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문학석사학위논문

**Elliptical Predications in Korean**

한국어 주술관계의 생략현상

2014년 8월

서울대학교 대학원

언어학과 언어학전공

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# Elliptical Predications in Korean

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이 논문을 문학석사 학위논문으로 제출함

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## Abstract

# Elliptical Predications in Korean

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This thesis examines ellipsis phenomena in Korean, with special attention to the case in which a pro-form *kuleh* 'so' appears in the ellipsis site. The main goal is to identify the distribution of this pro-form and investigate its possibilities in extraction.

This thesis first shows that the pro-form occurs in place of various projections: vP, a Sentential Predication, a Categorical Predication, and a small clause predication. It is concluded that each appearance of the pro-form corresponds to a predication. Based on the observation, this thesis proposes that there exists an anaphoric process, namely Predication Ellipsis, which targets various sizes of predications. The pro-form *kuleh* appears as a result of this anaphoric process.

This thesis then presents previously unnoticed asymmetry in possibilities in extraction. Recent literatures suggest that extraction is possible (Chung 2013, Park 2013, Park and Yoo 2013, Sohn 2013). However, contrary to previous observations, it is shown in this thesis that only some portion of its appearances allows extraction: extraction from a verbal elliptical site and a small clausal elliptical site is allowed, but extraction from a full clausal elliptical site is strictly barred. I argue that this asymmetry in extraction possibilities in fact receives a principled account by adopting the theory of Derivational Ellipsis (Aelbrecht 2010). The Derivational Ellipsis theory provides a mechanism to relate different possibilities in extraction with differences in structural configuration.

This thesis shows that the structural configuration of verbal Predication Ellipses allows extraction: it provides an escape hatch where an element within the ellipsis site can move to. In contrast, it is shown that the structural configuration of clausal Predication Ellipses disallows extraction: it lacks an escape hatch, and no element can move out of the ellipsis site. In this way, the current proposal explains the peculiar asymmetry in extraction possibilities.

**Keywords:** Pro-form, Anaphora, Predication, Extraction, Derivational Ellipsis

**Student number:** 2011-23090

## List of Abbreviations

ACC	accusative
COMP	complementizer
DAT	dative
DEC	declarative particle
FUT	future tense
GEN	genitive
IMP	imperative
NOM	nominative
PASS	passive
PAST	past
PRES	present tense
PROG	progressive
REL	relativizer
SOR	subject-to-object raising
TOP	topic
VPE	verb phrase ellipsis



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# 1. Introduction

This thesis attempts to identify the distribution of a Korean pro-form *kuleh* 'so' and its possibilities in extraction. In doing so, the pro-form is analyzed within the theory of anaphora.

## 1.1 Pro-forms as anaphoric expressions

Pro-forms are expressions that occur in place of various projections such as a noun phrases, an adjectival/adverbial phrase, a verb phrase, and a clausal complement. A typical example of a pro-form is a pronoun, which appears in place of a noun phrase as in (1). In this example, a pronoun *he* occupies a position where a noun phrase *my brother* may have appeared.

(1) My brother's a doctor, and *he* says your hair will fall out if you eat that.

[Hankamer and Sag 1976, (1)]

The sentences (2)-(4) are some additional examples. In each of the sentences, a pro-form *so* appears in place of an adverbial phrase, a sentential complement, and a verb phrase, respectively.

(2) Rick was told to have his work in on time, and he will *so* do—or flunk!

[Bouton 1970, (33a)]

(3) Is the moon out? — I believe *so*. [Hankamer and Sag 1976, (69)]

(4) I can float, and *so* can she. [Hankamer and Sag 1976, (72)]

As can be seen in the examples (1)-(4), pro-forms themselves do not convey information of a referent. Rather, they acquire their meaning from context. For instance, the pronoun *he* in (1) receives its referential meaning from the antecedent noun phrase *my brother*. In this sense, pro-forms are construed as being anaphoric, and they fall under the category of anaphoric expressions in the literature.

There has been many suggestions on how an anaphoric expression obtains its referential meaning. Each suggestion approximately falls under either of the two strategies: (i) an anaphor references syntax/semantics, or (ii) an anaphor references discourse. The choice between the two strategies is closely related to whether an anaphor has internal structure, and this is the topic of the next section.

## **1.2 The theory of anaphora**

### **1.2.1 Deep and surface anaphora**

There has long been a debate on whether an anaphor (including pro-forms) has internal structure. Ross (1967, 1969) and Postal (1970, 1972) claim that there is such structure, and anaphora formation occurs at a relatively superficial stage in derivations. This line of research assumes that an anaphoric process (deletion or

conversion to a pro-form) applies to internal structure and creates an anaphor. On the other hand, Wasow (1972), Shopen (1972), and Fiengo (1974) suggest that anaphors lack internal structure and are atomic units from the beginning of the derivation. They argue that anaphors obtain their referential meaning via an interpretive rule in discourse.

The seminal work of Hankamer and Sag (1976) (hereafter H&S) proposes that there are two types of anaphors: (i) anaphors which contains internal structure, and (ii) anaphors which lack internal structure. H&S classified the former group of anaphors as *surface anaphora*, and the latter group of anaphors as *deep anaphora*.

H&S introduces three diagnostics for identifying whether an anaphor is a deep anaphor or a surface anaphor. The first diagnostic is the availability of **pragmatic control**. To be specific, deep anaphora can be interpreted by reference to a non-linguistic environment, whereas surface anaphora always requires a linguistic antecedent. The underlying logic of this diagnostic is that since deep anaphora obtains their reference by referring to some object in discourse, they have access to a non-linguistic antecedent. In contrast, surface anaphora acquires its reference by referring to previously-uttered linguistic antecedent. Thus, surface anaphora cannot access discourse referents.

Consider the two examples below. English Verb Phrase Ellipsis (VPE) illustrated in (5) is an example of a surface anaphor, and *do it* anaphora in (6) is an example of a deep anaphor.<sup>1</sup> In both of the examples, discourse information is

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<sup>1</sup> It is noteworthy to mention that according to H&S, the question of whether an anaphor is pronounced or unpronounced is orthogonal to whether it is a surface anaphor or a deep anaphor. For instance, H&S classifies English *so* as a surface anaphor even though it is a

given as 'attempting to stuff a 9-inch ball through a 6-inch hoop.' It cannot, however, serve as a linguistic antecedent because it has not been uttered explicitly. It is an action conducted by *Hankamer*, and therefore it is awkward to make use of English VPE. In contrast, responding with *do it* anaphora is fine in the same context.

(5) English VPE

[Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]

Sag: #It's not clear that you'll be able to. [H&S 1976, (3)]

(6) *Do it* anaphora

[Same context]

Sag: It's not clear that you'll be able to do it. [H&S 1976, (4)]

The second diagnostic is so-called the **Missing Antecedent Phenomenon (MAP)**. The MAP refers to a situation when a pronoun finds its antecedent within the domain of an anaphor. H&S claim that the MAP can be observed with surface anaphora, but not with deep anaphora. Example (7a) illustrates this phenomenon.

(7) English VPE

a. I've never ridden a camel, but Ivan has, and he says *it* stank horribly.

[H&S:403, (23b)]

---

pronounced pro-form. Also, Houser et al. (2007) suggest that Danish verbal pro-form *det* is a surface anaphor.

- b. I've never ridden a camel, but Ivan has [~~ridden a camel~~], and he says *it* stank horribly.

In this example, the pronoun *it* refers to a camel which Ivan has ridden. However, this camel lies within the domain of English VPE and has not been explicitly mentioned. H&S argue that the pronoun could only have acquired its reference from a missing verb phrase, of which the structure existed at the beginning of the derivation. In other words, (7a) initially had the structure of (7b), where the crossed out material corresponds to the verb phrase which was deleted as a result of English VPE.

In contrast, (8) exemplifies that *do it* anaphora, a deep anaphor, does not exhibit the MAP. H&S argue that *do it* anaphora lacks internal structure, so the pronoun *it* did not have an antecedent to refer to at any stage of the derivation.

(8) *Do it* anaphora

- \*I've never ridden a camel, but Ivan has done it, and he says *it* stank horribly.

The third diagnostic is that surface anaphora requires **syntactic identity** between its target of anaphoric process and the antecedent, whereas deep anaphora does not. H&S provide the following sentences which exhibit mismatch in voice<sup>2</sup> as an example. According to H&S, English VPE requires syntactic identity because

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<sup>2</sup> In this thesis, voice refers to a head which encodes active/passive information. It is distinguished from *v* which introduces an external argument. The distinction between the voice head and the *v* head is discussed in section 2.2.2.

it is a surface anaphor, so (9) is ungrammatical. On the other hand, *do it* anaphora is a deep anaphor and therefore (10) is grammatical.<sup>3</sup>

(9) English VPE

\*The oats had to be taken down to the bin, so Bill did. [H&S:413, (65a)]

(10) *Do it* anaphora

The oats had to be taken down to the bin, so Bill did it. [H&S:413, (65b)]

In addition to the diagnostics that H&S identified, there is another diagnostic which has been widely used in the literature: extraction. Among the diagnostics, this thesis pays special attention to possibilities in extraction, and it is the topic of the next subsection.

### 1.2.2 Extraction as evidence for internal structure

Depiante (2000) presents an additional diagnostic to distinguish surface anaphora from deep anaphora, namely extraction. Suppose that an anaphor has internal structure at the beginning of the derivation. Then we may think of a scenario where (i) an item within the internal structure moves to a position outside the domain of the anaphor, and (ii) an anaphoric process (e.g. deletion or conversion to a pro-form)

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<sup>3</sup> Houser (2010) mentions that English VPE bans voice mismatch only in a restricted environment. He notes that voice mismatch in English VPE is generally permitted. Refer to section 2.2.2 for relevant examples.

targets the internal structure. Since the item has already moved out of the target of the anaphoric process, it will appear external to the anaphor. Depiante called this movement **extraction**, and independently, (Lasnik 1995, 1999) named the extracted item a **remnant**. Note that if the anaphor lacked internal structure, extraction of the remnant would not have been possible in the first place.

(11) Availability of extraction as evidence for internal structure

Surface anaphora allows extraction out of it, whereas deep anaphora doesn't.

Examples (12) and (13) show one instance of extraction: wh-movement. English VPE allows extraction of the wh-element, whereas *do it* anaphora does not. The results are coherent to the deep and surface dichotomy.

(12) English VPE

I know which journal Mary read, but I don't know *which journal*<sub>i</sub> Sally did [~~read-<sub>i</sub>~~].

(13) *Do it* anaphora

\*I know which journal Mary read, but I don't know *which journal* Sally did it.

### 1.2.3 Anaphora with restricted possibilities in extraction

According to Depiante's (2000) proposal, if an anaphor has internal structure,

extraction out of the anaphor should have no restrictions. English VPE, for instance, can accommodate *wh*-movement, topicalization, movement of an unaccusative subject, passive movement, subject-to-subject raising, and others.

(14) Extraction possibilities of English VPE

- a. Although we don't know what John might read, we do know what Fred might. (Wh-movement)
- b. Hazelnuts, I like; peanuts, I don't. (Topicalization)
- c. John might die, and Fred might to. (Unaccusative)
- d. John might be visited by Sally, and Fred might be too. (Passive)
- e. John might seem to enjoy that, and Fred might too. (Subject-to-subject raising)

However, Baltin (2012) observes that British English *do* anaphora allows extraction in some cases, but prohibits extraction in others. Examples in (15) show that British English *do* anaphora allows movement of an unaccusative subject and subject-to-subject raising, but prohibits *wh*-movement, topicalization, and passive movement.

(15) Extraction possibilities of British English *do* anaphora

- a. \*Although we don't know what John might read, we do know what Fred might do. (Wh-movement)
- b. \*Hazelnuts, I like; peanuts, I don't do. (Topicalization)
- c. John might die, and Fred might do too. (Unaccusative)

d. \*John might be visited by Sally, and Fred might be done too. (Passive)

e. John might seem to enjoy that, and Fred might do too.

(Subject-to-subject raising)

I will call this phenomenon **restricted possibilities in extraction**. Aelbrecht (2010) presents another case that shows this 'intermediate characteristic.' Dutch root modals can leave their infinitival complement unpronounced, as in (16). Aelbrecht calls this phenomenon Dutch modal complement ellipsis (MCE).

(16) Dutch MCE

Je	mag	langs	komen	vanavond,	maar	je	moet
you	are.allowed.to	pass.by	tonight	but	you	must	
niet	[langs komen vanavond].						
not	pass.by	tonight					

'You can drop by tonight, but you don't have to.'

Aelbrecht observes that Dutch MCE allows extraction of a subject, but disallows extraction of an object. Examples in (17) are cases where a subject was extracted out of the ellipsis site. Wh-movement of a subject, movement of an unaccusative subject, passive movement, and subject-to-subject raising are all possible with Dutch MCE.

(17) Subject extraction possibilities of Dutch MCE

- a. Ik weet wie er moet komen, maar ik ben  
 I know who there must come but I am  
 vergeten **wie** er weer niet mag [~~†<sub>wie</sub> komen~~].  
 forgotten who there again not may come  
 'I know who should come, but I've forgotten who isn't allowed to.'

(Wh-movement of a subject)

- b. Erik is al langsgekomen, maar **Jenneke** moet  
 Erik is already by.passed but Jenneke must  
 nog [~~†<sub>Jenneke</sub> langskomen~~].  
 still by.pass

'Erik has already passed by, but Jenneke still has to.' (Unaccusative)

- c. Die broek moet nog niet gewassen worden, maar  
 those pants must still not washed become but  
**hij** mag al wel [~~†<sub>hij</sub> gewassen worden~~].  
 he may already <sub>PRT</sub> washed become

'Those pants don't have to be washed yet, but they can be.' (Passive)

- d. Karel moet studeren, maar **hij** kan niet [~~†<sub>hij</sub> studeren~~].  
 Karel must study but he can not study

'Karel has to study, but he can't.' (Subject-to-subject raising)

In contrast, Dutch MCE does not permit object scrambling, wh-movement of an object, and topicalization of an object. The examples are given below.

## (18) Object extraction possibilities of Dutch MCE

- a. Ik wil je wel helpen, maar ik kan (\*je) niet.  
 I want you<sub>PRT</sub> help but I can you not  
 'I want to help you, but I can't.' (Object scrambling)
- b. \*Mina heeft Kevin kunnen kussen, maar ik weet  
 Mina has Kevin can kiss but I know  
 niet **wie** Ben heeft kon.  
 not who Ben has could  
 'Mina could kiss Kevin, but I don't know who Ben could.'  
 (Wh-movement of an object)
- c. \*Ik kan de boodschappen doen, maar **de afwas** kan ik  
 I can do shopping do but the dishes can I  
 niet.  
 not  
 'I can do the shopping, but the dishes, I can't.' (Topicalization)

In short, Depiante's (2000) extraction diagnostic cannot provide a clear-cut explanation for the restricted possibility in extraction observed in British English *do* anaphora and Dutch MCE.

Despite the unclear results drawn from Depiante's extraction diagnostic, Aelbrecht (2010) and Baltin (2012) argue that Dutch MCE and British English *do* anaphora have internal structure, respectively. They independently propose that possibilities in extraction can be affected by the size of an anaphor. Among the two proposals, Aelbrecht's approach is adopted in my analysis and it will be extensively

discussed in chapter 4.

### 1.3 Scope of this thesis

I first show that *kuleh* may appear in place of various projections such as vP, a Sentential Predication (TP), a Categorical Predication, and a small clause predication. Accordingly, the domain of *kuleh* does not have one-to-one correspondence with a specific projection (e.g. vP, TP, CP, ...). Nevertheless, I suppose that the identity in morphology calls for a unified analysis. That is to say, I think that every appearance of *kuleh* can be translated into identical structure at some level. I propose that *kuleh* corresponds predications, and there exists a single anaphoric process which targets predications of any kind.

I next show that different sizes of *kuleh* results in different behavior with respect to possibilities in extraction. As for *kuleh* which appears in place of vP or a small clause, extraction is possible. As for *kuleh* which appears in place of a Sentential Predication or a Categorical Predication, extraction is prohibited.

#### (19) Asymmetry in possibilities in extraction of *kuleh*

Extraction out of *kuleh* is possible if *kuleh* appears in place of vP or a small clause. Other instances of *kuleh* forbids extraction.

Regarding this asymmetry, I suggest that there is a correlation between the size of *kuleh* and the possibilities in extraction. I account for the asymmetry by

adopting Aelbrecht's aforementioned proposal, namely Derivational Ellipsis.

This thesis is organized as follows. Chapter 2 generalizes the distribution of *kuleh* and concludes that the appearance of *kuleh* corresponds to predication. Chapter 3 presents the peculiar asymmetry in possibilities in extraction. In chapter 4, I provide an explanation for the asymmetry. Chapter 5 presents unresolved issues, and chapter 6 concludes the discussion.

## 2. Distribution of *kuleh* and Predication Ellipsis

In this chapter, I show that *kuleh* appears in various sizes. Its appearance coincides with vP, a Sentential Predication (TP), a Categorical Predication, and a small clause predication. Based on the observation, I make a generalization that the domain of *kuleh* corresponds to that of a predication. I further propose that all instances of *kuleh*, regardless of their size difference, is a result of a single anaphoric process which I call **Predication Ellipsis**.<sup>4</sup>

In discussing the distribution of *kuleh*, I will assort its appearances into three groups: (i) *kuleh* which appears within a verbal domain, (ii) *kuleh* which appears outside a verbal domain (i.e. within a clausal domain), and (iii) *kuleh* which appears within a small clause domain. I classify the first group of *kuleh* as *kuleh*<sub>verbal</sub>, the second group as *kuleh*<sub>clausal</sub>, and the third group as *kuleh*<sub>sc</sub>. Note however that this classification is for expository purposes, and I assume that they all appear as a result of a single anaphoric process.

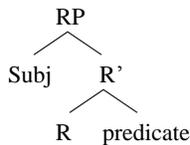
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<sup>4</sup> I use the term 'Predication Ellipsis,' instead of 'pro-predication' or 'predication anaphora,' for two reasons. First, I intend to argue that *kuleh* requires a licenser, just as other ellipsis phenomena. The licensing of *kuleh* is covered in detail in section 4.2.1. Second, I intend to make a clear statement that *kuleh* has internal structure. In some literature, Houser (2010) for instance, use the term 'pro-form' to refer to deep anaphora. In their view, using the term 'pro-form' implies that an anaphor does not have internal structure. I will show in chapter 3 that extraction possibilities of *kuleh* evidence that it has internal structure, and therefore use the term 'Predication Ellipsis' to avoid a potential complication of misjudging *kuleh* as a deep anaphor.

## 2.1 Preliminary: Assumptions on predication relation

Following Den Dikken (2006), I use the term **predication** to denote a syntactic configuration where a functional head takes a subject and a predicate as its dependents. Den Dikken's syntactic representation of a predication is depicted in (20).<sup>5 6</sup>

(20) The syntactic configuration of predication (Den Dikken 2006)



In the above figure, R stands for a RELATOR head. Den Dikken proposes that predication relations are always mediated by a RELATOR. It is an abstract functional head, which means that it is neither a novel lexical category nor a specific functional element. Any functional head can serve as a RELATOR if it accommodates a subject and a predicate in its minimal domain.

Den Dikken uses the term 'subject' to refer to not only a thematic subject (the external argument), but also a logical subject (the topic or theme of a sentence).

---

<sup>5</sup> Although I have omitted the details for the sake of simplicity, Den Dikken (2006) argues that there is no 'directionality' on predication relationships. That is, a subject does not necessarily occupy a specifier position of a RELATOR, but can reside in a complement position. Similarly, a predicate can occupy a specifier position rather than a complement position.

<sup>6</sup> I acknowledge that it is difficult to determine whether all predication relations are syntactically represented. In fact, some literatures advocate the semantic representation analysis. I currently do not have further evidence for either of the proposals.

In this sense, Den Dikken claims that unaccusative predicates have a subject despite the fact that they lack an external argument.

## 2.2 *kuleh* within a verbal domain

### 2.2.1 Core assumption: *kuleh* and *kule* are allomorphs

Before I present my argument, I will make an important assumption: *kuleh* has an allomorph, which I prescribe as *kule*. This allomorphy only arises in the verbal domain. *kuleh* appears when the antecedent is a stative verb, and *kule* occurs when the antecedent is a non-stative one. In the clausal domain, *kuleh* appears irrespectively of the verb type. The instances of *kuleh* and *kule* are given below.

- (21) a. Chelswu-ka      Yeonghuy-lul      cohaha-n-ta.  
          Chelswu-NOM      Yeonghuy-ACC      like-PRES-DECL  
          ‘Chelswu likes Yeonghuy.’

- b. Minho-to      kuleh- $\emptyset$ -ta.  
          Minho-also      kuleh<sub>Verbal</sub>-PRES-DECL  
          ‘Minho does too.’

- (22) a. Chelswu-ka      Yeonghuy-lul      ttayli-n-ta.  
          Chelswu-NOM      Yeonghuy-ACC      hit-PRES-DECL  
          ‘Chelswu hits Yeonghuy.’

- b. Minho-to            kule-n-ta.  
 Minho-also        kuleh<sub>Verbal-PRES-DECL</sub>  
 ‘Minho does so too.’

There are two reasons to believe that they are allomorphs. First, the difference in overt form is limited to the case when they are inflected with present tense. When inflected with past tense, they both appear as *kulay*.<sup>7</sup>

- (23) a. Chelswu-ka        Yeonghuy-lul        cohahay-ss-ta.  
 Chelswu-NOM        Yeonghuy-ACC        like-PAST-DECL  
 ‘Chelswu liked Yeonghuy.’

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<sup>7</sup> The vowel of *kulay*, which is *-ay*, seems to appear as a result of a regular phonological alternation. Suppose that there is a verbal/adjectival stem which ends with a consonant *-h*. If this stem is inflected with past tense, a vowel which immediately precedes the consonant *-h* appears at surface as *-ey*. This is shown in (i).

- (i) a. kkoch-i        nolah- $\emptyset$ -ta.  
 flower-NOM        yellow-PRES-DECL  
 ‘The flower is yellow.’  
 b. kkoch-i        noley-ss-ta.  
 flower-NOM        yellow-PAST-DECL  
 ‘The flower was yellow.’

It is not surprising that *kuleh* appears as *kulay* when inflected with past tense, but it is interesting to observe that *kule* also appears as *kulay*. Unlike *kule*, other stems that end with a vowel *-e* do not display such allomorphy. Normally, those stems maintain their original form when inflected with past tense. The example is given in (ii). The fact that *kule* patterns together with the stems that end with *h*, but not with the ones that end with *-e*, hints that *kule* is an allomorph of *kuleh*.

- (ii) a. Chelswu-ka        kang-ul        kenne-n-ta.  
 Chelswu-NOM        river-ACC        CROSS-PRES-DECL  
 ‘Chelswu is crossing the river.’  
 b. Chelswu-ka        kang-ul        kenne-ss-ta.  
 Chelswu-NOM        river-ACC        CROSS-PAST-DECL  
 ‘Chelswu crossed the river.’

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- b. Minho-to            kulay-ss-ta.  
Minho-also            kuleh<sub>Verbal-PAST-DECL</sub>  
'Minho did too.'

- (24) a. Chelswu-ka        Yeonghuy-lul        ttayli-ess-ta.  
Chelswu-NOM        Yeonghuy-ACC        hit-PAST-DECL  
'Chelswu hit Yeonghuy.'

- b. Minho-to            kulay-ss-ta.  
Minho-also            kuleh<sub>Verbal-PAST-DECL</sub>  
'Minho did so too.'

*kuleh* and *kule* both appear as *kule* when inflected with future tense. This strengthens the argument that they are indeed allomorphs.

- (25) a. Chelswu-ka        Yeonghuy-lul        cohaha-l kesi-ta.  
Chelswu-NOM        Yeonghuy-ACC        like-FUT-DECL  
'Chelswu will like Yeonghuy.'

- b. Minho-to            kule-l kesi-ta.  
Minho-also            kuleh<sub>Verbal-FUT-DECL</sub>  
'Minho will too.'

- (26) a. Chelswu-ka        Yeonghuy-lul        ttayli-l kesi-ta.  
Chelswu-NOM        Yeonghuy-ACC        hit-FUT-DECL  
'Chelswu will hit Yeonghuy.'

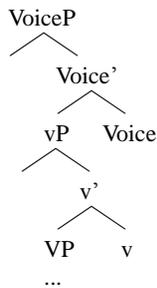
- b. Minho-to kule-l kes-ta.  
 Minho-also kuleh<sub>Verbal-FUT-DECL</sub>  
 ‘Minho will do so too.’

Second, historical facts tell that *kuleh* and *kule* were both derived from Middle Korean *kuleh* (Yang 1998). Therefore, without further evidence that suggests they behave differently in syntax, I will assume that they are allomorphs.

### 2.2.2 Structure of a verb phrase

I assume that a verb phrase has a structure depicted in (27).

(27)



Following Collins (2005) and Merchant (2008, 2012), I distinguish VoiceP from vP. Collins observes that in Kiswahili, a morpheme *-w-* marks passive voice, as in (28b).

(28) a. Mama yangu a-li-tengenez-a shati langu.

mother my <sub>1</sub>AGR-PAST-made-FV shirt my

'My mother made my shirt.'

b. Shati langu li-li-tengenz-w-a na mama yangu.

shirt my <sub>5</sub>AGR-PAST-made-PASS-FV by mother my

'My shirt was made by my mother.' [Collins 2012:86, (12)]

In light of this morphological evidence, Collins assumes that VoiceP is a projection distinct from vP. Voice encodes active/passive information of a verb, and v introduces the verb's external argument.

Merchant (2008, 2012) provides another reason to distinguish VoiceP from vP. Merchant observes that voice mismatch is not allowed in so-called high ellipses (e.g. sluicing, fragment answers, gapping, and stripping). In contrast, English VPE, which Merchant regards as a low ellipsis, tolerates mismatch in voice. (29) and (30) show representative examples of high and low ellipses.

(29) Voice mismatch in sluicing (High ellipsis)

\*Joe was murdered, but we don't know who. [Merchant 2012, (5)]

(30) Voice mismatch in English VPE (Low ellipsis)

The janitor must remove the trash whenever it is apparent that it should be.

[Merchant 2012, (1a)]

Merchant also notes that unlike the contrast observed in voice mismatches,

high ellipses and low ellipsis behave uniformly with respect to argument structure alternation. That is, they both do not allow any kind of argument structure alternation. (31) and (32) show that Greek sluicing and English VPE do not tolerate subject/non-subject alternation, respectively.

(31) Subject/non-subject alternation in Greek sluicing<sup>8</sup>

Eklišan      ena      ðromo,      alla ðen ksero      **pjon/\*pjos.**  
 closed.3p      a.ACC      road.ACC      but not know.1s which.ACC/NOM  
 (intended: 'They closed a road, but I don't know which one.')

(32) Subject/non-subject alternation in English VPE

This can freeze. \*Please do.

In order to explain why high ellipses and low ellipsis behave differently with respect to voice mismatch but identically with respect to argument structure alternation, Merchant proposes that Voice and *v* have to be distinguished. He suggests that the domain of English VPE is *v*P, which leaves out VoiceP. Therefore, VoiceP, which encodes active/passive information, is excluded in calculating the identity condition in ellipsis. As a result, English VPE tolerates mismatch in voice.

In contrast, the *v* head is within the domain of English VPE and thus is included in calculating the identity condition. Since the *v* head determines the

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<sup>8</sup> Merchant wasn't able to provide an English sluicing example because in English, the lack of case morphology makes it impossible to distinguish a nominative-marked *wh*-phrase from an accusative-marked one. On the other hand, the Greek sluicing example in (31) clearly shows that the *wh*-phrase has to be marked with accusative case.

argument structure of a verb, the elided verb phrase and its antecedent are required to have identical argument structure.

As for higher ellipses such as sluicing, both VoiceP and vP are included within the domain of ellipsis, and Merchant thus argue that voice mismatch and argument structure alternation are both disallowed.<sup>9</sup>

### 2.2.3 Distribution: *kuleh*<sub>Verbal</sub> corresponds to vP

I propose that *kuleh*<sub>Verbal</sub> appears in place of vP. In previous literatures, *kuleh*<sub>Verbal</sub> has been treated as the Korean counterpart of English *do so*. However, this is not a precise description because unlike English *do so*, *kuleh*<sub>Verbal</sub> can take a stative verb as its antecedent. The example was previously given in (21). Also, it is compatible with predicative adjectives as in (33). It does not impose any restriction on the type of predicate phrases it can take as its antecedent.

- (33) a. Yeonghuy-uy            pol-i            ppalkah-ø-ta.  
          Yeonghuy-GEN        cheek-NOM     red-PRES-DECL  
          ‘Yeonghuy’s cheek is red.’

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<sup>9</sup> However, the diagnostic given by Merchant (2008, 2012) is not uncontroversial. Gengel (2007) provides English pseudogapping examples that allow voice mismatch. Due to this obscurity, Aelbrecht (2010) considers English VP-ellipsis and pseudogapping to both elide vP. Also, Sailor (2012) observes that voice mismatch is not an inherent property of a specific ellipsis phenomenon, but is rather related to whether the antecedent and the target sentence are linked via coordination or conjunction.

- b. Swuni-uy pol-to kuleh- $\emptyset$ -ta.  
 Swuni-<sub>GEN</sub> cheek-also kuleh<sub>Verbal</sub>-PRES-DECL.  
 (Lit.) ‘Swuni’s cheek is so too.’

The exact size of *kuleh*<sub>Verbal</sub> is vP, where a subject and a predicate initially establish a predication relation. It does not appear in place of VP nor VoiceP. I will provide three pieces of evidence that suggests *kuleh*<sub>Verbal</sub> is bigger than VP. The first evidence comes from the distribution of subject/object depictives with respect to *kuleh*<sub>Verbal</sub>. Koizumi (1994) argues that subject depictive phrases (SDP) and object depictive phrases (ODP) occupy different structural positions. Ko (2011) reinterprets his analysis and claims that the former is merged to either vP or some projection above vP, whereas the latter is merged to VP. If my assumption that *kuleh*<sub>Verbal</sub> corresponds to a projection bigger than VP is correct, the following prediction will arise: ODP is obligatorily included within the ellipsis site, whereas SDP may or may not be included. The prediction is borne out. Only the SDP may be stranded outside the ellipsis site.

- (34) a. Chelswu-ka nachey-lo chamchi-lul mek-ess-ta.  
 Chelswu-<sub>NOM</sub> naked-<sub>LO</sub> tuna-<sub>ACC</sub> eat-<sub>PAST</sub>-DECL  
 ‘Chelswu ate the tuna naked.’
- b. Minho-to (?nachey-lo) kulay-ss-ta.  
 Minho-also naked-<sub>LO</sub> kuleh<sub>Verbal</sub>-<sub>PAST</sub>-DECL  
 ‘Minho did so (naked) too.’

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- (35) a. Chelswu-ka      chamchi-lul      nal-lo      mek-ess-ta.  
          Chelswu-NOM      tuna-ACC      raw-LO      eat-PAST-DECL

‘Chelswu ate the tuna raw.’

- b. Minho-to      (\*nal-lo)      kulay-ss-ta.  
          Minho-also      raw-LO      kuleh<sub>Verbal</sub>-PAST-DECL

‘Minho did so (raw) too.’

The second evidence comes from the asymmetry in stranding *tto* ‘again (repetitive)’ and *tolo* ‘again (restitutive)’. In Korean, there are three adverbs which can be construed as the counterpart of English *again*: (i) *tto*, (ii) *tolo*, and (iii) *tasi*. Ko (2011) demonstrates that *tto* bears a repetitive meaning, while *tolo* bears a restitutive meaning. *tasi* is ambiguous between the two meanings, just as English *again* is. This is exemplified by providing a context which can be understood exclusively as either repetitive or restitutive.

- (36) a. Chulswu-ka      khwukhi-lul      tasi/tto/#tolo      kwu-ess-ta.  
          Chulswu-NOM      cookie-ACC      again      bake-PAST-DECL

‘Chulswu baked cookies again.’ (repetitive, #restitutive) [Ko 2011, (74)]

- b. [Context: ‘This beautiful cave had never been closed before the avalanche in 1929. But the great avalanche closed the cave completely. Everybody worked very hard to open the cave, and finally ...’]

Kwunintul-i      ku      tongkwul-ul      tasi/tolo/#tto

soldiers-NOM      that      cave-ACC      again

yel-ess-ta.

open-PAST-DECL

‘Soldiers opened the cave again.’ (restitutive, #repetitive) [Ko 2011, (75)]

Ko (2011) also adopts the analyses of von Stechow (1996) and Beck and Johnson (2004) which suggest that the different readings of *again* are due to different merge sites. To be specific, *again* has a repetitive meaning when it is merged to vP and has a restitutive meaning when it is merged to VP. Based on this analysis, Ko claims that Korean *tto* is unambiguously merged to vP and *tolo* to VP. On the other hand, *tasi* can be merged to either vP or VP, producing an ambiguous interpretation.

I follow Ko’s analysis in that the three items are distinct in their merge sites. This can be used as a diagnosis to find the exact ellipsis site. If my assumption that *kuleh*<sub>Verbal</sub> corresponds to vP is on the right track, the prediction is as follows: (i) *tolo* (restitutive *again*) will not appear external to *kuleh*<sub>Verbal</sub> since it is merged within VP and is obligatorily included in the ellipsis site. (ii) *tto* (repetitive *again*) has a chance to survive ellipsis because it is adjoined to vP. The prediction is borne out. First, *tolo* (restitutive *again*) cannot occur outside *kuleh*<sub>Verbal</sub> as in (37).

- (37) a. nwu-ka ku tongkwul-ul (tolo) yel-ess-ni?  
 who-NOM that cave-ACC again open-PAST-Q  
 ‘Who closed the cave (again)?’
- b. Kwunintul-i (\*tolo) kulay-ss-eyo.  
 soldiers-NOM again kuleh<sub>Verbal</sub>-PAST-DECL  
 ‘Soldiers did (again).’

In contrast, *tto* (repetitive *again*) can appear external to *kuleh*<sub>Verbal</sub> as in (38). This implies that *kuleh*<sub>Verbal</sub> must target a projection bigger than VP and thus validates my assumption.

- (38) a. nwu-ka khwukhi-lul (tto) kwu-ess-ni?  
 who-NOM cookie-ACC again bake-PAST-Q  
 ‘Who baked the cookies (again)?’
- b. ?Chelswu-ka tto kulay-ss-eyo.  
 Chelswu-NOM again kuleh<sub>Verbal</sub>-PAST-DECL  
 ‘Chulswu did (again).’

The final evidence comes from Korean causativization. Korean has a causative morpheme which is realized on *v*. (Jung and Miyagawa 2004, Kim 2008, and Ko and Sohn 2011)<sup>10</sup> This causative morpheme is obligatorily included within

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<sup>10</sup> Kim (2008) presupposes that the Korean morphological causative affix is realized on a Voice head. However, the Voice head he postulates is not distinguished from little *v* in his work. I separate Voice from the causative *v* head because a passive morpheme can be

the ellipsis site, as seen in (39).

- (39) a. Chelswu-ka ai-eykey os-ul ip-hi-ess-ta.  
 Chelswu-NOM child-DAT clothes-ACC wear-CAUS-PAST-DECL  
 ‘Chelswu made the child wear the clothes.’
- b. Minho-to (ai-eykey) kulay-(\*hi)-ss-ta.  
 Minho-also child-DAT kuleh<sub>Verbal</sub>-CAUS-PAST-DECL  
 ‘Minho did so too.’

So far, I have shown that *kuleh<sub>Verbal</sub>* is bigger than VP. I now show that it is smaller than VoiceP. There are two reasons to believe so. First, *kuleh<sub>Verbal</sub>* allows mismatch in voice. I assume along with Merchant (2008, 2012) that the allowance of voice mismatch implies that the Voice head is external to the ellipsis site.

- (40) a. swuhak-chayk-i Chelswu-ey uyhey ccic-eci-ess-ni?  
 math-book-NOM Chelswu-by rip-PASS-PAST-Q  
 ‘Was the math book ripped by Chelswu?’

---

stacked on a causative morpheme.

- (i) Chelswu-ka koki-ey ppangkalu-lul ip-hi-eci-key  
 Chelswu-NOM meat-DAT bread crumb-ACC wear-CAUS-PASS-CAUS  
 ha-ess-ta.  
 do-PAST-DECL  
 ‘Chelswu caused the meat to be covered with bread crumbs.’

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- b. Ung, Chelswu-ka kule-l iyu-ka iss-ess-e.  
 yes Chelswu-NOM kuleh<sub>Verbal</sub>-REL reason-NOM exist-PAST-DECL  
 ‘Yes, Chelswu had a reason to do so.’

(41) a. [CP [TP swuhak-cheyk-i<sub>i</sub> [VoiceP Chelswu-ey uyhey [VP t<sub>i</sub> ccic ] -eci<sub>[Passive]</sub> ]  
 -ess ] -ni ]

b. [DP [CP [TP Chelswu-ka [VoiceP [VP [DP swuhak-cheyk-ul] ccic-]  $\emptyset$  [Active] ]  $\emptyset$  ] -l ]  
 iyu-ka ]

kuleh appears in place of vP
Voice mismatch

In addition, the passive morpheme *-(e)ci* can be stacked on *kuleh<sub>Verbal</sub>*. This also shows that the Voice head is external to *kuleh<sub>Verbal</sub>*.

(42) inkan-uy conemseng-i neypeyngkyechi-eci-nun  
 human-GEN dignity-NOM throw-PASS-REL  
 sesang-ey nacungey na-to kulay-ci-l swu iss-ta-nun  
 world-DAT later I-also kuleh<sub>Verbal</sub>-PASS-can-DECL-REL  
 tulyeum-i seyngki-n-ta.  
 fear-NOM arise-PRES-DECL

(Lit.) ‘In a world where human dignity is thrown away, fear arises such that I can also be so.’  
 = ‘I can also be thrown away.’

I have shown that *kuleh<sub>Verbal</sub>* corresponds to vP, not VP nor VoiceP. As

mentioned earlier, this is where the predication relation is established. I thus conclude that *kuleh*<sub>verbal</sub> targets a predication in a verbal domain.

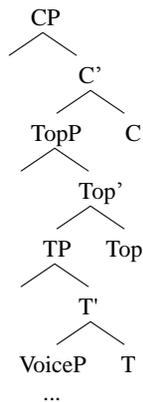
### 2.3 *kuleh* in a clausal domain

I claim in this section that in a clausal domain, the appearance of *kuleh*<sub>clausal</sub> coincides with that of a predication. This includes TP which is a Sentential Predication in Korean, and a Categorical Predication.

#### 2.3.1 Structure of a full clause

I assume that a full clause has a structure depicted in (43).

(43)



TopP is reminiscent of Basilico (2003).<sup>11</sup> It introduces a Categorical Subject, or more specifically, a Major Subject. A Categorical Subject is a subject of a Categorical Predicate. In literature, there has been a distinction between a Categorical Predication and a Thetic Predication. Kuroda (1972) notes that there is difference in judgments between a Categorical Predication and a Thetic Predication. Kuroda's view is reinterpreted by Ladusaw (1994) in a way that a Thetic Predication is 'an existential commitment of an **eventuality**,' whereas a Categorical Predication is 'an affirmation or denial of a **property** to an object.'

Based on Hebrew and Japanese data, Heycock and Doron (2003) relate the notion of a Major Subject to that of a Categorical Subject. A Major Subject is the initial nominative-marked element in a multiple nominative construction. An example is given in (44), where *sukottorando* 'Scotland' serves as a Major Subject. The second nominative-marked element, *yama* 'mountains,' is a Grammatical subject.

- (44)    *sukottorando-ga yama-ga    ooi            (koto)*  
           Scotland-NOM    mountains    numerous    (fact)  
           'Scotland has numerous mountains.'    [Heycock and Doron 2003, (19b)]

Heycock and Doron note that the interpretive properties of a Major Subject are identical to that of a Categorical Subject. In interpreting a multiple nominative construction, the Major Subject is 'singled out' from the rest of the sentence, and its

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<sup>11</sup> Basilico's proposal will be discussed in detail in section 2.4.1.

(characteristic) property is either affirmed or denied. This is what we see in the interpretation of the Categorical Subject, and Heycock and Doron conclude that Major Subjects are Categorical Subjects.

Concerning the base position of the Major Subject, Heycock and Doron argue that it is located above a Grammatical subject. In other words, it does not undergo movement from a lower base position to a higher surface position. Heycock and Doron present three pieces of evidence. First, a Major Subject can co-occur with a pronoun in the gap position, as exemplified in (45).

- (45) ?**John**<sub>i</sub>-ga kyonen-no natu-ni (**kare**<sub>i</sub>-no) titioya-ga  
 John-NOM last.year-GEN summer-in he-GEN father-NOM  
 nyuuin-sita.  
 hospitalised

'It is John whose (his) father was hospitalised summer last year.'

[Tateishi 1991: 270]

Second, a Major Subject and a Grammatical subject do not display scope ambiguity. Consider, for instance, the Hebrew data in (46). (46a) shows an example where *hacagot tovot* 'good plays' is a grammatical subject. In this example, the grammatical subject can either take wide or narrow scope relative to the adverb *midey pa'am* 'every now and then.' Such scope ambiguity is not observed in (46b), where *hacagot tovot* 'good plays' is a Major Subject.

- (46) a. hacagot tovot 'olot midey pa'am  
 plays good are-performed every now and then  
 'Good plays are performed every now and then.'
- b. hacagot tovot ma'alim ot-an midey pa'am  
 plays good they-perform ACC-them every now and then  
 'Good plays are performed every now and then.'

[Heycock and Doron 2003, (29)]

Third, a Major Subject does not allow 'idiom reconstruction.' According to Heycock and Doron, the Hebrew idiom *to blunt someone's teeth* means *to scold someone*. This idiomatic meaning is maintained even if the *someone's teeth* portion undergoes movement. This is exemplified in (47a), where *Sin-av Sel Dani* 'Dani's teeth' underwent movement. In contrast, when the same element *Sin-av Sel Dani* 'Dani's teeth' appears as a Major Subject as in (47b), the sentence loses its idiomatic meaning.

- (47) a. Sin-av Sel dani kvar hukhu pe'amim rabot  
 teeth-his<sub>GEN</sub> Dani already were-blunted times many  
 (Lit.) 'I have blunted Dani's teeth many times.'  
 = 'Dani has been scolded many times.'
- b. Sin-av Sel dani kvar hikhu ot-an pe'amim rabot  
 teeth-his<sub>GEN</sub> Dani already blunt ACC-them times many  
 'Dani's teeth have been blunted many times.'

I assume along with Heycock and Doron that Major Subjects are base-generated above the grammatical subject. Accordingly, I posit TopP above TP, and its specifier provides the base position for the Major Subject.

### 2.3.2 Distribution: *kuleh*<sub>Clausal</sub> corresponds to Sentential Predication and Categorical Predication

I first show that some instances of *kuleh*<sub>Clausal</sub> corresponds to TP, although many literatures analyzed them as an embedded CP pro-form. This is probably due to the fact that it is usually accompanied by a suffix *-key*, as exemplified in (48b). In this sentence, *kuleh*<sub>Clausal</sub> suffixed with the *-key* morpheme appears in place of embedded CP.

- (48) a. na-nun      Yeonghuy-ka      Chelswu-lul      cohaha-n-tako  
           I-TOP          Yeonghuy-NOM      Chelswu-ACC      like-PRES-COMP  
           mit-nun-ta.  
           believe-PRES-DECL  
           ‘I believe that Yeonghuy likes Chelswu.’
- b. na-to      kuleh-key      mit-nun-ta.  
           I-also      kuleh<sub>Clausal</sub>-KEY      believe-PRES-DECL  
           ‘I believe so too.’

But recently, Park (2013) and Park and Yoo (2013) posited *kuleh*<sub>Clausal</sub> as an

embedded TP pro-form, leaving out the *-key* suffix. Their analysis seems sound as I found supporting evidence: *kuleh<sub>Clausal</sub>* can appear independently of *-key* suffixation. It can also take a nominalizer *-ki* as well. In (49b), *kuleh<sub>Clausal</sub>* and the nominalizer *-ki* is topicalized. It seems to contain tense information because the sentence clearly depicts an event which has occurred in the past. In addition, the sentence is ungrammatical if a nominative-marked subject is present. This contrasts (49c) where tense information was stranded. In this case, *kuleh<sub>Verbal</sub>* is topicalized along with the nominalizer and a nominative-marked subject can appear. Lastly, (49d) shows that if *kuleh<sub>Clausal</sub>* is topicalized and the tense morpheme is stranded at the same time, the sentence is ungrammatical. This led me to conclude that *kuleh<sub>Clausal</sub>* should be separated from the suffix *-key*. As for the suffix *-key*, I tentatively assume that it is a clausal marker.<sup>12</sup>

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<sup>12</sup> It is controversial whether the suffix *-key* is an adverbializing element, a complementizer, a predicativizer, or a marker. Although the status of this suffix is out of scope of this paper, I speculate that it is not a head which projects the outermost projection of a clause. In the examples below, the *-key* suffix seems to have no effect on the c-selection of the matrix verb *mit* ‘believe’. We can observe in (i) that the matrix verb *mit* ‘believe’ cannot select for a *-key* type small clause. In contrast, (iia) shows that it can select for CP. The interesting part is (iib), where *kuleh-key* occurs in place of the embedded CP. It is suffixed with the *-key* morpheme and is nevertheless grammatical.

- |      |   |                               |                   |                   |
|------|---|-------------------------------|-------------------|-------------------|
| (i)  | *Chelswu-nun                                  | Yeonghi-lul                   | taytanha-key      | mit-nun-ta.       |
|      | Chelswu-TOP                                   | Yeonghi-ACC                   | excellent-KEY     | believe-PRES-DECL |
|      | ‘Chelswu believes Yeonghi (as) excellent.’    |                               |                   |                   |
| (ii) | a. Chelswu-nun                                | Yeonghi-lul                   | taytanha-tako     | mit-nun-ta.       |
|      | Chelswu-TOP                                   | Yeonghi-ACC                   | excellent-COMP    | believe-PRES-DECL |
|      | ‘Chelswu believes that Yeonghi is excellent.’ |                               |                   |                   |
|      | b. Minho-to                                   | kuleh-key                     | mit-nun-ta.       |                   |
|      | Minho-also                                    | kuleh <sub>Clausal</sub> -KEY | believe-PRES-DECL |                   |
|      | ‘Minho believes so too.’                      |                               |                   |                   |

Based on the assumption that the matrix verb c-selects for the outermost projection of the

- (49) a. Chelswu-ka ecey Yeonghuy-lul ttayli-ess-e?  
 Chelswu-NOM yesterday Yeonghuy-ACC hit-PAST-Q  
 ‘Did Chelswu hit Yeonghuy yesterday?’
- b. (\*Chelswu-ka) kuleh-ki-nun ha-ntey, ...  
 Chelswu-NOM kuleh<sub>Clausal-NOMINALIZER-TOP</sub> do-but  
 ‘(Chelswu) did, but...’
- c. (Chelswu-ka) kule-ki-nun ha-ess-nuntey, ...  
 Chelswu-NOM kuleh<sub>Verbal-NOMINALIZER-TOP</sub> do-PAST-but  
 ‘(Chelswu) did, but...’
- d. \*?**kuleh**-ki-nun ha-ess-nuntey, ...  
 kuleh<sub>Clausal-NOMINALIZER-TOP</sub> do-PAST-but  
 ‘(He) did, but...’

*kuleh*<sub>Clausal</sub> can also appear in place of TP in a matrix clause. In (50b), *kuleh*<sub>Clausal</sub> contains the grammatical subject *kkoch-i* and the past tense morpheme –*ess*. I consider the stranded nominative-marked element *Kwanak-san-i* to be base-merged at a higher position than TP.

---

embedded clause, I posit two possibilities. First, *-key* is a marker and does not project itself. In this case, there would be a null complementizer for the examples in (ii), which is selected by the matrix verb. Second, *-key* is a head (possibly a relator) but it is not the outermost projection. The null complementizer should exist for this case as well. I do not have further evidence to determine which analysis is correct and will leave it for future study.

(50) a. Kwanak-san-i                      yesnal-ey      kkoch-i      manhi  
          Kwanak-mountain-NOM      past-at      flower-NOM      much  
          pi-ess-ess-ta.

bloom-<sub>PERF-PAST-DECL</sub>

‘In Kwanak Mountain, flowers bloomed a lot in the past.’

b. Pukhan-san-to                              kuleh-ta.

Pukhan-mountain-also                      kuleh<sub>Clausal-DECL</sub>

(Lit.) ‘Pukhan Mountain so.’

*kuleh* appears in place of matrix TP (Sentential Predication)

(51) [CP [TopP Pukhan-san-to [TP ~~yesnal-ey~~ ~~kkoch-i~~ [<sub>VoiceP</sub> manhi pi] ess-ess-] ] ta ]

I propose that this TP forms a predication, which is dubbed **Sentential Predication** (Ko to appear). Also, I claim that the stranded element is a Major Subject. This TP already consists of a grammatical subject and a predicate, which form a predication.<sup>13</sup> The TP is also predicated on the stranded element to denote a characteristic property of it.

I now show that *kuleh*<sub>Clausal</sub> can substitute a **Categorical Predication**. A Categorical Predication consists of a Major Subject and a Sentential Predication. If *kuleh*<sub>Clausal</sub> appears in place of it, we get an affirmative answer as in (52).<sup>14</sup> The high adverbs in the CP periphery remains intact as they are external to the domain

<sup>13</sup> Ko (to appear) also demonstrates that such TPs are already complete predicational units. Also in Ko's analysis, the base position of the Major Subject is higher than that of the grammatical subject.

<sup>14</sup> The affirmative answer can also be used as a reply to a yes/no question on athetic judgment. In this case, it is likely that TP (Sentential Predication) is the target for ellipsis, not the Categorical Predication.

of *kuleh*<sub>Clausal</sub>.

- (52) a. Kwanak-san-i                      pom-mata              kkoch-i              manhi  
           Kwanak-mountain-NOM      spring-every              flower-NOM      much  
           pi-nun-ka?  
           bloom-PRES-Q

‘In Kwanak Mountain, do flowers bloom a lot every spring?’

- b. (amato/hwaksilhi)      kuleh-ta.  
           maybe/certainly      kuleh<sub>Clausal-DECL</sub>

‘(Maybe/certainly) so.’

kuleh appears in place of TopP (Categorical Predication)

- (53) [<sub>CP</sub> amato [<sub>TopP</sub> ~~Kwanak-san-i~~ [<sub>TP</sub> ~~pom-mata~~ ~~kkoch-i~~ [<sub>VoiceP</sub> ~~manhi-pi-n-~~]]] ta ]

In summary, *kuleh*<sub>Clausal</sub> appears in place of a predication in the clausal domain. It corresponds to either a Sentential Predication or a Categorical Predication.

## 2.4 *kuleh* in a small clause domain

In this section, I show that *kuleh*<sub>SC</sub> may appear in place of various types of small clauses. Following Den Dikken (2006) and Ko (2011), I assume that small clauses form independent predication domain. I thus conclude that *kuleh*<sub>SC</sub> corresponds to predication as well.

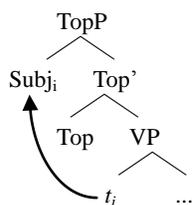
### 2.4.1 Structure of a small clause

Basilico (2003) notes that English small clauses have to be classified into two groups: (i) adjectival small clauses which are Categorical Predications, and (ii) verbal small clauses which are Thetic Predications. Basilico observes that a raising verb can only take the adjectival small clauses as its complement.

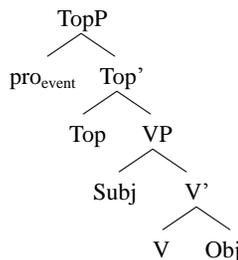
- (54) a. The prisoner seems intelligent.  
 b. \*The prisoner seems leave every day at noon. [Basilico 2003, (5)]

In order to account for the contrast, Basilico proposes that Categorical Subjects and Thetic Subjects occupy different structural positions. Basilico's proposed structure is depicted in (55).

(55) a. Categorical Subject



b. Thetic Subject

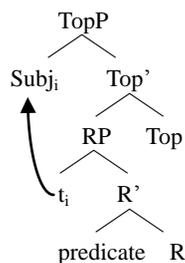


The base position of a Categorical Subject and a Thetic Subject are both Spec,VP, where VP is a verb phrase. However, only the Categorical Subject moves to Spec,TopP, where it is interpreted as a 'topic' of a small clause. On the other hand,

the Thetic Subject remains in its position because it cannot be interpreted as a 'topic', unlike the Categorical Subject. Instead, a spatio-temporal event argument (expressed as a null *pro*) resides in Spec,TopP and function as the 'stage topic' for the small clause. Basilico argues that conditions in locality allows the higher-positioned Categorical Subject to undergo passive movement, but prohibits the lower-positioned Thetic Subject to do so.

I assume that Basilico's TopP is universal to all languages. I refine Basilico's small clause structure and assume that a Korean small clause has a structure depicted in (56). I have made two changes to Basilico's original structure. First, I posited RP (RELATORP) to conform to Den Dikken's (2006) proposal that predication relation is mediated by a functional head. Second, I did not include the object because it is irrelevant to my discussion.

(56)



#### 2.4.2 *kuleh*<sub>SC</sub> corresponds to a small clause predication

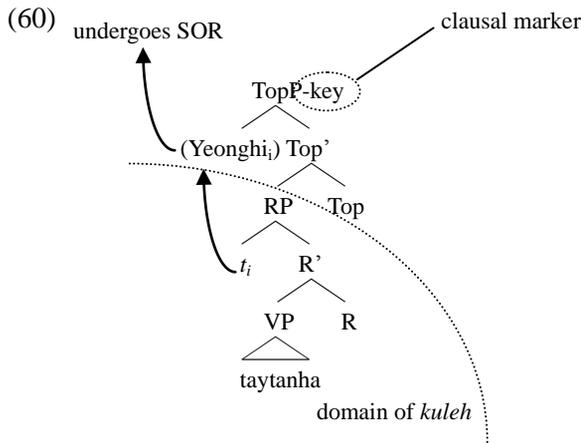
In (57), (58), and (59), *kuleh*<sub>SC</sub> appears in place of a *key*-type small clause, a *lo*-type small clause, and a resultative, respectively.

Elliptical Predications in Korean

- (57) a. Chelswu-nun      Yeonghuy-lul      taytanha-key      sayngkakha-n-ta.  
           Chelswu-TOP      Yeonghuy-ACC      excellent-KEY      think-PRES-DECL  
           ‘Chelswu thinks Yeonghuy (as) excellent.’
- b. Minho-to            (Yeonghuy-lul)      kuleh-key      sayngkakha-n-ta.  
           Minho-also          Yeonghuy-ACC      kuleh<sub>SC</sub>-KEY      think-PRES-DECL  
           ‘Minho thinks so too.’
- (58) a. Chelswu-nun      Yeonghuy-lul      chencay-lo      po-n-ta.  
           Chelswu-TOP      Yeonghuy-ACC      genius-LO      see-PRES-DECL  
           ‘Chelswu sees Yeonghuy (as) a genius.’
- b. Minho-to            (Yeonghuy-lul)      kuleh-key      po-n-ta.  
           Minho-also          Yeonghuy-ACC      kuleh<sub>SC</sub>-KEY      see-PRES-DECL  
           (Lit.) ‘Minho sees so too.’
- (59) a. Chelswu-ka      Yeonghuy-lul      phal-i      pwule-ci-key  
           Chelswu-NOM      Yeonghuy-ACC      arm-NOM      break-PASS-KEY  
           ttayly-ess-ta.  
           hit-PAST-DECL  
           ‘Chelswu hit Yeonghuy (so her) arm breaks.’
- b. Minho-to            (Yeonghuy-lul)      kuleh-key      ttayly-ess-ta.  
           Minho-also          Yeonghuy-ACC      kuleh<sub>SC</sub>-KEY      hit-PAST-DECL  
           (Lit.) ‘Minho hit (Yeonghuy) so too.’

Figure (60) is an illustration of the small clause given in (57b). The domain

corresponds to RP, which forms a predication. I assume again that the suffix *-key* is located outside the predication, and it is a marker denoting the clausal status of TopP.<sup>15</sup>



## 2.5 Interim summary and proposal

In section 2.2, I argued that the appearance of *kuleh* within a verbal domain coincides with vP. In section 2.3, I showed that *kuleh* which appears within a

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<sup>15</sup> In literature, the *-key* suffix is commonly regarded as the RELATOR of a small clause predication (e.g. Ko 2011). On the other hand, I assume that it is outside RP because it appears outside the domain of *kuleh*<sub>SC</sub>, as was shown in (57)-(59). However, it is questionable whether the *-key* suffixes in (57a) and (59a) is identical to those in (57b) and (59b), respectively. In (58a), the *-lo* suffix appears instead of the *-key* suffix, but nevertheless the response to this sentence involves *-key* suffixation, as in (58b). Theoretically, it is not impossible to posit that the *-key* suffixes in (57a) and (59a) are RELATORS projecting RP, whereas the ones we see in (57b) and (59b) are external to RP (structure given in (i)). Nevertheless, the fact that Korean does not allow double *-key* suffixation makes the hypothesis less plausible. I currently do not have an answer and leave it for future study.

(i)  $\left[ \text{TopP} \left[ \overbrace{\text{RP subj} \left[ \text{R}' \text{ predicate R}(= \text{-key}) \right]}^{\text{kuleh appears in place of RP}} \right] \right] \text{-key}$

clausal domain corresponds to either a Sentential Predication or a Categorical Predication. In section 2.4, I claimed that *kuleh* may correspond to a small clause predication. Based on the observation, I suggest that the domain of *kuleh* corresponds to a predication.

I further propose that there exists an anaphoric process which targets predications. I term this anaphoric process **Predication Ellipsis**. It targets various sizes of predication for deletion and leaves a pro-form *kuleh* in its ellipsis site.<sup>16</sup>

There is an advantage to positing a single anaphoric process (i.e. Predication Ellipsis) in that it can explain a novel contrast which otherwise would not be accounted for: *kuleh*<sub>Verbal</sub>, *kuleh*<sub>SC</sub>, and *kuleh*<sub>Clausal</sub> display a peculiar asymmetry in possibilities in extraction. This is the topic of the following chapter.

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<sup>16</sup> I posit two possibilities for the appearance of the pro-form *kuleh*. First, it may be a PF phenomenon, possibly a last resort to support affixal morphology. In Korean, tense morphemes and complementizers can only appear attached to the verb. This hypothesis has its weakness in that it violates Inclusiveness (Chomsky 1995). The second possibility is that *kuleh* is a head which takes the elided constituent as its complement. In this case, I suspect that *kuleh* would be an overt realization of THEP in the sense of Elbourne (2005, 2008). Elbourne argues that there is a special phonologically null definite determiner THE which marks definiteness and triggers deletion of its complement. His analysis is not restricted to NP ellipsis and is also applied to VP ellipsis as well. I find this line of analysis reasonable because *kuleh* has a demonstrative meaning which encodes definiteness. In Korean, there are three morphemes that seem to form a morphological paradigm: *ileh* 'this', *celeh* 'that', and *kuleh* 'such/so.' These morphemes express some kind of demonstrative meaning, and I assume that *kuleh* is a plausible candidate for THEP. However, in this case, it would have to be explained why *kuleh* can occur only if its complement is elided.

### 3. The problem: Asymmetry in possibilities in extraction

Previous literatures argued that *kuleh*<sub>Verbal</sub> and *kuleh*<sub>Clausal</sub>, and *kuleh*<sub>SC</sub> exhibit extraction of a remnant. However, I will demonstrate that extraction is only possible from *kuleh*<sub>Verbal</sub> and *kuleh*<sub>SC</sub>. Contrary to previous works, extraction from *kuleh*<sub>Clausal</sub> is only apparent as they were base-generated above the ellipsis site. This gives rise to an interesting asymmetry in extraction possibilities.

#### 3.1 Unrestricted extraction out of *kuleh*<sub>Verbal</sub> and *kuleh*<sub>SC</sub>

It has been reported that *kuleh*<sub>Verbal</sub> allows extraction (Chung 2013, Park 2013). In Chung (2013), I have noted that *kuleh*<sub>Verbal</sub> allows both A-movement and A'-movement out of the ellipsis site. The A-movement concerns unaccusative and passive construction, which are exemplified in (61) and (62), respectively.<sup>17</sup>

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<sup>17</sup> It is controversial whether the lexical passive in (62a) involves movement. However, I think the case is more clear regarding the indirect passive in (61b). Park and Whitman (2003) present three arguments in favor of the indirect passive movement: (i) Non-affectee subjects are allowed, (ii) the object in idiom chunks is passivizable, and (iii) scope ambiguity is induced. Each argument is supported by each of the examples below.

- (i) a. Hayan kong-i Big Choy-ey uyhay nophi chyeollye-ci-ess-ta.  
white ball-NOM Big Choi-by high hit.up-PASS-PAST-DECL  
'A white ball was hit high in the air by Big Choi.'
- b. Cwuuy-ka Chelswu-ey uyhay kiwulye-ci-ess-ta.  
attention-NOM Chelswu-by devote-PASS-PAST-DECL  
'Attention was devoted by Chelswu.'

Elliptical Predications in Korean

(61) a. Hoswu-ka (sunsikkaney) el-ess-ko, kang-to  
 lake-NOM instantly freeze-PAST-CONJ river-also  
 kulay-ss-ta.

kuleh<sub>Verbal</sub>-PAST-DECL

‘The lake froze (instantly), and the river did too.’

b. Cangmi-ka situl-ess-ko, (iukko) tulip-to  
 rose-NOM wither-PAST-CONJ eventually tulip-also  
 kulay-ss-ta.

kuleh<sub>Verbal</sub>-PAST-DECL

‘The rose withered, and (eventually) the tulip did too.’

(62) a. Timon-i Scar-ekey mek-hi-ess-ko, Pumbaa-to  
 Timon-NOM Scar-DAT eat-PASS-PAST-CONJ Pumbaa-also  
 kulay-ss-ta.

kuleh<sub>Verbal</sub>-PAST-DECL

‘Timon was eaten by Scar, and Pumbaa was too.’

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c. Muenka-ka wuywenhoy-ey uyhay enu cip-eyna ponay-ci-ess-ta.  
 something-NOM committee-by every house-to send-PASS-PAST-DECL  
 ‘Something was sent by the committee to every house.’

( $\exists > \forall$ ,  $\forall > \exists$ )

### 3. The problem: Asymmetry in possibilities in extraction

- b. kochpyung-i ai-tul-ey uyhey kkay-eci-ess-ko,  
 vase-NOM kid-PL-by break-PASS-PAST-CONJ  
 mulpyung-to kulay-ss-ta.  
 water bottle-also kuleh<sub>Verbal</sub>-PAST-DECL

‘The vase was broken by the kids, and the water bottle was too.’

I also showed that *kuleh<sub>Verbal</sub>* allows A<sup>2</sup>-extraction. First evidence comes from (contrastive) topicalization. (63) shows that topicalization of the object is possible.

(63) [Context: ‘Chelswu, Minho, Yeonghuy and Swuni are in the same class. There were rumors that the boys in this class bully the girls. The home room teacher asks the class president with the following sentence...’]

- a. nwu-ka nwukwu-lul koylophi-ø-ni?  
 who-NOM who-ACC bully-PRES-Q  
 ‘Who bullies whom?’
- b. Yeonghuy-nun Chelswu-ka (simhakey) koylophi-ø-ko,  
 Yeonghuy-TOP Chelswu-NOM harshly bully-PRES-CONJ  
 Swuni-nun Minho-ka kulay-ø-yo.  
 Swuni-TOP Minho-NOM kuleh<sub>Verbal</sub>-PRES-DECL

‘Yeonghuy, Chelswu harshly bullies (her) and Swuni, Minho does so.’

Second evidence comes from relativization. Although it is an undergoing debate whether an operator or a nominal moves out of the relative clause, they are

both construed as A'-movement.

- (64) a. ne palansayk moca-lul ssu-n saram-ul po-ass-ni?  
 you blue hat-ACC wear-REL person-ACC see-PAST-Q

‘Did you see a man who wears a blue hat?’

- b. ani, kule-n saram-un mos poa-ss-e.  
 no *kuleh*<sub>Verbal</sub>-REL person-TOP NEG see-PAST-DECL

‘No, I haven’t seen such person.’

I also claim that *kuleh*<sub>Verbal</sub> is also compatible with scrambling. Local scrambling and long-distance scrambling are both possible, as shown in (65) and (66).<sup>18</sup>

- (65) a. Chelswu-ka nwuku-lul ttayli-ess-ni?  
 Chelswu-NOM who-ACC hit-PAST-Q

‘Who did Chelswu hit?’

- b. ?Yeonghuy-lul Chelswu-ka kulay-ss-eyo.  
 Yeonghuy-ACC Chelswu-NOM hit-PAST-DECL

(Lit.) ‘Yeonghuy, Chelswu did so.’

---

<sup>18</sup> Scrambling seems to be plausible only if the scrambled element receives information focus. In (65) and (66), the scrambled elements are the answers to wh-questions. If the antecedent sentences were declarative constructions, scrambling would be marginal. I assume that information structure plays a role in these cases.

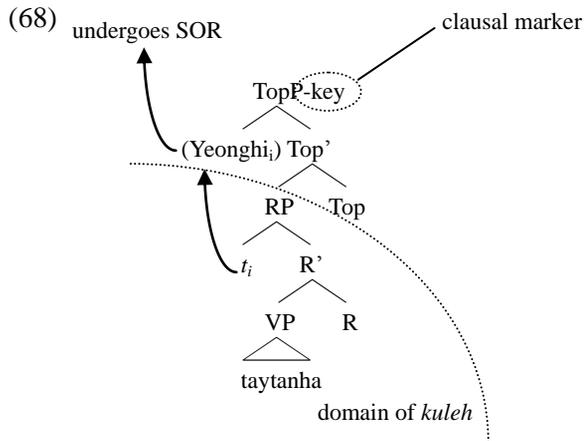
3. The problem: Asymmetry in possibilities in extraction

- (66) a. Chelswu-nun      Minho-ka      nwuku-lul      koylophi-n-tako  
 Chelswu-TOP      Minho-NOM      who-ACC      bully-PRES-COMP  
 sayngkakha- $\emptyset$ -ni?  
 think-PRES-Q  
 ‘Who does Chelswu think that Minho bullies?’
- b. ?Yeonghuy-lul      Chelswu-nun      Minho-ka      kule-n-tako  
 Yeonghuy-ACC      Chelswu-TOP      Minho-NOM      *kuleh*<sub>Verbal</sub>-PRES-COMP  
 sayngkakhay- $\emptyset$ -yo  
 think-PRES-DECL  
 ‘Yeonghuy, Chelswu thinks that Minho bullies.’

Based on the observation, I conclude that *kuleh*<sub>Verbal</sub> imposes no restriction on extraction.

I now argue that *kuleh*<sub>SC</sub> allows extraction. Relevant examples have already been given in (57)-(59), and (57) is repeated below as (67). Its structure was also provided in (60), which I rewrite here as (68).

- (67) a. Chelswu-nun      Yeonghuy-lul      taytanha-key      sayngkakha-n-ta.  
 Chelswu-TOP      Yeonghuy-ACC      excellent-KEY      think-PRES-DECL  
 ‘Chelswu thinks Yeonghuy (as) excellent.’
- b. Minho-to      (Yeonghuy-lul)      kuleh-key      sayngkakha-n-ta.  
 Minho-also      Yeonghuy-ACC      *kuleh*<sub>SC</sub>-KEY      think-PRES-DECL  
 ‘Minho thinks so too.’



As seen in (68), the subject of the small clause *Yeonghuy* moves out of RP, which is the domain of *kuleh<sub>SC</sub>*. The subject further undergoes subject-to-object raising (SOR) to receive accusative case. In light of this evidence, I conclude that extraction is possible out of *kuleh<sub>SC</sub>*.

### 3.2 Prohibited extraction out of *kuleh<sub>Clausal</sub>*

Sohn (2013) suspects that extraction is possible based on (69). In this sentence, *Yeonghuy* is construed as the subject of the embedded clause and it appears external to *kuleh<sub>Clausal-key</sub>*. Sohn suggests that this *Yeonghuy* is a Major Subject base-generated at Spec,CP, and it moves out of the embedded clause. Since he assumes that *kuleh<sub>Clausal-key</sub>* as a whole is a CP pro-form, he found *Yeonghuy* to be extracted from within a pro-form.

### 3. The problem: Asymmetry in possibilities in extraction

- (69) a. na-nun          Yeonghuy-lul          chencay-lako          mit-nun-ta.  
           I-TOP            Yeonghuy-ACC          genius-COMP          believe-PRES-DECL  
           ‘I believe that Yeonghuy is a genius.’
- b. na-to            Yeonghuy-lul          kuleh-key            mit-nun-ta.  
           I-also            Yeonghuy-ACC          kuleh<sub>Clausal</sub>-KEY      believe-PRES-DECL  
           (Lit.) ‘I also believe so of Yeonghuy.’

Park (2013) claims that an embedded object can also extract out of *kuleh<sub>Clausal</sub>*. In (70b), *i chayk* ‘this book’ is an accusative-marked nominal which appears to have scrambled over the embedded subject and still survived the ellipsis. Park takes this as evidence that object extraction from within *kuleh<sub>Clausal</sub>* is possible. Based on this observation, he suggests that TP-ellipsis took place in (70b). The remnant moves to Spec,CP prior to the deletion of TP. (71) depicts the structure of Park’s analysis.<sup>19 20</sup>

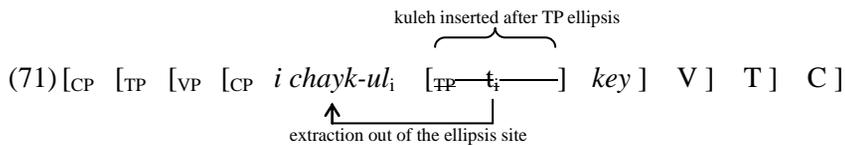
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<sup>19</sup> Park (p.c.) mentioned that he also thinks that the embedded object in (70) is licensed via an aboutness relation. Park's view differs from this paper in that he assumes the object to be base-generated at a canonical object position, and it undergoes movement to a higher position. The aboutness relation is established after the movement.

<sup>20</sup> Regarding extraction facts, I have primarily focused on the cases where *kuleh<sub>Clausal</sub>* appears in combination with the *-key* suffix. Alternatively, *-tako* (a complementizer) can be suffixed to *kuleh<sub>Clausal</sub>*. In fact, *-tako* has been extensively discussed in literature and is better understood, compared to the *-key* suffix. Nevertheless, I have focused on the *-key* suffixation because the data presented in Sohn (2013) and Park (2013) are mostly the ones with *-key* suffixation. Some of my informants reported that judgments are relatively subtle when *kuleh<sub>Clausal</sub>* is accompanied by *-tako*, but I think my argument is generally valid.

Elliptical Predications in Korean

- (70) a. na-nun i chayk-ul<sub>i</sub> Yeonghuy-ka t<sub>i</sub>  
 I-TOP this book-ACC Yeonghuy-NOM  
 ilk-ess-tako sayngkakha-n-ta.  
 read-PAST-COMP think-PRES-DECL  
 ‘I think Yeonghuy read this book.’
- b. ani, na-nun i chayk-ul kuleh-key sayngkakha-ci  
 no I-TOP this book-ACC kuleh<sub>Clausal</sub>-KEY think-CI  
 anh-nun-ta.  
 NEG-PRES-DECL  
 (Lit.) ‘No, I don’t think so about this book.’



There are reasons to doubt that the accusative-marked nominal in (70b) is an object which underwent scrambling. First, (70b) is subject to judgment variation. Only few of my informants judged the sentence acceptable, and even those people found it quite marginal. Others judged the sentence ungrammatical. More importantly, the acceptance clearly degrades if the embedded clause is strongly eventive. In (72a), the embedded clause denotes a progressive event. When Predication Ellipsis targets the embedded TP, the apparent remnant cannot appear as shown in (72b). Without the apparent remnant, the sentence is fine as in (72b’).

3. The problem: Asymmetry in possibilities in extraction

- (72) a. na-nun i chayk-ul<sub>i</sub> Yeonghuy-ka t<sub>i</sub> cikum  
 I-TOP this book-ACC Yeonghuy-NOM now  
 cip-eyse ilk-ko iss-tako sayngkakha-n-ta.  
 house-at read-PROG-COMP think-PRES-DECL  
 ‘I think Yeonghuy is reading this book in the house now.’
- b. \*ani, na-nun i chayk-ul kuleh-key sayngkakha-ci  
 no I-TOP this book-ACC kuleh<sub>Clausal</sub>-KEY think-CI  
 anh-nun-ta.  
 NEG-PRES-DECL  
 (Lit.) ‘No, I don’t think so about this book.’
- b’. ani, na-nun kuleh-key sayngkakha-ci anh-nun-ta.  
 no I-TOP kuleh<sub>Clausal</sub>-KEY think-CI NEG-PRES-DECL  
 ‘No, I don’t think so.’

We can also manipulate the data to make it fairly acceptable. For instance, if the embedded clause speaks about a property of the book, the appearance of the apparent remnant is much more acceptable. It seems like we cannot take Park’s analysis at face value. We need a more precise characterization of the apparent remnant.

Elliptical Predications in Korean

(73) a. na-nun i chayk-ul saramtul-i cohaha-n-tako  
 I-TOP this book-ACC people-NOM like-PRES-COMP  
 sayngkakha-n-ta.  
 think-PRES-DECL

‘I think people like this book.’

b. ani, na-nun i chayk-ul kuleh-key sayngkakha-ci  
 no I-TOP this book-ACC kuleh<sub>Clausal</sub>-KEY think-CI  
 anh-nun-ta.  
 NEG-PRES-DECL

(Lit.) ‘No, I don’t think so about this book.’

I claim that the apparent remnant is in fact a Major Subject. The acceptance of above sentences depends to a large extent on whether the hearer construes the embedded clause as denoting a characteristic property of the apparent remnant. I think many people find (70b) ungrammatical because the fact that ‘*Yeonghuy* read the book’ is difficult to be understood as a property of the book. Nevertheless, a small portion of people still find it as a property of the book and marginally accept the sentence. However, even those people would find (72b) ungrammatical. The embedded clause clearly describes a reading event and cannot be construed as denoting a property of the book. On the other hand, (73b) is significantly better than both (70b) and (72b) because the embedded clause obviously expresses a property of the book. This characteristic of the apparent remnant exactly matches that of a Major Subject.

Therefore, I argue that the apparent remnant in (70b) is not an object, but

### 3. The problem: Asymmetry in possibilities in extraction

rather a Major Subject. A strongly eventive (thus, Thetic) sentential predicate cannot be predicated on a Major Subject, which explains the ungrammaticality of (72b). I claim that the accusative case of the apparent remnant does not demonstrate that it is an embedded object. I argue that it is marked with accusative case because it underwent subject-to-object raising. The claim that a Major Subject undergoes subject-to-object raising is not a novel idea. In fact, Yoon (2007) claims that Major Subjects are the only elements that can undergo subject-to-object raising in Korean. He shows that grammatical subjects and objects fail to do so.

I also claim that the Major Subject in (70b) was base-generated at a position external to the ellipsis site. Recall that in (50) (repeated here as (74)), the Major Subject did not undergo SOR but was still external to *kuleh*<sub>Clausal</sub>.

- (74) a. Kwanak-san-i                      yesnal-ey      kkoch-i      manhi  
           Kwanak-mountain-NOM      past-at      flower-NOM      much  
           pi-ess-ess-ta.  
           bloom-PERF-PAST-DECL  
           ‘In Kwanak Mountain, flowers bloomed a lot in the past.’
- b. Pukhan-san-to                      kuleh-ta.  
           Pukhan-mountain-also      kuleh<sub>Clausal</sub>-DECL  
           (Lit.) ‘Pukhan Mountain so.’

There is another reason to believe that the Major Subject is not a remnant of ellipsis. Unlike other ellipsis remnants, it does not have to convey contrastive meaning. In (75), the Major Subject *yeki-pwuthe-lul* is present in both (75a) and

(75b)<sup>21</sup> without any contrast. Since ellipsis remnants are typically interpreted contrastively, it is unlikely that the Major Subject in (75b) was base-generated within the ellipsis site.

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<sup>21</sup> I selected PP as a Major Subject in order to eliminate an interfering factor: the Major Object interpretation. Many literatures on Korean and Japanese ECM construction demonstrate that an apparently raised nominal is in fact base-generated in the matrix clause. Such nominal is dubbed a Major Object (Hoji 1991, 2005). In response, Yoon (2007) claimed that although the Major Object analysis holds for animate nominals, it cannot be applied to PPs. There is indeed a contrast between the former and the latter: only the latter is subject to PBC effect. As seen in (ib'), PBC effect is not observed even when *kuleh-key* scrambled over the accusative nominal *Yeonghi-lul*. If the nominal were base-generated in the embedded clause, *kuleh-key* would have contained an unbound trace, inducing PBC effect. This is not the case, however, and the accusative nominal is likely to be a Major Object which was base-generated in the matrix clause. In contrast, (iib') displays PBC effect because the accusative-marked element is PP. I hence conclude that this PP is a Major Subject which underwent SOR.

- (i) a. na-nun            Yeonghi-lul            chencay-lako            mit-nun-ta.  
       I-TOP            Yeonghi-ACC            genius-COMP            believe-PRES-DECL  
       'I believe that Yeonghi is a genius.'
- b. na-to            Yeonghi-lul    kuleh-key            mit-nun-ta.  
       I-also            Yeonghi-ACC    kuleh-KEY            believe-PRES-DECL  
       (Lit.) 'I also believe so of Yeonghi.'
- b'. na-to            kuleh-key            Yeonghi-lul            mit-nun-ta.  
       I-also            kuleh-KEY            Yeonghi-ACC            believe-PRES-DECL  
       (Lit.) 'I also believe so of Yeonghi.'
- (ii) a. Chelswu-nun            yeki-pwuthe-lul            caki            ttang-ilako            mit-nun-ta.  
       Chelswu-TOP            here-from-ACC            self            land-COMP            believe-  
       PRES-DECL  
       'Chelswu believes that his land begins from here.'
- b. Minho-to            yeki-pwuthe-lul            kuleh-key            mit-nun-ta.  
       Minho-also            here-from-ACC            kuleh-KEY            believe-PRES-DECL  
       'Minho also believes so.'
- b'. \*Minho-to            kuleh-key            yeki-pwuthe-lul            mit-nun-ta.  
       Minho-also            kuleh-KEY            here-from-ACC            believe-PRES-DECL  
       'Minho also believes so.'

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- (75) a. Chelswu-nun      yeki-pwuthe-lul      caki      ttang-ilako  
Chelswu-TOP      here-from-ACC      self      land-COMP  
mit-nun-ta.  
believe-PRES-DECL  
'Chelswu believes that his land begins from here.'
- b. Minho-to      yeki-pwuthe-lul      kuleh-key  
Minho-also      here-from-ACC      kuleh<sub>Clausal</sub>-KEY  
mit-nun-ta.  
believe-PRES-DECL  
(Lit.) 'Minho also believes so from here.'

In light of the discussion above, I conclude that the scrambling of the accusative-marked nominal is only apparent. We therefore do not have any evidence that *kuleh*<sub>Clausal</sub> allows extraction.

### 3.3 Problem statement

In section 3.1, I showed that *kuleh*<sub>Verbal</sub> and *kuleh*<sub>SC</sub> allows extraction of a remnant. However in section 3.2, I showed that *kuleh*<sub>Clausal</sub> prohibits extraction. What has been considered as a remnant was in fact a Major Subject, which was external to the domain of *kuleh*<sub>Clausal</sub>.

We are now faced with an interesting asymmetry: *kuleh*<sub>Verbal</sub> and *kuleh*<sub>SC</sub> allows extraction whereas *kuleh*<sub>Clausal</sub> does not. Would it suffice to say that

*kuleh*<sub>Clausal</sub> lack internal structure, but *kuleh*<sub>Verbal</sub> *kuleh*<sub>SC</sub> has one? I think this would be a mere stipulation, not an explanation. Apart from extraction possibilities, they are all alike in that they have the same overt morphology and substitute a predication. Then, why does *kuleh* act like a deep anaphor in some cases and act like a surface anaphor in others? Under the assumption that all instances of *kuleh* appear as a result of a single anaphoric process (i.e. Predication Ellipsis), I attribute the cause to the difference in their structural configuration.

## 4. Solution to the asymmetry in possibilities in extraction

I will first introduce an ellipsis theory of Aelbrecht (2010) dubbed **Derivational Ellipsis**. The theory provides a mechanism which explains why extraction is freely available in some ellipsis phenomena and restricted in others. The core of the theory consists of two parts. First, ellipsis is licensed via Agree. Second, the ellipsis site is immediately Spelled-Out as soon as the licensor is introduced into the derivation. If an element does not move out of the ellipsis site before the licensor is introduced, it will no longer be accessible to further syntactic operation. The variation in extraction possibilities among ellipsis phenomena follows as a corollary. The crucial factor is whether there is a landing site for movement between the licensor and the ellipsis site. If it does, extraction is possible. If it doesn't, extraction is prohibited. I will claim that the configuration for *kuleh*<sub>Verbal</sub> and *kuleh*<sub>SC</sub> correspond to the former, whereas the configuration for *kuleh*<sub>Clausal</sub> corresponds to the latter.

### 4.1 Aelbrecht's (2010) theory of ellipsis

#### 4.1.1 Ellipsis is licensed via Agree

Aelbrecht (2010) observed that an ellipsis licensor and the ellipsis site can be non-adjacent. Although the licensor and the ellipsis site have to be in somewhat local

relation, they do not have to be adjacent to each other. One of the evidence comes from English VPE sentences.

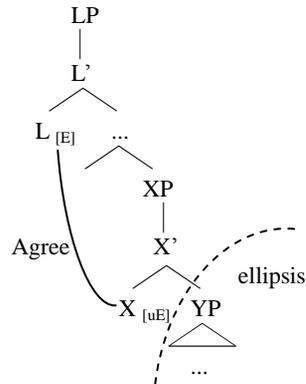
- (76) a. I hadn't been thinking about that. – Well, you should have been [~~thinking about that~~]!
- b. Ezra hasn't finished yet, but I really want him to have [~~finished~~].

It is well known that the licensor of English VPE is either a filled inflectional head or an infinitival marker *to*. The licensor of (76a) and (76b) are the modal *should* and the infinitival marker *to* respectively, both of which are not adjacent to the ellipsis site. Aelbrecht therefore extends Merchant's (2001, 2004) approach to account for this non-adjacent licensing. In detail, Aelbrecht claims that ellipsis is licensed via Agree. The licensor bears an [E]-feature which agrees with the head that selects for the projection to be elided. This is illustrated in (77).<sup>22</sup>

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<sup>22</sup> This is a simplified version of Aelbrecht's (2010) proposal. Aelbrecht proposes that a head consists of three types of features: (i) categorial, (ii), inflectional, and (iii) selectional. The interpretable [E]-feature on the ellipsis licensor belongs to a categorial feature. On the other hand, the uninterpretable [E]-feature on the head which is adjacent to the ellipsis site belongs to an inflectional feature. The feature checking applies between the categorial feature and the inflectional feature. I have omitted the details for the sake of simplicity.

(77)



In this figure, the L head is the ellipsis licensor which bears an interpretable [E]-feature (henceforth [E]). The X head is where the uninterpretable [E]-feature (henceforth [uE]) resides in, and its complement YP is the ellipsis site. The L head and the X head undergo Agree, and once [uE] is checked, YP is elided.<sup>23</sup> In this way, non-adjacent licensing can be accounted for.

Aelbrecht's Agree-based licensing theory also explains why ellipsis has a locality restriction: Agree is sensitive to PIC. In other words, an ellipsis licensor cannot see through the domain of a lower phase because the lower phase has already been Spelled-Out and became an inaccessible chunk. Therefore, the ellipsis licensor and the head which bears [uE] must be introduced in the same phase, resulting in a locality restriction.

<sup>23</sup> It is questionable why YP is elided in (77), but not XP. I think that upon Agree, the X head could have deleted its own projection (XP) instead of its complement (YP). I suppose that Aelbrecht (2010) chose to delete the complement because since Lobeck (1995), ellipsis licensing has been regarded as a head-complement relation: a licensor head deletes its complement. Despite this tradition, the question remains from a theoretical point of view. I currently do not have an answer to it, and I will technically accept the concept of 'deleting the complement.'

#### **4.1.2 Derivational Ellipsis: Ellipsis occurs in narrow syntax**

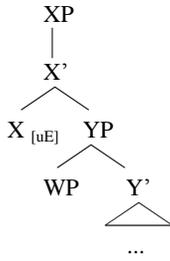
The second point Aelbrecht makes is that ellipsis affects narrow syntax. When the ellipsis licensor is introduced into the derivation, the ellipsis site immediately undergoes Spell-Out. The elements within it become ‘frozen’ and are no longer accessible to syntactic operation. The frozen part can be understood as either (i) being deleted at PF, or (ii) prohibiting lexical insertion at PF if Distributional Morphology (Halle and Marantz 1993) is adopted.

The Derivational Ellipsis theory evokes an interesting prediction. For an ellipsis remnant to survive ellipsis, it has to move out of the ellipsis site before the ellipsis licenser is introduced. If it doesn't, it would be frozen inside the ellipsis site. There are two scenarios to consider. The first scenario concerns the case where a landing site for movement exists between the licenser and the ellipsis site. (78) illustrates the derivation. Step 1 shows the initial configuration: X bears [uE], and its complement YP is the target of ellipsis. WP is a potential remnant. In Step 2, Z is merged above XP. Suppose that Z probes WP, and WP can move to the specifier of ZP. A landing site is given, and WP can move to this position to escape the ellipsis site. The ellipsis licenser L is introduced in Step 3 and agrees with the head X. YP immediately undergoes Spell-Out and becomes frozen. However, WP has already escaped the ellipsis site and survived the ellipsis.

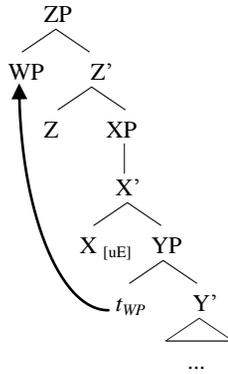
#### 4. Solution to the asymmetry in possibilities in extraction

(78) Extraction possible

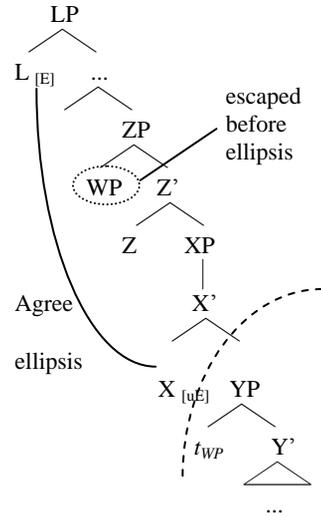
**Step 1:**



**Step 2:**



**Step 3:**

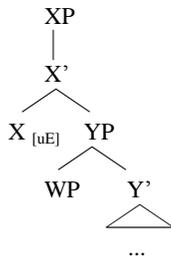


Now, let's consider the second scenario in which the structure lacks a landing site between the ellipsis licenser and the ellipsis site. The scenario is depicted in (79). Step 1 sets up the initial configuration which is identical to that of (78): X is a head that bears [uE], YP is the ellipsis site, and WP is a potential ellipsis remnant. But in this scenario, ZP no longer exists. This implies that WP cannot move out of the ellipsis site prior to the merge of the licenser. As the licenser merges, it will be frozen within the ellipsis site along with other elements of YP. This is depicted in step 2.<sup>24</sup>

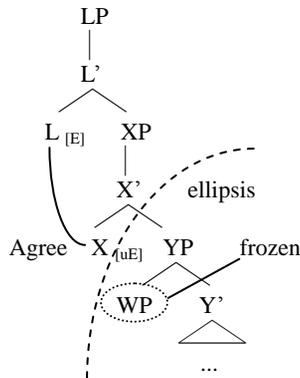
<sup>24</sup> Kang and Ko (2011) applied a similar approach to explain CED effects. In their perspective, an element within DP can be subextracted only before the features of the DP are checked, because the DP 'freezes' immediately after the feature checking.

(79) Extraction prohibited

Step 1:



Step 2:



The second scenario shows how ellipsis can prohibit extraction of the remnant. The relative position of the licenser and the ellipsis site is a key to explain the peculiar asymmetry in extraction possibilities of Predication Ellipsis.

## 4.2 Analysis

In this section, the licenser of Predication Ellipsis is first identified. In sequence, the structural positions of the licenser and the ellipsis sites are taken under consideration. It is shown that *kuleh<sub>Verbal</sub>* and *kuleh<sub>SC</sub>* have a phase head between the licenser and the ellipsis site, whereas *kuleh<sub>Clausal</sub>* does not. Based on Aelbrecht's (2010) proposal, it is predicted that extraction is unrestricted only for *kuleh<sub>Verbal</sub>* and *kuleh<sub>SC</sub>*.

### 4.2.1 The licenser of Predication Ellipsis

I postulate that a positive polarity head is the licenser of Predication Ellipsis. It triggers ellipsis of various sizes of predication via Agree. Positive and negative polarity heads were reported to license various ellipsis phenomena cross-linguistically, although the specific description of the head varied among analyses (Laka 1990, Lipták 2012, López 1995, and Kramer and Rawlins 2011).

I provide three pieces of evidence for Predication Ellipsis. First, *kuleh* can be used as an affirmative answer to a polar question (Example previously given in (52), repeated below as (80)).

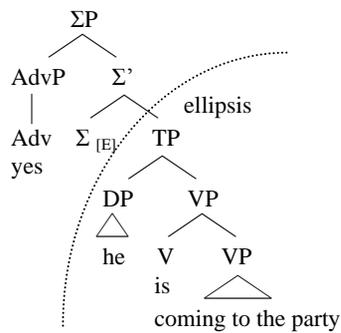
- (80) a. Kwanak-san-i                      pom-mata              kkoch-i              manhi  
           Kwanak-mountain-NOM    spring-every            flower-NOM    much  
           pi-nun-ka?  
           bloom-PRES-Q  
           ‘In Kwanak Mountain, do flowers bloom a lot every spring?’
- b. (amato/hwaksilhi)    kuleh-ta.  
           maybe/certainly    kuleh<sub>Clausal-DECL</sub>  
           ‘(Maybe/certainly) so.’

Kramer and Rawlins (2011) argue that answer particles are related to ellipsis licensing in English. They claim that the answer particles are adjoined to  $\Sigma$ P (polarity phrase), and  $\Sigma$ P elides its complement TP when accompanied with an [E]-

feature. The structure is depicted in (82).<sup>25</sup>

- (81) a. Is Alfonso coming to the party?  
 b. Yes. / No.

(82)



It is interesting that *ung*, the Korean counterpart of English *yes*, can be attached to an affirmative answer.<sup>26</sup> In this case, *ung* and *kuleh* can both appear in one affirmative answer construction. Apart from the insertion of *kuleh*, English and Korean affirmative answers can be accounted for in a similar manner.

<sup>25</sup> Interestingly enough, they also suggest that English *so*, which is typically translated into Korean as *kuleh-key*, is an overt realization of the  $\Sigma$  head. When *so* appears, TP is obligatorily elided.

- (i) a. Is Alfonso coming to the party?  
 b. Maybe so.

I do not intend to argue that Predication Ellipsis works exactly the same way as above, but both of their licensing heads seem to encode a feature related to sentential polarity.

<sup>26</sup> In Korean, there are two ways to express affirmation: *ung* and *kulay*. The former is more widely used and is translated into English as *yes*.

#### 4. Solution to the asymmetry in possibilities in extraction

(83) a. Chelswu-ka      cip-ey      ka-ss-ni?

Chelswu-NOM      home-DAT      go-PAST-Q

‘Did Chelswu go home?’

b. ung,      kulay.

yes,      *kuleh*-DECL

‘Yes, indeed.’

*kuleh* can also appear in echo assertions (Farkas 2009, Farkas and Bruce 2010). Echo assertion is a repetition of a previously asserted sentence with an additional confirmation or reversal of the assertion. It is different from the answer to a polar question in that the purpose of the act is to confirm or reverse a previous assertion, not to state a new one. As in (84b), *kuleh* can appear in a sentence-initial position to confirm the previous assertion. Without it, the sentence is marginal.<sup>27</sup>

(84) a. Chelswu-ka      Yeonghuy-lul      ttayli-ess-e.

Chelswu-NOM      Yeonghuy-ACC      hit-PAST-DECL

‘Chelswu hit Yeonghuy.’

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<sup>27</sup> There is another interesting example which may be related to confirmation of a previous assertion. In (i), a vP which depicts a hitting event is conjoined with *kuleh*<sub>Verbal</sub>. As a result, the speaker puts an additional emphasis on the hitting event. Although this cannot be analyzed as an echo assertion in the strictest sense, the sentence does express some kind of confirmation.

(i) Chelswu-ka      Yeonghi-lul      ttayli-ko      kulay-ss-ta.  
 Chelswu-NOM      Yeonghi-ACC      hit-CONJ      *kuleh*<sub>Verbal</sub>-PAST-DECL  
 ‘Chelswu hit Yeonghi.’ (with additional confirmation of the hitting event)

- b. ??(kulay), Chelswu-ka Yeonghuy-lul ttayli-ess-e.  
*kuleh*-DECL Chelswu-NOM Yeonghuy-ACC hit-PAST-DECL  
 ‘Yes, Chelswu hit Yeonghuy.’

The third piece of evidence comes from the correlation between Predication Ellipsis and an affirming environment. Predication Ellipsis is marginal when the polarity of the sentence is reversed. The contrast between (85b) and (85b’) is one example. (85b) is grammatical because the ‘eating dinner’ event depicted in (84a) is affirmed. In contrast, (85b’) reverses the polarity and thus is marginal, if not ungrammatical. Without Predication Ellipsis, the sentence is fine with negation, as in (84b’’).

- (85) a. Chelswu-ka cenyek-ul mek-ess-ta.  
 Chelswu-NOM dinner-ACC eat-PAST-DECL  
 ‘Chelswu ate dinner.’
- b. Minho-to kulay-ss-ta.  
 Minho-also *kuleh*<sub>Verbal</sub>-PAST-DECL  
 ‘Minho did too.’
- b’. \*?Minho-nun an kulay-ss-ta.  
 Minho-TOP NEG *kuleh*<sub>Verbal</sub>-PAST-DECL  
 ‘Minho didn’t.’
- b’’. Minho-nun (cenyek-ul) an mek-ess-ta.  
 Minho-TOP dinner-ACC NEG eat-PAST-DECL  
 ‘Minho didn’t eat dinner.’

#### 4. Solution to the asymmetry in possibilities in extraction

Let's now take a look at the example where the antecedent clause contains a negation. The antecedent sentence (86a) negates the 'eating dinner' event. In (86b), Predication Ellipsis occurred without an overt negation, but the sentence denotes the same negated event as the antecedent sentence. Also, Predication Ellipsis cannot denote the 'eating dinner' event, as shown in (86b'). This is exactly the opposite case of the examples in (85). It seems like Predication Ellipsis can take place when the polarity of the event it denotes is identical to that of the antecedent sentence. I attribute the cause to the licenser of Predication Ellipsis, which I find to be a positive polarity head.

- (86) a. Chelswu-ka      cenyek-ul      an      mek-ess-ta.  
           Chelswu-NOM    dinner-ACC    NEG    eat-PAST-DECL  
           'Chelswu didn't eat dinner.'
- b. Minho-to      kulay-ss-ta.  
           Minho-also      kuleh<sub>Verbal</sub>-PAST-DECL  
           'Minho, neither.'
- b'. \*Minho-nun      an      kulay-ss-ta.  
           Minho-TOP      NEG      kuleh<sub>Verbal</sub>-PAST-DECL  
           '(Lit.) Minho didn't.  
           = 'Minho ate dinner.'<sup>28</sup>

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<sup>28</sup> Nam (p.c.) notes that the (86a) can be answered with the following sentence.

- (i) Minho-to      an      kulay-ss-ta.  
       Minho-also    NEG      kuleh<sub>Verbal</sub>-PAST-DECL  
       'Minho didn't eat dinner either.'

b”. Minho-nun           (cenyek-ul)           mek-ess-ta.  
 Minho-TOP           dinner-ACC           eat-PAST-DECL  
 ‘Minho ate dinner.’

It is noteworthy to mention that when you answer a polar question with *ung* ‘yes’ (the typical affirmative particle) in Korean, the answer always affirms the previous question including the negation. This exactly parallels what we saw in (85)-(86).

(87) a. Chelswu-ka       cenyek-ul       an       mek-ess-ni?  
 Chelswu-NOM       dinner-ACC       NEG       eat-PAST-Q  
 ‘Did Chelswu not eat dinner?’

b. Ung.  
 yes  
 ‘Yes.’  
 = ‘Chelswu did not eat dinner.’

In light of the evidence, I conclude that Predication Ellipsis is licensed by a positive polarity head. In previous literatures, heads related to sentential polarity (a polarity head in Laka 1990, López 1995, and Kramer and Rawlins 2011, an emphatic affirmative polarity head in Lipták 2012) were generally postulated above TP. I further claim that in Korean, they are even higher in position than TopP,

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In the above example, negation is present despite the fact that *kuleh* appears in the sentence. Nevertheless, I think *kuleh* and positive polarity is relevant because the above example still expresses affirmation of the previous utterance: the ‘not eating’ event.

#### 4. Solution to the asymmetry in possibilities in extraction

where a Major Subject resides in. This is because the use of *kuleh* as an affirmative answer and echo assertion are fine with categorical predications, as shown in (88) and (89). The positive polarity head always scopes over the Major Subject.

(88) a. Kwanak-san-i                      pom-ey      kkoch-i      manhi      pi-ni?  
          Kwanak-mountain-NOM      spring-at      flower-NOM      much      bloom-Q  
          ‘In Kwanak Mountain, do flowers bloom a lot in the spring?’

b. kulay.

*kuleh*-DECL

‘Yes.’

(89) a. Kwanak-san-i                      pom-ey      kkoch-i      manhi  
          Kwanak-mountain-NOM      spring-at      flower-NOM      much  
          pi-n-ta.

bloom-PRES-DECL

‘In Kwanak Mountain, flowers bloom a lot in the spring.’

b. kulay,              Kwanak-san-i                      pom-ey      kkoch-i  
          *kuleh*-DECL      Kwanak-mountain-NOM      spring-at      flower-NOM  
          manhi              pi-n-ta.  
          much              bloom-PRES-DECL

‘Yes, in Kwanak-mountain, flowers bloom a lot in the spring.’

In a nutshell, Predication Ellipsis is licensed by a positive polarity head which is merged above TopP. It triggers deletion of various sizes of predication via

Agree.

#### 4.2.2 Explanation for the asymmetry

I attribute the asymmetry in extraction possibilities between *kuleh<sub>Verbal</sub>* and *kuleh<sub>Clausal</sub>* to the different structural positions they occupy. The position of the licenser (PolP) is fixed, hence the size of these pro-forms is the only independent variable.

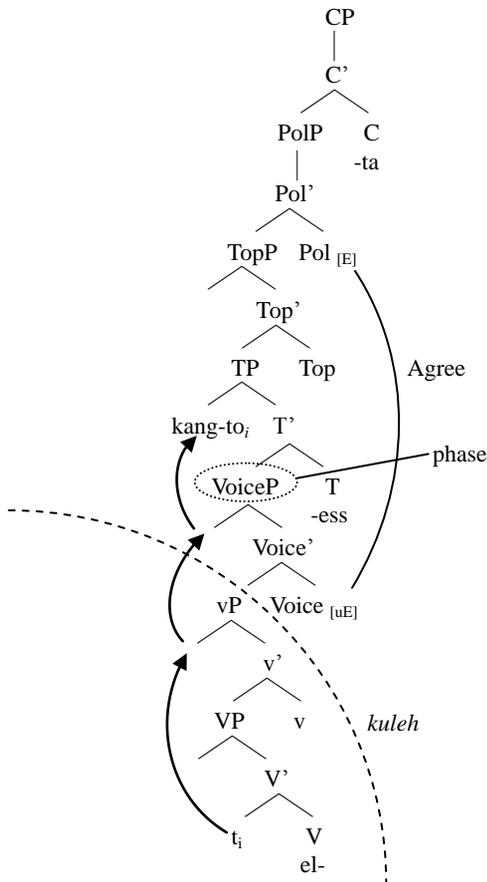
Extraction is possible from *kuleh<sub>Verbal</sub>* because there is an escape hatch between the licenser and the ellipsis site. I follow Aelbrecht (2010) and Baltin's (2012) view that VoiceP is a phase, not vP. VoiceP is located above vP (the ellipsis site) and below the Pol head (the licenser). As a result, extraction is possible.

Consider (61) (repeated below as (90)), which displays extraction of an unaccusative subject. Its configuration is depicted in (91). The Pol head bears [E] and agrees with the Voice head which bears [uE]. Once the [uE] on the Voice head is checked, the Voice head deletes its complement (*kuleh<sub>Verbal</sub>* is inserted afterwards, presumably as a last resort at PF). Before this happens, the unaccusative subject *kang-to* 'river-also' successfully escapes the ellipsis site by moving to Spec, VoiceP. Passive movements, topicalization, and others display extraction in a similar manner.

4. Solution to the asymmetry in possibilities in extraction

- (90) Hoswu-ka (sunsikkaney) el-ess-ko, kang-to  
 lake-NOM instantly freeze-PAST-CONJ river-also  
 kulay-ss-ta.  
 kuleh<sub>Verbal</sub>-PAST-DECL  
 ‘The lake froze (instantly), and the river did too.’

- (91) *kuleh*<sub>Verbal</sub>: Extraction is unrestricted



As for *kuleh*<sub>Clausal</sub>, extraction is prohibited because a landing site for movement is absent between the licenser and the ellipsis site. *kuleh*<sub>Clausal</sub> is always

bigger than VoiceP, which was the escape hatch for the remnants of *kuleh*<sub>Verbal</sub>. The ellipsis site and the licenser are just too close to each other. As a consequence, no element can be extracted. Only the elements that were external to the ellipsis site from the beginning can survive ellipsis.

Consider (92) for example. The accusative-marked *i chayk-ul* 'this book' was regarded as an extracted remnant by Park (2013). However in chapter 3, I claimed that it is not, and it is in fact a Major Subject which was base-generated external to *kuleh*<sub>Clausal</sub>. The configuration of (92b)'s embedded clause is illustrated in (93).

(92) a. na-nun        i            chayk-ul<sub>i</sub>    saramtul-i    pro<sub>i</sub>    cohaha-n-tako  
           I-TOP            this        book-ACC    people-NOM                    like-PRES-COMP  
           sayngkakha-n-ta.

think-PRES-DECL

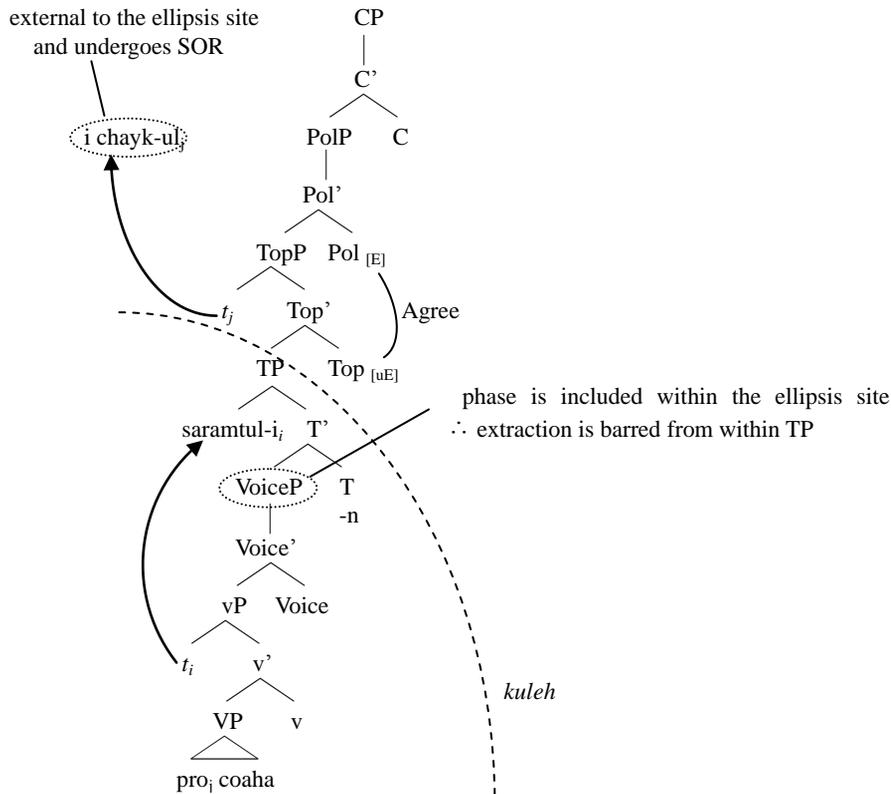
‘I think people like this book.’

b. ani,        na-nun        i    chayk-ul        kuleh-key        sayngkakha-ci  
      no        I-TOP            this book-ACC    kuleh<sub>Clausal</sub>-KEY    think-CI  
      anh-nun-ta.

NEG-PRES-DECL

(Lit.) ‘No, I don’t think so about this book.’

(93) *kuleh*<sub>Clausal</sub>: Extraction is prohibited



Again, the Pol head is the licenser with [E]. But this time, it is the Top head which bears [uE]. It deletes its complement TP immediately after it agrees with the Pol head. The Major Subject is base-generated outside the ellipsis site and has nothing to do with extraction. Remnant movement is barred because there is no head between PolP and TP that can attract the elements within the ellipsis site.

It is also possible to elide TopP. In this case, the Pol head will bear [E] and [uE] at the same time. Its complement TopP will therefore be deleted as soon as the Pol head is merged. This will result in ellipsis of a Categorical Predication. If it occurs in the matrix clause, we will get an affirmative answer construction in (52)

(repeated below as (94)). Recall that only the high adverbs survived the ellipsis as they were adjoined to CP, which is external to the ellipsis site.

- (94) a. Kwanak-san-i                      pom-mata              kkoch-i              manhi  
           Kwanak-mountain-NOM    spring-every            flower-NOM    much  
           pi-nun-ka?  
           bloom-PRES-Q  
           ‘In Kwanak Mountain, do flowers bloom a lot every spring?’
- b. (amato/hwaksilhi)    kuleh-ta.  
           maybe/certainly    kuleh-DECL  
           ‘(Maybe/certainly) so.’

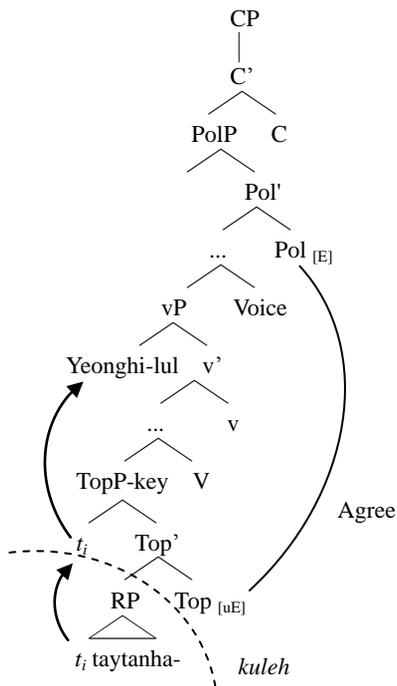
Lastly, I discuss the ellipsis of a small clause predication. I assume that the Top head within the small clause bears [uE]. As for the existence of PolP within a small clause, I do not have any empirical evidence nor theoretical motivation for it. In fact, it seems less plausible due to the ‘smallness’ of the small clause. If this is the case, the Pol head in the higher clause should serve as the licenser. I repeat the small clause example (57) here as (95), and its configuration is given in (96).

- (95) a. Chelswu-nun    Yeonghuy-lul    taytanha-key    sayngkakha-n-ta.  
           Chelswu-TOP    Yeonghuy-ACC    excellent-KEY    think-PRES-DECL  
           ‘Chelswu thinks Yeonghuy (as) excellent.’

#### 4. Solution to the asymmetry in possibilities in extraction

- b. Minho-to (Yeonghuy-lul) kuleh-key sayngkakha-n-ta.  
 Minho-also Yeonghuy-ACC kuleh<sub>Clausal</sub>-KEY think-PRES-DECL  
 ‘Minho thinks so too.’

(96) *kuleh*<sub>SC</sub>: Extraction is possible



#### 4.2.3 Ellipsis licensing is not subject to PIC

An acute reader may have already noticed that the Pol head in (96) crossed a phase boundary (Voice) to license ellipsis of the small clause. This is not in full accord with Aelbrecht’s (2010) proposal that ellipsis is subject to PIC. I suggest that a weaker version of locality should be employed. I follow Bošković (2007) in that Agree is not subject to PIC. In his perspective, phase Spell-Out does not render its

complement inaccessible to syntax. The PIC effect is achieved via considerations of the syntax-phonology interface. This implies that in our case, the Pol head which resides in a higher phase domain can Agree with the Top head within the small clause.

### 4.3 Summary

In the previous chapter, I claimed that *kuleh<sub>Verbal</sub>*, *kuleh<sub>SC</sub>*, and *kuleh<sub>Clausal</sub>* are all formed as a result of a single anaphoric process, Predication Ellipsis. However, there was difference in their possibilities in extraction: *kuleh<sub>Verbal</sub>* and *kuleh<sub>SC</sub>* allows extraction, but *kuleh<sub>Clausal</sub>* doesn't.

This chapter showed that there is a close relation between the size of these anaphors and their possibilities in extraction. Based on the assumption that Aelbrecht's (2010) proposal of Derivational Ellipsis is in effect, the relative position between the licensor and the ellipsis sites was taken under consideration.

I posited a positive polarity head as the licensor of Predication Ellipsis. I have shown that *kuleh<sub>Verbal</sub>* and *kuleh<sub>SC</sub>* have a phase head between their licensor and their domain of ellipsis. A remnant can move to this 'escape hatch' before the merge of the licensor (i.e. when ellipsis takes place), and survive ellipsis. In contrast, *kuleh<sub>Clausal</sub>* lacks such escape hatch. Therefore, no element within *kuleh<sub>Clausal</sub>* can escape the ellipsis site prior to the merge of the licensor. Consequently, extraction is prohibited. In this way, I was able to maintain my view that the morphological identity of *kuleh<sub>Verbal</sub>*, *kuleh<sub>SC</sub>*, and *kuleh<sub>Clausal</sub>* calls for a

#### 4. Solution to the asymmetry in possibilities in extraction

unified analysis.



## 6. Conclusion

In this thesis, I claimed that there exists an anaphoric process, termed Predication Ellipsis, which targets various sizes of predications: vP, a Sentential Predication, a Categorical Predication, and a small clause predication. The advantage of postulating a single anaphoric process for multiple domains is that by doing so, we can correlate the difference in extraction possibilities with the difference in structural configuration. This was achieved by adopting Aelbrecht's proposal of Derivational Ellipsis and taking under consideration the relative position of the licensor and the domain of ellipsis.

It is interesting why there should be an ellipsis which targets just predications, and why it is accompanied by overt realization of a pro-form. Traditionally, ellipsis phenomena have been named after their domain of ellipsis without explanation of why such domains are elided. The Predication Ellipsis analysis suggests that it is possible to view ellipsis domains at a more abstract level — predication. If there are languages other than Korean that has a pro-form which appears in various sizes, I expect a deeper inquiry into these pro-forms to provide a glimpse into why ellipsis is restricted to specific domains.



## Appendix: *Do so*, British English *do*, and Predication

### Ellipsis

Many works in the past considered *kuleh<sub>verbal</sub>* as the Korean counterpart of English *do so*. In this section, I argue that they are different in many aspects. I think English *do so* should be analyzed along with British English *do* construction. My reasoning is based on the assumption that the size of ellipsis and its relative position to the ellipsis licenser determines the extraction possibilities of an ellipsis phenomenon.

I first present Aelbrecht's (2010) analysis of British English *do* construction. British English *do* is a construction similar to English VPE, but is distinguished from English VPE in that it requires an additional *do* morpheme to follow auxiliaries. Baltin (2012) observed that its extraction possibilities are different from English VPE. It is compatible with unaccusatives and subject-to-subject raising, but prohibits other types of extraction.

- (1) a. John might die, and Fred might do too. (Unaccusative)  
b. John might seem to enjoy that, and Fred might do too.  
(Subject-to-Subject Raising)  
c. \*John might be visited by Sally, and Fred might be too. (Passive)  
d. \*Although we don't know what John might read, we do know what Fred  
might do. (Wh-movement)  
e. \*Hazelnuts, I like; peanuts, I don't do. (Topicalization)

Albrecht agrees with Baltin in that the licenser of British English *do* construction is the *v* head and the elided constituent is VP. According to Albrecht's analysis, the licenser bears both [E] and [uE]. The *v* head deletes its complement VP as soon as it enters the derivation. As a result, only the elements that moves through (or base-generated at) Spec,vP can survive ellipsis. Unaccusative construction and subject-to-subject raising are the two constructions that satisfy this requirement.

Let's now take a look at the extraction possibilities of English *do so*. It is surprisingly similar to British English *do* construction. English *do so* is only compatible with unaccusatives and subject-to-subject raising. If the size of ellipsis and its relative position to the ellipsis licenser is indeed a crucial factor for determining extraction possibilities, I think English *do so* should be analyzed in parallel to British English *do* construction. In other words, the licenser is the *v* head and the elided constituent is VP.<sup>29</sup>

- (2) a. John might die, and Fred might do so too. (Unaccusative)
- b. John might seem to enjoy that, and Fred might do so too.  
(Subject-to-Subject Raising)
- c. \*John might be visited by Sally, and Fred might do so too. (Passive)
- d. \*Although we don't know what John might read, we do know what Fred  
might do so. (Wh-movement)

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<sup>29</sup> English *do so* is different from British English *do* construction in that it can only take a non-stative antecedent. I speculate that this dissimilarity is not due to the size of ellipsis nor the structural position of the ellipsis licenser. I argue that they both have a *v* head as their ellipsis licenser, but the *v* head of English *do so* has to be additionally specified with [-stative]. Therefore, the difference is attributed to the feature specification of the licenser, not its structural position.

- e. \*Hazelnuts, I like; peanuts, I don't do so. (Topicalization)

Note that Predication Ellipsis, or more specifically, *kuleh<sub>verbal</sub>* is dissimilar to English *do so* on many grounds. It allows wider range of extraction, and its ellipsis site matches that of English VPE.



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## 국문초록

# 한국어 주술관계의 생략현상

본고는 한국어 대용어 '그렇'을 생략이론의 관점에서 고찰해 보고자 한다. 본 논문의 주 목적은 대용어 '그렇'의 분포를 규명하고 그 추출(extraction) 가능성을 탐구하는 것이다.

본고는 먼저 대용어 '그렇'이 vP, 문장적 주술관계 (Sentential Predication), 정언적 주술관계 (Categorical Predication), 소절 (small clause)과 같이 다양한 범주를 대용할 수 있다는 것을 보여준다. 필자는 이로부터 '그렇'이 주술관계 (predication)를 대용한다는 결론을 얻는다. 나아가 필자는 한국어에 주술관계생략 (Predication Ellipsis)이라는 현상이 존재하며, 이 현상으로 말미암아 다양한 크기의 주술관계가 생략됨을 주장한다. 대용어 '그렇'은 이 생략현상이 작용한 이후 삽입되는 것으로 추측한다.

이어서 본고는 '그렇'과 관련하여 기존에 논의되지 않은 비대칭적인 추출가능성 (possibilities in extraction)이 존재함을 보여준다. 기존 연구는 '그렇' 밖으로의 추출이 '그렇'이 대용하는 투사구의 종류와 관계 없이 가능하다고 주장하였지만, 본고는 기존 논의와 입장을 달리하여 다양한 크기로 나타나는 '그렇' 중 일부만 추출이 가능함을 보여준다: vP

또는 소절을 대응하는 '그렇'은 추출을 허용하지만, 문장적 주술관계 또는 정언적 주술관계를 대응하는 '그렇'은 추출을 허용하지 않는다. 필자는 생략이 통사적인 도출 과정 중 일어난다는 전제 (Aelbrecht 2010) 하에 이러한 비대칭적 추출가능성을 설명할 수 있다고 주장한다. Aelbrecht의 도출적 생략 (Derivational Ellipsis) 이론은 생략현상의 추출가능성 차이를 구조적 차이와 연관 지을 수 있는 기제를 제공한다.

본고는 vP 또는 소절을 대응하는 '그렇'이 구조적으로 추출을 허용함을 보여준다: 이들은 생략 범위 (ellipsis site) 안에서 생성된 성분이 이동할 수 있는 탈출구 (escape hatch)가 존재하여 추출이 가능하다. 반면에 문장적 주술관계 또는 정언적 주술관계를 대응하는 '그렇'은 구조적으로 추출이 불가능하다: 이들은 탈출구가 없어, 어떠한 성분도 생략 범위 밖으로 이동할 수 없다. 이와 같은 방법으로 본고는 '그렇'이 보이는 특이한 비대칭적 추출가능성을 설명한다.

Keywords: 대응형, 대응어, 주술관계, 추출, 도출적 생략

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