bound morpheme *-lo* (Ko 2015).

(72) *Korean Resultative Small Clause Construction* (Ko 2015; her (3))

Mapepsa-nun [sc mwul-ul photocwu-**lo**] mantul-ess-ta.
 magician-TOP water-ACC wine-RES make-PAST-DECL
 ‘A magician turned water into wine.’

In (72), *mwul-ul photocwu-lo* ‘water into wine’ is a small clause. From now on, examples such as (72) will be treated as a typical resultative comprised of two nominals². This small clause is the unit of a predication and gives rise to its resultative meaning, as suggested by den Dikken (2006) and Ko (2015). Crucially, the RP phase here, being a unit of Spell-Out and linearization, cannot reverse their order within it.

(73) *Illicit Reversed Order in Korean Resultatives*

#Mapepsa-nun photocwu-lo mwul-ul mantul-ess-ta.
 magician-TOP wine-RES water-ACC make-PAST-DECL
 (intended) ‘A magician turned water into wine.’

Note that (73) is infelicitous, not totally ungrammatical. This is because we get a different meaning rather than the intended meaning for (73): *-lo* is understood as an instrumental, thus what is eventually made is *water*, not *wine*. Thus, (73) can only mean that *a magician*

² There is in fact one more type of resultative with *-lo* according to the typology of Ko (2015). I will return to the issue of this type of resultative as the investigation proceeds.

made water from wine. This is exactly opposite of what we desire. This illicit example in (73) can be explained under the Spell-Out system we adopted from Fox & Pesetsky (2005) and Ko (2007): their order in the moment of Spell-Out must be preserved thereafter.

Now, having established the syntactic consequences of RP, we move onto the question of how RP merges into the overall structure. There are two ways to Merge when we combine the RP with the structure: *complementation vs. adjunction*. The RP merges as complement to V head in the former, while it merges as adjunct to V head in the latter. This issue has been entertained both typologically (Simpson 1983; Washio 1997; den Dikken 2006) and for Korean specifically (Yeo 2006; Shim & den Dikken 2007; Ko 2015). For the sake of elaboration, I introduce two diagnostics by which we can differentiate the ways to Merge for resultatives: repetition of the result status, and pragmatic cancelation. Following these diagnostics, it will be illustrated that *-lo* resultatives are formed via complementation to V. For a brief comparison, I make reference to another type of resultative, where the bound morpheme *-key* forms resultatives via adjunction (Shim & den Dikken 2007; Ko 2015).

(74) *Korean Resultative Construction with Bound Morpheme -key* (Ko 2015; her (5))

John-un [sc patak-i hayah-**key**] chilha-ess-ta.
 John-TOP [floor-NOM white-RES] paint-PAST-DECL
 ‘John painted the floor white.’

In (74), the RP with *-key* renders the result of the painting event the floor becoming white. I will compare (72) with (74) since they show strikingly different characteristics regarding the diagnostics to be presented. First, resultatives that have merged via complementation cannot be repeated; this contrasts with resultatives that have merged via adjunction, since

they can be repeated (Shim & den Dikken 2007; Ko 2011). This naturally follows from, since complementation only happens once, while adjunction can happen multiple times.

(75) *Diagnostic A: Repetition of Result Status*

- a. *Mapepsa-nun mwul-ul photocwu-lo maykcwu-lo mantul-ess-ta.
 magician-TOP water-ACC wine-RES beer-RES make-PAST-DECL
 (intended) ‘A magician turned water into wine and then into beer.’
- b. John-un patak-i hayah-key panccaki-key chilha-ess-ta.
 John-TOP floor-NOM white-RES shiny-RES paint-PAST-DECL
 ‘John painted the floor white and shiny.’

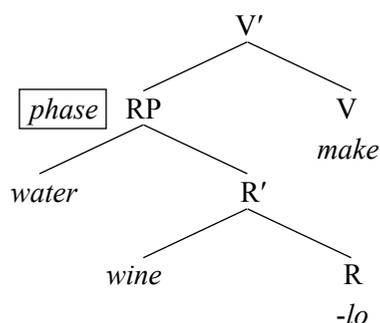
The (un)grammaticality pattern in (75) naturally follows from this, for we cannot repeat the complementation in (75a), while we can repeat the adjunction in (75b). Second, the result state that is caused by complementation cannot be canceled: it is irreversible. This sharply contrasts with the result state that is caused by an adjunction, since they can be canceled. This is to say that *-lo* resultatives are *telic*, while *-key* resultatives are *atelic*.

(76) *Diagnostic B: Pragmatic Cancellation*

- a. Mapepsa-ka mwul-ul photocwu-lo mantul-ess-ta.
 magician-NOM water-ACC wine-RES make-PAST-DECL
 #Kulena, photocwu-nun mantul-eci-ci anh-ass-ta.
 however wine-TOP make-PASS-CI not-PAST-DECL
 (intended) ‘A magician turned water into wine, but wine was not made.’
- b. John-i patak-i hayah-key chilha-ess-ta.
 John-NOM floor-NOM white-RES paint-PAST-DECL
 Kulena, patak-un hayah-key chilha-eci-ci anh-ass-ta.
 however floor-TOP white-RES paint-PAST-CI not-PAST-DECL
 (intended) ‘John painted floor white, but the floor was not white afterwards.’

As we can see, if we cancel the result state, it is felicitous only in (76b). That is, as result of each event, it is presupposed in (76a) that water became wine, but it is not presupposed in (76b) that the floor is white. To recapitulate, by the two diagnostics presented, we can differentiate two types of resultatives in Korean: *-lo* resultatives as complementation, and *-key* resultatives as adjunction. Going back to the focus of the analysis, we can schematize the structural representation of complementation *-lo* resultatives as in (77):

(77) *The Structure of -lo Resultative Small Clause in Korean*



In (77), RP is a phase, forming a unit of predication (*i.e.*, *tenseless predication*). Between two nouns, the first noun *mwul-ul* ‘water-ACC’ is in the specifier of the RP phase, whereas the second noun *photocwu-lul* ‘wine-RES’ is in the complement of the RP phase.

4.1.2 Argument Ellipsis: Resultative RelatorP

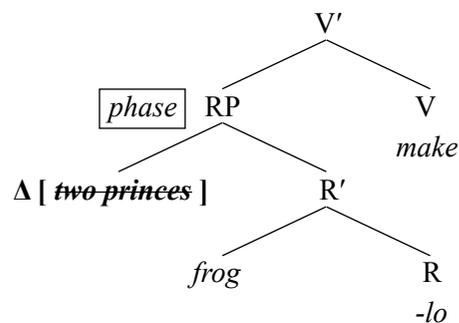
Now, we return to the second puzzle where we observed the asymmetry mentioned in the previous chapter. When two noun phrases yield a resultative interpretation together, only the first nominal can be elided. Below I repeat the second puzzle, slightly modified.

(78) *Argument Ellipsis: Resultative Constructions in Korean*

- A. Mapepsa-nun [twu-myeng-uy wangca]-lul kaykwuli-lo mantul-ess-ta.
 magician-TOP [two-CL-GEN prince]-ACC frog-RES make-PAST-DECL
 ‘A magician turned two princes into frogs.’
- B. Manye-nun Δ paym-ulo mantul-ess-ta.
 witch-TOP snake-RES make-PAST-DECL
 (intended) ‘A witch turned two princes into a snake.’ [✓E-type / ✓Q-type]
- C.*Manye-nun [twu-myeng-uy kongcwu]-lul Δ mantul-ess-ta.
 witch-TOP [two-CL-GEN princess]-ACC make-PAST-DECL
 (intended) ‘A witch turned two princesses into frogs.’

(78B) is grammatical, while (78C) is strictly ungrammatical. Also note that the two types of different readings are readily obtained in (78B): it can be either *the same princes* or *two different princes*. The result is exactly what we would expect under the CAE: only the first nominal, being in the specifier of the RP phase, is eligible for AE. The relevant structural configuration is presented below.

(79) *Derivation: Argument Ellipsis of the RP Phase*



As in (79), only the specifier *twu-myeng-uy wangca* ‘two princes’ can be elided under the CAE. On the contrary, although *kaykwuli* ‘frog’ is an obligatory nominal for the intended

interpretation, it is ineligible for AE because it is located in the predicate position: that is, in the complement of RP, not in the specifier of RP³.

Before closing the section, I will examine another type of *-lo* resultative, where the same observation and account hold true. According to the typology of resultatives in Ko (2015), there is a type of resultative in which the subject of RP predication can be construed as PRO and a co-indexed direct object controls this RP subject.

(80) *-lo Resultative: Controlled Subject Complementation* (Ko 2015; her (2))

Apeci-nun khong-ul kalwu-**lo** ppah-ass-ta.
 father-TOP bean-ACC powder-**RES** pound-PAST-DECL
 ‘Father pounded beans into powder.’

In (80), the basic factors remain identical: it renders a resultative interpretation, by which *khong* ‘bean’ turns into the shape of *kalwu* ‘powder’ as the result of the pounding event. Yet, (80) differs from the RP in (72) in that the specifier of RP, being construed as PRO, is controlled by its co-indexed direct object. Accordingly, we can observe the asymmetry in the argument structure of the two types of resultative as in (81).

³ One might argue that the existence of the resultative marker *-lo* blocks the AE from being operative. Yet, this is not the case, since we can substitute the resultative *-lo* for the accusative *-(l)ul* Case-marking while retaining the intended interpretation.

(i) *Resultative via Complementation: Substitution of -lo for -(l)ul*

Mapepsa-ka wangca-lul kaykwuli-lul mantul-ess-ta.
 wizard-NOM prince-ACC frog-ACC make-PAST-DECL
 ‘A wizard turned the prince into frog.’

The ellipsis paradigm remains intact even if we provide the baseline sentence as in (i): only the first nominal is eligible for AE. The second nominal is still ineligible for AE, and this is exactly what we desire.

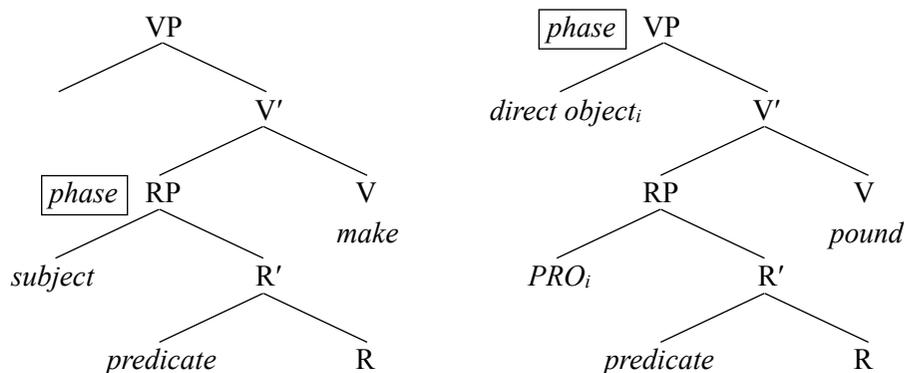
(81) *Different Argument Structure: mantul- ‘make’ vs. ppah- ‘pound’*

- a. Apeci-nun khong-ul ppah-ass-ta.
 father-TOP bean-ACC pound-PAST-DECL
 ‘Father pounded beans.’
- b. *Mapepsa-nun wangca-lul mantul-ess-ta.
 magician-TOP prince-ACC make-PAST-DECL
 (intended) ‘magician turned prince into something.’

In (81a), the argument *khong* ‘bean’ can be *theme* throughout the event, while in (81b) the argument *wangca* ‘prince’ only can be the entity which is made, not the entity from which something is made: hence the ungrammaticality of (81b). This difference can be properly captured under the analysis suggested by Ko (2015) where she differentiates between two types of resultatives by the presence or absence of an overt subject in the RP.

(82) *Difference between Two Types of Resultative in Korean* (Ko 2015)

- a. *Overt Subject Complementation* b. *Controlled Subject Complementation*



The most crucial difference between the two structures comes from the location of *theme* argument. In (82b), the subject of RP is being controlled by the direct object of the main verb, while the counterpart in (82a) is overtly expressed in the [Spec, RP] position. Based

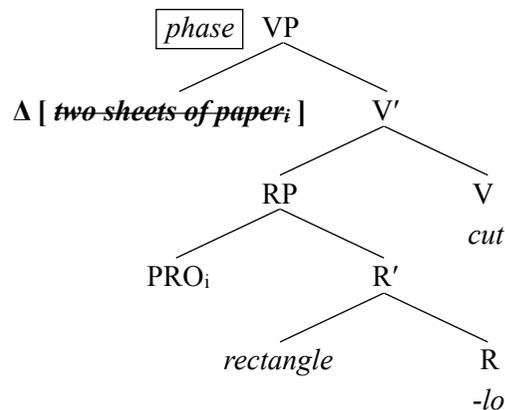
on the structures in (82), I provide an ellipsis paradigm for controlled subject resultatives⁴.

(83) *Argument Ellipsis: Controlled Subject Resultative*

- A. Mina-nun [twu-cang-uy cong-i]-lul sakakhyeng-ulo calu-ass-ta.
 Mina-TOP [two-CL-GEN paper]-ACC rectangle-RES cut-PAST-DECL
 ‘Mina cut two sheets of paper in rectangle shape.’
- B. Suho-nun Δ samkakh-yeng-ulo calu-ass-ta.
 Suho-TOP triangle-RES cut-PAST-DECL
 (intended) ‘Suho cut two sheets of paper in triangle shape.’ [✓E-type / ✓Q-type]
- C.#Suho-nun [sey-tengi-uy chalhulk]-ul Δ calu-ass-ta.
 mother-TOP [three-CL-GEN clay]-ACC cut-PAST-DECL
 (intended) ‘Suho cut three chunks of clay in rectangle shape.’

We don’t get the intended reading for (83C): it is infelicitous. It can only roughly mean that *Suho cut chunks of clay*. This is exactly what we would expect under the CAE, since *sakakhyeng* ‘rectangle’ is placed in an illegitimate position. This is illustrated in (84):

(84) *Derivation: Argument Ellipsis of Direct Object with Resultatives*



⁴ I changed the verb in (83) to *calu-* ‘to cut’ mainly due to the following reason: *ppah-* ‘to pound’ semantically presupposes that *theme* becomes the status of powder, so it is difficult to provide a contrastive set.

In (84), there is no problem in eliding *twu-cang-uy cong* ‘two sheets of paper’, since it is in the specifier of the VP phase. However, it is illicit to elide *sakakhyeng* ‘rectangle’, as it is in the complement of RP, which is an ineligible position for AE.

So far, we have investigated two types of *-lo* resultative formed via complementation to V. For both types of resultative, the CAE could readily account for the asymmetry: in both the RP and VP phase, only the specifier position (*i.e.*, the phase edge) is eligible for AE.

4.2 Inalienable Possession

Now, we turn our attention to the first asymmetric puzzle: inalienable possession. Some theoretical background for possessives and their structure will be first provided, followed by the ellipsis paradigm.

4.2.1 The Structure of Possessives

Possessive relationship has been one of the most complex issues in the literature, since it is hard to provide a clear-cut account of various possessive structures cross-linguistically. In particular, it has been attested in many languages that *possessor* and *possessee* behave distinctively both syntactically and semantically. That is, even when two nominal elements have possessive interpretations with respect to each other, they behave like separate units⁵.

The issue has been widely investigated since in many languages *possessor* is eccentrically

⁵ Note that possessive interpretation here is not confined to inalienable possession yet. I provide a discussion on possessive structure in general for now, in order to grasp the overall scheme. As we proceed to Korean, I will confine the discussion to inalienable possession.

marked with dative Case. This is dubbed Possessor Dative construction. The main issue concerning this is the duality of *possessor*: it is a semantic argument of *possessee*, but a syntactic argument of the verb (Landau 1999). Some typical examples are provided below.

(85) *Cross-Linguistic Possessor Dative Construction*

a. *French* (Guéron 1985; her (69b))

J'ai coupé les cheveux à Pierre.

I've.1SG cut the hair DAT Pierre

'I cut Pierre's hair.'

b. *Hebrew* (Borer & Grodzinsky 1986; their (12a))

Ha-yalda kilkela le-Dan et ha-radio.

the-girl spoiled DAT-Dan ACC the-radio

'The girl broke Dan's radio.'

c. *German* (Lee-Schoenfeld 2006; her (1a))

Tim hat der Nachbarin das Auto gewaschen.

Tim has the neighbor.DAT.FEM the car washed

'Tim washed the neighbor's car.'

In (85a-c), two elements denoting *possessor* and *possessee* are separated from each other, bearing different Case-markings: dative and accusative. Semantically, these correspond to a single complex nominal where the possessive relationship is established, but they are distinct from each other in appearance: hence the terminology *external possession* (Payne & Barshi 1999; Deal 2013). Concerning this, two approaches have been mainly suggested. The first one argues that *possessor* and *possessee* are in fact base-generated in different positions, with *possessor* having the θ -role of *affectee* (*i.e.*, control): that is, *possessor* is an argument of the verb. On the other hand, the second one argues that they depart from a single noun phrase, but the *possessor* raises to the argument position (*i.e.*, raising): that is,

possessor is an argument of *possessee*. These two were referred to as the Control approach and the Raising approach respectively (see Deal 2013 for a discussion and overview of the issue)⁶. It is worth mentioning that the Control approach is argued to be more plausible in the case of Korean, even though it is not so easy to make a decisive conclusion since possessives in Korean exhibit more limited distribution. We will get to this issue shortly.

We now turn to possessives in Korean. For external possession in the sense of Payne & Barshi (1999), we narrow our scope down to possessives which allow double accusative Case marking. This has been compared with the possessor dative construction in (85), since *possessor* bears a different Case-marking than the typical genitive, and is thus said to be separated from *possessee*. Yet, we immediately face an obstacle: double accusative Case-marking is possible only for *inalienable* possession: it excludes *alienable* possession (the observation due to C.M. Lee 1992). This property sharply contrasts with the examples we saw in (85b-c), since those languages allow the dative possessor strategy even for alienable possession (e.g., *le-Dan* ‘Dan-DAT’ and *et ha-Radio* ‘ACC the-Radio’ in Hebrew).

(86) *Korean Double Accusative Possessive Construction*

- a. *Mina-ka Suho-lul kong-ul cap-ass-ta.
 Mina-NOM Suho-ACC ball-ACC catch-PAST-DECL
 (intended) ‘Mina caught Suho’s ball.’
- b. Siwu-ka Hani-lul son-ul cap-ass-ta.
 Siwu-NOM Hani-ACC hand-ACC catch-PAST-DECL
 ‘Siwu caught Hani’s hand.’

⁶ In Deal (2013), it is argued that these two strategies are a parametrical option for individual languages. Each language chooses a distinct option in accordance with the quality of the verbal head that attracts *possessor*. For Deal, the affectedness condition for *possessor* was crucial for languages that choose the control approach, as an additional *affectee* θ -role can be given only via the control approach.

As we can observe from the contrast between (86a-b), only inalienable possession allows double accusative Case-marking in Korean. Note that both would be grammatical if we used the genitive Case *-uy* instead of the accusative Case *-lul* for the possessor nominals. Yet, the contrast is clear when we derive external possession by assigning the accusative Case both to *possessor* and *possessee*. Therefore, this mystery has to be covered in detail. Regarding this, Tomioka & Sim (2007) provided a semantic analysis which has a syntactic consequence: the Affectedness Condition matters for *possessor*. They argue that *possessor* in inalienable possession doesn't need to be animate, but it rather has to be affected by the event described in the main verb.

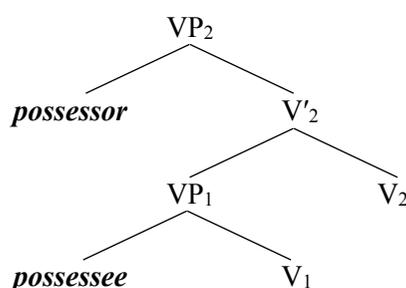
- (87) *Korean Inanimate Possessor* (Tomioka & Sim 2007; their (1b-c))
- a. Chelswu-ka Lopus-ul pal-ul palp-ass-ta.
 Chelswu-NOM robot-ACC foot-ACC step.on-PAST-DECL
 ‘Chelswu stepped on the robot’s foot.’
- b. Chelswu-ka sap-ul calu-lul cap-ass-ta.
 Chelswu-NOM shovel-ACC handle-ACC grab-PAST-DECL
 ‘Chelswu grabbed the handle of the shovel.’

For example, in (87), both *lopos* ‘robot’ and *sap* ‘shovel’ are inanimate entities, yet double accusative Case-marking is allowed as long as *possessor* and *possessee* denote inalienable possession. They, however, are subject to the Affectedness Condition: *possessor* must be affected by the event being described. As for the base-generated position of *possessor*, it is argued that it does not originate from the NP where *possessee* is contained⁷. In particular,

⁷ Note that this is against a two-place predicate analysis (Ura 1996) or PossessiveP analysis (Alexiadou 2003), although a detailed explanation is omitted due to limited space. I refer readers to Tomioka & Sim (2007) and the references therein for further discussion.

they contend that *possessor* is located in the specifier of a functional projection, where the functional head assigns an *affectee* θ -role to *possessor*. Tomioka & Sim (2007) introduced the recursive VP structure based on this reasoning, where the two respective VPs signify the lexical VP and the silent *affect* VP. The (lower) lexical verb selects *possessee* in the complement, and the (higher) *affect* verb selects *possessor* in the specifier. Crucially, both accusative NPs are independent arguments (Tomioka & Sim 2007:9).

(88) *Inalienable Possession as Recursive VP* (Tomioka & Sim 2007; their (18))



The structure schematized in (88) is further supported if we consider the observation that *possessor* can bear different θ -roles. See the example below: each *possessor*, *Youngmee* in (89a) and *lopos* ‘robot’ in (89b), corresponds to *source* and *goal*, respectively.

(89) *Different θ -Roles for Possessor* (Tomioka & Sim 2007; their (22a) and (23a))

a. *Source Interpretation*

Jinhwa-ka Youngmee-lul meri-lul ppop-ass-ta.
 Jinhwa-NOM Youngmee-ACC hair-ACC pull.out-PAST-DECL
 ‘Jinhwa pulled out Youngmee’s hair.’

b. *Goal Interpretation*

Chelswu-ka lopos-ul phal-ul tal-ass-ta.
 Chelswu-NOM robot-ACC arm-ACC attach-PAST-DECL
 ‘Chelswu attached the arm to the robot.’

The two *possessor* nominals in (89) share a common property: they have to be affected by the main event described in the lexical verb. This is to say that *possessor* and *possessee* in Korean inalienable possession are separate from each other, each being assigned a θ -role. Yet, the role of *possessor* as an *affectee* still has to reflect an intimate relationship with its *possessee*. For instance, it is impossible to have *affectee* that is not in a possessive relation with *possessee* in double accusative Case-marking, as pointed out by Vermeulen (2005).

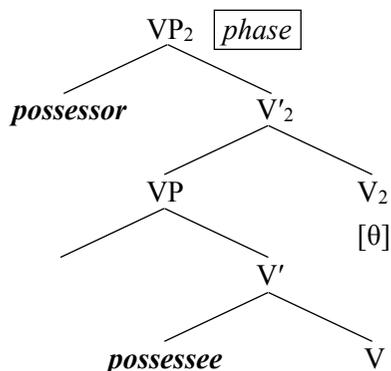
(90) *Impossibility of Causative Interpretation* (Vermeulen 2005; her (81))

*Mary-ka John-ul Bill-uy tali-lul cha-ass-ta.
 Mary-NOM John-ACC Bill-GEN leg-ACC kick-PASS-DECL
 (intended) ‘Mary affected John by kicking Bill’s leg.’

The ungrammaticality of (90) indicates that even if *possessor* seems to be separated from *possessee* (*i.e.*, external possession), they still have to establish dependency in terms of inalienable possession. This is neatly elaborated on in the analysis of Yoon (2015): he argues that *possessor* and *possessee* in double accusative constructions enter a dependency relationship together, yet that this should not be modeled by Movement or Control (Yoon 2015:92). In this respect, what is crucial for Tomioka & Sim (2007) is that the participants are only limited to *possessor* and *possessee* under the Modified Event Composition (*à la* Brisson 1998). This operation ensures that another argument (in this case, *possessor* as an *affectee*) is a subcomponent of some collective event, yet it should still be considered a single argument structure as a whole. A higher functional head overlays another θ -role by introducing an *affectee* argument in the specifier, and extends the domain of predication: VP₂ in (88) is an extension of VP, which functions as a phase just like the regular VP.

To wrap up the discussion, external possession in Korean is far more restricted than its counterpart in other languages, since inalienable possession is the only viable option. The nominals can be double accusative Case-marked, and possibility of an inanimate possessor hints that the construction has to do with the Affectedness Condition, not with animacy. I mainly followed the semantic analysis of Tomioka & Sim (2007), where the recursive VP structure is postulated. The semantic account proposed by them well matches with other studies such as Yoon (2015). We can accordingly conclude that *possessor* and *possessee* are generated in different positions, yet they belong to the same phase: VP₂ as an extended VP. Putting all of these together, we can schematize the relevant structure.

(91) *The Structure of Inalienable Possession: Final Schematization*



Lastly, some final justifications are in order for the structure proposed in (91). First, VP₂ here is a functional projection where the semantics of affectedness are rendered. Second, *possessee* and *possessor* are generated in the complement of VP and the specifier of VP₂ respectively, being assigned their θ-roles from each verbal head. Third and finally, they establish a dependency in behalf of inalienable possession, and everything is implemented in the single VP₂ phase where VP₂ stands for an extension of VP.

4.2.2 Argument Ellipsis: Inalienable Possession VP₂

Based on the structure postulated in (91), we expect that only *possessor*, located in the specifier of the VP₂ phase (*i.e.*, an extended VP phase) is eligible for AE. Although both *possessor* and *possessee* are legitimate arguments and are given θ -roles, they are placed in different configurational positions. Below I repeat the first puzzle, slightly modified.

(92) *Asymmetry in Korean Inalienable Possession*

- A. Siwu_i-ka [caki_i-uy ai]-lul phal-ul cap-ass-ta.
 Siwu-NOM [self-GEN child]-ACC arm-ACC catch-PAST-DECL
 ‘Siwu_i caught his_i child on the arm.’
- B. Hani_j-nun Δ tali-lul cap-ass-ta.
 Hani-TOP leg-ACC catch-PAST-DECL
 (intended) ‘Hani_j caught Siwu_i’s child/her_j child on the leg.’ [✓strict / ✓sloppy]
- C.#Hani_j-nun [caki_j-uy oppa]-ul Δ cap-ass-ta.
 Hani-TOP [self-GEN older.brother]-ACC catch-PAST-DECL
 (intended) ‘Hani_j caught her_j older brother’s arm.’

The asymmetry can be easily accounted for under the CAE, assuming the structure in (91). It is naturally expected that only the first nominal can be elided, since it is the one located in the specifier of a given phase⁸. The structural derivation is as follows:

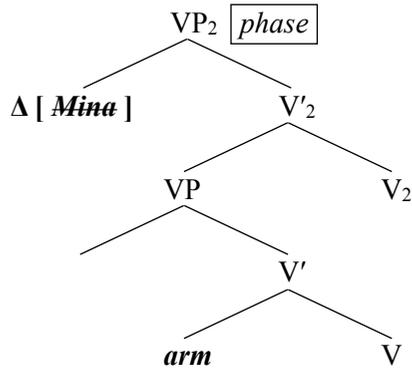
⁸ Here, I excluded the issue of multiple accusative Case-marking construction. The typical example is as in (i):

(i) *Triple Accusative Case-marking Construction*

- Cangnim-i khokkili-lul pal-ul kkut-ul manci-ess-ta.
 blind.person-NOM elephant-ACC leg-ACC tip-ACC touch-PAST-DECL
 ‘A blind person touched the tip of the elephant’s leg.’

It is difficult to account for this type of construction in terms of ellipsis in a similar vein of account suggested in the previous literature (see Maling & Kim 1992; Vermeulen 2005). I leave this issue for future research.

(93) *Derivation: Argument Ellipsis of VP₂ Subject in Possessives*



In (93), *Mina-lul* ‘Mina-ACC’ is generated in the specifier of VP₂, getting assigned its *affectee* θ-role from the V₂ head. The position of this argument, [Spec, VP₂], is an eligible position for AE. On the other hand, *phal-ul* ‘arm-ACC’ is generated in the complement of the lower VP. Thus it is ineligible for AE in any case. Further, note that *possessee* cannot be scrambled over *possessor*: the word order is rigid between these two.

(94) *Scrambling of Two Nominals in Inalienable Possession*

- a. Mina-lul Siwu-ka ___ phal-ul cap-ass-ta.
 Mina-ACC Siwu-NOM arm-ACC catch-PAST-DECL
 (roughly) ‘As for Mina, Siwu caught her arm.’
- b. *Phal-ul Siwu-ka Mina-lul ___ cap-ass-ta.
 arm-ACC Siwu-NOM Mina-ACC catch-PAST-DECL
 (intended; roughly) ‘As for arm, Siwu caught Mina’s arm.’

The ungrammaticality of (94b) is compatible with the current proposal, since it is expected under the CAE and the Spell-Out system we adopt. When VP₂ is Spelled-Out, the relative order within the Spell-Out domain is fixed and never gets deleted (Fox & Pesetsky 2005).

As for the word order within the phase (*i.e.*, movement within VP₂ phase), the word order of *possessor-possessee* is predicted under the account of Yoon (2015): *possessor* has to be the outer accusative and *possessee* has to be the inner accusative, establishing dependency with each other via the local c-command relationship (Yoon 2015:88). Therefore, it is impossible to reverse the word order between the two arguments both inside the phase (Yoon 2015) and after the phase (Fox & Pesetsky 2005).

4.3 Object Numeral Quantifier

So far, I have examined the asymmetries that were presented in the previous chapter, and demonstrated that those puzzles can be accounted for under the CAE. Before closing the chapter, I will make mention of one more peculiar construction which has to be covered if we aim to complete the investigation of the lower VP domain: *numeral quantifiers*. I will confine myself to object quantifiers here, for they are inarguably generated within the VP. The structure of floating quantifier construction in general will be provided, followed by the ellipsis paradigm. In particular, this section is concerned with the ellipsis paradigm for direct objects (θ -wise *theme*), since the direct object and its quantifier appear together in the corresponding construction. In tandem with the structure of VP and ellipsis of direct objects covered in Section 3.2, this analysis will provide further evidence for the CAE.

4.3.1 The Structure of Floating Quantifiers

Quantifiers that are associated with some noun phrases show floating phenomena from their host nouns. Among instances from languages, I present the universal quantifier *tous* in French, and a numeral quantifier combined with a classifier in Japanese.

(95) *Floating Quantifier in French* (Sportiche 1988; his (2))

- a. **Tous** les enfants ont vu ce film.
all the children have seen this movie
'All the children have seen this movie.'
- b. Les enfants ont **tous** vu ce film.
the children have all seen this movie
'All the children have seen this movie.'

(96) *Floating Quantifier in Japanese* (Miyagawa 1989; cited in Bobaljik 2003)

- a. Hanako-ga pen-o kyoo **sam-bon** katta.
Hanako-NOM pen-ACC today three-CL bought
'Hanako bought three pens today.'
- b. Gakusei-ga kyoo **san-nin** hon-o katta.
students-NOM today three-CL book-ACC bought
'Three students bought the book today.'

As we can tell from their linear orders, the quantifiers in (95-96) are detached from their host nouns. The observation that quantifiers can surface in a different position from host nouns has brought about much discussion, concerning the initial position of subjects or the intermediate position of traces (Lasnik & Saito 1984; McCloskey 2000, *to name a few*). In investigating such floating quantifier phenomena, two approaches were mainly attempted: an adnominal (stranding) approach *vs.* an adverbial (modifying) approach. The adnominal approach assumes that quantifiers and their host nouns are base-generated as a single complex unit. Afterwards, quantifiers can be stranded via movement of the host noun (see Sportiche 1988; Miyagawa 1989; Bošković 2004). This view is supported by the typical observation that quantifiers appear in the positions where arguments would appear or intermediately drop by. In (95b), for example, the universal quantifier *tous* 'all' is stranded

in the surface position after the host noun *les enfants* ‘the children’ leaves the intermediate position by A-movement. On the contrary, the adverbial approach assumes that quantifiers occupy a non-argument position, modifying verb phrases and semantically being related to their host nouns (see Bobaljik 2003; Kuno & Takami 2003; J.B. Kim 2013). This view is supported by the typical observation that quantifiers appear in the position where typical adverbial expressions would appear. In addition to these two approaches, a third approach was suggested to argue that those two strategies are in fact compatible in a given language (Fitzpatrick 2006). According to this hybrid approach, Korean utilizes both adnominal and adverbial strategies, varying in the specific environments (Ko & Oh 2010). Following this, I argue that numeral quantifiers in Korean can be considered an adjunct predicate.

First, I present the typology of numeral quantifiers in Korean as proposed in J.B. Kim (2013). Among these, the quantifier in (97c) represents a VP-modifying adjunct predicate.

(97) *Typology of Numeral Quantifier Constructions in Korean* (J.B. Kim 2013; his (1))

a. *Genitive Case Type (GC)*

[sey myeng-uy pemin]-i
 [three CL-GEN criminal]-NOM
 ‘three criminals’

b. *Noun Initial Type (NI)*

[pemin sey myeng]-i
 [criminal three CL]-NOM
 ‘three criminals’

c. *Floated Quantifier Type (FQ)*

pemin-i [sey myeng]
 criminal-NOM [three CL]
 ‘three criminals’

Say these three phrases containing quantifiers in (97) appear as nominative Case-marked arguments. The placement of the Case-marking *-i* is crucial here. Only in (97c) is the *-i* Case-marking separated from the quantifier: it is a floating quantifier. Even though the *-i* Case-marking is omitted from the quantifier in (97c), I will concern myself in the present thesis only with the quantifiers that are Case-marked⁹. Consequently, from now on, the Case-markings attached to quantifiers are not just optional: they are considered obligatory for the assumed structure. To be more specific, I will focus on (98a) rather than on (98b)¹⁰.

(98) *Case-marked vs. Case-less Quantifier in Korean*

- a. Suho-nun maykcwu-lul ecey sey-can-ul masi-ess-ta.
 Suho-TOP beer-ACC yesterday three-CL-ACC drink-PAST-DECL
 ‘Suho drank three glasses of beer yesterday.’
- b. Suho-nun maykcwu-lul ecey sey-can masi-ess-ta.
 Suho-TOP beer-ACC yesterday three-CL drink-PAST-DECL
 ‘Suho drank three glasses of beer yesterday.’

That is, I will elaborate the analysis only for the Case-marked FQ. Various data presented in J.B. Kim (2013) supports that the FQ type behaves differently from CG or NI types¹¹. Here, for the sake of simplicity, I present two of the attested examples supporting the

⁹ With respect to this issue, it has to be noted that J.B. Kim (2013) considered the Case-marking of quantifiers merely optional: he presumed there would be no difference on either the presence or absence of Case-marking in quantifiers. Yet, there is empirical evidence signaling that those two types of quantifiers are different. I will briefly elaborate on this issue in the next chapter when I cover subject floating quantifiers.

¹⁰ Again, there seems to be no difference in the intended interpretation between (98a) and (98b). Nonetheless, there obviously exist empirical asymmetries when it comes to syntactic operations, such as scrambling. I will return to this issue in the next chapter as well.

¹¹ According to the analysis of J.B. Kim (2013), the diagnostics that distinguish the FQ type from the CG or NI types include cleft, *pro*-verb replacement, partitivity, (non-)specificity and distributive reading.

difference between the NI type and the FQ type¹². The first one comes from the specificity reading, and the second one comes from the distributive reading.

(99) *Specificity Reading for Floating Quantifier in Korean* (J.B. Kim 2013; his (21))

a. *Noun Initial Type*

[Pemin sey myeng]-i cap-hi-ki-lul pala-n-ta.
 [criminal three CL]-NOM catch-PASS-NMLZ-ACC want-PRES-DECL
 (Reading A) ‘We want three criminals to be caught.’ [✓WANT » ∃₃]
 (Reading B) ‘Three criminals want to be caught.’ [✓∃₃ » WANT]

b. *Floating Quantifier Type*

Pemin-i [sey myeng]-(i) cap-hi-ki-lul pala-n-ta.
 criminal-NOM [three CL]-(NOM) catch-PASS-NMLZ-ACC want-PRES-DECL
 (Reading A) ‘We want three criminals to be caught.’ [✓WANT » ∃₃]
 (Reading B) *‘Three criminals want to be caught.’ [*∃₃ » WANT]

We don’t get the reading by which the quantifier *sey* ‘three’ scopes over the intentional predicate *pala-* ‘to want’ in (99b). This contrasts with (99a) where both are available.

(100) *Distributive Reading for Floating Quantifier in Korean* (J.B. Kim 2013; his (22))

a. *Noun Initial Type*

[Ceyca-tul twu myeng]-i ecey kyelhonha-ess-ta.
 [pupil-PL two CL]-NOM yesterday marry-PAST-DECL
 ‘Two pupils married yesterday.’ [✓distributive / ✓collective]

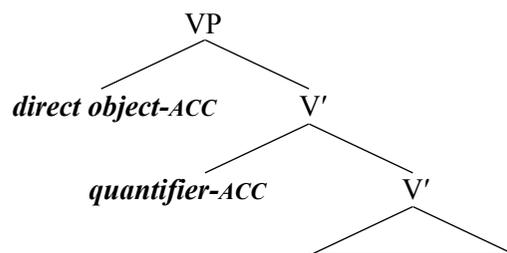
b. *Floating Quantifier Type*

Ceyca-tul-i [twu myeng]-i ecey kyelhonha-ess-ta.
 pupil-PL-NOM [two CL]-NOM yesterday marry-PAST-DECL
 ‘Two pupils married yesterday.’ [✓distributive / *collective]

¹² As for the GC type, it is inarguably analyzed that they are base-generated as a single nominal projection. See, for instance, Watanabe (2006) and An (2018) for general discussion on this issue in Korean and Japanese.

Analogous to (99), we don't get a reading where two pupils are married to each other in (100b). Yet, this collective reading is possible in (100a). In both (100a-b), the distributive reading where there are two occasions of marriage for each pupil is possible. The data above thus supports that the quantifiers in the FQ type are structurally distinct from those in the NI type. I follow J.B. Kim (2013) in holding that the FQ type indeed represents the adjunct predicate, although I argue that Case-marking must be regarded as a crucial factor. Accordingly, the structure of the floating object numeral quantifier can be schematized.

(101) *Floating Object Numeral Quantifier Configuration in Korean*



As illustrated in (101), in the VP domain, *direct object* is located in the typical position of the *theme* argument (*i.e.*, in [Spec, VP]), while *quantifier* is realized as a VP adjunct. This reminds us of the CAE configuration: *direct object* here corresponds to the specifier of the VP phase; *quantifier* here corresponds to the adjunct of VP.

4.3.2 Argument Ellipsis: Direct Object with Its Quantifier

We now apply the structural schematization to the ellipsis paradigm. Floating quantifiers in Korean can be considered adverbial adjuncts, being separated from their host nouns. Then, we would expect only direct objects to be eligible for AE under the CAE.

(102) *Argument Ellipsis: Object Numeral Quantifier*

- A. Yetongsayng-un kangaci-lul sey-mali-lul khiwu-n-ta.
younger.sister-TOP puppy-ACC three-CL-ACC raise-PRES-DECL
'My younger sister has three puppies.'
- B. Namtongsayng-un Δ twu-mali-lul khiwu-n-ta.
younger.brother-TOP two-CL-ACC raise-PRES-DECL
(intended) 'My younger brother has two puppies.'
- C. #Namtongsayng-un koyangi-lul Δ khiwu-n-ta.
younger.brother-TOP cat-ACC raise-PRES-DECL
(intended) 'My younger brother has three cats.'

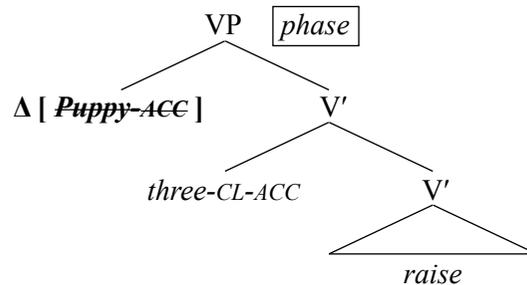
The logic is identical: only *direct object*, being placed in the specifier of the VP phase, can be elided as in (102B). Even if the quantifier here behaves as if it were a nominal element with Case-marking, it cannot be elided as in (102C): it is impossible to get the intended reading. This can be accounted for under the CAE. For clarification, it has to be noted that quantifiers have no problem in yielding the intended interpretation when they are elided together with the host nouns, as in the GC type, where the host noun and its quantifier comprise a single unit. Yet, once they are structurally separated, it is impossible to get the intended reading regarding the quantifier. Below I repeat the example from Chapter 3.

(103) *Argument Ellipsis: Quantified Direct Object*

- A. Mina-ka [sey-phen-uy yenghwa]-lul po-ass-ta.
Mina-NOM [three-CL-GEN movie]-ACC see-PAST-DECL
'Mina watched three films.'
- B. Hani-nun Δ po-ci anh-ass-ta.
Hani-TOP see-CI not-PAST-DECL
(intended) 'Hani didn't watch three films.' [√E-type / √Q-type]

To recapitulate, the (un)availability of the intended reading strictly depends on structural composition. Now, I provide the structural configuration for (102).

(104) *Derivation: Argument Ellipsis of Direct Object Including Quantifiers*



The account is rather simple: only the specifier of the VP phase, *kangaci-lul* ‘puppy-ACC’, can be elided under the CAE. Note that the accusative Case-marking of these quantifiers in (102) is justified by the FQ Linking Rule as pointed out by Gerdts (1987): grammatical function between the antecedent and the FQ must be checked.

4.4 Interim Summary I

In this chapter, I examined various argument structures manifested under the lexical VP: resultatives, inalienable possession, and object numeral quantifiers. Although these three show different structural schematizations and distinct semantic interpretations, all of these fall under the constraint proposed in the present thesis: the CAE. That is, only arguments in the specifier position of a phase (*i.e.*, the phase edge), being the subject of a predication, are eligible for AE.

What we have looked into in the present chapter is surprising, considering that the target of AE has been simply considered an argument which was given a θ -role. By solving the asymmetries observed in the two puzzling ellipsis paradigms, I showed that the previous accounts and consensus were insufficient in accounting for the main puzzle presented and argued that the proposed syntactic constraint actually plays a significant role in licensing AE in Korean. To elaborate, both in the RP phase (*e.g.*, resultatives) and the VP₂ phase (*e.g.*, inalienable possession), what can be elided is strictly subject to the configuration proposed under the CAE. This could account for the canonical instance of AE as well: AE of *direct object* in the case of the VP phase.

I aim at broadening the realm of investigation in the next chapter, looking into some more various projections above the lexical VP, where different types of argument are introduced by each distinct functional head: *v*, applicative and Voice. By doing so, I will firmly argue that AE should be constrained in the way I have suggested so far: an argument can only be elided when it is placed in the specifier of a phase.

5

Extension:

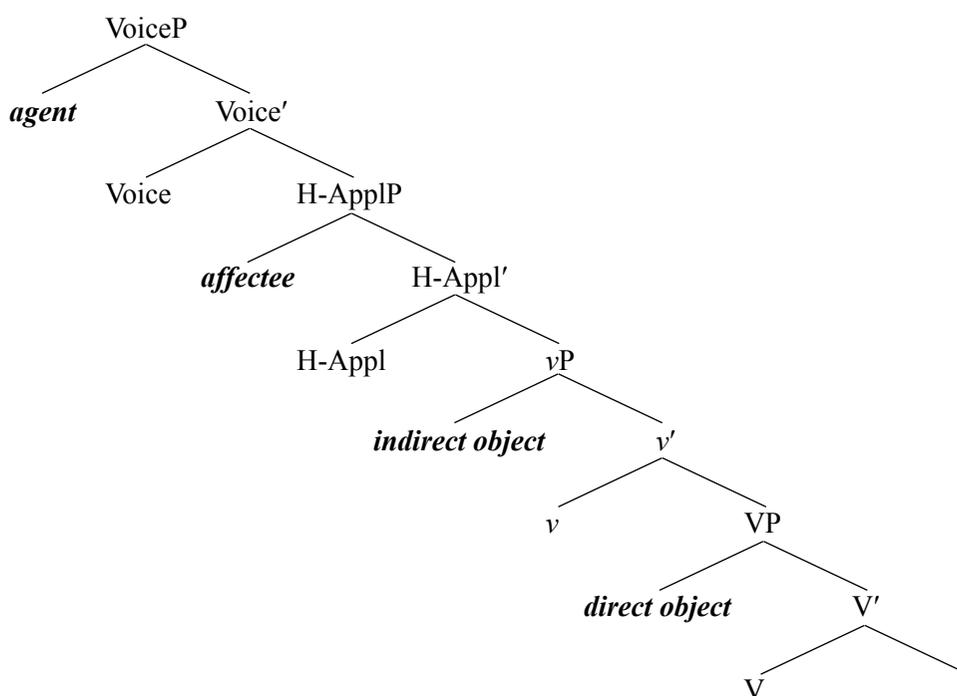
‘Broader’ Phases in the Verbal Domain

We broaden the realm of the investigation in this chapter, further arguing that AE occurs strictly in the specifier position of a phase (*i.e.*, a phase edge). It accompanies the analyses of a broader structural domain built with various functional projections. As for the word ‘broader’, I mean the introduction of additional arguments in the structure: it renders more complex argument structures for an intended proposition. Before going into detail, I shall provide the basic theoretical assumptions first.

The elaborated cartography of functional projections under the tense domain (TP) has been vigorously debated in many researches, from which I will embrace some grounding premises and basic concepts. First, the issue of ditransitive verbs and their corresponding syntactic representation. A number of researchers argued that the verbal domain is made of more than a single-layered structure. Inspired by c-commanding asymmetries observed for arguments in ditransitives (Oehrle 1978; Barss & Lasnik 1986), Larson (1988) introduced another functional layer above the lexical VP where indirect arguments are generated: the VP-shell structure. Through extensive discussion (Bowers 1993; Marantz 1993, *inter alia*) the terminology *v*P was settled on to refer to this projection. Second, the question of how to project non-core arguments in the syntactic structure. Various applicative projections

have been postulated to represent those arguments with respect to this (Pylkkänen 2008). Third, the highest (and the closest to TP) projection in the verbal domain where *agent* is typically introduced (Kratzer 1996; Harley 2013; Legate 2014). It has been referred to as *external argument*, contrary to those that are introduced in the lower verbal domain such as VP (*i.e.*, *internal argument*). Now, the cartography of verbal projection is as follows:

(105) *Cartography of Verbal Projection Domain*



As illustrated in (105), there are mainly four predicational relationships embodied, and I will briefly introduce them one by one. First, the VP predication which we already looked into in the last chapter comprises a fundamental event structure between *direct object* and the main verb. Second, the *vP* predication denotes event modification for an established event by introducing *indirect object*. Third, the *H-AppIP* predication adds an affectedness

relationship between *affectee* and the event. Fourth and finally, the VoiceP predication completes the final event structure by introducing *agent* (*i.e.*, *external argument*). Among these, applicatives are optional, and if present, they differ in terms of the semantic quality of argument they introduce (see Pylkkänen 2008 for discussion). Similarly, the quality of *v* or Voice differs from one argument structure to another. It varies by verbs: unaccusatives, for instance, introduce *theme* argument only (presumably lacking VoiceP); unergatives, on the contrary, introduce *agent* argument only.

Having established the basic cartographic chart of the verbal domain, we now proceed to the main analyses. In this chapter, I will cover three predications and their corresponding phases: *v*P, H-AppIP and VoiceP. This will eventually provide us with an approximately full-fledged structural scheme of what can be elided by AE. I will first cover the general assumptions for each construction, and then move onto the relevant ellipsis paradigms.

5.1 Ditransitives

Ditransitive constructions include an additional argument in the structure: *indirect object* whose θ -role is typically *goal*. In fact, the terminology ditransitive itself implies that there are θ -wise three arguments in the entire argument structure: *agent*, *goal*, and *theme*.

5.1.1 The Structure of Ditransitives

The insight that there must be a hierarchical difference between two internal arguments (*i.e.*, *indirect object* and *direct object*) was empirically supported by the asymmetry found in the c-command relationship between them. Accordingly, strict binary branching was

proposed (Oehrle 1976; Chomsky 1981; Larson 1988, Bowers 1993). In tandem with this insight, it has been argued that so-called ditransitive verbs have an alternating pattern: an identical verb seems to have two alternating argument structures.

(106) *Ditransitive Construction: Alternating Patterns in English*

a. *Double Object Construction*

John gave Mary a book.

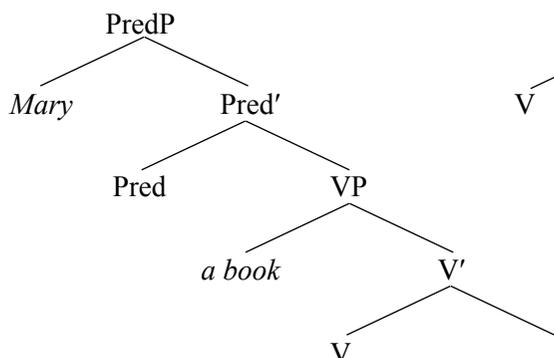
b. *Dative Construction*

John gave a book to Mary.

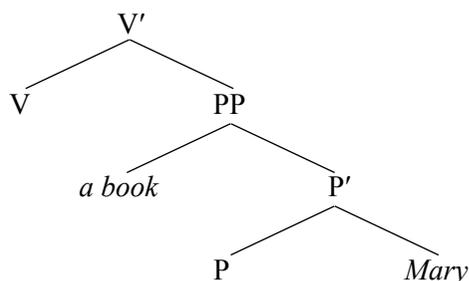
Various hypotheses differ from one another in arguing whether or not (106a-b) originate either from the same source: the symmetric approach argues that they are derived from an identical source; the asymmetric approach argues that they are in fact distinct. Considering that the scrambling property in Korean allows both orders to appear, I will refrain from elaborating the alternating patterns in (106) for Korean, but rather focus on the basic order between two internal arguments. In doing so, I assume the structure in (107a) for the basic one, following previous studies (Larson 1988 for the structure in general; J.E. Lee 2005; L. Kim 2008 for Korean). The relevant structures can be seen below.

(107) *Different Structural Schematizations for Ditransitives*

a. *Bowers (1993)*



b. *Harley (2002)*



(107) represents the two typical structures proposed for ditransitives. Between these, the preference for (107a) comes from at least two supporting arguments. First, Miyagawa & Tsujioka (2004) observed that we can have two distinctive goal arguments which they call *possessive high goal* and *locative low goal*. Crucially, those two goals can co-occur, thus we must have one more argument position: the complement of VP in (107a) for *locative low goal*. Second, Bruening (2010) presents asymmetries in terms of quantifier scope, and contends that the structure in (107a) is the only possible option. In this VP-shell structure, I uphold the basic intuition of *theme* being in the specifier of VP position and *goal* being in the specifier of PredP position. This is because they are given their θ -roles individually from each verbal head (V and Pred) in (107a). As for the terminology, I refer to PredP as *vP*, following the tripartite system of Harley (2013): VoiceP, *vP* and VP.

Having looked at the overall scheme, we turn our attention to ditransitives in Korean. It was observed that two internal arguments typically bear distinct Case-marking in Korean: *goal* (*i.e.*, indirect object) as dative *-eykey*; *theme* (*i.e.*, direct object) as accusative *-(l)ul*. In particular, they can reverse their order within the verbal domain, presumably due to the scrambling property of Korean¹.

(108) *Ditransitive Constructions in Korean*

- a. Kamtok-i kwankayk-eykey senmwul-ul ponay-ess-ta.
 director-NOM audience-DAT present-ACC send-PAST-DECL
 ‘The director sent an audience a present.’

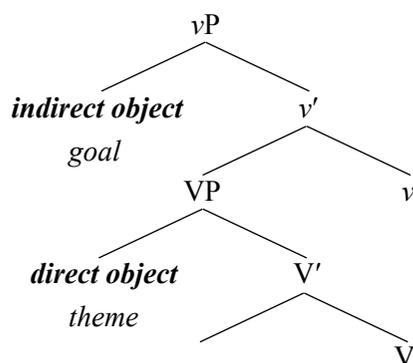
¹ However, for the asymmetric approach, the discrepancy in word order must be derived from the distinctive structures in the first place. As I am mainly dealing with a variation of the symmetric approach in the present thesis, I will not cover the asymmetric view due to limited space. On this issue, see L. Kim (2008).

- b. Kamtok-i senmwul-ul kwankayk-eykey ponay-ess-ta.
 director-NOM present-ACC audience-DAT send-PAST-DECL
 ‘The director sent an audience a present.’

We can see that (108a) and (108b) differ in the linear order of two internal arguments. As for the order between the two internal arguments, both J.E. Lee (2005) and L. Kim (2008) argued that *goal-theme* is the basic order in Korean. I first present the relevant structure.

(109) *Ditransitive Structure in Korean*

(J.E. Lee 2005)



The reasoning for this basic order must be explained. Specifically, L. Kim (2008) provided three diagnostics to prove this word order, among which I will briefly present two. First, scope ambiguity. Korean is usually known to show scope rigidity, but the rigidity can be alleviated when scrambling reverses the word order (K.W. Sohn 1996). In consequence of this, otherwise unavailable scope relationships become available: this is the *scope freezing effect*. If *goal-theme* is in fact the basic order in ditransitives, it is predicted that the order of *theme-goal* makes otherwise unavailable quantifier scope relationships possible due to scrambling in action. This prediction is borne out.

(110) *Quantifier Scope in Ditransitives*

(L. Kim 2008; her (6))

- a. Tom-i [etten ai]-eykey [motun chayk]-ul cwu-ess-ta.
 Tom-NOM [some kid]-DAT [every book]-ACC give-PAST-DECL
 ‘Tom gave every book to some kid.’ [✓ ∃ » ∀ / *∀ » ∃]
- b. Tom-i [etten chayk]-ul [motun ai]-eykey cwu-ess-ta.
 Tom-NOM [some book]-ACC [every kid]-DAT give-PAST-DECL
 ‘Tom gave some book to every kid.’ [✓ ∃ » ∀ / ✓∀ » ∃]

In (110a), *motun* ‘every’ cannot take scope over *etten* ‘some’, yet in (110b), it can. This shows that (110a) is the basic order, and (110b) is the derived order: scrambling makes the otherwise unavailable scope relationship possible. Second, idiomatic expressions. Some idioms in Korean are formed by ditransitive verbs and *theme*, only excluding *goal*. The grounding assumption was that idiomatic expressions should form a constituent at some structural level (Richards 2001). Then, if *goal-theme* is the basic order, it is predicted that a *theme-verb* idiom loses its idiomatic meaning when the order is mixed by scrambling. This prediction is also borne out.

(111) *Idiomatic Expression in Ditransitives*

(L. Kim 2008; her (19))

- a. Sue-ka emma-eykey **olipal-ul** **naymil-ess-ta.**
 Sue-NOM mother-DAT **duck’s.foot-ACC** **show-PAST-DECL**
 (✓literal) ‘Sue showed a duck’s foot to her mother.’
 (✓idiomatic) ‘Sue lied to her mother.’
- b. Sue-ka **olipal-ul** emma-eykey **naymil-ess-ta.**
 Sue-NOM **duck’s.foot-ACC** mother-DAT **show-PAST-DECL**
 (✓literal) ‘Sue showed a duck’s foot to her mother.’
 (*idiomatic) ‘Sue lied to her mother.’

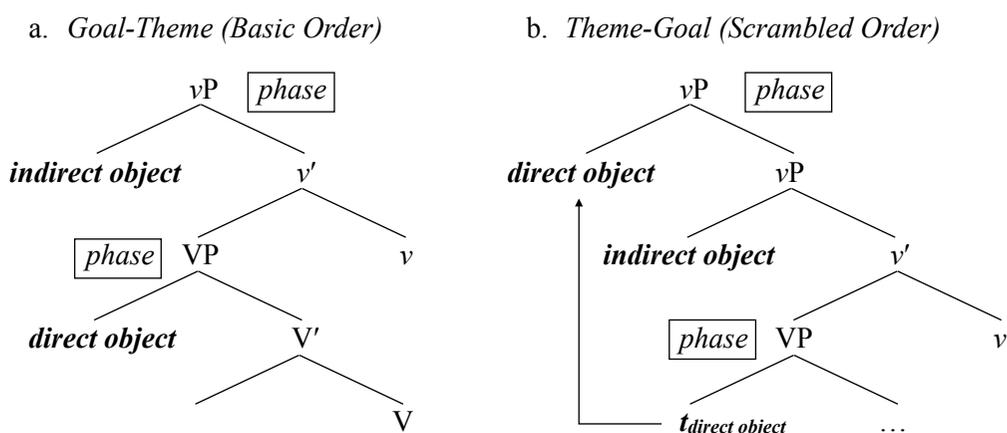
When the boldfaced string indicates an idiom (and a constituent), it is impossible to retain the idiomatic reading when the linear order between the elements is broken: *goal-theme* is the basic order in Korean. Accordingly, the structure presented in (109) not only accords with this basic word order, but also retains the general assumption on the introduction of arguments. Before moving onto the structural schemes, I clarify the definition of a phase with respect to ditransitives, following the phase condition proposed in McGinnis (2001).

(112) *Definition of vP as Phase* (McGinnis 2001:7; cited in J.E. Lee 2005)

The sister of VP heads a phase if an argument is generated in its specifier.

McGinnis utilized this condition in explaining asymmetries between different applicatives, arguing that the next projection to VP can be a phase. Embracing this idea, J.E. Lee (2005) argues that *vP* that introduces *indirect object* can be a phase. Similarly, K.M. Kim (2015) argues that a head which introduces *indirect object* (in her terms, H-AppIP) is a phase. To recapitulate, *vP* takes the event denoted by VP (composed of *direct object* and ditransitive verb) as complement, and introduces *indirect object*. In this case, *vP* can function as phase.

(113) *Final Structural Representation for Ditransitive*



In (113a), two verbal heads introduce arguments in their domain respectively: direct object by V, and indirect object by *v*. Crucially, both VP and *v*P function as a phase in (113a). Note that scrambling is attested for direct objects as in (113b). This is possible because when the *v* head enters into the derivation to head a phase, the direct object in [Spec, VP] can still move to the *v*P phase: it does not reverse the relative word order established in the VP phase. Bearing this in mind, we proceed to the ellipsis paradigm.

5.1.2 Argument Ellipsis: Ditransitive *v*P

As I argued in the previous section, two internal arguments are placed in the respective specifier positions for two types of phase: the VP phase and the *v*P phase. Indirect object (*goal*) is placed in [Spec, *v*P] and direct object (*theme*) is placed in [Spec, VP]. According to this, I provide the initial ellipsis paradigm as follows, where *indirect object* is elided.

(114) *Argument Ellipsis: Ditransitive Indirect Object*

- A. Kamtok-i [caki-uy kwankayk]-eykey senmwul-ul ponay-ess-ta.
 director-NOM [self-GEN audience]-DAT present-ACC send-PAST-DECL
 ‘The director_i sent their_i audience a present.’
- B. Kakponka-nun Δ phyenci-lul ponay-ess-ta.
 scripiter-TOP letter-ACC send-PAST-DECL
 (intended) ‘The scripiter_j sent their_{i/j} audience a letter.’ [✓strict / ✓sloppy]

(114B) is as expected: *caki-uy kwankayk* ‘their audience’ can be elided, by virtue of being placed in the specifier position of the *v*P phase. It naturally follows from the CAE, since *v*P is considered a phase (McGinnis 2001; J.E. Lee 2005). Similarly, *direct object* can be

elided as well. This is in line with my previous analysis under which the direct object is eligible for AE, since VP is considered a phase in Korean (Ko 2008; Ha 2008).

(115) *Argument Ellipsis: Ditransitive Direct Object*

- A. Kamtok-i kwankayk-eykey [twu-kay-uy senmwul]-ul ponay-ess-ta.
 director-NOM audience-DAT [two-CL-GEN present]-ACC send-PAST-DECL
 ‘The director sent audiences two presents.’
- B. Ceycakca-nun thwucaca-eykey Δ ponay-ess-ta.
 producer-TOP investor-DAT send-PAST-DECL
 ‘The producer sent investors two presents.’ [✓E-type / ✓Q-type]

In (115B), *twu-kay-uy senmwul* ‘two presents’ can be elided in the specifier of VP position as expected by the CAE. So far, the account seems to hold true straightforwardly. This is based on the structural configuration illustrated in (113a) where the *goal-theme* order is set as the basic order for ditransitives in Korean. To firmly argue that the CAE is in effect for the case, I will briefly cover the ellipsis paradigm for the scrambled order: *theme-goal*. In order to derive this order, the direct object (*theme*) must scramble over the indirect object (*goal*), and L. Kim (2008) argues that the quantifier scope freezing actually shows that this is the case. I provide an asymmetric paradigm (which is slightly modified from hers) first.

(116) *Quantifier Scope Freezing Effect in Ditransitives*

- a. Mina-nun nwukwunka-eykey [sey-kwen-uy chayk]-ul ponay-ess-ta.
 Mina-TOP somebody-DAT [three-CL-GEN book]-ACC send-PAST-DECL
 ‘Mina sent somebody three books.’ [✓ ∃ » 3 / *3 » ∃]
- b. Suho-nun [sey-kwen-uy chayk]-ul nwukwunka-eykey ponay-ess-ta.
 Suho-TOP [three-CL-GEN book]-ACC somebody-DAT send-PAST-DECL
 ‘Suho sent somebody three books.’ [✓ ∃ » 3 / ✓ 3 » ∃]

For (116), to test whether the *scope freezing effect* (i.e., interaction with the scrambling property) holds true or not, I used the existential quantifier *nwukwunka* ‘somebody’ and the numeral quantifier *sey-kwen* ‘three-CL’. Analogous to L. Kim (2008), the asymmetry in the quantifier scope in (116) signals that (116b) is obtained by scrambling of *theme* over *goal*. To be more specific, (116b) can mean that there is a specific person to whom Suho sent three books (when the existential quantifier takes a wide scope), but it can also mean that there are three books which were sent to unspecified individuals (when the numeral quantifier takes a wide scope). This contrasts with (116a), where the former is possible but the latter is impossible. Having the alleged structure in (113b) and the attested paradigm in (116), I will now provide the ellipsis paradigm for the scrambled order in ditransitives.

(117) *Argument Ellipsis: Scrambled Ditransitive Direct Object*

- A. Kamtok-i [twu-kay-uy senmwul]-ul kwankayk-eykey ponay-ess-ta.
 director-NOM [two-CL-GEN present]-ACC audience-DAT send-PAST-DECL
 ‘The director sent audiences two presents.’
- B. Ceycakca-nun Δ thwucaca-eykey ponay-ess-ta.
 producer-TOP investor-DAT send-PAST-DECL
 ‘The producer sent investors two presents.’ [✓E-type / ✓Q-type]

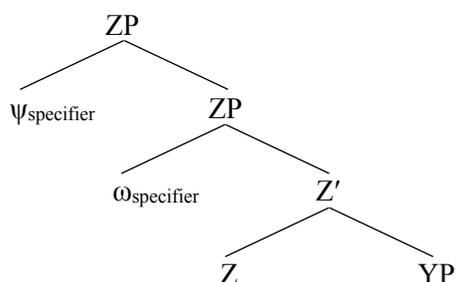
(118) *Argument Ellipsis: Scrambled Ditransitive Indirect Object*

- A. Kamtok-i senmwul-ul [caki-uy kwankayk]-eykey ponay-ess-ta.
 director-NOM present-ACC [self-GEN audience]-DAT send-PAST-DECL
 ‘The director_i sent their_i audience a present.’
- B. Kakponka-nun phyenci-lul Δ ponay-ess-ta.
 scripter-TOP letter-ACC send-PAST-DECL
 (intended) ‘The scripter_j sent their_{i/j} audience a letter.’ [✓strict / ✓sloppy]

The ellipsis paradigm in (117) is as we desire: the direct object in (117B) can be elided, since it is in the specifier of ν P position after scrambling, as apparent from the antecedent (117A). However, if we take (118) into account, the picture becomes less clear. We have no problem in eliding the indirect object in (118B), yet this is somewhat obscure because the indirect object *caki-uy kwankayk* ‘their audience’ is couched under the direct object *phyenci* ‘letter’ after scrambling. Above all, it cannot be postulated that (118B) is derived from the *goal-theme* word order, considering the scope parallelism that is obvious in the ellipsis context: the antecedent must have an identical scope relationship with the ellipsis site (Fox 1999, 2002). That is, it is transparent that (118B) is only licit after the scrambled antecedent (118A). This casts doubts on the CAE and calls for an additional account.

There is a plausible account for the unexpected (118): *multiple specifiers*. As apparent by its name, multiple specifiers refers to a structural configuration where we have more than one specifier in a given unit. This configuration has been discussed in terms of multiple *wh*-fronting (Wachowicz 1974; Rudin 1988; Richards 1997, *inter alia*) for languages such as Russian, and of scrambling (Richards 1997; Grewendorf & Sabel 1999; L. Kim 2015, *inter alia*) for languages such as Korean. Prior to giving a brief account of this issue, I provide the structural configuration for multiple specifier constructions.

(119) *The Structural Configuration for Multiple Specifiers*



If we compare the structure in (119) with the CAE configuration (*i.e.*, (64) in Chapter 3), a crucial difference is that both ψ and ω are considered to be a specifier (*c.f.*, only α was considered specifier in the CAE (64)). In this respect, it is argued that the scrambling in Korean illustrates multiple specifiers, not adjunction (L. Kim 2015). We might then have a revised option for the CAE: AE is allowed for multiple specifiers (*e.g.*, ψ and ω) as well. In this manner, we can straightforwardly account for the availability of AE in (118B): the indirect object is placed in one of the multiple specifier positions. However, unfortunately, this potentially bears an issue of over-generation: when we allow AE to be eligible for multiple specifiers that are formed by scrambling, it significantly aggrandizes the extent to which AE is possible. Regarding this, however, it can be noted that so far the overall scheme is yet unharmed: *what cannot be elided by AE* corresponds to *what cannot be scrambled over* throughout the analyses. If one recalls previous data, this held true both for inalienable possession and for resultatives: *possessee* cannot be scrambled over, and thus cannot be elided; *result status nouns* cannot be scrambled over, and thus cannot be elided². Such being the case, it might be presumed that the multiple specifier strategy accords not only with empirical fact but also with the alleged constraint.

With respect to this, it is worth noting that both internal arguments can be elided in a simultaneous manner: both *indirect object* and *direct object* are eligible for AE, both in the basic order and in the scrambled order. I first present the relevant ellipsis paradigm³, and then make a brief mention of the relationship between scrambling and ellipsis again.

² I will revisit the interaction between the possibility of scrambling and the possibility of AE in the discussion chapter. For now, what is notable here is that multiple specifier configurations, that are derived by scrambling in Korean, can fit with the attested AE data.

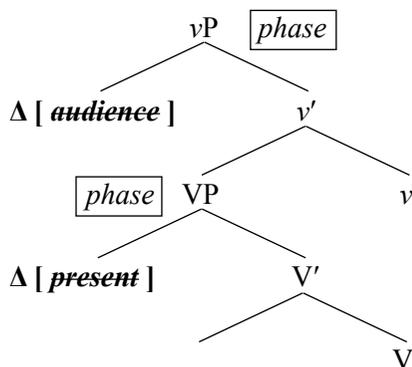
³ In (120), the possibility of sloppy and quantificational reading is omitted, since it is attested independently.

say that the multiple specifier analysis combined with the scrambling property of Korean is compatible with the CAE in accounting for the aforementioned ellipsis paradigm⁴.

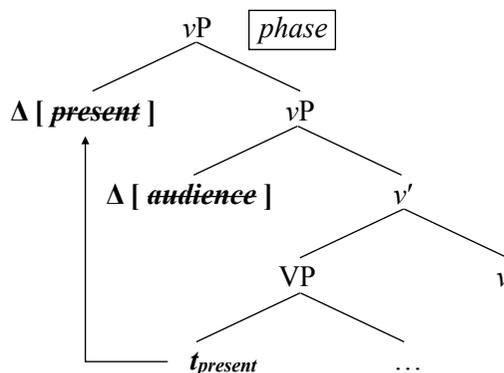
The availability of ellipsis for the two internal arguments then naturally follows. Based on this reasoning and the postulated structures in (113), we accordingly derive the ellipsis configuration.

(122) *Derivation: Argument Ellipsis of Two Internal Arguments*

a. *Ellipsis of Basic Ditransitive*



b. *Ellipsis of Scrambled Ditransitive*



When the basic word order obtains as in (122a), *indirect object* can be elided in [Spec, vP] and *direct object* can be elided in [Spec, VP], since both vP and VP function as a phase.

⁴ However, it has to be noted that a thorough definition of multiple specifier constructions is required. For example, it was argued that nominative Case-marked NPs can occur multiple times, and this was analyzed in terms of multiple specifiers (Chae & Kim 2008). A relevant example is presented below.

(i) *Multiple Nominative Constructions in Korean* (Chae & Kim 2008; their (2c))

Wuli tongney-ka kwail-i sakwa-ka kaps-i pissa-ta.
 our town-NOM fruit-NOM apple-NOM price-NOM be.expensive-DECL
 'In our town, the price of apples among fruit is expensive.'

All of nominative NPs in (i) are argued to be in the specifier position (in their terms, they are all grammatical subjects). Including the topic-hood of the noun phrases and the legitimate structure posited for (i), I leave this for future research.

When the scrambling flips the order by moving *direct object* to the *vP* phase as in (122b), *direct object* and *indirect object* can be elided in [Spec, *vP*], being in the multiple specifier positions. To conclude, the presented data could be straightforwardly accounted for, under the scrambling property and the multiple specifier analysis⁵.

⁵ One more issue to cover is the existence of *low goal*: it occupies the complement of VP position, in addition to *high goal* in [Spec, *vP*] and *theme* in [Spec, VP], as in the example below (Miyagawa & Tsujioka 2004).

(i) *Three Internal Arguments in Korean: High Goal, Theme, and Low Goal*

Siwu-ka	Mina-eykey	sopho-lul	mikwuk-ulo	ponay-ess-ta.
Siwu-NOM	Mina-DAT	package-ACC	U.S.A.-to	send-PAST-DECL

‘Siwu sent Mina a package to U.S.A.’

If *low goal* in the sense of Miyagawa & Tsujioka (2004) is actually placed in the complement of VP, we expect it not to be eligible for AE. Yet, the ellipsis paradigm in (ii) behaves differently from the expectation.

(ii) *Argument Ellipsis: High Goal and Low Goal*

A. Siwu-ka	Mina-eykey	sopho-lul	mikwuk-ulo	ponay-ess-ta.
Siwu-NOM	Mina-DAT	package-ACC	U.S.A.-to	send-PAST-DECL
‘Siwu sent Mina a package to U.S.A.’				
B. #Hani-nun	Δ	phyenci-lul	khaynata-lo	ponay-ess-ta.
Hani-TOP		letter-ACC	Canada-to	send-PAST-DECL
(intended) ‘Hani sent Mina a letter to Canada.’				
C. #Hani-nun	Suho-eykey	phyenci-lul	Δ	ponay-ess-ta.
Hani-TOP	Suho-DAT	letter-ACC		send-PAST-DECL
(intended) ‘Hani sent Suho a letter to U.S.A.’				

When we attempt to elide two *goal* arguments from (iiA), ellipsis doesn’t seem to be possible: both (iiB-C) are infelicitous. They are grammatical, but we cannot yield the intended reading which should have been available under ellipsis. In particular, (iiB) is intriguing: it has no reason to be ineligible for AE, since it is placed in the specifier of *vP* position. Yet it is ineligible for AE, which means that we need a different solution. The clue lies in the number of *goal* arguments: we cannot obtain the intended reading if we elide one of the *goal* arguments. Interestingly, *theme* can be elided, which indicates that *direct object* is an argument in any case.

(iii) *Argument Ellipsis: Only Theme*

A. Siwu-ka	Mina-eykey	sopho-lul	mikwuk-ulo	ponay-ess-ta.
Siwu-NOM	Mina-DAT	package-ACC	U.S.A.-to	send-PAST-DECL
‘Siwu sent Mina a package to U.S.A.’				
B. Hani-nun	Suho-eykey	Δ	khaynata-lo	ponay-ess-ta.
Hani-TOP	Suho-DAT		Canada-to	send-PAST-DECL
(intended) ‘Hani sent Suho a package to Canada.’				

Suspicion then comes to mind regarding the realization of all three arguments: up to two, internal arguments can appear, possibly as a unit of one *theme* and one *goal*. We may say that it is implied in the term ditransitive in the first place. For now, this is beyond the scope of the present thesis, and I leave this for future research.

5.2 High Applicatives

Now, we proceed to the higher projection just above ν P: high applicative. Typical high applicatives occupy the position between the lexical verb phrase and VoiceP (Pylkkänen 2008). Crucially, its head introduces a non-core (*i.e.*, optional) argument into the structure.

5.2.1 The Structure of High Applicatives

I begin with mentioning the syntactic and semantic properties of the high applicative projection. Syntactically, its head introduces an additional indirect argument to the event structure (McGinnis 2000, 2001)⁶. Semantically, this newly introduced argument is given the θ -role of *affectedee*: either one of *beneficiary*, *maleficiary* or *locative* (Pylkkänen 2008). Typologically speaking, Bantu languages are known to pervasively utilize this applicative strategy. The canonical instance from Chaga, a Bantu language, is presented in (123).

(123) *High Applicatives in Chaga* (Bresnan & Moshi 1993; cited in Pylkkänen 2008)

- a. N-ǎ-ĩ-lyì-í-à m-kà k-élyá.
FOC-1SG-PRES-eat-APPL-FV 1-wife 7-food
'He is eating food for his wife.'
- b. N-ǎ-i-zrìc-í-à m-bùyà.
FOC-1SG-PRES-run-APPL-FV 9-friend
'He is running for a friend.'

⁶ Note that McGinnis (2000, 2001) regarded the ditransitive ν P introducing an indirect object as H-AppIP. Yet, the high applicative argued for here implies that it is *optional* in a strict sense. This will become clearer when we look at the Korean data, where an applicative head is phonetically realized.

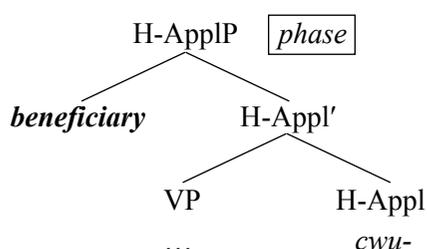
In (123a-b), the boldfaced *-i-* morpheme corresponds to the realization of high applicative heads, introducing additional benefactive arguments: *m-kà* ‘1-wife’ in (123a) and *m-bùyà* ‘9-friend’ in (123b). They respectively represent the entities that are beneficially affected by the main event. In Korean, a similar phenomenon is attested. As illustrated in (123), *beneficiary* argument is introduced by the high applicative head *cwu-* ‘to give’, composing a serial-verb like sequence (H.K. Jung 2014; Cha 2015).

(124) *High Applicatives in Korean*

Appa-ga **ttal-eykey** chayk-ul ilke **cwu-ess-ta.**
 dad-NOM **daughter-DAT** book-ACC read **H.APPL-PAST-DECL**
 ‘Dad read a book for his daughter.’

The *cwu-* head is obligatory when we have a dative argument as in (124): it is responsible for the introduction of the *beneficiary* argument *ttal-eykey* ‘daughter-DAT’. Also, H-AppIP functions as a phase (McGinnis 2001; Pytkänen 2008). Then, the structure is as follows:

(125) *The Structure of High Applicatives in Korean*



In terms of predication, H-AppIP adds a supplementary predicational structure to the main event. For example, H-AppIP overlays a situation where daughter is affected by the event of reading a book in (124). Therefore, the main event is couched under H-AppIP.

5.2.2 Argument Ellipsis: High Applicative H-AppIP

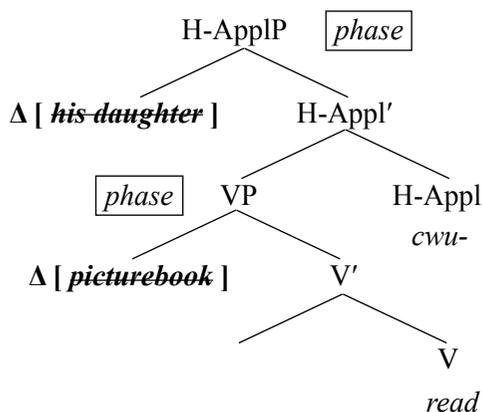
Under the CAE, we expect that *beneficiary* argument can be elided by AE, since it is in the specifier of the H-AppIP phase. Furthermore, we expect *direct object* to be eligible for AE as well, following previous researches: VP functions as a phase (Ko 2008; Ha 2008).

(126) *Argument Ellipsis: Beneficiary and Theme in High Applicatives*

- A. Suho-ka [caki ttal]-eykey kulimchayk-ul ilke cwu-ess-ta.
 Suho-NOM [self daughter]-DAT picturebook-ACC read H.APPL-PAST-DECL
 ‘Suho_i read a picturebook for his_i daughter.’
- B. Mina-nun Δ tonghwachayk-ul ilke cwu-ess-ta.
 Mina-TOP storybook-ACC read H.APPL-PAST-DECL
 (intended) ‘Mina_j read a storybook for his_i/her_j daughter.’ [✓strict / ✓sloppy]
- C. Mina-nun [caki atul]-eykey Δ ilke cwu-ess-ta.
 Mina-TOP [self son]-DAT read H.APPL-PAST-DECL
 (intended) ‘Mina_j read a picturebook for her_j son.’
- D. Mina-to Δ Δ ilke cwu-ess-ta.
 Mina-TOP read H.APPL-PAST-DECL
 (intended) ‘Mina_j read a picturebook for his_i/her_j daughter.’ [✓strict / ✓sloppy]

As expected, we get the intended reading both in (126B) and (126C). The dative argument in (126B) is eligible for AE, since it is placed in the specifier of the H-AppIP phase. Also note that the direct object in (126C) is elided in the specifier of VP. Moreover, in (126D), both arguments are elided at once. This is indeed expected, since we are dealing with two domains of phase here: the H-AppIP phase and the VP phase, respectively. Accordingly, the relevant structural derivation is as follows.

(127) *Derivation: Argument Ellipsis of High Applicatives*



The configuration is straightforward: there are two phases, thus two specifier positions are eligible for AE under the CAE. These two can be elided either separately as in (126B-C), or simultaneously as in (126D).

5.3 Subject Numeral Quantifier

This section serves an extension to the analysis on object numeral quantifiers in the last chapter. Subject quantifiers show similar properties to object quantifiers, being parallel to each other. I will review the structure of VoiceP and accordingly the relevant structure for subject floating quantifiers, and then proceed to the ellipsis paradigm.

5.3.1 The Structure of Floating Quantifiers Again

I have already argued that numeral quantifiers can be considered an adjunct predicate, placed under the host noun while being Case-marked. In what follows, I will extend the empirical coverage and present a structural representation for subject floating quantifiers.

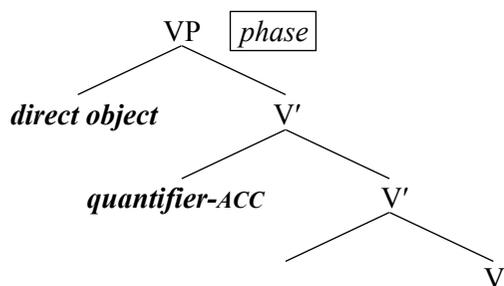
(128) *Subject Numeral Quantifiers in Korean*

Ai-tul-i sey-myeng-i cwumekpap-ul mek-nun-ta.
 kid-PL-NOM three-CL-NOM rice.ball-ACC eat-PRES-DECL
 ‘Three kids are eating rice ball.’

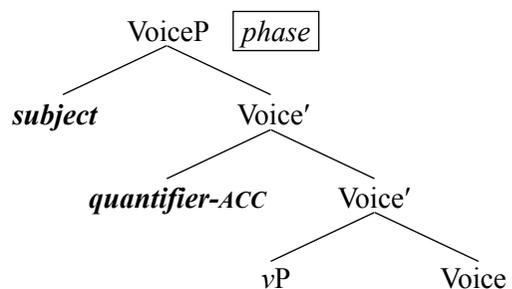
Analogous to the object counterparts, the subject numeral quantifier *sey-myeng* ‘three-CL’ modifies *ai-tul* ‘kid-PL’ in (128), with both of them being Case-marked. Note that the host noun here corresponds to the *agent* argument. As for the *agent* argument, it is introduced by the Voice head which is inarguably the highest projection in the verbal domain (Kratzer 1996; Harley 2013, *inter alia*). Being the final domain of an argument structure, VoiceP is considered to be a typical phase (Chomsky 2000). This is also an instance of predication, where every element of a propositional event is supplied. I now present the structures for both object and subject quantifiers.

(129) *Structure of Floating Numeral Quantifiers in Korean*

a. *Object Numeral Quantifier*



b. *Subject Numeral Quantifier*



The two structures provided in (129) are highly comparable with each other. In both cases, θ -given arguments are placed in the specifier of each phase, and their floating quantifiers

are couched under the specifiers, being realized as the adjuncts. Then, it is expected that (129b) behaves similarly to (129a) in terms of the ellipsis paradigm.

5.3.2 Argument Ellipsis: Subject with Its Quantifier

Based on the structural configuration we established in the last section, I will proceed to the ellipsis paradigm for subject numeral quantifiers. Analogous to object quantifiers, we expect only host nouns to be eligible for AE under the CAE.

(130) *Argument Ellipsis: Subject Numeral Quantifier*

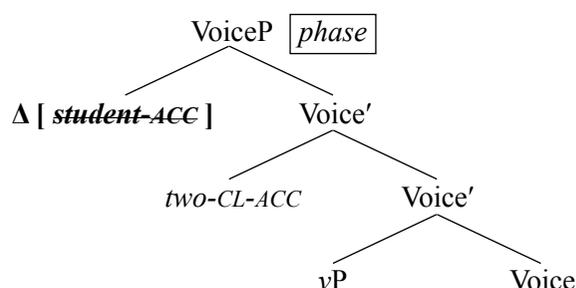
- A. Siwu-nun [haksayng-i [twu-myeng]-i o-ko iss-tako] malha-ess-ta.
 Siwu-TOP [student-NOM [two-CL]-NOM come-KO PROG-DECL] say-PAST-DECL
 ‘Siwu said that two students were coming.’
- B. Mina-nun [Δ [sey-myeng]-i o-ko iss-tako] malha-ess-ta.
 Mina-TOP [[three-CL]-NOM come-KO PROG-DECL] say-PAST-DECL
 (intended) ‘Mina said that three students were coming.’
- C. #Mina-nun [sensayngnim-i Δ o-ko iss-tako] malha-ess-ta.
 Mina-TOP [teacher-NOM come-KO PROG-DECL] say-PAST-DECL
 (intended) ‘Mina said that two teachers were coming.’

This is exactly what we expect⁷. (130B) is grammatical when the host noun is elided: the specifier of the VoiceP phase is a legitimate position for AE. In (130C), however, when we elide the numeral quantifier, it is impossible to obtain the intended reading: it only can

⁷ However, it has to be noted that I used the embedded subject and its numeral quantifier in (23). This is due to the fact that ellipsis needs a contrastive context. In all of the previous examples, I presented the ellipsis paradigms with a contrastive subject, indicated by topic-marker *-(n)un* in Korean. The use of this topic marker gave rise to a contrastive reading, which was pragmatically necessary for the ellipsis context. However, if we aim to testify the occurrence of ellipsis by eliding matrix subjects, we have to provide the contrastive material below the matrix subject, which is the target of ellipsis. Then, it is inevitably interwoven with the issue of topicalization which controversially accompanies the movement of a phrase to an upper position. I used an embedded environment in order to avoid this problem.

roughly mean that *Mina said a teacher was coming*. This is precisely parallel to the object numeral quantifier that we looked over. The relevant derivation is in order.

(131) *Derivation: Argument Ellipsis of Subject Including Quantifiers*



As illustrated, only *haksayng* ‘student’ is eligible for AE, being placed in the specifier of the VoiceP phase. On the other hand, *twu-myeng* ‘two-CL’ is ineligible for AE, since it is not an appropriate candidate for AE: it is an adjunct predicate.

5.4 Interim Summary II

So far, we have investigated various argument structures in the verbal domain, starting from the lower lexical domain, moving up to the higher functional domains. In particular, in the present chapter, we examined the *vP* phase where the ditransitive structure is built, the H-AppIP phase where the *affectee* indirect argument is additionally introduced, and the VoiceP phase where the final event denotation is finished with *agent*. By establishing each structural representation argued for in previous researches, I demonstrated that the ellipsis paradigm can be empirically accounted for under the proposal: the CAE is in effect. In this chapter, I went beyond the asymmetric puzzles that were explained in the previous chapter

(*i.e.*, alienable possession and resultatives), firmly contending that the proposed syntactic constraint on AE really matters in the language. In particular, It could readily account for challenging data that have been newly found in Korean, as well as canonical ellipses of subject and direct object in such a clear and straightforward way.

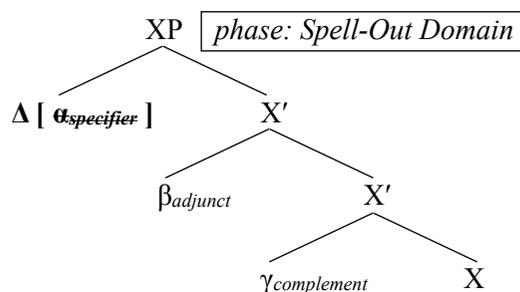
Now, we established the overall picture for the syntactic configuration where AE occurs. I should elaborate on the crucial predictions that the main proposal bears in what follows. I will primarily concern myself with specific configurations where AE *must not* be attested. The empirical issue and the relevant predictions will be covered in much detail throughout the next chapter.

6

Prediction for Different Elliptical Patterns

In the two previous chapters, we examined how the structural configuration does indeed play an important role in licensing ellipsis phenomena in Korean, both in the lower verbal domain (in *smaller* phases such as resultative RP and lexical VP) and in the upper verbal domain (in *broader* phases such as vP, H-AppIP and VoiceP). With this in mind, I proceed to two crucial predictions that the proposed CAE entails: if arguments whose thematic or selectional role are identical are projected in distinctive syntactic structures, it is predicted that they will behave differently in terms of ellipsis. I will mainly test these predictions through various empirical data. Before we delve into a detailed examination, I repeat the structural configuration for the CAE one more time:

(132) *The Structural Configuration for the CAE*



Throughout the previous two chapters, we have demonstrated that arguments are eligible for AE only when they are placed in the specifier α of a phase XP (*i.e.*, the phase edge). As

for ditransitives, it was argued that the multiple specifier strategy might be an option for the CAE. In this chapter, we examine the proposed generalization from a slightly different perspective: the positions for which AE *must not* be attested.

Going back to the prediction, there are two crucial cases to cover when we aim at testing the predictions that the CAE bears. The first case is the distinction between *specifier* and *complement*. According to the CAE, the complement γ must be ineligible for AE, whereas the specifier α is eligible for AE. The second case is the distinction between *specifier* and *adjunct*. Similarly, according to the CAE, the adjunct β must be ineligible for AE, whereas the specifier α is eligible for AE. This can be summarized as in (133)¹:

(133) *Prediction of the Constraint on Argument Ellipsis*

i. ***Specifier vs. Complement***

θ -given nominals in a complement position must be ineligible for AE.

ii. ***Specifier vs. Adjunct***

θ -given nominals in an adjunct position must be ineligible for AE.

I will test both of these two cases. (133i) will be demonstrated by incorporated nouns in the VP and (133ii) will be demonstrated by *agent* in two types of passives. To recapitulate, this chapter is devoted to contending that any other position than the specifier of a given phase is ineligible for AE. After a detailed examination, finally, we will review the overall investigation in a final sketch before closing the chapter.

¹ A clarifying comment on the definition of an argument. As suggested in Chapter 3, argument here refers to a nominal element whose θ -role has been given. Yet, a θ -given nominal can appear even in the adjunct position, if the thematic requirement was met in the derivation. Backgrounded agent nominals in passives are a relevant case. I will look into specific examples shortly.

6.1 Specifier vs. Complement

As I briefly mentioned, the CAE predicts that the complement position of a phase *must be* ineligible for AE, given the structural configuration. This prediction can be tested by the complement of the lexical VP position. Incorporated nouns are a case in point, as they are argued to merge in the most deeply embedded position: the complement of VP. Noun Incorporation refers to a phenomenon where a nominal element forms a unit with a verbal element, and they behave like a verb itself or a predicate of the sentence (for an overview, see Massam 2009, 2017). This phenomenon is widely attested in polysynthetic languages, but relatives are found in many languages as well. A typical example from Mapudungun, a Chilean language, is provided below.

(134) *Mapudungun Noun Incorporation* (Salas 1992; cited in Baker *et al.* 2005)

- a. Ñi chao kintu-le-y ta-chi pu **waka**.
my father seek-PROG-IND.3SG the COLL **cow**
'My father is looking for the cows.'
- b. Ñi chao kintu-**waka**-le-y.
my father seek-**cow**-PROG-IND.3SG
'My father is looking for the cows.'

In (134), the direct object *waka* 'cow' can be separate from the verb as in (134a), or can be incorporated in the verb as in (134b). (134a) yields the literal interpretation, while (134b) yields the interpretation that corresponds to something like *My father is doing cow-seeking* in a rough sense. Crucially, these incorporated nouns merge in the complement position of the lexical VP (Seiter 1980; Massam 2001): they form a verbal predicate together. Massam

(2001) especially argues that Noun Incorporation is complementation of an NP to V rather than a V+N complex head, since they can accompany adjectives in some languages. After forming a constituent, incorporated nouns are syntactically deprived of their functional elements such as determiners. Semantically, they dominantly yield generic readings.

As for Korean, a similar phenomenon is attested in the case of verbalized nouns. Certain nouns in Korean have the denotation of an event in themselves. This is also known as the Light Verb Construction, since they accompany the light verb *-ha-* in Korean (H.D. Ahn 1990; Sells 1994; Chae 1997). A canonical instance of the verbal noun is illustrated below.

(135) *Korean Verbal Noun with the Light Verb -ha*

- a. Na-nun ecey [enehak kongpwu]-lul ha-ess-ta.
 I-TOP yesterday [linguistics study]-ACC do-PAST-DECL
 ‘I studied linguistics yesterday.’
- b. Na-nun ecey enehak-ul kongpwu-ha-ess-ta.
 I-TOP yesterday linguistics-ACC study-do-PAST-DECL
 ‘I studied linguistics yesterday.’

In (135a), the direct object is *enehak kongpwu* ‘the study of linguistics’ combined with the *ha-* ‘to do’ verb which denotes an event or an action is carried out. However, in (135b), the direct object is *enehak* ‘linguistics’, and the verbal noun *kongpwu* ‘study’ is incorporated into the light verb *ha*². We have a highly similar paradigm to the Mapudungun example in (134): a verbal noun forms a predicate with the light verb *ha-* in Korean³.

² Note that even though they are phonetically identical, the *ha-* verbs in (135a) and (135b) are different in their quality (H.D. Ahn 1990). In (135a), *ha-* itself is independent, and denotes the meaning of ‘to do’: it is the main verb. In (135b), on the other hand, *ha-* is dependent on the verbal noun: it is the light verb.

³ I assume that the light verb occupies a V head. Yet, it can be a *v* head so long as it heads a phase.

Similarly, idiomatic expressions can be composed of a noun and a verb. It is argued that an idiomatic expression constitutes its own syntactic unit (Koopman & Sportiche 1991). In particular, as for noun and verb complex, they form a constituency by complementation of an NP to V (O’Grady 1998; Bruening 2010). In this way, they can derive unexpected (*i.e.*, idiomatic) meanings which are distinct from the literal compositional meaning.

(136) *Noun and Verb Idiom in Korean*

Siwu-nun kimalkosa-eyse miyekkwuk-mek-ess-e.
 Siwu-TOP final.exam-LOC seaweed.soup-eat-PAST-DECL
 ‘Siwu failed the final exam.’

In (136), the noun *miyekkwuk* ‘seaweed soup’ forms a syntactic unit with the verb *mek-* ‘to eat’, together deriving a somewhat idiosyncratic meaning: *to fail a test*. Crucially, they are comparable to the typical transitive counterparts: in the absence of *kimalkosa* ‘final exam’, the sentence can mean either idiomatically ‘to fail’ or literally ‘to eat seaweed soup’⁴.

I presented two types of incorporated nouns in Korean, which are argued to be placed in the deepest complement position of the lexical VP: verbal nouns and idiom nouns. Now, one might ask, how we can postulate that these nouns are placed in the complement of VP. We can answer this question by applying two diagnostics: first, inserting another θ -given argument (H.D. Ahn 1990 for verbal nouns; O’Grady 1998 for idiom nouns)⁵; and second,

⁴ However, the respective meanings must be derived from different structural representations.

⁵ This reasoning comes from the observation that both verbal nouns and idiom nouns behave like a predicate if they form a unit with certain verbs (*i.e.*, they are incorporated). H.D. Ahn (1990) contends that the verbal noun itself can assign a θ -role, and O’Grady (1998) contends that a jointed idiom can license a θ -given argument.

A-movement of the noun in question (Bowers 1993). First, if a verbal noun and light verb, or an idiom noun and verb are syntactic units, they can bestow a θ -role in the specifier.

(137) *Insertion of Additional θ -Argument for Incorporated Nouns*

a. *Verbal Noun*

Mina-nun ecey **sasum-ul** sanyang-ha-ess-ta.
Mina-TOP yesterday **deer-ACC** hunting-LV-PAST-DECL
'Mina hunted deer yesterday.'

b. *Idiom Noun*

Suho-nun **chentwung-ey** kep-mek-ess-ta.
Suho-TOP **thunder-DAT** fear-eat-PAST-DECL
'Suho was frightened by the thunder.'

Each boldfaced element in (137) represents a θ -argument added to the argument structure: *theme* of the hunting event in (137a); and *source* of the psych-predicate in (137b). The fact that we can insert these additional arguments indicates that the verbal noun and the idiom noun in (137) form a syntactic unit with the verbs by complementation, so that they are placed in the complement position. Now, second, the A-movement diagnostic. It has been argued that the specifiers are the only licit position for A-movement such as passivization (Bowers 1993; Ura 1996) or A-scrambling (J.H. Cho 1996; see an overview in Ko 2018). Then, it is expected that the verbal noun and the idiom noun are not plausible candidates for A-movement, being in the complement position of VP. This indeed turns out to be so⁶.

⁶ In (138-141), accusative Case-marking is inserted to separate the nouns from the verbs. Especially, note that this does not affect the grammaticality of the sentences. Nonetheless, subtle semantic difference might obtain. For example, accusative Case-marking can give a bit of individuality to the event being described: it denotes a specific event, rather than a generic event. It has been controversially investigated whether the presence or the absence of Case-marking is related to movement (Dede 1986; Enç 1991; C.M. Lee 1992, *inter alia*), but I will not go deeper into this issue. This is simply because it doesn't affect the possibility of AE.

(138) *A-Movement Diagnostic: Passivization of Verbal Noun*

- a. Hani-ka tokse-lul ha-ess-ta.
Hani-NOM book.reading-ACC LV-PAST-DECL
(literal) 'Hani did the book-reading.'
- b. *Tokse-ka (Hani-ey.uyhay) ha-eci-ess-ta.
book.reading-NOM (Hani-by) LV-PASS-PAST-DECL
(intended) 'The book-reading was done by Hani.'

(139) *A-Movement Diagnostic: Passivization of Idiom Noun*

- a. Siwu-nun heyem-ul chi-ess-ta.
Siwu-TOP swimming-ACC hit-PAST-DECL
(literal) 'Siwu did the swimming.'
- b. *Heyem-i (Siwu-ey.uyhay) chi-eci-ess-ta.
swimming-NOM (Siwu-by) hit-PASS-PAST-DECL
(intended) 'The swimming was done by Siwu.'

In either case, it is impossible to passivize the sentence under A-movement. This naturally follows if A-movement cannot be licensed in the complement position. Similar to this, we cannot reverse the word order within the lexical VP by scrambling⁷.

(140) *A-Movement Diagnostic: Scrambling of Verbal Noun*

- *Mina-ka ecey sanyang-ul sasum-ul ha-ess-ta.
Mina-NOM yesterday hunting-ACC deer-ACC LV-PAST-DECL
(intended) 'Mina hunted deer yesterday.'

(141) *A-Movement Diagnostic: Scrambling of Idiom Noun*

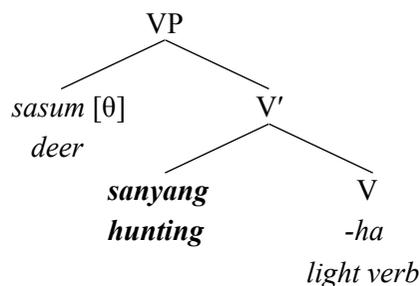
- *Suho-ka kep-ul chentwung-ey mek-ess-ta.
Suho-NOM fear-ACC thunder-DAT eat-PAST-DECL
(intended) 'Suho was frightened by the thunder.'

⁷ This pertains to short VP-internal scrambling, which constantly shows A-effects (J.H. Cho 1996; Ko 2018).

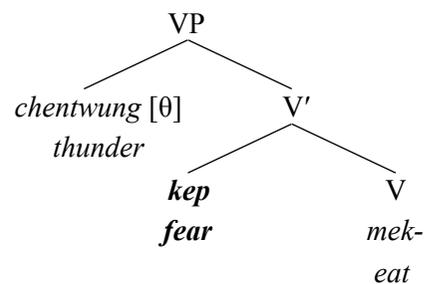
Especially, this can be also attained by the aforementioned Spell-Out and linearization: the relative order among the elements within the same phase (*i.e.*, here, the VP phase) have to be preserved after Spell-Out. Having established the grounding evidence that those nouns inarguably occupy the complement position rather than the specifier position in the lexical VP, we are now in a position to schematize the relevant structures as in (142).

(142) *Structural Configuration of Verbal Noun and Idiom Noun*

a. *Verbal Noun*



b. *Idiom Noun*



In (142a), the verbal noun *sanyang* ‘hunting’ is placed in the complement of VP, forming a unit with the light verb *-ha*. Similarly, in (142b), the idiom noun *kep* ‘fear’ is placed in the complement of VP, forming an idiom chunk with the verb *mek-* ‘to eat’. Crucially they can be accusative Case-marked, but are fundamentally different from the typical direct objects we covered previously.

Now we examine the ellipsis paradigms for these incorporated nouns. Most crucially, the CAE predicts that these nouns are ineligible for AE, as they are located in the complement position of the lexical VP. First, this prediction is borne out for the verbal nouns.

(143) *Argument Ellipsis: Verbal Noun*

- A. Mina-nun ecey sasum-ul sanyang-ul ha-ess-ta.
Mina-TOP yesterday deer-ACC hunting-ACC LV-PAST-DECL
'Mina hunted deer yesterday.'
- B. *Siwu-nun onul chamsay-lul Δ ha-ess-ta.
Siwu-TOP today sparrow-ACC LV-PAST-DECL
(intended) 'Siwu hunted sparrow today.'

(143B) is ungrammatical as we predicted. However, note that I inserted additional θ -given arguments, *sasum-ul* 'deer-ACC' and *chamsay-lul* 'sparrow-ACC', respectively. However, if we modify the sentence by omitting these additional arguments, the elliptical paradigms seem to diverge. I will elaborate on this issue before moving onto the case of idiom nouns.

(144) *Argument Ellipsis: Verbal Noun without Additional Argument*

- A. Mina-nun ecey sanyang-ul ha-ess-ta.
Mina-TOP yesterday hunting-ACC LV-PAST-DECL
'Mina did the hunting yesterday.'
- B. Siwu-nun onul Δ ha-ess-ta.
Siwu-TOP today do-PAST-DECL
(intended) 'Siwu did the hunting today.'

Without the *theme* argument, in (144) we can get an unergative reading where the event of hunting took place yesterday. Then, the grammaticality of (144B) is unexpected. The data seems to refute the prediction that a verbal noun, being placed in the complement of VP, is ineligible for AE. However, if we take a closer look at the light verb *ha-*, the peculiarity of (144) is accounted for. Straight to the point, the verb *-ha-* is morphologically ambiguous between the light verb *-ha* and the *pro*-form *ha-*. This *-ha-* form, if used as a *pro*-predicate,

is the abbreviation of the Korean full clausal *pro*-form *kuleh-key ha-* or *kule-ha-* ‘to do so’ (M.K. Park 2013; K.W. Sohn 2016). This *pro*-form indeed can replace various types of predicates (W.J. Chung 2014): distinct categorical units (*i.e.*, constituents) can be replaced with the *pro*-form (*kuleh-key ha-* ‘to do so’). This turns out to be the case. Consider (145):

(145) *Replacement with pro-form ha-*

- A. Mina-nun ecey sasum-ul sanyang-ul ha-ess-ta.
 Mina-TOP yesterday deer-ACC hunting-ACC LV-PAST-DECL
 ‘Mina hunted deer yesterday.’
- B. Siwu-nun onul [*ha*]-ess-ta.
 Siwu-TOP today []-PAST-DECL
 (intended) ‘Siwu hunted deer today.’
- C. Suho-to [*ha*]-ess-ta.
 Suho-also []-PAST-DECL
 (intended) ‘Suho hunted deer yesterday, too.’

As we see in (145B-C), different constituents can be properly interpreted when they are replaced with the *pro*-form *ha-*. This indicates that the availability of (144B) stems from a different operation: it has to do with *pro*-form predicate replacement, not with AE. This is further corroborated by (145C) since even the adverb *ecey* ‘yesterday’ can be interpreted. The *pro*-form replacement in (145C) targets the constituent including the adverbial (this is stylized by the size of the bracket). To conclude, the ungrammaticality of (143B) can be accounted for under the CAE, and the peculiar availability of (144B) can be accounted for under the *pro*-form replacement strategy which is independently operational in Korean: this is not an instance of ellipsis, but of replacement. Second, we now can examine idiom nouns. Similarly, the CAE predicts that these idiom nouns are ineligible for AE, and this is borne out as well.

(146) *Argument Ellipsis: Idiom Noun*

- A. Suho-nun chentwung-ey kep-ul mek-ess-ta.
Suho-TOP thunder-DAT fear-ACC eat-PAST-DECL
'Suho was frightened by the thunder.'
- B. *Hani-nun penkay-ey Δ mek-ess-ta.
Hani-TOP lightning-DAT eat-PAST-DECL
(intended) 'Hani was frightened by the lightning.'

It is impossible to yield the intended reading in (146B) as predicted. This is precisely what we would expect, if the nominal in question is located in the complement position. Further note that this paradigm remains intact even if we omit the added θ -argument *chentwung-ey* 'thunder-DAT' or *penkay-ey* 'lightning-DAT'. Specifically, compare (147) with (144).

(147) *Argument Ellipsis: Idiom Noun without Additional Argument*

- A. Suho-nun simhakey kep-ul mek-ess-ta.
Suho-TOP severely fear-ACC eat-PAST-DECL
'I was terribly frightened.'
- B. *Hani-to simhakey Δ mek-ess-ta.
Hani-also severely eat-PAST-DECL
(intended) 'Hani was terribly frightened, too.'

So far, I have clearly shown that the prediction by the CAE bears out: nominals placed in the complement position are ineligible for AE⁸. Before wrapping up, I will briefly mention one more case concerning the issue of nouns forming a unit with verbs: cognate nouns.

⁸ For the ellipsis paradigms presented, I did not use diagnostics such as sloppy reading or quantificational reading, mainly because it is difficult to equip the relevant context for these cases. However, it is effective as a diagnostic when a certain nominal *can* be elided: when it *cannot* be elided, the unavailability simply suffices.

Cognate nouns fundamentally share the meaning and the form with their cognate verbs, and interestingly, they can co-occur. In Korean, they seem to exhibit similar phenomena to those by verbal nouns and idiom nouns: they can either appear as a chunk or be detached.

(148) *Cognate Noun and Verb Constructions in Korean*

- a. Siwu-nun phep-eyse chwum-chwu-ess-ta.
 Siwu-TOP pub-LOC dance-dance-PAST-DECL
 ‘Siwu danced at the pub.’
- b. Siwu-nun phep-eyse chwum-ul chwu-ess-ta.
 Siwu-TOP pub-LOC dance-ACC dance-PAST-DECL
 ‘Siwu danced at the pub.’

It is indicated in (148) that the noun *chwum* ‘dance’ and the verb *chwu-* ‘to dance’ either form a kind of predicate together as in (148a), or are detached as in (148b). This cognate noun seems similar to verbal nouns and idiom nouns on the surface. However, cognate nouns are different from verbal nouns and idiom nouns in terms of the diagnostics I have used. For example, they cannot have an additional θ -argument, but can be passivized.

(149) *Insertion of Additional θ -Argument for Cognate Noun*

- *Siwu-nun ecey phep-eyse **salsa-lul** chum-chwu-ess-ta.
 Siwu-TOP yesterday pub-LOC **salsa-ACC** dance-dance-PAST-DECL
 (intended) ‘Siwu danced salsa at the pub yesterday.’

(150) *Passivization of Cognate Noun*

- Centongchuwm-i nambucipang-eyse cacu chwu-eci-n-ta.
 traditional.dance-NOM southern.area-LOC frequently dance-PASS-PRES-DECL
 (intended) ‘They frequently dance the traditional dance in southern area.’

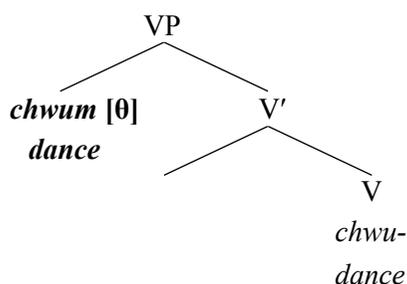
This sharply contrasts with verbal nouns and idiom nouns: cognate nouns cannot have an additional θ -argument, but can be passivized. The grammaticality of (151) further shows that cognate nouns are more like typical direct objects whose θ -role is *theme*.

(151) *Replacement of Cognate Noun with Theme Argument*

Siwu-nun ecey phep-eyse salsa-lul chwu-ess-ta.
 Siwu-TOP yesterday pub-LOC salsa-ACC dance-PAST-DECL
 ‘Siwu danced salsa at the pub yesterday.’

Accordingly, cognate nouns are placed in the same position with the typical direct object: the specifier of the lexical VP, which is the legitimate position for AE.

(152) *The Structure of Cognate Noun*



In (152), the cognate noun *chwum* ‘dance’ is placed in [Spec, VP], getting its θ -role from the verb *chwu-* ‘to dance’. Thus, it cannot have another θ -argument (*à la* H.D. Ahn 1990), but can be passivized (*à la* Bowers 1993). Based on the reasoning so far, we predict that cognate nouns, even if they are similar to verbal nouns and idiom nouns in appearance, are eligible for AE. This prediction is borne out:

for AE. At first glance, this seems to be a tautology because the principle that *adjunct* must not be a legitimate candidate for AE naturally follows from the established generalization: an adjunct is not an argument, and is not eligible for AE in any case. That is, the definition of AE excludes adjuncts in the first place. However, an interesting picture emerges if we consider two different types of passives in Korean. When two constructions are analogous in terms of intention and meaning, but are different in terms of structural representation, they might realize identical θ -roles distinctively in the derivation. This is precisely the point I strive to seize: we focus on the aspect of disparity which passives exhibit.

It has been observed and argued by many researchers that Korean passive constructions cannot be unified under the identical nomenclature (see, for example, an overview in Yeon 2015). Accordingly, passive constructions in Korean are divided into two types: *analytic passives* and *affected passives*. First, analytic passive refers to a canonical passive attested in many languages. It involves A-movement of *theme* to the grammatical subject position, presumably [Spec, TP]. As for Korean, analytic passives utilize the morpheme *-(e)ci-*. On the other hand, affected passive refers to a particular kind of passive, widely attested for adversity passives in Japanese. It emphasizes semantic affectedness caused by a denoted event, and involves the introduction of extra argument. Crucially, *theme* does not undergo A-movement, and this kind of passive is formed by the morphemes *-i-*, *-hi-*, *-li-*, and *-ki-* in Korean. In particular, the two types of passives in Korean differ from each other in the status of *agent*. In analytic passives, *agent* is suppressed and realized as *adjunct*, marked with the *by*-phrase *-ey uyhay* (Park & Whitman 2004; Yeon 2015). This is because *agent* in analytic passives is presupposed and behaves like a background of the event. In affected passives, however, *agent* is introduced by the high applicative head as *argument*, marked with the dative Case-marking *-eykey* (K.M. Kim 2008, 2012).

(154) *Two Types of Passive in Korean*

a. *Analytic Passive*

Taym-i **inpwu-tul-ey.uyhay** ci-eci-ess-ta.
dam-NOM **worker-PL-by** build-PASS-PAST-DECL
'The dam was built by workers.'

b. *Affected Passive*

Talamcwi-ka **koyangi-eykey** pwutcap-hi-ess-ta.
chipmunk-NOM **cat-DAT** catch-PASS-PAST-DECL
'A chipmunk was caught by a cat.'

In (154a), the morpheme *-eci-* delivers passive voice, denoting that the construction was done by workers. The boldfaced *inpwu-tul* 'workers' is realized as an adjunct, since *agent* is presupposed and treated as a background element in the argument structure. In (154b), on the contrary, the morpheme *-hi-* delivers the affected interpretation, denoting that the event affected the chipmunk. Here, *koyangi* 'cat' is an *agent* argument introduced by the applicative head. Put differently: the culmination of the building event and the creation of the dam are essential in (154a); but the interaction between the cat and the chipmunk is in focus in (154b), by which the chipmunk is affected. As for the grammatical subjects, *taym* 'dam' in (154a) is raised from the position of *theme*, while *talamcwi* 'chipmunk' in (154b) is raised from the specifier of P-AppIP (*i.e.*, the peripheral applicative phrase which is the closest phrase to the T head, as argued in K.M. Kim 2012).

To make long story short, the structural status of *agent* is different in the two types of passives: *agent* is realized as an adjunct in analytic passives; but *agent* is an introduced argument in affected passives. This can be captured in the structural schematization:

(157) *Argument Ellipsis: Agent in Affected Passives*

- A. Talamcwi-ka koyangi-eykey pwutcap-hi-ess-ta.
chipmunk-NOM cat-DAT catch-PASS-PAST-DECL
'A chipmunk was caught by a cat.'
- B. Kosumtochi-to Δ pwutcap-hi-ess-ta.
hedgehog-also catch-PASS-PAST-DECL
(intended) 'A hedgehog was caught by a cat, too.'

There is a contrast between (156B) and (157B). In analytic passives, when (156B) follows (156A), it only yields an unaccusative reading under which the bank was built. It does not necessarily imply that the workers in (156A) are *agent* of the building event. Thus (156B) is infelicitous. On the other hand, in affected passives, when (157B) follows (157A), it can yield the intended reading under which a hedgehog was caught by a cat. It means that the cat in (157A) is *agent* of the catching event in (157B) as well. Thus (157B) involves AE and is grammatical. We arrive at a welcome result: this is as predicted by the CAE, given the structural schematization in (155) for the two types of passive¹⁰.

So far, the data seem to bear out this crucial prediction. However, one might ask: lexical items might affect the availability of ellipsis in (156-157) since the verbs and the entities participating in the events are different. To firmly contend that the prediction holds true, I control the lexical items in the two types of passive. There are a limited number of verbs that can be used in both analytic passives and affected passives. One of these rare verbs is the verb *ccic-* 'to tear'. Further, considering that an inanimate entity is mostly used for

¹⁰ Especially, note that the sentences in (156B) and (157B) are felicitous and grammatical, if the sentences are uttered without any previous context. In that case, (156B) would mean that the bank was built (and completed) by some entity, and (157B) would mean a hedgehog was caught (and affected) by some entity. Yet, the contrast obtains when the context including *agent* is given as antecedent. This is indeed the precise nature of ellipsis in general: it needs a linguistic antecedent.

subjects of analytic passives, I here manipulate the subjects to be inanimate entities, and manipulate the *agent* (i.e., the designated targets for AE) to be animate entities.

(158) *Argument Ellipsis: Analytic Passives with ccic- 'to tear'*

- A. [Akwun-uy kispal]-i cekkwun-ey.uyhay ccic-eci-ess-ta.
 [our.force-GEN flag]-NOM enemy.force-by tear-PASS-PAST-DECL
 'The flag of our force was torn up by the enemy force.'
- B.#[Tongmayngkwun-uy kispal]-to Δ ccic-eci-ess-ta.
 [allied.force-GEN flag]-also tear-PASS-PAST-DECL
 (intended) 'The flag of our allied force was torn up by the enemy force, too.'

(159) *Argument Ellipsis: Affected Passives with ccic- 'to tear'*

- A. [Akwun-uy kispal]-i cekkwun-eykey ccic-ki-ess-ta.
 [our.force-GEN flag]-NOM enemy.force-DAT tear-PASS-PAST-DECL
 'The flag of our force was torn up by the enemy force.'
- B. [Tongmayngkwun-uy kispal]-to Δ ccic-ki-ess-ta.
 [allied.force-GEN flag]-also tear-PASS-PAST-DECL
 (intended) 'The flag of our allied force was torn up by the enemy force, too.'

The result remains intact: (158B) only yields an unaccusative reading, while (159B) yields the intended reading. That is, *agent* does not need to be interpreted in (158B), while *agent* is interpreted in (159B).

Thus far, we have seen that syntactically different configurations play a crucial role in licensing ellipsis, and that the difference comes from the two types of passives in Korean. An elaboration on this issue is in order. As I argued, *agent* behaves differently in these two cases with respect to intentionality. Analytic passives with *-(e)ci-* presuppose the presence of *agent*, only that it becomes a backgrounding element (if it appears, it is realized as an

adjunct). Yet, the intentionality matters for the event, even if the causer does not have to be overtly expressed. On the other hand, affected passives with *-hi-* or *-ki-* do not suppress *agent* (it is an argument introduced by H-AppIP). Rather, what is essential is the presence of *affectee* in affected passives. Therefore, it is not the intentionality, but the affectedness that matters here. We can verify this by inserting a phrase that denotes unintentionality.

(160) *Insertion of cecello 'by itself' in Two Types of Passive* (data from Yeon 2015)

a. *Analytic Passive*

#[Ku mos]-i cecello ppop-aci-ess-ta.
 [that nail]-NOM by.itself remove-PASS-PAST-DECL
 'That nail (finally) managed to be removed.'

b. *Affected Passive*

[Ku mos]-i cecello ppop-hi-ess-ta.
 [that nail]-NOM by.itself remove-PASS-PAST-DECL
 'That nail came off by itself.'

The contrast in (160a-b) naturally follows, given the brief account on intentionality above: it matters in (160a) thus it is infelicitous; it does not matter in (160b) thus it is felicitous. Simply put, the semantic difference is reflected in the syntactic structure, and this provides the configuration for AE. The disparity between (158-159) is otherwise unexpected, but can be accounted for under the CAE: the second prediction by the CAE is borne out.

6.3 A Final Sketch

In this chapter, I exemplified that the proposed CAE is actually in effect by showing that the predictions the CAE raises are borne out. The structural configuration of AE dictates

that ellipsis should occur only in certain syntactic environments, and not in any other environment. Combining the borne-out predictions with the analyses throughout the last three chapters, I provide the final arrangement by juxtaposing crucial instances of AE.

(161) *Argument Ellipsis: A Final Sketch*

Eligible for AE	Relevant Phase	Corresponding Example
Direct Object	VP	✓ <i>yenghwa-lul po-</i> 'to see films'
Inalienable Possessor	VP ₂	✓ <i>Mina-lul phal-ul cap-</i> 'to catch Mina's arm'
Resultative Subject	RP	✓ <i>wangca-lul kaykwuli-lo mantul-</i> 'to turn a prince into a frog'
Ditransitive Goal	vP	✓ <i>kwankayk-eykey senmwul-ul ponay-</i> 'to send the audience a present'
High Applicative Affectee	H-AppIP	✓ <i>ttal-eykey chayk-ul ilke cwu-</i> 'to read a book for the daughter'
Subject	VoiceP	✓ <i>haksayng-i o-</i> 'for students to come'
Ineligible for AE	Relevant Phase	Corresponding Example
Inalienable Possessee	VP ₂	* <i>phal-ul_i Mina-lul t_i cap-</i> 'to catch Mina's arm'
Resultative Predicate	RP	* <i>kaykwuli-lo_i wangca-lul t_i mantul-</i> 'to turn a prince into a frog'
Verbal Noun	VP	* <i>sanyang-ul_i sasum-ul t_i ha-</i> 'to hunt deer'
Idiom Noun	VP	* <i>kep-ul_i chentwung-ey t_i mek-</i> 'to be frightened by the thunder'

We now have the overall scheme: *what can be elided* is placed at the phase edge position; *what cannot be elided* is irreversible in its order with other elements in the same phase.

This is expected under the notion of phase and Spell-Out proposed in Chapter 3: AE is eligible only for the elements in the specifier of a to-be-linearized phase. In the following chapter, bearing this final sketch in mind, I will discuss some theoretical implications that are evoked by the CAE.

Discussion on the Theoretical Implications

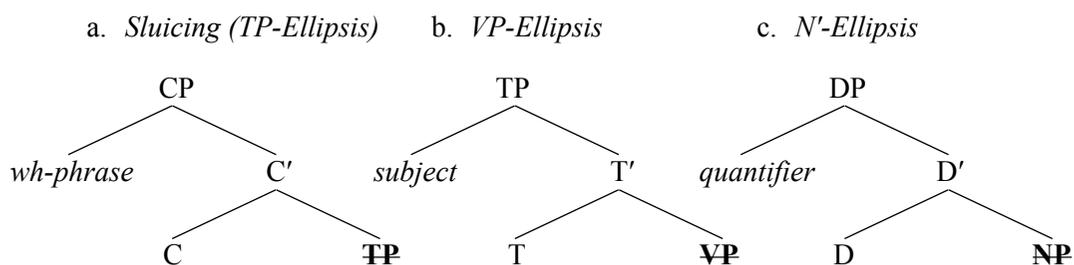
Having established both mechanical and empirical claims that AE is strictly subject to a specific structural configuration, we are now in a position to discuss the CAE *per se*. The present chapter is devoted to the theoretical implications evoked by the CAE, which were briefly mentioned in Section 3.3. Two issues will be entertained: first, the directionality of ellipsis operation; and second, the availability of scrambling related to ellipsis.

7.1 On the Directionality of Ellipsis Operation

I argued that AE occurs only in the specifier position of a phase (*i.e.*, the phase edge), when phase corresponds to a predication and a Spell-Out domain. The Spell-Out domain indicates the unit of linguistic operation after which syntactic linearization occurs, so that the relative order among the elements within the phase is preserved once and for all (Fox & Pesetsky 2005; Ko 2007). Regarding this, the notion of phase needs to be appropriately elaborated. Traditionally, phase is said to be a propositional unit (*i.e.*, ν P and CP) and the Spell-Out domain was the complement of each phase (*i.e.*, VP and TP). Elements inside the Spell-Out domain are no longer accessible after each Spell-Out (Phase Impenetrability Condition (PIC); Chomsky 2000). However, it has been argued that phase is rather closer to argument-introducing domains, in which newly introduced arguments expand the unit

of predication (McGinnis 2001; Pyllkkänen 2008). More recently, Bošković (2014) argues that the notion of phase needs to be redefined, for any XP can either be a phase or not depending on the structural context in which they appear. He named this as a contextual approach towards phase¹: the highest projection in the extended projection of a lexical category functions as a phase (Bošković 2014:28). He further relates the contextual phase concept to the ellipsis configuration: only phases and complements of phase heads can be elided (*à la* Rouveret 2012). The first case: ellipsis of *phases*, when arguments are elided (*i.e.*, AE). This is because DP and NP can function as a phase (Svenonius 2004; Hiraiwa 2005). And the second case: ellipsis of *complements of phase heads*, when predicates are elided (*i.e.*, VP-ellipsis and Sluicing). This is because CP and *v*P function as a phase. This analysis immediately reminds us of the previous generalization (Saito & Murasugi 1990; Lobeck 1995), which I repeat below from Chapter 2.

(162) *Generalization on Structural Configuration for Ellipsis* (Lobeck 1995)



This accords with the ellipsis configuration proposed in Bošković (2014), since C, T (or *v*, when VP is accompanied by *v*P), and D can be phase heads. Yet, the following question arises for the phase ellipsis operation proposed in Bošković: why only nominal phases can be elided. That is, if AE is an instance of phase ellipsis when phase is defined as the final

¹ He also mentioned that this is analogous to the barrier system proposed in Chomsky (1986).

extended projection of a lexical category, phases such as CP should be able to be elided in principle. Yet, it is well-known that CP-ellipsis is banned in languages such as English. As for Korean, CP-ellipsis is argued to be possible only if CP has the status of DP (K.W. Sohn 2012). Then, even though Bošković's proposal seems to straightforwardly account for the typology of the ellipsis operation, it remains unclear why this should be the way it is.

In consideration of this, the proposed CAE can shed interesting light on accounting for this mystery. First, I elaborate the account in Rouveret (2012): VP-ellipsis is an instance of an elliptical phenomenon conditioned by feature valuation of the phase head *v*. That is, the phase head *v* can elide its complement, if the [*utense*] feature of *v* is valued at *v*-level. The valuation occurs at the completion of the corresponding phase, and then ellipsis follows.

(163) *Assumptions on VP-Ellipsis* (Rouveret 2012; his (1-3))

i. ***Ellipsis Domain***

The domain of ellipsis coincides with the complement of a phase head that is deleted at PF.

ii. ***Licensing Heads***

Only phase heads can license the PF-deletion of their complement.

iii. ***Licensing Condition on VP-Ellipsis***

VP-Ellipsis is available in a given structure if and only if *v*'s uninterpretable [*tense*] feature is valued at the *v*-level.

Combining Rouveret (2012) with my proposal, the generalization can be paraphrased as:

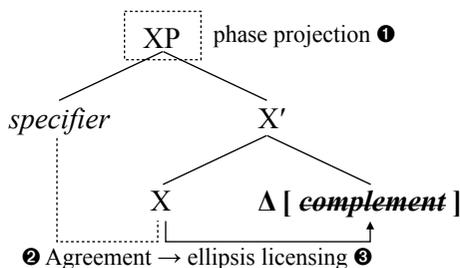
(164) *Provisional Generalization on Ellipsis Operation* (modified from Bošković 2014)

Either ***complements*** of phase heads or ***specifiers*** of phase heads can be elided.

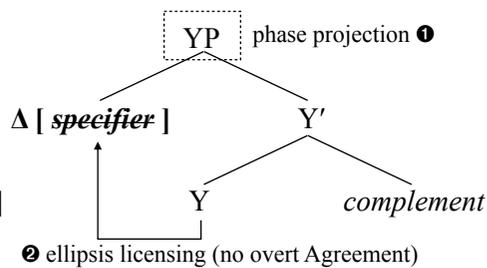
The former (ellipsis of *complements* of phase heads) was exemplified in the generalization by Saito & Murasugi (1990) or Lobeck (1995) and more recently by Rouveret (2012). The latter (ellipsis of *specifiers* of phase heads) was investigated in the present thesis. Then, it poses an intriguing challenge in accounting for the variation of the typology of the ellipsis operation. To recapitulate, if *predicate ellipsis* elides the complement of a phase head and *argument ellipsis* elides the specifier of a phase head, it seems to reverse the directionality of the ellipsis operation. For illustration, I repeat the ellipsis configuration from Chapter 3 again, modifying some relevant factors:

(165) *Configuration of Ellipsis Licensing*

a. *Predicate Ellipsis*



b. *Argument Ellipsis*



As pointed out by many researchers (Saito 2007; Takahashi 2008, 2014, *inter alia*), on the occasion of ellipsis, Agreement might play an important role: it has been argued that the absence of Agreement in languages such as Korean and Japanese enables the ellipsis of an argument. This becomes more intriguing if we take the analyses for other languages into account: it has been argued that Agreement (Spec-Head Agreement in Lobeck 1995; the [E]-feature triggering in Merchant 2001; Aelbrecht 2010; or the [*utense*] feature valuation at *v* in Rouveret 2012) licenses the ellipsis of a predicate. Considering this, a promising

overall picture emerges for the ellipsis operation: if Agree, the complement of phase heads (*i.e.*, predicate) can be elided; if no Agree, the specifier of phase heads (*i.e.*, argument) can be elided. Couple of thoughts can be cast concerning this. *Where to pronounce*, is the first question in order. If the present proposal is on the right track, then we have the following: in the presence of Agreement, a language can display the relevant information in *specifier* (*i.e.*, agreement-prominent languages leave a morphological marking); in the absence of Agreement, a language needs an overt expression to recover the relevant information in *complement* (*i.e.*, discourse-prominent languages keep predicates unharmed). Now, as to the answer for *where to pronounce*: languages that are equipped with Agreement choose to retain specifiers (where information is displayed) and elide complements; languages that are not equipped with Agreement choose to retain complements (where discourse contents are recovered) and elide specifiers. The former is substantialized by predicate ellipsis, and the latter is substantialized by argument ellipsis.

To summarize, the respective selection for the elliptical constituent (*i.e.*, the complement *vs.* the specifier) is possibly a way of parametrizing the different directionality of ellipsis based on the strategy that each language chooses: whether to exploit *morphological* clues expressed in *specifier* (*i.e.*, argument; when Agreement is present) or to exploit *semantic* clues expressed in *complement* (*i.e.*, predicate; when Agreement is absent).

7.2 On the Availability of Scrambling Related to Ellipsis

The syntactic quality of the target position for AE (*i.e.*, the specifier of a phase) is special in that it is a relatively precedent position under cyclic derivation. To reiterate, the notion

of phase elaborated here is equal to the domain of linearization, where the relative order among the elements in a phase is frozen after Spell-Out. Bearing this in mind, we look again at the data provided earlier. Interestingly yet expectedly, those that cannot reverse their order with a precedent element correspond to those that are ineligible for AE.

(166) *Illicit Word Order Obtained by Scrambling*

a. *Possessee in Inalienable Possession*

*Siwu-ka **phal-uli** Mina-lul **t_i** cap-ass-ta.
 Siwu-NOM **arm-ACC** Mina-ACC catch-PAST-DECL
 (intended) ‘Siwu caught Mina’s arm.’

b. *Result State NP in Resultative Small Clause*

*Mapepsa-nun **kaykwuli-lo_i** wangca-lul **t_i** mantul-ess-ta.
 wizard-TOP **frog-RES** prince-ACC make-PAST-DECL
 (intended) ‘A wizard turned the prince into a frog.’

c. *Object Floating Quantifier*

*Yetongsayng-un **sey-mali-lul_i** kangaci-lul **t_i** khiwu-n-ta.
 younger.sister-TOP **three-CL-ACC** puppy-ACC raise-PRES-DECL
 (intended) ‘My younger sister has three puppies.’

d. *Subject Floating Quantifier*

***Sey-myeng-i_i** ai-tul-i **t_i** cwumekpap-lul mek-nun-ta.
three-CL-NOM kid-PL-NOM rice.ball-ACC eat-PRES-DECL
 (intended) ‘Three kids are eating rice ball.’

e. *Verbal Noun*

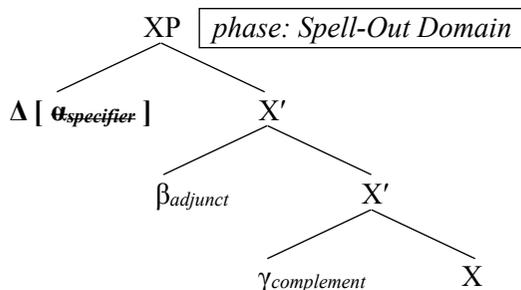
*Mina-nun ecey **sanyang-uli** sasum-ul **t_i** ha-ess-ta.
 Mina-TOP yesterday **hunting-ACC** deer-ACC LV-PAST-DECL
 (intended) ‘Mina hunted deer yesterday.’

f. *Idiom Noun*

*Suho-ka **kep-uli** chentwung-ey **t_i** mek-ess-ta.
 Suho-NOM **fear-ACC** thunder-DAT eat-PAST-DECL
 (intended) ‘Suho was frightened by the thunder.’

As apparent by the ungrammaticality of (166a-f), nominal elements cannot scramble over phase-mate elements if they are not in the specifier of a phase. Particularly, note that each boldfaced element in (166a-f) is an illicit candidate for AE. In other words, elements that cannot be scrambled are equal to elements that are ineligible for AE. In regards to this, we revisit the structural configuration for the CAE one more time:

(167) *The Structural Configuration for the CAE*



Again, the order within XP is fixed after Spell-Out: the specifier α has to precede the rest of XP, and the word order has to be relatively retained. The observation that the legitimate position for AE is the leftmost position for a phase leads to some provisional speculations. First of all, as we saw in (166), it seems to be deeply related to the scrambling property of the language: this reminds us of the account provided by Oku (1998), where he argues that the scrambling property has to do with the availability of NP-ellipsis. Once mysterious in why it has to be this way, this scrambling-based account can now be revisited in light of the CAE. It seems that the overlapping syntactic position between scrambling and ellipsis must be partly responsible for the mystery: scrambling *from* the leftmost position of phase; ellipsis *for* the leftmost position of phase. Although this speculation requires further and thorough investigation on both topics, it brings about an interesting point of debate.

7.3 Some Remaining Issues

Finally, some remaining issues that need to be covered in future are worth addressing. I will make mention of three issues: CP-ellipsis in Korean; discourse or radical *pro*-drop in East Asian languages; and typological researches in many different languages.

First, the issue of so-called CP-ellipsis requires a further explanation. It has been argued that the alleged CP-ellipsis reduces to the ellipsis of DP-related argument CPs, since what seemed to be an elidable CP equates with a DP-related CP (K.W. Sohn 2012; in an attempt to argue against Ahn & Cho 2009). The relevant examples are provided below.

(168) *Illicit CP-Ellipsis in Korean* (Ahn & Cho 2009; their (23))

A. Na-nun [Yenghi-ka Toli-lul salangha-n-ta-ko] sayngkakha-n-ta.

I-TOP [Yenghi-NOM Toli-ACC love-PRES-DECL-C] think-PRES-DECL

‘I think that Yenghi loves Toli.’

B. *Na-to Δ sayngkakha-n-ta.

I-also think-PRES-DECL

(literal) ‘I think, too.’

(169) *Licit CP-Ellipsis in Korean* (K.W. Sohn 2012; his (8))

A. Na-nun [Yenghi-ka Toli-lul salangha-n-ta-ko] mit-nun-ta.

I-TOP [Yenghi-NOM Toli-ACC love-PRES-DECL-C] believe-PRES-DECL

‘I believe that Yenghi loves Toli.’

B. Na-nun Δ mit-ci anh-nun-ta.

I-TOP believe-CI not-PRES-DECL

(literal) ‘I don’t believe.’

The contrast between (168) and (169) can be accounted for, if we take a deeper look at the quality of the CP in the two instances: the embedded CP in (168) cannot be replaced with the pronoun *kukes-ul* ‘that-ACC’; but the embedded CP in (169) can be replaced with the pronoun *kukes-ul* ‘that-ACC’. Based on this, K.W. Sohn (2012) argues that CP-ellipsis is only possible when the CP has the status of DP-relatedness: it must be able to be replaced with an overt pronoun. Then, a question immediately arises concerning the CAE: how we can elaborate on the syntactic position of CP-ellipsis which has the status of an argument. In regards to this, M.J. Kim (2009) argues that argument CPs with the pronominalizer *-kes* undergo LF-raising for Predicate Abstraction (*à la* Heim & Kratzer 1998). This might be loosely related to the CAE, since this LF-raising targets the specifier position, yet it is still mysterious how we can relate CP-ellipsis (as AE in disguise) to the CAE. I leave this issue for future research.

Second, an old conundrum regarding discourse or radical *pro*-drop. East Asian languages are known for prevalent usage of null arguments. Only certain types of these were covered in the present thesis under the name of AE, but this is only the tip of the iceberg: a null subject without an antecedent prominently yields a discourse bound reading, while a null object in the embedded clause retrieves the referent from the matrix clause.

(170) *Null Arguments in Japanese* (Saito 2007; his (56); Abe 2009; his (40), respectively)

- a. *pro* *kita*.
 came
 ‘S/he came.’
- b. John-wa [zibun-no musume]-ni [sensei-ga *pro* ai-tagatteiru to] itta.
John-TOP [self-GEN daughter]-DAT [teacher-NOM want-to.see C] said
 ‘John told his own daughter_i that the teacher wanted to see her_i.’

These null arguments were not covered in the present thesis. In (170a), *pro* can refer to a salient entity given in the discourse context. In (170b), *pro* can only refer to the matrix dative argument. This indicates that *pro* is independently attested for these languages. Yet, it remains mysterious how to account for all these different null arguments in a clear way. For now, it is safe to say that they are indeed different: they only share common properties of *being unpronounced* and *being an argument*. However, I leave this issue open for future questioning.

Third and finally, the proposed CAE immediately raises a question on the status of other languages. That is, typological considerations are called for in order to adequately account for the variation attested cross-linguistically. In the present thesis, I contend that phase is a key factor in licensing argument ellipsis in Korean. If one considers Bošković (2014) and others where the concept of contextual phase is suggested, specification for a phase might differ in each language. I have concentrated on accounting for Korean, yet it would be a worthwhile endeavor to investigate the corresponding phenomenon in other languages as well. Regarding this, I present a Hebrew example from Landau (2018) where he argues for AE and against V-raising VP-ellipsis.

(171) *Argument Ellipsis in Hebrew* (Landau 2018; his (41a-b))

- a. Yosi cilem et axoto menumnemet.
 Yosi photographed ACC sister.his drowsy
 ‘Yosi took his sister’s picture while she was drowsy.’
- b. Gil cilem Δ yešena.
 Gil photographed sleeping
 (intended) ‘Gil took his sister’s picture while she was sleeping.’

Note that Hebrew allows both the strict and sloppy reading for argument ellipsis (Landau 2018). In a similar vein, many languages have been explored in terms of argument ellipsis up until now: Turkish (Şener & Takahashi 2010); Chinese (Cheng 2013; Li 2014); Bangla, Hindi and Malayalam (Simpson *et al.* 2013); Persian (Rasekhi 2014); and Javanese (Sato 2015). Following from the validity of these researches and the plausibility of the present thesis, it seems obvious that a thorough typological investigation is definitely required not only for East Asian languages but also for many other languages, if we aim at maintaining the viability of the proposed CAE. I leave this typological question for future research.

8

Conclusion

The present thesis investigated how the Argument Ellipsis (AE) phenomenon in Korean is syntactically constrained. In particular, it was argued that AE has to do with a specific structural configuration in light of the syntactic notion of phase: arguments can be elided only when they are in the specifier of a phase (*i.e.*, the phase edge position).

Despite of the long tradition of generative grammar, elliptical phenomena in East Asian languages have been paid attention to only recently. The primary consensus was built on the ground of empirical data: subjects and direct objects whose θ -role have been given can be elided. Based on this, the origin of AE has been extensively investigated in the previous literature. Recently, some structural approaches have been attempted, yet there still exist some puzzling paradigms for ellipsis. Specifically, apparent asymmetries were observed in the case of *inalienable possession* and *resultatives*: in the presence of two arguments in the verbal domain, only the first argument can be elided. In order to account for these and to capture the general constraint imposed on the ellipsis phenomenon in Korean, I proposed the Constraint on Argument Ellipsis (CAE): an argument α can be elided only when it is placed in the specifier of a phase XP. Under the CAE, syntactic phase corresponds to a semantic predication in which *subject* asymmetrically c-commands *predicate* (den Dikken 2006). Also, the phase XP equals to the Spell-Out domain after which phonetic elements are syntactically linearized (Fox & Pesetsky 2005; Ko 2007). This is closer to the concept

of argument-introducing phase (McGinnis 2001; Pytkänen 2008) and thus is more distant from the concept of propositional phase (Chomsky 2000).

Under the proposed CAE, the two main puzzles were solved accordingly. Resultatives were considered to be functional projections of the small clause RelatorP (RP) in which a resultative interpretation is rendered. It was argued that only the subject of the RP, being in the specifier of the RP phase, is eligible for AE. Next, inalienable possession was also analyzed in terms of external possession constructions. Following the previous researches on both cross-linguistic possessive structures and Korean-specific ones, it was argued that only *possessor*, not *possessee*, can be elided since it is in the specifier of the extended VP phase. Additionally, direct objects combined with a floating quantifier were accounted for as a typical instance of direct object ellipsis: direct objects can be elided in the specifier of the VP phase, following the previous structural analyses.

Broadening the realm of the analysis, I accounted for ditransitives and high applicatives. In ditransitives, two internal arguments are included in the domain of the vP and VP phase. I showed that they can be elided in the specifier of each phase. Crucially, the scrambling property of Korean was included in the analysis: it was demonstrated that the ellipsis for the scrambled order can be accounted for under the multiple specifier strategy. Moving onto high applicatives, I illustrated that an indirect *affectee* argument can be elided in the specifier of the H-AppIP phase. I pointed out that subjects in the specifier of the VoiceP phase are also eligible for AE, demonstrating this with subjects combined with a floating quantifier. Crucially, the account was based on the observation that both subject and object numeral quantifiers with Case-marking are an adjunct predicate in Korean.

I subsequently examined the crucial predictions that the proposed constraint evokes. In particular, two predictions were mainly tested: the unavailability of AE in the complement position, and the unavailability of AE in the adjunct position. The first prediction was tested via incorporated nouns. Verbal nouns and idiom nouns were cases in point. It was argued that they occupy the complement of the VP owing to the various diagnostics. I also made reference to cognate nouns which show apparent similarity, but turn out to be in fact surprisingly different from verbal nouns and idiom nouns, since cognate nouns are in the specifier of the VP phase. With empirical data, the prediction was borne out: verbal nouns and idiom nouns are ineligible for AE, while cognate nouns are eligible for AE, just like direct objects. The second prediction was tested via two types of passives. Following the dichotomy and the postulated structural difference between analytic passives and affected passives, it was predicted that only *agent* in the latter is eligible for AE. The prediction is again borne out: *agent* realized as an adjunct was ineligible for AE; only *agent* introduced as an argument was eligible for AE.

Theoretical implications that the proposed constraint immediately brings about had to do with the directionality of the ellipsis operation and the availability of scrambling related to ellipsis. Regarding the first, approaches on phase specification of ellipsis (Rouveret 2012; Bošković 2014) as well as the generalization of ellipsis (Saito & Murasugi 1990; Lobeck 1995) were entertained in tandem with the current proposal. If the proposal is on the right track, the directionality of ellipsis seems to be reversed: the generalization says the phase head can license ellipsis of its complement; but the proposed constraint says the phase head can license ellipsis of its specifier. It was discussed that this might be closely related to the question of *where to pronounce* in general, and presumably that it might have to do with a way of parametrizing the ellipsis operation in each language. For the second part, a

general finding based on the presented data was dealt with: what can scramble further is eligible for AE; what cannot scramble over a precedent element is ineligible for AE. Given the structural configuration, scrambling and ellipsis syntactically overlap to some extent. It was also worth mentioning that the proposal made by Oku (1998) could be revisited in light of the current proposal. Finally, I mentioned some remaining issues. The status of the controversial CP-ellipsis in Korean was put forward, signaling that the mystery needs more elaboration. The long-standing puzzle of ellipsis and discourse *pro*-drop was briefly covered as well, implying that future researches are called for in order to properly handle these null argument phenomena. A typological investigation is also required, in order to firmly contend that the proposed CAE is on the right track. Specifically, considering that specification for phases might be different from language to language, various languages are in need of investigation in terms of AE, in order to prove that the proposed CAE holds true cross-linguistically.

To conclude, the present thesis aimed at investigating the syntactic constraint on AE with care: semantically understood but phonetically unpronounced elements regarding syntactic configuration were covered in detail. The configuration for AE in Korean was well-suited to the data presented. The proposal could not only account for various argument structures attested in Korean but could also bear out some crucial predictions. If the current proposal is on the right track, it can shed a promising light on typologically accounting for variation among languages as well as theoretically revealing a parametric mechanism of the ellipsis operation in general. I hope that future researches will be conducted in this regard.

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본 논문에서는 한국어에서 나타나는 논항 생략 *argument ellipsis* 현상이 통사적으로 어떻게 제약되는지에 대해 살펴보고자 한다. 기존 연구에서, 생략 현상은 기능핵 *functional head*에 의한 보충어 *complement* 생략으로 일반화될 수 있다는 점이 논의되어 왔다 (Saito & Murasugi 1990; Lobeck 1995). 그러나 이러한 일반화는 동아시아 언어들에서 나타나는 생략 현상에는 적절하지 않은데, 이들 언어에서 생략 현상은 주어 *subject* 그리고 직접목적어 *direct object* 등의 논항 투사구 *argument projection*를 대상으로 하기 때문이다. 이러한 논항 생략 현상이 나타나는 이유와 관련하여, 현상의 본질을 밝히려는 연구들이 전통적으로 시도되었다 (Oku 1998; S.W. Kim 1999; Saito 2007; Takahashi 2014). 보다 최근에는, 해당 현상을 특정한 기제를 통해 설명하려는 구조적 측면의 연구들 역시 진행되어 왔다. 논항 생략 현상이 나타나는 양상에 대해서, 예컨대 성분통어 *c-command* (Abe 2009, 2018), 국면 *phase* (Sakamoto 2016), 한정사구/명사구 가설 *the DP/NP parameter* (Cheng 2013; Bošković 2016) 등을 활용한 연구가 있었다. 그럼에도 불구하고, 기존 연구들은 크게 두 가지 이유에서 그 한계점이 지적된다. 첫 번째로, 논항이 생략되는 특정한 구조적 도식에 대한 기술이 이루어지지 않았다. 기존 연구들은 주어와 직접목적어가 생략 가능하다는 전제 하에 논항 생략 현상이 설명 가능한 환경만을 제시하였기 때문이다. 두 번째로, 특정한 논항들이 생략되지 않는 비대칭적 현상들이 관찰되는데, 이러한 비대칭적 현상은 이제까지 시도된 구조적 측면의 연구들에 의해서도 설명되지 않는다. 다시 말해서, 보다 상세한 구조적 측면의 연구의 필요성이 여전히 대두되고 있으며, 본 논문은 이러한 맥락에서 출발한다.

생략에 있어서 비대칭적 현상은 분리불가능한 소유 구문 *inalienable possession* 그리고 결과 구문 *resultatives*에서 관찰된다. 다수의 논항이 나타날 때 오직 첫 번째 논항만이 생략될 수 있

다는 것인데, 이는 기존 연구에 따르면 예측되지 않는 바이기 때문에 추가적인 설명을 필요로 한다. 이에 본 연구에서는 논항 생략 제약*the Constraint on Argument Ellipsis (CAE)*을 제안하고자 한다. 논항 생략 제약은 논항이 국면의 지정어*specifier* 자리에 있을 경우에만 생략 가능하다는 제약이다. 여기서 국면이라는 개념은 선형화*linearization*가 일어나는 통사적 문자화*syntactic Spell-Out*의 단위를 가리키며 (Fox & Pesetsky 2005), 이는 곧 의미적으로 주술 관계*predication*에 대응된다 (den Dikken 2006). 따라서, 본 논문에서 국면의 개념은 명제 단위의 국면 (Chomsky 2000) 보다는 논항 도입 단위의 국면 (McGinnis 2001; Pylkkänen 2008)에 더 가깝다고 할 수 있다.

상술된 비대칭적 현상은 논항 생략 제약을 통해 간결하게 설명될 수 있다. 결과 구문 그리고 분리불가능한 소유 구문이 논항 생략 제약에 종속된다는 사실이 설명될 뿐만 아니라, 이중목적어 구문*ditransitives* 혹은 추가논항 구문*high applicatives* 등의 경우 역시 논항 생략 제약 하에서 설명된다는 점이 검토된다. 더군다나, 주어 및 직접목적어 생략 등 가장 기본적인 논항 생략의 경우 역시 논항 생략 제약을 따른다는 점이 증명된다.

본 논문에서는 논항 생략 제약에 따른 주요한 예측 역시 다루고 있다. 논항 생략이 국면의 지정어 위치에서만 일어난다면, 보충어 그리고 부가어*adjunct* 위치에서는 생략이 불가능할 것이라 예측할 수 있다. 이러한 예측은 포함 명사구*incorporated nouns*, 그리고 한국어의 두 가지 피동문*passives* 종류를 통해서 검증된다. 결과적으로, 논항 생략 제약이 예측하는 바는 다양한 경험적 자료들을 통해 증명된다.

이어서 논항 생략 제약이 생략 현상의 오랜 이론적 난제 그리고 일반화에 있어 흥미로운 시사점을 던진다는 사실이 논의된다. 기존 연구 (Saito & Murasugi 1990; Lobeck 1995; Rouveret 2012; Bošković 2014) 그리고 본 논문의 논항 생략 제약을 바탕으로, 생략 현상의 방향성이 결국 언어적 기제의 운용*linguistic operation*을 매개변인화*parameterizing*하는 방법일 수도 있다는 점이 주요하게 논의된다. 즉, 개별 언어의 선택 결과에 따라, 국면 투사구*phase projection*

의 핵이 지정어를 생략하거나 보충어를 생략하는 현상을 보이게 된다는 것이다. 또한, 논항 생략의 대상이 되는 위치의 특이성 역시, 경험적 자료를 바탕으로 한국어의 뒤섞기 *scrambling* 특성과 관련되어 있다는 점이 간략하게 논의된다. 마지막으로 본 논문에서 해결되지 않은 몇 가지 과제들이 언급된다. 논항 생략의 외양을 지닌 보문소구 생략 *CP-ellipsis* 현상, 동아시아 언어들에서 관찰되는 다양한 영논항 *null argument*의 종류, 그리고 논항 생략 현상에 있어서 유형론적 연구의 필요성이 지적된다.

결론적으로, 본 논문은 논항 생략 현상이 제약되는 구조적인 도식에 대한 일반화를 시도하며, 이를 통해서 논항 생략 현상 뿐만 아니라 범언어적인 생략 현상에 관해 흥미로운 시사점을 제시한다. 만약 본 논문의 시도가 올바른 방향에 위치해 있다면, 이는 (논항) 생략 현상의 저변에 놓인 현상의 본질 그리고 기제를 밝히는 데 있어 이론적인 이해를 한 층 더 심화시키는 역할을 할 것이다.

주요어: 생략 현상, 논항 생략 현상, 국면, 문자화, 선형화, 주술 관계

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