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Korean Locative Alternation Revisited:
The Case of Multiple Incremental Themes

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– 복수적 점증 대상의 실현을 중심으로 –

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Korean Locative Alternation Revisited:

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Abstract

Korean Locative Alternation Revisited:
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This paper investigates on the syntax/semantics of Korean transitive locative alternation construction, based on the puzzling behavior of the Korean *ey*-variant known as the counterpart of the English "*into/onto*-PP" frame.

Locative alternation construction appears in two variants, depending on whether their direct objects are realized as the locatum, i.e., "$DP_{LOCATUM}$ *into/onto*-PP," or the location, "$DP_{LOCATION}$ *with*-PP." The former will be identified as the *ey*-variant, and the latter, the *lo*-variant. It has been suggested that the two variants differ in their semantic implication, in that the direct object of each variant is interpreted as the "affected" element of the event; the argument in the direct object position can only have the "holistic interpretation," while the oblique element can have the "partitive interpretation," as well as optionally holistic (Verkuyl 1972; Talmy 1976; Dowty 1991; Tenny 1987, 1994; Beavers 2017).

In Korean, however, novel patterns are observed when each variants are modified by measure phrases, such as *pan.cum* 'about.half.' The *lo*-variant well reflects the expectation that *pan.cum* would specify the degree of how much the direct object, i.e., location, is affected. With the *ey*-variant, however, not only can *pan.cum* specify the degree of how much the direct object, i.e., locatum, is affected, but also the degree of how much the oblique element, i.e., location, is affected. From the observation the two following questions arises: First, how do the Korean *ey*- and *lo*- variants differ in terms of their syntax and semantics? Second, how can the *ey*-variant gain ambiguity, denoting the process of events regarding different affected themes?

Accordingly, proposal is the following: The *lo*-variant has only one genuine argument, the direct object; the oblique "NP-LO" is a manner modifier which attaches to *v*P. By contrast, both the direct object and the oblique, "NP-EY," in the *ey*-variant

reside in ResP as genuine arguments of the locative event. The structural difference is justified by decomposing the event structure of each variants using the ambiguity of Korean *tto/tolo* 'again.' As an extension to the proposal, I demonstrate that the *ey*-variant also demonstrates ambiguity in regards to *"-key"*-resultative modification.

Therein, this paper presents novel data on *how* and *why* the *ey*-variant differs from the *lo*-variant in respect to measure/resultative phrase modification.

Keywords: locative alternation, "spray/load" alternation, holistic effect, resultative, measure, incremental theme

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List of Acronyms

ACC: accusative Case
BA: *ba* morpheme (Chinese)
CL: classifier
COP: copular
DECL: declarative
EY: *ey* morpheme (Korean)
IMP: imperative
INSTR: instrumental
KEY: *key* morpheme (Korean)
LE: *le* morpheme (Chinese)
LO: *lo* morpheme (Korean)
LOC: locative
MASC: masculine
NOM: nominative Case
NEG: negation
PRES: present tense
PAST: past tense
RES: resultative
SC: small clause
TOP: topic marking
1sg: first person singular
3sg: third person singular

again$_{\text{REP}}$: repetitive 'again'
again$_{\text{REST}}$: restitutive 'again'
[ ]$_F$: focus

Soli Deo Gloria

And I will bring the blind by a way that they knew not;
I will lead them in paths that they have not known:
I will make darkness light before them,
and crooked things straight.
These things will I do unto them, and not forsake them.

—Isiah 42:16

Chapter 1

Introduction

The current paper focuses on the syntax/semantics of Korean locative alternation construction, based on the observation that a *particular* variant involves multiple incremental themes.

It has been assumed that the aspectual properties of dynamic predicates are decided based on the choice of the head verb. According to Vendler (1957), the inherent semantics of verbs encode temporal relationship in two binary distinctions: telicity and durativity.

(1) a. Accomplishments: telic, durative (e.g., *build a house*)

b. Achievements: telic, punctual (e.g., *notice a painting*)

c. Activities: atelic, durative (e.g., *walk around*)

(Beavers 2012)

Apart from verbs, however, arguments are also known to be able to enter into aspectual composition. Thereafter called *incremental themes*, the referential properties of the arguments determine the referential property of a predicate, i.e., telicity (Dowty 1991). In (2), incremental themes are assigned each to *an apple* in (2a), *apples* in (2b), and *soup* in (2c).

(2) a. John ate an apple in/for ten minutes. [Count Noun]

b. John ate apples *in/for ten minutes. [Plural Noun]

c. John ate soup *in/for ten minutes. [Mass Noun]

(modified from Czardybon and Fleischhauer (2021))

If the incremental theme is a singular count noun, e.g., *an apple*, the whole event becomes telic;

hence, the event can be modified by time-span adverbial *in*-PP. By contrast, plural or mass noun incremental themes make the event atelic; hence, the event cannot be modified by *in*-PP.

Verbs can have multiple argument project options, which also often results in some kind of aspectual shift.

(3) a. Paula hit the fence.

b. Paula hit at the fence. (also *cut, hit, bite, push, etc.*)

(Levin 1993:41)

(4) a. Irv loaded eggs into the basket.

b. Irv loaded the basket with eggs. (also *spray, cram, splash, stuff, etc.*)

(Pinker 1989:8)

(3) demonstrates accusative/conative alternation, where the former is telic, and the latter is atelic; this reflects the shift of telicity, an aspectual class. (4) demonstrates locative alternation, where the former and the latter differ in which arguments are assigned the "aspectual roles;" that is, in each (4a-b), the direct object is assigned to the argument which decides the telicity of the event. In turn, the underlying event structure differ as well: (4a) denotes the event of *eggs* undergoing change-of-location, i.e., becoming put into the basket, whereas (4b) denotes the event of *the basket* undergoing change-of-state, causing to be loaded with eggs. Based on the observation, aspect has been proposed as the semantic determinant for argument realization, especially focusing on direct objecthood (Tenny 1994; van Hout 1996; Hay et al. 1999).

What is relevant to this is the *holistic effect*. As demonstrated above, locative alternation construction appears in two variants, depending on whether their direct object is realized as a locatum (*paint* or *carton*) or a location (*the wall* or *the truck*):

(5) Alternating locative verbs (Iwata 2008:1)

a. Jack sprayed paint onto the wall. [Figure frame]

Bill loaded cartons onto the truck.

b. Jack sprayed the wall with paint. [Ground Frame]

Bill loaded the truck with cartons.

Previous researches have focused on revealing the differences between the two variants, both syntactically and semantically. Syntactically, whether the *into/onto-* and *with*-PPs variants

are structurally derivational or not has been one of the most critical subject. Semantically, it has been suggested that the two variants have different implication, in that the direct object of each variant is the "affected" element of the event. For instance, only (6b), but not (6a) is interpreted such that the wall is fully occupied with paint. Likewise, (6a), but not (6b), the interpretation is such that the entire amount of paint is fully moved onto the wall.

(6) a. John loaded the hay onto the truck.

b. John loaded the truck with hay.

Hence, as the name suggests, "holistic interpretation" refers to the meaning where the argument is fully occupied, or has fully undergone movement; "partial interpretation" refers to the meaning where the argument can be partially affected, where holisitic interpretation is not neccessary.

The effect becomes more evident when specific contexts are provided to reinforce the holistic effect. In both (7-8), the direct object argument must receive holistic interpretation, requiring complete movement/occupation. The interpretation is optional for the oblique element, allowing both holistic and partial interpretation.

(7) a. John loaded the hay onto the truck, filling it all up.

b. John loaded the hay onto the wagon, but left some space for the grain.

c. #John loaded the wagon with the hay, but left some space for the grain.

(Beavers 2017:4)

(8) a. John loaded the wagon with the hay, moving ever last straw.

b. John loaded the wagon with the hay, but there was some hay left over.

c. #John loaded the hay onto the wagon, but there was some hay left over.

(Beavers 2017:4)

Korean also shows locative alternation construction parallel to that of English, demonstrating two variants; the *ey*-variant corresponds to the English *into/onto*-variant, and the *lo*-variant corresponds to the English *with*-variant.

(9) a. *Mina-ka pyek-ey pheyinthu-lul chilha-ess-ta.* [*ey*-variant]
Mina-NOM wall-EY paint-ACC paint-PAST-DECL

'Mina painted the paint onto the wall.'

b. *Mina-ka pyek-ul pheyinthu-lo chilha-ess-ta.* [*lo*-variant]
Mina-NOM wall-ACC paint-LO paint-PAST-DECL

'Mina painted the wall with paint.'

Korean is also reported to exhibit the holistic effect, where only the *lo*-variant denotes full occupation of the location element (Wechsler and Lee 1996; Lee 1997; Joo 2000; cf. Choi 2001).

Interestingly, however, Korean exhibits unique behavior when it co-occurs with measure phrases. That is, Korean *ey*-variant becomes semantically ambiguous when modified by measure phrases. The measure phrase can specify not only the direct object, i.e., the degree of how much locatum is used to occupy the location, but also the oblique element, i.e., the degree of how much the location is occupied of the locatum.

(10) *Mina-ka pyek-ey pheyinthu-lul pan.cum chilha-ess-ta.*
Mina-NOM wall-EY paint-ACC about.half paint-PAST-DECL

1) 'Mina painted about half of the paint onto the wall.'
2) 'Mina painted the paint to cover about half of the wall.'

The second interpretation, where the event specifies the scalar change of the oblique element, not the direct object element, is against what is expected. Even if possible, it is still puzzling how both the direct object and the oblique element can both act as the incremental theme.

On the other hand, Korean *lo*-variant, which is the counterpart of the English *with*-variant, demonstrates the expected result identical to that of English, with the measure phrase only specifying the degree of how much the direct object, the location, is occupied.

(11) *Mina-ka pyek-ul pheyinthu-lo pan.cum chilha-ess-ta.*
Mina-NOM wall-ACC paint-LO about.half paint-PAST-DECL

'Mina painted about half of the wall with paint.'

Based on the distinct behavior of the two Korean locative variants, the present thesis aims to addresses the syntax/semantics of Korean "spray/load"-type verbs. Chapter 2 illustrates the

characteristics of locative alternation in general and what has been discussed about the construction in question. In Chapter 3, I demonstrate the puzzling behavior of Korean locative alternation construction focusing on the *ey*-variant, and the proposal, accordingly. Chapter 4 further elaborates the proposed structures of each variants, focusing on event decomposition using the ambiguity of Korean *tto/tolo* 'again.' Chapter 5 further extends the proposal by showing how the *ey*-variant behaves in regards to resultative phrase modification, providing novel data on the behavior of Korean *ey*-variant in respect to measure/resultative phrase modification. Chapter 6 concludes the thesis.

Chapter 2

Previous Studies

Over the decades, the topic on locative verb constructions has attracted many scholars in the field of syntax, semantics, and the interface of the two fields. In this section, I will review the general characteristics of locative alternation focusing on English, since primary studies on locative constructions have been discussed mainly on the English language in particular. Next, I will introduce the major approaches to locative alternation.

2.1 Locative Alternation in General

2.1.1 Locative Alternation

Locative alternation applies to a type of predicate which denotes the location change of an argument, i.e., transfer of an entity or set of entities (the figure, theme, content, or locatum) into or from[1] a position or area (the ground, goal, container, or location) (Pinker 1989).

Locative variants involve those which allow alternation (12a) and those which does not (12b), depending on the verb type.

(12) Locative Alternation (Pinker 1989:8)

[1] Verbs of removal, as in (i), have been classified as locative alternation as well as the verbs of putting (see Pinker 1989:77-82, 124-130; Jackendoff 1990:Ch 8; Levin 1993:49-55; among others):

(i) Verbs of removal
  a. Harry emptied water from the tub. (=*from*-form)
  b. Harry emptied the tub of water. (=*of*-form)

Meanwhile, the verbs of removal are known to have alternating verb types (as in (i)), as well as non-alternating verb types, just as the verb of putting.

(ii) a. Doug removed the smudges from the tabletop. (Levin 1993:122)
  b. *Doug removed the tabletop of smudges. (ibid.)

a. Irv *loaded* eggs into the basket.

Irv *loaded* the basket with eggs. (also *spray, cram, splash, stuff, etc.*)

b. Irv *poured* water into the glass.

*Irv *poured* the glass with water.

Alternating locative verbs are known to appear in two variants, depending on whether their direct objects are realized as a locatum (*paint* or *carton*) or a location (*the wall* or *the truck*):

(13) Alternating locative verbs (Iwata 2008:1)

a. Jack sprayed paint onto the wall. (Locatum-as-object variant)

Bill loaded cartons onto the truck.

b. Jack sprayed the wall with paint. (Location-as-object variant)

Bill loaded the truck with cartons.

The construction which takes the preposition *into* or *onto* as in (13a) is called "content-oriented," "theme-object," or "locatum-as-object" variant. The one taking the preposition *with* as in (13b) is called "container-oriented," "goal-object," or "location-as-object" variant. In this paper, the former will be identified as the *into/onto*-variant, and the latter as *with*-variant.

The non-alternating locative construction can be further divided into two variants regarding which argument they take as direct objects:

(14) Non-alternating figure verbs (Kim 1999:2)

a. John poured water into the glass. Figure-Frame
Alice spilled soup onto the table.
Tim dripped water onto the floor.

b. *John poured the glass with water. *Ground-Frame
*Alice spilled the table with soup.

(iii) a. *The doctor cured pneumonia from Pat. (Levin 1993:129)
b. The doctor cured Pat of pneumonia. (ibid.)

It has been proposed that the *onto-* and *from*-variants appear with verbs of motion, and the *with-* and *of*-variants with result verbs; this is the identical pattern Pinker (1989) proposes for the verbs of putting: the content-oriented verbs bear the thematic core of change-of-location, whereas the container-oriented verbs bear the thematic core of change-of-state.

Although the current paper only focuses on locative constructions of the verbs of putting in particular, I acknowledge the possibility that the verbs of putting and verbs of removal can be syntactically/semantically related.

*Tim dripped the floor with water.

(15) Non-alternating ground verbs (Kim 1999:2)

a. *John filled water into the glass. *Figure-Frame
*Alice covered the blanket over the baby.
*Tim decorated lights on the Christmas tree.

b. John filled the glass with water. Ground-Frame
Alice covered the baby with blanket.
Tim decorated the Christmas tree with lights.

The verbs in (14) only allow the figure frame, where the locatum element is encoded as the direct element and the location element is encoded in the *into/onto*-PP. The verbs in (15), by contrast, only allow the ground frame, where the location element is encoded as the direct element and the locatum element is encoded in the *with*-PP. [2]

2.1.2 The Linking Rule

There are variations among verb types on whether they can or cannot enter into certain syntactic variants. Accordingly, the fundamental question arises regarding the syntax-semantics correspondences of the locatives: What distinguishes alternating verbs from non-alternating verbs? And among non-alternating verbs, what distinguishes the verbs which only allow the figure-frame and the verbs which only allow the ground-frame?

What is generally agreed upon is that verb types which (dis)allow each syntactic frame differ in terms of their meaning. In other words, there exist some consistent syntax-semantics correspondences between the lexical item (i.e., locative verb) and the frame (i.e., syntactic structure) in which they can appear. Essentially, the figure frame is regarded to denote change-of-location, while the ground frame is regarded to denote change-of-state. If a verbal item is available to

[2] Notably, there exists a third-variant in Romance languages, namely the *of*-variant; Damonte (2005) argues that only Romance languages, as opposed to Germanic languages, possess the *of*-variant.

(i) a. Juan cargo el carro de heno. [Spanish; Mateu 2000]
Juan loaded the cart of hay

b. Ho caricato il camion di sabbia. [Italian; Bleotu 2019]
have-1SG loadded the truck of sand

Furthermore, other than the Romance languages, there also exist languages which have a third variant different from the Romance *of*-variant; for instance, in Polish, almost all the *spray*-type verbs (e.g., *spray, splash, splatter*) are known to be able to enter into such construction:

(ii) Marek pryskał woqą na ścianę [Polish; Lewandowski 2010]
Marek splashed-IMP water-INSTR on wall-ACC

express both the change-of-location and the change-of-state event, then it is able to enter into both constructions; if not, then either one of the semantically relevant construction is available.

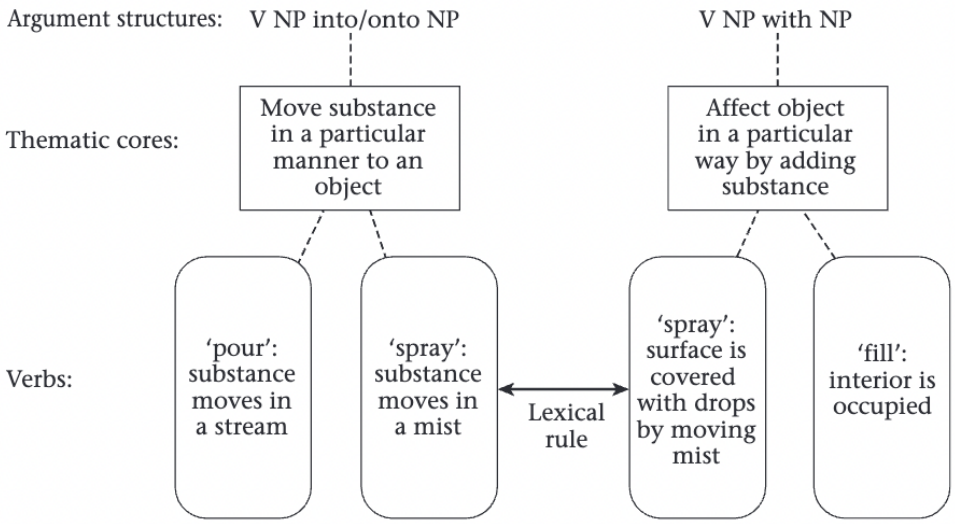


Figure 2.1: The Constraints on Locative Alternation (Pinker 1989:95)

In Figure 2.1 above, *pour* is a non-alternating figure verb, and *fill* is a non-alternating ground verb. Crucially, *spray* is an alternating verb which conveys different meaning when it is in different syntactic frames; in the figure frame, it denotes change-of-location, and in the ground frame, it denotes change-of-state.

Figure frame verbs, i.e., the verbs specifying change of location or the manner of motion by which the content undergoes the change-of-location, has the thematic core of the "X moves Y into/onto Z," further linking it to the locatum-as-object argument structure i.e., NP_{Figure} into/onto NP_{Ground}; Notably, how the ground element, i.e., the container or the surface, is affected as the result of the locative event need not be specified:

> … the verb constrains either how the agent initiates the motion (e.g., by spilling versus injecting versus ladling) or in what manner the object moves (e.g., in a continuous stream, as in pouring, or as a mist, as in spraying). … if I pour water into the glass, the glass can be full, partially full, or even empty (if the glass leaks), but I have to cause the water to move as a cohesive stream; I cannot spray the water into the glass, use the glass to bail water out of a bathtub, let water condense into the glass, or leave the glass on a windowsill during a rainstorm.
>
> (Pinker 1989:77)

Ground frame verbs, i.e., the verbs specifying the manner or nature of change or the property of what has changed in the location that undergoes the change-of-state, has the thematic core of the "X causes Y to change its state by means of moving Z to Y;" it further links on to the location-as-object argument structure, NP_{Ground} with NP_{Figure}.

Consider the English alternating verb *load*. In the figure frame, i.e., 'load the hay into a wagon,' the verb denotes the event of moving the locatum, *the hay*, into the location, *a wagon*; it specifies the manner by which the hay is moved. On the other hand, in the ground frame, 'load a wagon with hay' denotes the event of changing state of the location, *a wagon*; further specification of the manner of the moving object, *hay*, is unnecessary.

2.1.3 The Holistic Effect

A controversial [3], yet an essential issue relevant with locative alternation is the *holistic effect*. First introduced by Anderson (1971), the argument introduced as the direct object, but not the oblique element, is interpreted as being holistically or totally affected (see also, Verkuyl 1972; Talmy 1976; Bowerman 1982; Dowty 1991; Tenny 1987,1994).

Take (16) for example. (16b), but not (16a), requires 'the wagon' or 'the wall' to be "completely" affected. In turn, (16a), but not (16b), requires the total supply of 'hay' or 'paint' to be used in the event of "loading the wagon," or "spraying the wall."

(16) a. Irv loaded the hay into the wagon.

Irv sprayed the paint onto the wall.

b. Irv loaded the wagon with (the) hay.

Irv sprayed the wall with (the) paint.

In that sense, the argument in the direct object can only have the "holistic interpretation," while the oblique element can have the "partitive interpretation," as well as optionally holistic.

(17) a. Irv completely loaded the hay into the wagon. [4] (≈16a)

⊨ all the hay was in the wagon.

⊭ the wagon was full of hay.

b. Irv completely loaded the wagon with (the) hay. (≈16b)

⊭ all the hay was in the wagon.

⊨ the wagon was full of hay.

[3] Rappaport & Levin argue that the holism effect is actually an epiphenomenon of the fact that the verb specifies a change of state; for instance, one can say 'The vandal sprayed the statue with paint' even if there is only a dab of paint on the statue (Pinker 1989:78).

[4] Notably, the minimal pair with an indefinite DP, i.e., *hay* instead of *the hay*, as the direct object cannot be modified by 'completely.' Incremental themes with nonquantized reference makes the event atelic, hence modification of adverbs requiring endpoint of an event infelicitous. See Dowty (1991) for details.

(modified from Wechsler and Lee 1996:648)

The fact becomes more evident when events contradicting the holistic interpretation is given:

(18) a. John loaded the hay onto the wagon, but left some space for the grain.

b. #John loaded the hay onto the wagon, but there was some hay left over.

(19) a. John loaded the wagon with the hay, but there was some hay left over.

b. #John loaded the wagon with the hay, but left some space for the grain.

(modified from Beavers 2017:4)

As in (18a-b), the *into/onto*-variant allows partial occupation of the location, realized as the oblique PP, but the locatum, *the hay*, realized as the direct object, must be completely used up in the loading event. Conversely, in (19a-b), the *with*-variant neccessarily requires complete occupation of the location, *the wagon*, realized as the direct object; the locatum, realized as the oblique element, need not be completely used in the loading event.

Apart from whether holistic effect exists or not, the direct object position has been believed to be semantically linked to the entity which is affected.

(20) Object Affectedness Linking Rule (Gropen et al. 1991:115)
An argument is encodable as the direct object of a verb if its referent is specified as being affected in a specific way in the semantic representation of the verb.

Especially in alternation constructions, the direct object position derives an entailment that the argument in the position in question is what is affected in the event.[5]

2.2 Approaches to Locative Alternation

There has been a few approaches to locative alternation: in a broad perspective, there has been the lexical-semantics approach, the constructionalist approach, and the syntactic approach. In this section, I will provide a critical review on the the Lexicalist Approach in particular, focusing on Pinker (1989), since it has been the most influential and representative work on the topic.

[5]For entailment-based proposal for argument selection, see Beavers (2010) for detailed discussions.

Meanwhile, examining the limitations of the Lexicalist Approach, I will present the Syntactic Approach as the alternative way of analyzing the construction in question.

2.2.1 The Lexicalist Approach

The core assumption of the Lexicalist Approach is that within a locative alternation construction for each alternating verbs, there is a basic variant among the two, and a "lexical rule" derives the other from the basic variant.

> It is a rule that takes a verb containing in its semantic structure that the core "X causes Y to move into/onto Z," and converts it into a new verb whose semantic structure contains the core "X causes Z to change state by means of moving Y into/onto it."
>
> (Pinker 1989:79)

Crucially, from the assumption, there arises the question of what qualifies one variant to be more basic over the other. Pinker (1989) argues for a universal linking rule, where the affected entity of the main event of the verbs' semantic representation is linked to the grammatical direct object. Accordingly, he proposes the two thematic cores, i.e., the schematization of the core meaning of a class of possible verbs, of the two variants.[6]

Verb types	Thematic core	Argument structure
Content-oriented	X moves Y into/onto Z *(Change-of-location)*	Locatum-as-object
Container-oriented	X causes Y to change its state by means of moving Z to Y *(Change-of-state)*	Location-as-object

Table 2.1: Pinker's (1989) two variants

Pinker's (1989) semantic criteria includes two major classes: the broad-range conflation classes that is guided by the "broad range rule" and the narrow-range conflation classes that is guided by the "narrow range rule." The former is a rule of a "property predicting regularity,"

[6]Within the Lexicalist Approach, the view of distinguishing the two variants as "change-of-location" vs. "change-of-state" distinction has been proposed in various, but similar ways.

(i) a. X CAUSE [BECOME [hay BE ON truck]]

b. X CAUSE [BECOME [truck$_z$ BE [WITH [hay BE ON z]]]]

(Kageyama 1997:61)

(ii) a. [[X ACT] CAUSE [y BECOME P_{loc} z] [$LOAD$]$_{MANNER}$]

b. [[X ACT] CAUSE [z BECOME []$_{STATE}$ WITH-RESPECT-TO y] [$LOAD$]$_{MANNER}$]

(Rappaport Hovav and Levin 1998:261)

which contains the basic properties of what the verb types should have; for instance, as for locative alternation verbs, it would be a type of motion (X moves Y into/onto Z) or an end state (X causes Y to change its state by means of moving Z to Y); it is considered to be a universal property across languages. On the other hand, the "narrow range rule" is a rule of "existence predicting regularity." Narrow range rules are semantically based on the broad range rules, but are conventionalized groups of even more specific manner of motion.

In Table 2.2, the first two columns reflect the *broad range rule*, which constrains the argument structure. The last two columns reflect *narrow range rule*, which distinguishes specific verb classes whose semantics is within the thematic core of each broad range rules; if a verbal item X is regarded to have the semantics of the narrow range conflation class that meets the semantic criteria for a specific construction (e.g., non-alternating figure frame), then X must be a non-alternating figure verb.

Frame	Alternation	Verb Class	Verb Meaning
Figure	Non-alternating	*"pour"*-class	A mass is enabled to move via the force of gravity. (e.g., *dribble, drip, drizzle, dump, ladle, pour, shake, slop, slosh, spill,* etc.)
	Alternating	*"spray"*-class	Force is imparted to a mass, causing ballistic motion in a specified spatial distribution along a trajectory. (e.g., *inject, spatter, splash, splatter, spray, sprinkle, squirt,* etc.)
Ground	Non-alternating	*"cover"*-class	A layer completely covers a surface. (e.g., *cover, encrust, face, inlay, pave*; *fill* is also similar, with one more dimension, etc.)
	Alternating	*"load"*-class	A mass of size, shape, or type defined by the intended use of a container is put into a container, enabling it to accomplish its function. (e.g., *load, pack, stock,* etc.)

Table 2.2: Example of Pinker's (1989) Semantic Conflation

The narrow range rules involve subclasses of verbs which share specific semantics of some sort, but are still fully productive. For instance, there are three other verb classes apart from the "spray"-class among the English alternating figure verbs:

(21) a. "smear"-class: Simultaneous forceful contact an motion of a mass against a surface (e.g., *brush, dab, daub, plaster, rub, slather, smear, smudge, spread, streak,* etc.)

b. "pile"-class: Vertical arrangement on a horizontal surface (e.g., *heap, stack,* etc.)

c. "scatter"-class: Mass is caused to move in a widespread or non-directed distribution

(e.g., *bestrew, sow, strew*, etc.)

The narrow range rule differ across languages and among dialects, which guide the specific language users what kind of verb classes are applicable for the given construal.

However, there has been criticism that the actual corpus data demonstrates discrepancy between the syntactic structure and the semantic structure expected in Pinker's (1989) semantic criteria. Under the assumption that the more "basic" or "derivational" variant is more frequently produced (Bybee 2001), it is anticipated that the figure frame verbs to occur more frequently in the locatum-as-object structure, i.e., "DP into/onto DP" frame, and the ground frame verbs to occur more frequently in the location-as-object structure, i.e., "DP with DP" frame. However, it was found to be partially true.

	Verb	Locatum-as-objet	Location-as-object
Content-oriented	*smear*	33 [+3] (on) 3 (onto)	73 (with)
	pile	60 [+1] (on) 6 [+3] (onto)	121 (with)
	spray	6 [+1] (onto) 1 [+1] (on to) 14 [+6] (on) 9 (into) 25 [+3] (over)	82 [+29] (with)
	scatter	167 [+8] (over) 60 (around) 30 (about)	65 (with)
Container-oriented	*cram*	94 (into)	134 (with)
	load	82 (on) 41 (onto) 32 (on) 1 (on to)	406 (with)

Table 2.3: The BNC counts of the two variants of alternating verbs (Iwata 2008:15)

While it appeared to be true for the verbs of the latter classes, it proved to be false for the figure frame verbs except for the verb *scatter*; the verbs *smear*, *pile* and *spray* appeared more in the location-as-object structure, i.e., the "NP with NP" frame.

Moreover, the corpus data shows that individual verbs in the same verb classes do not behave uniformly:

	Verb	Locatum-as-objet	Location-as-object
Content-oriented	*Smear*	33 [+3] (on) 3 (onto)	73 (with)
	Spread	204 (on) 91 (over)	128 [+7] (with)

Table 2.4: The BNC counts of the two variants of 'spread' (Iwata 2008:16)

In the Lexicalist view, individual verbs in the same verb classes are assumed to share certain semantic features, which in turn drive them to behave uniformly in the selection of their argument structure. However, in Table 2.4 , the verb *smear* appears more frequently in the location-as-object structure, whereas the verb *spread* appears more frequently in the locatum-as-object structure. Hence, the corpus data raises questions against Pinker's (1989) proposals, showing limitations of the Lexicalist Approach.

Additionally, Pinker's diagnostics to distinguishing the two variants, i.e., the locatum-as-object variant and the location-as-object variant, has raised doubts as well. Pinker proposes the "PP omission test" (or the "sole complement test") to distinguish the basic variant of each verb types. Consider the following:

(22) Pinker's (1989) PP omission test (Pinker 1989:125)

a. "pile"-class: Figure-Alternating verbs in English
   i) He piled the books (onto the shelves). [Figure]
   ii) He piled the shelf *(with books). [Ground]

b. "stuff"-class: Ground-Alternating verbs in English
   i) John stuffed feathers *(into the pillow). [Figure]
   ii) John stuffed the pillow (with feathers). [Ground]

In (22a), the verb *pile* accepts PP-omission in the figure frame, but not in the ground frame. This points to the fact that the nominal item in the PP in (22b), which cannot be omitted, is obligatory in construing the event. Hence, according to Pinker, the ground frame is the basic form for the verb item *pile*, although it accepts both the figure and ground frame construction. It is the other way around for the verb *stuff*; since PP-omission in the figure frame, but not the ground frame, is prohibited, the figure frame is the basic form for the verb item *stuff*.

However, there have been doubts on whether the PP omission test truly serves as a diagnostic for the derivation base. For instance, there are cases where both of the Figure and Ground elements cannot stand solely as direct objects, or cases where both can:

(23) a. Verb items that disallow PP omission in any cases (e.g., *heap*)
i) John heaped books *(on the shelf).
ii) John heaped the shelf *(with books).

b. Verb items that allow PP omission in all cases (e.g., *pack*)
i) John packed books (into the box).
ii) John packed the box (with books).

(Pinker 1989:38-39)

Moreover, there were also cases where individual verbs classified in the same verb classes behave non-uniformly:

(24) Pile-class: Figure-Alternating verbs in English

a. PP omission of *pile* (Pinker 1989:125)
i) He piled the books (onto the shelf). [Figure]
ii) He piled the shelf *(with the books). [Ground]

b. PP omission of *heap* (Goldberg 1995:177)
i) Pat heaped mash potatoes *(onto her plate). [Figure]
ii) Pat heaped her plate *(with mash potatoes). [Ground]

(25) Cram-class: Ground-Alternating verbs in English

a. PP omission of *stuff* (Pinker 1989:125)
i) He stuffed the breadcrumbs *(into the turkey). [Figure]
ii) He stuffed the turkey (with the breadcrumbs). [Ground]

b. PP omission of *cram* (Goldberg 1995:177)
i) Pat crammed pennies *(into the jar). [Figure]
ii) Pat crammed the jar *(with pennies). [Ground]

The evidence acts as a critical weakness to the Lexicalist Approach, which expects verbs sharing identical semantics to be realized in identical syntactic structures.

2.2.2 The Structural Approach

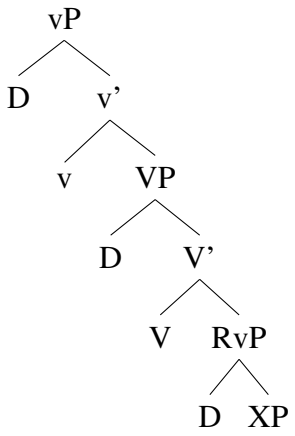
Other than the Lexicalist Approach, there have been efforts to explain locative alternation construction in a syntactic way. While the lexicalists introduce basic semantic predicates in terms of

encoding the event structures of each variants, e.g., CAUSE, BECOME, STATE, etc., the Syntactic Approach argues for certain syntactic structures, such as specifier-head and head-complement relationships (see Borer 1994, 2005; Ritter and Rosen 1998; Hale and Keyser 2002).

Before moving onto the locative alternation construction, it is important to take an overview on the syntax of motion verbs in general. The syntax-based works on locatives have developed based on typology of manner-of-motion verbs (Talmy 1972; Mateu 2000; Folli 2001; Gehrke et al. 2008; Folli and Harley 2020), decomposition of locatives (i.e., PATH/GOAL/SOURCE distinction) (Zwarts 2005; Gehrke 2008; Pantcheva 2010), etc., rather than locative alternation in specific.

In order to account for the manner-of-motion constructions, Folli (2001) adopts a lexical-based constructional approach, where the syntax generates the maximal projection of the following:

(26)



The structure composes of maximally three layers: the *v*P introduces causative event, the VP specifies a change or process, and RvP (or, the *result phrase*) is relevant to the aspectual properties of the event.

The main idea is to differentiate the patterns of Germanic languages and Romance languages. The language groups of the former allows dynamic and stative reading of motion verbs along with prepositions, whereas for Romance languages, only morphologically complex PPs can be interpreted as dynamic. The case is clearly drawn in example (27). In Italian, the verb *correre* 'run' can express both activity and accomplishment event, whereas *caminare* 'walk' is unambiguous, only able to express an activity event.

(27) a. *Maria ha/è corso fino a casa.*
Maria has/is run-3SG.MASC until.at house.

'Maria has run to the house.'

b. *Maria ha/*è camminato fino a casa.*
Maria has/is walked-3SG.MASC until.at house.

'Maria has walked to the house.'

In (27), (27a) allows both the auxilary *ha* and *è*; only the latter, not the former, allows for directed-goal interpretation, which belongs to the accomplishment event in Vendler's terms. Germanic languages do not exhibit this kind of inter-language distinction in prepositions and verb types. In order to account for the distinction between Germanic *vs.* Romance languages, Folli (2001) argues that languages of the former allow PP adjoinment at VP, giving rise to directed-motion interpretation. On the other hand, Romance can give rise to such interpretation only and only if simple prepositions combine with a verb which selects for RvP, i.e., a result phrase.

The spirit of Folli (2001) has influenced many scholars, including Mateu (2000, 2017). Based on Mulder's (1992a) Small Clause analysis[7], Mateu proposes that locative alternation variants are instances of result phrases with Small Clause complements.

(28) ... [$_{vP}$ v [$_{ResultP}$ DP Result]]

(29) a. [$_{vP}$ $\sqrt{x}$-v_{DO} [$_{ResP}$ DP_{THEME} [$_{Res'}$ $\sqrt{x}$ $PP_{LOCATION}$]]] $\sqrt{x} = \sqrt{CARREGA}$ 'load'

b. [$_{vP}$ $\sqrt{x}$-v_{DO} [$_{ResP}$ $DP_{LOCATION}$ [$_{Res'}$ $\sqrt{x}$ PP_{THEME}]]]

(Mateu 2017)

In accounting for why only "satellite-framed languages," as opposed to "verb-framed languages" allow for complex cases of locative alternation, Mateu (2017) posits Path as the head of the Small Clause; in other words, Path projects to Res(ult) Phrase, accordingly.

[7]Notably, Mulder (1992a) analyzes the oblique PP of the *with*-variant as an adjunct of the Small Clause, while that of the *into/onto*-variant is a true argument.

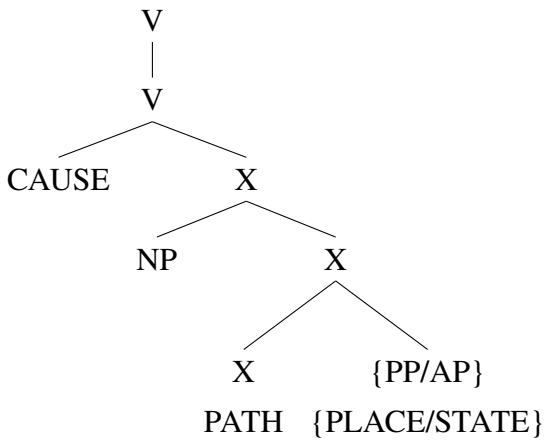
(i) a. ... Verb [$_{SC}$ $NP_{material}$ $PP_{locative}$]

b. ... Verb [$_{SC}$ $NP_{locative}$ A]($PP_{material}$)

(Mulder 1992a:178)

The "A" in (ib) stands for "total affectedness," which Mulder (1992a) suggests derives the holistic interpretaion of the *with*-variant.

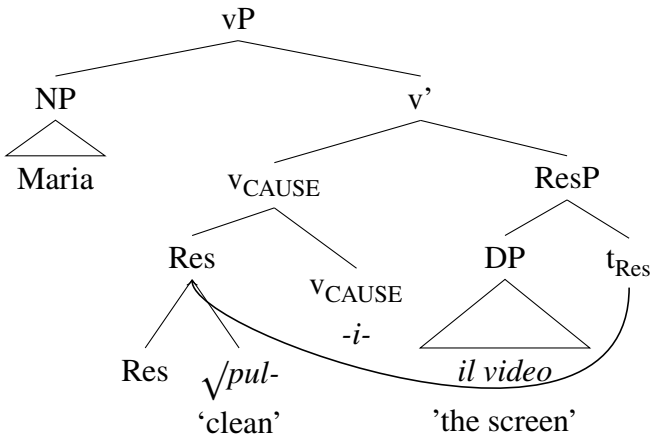
(30)



The postulation is important for Mateu, since the Path/Result head undergoes *conflation* with the verb in "verb-framed languages;" in other words, the path or the result state must be encoded and realized as the verb in the language variants. For the "satellite-frame languages," the Path/Result remains in-situ, hence the Path head remaining as a satellite from the verb, as the name suggests.[8]

Folli and Harley (2020), while they share similar ideas with Mateu (2017), have different ideas on the locative alternation construction in particular. They too argue that verb-frame languages require Res-to-*v* movement in accordance to the flavor of *v*: in complex events where v_{BECOME} or v_{CAUSE} is concerned, the Path/Result head bears a EPP requirement to internally merge to *v*.

(31)



However, concerning the locative alternation construction, Folli and Harley (2020) assume that the verb root directly adjoins to the Res(ult) head, while the oblique PP simply modifies the whole event. The rationale of their proposal is that the oblique PPs are optional, available for omission.

[8] Talmy's (1972; 1973; 1975; 1976; 1985) typology on manner-of-motion verbs are discussed in the scope out of this thesis, but is highly relevant. See Zubizarreta and Oh (2007), Gehrke et al. (2008), Mateu and Acedo-Matellán (2012), among all.

(32) a. *Gianni ha caricato la paglia (sul camion).*
Gianni has loaded the hay on.the truck

'Gianni loaded the hay (on the truck).'

b. *Gianni ha caricato il camion (con la paglia).*
Gianni has loaded the truck with the hay

'Gianni loaded the truck (with the hay).'

The remaining question is, if all oblique PPs in verb-framed languages optional, and all variants of the locative alternation construction behave the same way, then such asymmetry addressed in Korean *ey*- and *lo*-variant cannot be accounted for. Notably, there remain those who view the two traditional variants, i.e., the *into/onto*-variant and the *with*-variant, in a structurally distinct way (see Mulder (1992b); Yim (2006); Yakhabi and Lotfi (2017)).

Followingly, in the later chapters, I will summarize the puzzles of the Korean *ey*-variant, how the *ey*-variant behaves differently from the *lo*-variant, and how the puzzle can be accounted for both syntactically and semantically.

Chapter 3

The Puzzle

3.1 The Puzzle

Given the theories on the holistic effect, it is expected for the "affected argument" to be syntactically represented as the surface object. Hence, if a locative event is modified by "completely," then it is expected to denote the complete affectedness of the direct object, other than anything else. This is indeed the case in English.

(33) a. John completely loaded the hay onto the wagon. [Figure]

b. John completely loaded the wagon with hay. [Ground]

(Dowty 1991)

In (33a-b), the *into/onto-* and *with*-variant each express that the complete usage, or occupation of the direct object element.

Wechsler and Lee (1996) observes that Korean displays similar consequences in accordance to English when modified by *wancenhi* 'completely' or *ta* 'all.'

(34) a. *Mini-ka sakwa-lul thulek-ey wancenhi/ta chaywu-ess-ta.* [Figure]
Mini-NOM apple-ACC truck-EY completely/all fill.in-PAST-DECL

'Mini completely loaded the hay onto the wagon.'

b. *Mini-ka thulek-ul sakwa-lo wancenhi/ta chaywu-ess-ta.* [Ground]
Mini-NOM truck-ACC apple-LO completely/all fill.in-PAST-DECL

'Mini completely loaded the hay onto the wagon.'

While (34a) denotes that the apples are completely filled into the truck, (34b) denotes that the truck is completely filled with apples.

However, a puzzling set of data is observed when each variants is modified by *pan.cum* 'about.half.' If it is the case that the *into/onto*-PP variant takes the locatum as the affected element, and the *with*-PP takes the location as the affected element, the following is predicted: (i) In the Korean *ey*-variant, *pan.cum* would specify the degree of how much the locatum is affected. (ii) In the Korean *lo*-variant variant, it would specify the degree of how much the location is affected. However, only the latter is the case.

The *lo*-variant well reflects the prediction that *pan.cum* would specify the degree of how much the location is affected. With the *ey*-variant, however, not only can *pan.cum* specify the degree of how much the locatum is affected, but also the degree of how much the location is affected.[9]

(35) a. *Mini-ka thulek-ul sakwa-lo pan.cum chaywuta* [Ground]
Mini-NOM truck-ACC apple-LO about.half fill.in
1) ✓Mini loaded the truck half full
2) ✗Mini loaded half of the apples

b. *Mini-ka thulek-ey sakwa-lul pan.cum chaywuta* [Figure]
Mini-NOM truck-EY apple-ACC about.half fill.in
1) ✓Mini loaded half of the apples
2) ✓Mini loaded the truck half full with apples

Also, note that one important point about the reading in (35b-2) is that 'loading the truck half full with apples' is the minimum requirement for meeting the truth condition; if the other half of the truck is loaded with bananas, (35b) still holds.

The most striking data can be observed when the locatum direct object is quantized *and* is modified by *pan.cum* 'about.half'[10]:

[9]From this novel finding, I assume the previous claim on (34) is a generalization too strong to extend to language such as Korean; the intuition would have arose from the homomorphism of the completeness of the loading hay event and the completeness of the loading truck event. That is, even when modified by *wancenhi* 'completely' or *ta* 'all,' it might be the case that both the location and the locatum elements are being modified; it is just that the interpretation of one is stronger than the other.

[10]The effect is preserved when the location (oblique) is quantized when measure phrase modification takes place.

(36) *Mini-ka thulek-ey sakwa samsip kay-lul pan.cum chaywuta* [Figure]
Mini-NOM truck-EY apple thirty CL-ACC about.half fill.in

1) ✓Mini loaded 15 apples (into the truck)
2) ✓Mini loaded half of the truck with 30 apples

It is still the case that *pan.cum* can modify both the degree of how much the locatum is affected and the degree of how much the location is affected, as far as the figure frame is considered. As previously mentioned, it is important to note that the location-affected reading in (36-2)does not require the final state of the truck to be about half full, but about half full *with 30 apples*; that is, the other half of the truck can be at a state whatsoever.

To summarize, the two ambiguous meanings of the *ey*-variant can be represented as (37). The two are different in the sense that (37a) requires the truck to be half full with apples, whereas (37b) does not put any constraint on how full the truck is; it is felicious under the reading as long as half of the apples are used.

(37) *thulek-ey sakwa-lul pancum chaywuta* (=35b)

a. about half of what is loaded in the truck are apples

b. about half of the apples are loaded in the truck

To sum up, Korean locative alternation variants behave differently semantically, implying different underlying syntactic structures. The *lo*-variant behaves similarly to that of English, with the affected argument being the direct object. Hence, measure phrase predication can only target modification of the direct object, i.e., the location, otherwise, infelicitous. On the other hand, the *ey*-variant exhibits unique behavior by allowing measure modification on the events in respect to both the direct object, i.e., the locatum, and the oblique element, i.e., the location.

3.2 The Structure of Locative Event

Before moving on to the main proposal, I will discuss the syntactic structure of the locative events. As Chapter 2 demonstrates, previous studies have provided various structures for loca-

(i) *Mini-ka thulek sey tay-ey sakwa-lul pan.cum chaywuta* [Figure]
Mini-NOM truck three CL-EY apple-ACC about.half fill.in
1) ✓Mini loaded half of the apples into the truck
2) ✓Mini loaded apples into 3 trucks, causing each of them to be half loaded

tives, depending on the specific focus of the research questions. Hence, it is important to settle a unified view for accounting for the syntactic structure of locatives, prior to resolving the illustrated puzzle.

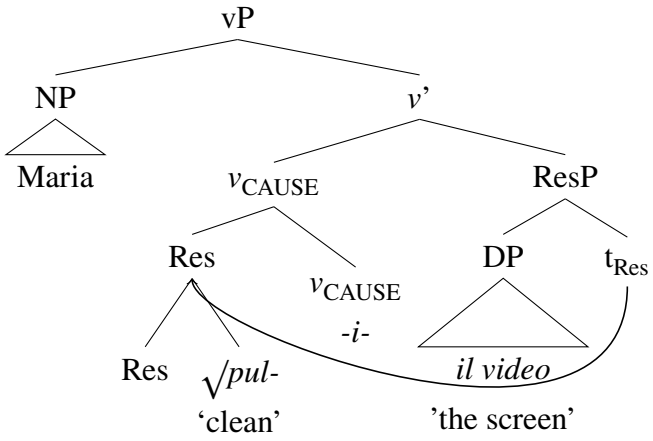
In this thesis, locative alternation construction will be regarded as complex events. In the previous literature, both the variants of "change-of-state" and "change-of-location" are considered to involve 'causing' or 'becoming' event, both in the field of syntax and semantics.

(38) a. [[X ACT] CAUSE [y BECOME P_{loc} z] [*LOAD*]$_{MANNER}$]

b. [[X ACT] CAUSE [z BECOME []$_{STATE}$ WITH-RESPECT-TO y] [*LOAD*]$_{MANNER}$]

(Rappaport Hovav and Levin 1998:261)

(39)



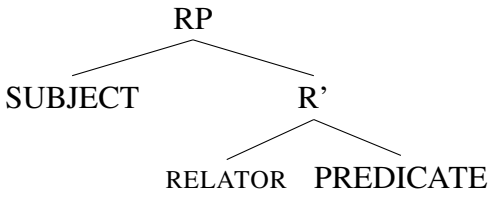
(Folli and Harley 2020:47)

Partially adopting Folli and Harley (2020), I will assume that complex event structures are realized syntactically by incorporating the "flavor" of v_{CAUSE}.[11]

In the case that the locative event involves Res(ult)P, ResP itself is equivalent to the notion of "small clause," as noted in Folli and Harley (2020). In terms of formulating the internal structure of the small clause, I posit den Dikken's (2006) RELATOR as the head of the small clause, or ResP. den Dikken (2006) proposes for a functional head which establishes a connection between the subject and the predicate in all predicate relationships.

[11] In Folli and Harley (2020), *v*s bringing about complex event structures, e.g., v_{BECOME} and v_{CAUSE}, selects for ResP, which distinguishes it from v_{DO}; v_{DO} selects for DP. Furthermore, the Res head obligatorily undergoes Res-to-*v* movement in the case of verb-framed languages, which includes Korean. I will not further extend Folli and Harley's proposal on (i) the selectional properties of *v* and (ii) the Res-to-*v* movement to Korean for the moment.

(40) The Structure of Small Clause RP (den Dikken 2006:3)



(41) The locality of prediation
The RELATOR accomodates the predicate and the subject in its MINIMAL DOMAIN.

(den Dikken 2006:12)

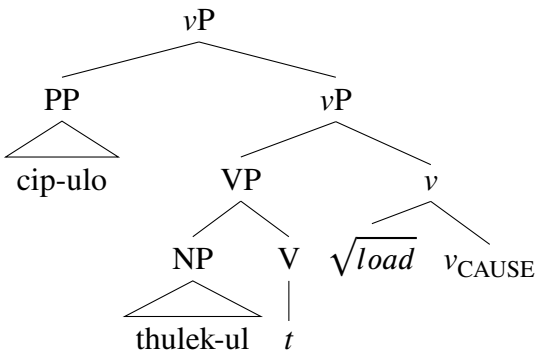
Henceforth, all of the small clause structures will be uniformly presented as RP, adopting den Dikken (2006).

3.3 The Proposal

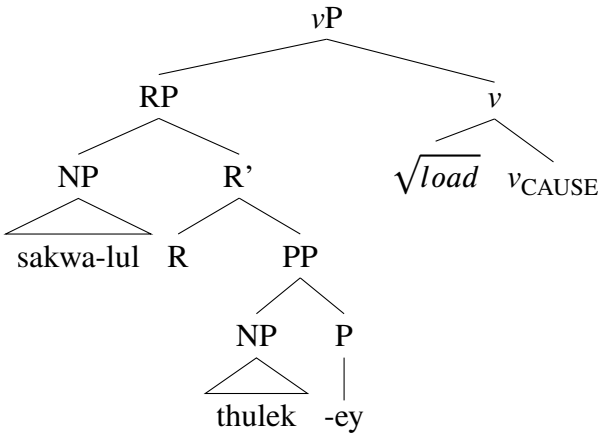
The research question of this paper is twofold: First, what is the syntactic/semantic difference between the *lo*-variant and the *ey*-variant? Second, how can the *ey*-variant employ multiple affected themes? Followingly, the current paper aims to answer the questions by arguing for different syntactic structure of each variants, particularly such that enables the *ey*-variant to accommodate ambiguous meaning from its structure.

I argue that the Korean *lo*-frame contains only one genuine argument, which is the locatum; it is realized as the direct object. The oblique "NP-lo" element is not the genuine participant of the resultant event but an event modifier. On the other hand, both the locatum and location elements in the Korean *ey*-frame are genuine arguments. That is, not only the direct object element, i.e., locatum, but also the oblique element, i.e., location, are contained in the locative event. The proposed structures of each variants are presented below:

(42) a. Structure of the *lo*-variant



b. Structure of the *ey*-variant



The difference between (42a-b) is that the position of each oblique elements: "NP-*lo*" and "NP-*ey*" are attached at different levels. As for "NP-*lo*," it is a manner modifier which merges at *v*P; "NP-*ey*" lies in Res(ult)P as a genuine argument of the locative event.

What would be the syntactic/semantic consequence of the given structure? As for the *lo*-variant, the "NP-*lo*" is a manner modifier specifying the manner in which the locative event takes place. For instance, *cip-ulo thulek-ul sitta* 'load the truck with hay' would denote an event such as "loading the truck, with the manner of using hay." The structure resembles a transitive construction with an (optional) oblique PP modifying the event. As for the *ey*-variant, the "NP-*ey*" is a genuine participant of the locative event; the structure resembles a ditransitive construction, requiring three event participants, namely, the Agent, the Theme, and the Goal.

Noticeably, the the locatum/location NPs in the RP in (42b) has different semantic status. Interestingly, if the aspect is progressive marked by *cwung ita* 'is in the middle of,'[12] the degree modification, i.e., *pan.cum* 'about.half,' can specify only the event of loading apples, not the truck.

(43) *Mini-ka thulek-ey sakwa-lul pan.cum chaywu-nun cwung-i-ta.*
Mini-NOM truck-EY apple-ACC about.half fill.in-PRES in.the.middle-COP-DECL

'Mini is loading apples about halfway into the truck.'

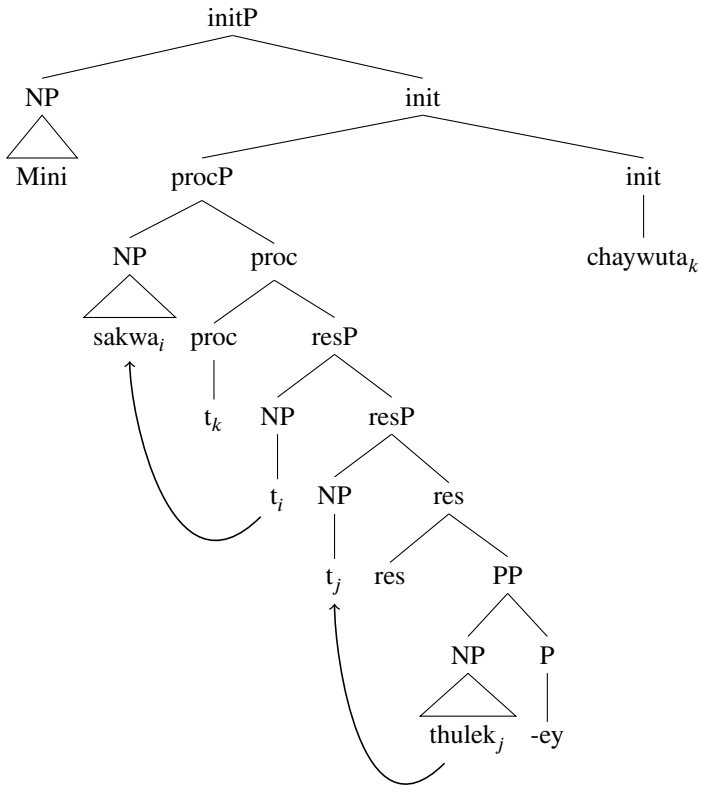
For this reason, although both the locatum, e.g., *the apple*, and the location, e.g., *the truck*, participates in the locative event, I assume that the level of participation are in different aspects. As for the locatum element, it describes the whole *process* to the *end* of the event (i.e., from

[12] I have not used *-ko issta* construction, which can also express progressive state on purpose; it known that *-ko issta* is ambiguous between progressive and resultive reading (Nam 2004; Kim 2011; Kim 2018), so *cwung ita* was used instead for clear demonstration.

the process of loading the apple to the loaded state of the apple); as for the location element, it describes only the *result* event (i.e., the loaded state of the truck).[13]

[13] Alternatively, Ramchand's (2008) view of event structure can be adopted to integrate the syntax/semantics of the *ey*-variant. Rather than positioning the locatum and location element at [spec,ResP] of different levels, they can be each positioned at [spec,procP] and [spec,resP], in Ramchad's terms.

(i)



Ramchand (2008) decomposes event structures into three parts: *init* represents the initial state which initiates the event, whose subject is the main causer of the event; *proc* represents the dynamic process of the event, whose subject performs the event; *res* represents the end state of the event, whose subject obtains the resultant state.

Following Ramchand (2008), the external argument 'Mini' lies at [spec,initP]; *sakwa* 'apple' is base positioned at [spec,resP], then moves to [spec,procP] since it can denote both the process and end state of the loading event. Next, I propose that *thulek* 'truck' strands from the preposition *-ey* 'to' and independently moves to [spec,resP] to denote the end state of the loading the location argument. After all, it is the location element that is being modified by the measure phrase, e.g., *pan.cum* 'about.half,' not the trajectory path movement, i.e., (moving) into the location.

Chapter 4

A Survey: the *tolo* Analysis

In this chapter, I will demonstrate how the previously proposed structures well illustrate the asymmetry of the *lo-* vs. *ey-* variants, and the mysterious patterns of the *ey-* variant. In particular, the ambiguity of 'again' is used to decompose the structures of each variants.

4.1 Background: On 'again'

The adverb 'again' is well known to be semantically ambiguous, especially when it is combined with telic[14] predicates. An example is the following, taken from Beck and Johnson (2004:106):

(44) Sally opened the door again.

a. Sally opened the door and that had happened before. (repetitive)

b. Sally opened the door and the door had been open before. (restitutive)

The repetitive meaning in (44a) describes the event where Sally opened the door twice, whereas the restitutive meaning in (44b) denotes the event where the door is in the state of being open once more; that is, the Agent who caused the door to become opened in the initial event does not necessarily have to be Sally.

In the structuralist approach, the ambiguity is viewed to have arisen depending on what 'again' takes scope over (Stechow 1996; Beck and Johnson 2004; Beck and Snyder 2001; Ko 2011; Yoon 2007). Accordingly, Ko (2014), taking a structuralist approach, presents the following structure to account for the ambiguity:

[14] When 'again' is combined with atelic verbs – that is, in Vendler's (1967) terms, state or activity verbs – 'again' loses semantic ambiguity, bearing the meaning of simple repetition; only the telic accomplishment or achievement verbs are ambiguous between the repetitive and restitutive readings. See [16] for detailed examples.

(45) $[_{vP}$ Subj v-CAUSE $[_{VP}$ BECOME $[_{SC}$ the door open again$_{REST}]]$ again$_{REP}]$

That is, the repetitive 'again' takes scope over the whole event, whereas the restitutive 'again' takes scope over only the initial resulting state.[15]

The ambiguous behavior of 'again' is not an exception in Korean. In Korean, there are three lexical items with the meaning 'again': the repetitive *tto*, the restitutive *tolo*, and *tasi*, which is ambiguous between the two readings.

(46) *Sally-ka ku myun-ul tasi/tto/tolo yel-ess-ta.* (Ko 2011:756)
Sally-NOM that door-ACC again open-PAST-DECL

i) 'Sally opened that door, and she had done that before.' (repetitive *tto* 'again')
ii) 'Sally opened that door, and the door had been in the state of being open before.' (restitutive *tolo* 'again')

The distinction between *tasi* and *tolo* becomes clear in constructions where only one meaning can be derived. For instance, the restitutive *tolo* cannot be used in constructions involving verbs of creation or verbs of pure activity. [16]

[15]Note that there can be a third reading, namely, the Intermediate reading (henceforth INT), which has been predicted by the decompositional analyses (Stechow 1996; Paslawska 2003; Bale 2005; Alexiadou et al. 2015).

(i) Intermediate reading (Alexiadou et al. 2015)
a. 'Sally has opened the door.'
b. Presupposition: The door has been opened before.
c. Attachment site: Adjunction to *v*P

(ii) $[_{VoiceP}$ **again**$_{REP}$ $[_{VoiceP}$ Sally $[_{vP}$ **again**$_{INT}$ $[_{ResultP}$ [**again**$_{REST}$ $[_{ResultP}$ the door open]]]]]]

Bale (2007) has reported the availability of restitutive readings with INT, in conditions it is predicted to be otherwise: First, INT is attested with activity verbs which lack restitutive reading:

(iii) a. Context: Seymour's dryer broke. He called a repair woman who simply hit the dryer until it started working. The dryer broke down two days later. So …
b. Seymour hit the dryer again.

Second, INT is attested with verb types that do not allow restitutive reading independently, such as manner of killing verbs:

(iv) a. Context: In a movie, Seymour's father killed the zombie. But it came back to life. In the end…
b. Seymour killed the zombie *again*.

Stechow (1996) and Jäger and Blutner (2000) claim that an independent concept of INT do not exist; Alexiadou et al. (2015) claim that INT exists, but the entailment problem is not affected by the existence of INT.

Readers should be aware that the *tolo* survey initiated in this thesis may have triggered the INT effect by giving the context of a previous event, and hence the restitutive reading of *tolo* may have availed the verb types which ought to be predicted otherwise, e.g., simple activity verbs, manner verbs, etc..

[16]Again, this is relevant to the fact that 'again' is disambiguated in atelic events, only able to have the repetitive reading. Note the difference between (ia) and (ib), where the former is telic and the latter is atelic.

(47) Conditions where restitutive *tolo* is restricted

a. Verb of creation

Chulsoo-ka *khwukhi-lul* *tasi/tto/#tolo* *kwuwessta.* (Ko 2011:756)
Chulsoo-NOM cookie-ACC again baked

'Chulsoo baked cookies again.' (repetitive, #restitutive)

b. Verb of pure activity

Irene-ka *paiollin-ul* *tasi/tto/#tolo* *yencwuhayssta.* (Ko 2011:756)
Irene-NOM violin-ACC again played

'Irene played the violin again.' (repetitive, #restitutive)

On the other hand, the use of the repetitive *tto* is restricted in conditions where the agent was not involved in the preceding event that is subject to repetition.

(48) Conditions where repetitive *tto* is restricted
[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* *tonkwul-ul* *tasi/tolo/#tto* *yelessta.*
soldiers-NOM that cave-ACC again opened

'Soldiers opened the cave again.' (restitutive, #repetitive)

(Ko 2011:757)

The scope ambiguity of 'again' in accordance with their repetitive and restitutive readings have allowed lexical semantics to demonstrate verb decomposition of complex event structures [17] (see McCawley 1971; Stechow 1996, 1996; Beck and Snyder 2001; Beck and Johnson 2004, 2005; Beck 2006; Bale 2005; among all). In particular, Beck and Johnson (2004) diagnose that the core difference between the 'repetitive' and the 'restitutive' meanings is that the 'again' in

(i) a. Sally walked to the summit again. (accomplishment)
⟶ Sally walked to the summit, and she had done that before. *(repetitive)*
⟶ Sally walked to the summit, and she had been there before. *(restitutive)*

b. Sally walked in Central Park again. (activity)
⟶ Sally walked in Central Park, and she had done that before. *(repetitive only)*
(Beck and Snyder 2001:57)

(ib) cannot have the restitutive reading, i.e., 'Sally walked in Central Park, and she had *been there before*.'

[17] In Snyder's (1995, 2001) terms, only "complex predicate constructions" can take part in predicate decomposition. Such constructions are as the following:

the former modifies a 'causing' subevent, while the latter modifies a 'becoming' one (Gisborne and Donaldson 2019).

Under the assumption that the flavors of *v* of which the locative alternation event consists underlies 'causing' or 'becoming' subevents, I believe the 'again' diagnostics to be a legitimate diagnostics to decompose the event structure of the construction in question.

4.2 The Survey

A total of 21 native speakers of Korean was recruited for the survey. The participants were instructed to provide gramaticality judgements on the given sentences on a 5-point Likert scale (1='very unnatural', 5='very natural'). The results were z-score transformed afterwards. Interestingly, disregarding the individual variations in response via z-score transformation, the participants agreed upon their judgements overall, demonstrating similar patterns of judgement across the verb items.

The stimulus consists of the following: A total of 9 verb items were tested on whether they allow the restitutive *tolo* 'again' reading in condition where the 'NP-ey' or 'NP-lo' was modified from the initial action:[18]

(49) a. Context: John loaded the box onto the wagon and unloaded it.
Sally loaded the box onto the truck *again*.

b. Context: John wrapped the plate with cloth and unwrapped it.
Sally wrapped the plate again with vinyl *again*.

For comparison, whether the repetitive *tto* 'again' reading is available in the identical context was examined as well.

If both the locatum and location elements are genuine arguments of the result phrase, it is

(i) a. Joe wiped the table clean. resultative
b. Joe picked up the book. verb-particle
c. Joe put the book on the shelf. *put*-locatives
d. Joe gave Bill the book. double object
e. Joe swam to the island. goal-PP

Notably, the *put*-locative and goal-PP constructions are classified as complex predicate constructions, according to Snyder.

[18] Minju Kim (p.c.) commented that there may exist interpersonal variation between Korean native speakers in how individuals lexicalize the word *tolo*, hence affecting the results of the survey. She additionally noted that adding a sentence such as 'Then Sally unloaded the box.' at the end would reinforce the restitutive meaning of *tolo*, hence clarifying the context.

predicted that if either one of the arguments are substituted with a random element, than both *tto* and *tolo* would fail:

(50) [$_{vP}$ John v-CAUSE [$_{vP}$ BECOME [$_{VP+Res}$ loaded the box onto the wagon]
[$_{vP}$ Mary v-CAUSE [$_{vP}$ BECOME [$_{VP+Res}$ loaded the box onto the truck ***#tolo***]] ***#tto***]

In (50), the locatum, i.e., *the box*, and the location, i.e., *the wagon* or *the truck*, lies both in the RP, indicating that they are genuine participants of the locative event. In this case, the *tolo* reading would require the repetition of 'loading the box onto the wagon,' and the *tto* reading would require the repetition of 'John's loading the box onto the wagon.' If Mary's loading event involves a different location element from John's loading event, then neither readings of repetition would be possible.

If, however, the replaced element is not the genuine argument but an adjunct attached out of the scope of the RP, than only the *tolo* 'again' would be acceptable; *tto* would not be.[19]

(51) [$_{vP}$ John v-CAUSE [$_{vP}$ BECOME [$_{VP+Res}$ loaded the box] onto the wagon]]
[$_{vP}$ Mary v-CAUSE [$_{vP}$ BECOME [$_{VP+Res}$ loaded the box ***tolo***] onto the truck ***#tto***]]

In (51), only the locatum lies in the RP, and the location is a event modifier; that is, only the locatum element is the genuine participant of the locative event. In this case, the *tolo* reading would require the repetition of 'loading the box,' and the *tto* reading would require the repetition of 'John's loading the box.' As long as the locatum element is preserved, then Mary's loading event would allow restitutive *tolo* modification even if it involves a different location element from John's loading event. The repetitive reading is simply impossible since the agent of the primary event subject to repetition, *John*, is changed into *Mary*.

[19] Although (50) and (51) use the same sentence 'John loaded the box onto the wagon,' (51) is not intended to express any kind of structural derivation from (50); they each represent seperate structures at their base-position. The semantic denotation of (50) and (51) are as the following:

(i) a. (50): #John loaded the box onto the wagon. Mary repeated the event of loaded the box onto the truck.
b. (51): John loaded the box, with the manner of locating it onto the wagon. Mary repeated the event of loading the manner, with the manner of locating it onto the truck.

4.3 The Result

The result of the survey is as the following: in general, when the oblique elements were replaced, the *lo*-variant allowed *tolo*, whereas the *ey*-variant rejected it.[20] Each of the figure and ground frame of the alternating verbs demonstrated identical patterns to their non-alternating figure and ground counterparts. Both variants rejected *tto*, as predicted, given (48-49). The comprehensive result of the survey on the restitutive reading *tolo* is given as below.

Verb Class	Non-alternating Figure			Non-alternating Ground		
Verb Item	*chilhata* *'paint'*	*sitta* *'load'*	*pusta* *'pour.into'*	*sata* *'wrap'*	*ceksita* *'soak'*	*telephita* *'dirty'*
Frame	Figure			Ground		
Obj	✗	✗	✓	✓	✓	✓
Verb Class	Alternating					
Verb Item	*chaywuta* *'fill'*	*tupta* *'cover'*	*kamta* *'bandage'*	*chaywuta* *'fill'*	*tupta* *'cover'*	*kamta* *'bandage'*
	Figure			Ground		
Obj	✓	✗	✗	✓	✓	✓

✓: Acceptable with *tolo* ✗: Unacceptable with *tolo*

Table 4.1: Comprehensive Result of the *tolo* 'again' Survey

When the direct object was replaced, both the figure and ground frame rejected *tolo*; *tto* was rejected, as predicted in (50-51). The result reflects that the direct object element is a genuine argument which lies in RP for both of the frames.

(52) Non-alternating Figure-frame verb (*sitta* 'load')

Chulsoo-ka *sangca-lul* *sure-ey* *silessta* *kuliko* *nayryutta.*

Chulsoo-NOM box-ACC wagon-EY loaded and unloaded

ihwu, *Younghee-ka* *sakwa-lul* *sure-ey* ***#tto/#tolo*** *silessta.*

later Younghee-NOM apples-ACC wagon-EY **again** wrapped

'Chulsoo loaded the box onto the wagon and unloaded it. Later, Younghee loaded the apples again onto the wagon.'

[20] As can be seen in Table 4.1, exceptional results were found in two verb items regarding the *ey*-variants: *pusta* 'pour.into' and *chaywuta* 'fill.' Note that the result does not point to total acceptance of the constructions, but rather borderline grammaticality; there existed strong individual variances between whether some accepted the verbs in the given constructions or not. The details will be discussed in Section 4.4.

(53) Non-alternating Ground-frame verb (*ssata* 'wrap')

Chulsoo-ka *kurut-ul* *pocaki-lo* *ssassta* *kuliko* *pulessta.*
Chulsoo-NOM plate-ACC cloth-LO wrapped and unwrapped

ihwu, *Younghee-ka* *can-ul* *pocaki-lo* ***#tto/#tolo*** *ssassta.*
later Younghee-NOM glass-ACC cloth-LO **again** wrapped

'Chulsoo wrapped the plate with cloth and unwrapped it. Later, Younghee wrapped the glass again with cloth.'

On the other hand, as previously mentioned, the *lo*-variant exhibits different results when the oblique PP elements are replaced. The *ey*-variant still rejected *tolo* as well as *tto*, while the *lo*-variant allowed *tolo*. Since the *lo*-variant rejected *tolo* when the direct object element was concerned, as in (53), the following data of the *lo*-variant strongly suggests that the status of the locatum and location element in the *lo*-variant must be different.

(54) Non-alternating Figure-frame verb (*sitta* 'load')

Chulsoo-ka sangca-lul sure-ey silessta kuliko nayryutta.
Chulsoo-NOM box-ACC wagon-EY loaded and unloaded

ihwu, Younghee-ka sangca-lul thuluk-ey ***#tto/#tolo*** silessta.
later Younghee-NOM box-ACC truck-EY **again** wrapped

'Chulsoo loaded the box onto the wagon and unloaded it. Later, Younghee loaded the box again onto the truck.'

(55) Non-alternating Ground-frame verb (*ssata* 'wrap')

Chulsoo-ka kurut-ul pocaki-lo ssassta kuliko pulessta.
Chulsoo-NOM plate-ACC cloth-LO wrapped and unwrapped

ihwu, Younghee-ka kurut-ul binil-lo ***#tto/tolo*** ssassta.
later Younghee-NOM plate-ACC vinyl-LO **again** wrapped

'Chulsoo wrapped the plate with cloth and unwrapped it. Later, Younghee wrapped the plate again with vinyl.'

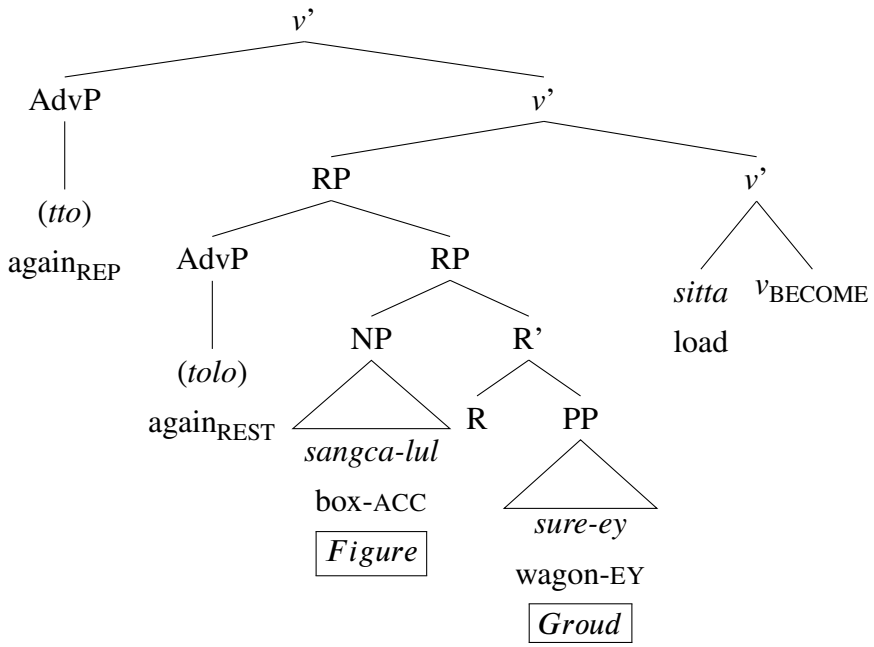
The pattern of the *ey*- and *lo*-variant each correspond to what was predicted from the structures (50) and (51). Both of the locatum and the location elements in the *ey*-variant are positioned in the Result Phrase, whereas in the *lo*-variant, only the location element is positioned in the

Result Phrase; that is, the *ey*-variant behaves more of a ditransitive construction, requiring three event participants, while the *lo*-variant is more of a transitive construction with an oblique PP modifying the event.

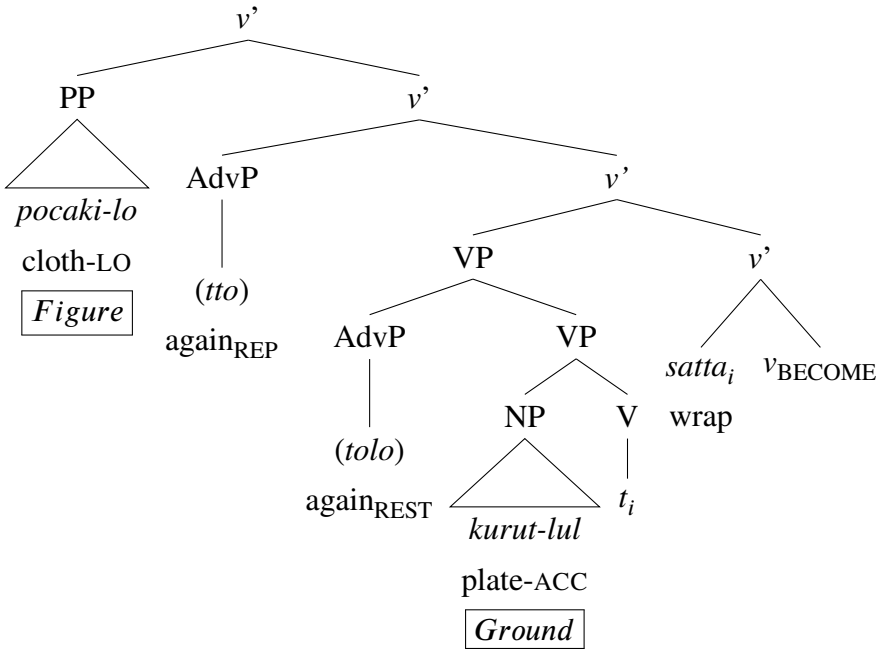
To sum up, the asymmetry between the Ground and Figure frame in the restitutive *tolo* 'again' diagnostics suggest that the two variants in which the locatives can be constructed has distinct internal structures. In accordance with the results of the restitutive *tolo* 'again' diagnostics, I propose the following structures:

(56) The Structure of *ey*- and *lo*-variant

a. *ey*-variant



b. *lo*-variant



In the *ey*-variant (56a), the repeated event is RP, *loading the wagon with box*. Hence, in order for the construction to gain a restitutive reading, the whole RP including both the locatum and location element ought to take part in the repeated event. Meanwhile, the *lo*-variant (56b) is not a genuine locative construction. The event of *wrapping the plate* in (56b) constructs an independent result state event, whereas the locatum element *pocaki-lo* 'cloth-LO' does not participating in the RP itself but rather modifies the entire event as an oblique PP.

4.4 Discussion

Notably, there were two exceptions in the results: the non-alternating figure verb *pusta* 'pour.into' and the figure frame of the alternating verb *chaywuta* 'fill.' Although constructed in the figure frame, the two verbs exceptionally allowed *tolo* for some of the participants, behaving just like the Ground frame verbs. Strikingly, the two verbs, *pusta* 'pour.into' and *chaywuta* 'fill' allowed *tolo* even in circumstances where the direct object, not the oblique element, was changed. The data points to the possibility that the reason for the exceptional cases of the figure frame verbs arose from an independent reason, distinct from that of the ground frame.

The result seem to be lexically derived from the verbs' semantics. After the survey, the informants reported that *pusta* 'pour.into' and *chaywuta* 'fill' seemed to have a reinforced meaning where the event of 'V LOCATUM' or 'V LOCATION' was repeated, with a focus on the changed element. The semantic implication is that the repeated element must be co-indexed specifically with the item used in the previous event, bearing specificity; other verbs do not require this effect.

(57) The exceptional case of *pusta* 'pour.into'

a. *Minki-ka* *calwu-ey* *milkalwu-lul* *pwu-ess-ta.* *kuliko* *chiwessta.*
Minki-NOM sack-EY flour-ACC pour-PAST-DECL and cleaned.up

ihwu, *Cenghuy-ka* [*photay-ey*]$_F$ *milkalu-lul* ***tolo*** *pwu-ess-ta.*
later Cenghuy-NOM burlag bag-EY flour-ACC **again** pour-PAST-DECL

'Minki poured flour into the sack and cleaned it up. Later, Cenghuy poured flour again into burlag bag.'

b. *Minki-ka* *calwu-ey* *milkalwu-lul* *pwu-ess-ta.* *kuliko* *chiwessta.*
Minki-NOM sack-EY flour-ACC pour-PAST-DECL and cleaned.up

ihwu, *Cenghuy-ka* *calwu-ey* [*ssal-ul*]$_F$ ***tolo*** *pwu-ess-ta.*
later Cenghuy-NOM sack-EY rice-ACC **again** pour-PAST-DECL

'Minki poured flour into the sack and cleaned it up. Later, Cenghuy poured rice again into the sack.'

If one is forced a reading where the repeated element in (57) looses the co-indexation, e.g., as for (57a), Cenghuy's flour must be different from the one Minki used, then restitutive *tolo* is unavailable in the very context.

Hence, in (57), I suspect either one of the NPs in the RP are discourse-dependent, subject to raising by focus at LF.[21] Then why would only the specific verb items, *pusta* 'pour.into' and *chaywuta* 'fill,' exhibit this kind of focus movement? It seems that since the particular verb items induce a strong reading of *contrastive focus*.[22]

[21] Previously, focus movement has been classified into two types: (i) discourse-relevant movement and (ii) feature-checking related movement. The former is related to topic, focus, presupposition, etc., and yields no reconstruction effect. The latter is proposed to adjoin to [spec,TP] position, then obligatorily reconstructed back to its base-position at LF (Ahn and Cho 2010). The movement concerned here is assumed to correspond to the former type, i.e., discourse-relevant movement, which does not reconstruct back to its base-position at LF; hence, the exceptional cases of *ey*-variant arises, allowing *tolo* since either one of the locatum or location element can be freely focused/elided from its base-position, i.e., within the RP.

[22] According to Rooth (1992), contrastive focus is established in the following condition:

(i) Contrasting phrases (Rooth 1992:7)
Construe a phrase α as contrasting with a phrase β, if $\|\beta\|^0 \in \|\alpha\|^f$.

The interpretation rule is such that the element bearing contrastive focus, i.e., $\|\beta\|^0$, is an element of the intially focused item, i.e., $\|\alpha\|^f$. The example from (58a) would be that 'sack-EY' is a property of the form '*P*-EY;' *P* is an intersective modifier which introduces properties, rather than individuals. As for locative alternation, the substituted, and accordingly focused, element α and β share the property of either location or the locatum. Hence, if $\|\alpha\|^f$ brings about the semantics of either '*P* LOCATION' or '*P* LOCATUM,' then the semantic interpretability of constrastive focus can be accounted for.

(58) a. Minki poured flour [into the sack]$_F$ and cleaned it up. Later, Cenghuy poured flour again [into burlag bag]$_F$.

b. Minki poured [flour]$_F$ into the sack and cleaned it up. Later, Cenghuy poured [rice]$_F$ again into the sack.

I assume that in fact, all types of the *ey*-variant can exhibit this kind of constrastive focus reading, especially if prosodic focus is accompanied; there indeed was individual variability between the degree of how each individuals evaluated the grammaticality of given sentence sets. The reason why certain verbs demonstrate stronger readings of contrastive focus than the others might be due to the fact that the verbs, *pusta* 'pour.into' and *chaywuta* 'fill' select locatum/location NPs which has a higher likelihood of being reused.

(59) a. Minki poured flour$_j$ [into the sack]$_F$ and cleaned it up. Later, Cenghuy poured flour$_j$ again [into burlag bag]$_F$.

b. [$_{FocP}$ [*into the sack*]$_i$ [$_{CP}$ ... [$_{vP}$ ... *pour* [$_{RP}$ *flour* t_i *again*]]]]

(60) a. Minki poured [flour]$_F$ into the sack$_j$ and cleaned it up. Later, Cenghuy poured [rice]$_F$ again into the sack$_j$.

b. [$_{FocP}$ *rice*$_i$ [$_{CP}$ ... [$_{vP}$ ... *pour* [$_{RP}$ t_i *again into the sack*]]]]

To summarize, although the ground frame and two of the verbs in the figure frame, i.e., *pusta* 'pour.into' and *chaywuta* 'fill,' allow *tolo*, they are different in nature.

(61) Structure of *pusta* 'pour'/*chaywuta* 'fill.in'

a. [$_{FocP}$ *photay-ey*$_i$ [$_{CP}$ ... [$_{vP}$ ... [$_{RP}$ t_i *milkalu-lul* ***tolo***] *pwu-ess-ta*]]]

b. [$_{FocP}$ *ssal-ul*$_i$ [$_{CP}$ ... [$_{vP}$ ... [$_{RP}$ *calwu-ey* t_i ***tolo***] *chaywy-ess-ta*]]]

(62) Structure of *lo*-variant (e.g., *ssata* 'wrap')

[$_{vP}$ *pocaki-lo* [$_{VP}$ *kurut-ul* ***tolo*** *ssata*]]

Crucially, the exceptional cases of the *ey*-variants also allow the case where the direct object is changed, as well as the case where the oblique element is changed; the *lo*-variants never allow the case where the direct object is changed. Additionally, the ground frame allow *tolo* due to

its syntactic structure, hence the rejection of *tolo* occurs at narrow syntax. The two verbs in the figure frame allow *tolo* due to focus movement at LF.

To sum up, genuine locative construction does not allow for restitutive reading when either the PP, "NP-ey" or "NP-lo," of the initial event is altered in the repeated event. This was the case for only figure frame verbs; they disallowed the restitutive reading when the "NP-ey" element was replaced. On the other hand, verbs in the ground frame construction is not a genuine argument of the locative event, hence allow for restitutive reading if the direct object is preserved.

Chapter 5

An Extension: Resultatives

5.1 A New Puzzle

While the puzzle on measure phrase modification, e.g., *pan.cum* 'about half,' has been addressed earlier in this paper, the puzzle further extends to result phrases. It has been reported that in Japanese, figure frames can be predicated by result phrases targeting the oblique element, i.e., the location. First, let's look at the English example below for comparison.

(63) a. *John loaded the hay into the wagon full.

b. John loaded the wagon full with hay.

(Williams 1980:204)

In (63), only the pair whose direct object is the entity subject to being "full" can be modified by it; since it is *the wagon*, not *the hay*, which is being caused to be "full," only (63b), not (63a) is grammatically acceptable.

Both of the equivalent pair, however, are deemed to be acceptable in Japanese, as well as Korean. Both figure and ground variants are eligible for resultative predication, no matter which of the element targeted for modification to the result phrase is realized as the direct object. In (64), both (64a-b) where the direct object is each the locatum, i.e., *penki* 'paint,' and the location, i.e., *kabe* 'wall,' can be predicated by the resultative predicate *akaku* 'red,' which specifies the resultant state of the wall, not the paint. The same goes for Korean, in (65).

(64) a. *otoko-wa kabe-ni penki-o aka-ku nuta-ta.* (Nitta 2002)
man-TOP wall-LOC paint-ACC red-KU smear-PAST

'(lit') The man smeared paint on the wall (so that it became) red.'

b. *otoko-wa kabe-o penki-de aka-ku nuta-ta.* (Nakazawa 2020)
man-TOP wall-ACC paint-WITH red-KU smear-PAST

'The man smeared the wall red with paint.'

(65) a. *Mini-ka pyek-ey pheyinthu-lul ppalkah-key chilhay-ess-ta.*
Mini-NOM wall-LOC paint-ACC red-KEY paint-PAST-DECL

'(lit') Mini painted paint on the wall (so that it became) red.'

b. *Mini-ka pyek-ul pheyinthu-lo ppalkah-key chilhay-ess-ta.*
Mini-NOM wall-ACC paint-LO red-KEY paint-PAST-DECL

'Mini painted the wall red with paint.'

Particularly, Japanese is one of the languages that are known to conform to Direct Object Restriction (henceforth, DOR) (Kageyama 1980; Fukui et al. 1985; Kishimoto 2001; Iwata 2008), which makes the exceptional data in (64) puzzling.

(66) Direct Object Restriction (Levin and Rappaport Hovav 1995; 2001)
Result XPs are predicated of underlying direct objects.

The cases [23] reported as exceptions of DOR in Japanese involve oblique NPs suffixed by *-ni* 'on, in, to,' which serves similar functions with the *-ey* morpheme in Korean.

Result phrases are known to be modifiers of a lower level compared to measure phrases (Jung and Choi 2023), hence complicating the puzzle; the ambiguity of the Korean *ey*-variant observed with the measure phrase *pan.cum* 'about.half' might as well be analyzed differently from result phrase modification. The puzzle deepens when the result phrase can modify both the direct object, i.e., the locatum, and the oblique, i.e., the location:

(67) *Mini-ka sakwa-lul thulek-ey [humcip-i na-key] sil-ess-ta.*
Mini-NOM apple-ACC truck-LOC scratch-NOM get-KEY load-PAST-DECL

'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{i/j}$ became) scratched.'

In (67), the resultive phrase *humcip-i na-key* 'get scratch' can describe the resultant state of both the truck and the apple, truly demonstrating a case of multiple affected themes.

[23] See Nitta (2002), Miyakoshi (2006), Nakazawa (2020) for detailed examples.

Again, the puzzling result remains to be the sole characteristics of the *ey*-variant, not the *lo*-varaiant.

(68) *Mini-ka thulek-lul sakwa-lo [humcip-i na-key] sil-ess-ta.*
Mini-NOM truck-LOC apple-ACC scratch-NOM get-KEY load-PAST-DECL
'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{*i/j}$ became) scratched.'

In (68), the interpretation is such that the direct object element, i.e., the location, reached a resultant state, not the oblique element.[24]

[24]Notably, the ambiguousness of the *ey*-variants can be disambiguated by Case marking: Only the nominative Case marked element can be interpreted as the affected argument.

In (i), only the location element, *pyek-ey* 'wall-EY' can be nominative marked, since it is the only element that can achieve the resultant state of being red.

(i) a. **Mini-ka pheyinthu-ka pyek-ey ppalkah-key chilhay-ess-ta.*
Mini-NOM paint-NOM wall-EY red-KEY paint-PAST-DECL
'(lit') Mini painted paint on the wall (so that it became) red.'

b. *Mini-ka pheyinthu-lul pyek-i ppalkah-key chilhay-ess-ta.*
Mini-NOM paint-ACC wall-NOM red-KEY paint-PAST-DECL
'(lit') Mini painted paint on the wall (so that it became) red.'

On the other hand, in (ii), both the location and the locatum element can be nominative Case marked. It is only that the case-marking constrains the marked element to be the affected element, disambiguating the sentence.

(ii) a. *Mini-ka sakwa-ka thulek-ey [humcip-i na-key] sil-ess-ta.*
Mini-NOM apple-NOM truck-EY scratch-NOM get-KEY load-PAST-DECL
'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{i/*j}$ became) scratched'

b. *Mini-ka sakwa-lul thulek-i [humcip-i na-key] sil-ess-ta.*
Mini-ACC apple-NOM truck-EY scratch-NOM get-KEY load-PAST-DECL
'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{*i/j}$ became) scratched.'

In (iia), it can only be the case that the apples became scratched; likewise, (iib) can only be the case that the truck became scratched. Note that in (iia), the accusative Case on the locatum element alternates to nominative; in (iib), *-ey* on the location element alternates to nominative.

Disambiguation can even occur in double-accusative contexts. Although both the locatum/location elements are accusative Case marked, the interpretation is such that the location element, *the truck* became scratched, not the locatum element, *the apple*.

(iii) *Mini-ka sakwa-lul thulek-ul [humcip-i na-key] sil-ess-ta.*
Mini-NOM apple-ACC truck-ACC scratch-NOM get-KEY load-PAST-DECL
'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{*i/j}$ became) scratched'

5.2 Towards a Unified Solution

I argue that the puzzle of resultative phrase modification results from the characteristics of the Korean "*-key*"-resultative, combined with the different syntactic structures of the two locative variants.

According to Simpson (1983), adjunct-type resultatives, as opposed to complement-type resultatives, are not restrained to the Direct Object Restriction. Ko (2015) shows that the Korean "*-key*"-resultatives are the adjunct-type resultatives, by demonstrating the following examples.

(69) a. *Susana-ka Jim-ul* [*son-i aphu-key*] *ttayliessta.*
Susana-NOM Jim-ACC hand-NOM in.pain-RES hit

'Susana$_i$ hit Jim$_j$ so that her$_i$/his$_j$ hand was in pain.'

b. *ai-ka changphiha-key siktang-eyse khun soli-lo wulessta.*
child-NOM embarrassed-RES restaurant-AT loud voice-WITH cried

'A child cried loudly in a restaurant so that someone got embarrassed.'

(Ko 2015:367)

The "*-key*"-resultatives can target not only the direct object, e.g., 'Jim' in (72a), but also the subject, e.g., 'Susana' in (72a), and an indefinite discourse reference, as in (72b).

Following Ko's (2015) adjunct approach towards the Korean "*-key*"-resultatives, let's take a look at the previous data on the multiple resultative modification in Korean the *ey*-variant.

(70) *Mini-ka pheyinthu-lul pyek-ey ppalkah-key chilhay-ess-ta.* (=65a)
Mini-NOM paint-ACC wall-EY red-KEY paint-PAST-DECL

'(lit') Mini painted paint on the wall (so that it became) red'

(71) *Mini-ka sakwa-lul thulek-ey* [*humcip-i na-key*] *sil-ess-ta.* (=67)
Mini-NOM apple-ACC truck-EY scratch-NOM get-KEY load-PAST-DECL

'Mini loaded the apple$_i$ onto the truck$_j$ (so that it$_{i/j}$ became) scratched'

I propose that the "*-key*"-resultatives are adjuncts at ResP, and is able to specify the resultant state of either one of the locatum or the location element, as long as semantically feasible. Hence, it is straightforward that "*-key*"-resultatives can target only the location element in the *lo*-variant:

(72) a. $[_{vP}$ $NP_{LOCATUM}$-LO $[_{VP}$ **Adj-KEY** $[_{VP}$ $NP_{LOCATION}$-ACC V]]] [*lo*-variant]

b. $[_{vP}$ $[_{RP}$ **Adj-KEY** $[_{RP}$ $NP_{LOCATUM}$-ACC $NP_{LOCATUM}$-EY V]]] [*ey*-variant]

Regarding the *lo*-variant in (72a), the resultant state of only the location element can be specified by the resultative phrase, since it is the only element in the scope of ResP; the locatum element is out of the scope of the resutatitve phrase. Contrastingly, the *ey*-variant in (72b) has both of the location and locatum elements in the scope of ResP, hence the resultative phrase being able to target both of the elements structurally.[25]

As for *ey*-variants which allow resultative predication of only one of the two elements, i.e., locatum or location, it is simply because of the semantic/pragmatic violation.

(73) *Mini-ka* *pheyinthu-lul* *pyek-ey* *ppalkah-key* *chilhay-ess-ta.*
Mini-NOM paint-ACC wall-EY red-KEY paint-PAST-DECL

'Mini painted paint$_i$ on the wall$_j$ (so that it$_{\#i/j}$ became) red'

In the world knowledge, it is unnatural for the *paint* to become red as a result of painting on the wall event; rather, it ought to be the *wall* to become red. Hence, syntactically, and in formal semantics, there is technically no constraint restricting the locatum element from being predicated by the resultative phrase in (73); the reading is not formulated only because it goes against the world knowledge.

[25]Note that the structure in (72) was simplified in order to demonstrate the difference between the two variants. While (72) demonstrates the "-*key*"-resultatives as a simple adjectival phrase, I am indeed aware that it can consist of a more complex structure. For instance, Ko (2015) regards "-key" as a small clause head, where a discoure-bound *pro* stands up as the small clause subject which can be associated with the main object:

(i) a. $[_{VP}$ Object $[_{V'}$ $[_{RP}$ *pro* $[_{R'}$ Adj **-key**]] $[_{V'}$ V]]]

b. $[_{VP}$ *pro* $[_{V'}$ $[_{RP}$ SC-Subject $[_{R'}$ Adj **-key**]] $[_{V'}$ V]]]

Note, however, the way of viewing how the "-*key*"-resultatives are structured does not affect the main argument of this thesis. Since the "-*key*"-resultatives remain *within* the small clause RPs, they *cannot* by any chance target modification of the locatum-LO element of the *lo*-variants.

Chapter 6

Conclusion

The present thesis discusses novel data on Korean locative alternation construction which introduces multiple incremental themes. In analyzing the puzzling data, this thesis demonstrates how the two locative variants differ in terms of their syntax/semantics, and the consequences therein.

Korean has two locative variants, *ey-* and *lo-*, each of which are counterparts of the English *into/onto-* and *with*-variant. In the previous literature, it has been reported that only the element realized as the direct object in each of the locative alternation variants can be interpreted as "totally" affected theme, hence the phenomenon named the "holistic effect." Notably, with the Korean *ey*-variant, not even the locatum element, realized as the direct object, but the location element, realized as the oblique PP, can both be predicated by the measure/result phrase. Interestingly, the *lo*-variant exhibits behaviors parallel to that of the English *with*-variant, therefore raising the following two questions: First, how and why does the two Korean locative variants differ in terms of their structure and meaning? Second, where does the multiple affected theme interpretation in the *ey*-variant emerge from?

The current paper reports the following: The Korean *ey-* and *lo*-variant differ in terms of their syntax/semantics: The Korean *ey*-variant has two genuine arguments, realized as a direct object and a oblique *-ey* element. On the other hand, the genuine argument of the Korean *lo*-variant is only the direct object, while the oblique element is a vP modifier. Hence, the interpretation is such that '$\text{VERB NP}_{\text{LOCATION}}$, with the manner of using $\text{NP}_{\text{LOCATUM}}$.' The evidence for each structures is provided based on event decomposition using the ambiguity of *tto/tolo* 'again.' Regarding the *ey*-variant, double-layered ResP is adopted. The locatum element lies at the higher [spec,ResP], while the location element lies at the lower [spec,ResP]. The postulation is grounded on theoretical and empirical basis of their event structure, in that the two elements differ in which aspectual levels of event they participate in.

To conclude, the current paper attempts to address the unique behavior of the Korean loca-

tive *ey*-variant, regarding the measure/resultative phrase modification. Although this paper focuses on the Korean language in particular, there exists possibility for the proposal to be extended to explain typological variations in locative alternation constructions, as well as quantifier floating and resultatives. As briefly mentioned in Chapter 5, the Japanese *-ni* suffixed NPs, which are also used in the Japanese *into/onto*-PP locative variants, are known to exhibit multiple resultative predication as well. As for the *lo*-variant, there has been reports suspecting that some languages lack non-alternating ground verbs (see Kim (1999) for Korean, Japanese, Chinese, Thai, Turkish, Hindi, and Luganda; Yakhabi and Lotfi (2017) for Modern Persian). If it is the case that there exists language variants where the *with*-PP elements can only be oblique, just as demonstrated in the present thesis, the cross-linguistic variation can be accounted for.

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한국어 초록

본고는 한국어 “-에" 구문에서 관찰되는 독특한 양상에 주목하여 타동사 처소 교체 구문의 통사/의미 구조에 대해 탐구하는 데에 목표를 둔다. 처소 교체 구문은 직접 목적어가 이동의 대상이 되는 개체(locatum) 혹은 처소(location)로 실현되는지에 따라 두 가지로 나뉜다. 전자의 경우, 영어에서는 “DP *into/onto*-PP," 후자의 경우 “DP *with*-PP"로 상이한 통사구조를 가지는 것이 특징적이다. 한국어에서는 “-에 -를"과 “-를 -로" 두 가지 격틀로 나타나며, 전자를 “-에" 구문, 후자를 “-로" 구문으로 분류하겠다.

의미적으로, 이 두 구문은 그것이 가지는 의미적 함의가 다른 것으로 알려져있다. 각 구문의 직접 목적어가 곧 해당 사건의 “영향 입은(affected)" 요소가 된다는 것이다. 즉, 직접 목적어로 실현된 요소만이 “전체 효과(holistic effect)"를 보이는 한편, 전치사절로 실현된 요소는 “부분 해석(partitive interpretation)"과 더불어 선택적으로 전체 효과를 보일 수 있다 (Verkuyl 1972; Talmy 1976; Dowty 1991; Tenny 1987, 1994; Beavers 2017).

한편, 한국어는 각 구문이 ‘반쯤’과 같은 계량구(measure phrase)에 의해 수식될 때 새로운 패턴을 보인다. “-로" 구문의 경우 ‘반쯤’이 직접 목적어인 처소 논항의 영향 입은 정도를 구체화할 것이라는 예측을 잘 반영해보여준다. 반면, “-에" 구문의 경우 ‘반쯤’은 직접 목적어 뿐만 아니라 전치사절로 실현된 요소, 즉 개체 논항 뿐만 아니라 처소 논항의 영향 입은 정도를 둘 다 수식해줄 수 있다는 점에서 중의적이다. 이러한 관찰로부터, 두 가지 연구 질문이 도출될 수 있다: 첫째, 한국어 “-에" 구문과 “-로" 구문은 통사/의미 구조 상 어떠한 점에서 차이를 보이는가? 둘째, “-에" 구문은 구조상 어떻게 의미적 중의성을 확보할 수 있는가?

이에 따라, 본고의 주장은 다음과 같다: “-로" 구문에서의 논항은 오직 직접 목적어로 실현된 처소 논항 뿐이며, 전치사구로 실현된 “NP-로"는 *v*P에 부가(adjoin)되는 양상 수식구이다. 반면, “-에" 구문에서의 처소 및 개체 논항은 모두 진(眞)논항으로, 이동 사건에 직접적으로 참여하는 참여자이다. 본 통사적 구조 차이는 각 구문의 사건 구조를 한국어 ‘또/도로’의 중의성으로 분해(decompose)함으로써 정당화된다. 둘째, 한국어 계량구는 수량사 유동에 참여할 수 있음을 주장한다. 마지막으로, 본 논의의 확장으로서, “-에" 구문이 “-(하)게" 결과구문에서 또한 중의성을 가진다는 것을 보인다.

본고는 ‘왜’ 그리고 ‘어떻게’ 한국어 “-에" 구문이 계량구 및 결과구 수식에서 “-로" 구문과 상이하다는 것에 대한 새로운 언어 데이터를 제공하고 설명하고자 하였다는 점에서

의의가 있다.

주 요 어: 처소 교체, 전체 효과, 사건구조, 결과구문, 계량구, 누적적 대상

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