Spring 5-1-2017

From Physical Motion to 'Come and Go': A Spoken Corpus Based Analysis of Kata 'go'-specific Constructions in Korean

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Recommended Citation

Kim, Jin Hee. "From Physical Motion to 'Come and Go': A Spoken Corpus Based Analysis of Kata 'go'-specific Constructions in Korean." (2017). https://digitalrepository.unm.edu/ling_etds/53

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THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts
Linguistics

The University of New Mexico
Albuquerque, New Mexico

May, 2017

Dedication

To the lord for guiding my way

Acknowledgements

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Abstract

I analyze one of the motion verbs in Korean, *kata* 'go,' and its argument structure constructions. The verb shows an extremely high token frequency and its argument structure constructions have been subject to a great degree of variation in terms of its emergent semantics and syntax. However, there have been recurring issues across the previous studies. First, there is the problem of the so-called "written language bias in linguistics" (Linell, 1982), such that most studies on *kata* have drawn upon mostly invented sentences or written language data. Secondly, previous studies on *kata* have focused on the verb itself and have made few efforts on examining the construal of *kata* as it relates to the argument structure constructions in which the verb appears. Considering what has been pointed out so far, on the basis of contemporary Korean

spoken data extracted from Sejong Corpus, the current study aims to establish argument structure constructions focusing on the specification of components, i.e. the subject, the oblique phrase containing the suffix, and *kata*. Argument structure constructions where *kata* appears and their components are fully specified are called *kata*-specific constructions. The objective of this study is to outline the alternations of the argument structure constructions in the physical motion domain, and how and to what extent they are inherited by other semantic domains in accordance with semantic extensions. All the semantic domains are argued to be metaphorically or via constructionalization extended from the physical domain. Further, I aim to examine whether the Principle of Maximized Motivation works or not by virtue of two types of cluster analysis. The first one based on binary coding showed that the metaphorical extension and constructionalization starting from the physical motion domain is not limited to the semantic side, but it also influences how and to what extent the allowed argument structure constructions in the physical motion domain are inherited by other semantic domains. This advocates the Principle of Maximized Motivation. However, the second cluster analysis based on relative frequency showed that abstract motion inherits frequency patterns concerning alternations of argument structure constructions from physical motion to the strongest degree, which weakens the principle.

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1. Introduction[1]

According to Bohnemeyer et al (2007: 497), verbs of motion are the "first learned, most frequently used, and conceptually dominant." It seems that the high frequency and conceptual salience of verbs of motion are motivated by the fact that thought and language emerge from perceptual experiences and human beings are always experiencing motion. Frequency refers to either token frequency, "how often a particular word comes up" or type frequency, the number of the members that appear in a certain category (Bybee, 2001:10). It appears that both token frequency and type frequency are high for motion verbs.

In this study, I aim to focus on and analyze one of the motion verbs in Korean, *kata* 'go,' and its argument structure constructions. The verb shows an extremely high token frequency and its argument structure constructions have been subject to a great degree of variation in terms of its emergent semantics and syntax, which is the topic of this thesis. Bybee (2001) argues that items with high token frequency are more susceptible to phonetic change than less frequent items. Considering her explanation of frequency effects, where frequent items become strong in mental representation and thus allow for easier accessibility (ibid: 28), it appears that the change that affects frequent items then is not necessarily limited to phonetic aspects, but also can affect aspects of semantics and syntax. In this regard, the high degree of semantic and syntactic variation of the argument structure constructions of the verb *kata* 'go' can be attributed to the high

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[1] Throughout this paper, all Korean sentences are transliterated based on the Yale romanization system and Japanese sentences are transliterated based on the Hepburn Romanization system. Unless noted otherwise, all Korean sentences are extracted from the Sejong Corpus, which will be discussed in Chapter 3. Sources will be specified regarding sentences of non-Korean such as Japanese and English.

token frequency of the verb.

The variability related to the verb *kata* 'go' has been given much attention in the literature. According to Lee (1999: 231), previous studies on *kata*[2], such as Lee (1977) and Jeon (1986), both of which investigated the usage of *ota* 'come' and *kata* 'go' in Korean, such as movement, change of state or emotion, have converged on polysemous properties of the verbs. From the perspective of cognitive semantics, Lim (1998) examined Korean subjective motion involving *kata* 'go' and Hoai (2015) conducted a contrastive study on *kata* 'go' in Korean and *Đi* 'go' in Vietnamese focusing on their semantic extensions. Kim (2009) studied the correspondence between the syntactic and semantic structures of *kata*, its polysemy, and its use as an auxiliary verb based on Culicover & Jackendoff (2005). From the constructional perspective, Jeong (2005) classified the syntactic constructions where *kata* occurs into four categories and argued that those syntactic constructions were motivated by conceptual structure. She elucidated how each construction is realized by proposing a scene relevant to each construction.

However, there have been recurring issues across the previous studies. First, there is the problem of the so-called "written language bias in linguistics" (Linell, 1982), such that most studies on *kata* have drawn upon mostly invented sentences or written language data, which triggers nontrivial problems. Intuitively, and based on experience, *kata* may be used less frequently in written registers.[3] *Kata* is a native Korean verb, which does not befit written registers due to its spoken style and informality. If a meaning

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[2] Quite a few studies investigated *kata* 'go' and *ota* 'come' together.
[3] It would be worthwhile to prove that *kata* truly appears more often in spoken registers than written registers by means of frequency data. Since it is beyond the scope of this study, it is left untouched.

of 'going' is required in written registers, it is highly likely that a Sino-Korean word, which is the semantic equivalent of the verb *kata*, is used for the sake of formality, as follows:

    (1) a. Spoken Register
        pihayngki (飛行機)-ka   ka-ta
        airplane   NOM   go-DC
        'an airplane flies'   lit. 'an airplane goes'
      b. Written register
        yekaykki (旅客機)[4]-ka   wunhang(運航)-ha-ta
        airplane   NOM   coming and going-do-DC
        'an airplane flies'   lit. 'an airplane does coming and going'
    (2) a. Spoken Register
        kachi   ka-ta
        together   go-DC
        'go together'
      b. Written register
        tonghayng(同行)   ha-ta
        going together   do-DC
        'go together'   lit. 'do going together'

Even though the verb *kata* may be used in written registers to some degree, those data are expected to show a limited number of semantic types and syntactic constructions. This may be because written data, which are conservative as to diachronic change, do not sufficiently reflect recent uses of the verb *kata*. Therefore, depending entirely on written data or invented sentences is inappropriate in the analysis of *kata*.

      Secondly, previous studies on *kata* have focused on the verb itself and have made few efforts on examining the construal of *kata* as it relates to the argument structure constructions in which the verb appears. Before we get to the notion of argument structure constructions, construction grammar, where it was set forth, is brought up first.

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[4] It seems that not only *kata* but also a preceding NP changed. Although *pihayngki* and *yekaykki* are semantically the same ('plane'), and are Sino-Korean words, *pihayngki* sounds less formal but *yekaykki* sounds formal.

According to Croft (2003:50), construction grammar or the constructional approach is a central model of syntax in cognitive tradition. The notion which is assumed as the basic unit of language in the theory is construction, which is defined as "pairings of form and meaning ranging from individual atomic units (morphemes) to complex grammatical units such as a clause" (Croft et al. 2010: 4, see also Goldberg 1995:4 and Goldberg 2006: 5). By this definition, both a word and a sentence are form-meaning pairs, i.e. constructions. Out of various grammatical units which can be considered as constructions, the one which has been given the most attention is argument structure constructions. These concepts were first established in Goldberg (1995) and were defined as "a special subclass of constructions that provides the basic means of clausal expression in a language" (ibid: 3). She suggests instances of those in English as follows.

1.	Ditransitive	X CAUSES Y to RECEIVE Z	Subj V Obj Obj2 Pat faxed Bill the letter.
2.	Caused Motion	X CAUSES Y to MOVE Z	Sub V Obj Obl Pat sneezed the napkin off the table.
3.	Resultative	X CAUSES Y to BECOME Z	Subj V Obj Xcomp She kissed him unconscious.
4.	Intrans Motion	X MOVES Y	Subj V Obl The fly buzzed into the room.
5.	Conative	X DIRECTS ACTION at Y	Subj V Oblat Sam kicked at Bill.

Table 1. Examples of English argument structure constructions in Goldberg (1995: 3-4)

However, Croft (2003) challenges Goldberg (1995) by arguing that the existing dichotomy of lexical rules versus constructions is not perfectly right and that the distinction between the two is not as clear as has been suggested in the literature. As an alternative, he set forth the notions of verb-class-specific constructions and verb-specific

constructions, which are in-between theoretical constructs between lexical item such as verb and abstract schematic construction. Since this thesis is on the verb *kata* and its argument structure constructions, I briefly introduce only verb-specific constructions, which are a more specific and instantiated version of the schematic constructions without a specific lexical item in them proposed by Goldberg (1995). Raising a question on the abstractness and schematicity of the existing constructions as shown in table 1 above, Croft (2003) argues that "verb-specific constructions are constructions but their schemas have specific lexical content for the verb" (ibid: 59) and that they specify not only their syntax but also the entire semantics (ibid: 66). Parts of the instances of verb-specific constructions are as follows.

      (3) [[SBJ *permit* OBJ1 OBJ2]/[enabling XPoss by permitting]]
         [[SBJ *allow* OBJ1 OBJ2]/[enabling XPoss by allowing]] (Croft, 2003:58).

To apply his argument to the current thesis, the typical verb-specific construction where *kata* appears is as follows.

      (4) SBJ-ka   NP-☐   ka-ss-ta
         sbj-NOM   NP-suffix (i.e. OBL)   go-PST-DC
         'something moved somewhere'.

Croft (2003: 64) states that "verb meanings cannot be defined in pure isolation; they are only definable with respect to the construction(s) they occur in". However, even though *kata* occupied the verb slot, the verb meaning, let alone the meaning of the whole construction, is still indeterminate. This indicates that depending on the semantic property and the consequent degree of the verb's combinability with different semantic

types of elements in the constructions, the degree of specificity/instantiation of the constructions the verb occurs differs. For instance, while only an animate entity or an institution that consists of animate entities can permit or allow (i.e. the semantic types of arguments in the constructions are highly predictable and restricted when it comes to the verbs *permit* and *allow*), every kind of entity, such as animate entity, inanimate entity, or abstract entity can be the agent of motion activity. This is also true of the NP in the oblique phrase preceding the verb *kata*: many kinds of entity, such as physical or abstract place, social place such as military or prison, or even animate entity can be the ground nominal. In a nutshell, since *kata* 'go' is semantically less apparent by itself and the arguments in the constructions semantically varies to a greater extent, the verb requires the argument structure constructions it appears to be far more specified than *permit* and *allow* do, in terms of the identification of the verbal semantics. In this regard, even though the argument structure constructions of the verbs *permit*, *allow*, and *kata* 'go' can be categorized as verb-specific constructions in the sense of Croft (2003), how specific/instantiated each construction is differs.

As discussed so far, since the verb *kata* itself does not show a specified meaning as much as *allow* and *permit* in English do, the constructions where *kata* appears should be more concrete and instantiated with the semantic properties of their components, for instance, [optional (mature) human subject + place noun + -(*l*)*ul* + *kata*]. Even though there is an optional suffix following the subject, for instance, a nominative marker, a topic marker or no suffix, it is not considered throughout this study for the sake of simplicity of discussion. This is because it minimally influences the interpretation of the

entire argument structure construction. Further, the argument structure constructions

where the verb *kata* occurs in many cases requires the non-argument suffix (e.g. the one

which occupies the square in (4) such as -(*l*)*ul* upcoming in this paragraph) to be

specified in order for the final interpretation of the entire constructions to be figured out.

This is because the suffix indicates the path semantics, such as whether an entity arrives

somewhere or not. To apply this to (4), when the construction is fully specified in terms

of the semantic properties of the NPs and the suffix following the NP in the oblique

phrase in addition to the verb, the meaning of physical nonstop arrival comes into

existence as follows.

    (5) Example of nonstop arrival construction in Korean
        mi-taysakwan-ul   ka-ya   toy-nuntey
        US-embassy-DIR   go-should   should-CJPRT
        cengkyengtul-i   mak-nunta
        political police-NOM   block-DC
     '(somebody) is supposed to go directly to the American Embassy but the
     political police blocks (the way there)'

How the meaning of nonstop arrival is driven is elaborated in section 4.1.3. From the

viewpoint of the constructionist approach, it seems that the nonstop arrival construction

where *kata* appears is an independent unit in terms of its semantics and syntax.

      Considering what has been pointed out so far, on the basis of contemporary

Korean spoken data extracted from Sejong Corpus, the current study aims to establish

argument structure constructions focusing on the specification of components, i.e. the

subject, the oblique phrase containing the suffix, and *kata*, as shown in the nonstop

arrival construction above. Hereafter, argument structure constructions where *kata*

appears and their components are fully specified are called ***kata*-specific constructions**,

which are somewhat different than general constructions for motion verbs in Korean. Since the whole argument structure constructions should be considered to figure out the syntactic and semantic variations related to the verb, the following discussion will be based on *kata*-specific constructions. Again, this approach is much different from previous studies focusing on the verb *kata* itself in spirit.

The objective of my master's thesis is to outline the alternations of the argument structure constructions in the physical motion domain, and how and to what extent they are inherited by other semantic domains in accordance with semantic extensions. All the semantic domains are argued to be metaphorically or via constructionalization extended from the physical domain. Syntactically, it is argued that the closer a semantic domain is to physical motion, the more similar its constructions are to constructions of the physical motion domain. This is known as the Principle of Maximized Motivation in the literature. For instance, the semantic domain of 'sometimes' (section 4.9), where the combination of an adverb meaning 'sometimes' and *kata* 'go' means 'sometimes' and the semantics of physical motion is completely lost via reanalyses, inherits only one construction type of no suffix from the physical motion domain. This can be contrasted with another semantic domain, 'change in social status' (e.g. go into the military, section 4.2), where physical motion is still involved to a great degree and all the four consruction types are inherited from physical motion.

The organization of this thesis is as follows. In Chapter 2, I discuss semantic components of motion - figure, ground, path, and manner, and the encoding strategies of them across languages (section 2.1). Then, I review previous studies conducted on *kata*

so far (section 2.2). Most of them have focused on the verb itself, rather than the argument structure constructions. In Chapter 3, I discuss the methodology in detail, such as how tokens of data were maximized. In Chapter 4, I analyze each semantic domain such as physical motion with its sub-domains, for instance, nonstop arrival. Finally, in Chapter 5, implications from Chapter 4 will be suggested as to the alternations of argument structure constructions, their inheritance between semantic domains according to semantic extensions - metaphorical extension and constructionalization.

2. Background of Study
2.1 Understanding motion

According to Talmy (1985), there are four semantic components in motion event: figure, ground, path, and manner. The figure, which is a main character in motion event, is defined as "a moving or conceptually movable object whose path or site is at issue" (Talmy 1985: 61). Even though a physical figure such as human is typical, a figure can be an abstract entity such as time, flow of something (e.g. story, meeting), trend, or information, etc (cf. Nakayama 2009). For instance, abstract figure appears across languages as follows:

(6) a. English
    i. My kids have grown up and where has the time gone, and now the kids are gone and I'm old. (COCA 2015 SPOK PBS)
    ii. When CNN PRESENTS returns, interrogation, assassination, how far can a democracy go to stop a terrorist. (COCA 2005 SPOK CNN_Presents)
  b. Korean
    Kyunhyengtoy-ko   hyengpyeng-han   sahoy-lo
    balanced-CJPRT   even-handedness-adnominal society-ALL
    ka-ko
    go-CJPRT
  'The society becomes balanced and even-handed' lit. something (e.g. abstract flow, a structure of society) goes to balanced and even-handed society
  c. Japanese (Asahi newspaper June 15 2016)
    zyuu -o   kounyuu-su-reba   FBI-ni
    Gun-ACC purchase-do-if   FBI-to
    zyouhou-ga   iku   sikumi
    information-NOM   go.adnominal   system
  'System where if somebody buys a gun, the information (on the purchase) goes to FBI'

Here, we see that abstract entities[5] are figures. Since their existence is so subtle, there are quite a few cases where it is very hard to identify what the figure exactly is, as shown in

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[5] However, it seems that abstract figures are less likely to co-occur with manner of motion verbs such as 'walk,' ' fly,' or 'limp,' etc than with verbs which purely mean 'go', crosslinguistically.

(6b) above.

The second semantic component is ground, where "the Figure's path or site is characterized" (Talmy 1985: 61). Fillmore (1971: 272) calls ground as reference place and explains it as follows:

"the location or object that is taken as the framework or spatial reference point for what is mentioned in the clause. On the one hand, the reference place can be either the location of an event that does not involve locomotion or the location of all of the points in an instance of locomotion, and on the other hand it can be either the place which is identified with Source of the motion, or the place which is identified with the Goal of the motion."

What has not been given attention in the literature is that ground can be an animate entity as well. However, there is a constraint on the occurrence of animate ground. It barely occurs as intermediate route unless somebody is a mediator or a broker, but usually occurs as source or goal. On the other hand, Fillmore (1971) further explains that the choice of source or goal is determined by the verbal semantics, for instance, 'come' or 'go'. However, the source and goal is not the only options for the representation of ground, but there can be an intermediate route in the parlance of Bohnemeyer et al. (2007) as well.

The three-way classification of ground into source, intermediate route, and goal, depends on the figure's spatial relation or orientation with the ground. First, the instances of source are as follows.

(7) a. English
   i. He left from a minimum-security facility. (COCA 2014 SPOK NBC)
   ii. It is generally assumed that the remnant phrase in pseudogapping moves out of the ellipsis site. (Tanaka 2011: 483)
 b. Korean
   yengha-ka   ilccik   kakwu
   yengha-NOM   early   left-and
   'Yengha left early and..'

As seen above, source can be either an implicit speaker, or a certain person or location. However, it seems that source only case is rare across languages whether the locale of motion is physical or abstract. In terms of information necessity, source where figure leaves from is needed to a lesser degree than goal since what interests listeners is where figure finally arrives as a result of its motion (Lee, 1999; Nam, 2003: 115; Jeong, 2005: 284-285).

The second type of ground is intermediate route, which is infrequently expressed via a ground-denoting phrase across languages in comparison to source and goal (Bohnemeyer et al. 2007: 511) Route only cases are as follows.

(8) a. English
   I walked along the river bank and found all sorts of wonderful flotsam and jetsam washed up by the hurricane. (Coca 1999 NEWS Atlanta)
 b. Korean
   Swuhakca-loseuy   ku   kil-ul   cal   ka-ss-ko
   Mathematician-as   that route-DIR well   go-PST-CJPRT
   '(somebody) did a good job in his professional career as a mathematician' lit. (somebody) went along the road as a mathematician well
 c. Japanese
   watasi-wa   watasi-no   miti-o   iku[6]
   I-TOP   I-POSS   route-DIR   go.FUT
   'I will go along my own way'

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[6]From http://dic.nicovideo.jp/a/%E7%A7%81%E3%81%AF%E7%A7%81%E3%81%AE%E9%81%E3%82%92%E8%A1%8C%E3%81%8F
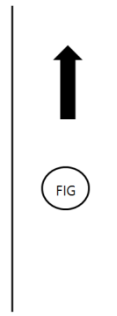
Figure 1. Intermediate route

In this case, what is highlighted is where figure is in motion, leaving aside source and goal. Further, as diagrammed above, an NP functioning as the intermediate route in motion is a road-like one, which is long and narrow, and is unbounded. In other words, it is unknown where the road ends (cf. Jackendoff 1983: 166). In addition, even though it seems uncommon, the route can be a non-road-like one such as house or building, as in 'the car passed by the house' (Jackendoff 1983: 165). The difference between the two types of the route is that in the first road-type route, the relationship between a figure and a ground is durative. At its most extreme, such as (8b) regarding metaphorically extended route of professional career as a mathematician, the relationship would continue for 30~40 years. However in the second type route such as a house, the relationship is punctual, i.e. a couple seconds.

The most common sort of ground is goal. As discussed earlier, this is because when we perceive motion, what we are most interested in is where figure goes.

(9) a. Now turn around and go to mom. (COCA 2002 SPOK CNN_YourHealth)
    b. Korean
       Kyay-hanthey   ka-l   casin
       the person-to   go-adnominal   self-confidence
       'self-confidence to be in relationship with the person'

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c. Japanese (From Asahi newspaper April 29 2016)

naruhodo,   to   omoinagara   saigo-made   iku
I see,   quotation   thinking   last part-until   go
'While thinking 'I see', (the reading activity) reaches the last part'

As shown above, the goal-oriented expression of motion appears in various types of events such as the onset of a relationship and reading activity. On the other hand, goal is further divided into arrival point, i.e. where a figure necessarily arrives at, and direction point, i.e. where a figure at first aims to go to but it may not arrive at. It is not clear whether this further semantic classification of goal works crosslinguistically, but there is an explicit semantic distinction between arrival and direction point in Korean as follows.

(10) Jeong (2005: 289)

a. yenghuy-ka   cip-ulo   ka-ss-ta
   yenghuy-NOM   house-toward   go-PST-ender
   'Yenghuy left for home'

kulentey   kata-ka   chinkwu-ney   cip-ey   ka-ss-ta
but   go-on the way   friend-group   house-at   go-PST-ender
'but on the way (home), she went to her friend's house'

b. yenghuy-ka   cip-ey   ka-ss-ta
   yenghuy-NOM   house-at   go-PST-ender
   'Yenghuy arrived at home'

*kulentey   kata-ka   chinkwu-ney   cip-ey   ka-ss-ta
but   go-on the way   friend-group   house-at   go-PST-ender
'but on the way (home), she went to her friend's house'

As seen above, the arrival and direction point distinction are expressed via different suffixes - -*ey* 'to' and -(*u*)*lo* 'toward' in Korean. According to Jeong (2005: 289), (10a) is fine since the first sentence with -(*u*)*lo* entails that *yenghuy* is no longer at the departure point but does not entail that she arrives at home. In contrast, (10b) does not work since the first sentence entails not only *yenghuy* is no longer at the departure point but also she

arrives at home. This distinction of goal in Korean will be further discussed in the Chapter 4, in particular 4.1.1 on arrival with digression possible and 4.1.2 on atelic direction motion.

Finally, figure and ground do not exhibit equal status in many aspects. Croft & Cruse (2004: 56) explains that figure and ground have an asymmetrical relationship suggesting following properties, based on Talmy (1983).

(11) **Figure**   **Ground**
  location less known   location more known
  smaller   larger
  more mobile   more stationary
  structurally simpler   structurally more complex
  more salient   more backgrounded
  more recently in awareness   earlier on scene/in memory

The third semantic component in motion is path, which is defined as "the course followed or site occupied by the Figure object with respect to the Ground object" (Talmy 1985: 61). That is, in the sense of Talmy, path is involved not only in dynamic motion, but also in static location as in 'my laptop is on the desk'. The last component is manner, which is "the manner of motion by which the figure moves along the path" (Croft et al. 2010: 3), as follows.

(12) a. This is a dirt road, so go slowly to keep the dust at bay for other leaf
        peepers. (COCA 2014 NEWS Denver)

     b. Korean
     i. Kosoktolo-eyse   cangnan   ani-key   mak
        Highway-on   mischief   NEG-ly   recklessly
        ka-nun   ke-ya
        go-adnominal   thing-ender
        'Someone drives or a car goes incredibly recklessly on the high way'
     ii. seykyeyhwa-ka   ettekey   ka-ko   iss-na

globalization-NOM   how   go-CJPRT   COP-INT.CONN
'how globalization is going'

Out of the semantic components (i.e. figure, ground, path, or manner), path and manner involve complicated patterns of encoding across languages or even within a language. In this regard, there have been a number of typological studies on it. I discuss how they are encoded crosslinguistically, in order to ease understanding of path encoding in Korean, which will be discussed in Chapter 4.

Studies of motion events, in particular directed motion events, have been actively worked on over the past 40 years. Talmy (1975) touched off a host of works on motion, such as Talmy (1983, 1985, 1991, 2000), Choi & Bowerman (1991), Bohnemeyer et al. (2007), Beavers et al. (2010), Croft et al. (2010), to name a few. As was argued by Talmy (1985), when motion event is expressed in language, it leads to a high degree of crosslinguistic variation in that a semantic material (e.g. path and manner) is realized on surface via a syntactic device (e.g. adposition and verb) in a different way depending on the typological status of a language. Throughout the discussion on this, there are two terminologies that will appear quite often: satellite and verb. First of all, according to Croft et al. (2010), it is very challenging to identify parts of speech such as 'verb' in a crosslinguistically valid way. This is argued to be because in that identification process, crosslinguistically incommensurable criteria have been applied to an individual language due to language-specific constructions (ibid: 6). Getting around this fact, Croft et al. (2010: 7) defines a verb[7] as a morphosyntactic element that occurs "as a predicate on its

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[7] Croft et al. (2010) refer to verb as 'verb root'. However, I use just 'verb' since a verb root in some languages, especially Korean, does not stand alone to function. Korean morphology will be discussed in Chapter 3.

own with the same meaning". In contrast, a satellite is defined as "anything that is not a verb root but encodes an event component" (ibid: 7). By this definition, adposition, i.e. preposition and postposition, which was excluded by Talmy (cf. Talmy 1985) is subsumed in the satellite category (cf. Beavers et al. 2010 on the discussion of satellite). In a clause, a path or a manner is expressed either in a verb or a satellite, which is crosslinguistically common. However, it is also possible that a path is marked in both a verb and a satellite, which is termed as double marking (Bohnemeyer et al. 2007) and double framing construction (Croft et al. 2010) as in following example.

> (13) French (Aske 1989:14)
>   monter   en haut/ descender   en bas
>   go.up   above/ descend   below
>   'go up (above)/go down (below)'

In Talmy's typological classification of languages, path and manner have been important yardsticks.[8] In other words, what is incorporated in a main verb determines the typological status of a certain language.

> (14) a. manner-incorporating (e.g. English): He **ran**/**flew**/**swam** *into* the cave
>   b. path-incorporating (e.g. Spanish, from Talmy 1985: 111 and Croft et al. 2010: 4)
>
>   **Entró**   *corriendo*/*volando*/*nadando*   a   la   cueva
>   enter.3SG.PST   *running*/*flying*/*swimming*   to   the   cave
>   'He entered running/flying/swimming to the cave.'

As shown above, since manner ('run', 'fly', 'swim') is incorporated in a main verb, English is manner-incorporating language. In contrast, Spanish is path-incorporating

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[8] According to Croft et al (2010), Talmy proposed one more type – ground-incorporating, which is not discussed in this analysis.

language because path is encoded in a main verb. On top of these two languages, Russian and German belong to manner-incorporating language, and French, Italian, Turkish, Korean, Japanese, and Hebrew are members of path-incorporating language (Beavers et al. 2010).[9]

However, Croft et al (2010) argued that it is not the case that Talmy's dichotomic typology holds without exceptions. First, Talmy's original typology is asymmetric in that a verb is independent in terms of its function but a satellite is not. However, some languages have manner and path in serial verb constructions, which is symmetric in their syntactic status.

> (15) Mandarin Chinese (Li & Thompson 1981:58, cited in Croft et al 2010)
> tāmen   pǎo   chū   lái   le
> 3PL   run   exit   come   PF
> 'They came running out.'

According to Beavers et al. (2010), languages having this type of construction are called E(quipollently)-framed language as a third class to be added in the Talmy's typology.

Second, Croft et al. (2010) set forth a second symmetric strategy – compounding, where "the two forms are morphologically bound or at least more tightly integrated than the serial strategy" (ibid: 8). For instance in Kiowa, a path component 'reach' and a deictic component 'come' are combined even though both of them may function as verbs (Watkins, 1984: 178, cited in Croft et al. 2010).

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[9] It further seems that there is a difference regarding how strongly a language is path-incorporating or manner-incorporating. According to Beavers et al. (2010: 349), French, Italian, and Spanish are regarded strongly path-incorporating.

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(16) ɔ̀:pàl   sép   cándé   -à̠:   nɔ̀   pàhị̀:   bà-thị̠dáy
    nearer   rain   reach   -come   and.DS   clearly   get.wet.PF

'The rain is coming closer and it is clear we will get wet.'

Finally, Croft et al. (2010) discusses coordination, which is a third symmetric strategy.

(17) coi s   hina   gad   cesel   -i   nu   -ug   -a
    OK   2SG   may   return -PRED(SS)   go   -2SG -IMP

'Alright you can go home [back] now.'

According to Roberts (1987: 102, cited in 2010: 8), the deictic component 'go' and a path component 'return' is expressed by means of a coordination construction in Amele. In the end, Croft et al (2010) conclude that Talmy's original typology should be revised as follows (ibid: 9):

(18) a. Verb framing (VF)[10]
     b. Symmetrical
        (i) Coordinate (CD)
        (ii) Serial
        (iii) Compounding (CP)
     c. Satellite framing (SF)
     d. Double framing (DF)

In addition, from an intralinguistic perspective, studies such as Berman & Slobin (1994), Beavers et al. (2010), and Croft et al. (2010) and so forth, have suggested that it is not that languages necessarily show properties of exclusively one typological category, for instance, exclusively manner-incorporating strategy. Rather, "nearly all languages straddle two or three of the classes" (Beavers et al. 2010: 333). For instance, there are

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[10] Verb framing roughly corresponds to path-incorporating and satellite framing does to manner-incorporating. However, even though x-incorporating is an original classification and x-framing is a recent one, they are not equivalent of each other. For further discussion on this, see Croft et al. (2010) and Beavers et al. (2010).

quite a few path verbs such as 'enter,' 'exit,' 'ascend,' 'rise,' 'sink,' etc. in English[11] (ibid: 350). The other way, it is argued that path-incorporating languages also show manner-incorporating pattern. According to Iacobini & Masini (2006, cited in Beavers et al (2010))'s observation on contemporary spoken Italian, manner of motion verbs such as 'run' combines with a particle, for instance *via* 'away' or *fuori* 'out', which marks a path.

Finally, it is not the case that variation relevant to motion is limited to grammatical encoding of the semantic components. Due to its conceptual basicness and concreteness, physical motion also involves a great degree of semantic variation through metaphor. Basically, metaphorical extension occurs for understanding an abstract entity through a more basic and concrete concept, e.g. physical motion. Lakoff & Johnson (1980) mention concepts needing metaphorical definition, such as LOVE, TIME, IDEAS, UNDERSTANDING, ARGUMENTS, LABOR, HEALTH, STATUS. They argue that "since they are not clearly enough delineated in their own terms to satisfy the purposes of our day-to-day functioning", they are defined by "PHYSICAL ORIENTATIONS" (ibid: 118). For this reason, physical motion has been subject to metaphorical extension across languages. In addition, the three types of ground (i.e. source, intermediate route, and goal) related to physical motion, may be projected to (or inherited by) some metaphorically extended domains as well. For instance, regarding time, Nakayama (2009: 206) suggests a straight road with past, present, and future. More discussion on abstract entities and metaphor applied to them will be given in section 4.5.

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[11] However, Croft et al. (2010: 13) note that these verbs originated from Romance and except for these, satellite framing strategy is exclusively used to express motion events in English (cf. Talmy 1985: 72).

2.2 Previous studies on *kata* in Korean

In Korean linguistics, a great deal of effort has been exerted to motion by such researchers as Hong (1983), Choi & Bowerman (1991), Kim (1997), Lee (1997), Chae (1999), Lee (1999), Im (2001), Nam (2003), Yang (2004), Ha & Kim (2014), etc. Studies on motion have tended to be dichotomous: from either a syntactic perspective or from a semantic perspective. An important topic for the syntax of motion events is the status of postpositional phrases including the ground nominal: is it a complement required by a verb, or an adjunct which plays a mere modification function (Chae, 1999; Jeong 2005)? The lexicalization pattern of motion events has also been given some attention. According to Choi & Bowerman (1991), Korean shows a mixed conflation pattern varying between intransitive spontaneous motion and transitive caused motion (cf. Im 2001). They explain that "while spontaneous motion is encoded in "exploded" fashion in Korean, in that Motion, Path, and Manner are specified by separate words, caused motion is expressed quite compactly with inherently causative transitive verbs that conflate [Motion + Path]"(Choi & Bowerman 1991: 90).

(19) a. Spontaneous motion

John-i	pang-ey	(ttwui-e)	tul-e	o-ass-ta
John-SUBJ	room-LOC	(run-CONN)	enter-CONN	come-PST-DECL
[Figure]	[Ground]	([Manner])	[Path]	[Motion + Deixis]

"John came in(to) the room (running)." (Choi & Bowerman, 1991: 88)

b. Caused motion

John-i	yelswey-lul	chayksang-ey	TENCY-ess-ta
John-SUBJ	key-OBJ	desk-LOC	throw-PST-DECL
[Agent]	[Figure/Theme]	[Ground]	[Motion + Path]

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"John threw the keys TO the desk." (Choi & Bowerman, 1991: 93, modified)

However, regarding (19a), verbs for spontaneous motion do not necessarily have to be complex as shown above. The simple verb *kata* 'go' or *ota* 'come' also denotes spontaneous motion. Also, *ota* 'come' and *kata* 'go' are considered to express path as path verb in the literature, unlike in Choi & Bowerman (1991). Finally, there barely have been studies which assume that semantics accompanies syntax, i.e. that semantics motivates syntactic structure. The current study overcomes this issue which has recurred in the literature by rejecting the strict demarcation between semantics and syntax with regard to the verb *kata* and its constructions, as will be shown throughout this study.

Motion is subdivided further: objective motion versus subjective motion or fictive motion in the sense of Talmy. Objective motion refers to a case where an entity physically moves, which is very frequently talked about in everyday life. However, even though an entity stays constant, we often say as if it moves, for instance, a road goes through valley. In this case, what moves is not the road, but a speaker's mental or psychological entity. This type of expression was covered in Talmy (1983) and Matsumoto (1996), etc, with respect to English and Japanese. However, Korean subjective motion has not been examined much in previous studies. This is because subjective or fictive motion is seldom used everyday life conversation; rather, it tends to be used in literary works to a limited degree. For the discussion of subjective motion in Korean, see Lim (1998).

Regarding the manner-incorporating and path-incorporating strategies discussed in the previous section 2.1, either the first or the second strategy is taken in terms of

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Korean motion verbs. However, not only there are far more Korean motion verbs using the path-incorporating strategy, but also typical motion verbs in Korean take the second strategy (Chae, 1999: 88). On the other hand, among the typical motion verbs, what has been most frequently mentioned is *kata* 'go' and *ota* 'come'. Quite a few studies (e.g. Lee, 1977; Lee, 1999; Ko, 2007, etc) compare and contrast the two verbs focusing on semantic differences, perspective, or the interpretation of the reference point. Some studies further take sentence type or tense into account. In the last section of Chapter 4, the pair of the two verbs, i.e. 'come' and 'go', will be discussed.

The crux of this study, *kata* 'go', is a native verb. As discussed in the introduction, this leads the current study to be based on spoken data. At this point, how Korean vocabulary is made of needs to be brought up. Korean vocabulary consists of native words, Sino-Korean words, and loanwords. Native words refer to ones that originally existed in Korean such as *kata* 'go' or *hanul* 'sky', or words coined based upon the existing native words. They tend to appear in spoken registers such as informal conversation. However, as Sino-Korean words started to come in, many native words disappeared. According to the National Institute of Korean Language, the current proportion of native words in the entire Korean vocabulary is 25%. Sino-Korean words refer to ones created on the basis of Chinese characters such as *enehak* (言語學) 'linguistics.' They are frequently used in formal or written registers, such as academic contexts, which is similar to Latinate words in English. The proportion of Sino-Korean words is known to be 57%. In this regard, native words and Sino-Korean words show a great degree of differentiation in registers. Finally, loanwords refer to ones that came

from non-Chinese languages such as English or Japanese. They are used as if they were Korean words, for instance *apatu* 'apartment.' In general, loanwords do not show a particular restriction on registers and there are no native words or Sino-Korean words that can substitute for them.

The native verb *kata* has undergone grammaticalization processes or "grammatical constructionalization" (Traugott & Trousdale (2013: 22). According to Himmelmann (2004: 31), grammaticalization [12] takes place "when a lexical item develops into a grammatical item (e.g., the word for 'go' becomes a future marker) or when a grammatical item becomes a more grammatical item (e.g., a directional marker becomes a dative marker and later on an accusative marker)", and the phenomenon is seen as "context expansion". He further states that the grammaticalized element becomes semantically more general. However, it is not the case that this change exclusively occurs to the verb *kata*. Himmelmann (2004: 31) emphasizes that "it is the grammaticizing element in its syntagmatic context which is grammaticized. That is, the unit to which grammaticization properly applies are constructions, not isolated lexical items". This aligns with the claim suggested in the introduction that semantic and syntactic variations with respect to the verb *kata* should be understood in the level of its argument structure constructions rather than the verb itself.

Regarding *kata*, the syntactic environment for grammaticalization to take place is when the verb follows the conjunctive form of a verb as indicated follows.

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[12] According to Rhee (2016), the terms grammaticalization (used in the current thesis) and grammaticization (used in Himmelmann (2004)) are techinically different. But this issue will be ignored for the simplicity of discussion.

(20) a. ku   cangay-lul   kukpok-ha-y   ka-nun
kwaceng
the   disability-ACC   overcome-do-CJPRT   go-adnominal
process
'The process of overcoming the disability'
b. cemcem   pokcaphay-cye   ka-n-ta
more and more   complicated-get.CJPRT   go-IN-DC
'It's getting complicated more and more'

In (20a), the verb *kata* follows the conjunctive form of the Sino-Korean verb *kukpokhata* 'overcome'. In (20b), it directly follows the conjunctive form of the auxiliary *-cita* 'get' preceded by the adjective *pokcaphata* 'complicated'. In syntactic contexts like these, the entire construction undergoes grammaticalization, and as a result of it, the verb *kata* comes to function as auxiliary whose meaning is progressive or future (Rhee 2016: 20), which is similar to *get* and *become* in English. Rhee (2016: 319) further argues that verbs meaning 'go' are considered to be already grammaticalized in most languages. In spite of this, it seems challenging to find cross-linguistic evidences that verbs meaning 'go' come to express the specific meaning of CHANGE-OF-STATE in the sense of Heine & Kuteva (2002: 18), which is analogous to the semantics of the auxiliary *kata*. Instead, they suggest some cases where verbs meaning 'come' boil down to function as ingressive or resultative marker (ibid: 74-75).

(21) a. To'aba'ita (Lichtenberk 1991: 487)
fanua'e   rodo   na-   mai.
place it:PFV   be:dark   PERF -come
'It has become dark.'
b. Guyanese CF (Corne 1971: 90)
i   vini   malad.
(3:SG   come   sick)
'He has become sick.'
c. Seychelles CF (Corne 1977: 63, 80)
i   n   vin   larpâter
(he   CPL   come   surveyor)

'He became a surveyor.'

They claim that this type of grammaticalization shows "a more general process whereby process verbs are grammaticalized to aspectual auxiliaries" (p.75) and that Pidgin and creole languages commonly undergo this change.

Finally, the auxiliary verb *kata* can be compared to Japanese adjective *ikenai* (e.g. -*sitewaikenai* 'should not') in that *ikenai* no longer has the meaning of 'go' even though it was "derived from the negativization of *ikeru* the potential of *iku* 'it goes'" (Martin 1975: 80)[13]. However, *kata* in auxiliary use still seems to keep part of its original meaning of motion more than *ikenai*. Even though *kata* as auxiliary and the grammaticalization process the constructions have undergone are another interesting topic, I will not analyze it in this study due to space constraints. For further information, see Kim (1994) and Kim (2009).

The semantic components involved in *kata* are motion, deixis (i.e. towards or away from a reference point), and path. In the case of the inherent absence of a specific destination, which is however not omission, *kata* may be a simple motion verb as was shown in (12) in terms of manner which is encoded via an adjunct such as ideophones or adverbs, or via a multiverb construction (Beavers et al. 2010: 356). Regarding deixis, the verb describes a figure's distancing from origin. On the other hand, *kata* itself faintly encodes path, i.e. just the existence of path, and the underspecified information of path is supplemented to a great degree by a suffix preceding the verb, i.e. postposition from the viewpoint of a ground nominal or satellite from the viewpoint of the verb, which

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[13] I am grateful to Tae Kunisawa for consulting Martin (1975) for me.

necessarily follows the ground nominal anyway. This aligns with Bohnemeyer et al. (2007: 498)'s statement that path is also expressed outside a main verb even in V-framed languages, such as Korean. The marking of path by both the verb *kata* and a suffix indicates that *kata*-specific constructions involve the aforementioned double framing strategy (Croft et al. 2010). Given that the basic word order of Korean is S-O-V, the typical *kata*-specific construction, is as follows:

(22) Somi-ka(NOM)   cip-☐(suffix)   kassta
      [Figure]   [Ground-Path]   [Motion+Deixis+Path]
      'Somi went home'.

What is at issue in this analysis is the suffix which occupies the square above. Even though the suffix specifies path semantics in detail, it has not been explained in detail in connection with *kata* and its argument structure constructions in previous studies. First of all, suffixes which precede *kata* in my data are tabulated with their frequencies. A parenthesis or a slash means a phonological allomorph. Of interest is that suffixes mark animacy of ground and their compatibility with a manner verb varies. In addition, since there are many cases where the suffix is not needed or not applicable, the total number of suffixes is not equal to that of the entire data used in this analysis.

Suffix	Case abbreviation	Common English equivalent	Frequency	Compatible with manner verbs	Animacy of Ground	Etc.
ey	ALL	to	**254**	N	Inanimate	
eykey	ALL	to	2	N	Animate	
(u)lo	ALL	toward	**138**	Y	Inanimate	
(l)ul	ALL	to	**177**	N	Inanimate	Originally accusative marker
hanthey	ALL	to	18	N	Animate	

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eyse	ABL	from	1	N	Inanimate	
i/ka	NOM	subject marker	45	N	Inanimate	
(n)un	TOP	as for	15	N	Inanimate	Topic marker
kkaci	TOP	until	41	Y	Inanimate	Topic marker
man	TOP	only	4	N	Inanimate	Topic marker
to	TOP	also	28	N	Inanimate	Topic marker
(i)na	TOP	no fewer than	4	N	Inanimate	Topic marker
lato	TOP	even	1	N	Inanimate	Topic marker
Ey-lul	PTCL	to-to	4	N	Inanimate	Complex Particle
Ey-kkaci	PTCL	to-until	1	N	Inanimate	Complex Particle
Ey-nun	PTCL	to-as for	2	N	Inanimate	Complex Particle
Ey-to	PTCL	to-also	1	N	Inanimate	Complex Particle
Ey-man	PTCL	to-only	1	N	Inanimate	Complex Particle
Kkaci-nun	PTCL	until-as for	1	Y	Inanimate	Complex Particle
(l)ul hyanghayse	ALL	toward	1	Y	both	ALL + participial form of a verb
(u)lo-nka	ALL	somewhere	1	Y	Inanimate	*(u)lo* + interrogative ender
no suffix	NA	NA	**680**	N	Inanimate	
			Total: 1420			

Table 2. Suffixes after ground nominal in *kata*-specific constructions

As shown above, exact English equivalents for complex particles were not found. Also, most of the suffixes including these complex particles and topic markers will not be discussed due to their low frequency and their minimal contribution to path semantics.

However, noteworthy is that most of the topic markers can follow the subject or/and the NP in the oblique phrase as follows.

    (23) Somi-man   cip-man   ka-ss-ta
          Somi-TOP   house-TOP   go-PST-DC
          'Only Somi went only home'.

Because of the topic maker *man* which occurred two times, (23) implies that people other than Somi went to other places in addition to home. On the other hand, out of the topic markers above, *kkaci*, which is an 'until' marker, shows a relatively high frequency and may be of interest. The counterpart in Japanese '*made*' has been investigated in the literature to some extent (Beavers, 2008; Beavers et al. 2010). For instance, Beavers (2008: 309) contends that it marks the final point of the path but does not encode "specific path or motion-based semantics".

Suffixes that are given attention throughout this study are the boldfaced -*ey*, -(*u*)*lo*, -(*l*)*ul*, and no suffix in the table above, which show the four highest frequencies and encode path semantics to a great extent. The four types of suffix account for about 88% in the total number of suffixes. Previous studies have focused on the first three suffixes. The case of no suffix has seldom been mentioned in previous studies since it only occurs in spoken registers and researchers have not paid attention to spoken data. Meanwhile, it is known that Korean suffixes including those three are polysemous. Most scholars have considered Korean suffixes to be polysemous in their own right. However, it is not the case that they involve various meanings on their own; rather, their various semantics comes into being in interaction with other components in the constructions (cf. Ko, 2008:7). Out of the members in the constructions, the most influential component in

grasping the meanings of a suffix has been said to be a preceding NP (Ko 1999; Yang 2004; Ko 2008).

(24) a. a place noun precedes the suffix –(*l*)*ul*
       Hakkyo-lul   ka-ss-ta
       School-DIR   go-PST-DC
       '(somebody) went to school'
  b. an NP meaning a road precedes the suffix –(*l*)*ul*
       kil-ul   ka-ta
       road-DIR   go-DC
       '(somebody) goes along a road

As shown above given the existence of the verb *kata*, if a place noun which is bounded such as *hakkyo* 'school' precedes the suffix –(*l*)*ul*, the function of the suffix is to mark an arrival point and the entire construction refers to the figure's arriving at school. However, if an NP which means an unbounded road precedes the same suffix, the function of –(*l*)*ul* is to mark an intermediate route and the construction denotes the figure's going along a road (cf. Yang 2004: 336). However, even though an NP preceding a suffix is more significant due to its conceptual autonomy compared to other components, it seems that the rest of the components such as the verb *kata* in the entire constructions should be taken account as well to figure out the ultimate meaning of a suffix. As has been emphasized throught the current thesis, also the polysemy of the suffixes should be interpreted in terms of the argument structure constructions they occur.

Finally, the semantics of the three suffixes which has been discussed in the literature is summarized. First, the suffix -*ey* has been said to mark an arrival point[14] in motion events (Ko 1999; Ko, 2008). In above (22), if –*ey* is inserted in the box, then it is

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[14] Cf. Japanese suffix -*ni* is known to mark an arrival point.

expressed that 'Somi arrived at home', i.e. home is where Somi arrived. Due to this boundedness, which is unlike its English counterpart 'to', *–ey* is incompatible with manner verbs such as *ttwita* 'run', which inherently involve unboundedness (Yang 2004: 337). Additionally, *-ey* follows only an inanimate ground NP. If a ground nominal is animate, then *–eykey* should precede it. Traditionally, *-ey* and *–eykey* have been considered to be allomorphs without involving significant differences except for animacy and have tended to be explained as a whole. However, some scholars such as Yoo (2003) and Ko (2008) do not agree identifying semantic differences between the two. It is also pointed out that semantic differences are triggered by animacy (William Croft, P.C.). Following the scholars' argument and considering the very low frequency of *- eykey*, only *–ey* will be taken into account throughout this study.

The second suffix *-(u)lo* also involves a variety of meanings depending on the surrounding components in a syntactic construction. Ko (1998: 4) suggests that the putative meanings of *-(u)lo* are: direction, decision including judgment and selection, time, instrument including tool, method, material, and reason including cause. Out of those various meanings, the meanings of *-(u)lo* relevant to *kata*-specific constructions are direction, path, and selection. First of all, *-(u)lo* has been said to express a unbounded direction (Hong, 1978; Ko, 1998; Sohn 2001; Yang, 2004; Jeong, 2005, etc). When the suffix is assigned in the box in (22) above, it is expressed that Somi left toward home but it does not necessarily mean that she arrived home. Hence, unlike in the previous example with *–ey*, home followed by *-(u)lo* is a direction point[15]. This will be further

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[15] Cf. Japanese suffix *-he* (the actual pronunciation is [e]) marks a direction point.

discussed in 4.1.3 atelic direction motion.

The second meaning of -(*u*)*lo* is passage (Hong, 1983) or path (Yang, 2004). Hong (1983: 155) argues that -(*u*)*lo* marks a certain point or space where a figure moves through. It seems that this meaning is mainly driven by the semantic property of a preceding NP, i.e. road-type NPs, which is unbounded. Since a home or house cannot be an intermediate route due to its boundedness, the passage meaning of -(*u*)*lo* is not possible in (22) above. Instead, an instance of the passage -(*u*)*lo* with a road-type NP is as follows:

(25) kate-n   kil-lo   mos   ka-ko
Used to go to-adnominal   road-through   unable   go-CJPRT
'(somebody) was unable to go through a road (the person) used to go through'[16]

Interesting is that the suffix –(*l*)*ul* to be discussed also expresses the similar meaning in the similar constructions. With regard to constructions either with -(*u*)*lo* or –(*l*)*ul*, the semantic domain of passing will be discussed in 4.1.4. Finally, out of the four suffix types discussed in this section, -(*u*)*lo* is the only suffix which is compatible with manner verbs. This seems to be because -(*u*)*lo* involves unboundedness in motion events, whether it refers to direction or passage.

The last meaning of -(*u*)*lo* is selection (Im, 1974; Ko, 1998), which seems to appear mostly in the abstract domain .

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[16] The problem is that the sentence above can also mean somebody was unable to go to a road the person used to go to, which expresses the road is a goal. But this sort of ambiguous case is rare because the semantic property of a preceding NP disentangles an ambiguity.

(26) a. kunyang   kwete-lo   ka-ss-u-myen   coh-keyss-cyo
      just   quarter-toward   go-PST-IN-if   good-FUT-DC
      '(somebody) hopes just the quarter-based system is taken or selected' lit.
      'somebody hopes something goes to just quarter'
    b. cenkong   mwe-lo   ka-yo   kulem?
      Major   what-toward   go-DC   then
      'What is going to be your major, then?' lit. 'what does your major go to, then?'

As shown above, when bounded abstract nouns such as *kwete* 'quarter' or *mwe* 'what' precede the suffix -(*u*)*lo*, and when the suffix is followed by the verb *kata*, the selection meaning of the suffix appears. The meaning coming from the entire constructions is further read as telic motion events. This is represented in the following figure 2, where the nouns - *kwete* 'quarter' and *mwe* 'what' in 26(a-b) correspond to landmark. Finally, the suffix -(*u*)*lo* in 26(a-b) is bounded or telic, unlike -(*u*)*lo* referring to direction or passage.
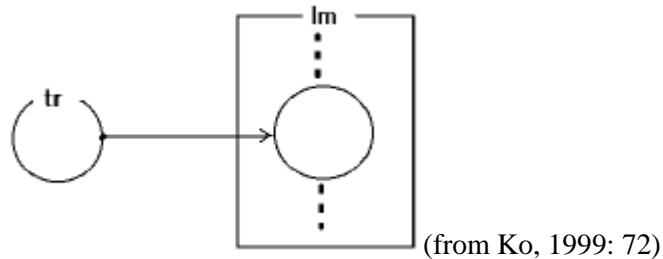
(from Ko, 1999: 72)
Figure 2. The diagram of selection -(*u*)*lo*

-(*L*)*ul* is the trickiest suffix when it comes to *kata*. First of all, when it precedes prototypical transitive verbs such as 'hit', it is indeed a patient marker as shown in the following invented sentence.

(27) chinkwu-lul   ttayli-ta
     Friend-ACC   hit-DC
     'hit a friend'

However, when it combines with *kata*, the association has been a contentious issue in the

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literature since the intransitive motion verb *kata* and –(*l*)*ul* are incongruent both syntactically and semantically. There have been various suggestions on this issue such as that sentences with –(*l*)*ul* and motion verbs are transitive (Hong, 1983: 165); *kata* can be a transitive verb (the Donga new Korean dictionary, 2003; Jeong, 2005); or the suffix marks the preceding NP as object (Hong 1983: 152; Yang 2004; Jeong 2005). However, these arguments are not convincing in that it is not the case that an agent in motion events acts on an entity expressed as a ground nominal, which thus is not a patient in terms of force dynamics. At this point, the first thing we should do is to be emancipated from the prejudice that –(*l*)*ul* is always a patient marker without any exception. It is to be acknowledged that the suffix is no longer a patient marker and that it is rather a directional marker as much as the aforementioned –*ey* and -(*u*)*lo* are, when it precedes *kata*. Specifically, on the basis of the semantic properties of an NP and *kata*, the suffix –(*l*)*ul* marks the preceding ground nominal as either an arrival point or an intermediate route, as was mentioned earlier. If the preceding noun is bounded, –(*l*)*ul* marks it as an arrival point. If the preceding noun is unbounded such as road, –(*l*)*ul* marks it as an intermediate route as follows (cf. foregrounded passage in Nam 2003 and Yang 2004).

(28) a. –(*l*)*ul* marking an arrival point
honca   kangnam-ul   ka-ss-ci
alone   Gangnam-DIR   go-PST-DC
'(somebody) went to Gangnam alone'
   b. –(*l*)*ul* marking an intermediate route
kil-ul   ka-ta   po-myen   cengmal   ilekey
kwukel-ul
Road-DIR   go-CJPRT   see-if   really   like this   begging-
ACC

> ha-ko   iss-nun   salam-tul-i   man-cyo?
> do-CJPRT   PROG-adnominal   person-PL-NOM   a lot-INT
> 'When you are passing a road, there are really a lot of people who are begging like this?'(confirmation)

In regard to –(*l*)*ul* marking an intermediate route, Nam (2003: 116) argues that NP-(*l*)*ul* in motion event does not mark where a source and a goal are. However, he does not touch on the semantic property, i.e. unboundedness of the preceding ground nominal and in what context his claim comes from. At any rate, -(*l*)*ul* marking an intermediate route is unbounded/atelic and -(*l*)*ul* marking an arrival point is bounded/telic.

Compared to –*ey* and -(*u*)*lo*, –(*l*)*ul* has been less discussed with regard to *kata* in the literature. Among studies on it, Hong (1983) provides the most useful frames by setting a type of 'NP+(*l*)*ul*' preceding motion verbs and by positing the two-way distinction in terms of syntax and discourse. However, modifying his original distinction, it seems that the distinction of directional suffix versus discourse suffix would be more relevant in terms of *kata*-specific constructions in this study. As shown in (28) above, -(*l*)*ul* as directional marker expresses either an arrival point or an intermediate route. In terms of marking an arrival point, what separates -(*l*)*ul* from –*ey* is that -(*l*)*ul* precludes the reading of a figure's stopping by somewhere. This case of nonstop arrival will be discussed in 4.1.3.

As a discourse suffix, Hong (1983) argues that -(*l*)*ul* denotes that a preceding ground NP is given focus/emphasis or is a topic. Similarly, Nam (2003: 114) explains that NP-(*l*)*ul* means thematization or focus. The example invented by myself is as follows:

(29) A: myechilccay   kyeysok   mok-i   aputa.   way
         kuleci?

For a couple days   continuously   throat-NOM   ache.   Why   so?

'I have had sore throat a couple days. Why is that?'

B: pyengwen-ul   an   ka-se   kulay.

    Hospital- FOC   NEG   go-CJPRT   so

    'That is because you did not go to a hospital'

In this conversation, B's utterance in particular, *pyengwen* 'hospital' is a focus due to -(*l*)*ul*. The utterance can be paraphrased as 'not going to a hospital is the very reason you have had sore throat'. Without -(*l*)*ul*, having sore throat is not ascribed to not going to *pyengwen* 'hospital' as much as in (29) with the suffix. That is, by comparing cases with and without the suffix, the emphasizing function of the suffix becomes apparent. However, it is not the case that the suffix -(*l*)*ul* functions as a directional marker and involves path semantics, i.e. nonstop arrival, in this context in that the suffix corresponds to A's utterance asking the reason she has had sore throat. Put it another way, it is not appropriate for path semantics to appear in the situation of this conversation.

Finally, the case of no suffix, which exclusively appears in spoken registers, accounts for about 48% in the total number of suffixes. According to Sohn (2001: 401), in Korean which is 'a situation-oriented language', constituents of sentences, such as noun phrases and predicates, can be unexpressed as long as they are recoverable from a discoursal or situational context. More crucially, he further claims that sentential elements such as case suffix in colloquial speech are omitted quite often without any antecedent. This occurs "when no particular focus of the nominal is needed and no ambiguity arises due to the normal word order or semantic transparency" (ibid: 402).

(30) Minho   (uy)   tongsayng   (i)   hak.kyo   (ey)   ka-ss-e.yo.

    Minho   GN   brother   NM   school   to   go-PST-POL

    'Minho's younger brother went to school.' (Sohn, 2001: 402)

However, unlike Sohn (2001)'s argument, it is not the case that ambiguity does not arise at all after omission of case suffixes. In (30) without the suffix -*ey* which marks arrival, even though it is clear that Minho's younger brother is no longer in his original position, whether he arrived at school or not is not unambiguous. In addition, Sohn (2001: 403) claims that "upon deletion of elements, agglutination easily heals the wound by attaching the following orphaned elements to the preceding element." However, when it comes to deletion of case suffixes used in motion events, the healing process works only when the preceding ground nominal is inanimate. To put it differently, if there is an animate entity such as a friend instead of *hakkyo* 'school' in (30), the sentence does not work. This is further illustrated by following invented examples.

(31) a.
    i. Somi-ka   cip-ey   ka-ss-ta
       Somi-NOM   home-to   go-PST-DC
       'Somi went home'.
    ii. Somi-ka   cip   ka-ss-ta
       Somi-NOM   home   go-PST-DC
       'Somi went home'.
    b.
    i. Somi-ka   emma-hanthey   ka-ss-ta
       Somi-NOM   mother-to   go-PST-DC
     'Somi went to her mother'
    ii. *Somi-ka   emma   ka-ss-ta
       Somi-NOM   mother go-PST-DC
      *'Somi, her mother went'

In (31a-ii), even though the suffix –*ey* is omitted and thus path semantics, i.e. whether Somi arrived home or not, is not available any more, it is still grammatical. However, in (31b-ii), since the animate suffix *hanthey* is omitted, it is not grammatical. Because the suffix is omitted after the animate ground *emma* 'mother', then the entire construction

roughly comes to mean Somi's mother went. That is, *emma* 'mother' who used to be a ground becomes a figure due to the omission of the suffix.

Biber & Conrad (2009: 90-91) argue that in the real-time production of speech, "speakers often take shortcuts with their language, reflected by frequent contractions and other structural reductions". However, there is a possibility that this case of no suffix may be 'a speech-specific construction' with its own idiosyncratic usage contrasted with that of cases with suffix, rather than a simple reduction or contraction (William Croft P.C.). Unfortunately, to my knowledge, this matter has not been discussed in depth in the literature. As of now, there is nothing known about the specific and independent function of the potential speech-specific construction.

Before we move on to methodology for the current thesis, worthy of note is the degree of contribution of each component to the constructional meaning. If we take a microscopic perspective to look into *kata*-specific constructions which typically consist of subject followed by optional suffix, oblique NP followed by optional suffix, and *kata*, it seems that how much a particular component contributes the construal of the entire construction differs. First, the figure NP and the ground NP are relatively more conceptually autonomous than a case suffix and *kata*. In other words, while the figure NP and the ground NP, for instance human being and school are semantically clear by themselves, the semantics of a case suffix and *kata* cannot be determinate without surrounding components. Accordingly, the semantic types of the figure NP and the ground NP, determines the semantic domain (e.g. physical motion) of a certain argument structure construction where *kata* appears. If a figure NP is 'time' for instance, the

semantic domain of the construction the figure appears in would be abstract motion. If a figure NP is a person and a ground NP is 'jail', the semantic domain would be change in social status. Even though a physical motion is involved to some extent in this case, the primary meaning is that a person's status in society changes, i.e. from a general citizen to a prisoner. In this regard, the construal of a certain construction seems significantly to be led by the semantic properties of the figure NP and the ground NP.

Case suffix and the verb *kata* contribute to the constructional meaning to a lesser degree. A case suffix specifies path semantics and the relation between a figure and a ground NP. For instance, it provides information on whether the figure arrives in the destination without stopping by somewhere (i.e. –(*l*)*ul*) or expresses that the figure may deviate from the path that it is supposed to follow (i.e. –(*u*)*lo*). This path information is maintained in some abstract semantic domains of *kata*-specific constructions with a ground NP as well. However, the path information provided by case suffix is not obligatory considering that *kata*-specific constructions without any suffix still works as long as the ground nominal is inanimate. Finally, the verb *kata* marks a figure's leaving from an original location and motion to/toward a new location, with little information on the path of the figure. In this regard, when a suffix and the verb *kata* are compared in terms of quantity of information on path semantics, the case suffix contains far more than the verb. This leads to asymmetrical relationship between the suffix and the verb in terms of the contribution to path semantics.

Finally, various combinations of a figure and a ground NP and its case suffix, and *kata* trigger different and noncompositional constructional meanings, which however

are not the ones that should be inventoried in the lexical entry of the verb itself (i.e. *kata*1, *kata*2, *kata*3). A constructional meaning emerges by virtue of the two-way interaction between components and a construction. Components, which by themselves involve a high degree of semantic indeterminacy (especially the case suffix and *kata*), play the role of ingredients, and a construction enables the combination of the ingredients. Subsequently, the construction selects or even forces a specific meaning of each component and reifies a certain constructional meaning. To sum, components such as suffix can be likened to bricks and a construction is like an architectural framework. Hence, it may be misleading to say that *kata* itself is polysemous. Rather, the meaning we are trying to figure out with regard to *kata* is "associated with the construction as a whole, not just a single element" (Croft 2012: 383). By virtue of the establishment of *kata*-specific construction, not only can we figure out what an entire event is, but also the meaning of a respective element (e.g. suffix and *kata*) except for NPs, can be grasped. This constructionist approach has barely been tried in Korean linguistics and finally enables access to a cluster of linguistic knowledge native Korean speakers unconsciously have accumulated through recurrent exposures to *kata*-specific constructions.

3. Data Collection and classification

This study is based on raw transcribed data (1986 sentences in total) of contemporary spoken Korean from the 21st Century Sejong Plan established in 1998~2007 (National Institute of Korean Language, 2011). Generally, the Sejong Plan is more frequently called the Sejong Corpus among researchers. The Sejong Corpus also includes contemporary written Korean data, Korean-English and Korean-Japanese parallel corpus and historical corpus. In this study, the corpus data of the second edition in 2011 were used. Types in the data are: everyday conversations (face-to-face conversation, telephone conversation, purchase talk, etc), formal types (meeting, debate, lecture, etc), and monologue. Out of several searching programs for corpus data, Hanmaru 2.0 was used to obtain various conjugated forms of *kata*.

In order not to miss valuable data which may show distinct syntactic patterns and semantics, it is critical to obtain as many tokens as possible for a target lexical item, which is called RECALL in corpus linguistics. According to Hoffmann et al (2008: 78-79), "recall measures the proportion of all relevant instances (i.e. what you intended to find) that are retrieved by a corpus search". They explain that the risk of making biased claims based on limited relevant tokens can be avoided by optimizing recall. Unfortunately, unlike English, where it is far easier to maximize recall of a certain verb by command {}(e.g. if you type {be} in British National Corpus, all forms of *be*, i.e. *is*, *am*, *were*, etc, are automatically found), it is impossible to automatically get all inflected forms of a verb in Korean. To understand how recall was maximized in Korean data, Korean morphology is discussed.

Korean is affixing or agglutinative language (Seo 2006: 134-135; Sohn 2001: 215). A stem stays the same but a myriad of affixes (i.e. prefixes and suffixes) are attached to the stem and mark a grammatical function (e.g. sentence type, tense, honorific, etc)[17]. For instance, the stem of *kata* is *ka*, which cannot function by itself (except for some uses such as imperative "*ka*!" 'go!' and interrogative "*ka*?" '(do you, does somebody) go?'), is always in need of assistance by suffixes to function. Even the citation form *kata* has the declarative suffix –*ta*. Further, according to Sohn (2001), verbs are one of the Korean eight word classes (i.e. noun, pronoun, numeral, verb, adjective, determiner, adverb, and particle), which show a greater variety of affixation.

There are two types of suffixes depending on their position: enders and non-terminal suffixes. Ender is the one usually called final or terminal in the literature (William Croft P.C.). Since Sohn (2001) uses enders instead of the two terms for Korean, his nomenclature will be followed in this study. He explains that there are three types of enders: sentence enders (e.g. plain interrogative ender –*ni*?), conjunctive enders (e.g. –*ko* 'and'), and adnominal enders (e.g. non-past indicative -*nu-n*)(ibid: 232). Regarding the verb *kata*, the stem *ka* should be closed by one of these enders (e.g. *ka-ni*? '(does someone) go?'). On the other hand, a non-terminal suffix may come between the stem *ka* and an ender. He states that non-terminal suffixes are optional before an ender and "carry grammatical meanings, such as honorific, tense/aspect, and modal" (ibid: 233). Since there may or may not be a non-terminal suffix and there should be an ender after the stem *ka*, the number of possible combinations would be infinite. On top of that, he states that

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[17] However, there is no person and number agreement in Korean.

there are more than 600 affixes in Korean and all of them are native. This is what makes

corpus analysis of *kata*-specific constructions particularly overwhelming.

Finally, the morphological structure of a verb, which includes non-terminal

suffix and ender, and shows their sequential order, is as follows:

```
              (Predicate stem) + Inflectional suffixes
          ┌─────────────────────┴─────────────────────┐
   Non-terminal suffixes                            Enders
    ┌──────┼──────┐                        a. Sentence enders
                                           b. Embedded-clause enders
 Subject   Tense/   Modal                       i.   Nominal enders
 honorific  aspect                              ii.  Complement enders
                                               iii. Conjunctive enders
                                               iv.  Relative enders
```
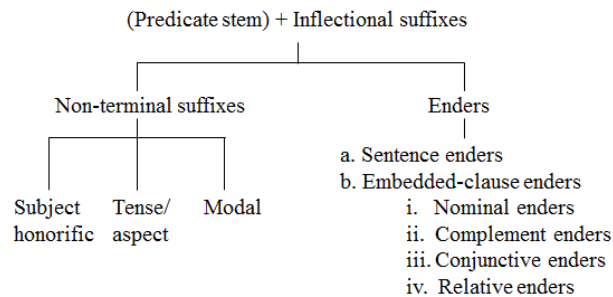
Figure 3. Morphological structure of a verb in Korean (Sohn 2001: 233 (26))

Considering both various non-terminal suffixes and enders shown above, I came up with

169 forms of *kata*[18] including non-standard conjunctive ender such as *o*-raised forms[19]

and fortis (e.g. *kk*), which are exclusively used in spoken registers. Out of the 169 forms,

85 forms did not appear in my data and were not considered. Thus, the rest of 84 forms

were used in this study and the entire list of them with morphological analysis is in

appendix 1. Parts of them are presented as follows.

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[18] In the course of coming up with possible forms, I realized that *ka-le* 'to go' is not allowed unlike many other Korean verbs (e.g. *ketta* 'walk', *ttwita* 'run', *mekta* 'eat', etc). Usually, verb-*le* is followed by either *kata* or *nakata* 'go out'. Han (2007: 347-348) points out the same thing and explains that the first verb in front of *-le* should express a realizable activity after change of location. Given this explanation, since *kata* does not express the post-motion activity, it cannot precede *–le*.

[19] Centralization is termed as o-raising in current (socio)phonetics literature. This usually occurs in connective bound morpheme, for instance, *ka-ko* (non-raised, 'go and', standard Korean) ->*ka-ku* (o-raised, 'go and', non-standard Seoul Korean). The o-raised forms originally started to be used largely by female speakers but those forms are expanding their domain to male speakers as well. Since the corpus search showed quite a few o-raised forms in line with their expanded use, they were included in this study.

	Hangeul	Yale Romanization (Morphological structure, underlined one is ender)	Meaning in English (speech level of a sentence ender)	Frequency
1.	가다	Ka-ta (go-DC)	citation form 'go'	28
2.	간다	Ka-n-<u>ta</u> (go-IN-DC)	'(someone or something) goes' (PLN)	52
3.	갔다	Ka-ss-<u>ta</u> (go-PST-DC)	'(someone or something) went' (PLN)	215
4.	가서	Ka-se (go-CJPRT)	'after going'	719
5.	갔고	Ka-ss-ko(go-PST-CJPRT)	'(someone or something) went and then'	10

Table 3. Conjugations of *kata* found in the Sejong Corpus

In addition, each sentence was double-checked by myself and sentences that are ambiguous or are not understandable were discarded. Also, only sentences with *kata* as the only main verb were included. In other words, the use of *kata* in V + V compounds or complex verb constructions (e.g. *mek* 'eat'- *ko* 'and' *kata* 'go') was excluded. Other sentences that were excluded, include social interaction expressions such as *cal* ('well')- *ka* ('go') 'good-bye' and quite a few sentences with homonyms of inflected forms of *kata* (e.g. *kayo* means either '(someone or something) goes' or 'song').

4. Semantic domains of *kata*-specific constructions

Before we get to the first semantic domain– physical motion, all of the semantic domains are classified by intuitive analysis based on the data[20] and are tabulated by raw frequency as follows.

#	Semantic domain	Frequency
1	Physical motion	1430
2	Change in social status	275
3	Cyber motion	4
4	Change of state	16
5	Abstract motion	214
6	Mathematical motion	1
7	Doing an activity	3
8	In any case	10
9	Sometimes	10
10	Come and go	23
		Total: 1986

Table 4. Semantic domains of *kata*-specific constructions with raw frequency

In Table 4, we see that the physical motion domain shows an overwhelmingly higher frequency compared to other semantic domains. Based on this, it is assumed that the physical motion domain is a prototypical and representative semantic domain of *kata*-specific constructions. Thus, it is argued to be the domain where semantic extensions start to occur, and whose various syntactic constructions begin to be inherited by other semantic domains. This is different in spirit than quite a few previous studies where a basic meaning of the verb *kata*, independent of context, is determined by a researcher's subjective judgment. On the other hand, the order of classification of semantic domains is

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[20] There are other ways to measure semantic distance such as psycholinguistic experiment of having native Korean speakers do similarity judgments (William Croft P.C.). Due to time constraint and lack of participants, it was not performable.

based on how close a semantic domain is to the physical motion domain. More specifically, semantic relatedness is determined based upon how much the semantic domain involves physical motion. Thus, the second domain would be change in social status (e.g. go into military), which involves both physical motion and abstract motion. In following section 4.1, the discussion of nine sub-semantic domains in the physical motion is started.

4.1 Physical motion

Once the semantic property of a figure NP and a ground NP determines a semantic domain in a higher level (e.g. physical motion), what mainly triggers sub-semantic domains is what type of suffix follows a ground object. Korean suffixes encode finer descriptions of a figure's trajectory, including its final position after motion, compared to suffixes in other languages. They further mark not only whether a figure arrives in a ground or not, but also whether the figure stops by somewhere before arrival. These are what has been called 'image schema' in the literature. According to Mandler (1992: 591), we perceptually experience motion events, and simplify and redescribe the sensorimotor/prelinguistic experiences into image schemas. However, as she argues, image-schemas are not directly accessible (ibid: 592). This implies that a medium is required to allow access to those image schemas. In terms of the current thesis, the mediums appear to be suffixes in the argument structure constructions. Also, all the constructional meanings in physical motion are argued to reflect image schemas based on out bodily experiences. Finally, the various image schemas will play an important role in the distinction of the sub-semantic domains of physical motion.

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4.1.1 Arrival with digression possible
Construction: [in/animate subject + place noun + -*ey* + various conjugated forms of *kata*]

Dropping by somewhere and then arriving in a destination is a very frequently occurring experience in our actual life and exists in the form of image schema at the conceptual level. Out of various suffixes discussed in section 2.2, the suffix -*ey* marking an arrival point labels the image schema in the context of argument structure construction. Once it is embedded in the construction above, it starts to indicate that a figure necessarily arrives in a destination (Jeong, 2005) with the possibility that it may have dropped by somewhere on the way[21] allowing 'via somewhere' in its construal. The reading of a telic directed motion with possible stopping by somewhere is instantiated in following (32) and the image schema is diagrammed in figure 4.

(32) a. Pyongyang-ey   ka-n-ta.
       Pyongyang-to   go-FUT-DC.
       '(I or somebody) will go to Pyongyang (the capital of North Korea)'.
    b. holangi-nun   kkoy-lul   nay-se   ellun   pwukh-ey   ka-se
       tiger-TOP   trick-ACC   make-CJPRT   quickly   kitchen-to   go-
       CJPRT
       'A tiger came up with a trick and quickly went to a kitchen and…'
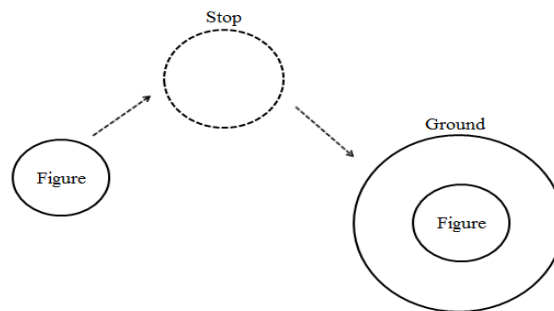
Figure 4. Arrival with digression possible image schema

The two sentences in (32) denote that a figure arrives in Pyongyang and kitchen

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[21] The second interpretation becomes clearer when it is contrasted with nonstop arrival in section 4.1.3

respectively. It also implies that the figure stops by somewhere such as Seoul or a living room on the way to the destination. This is diagrammed in the figure 3 above, where the dashed two arrows and the dashed circle denote that a figure's stopping by is optionally possible.

Steering into typology for a while, whether an intermediate route where a figure's digression occurs can be expressed in the same clause matters. Bohnemeyer et al (2007) argues that there are three types of languages based on how each sub-type of ground (i.e. source, intermediate route, goal) is expressed together in a clause. Type 1 languages integrate source, intermediate route, and goal in a single clause (e.g. 'Floyd went from Nijmegen across the river to Elst', ibid: 498), and are argued to be S-framed, or to have either serial verb or multiverb constructions. Type 2 languages put source and goal in a single clause with intermediate route being in a separate expression (e.g. 'Floyd went from Nijmegen to Elst, crossing the river', ibid: 498) and is regarded as V-framed. Finally, type 3 languages require source, intermediate route, and goal to be expressed in a separate clause respectively (e.g. 'Floyd left Nijmegen, crossed the river, and arrived in Elst', ibid: 498). It appears that Korean belongs to V-framed Type 2 in that the intermediate route appears in a separate clause as follows.

(33) Panmunjeom-ul   tongha-y   Seoul-eyse
    Joint Security Area-DIR   go through-CJPRT   Seoul-from

  Pyongyang-ey   ka-n-ta.
  Pyongyang-to   go-FUT-DC.
  '(I or somebody) will go from Seoul to Pyongyang, going through Joint Security Area' (modified version of 32a).

Finally, the constructional information discussed so far is summarized in

following table 5.

Components				Construction
in/animate subject	**place noun**	***-ey* (inanimate)**	**conjugated forms of *kata***	**in/animate subject + place noun + *-ey* + conjugated forms of *kata***
figure	ground	arrival with possible stopping by	physical motion	Meaning: a figure arrives in a destination with possible stopping by
				Number of tokens: 217 hits
				Types of Figure Animal: 2 hits Body part: 1 hit Human: 213 hits Unknown: 1 hit

Table 5. Summary of arrival with digression possible

4.1.2 Atelic direction motion

Construction: [in/animate subject + place noun + -(*u*)*lo*[22] + various conjugated forms of *kata*]

Going back to our everyday life again, we deviate from the scheduled course quite often and then end up arriving in another location. For instance, on the way to school, I may run into a graduate student and then end up going to Starbucks instead of UNM with her. Once people experience this type of sensorimotor events over and over again, the corresponding image schema of deviation starts to be formed as follows.

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[22] When the final syllable of the preceding noun is closed, *-ulo* is used. When the preceding noun has an open final syllable, *-lo* is used. In addition, the topic marker –(*n*)*un* or the auxiliary particle –*to* may follow the suffix –(*u*)*lo*.
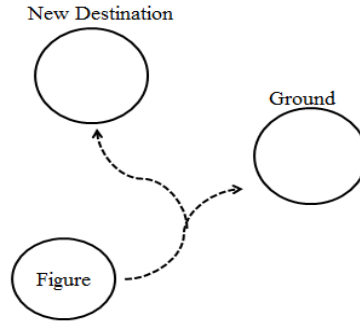
Figure 5. Atelic direction motion schema

In Korean, the image schema is labeled with *-(u)lo* which denotes a unbounded direction (section 2.2) in argument structure construction.

(34) a. Ilpon-ulo   ka-se
     Japan-toward   go-CJPRT
     'go toward Japan and'
   b. ikey   eti-lo   ka-nun   cha-cyo?
     this   where-toward   go-adnominal   car-INT
     'Where is this car going?'

Jeong (2005: 289) explains that *-(u)lo* does not entail that figure is included in the area the ground NP expresses after the completion of motion event. Applying her explanation to the sentence above, (34a) shows that figure will not be in the original location, but does not necessarily mean that the figure will be in Japan. On the way to Japan, the entity may change her mind and may go to China instead. The same interpretation process applies to (34b) as well. Thus, *–(u)lo* expresses that a figure may arrive in another ground with sure possibility of dropping by somewhere, which reflects the aforementioned image schema. That is, once a figure leaves the original location, the figure is relatively free to digress from the scheduled path. In this case, the original ground that the figure is supposed to go to is a directional point (i.e. a place an entity wishes or plans to go to), not an arrival point (see also Ko, 1999: 91-93). The current domain is contrasted with the

previous and next domains which express a figure's arrival regardless of stopping by

somewhere. Finally, what has been discussed so far is summarized as follows.

Components				Construction
in/animate sbj	**place noun**	***-(u)lo* (inanimate)**	**conjugated forms of *kata***	**in/animate sbj + place noun + *-(u)lo* + conjugated forms of *kata***
figure	ground	direction	physical motion	Meaning: a figure leaves toward a ground which is a direction point
				Types of Figure Animal: 5 hits Human: 48 hits inanimate: 2 hits unknown: 6 hits
				Number of tokens: 61 hits

Table 6. Summary of atelic direction motion

4.1.3 Nonstop Arrival

Construction: [(mature) human subject + place noun + $-(l)ul^{23}$ + various conjugated
forms of *kata*]

In Chapter 1, I briefly introduced the following instance:

(35) mi-taysakwan-ul   ka-ya   toy-nuntey
    US-embassy-DIR   go-should   should-CJPRT
    cengkyengtul-i   mak-nunta
    political police-NOM   block-DC
    '(somebody) is supposed to go directly to the American Embassy but the
    political police blocks (the way there)'

This sentence indicates that the figure is supposed to go to the US Embassy without

stopping by somewhere. However, there is an intervening entity − the political police.

Like this case, we frequently experience physical motion of nonstop arrival, not just in

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[23] When the final syllable of the preceding noun is closed, *-ul* is used. When the preceding noun has an open final syllable, *-lul* is used. In the latter case, the phonological reduction is possible leaving out the onset consonant and vowel (i.e. *lu*). For instance, *hakkyo* (school)-*lul* (ACC) is reducible to *hakkyo-l*. However, this limitedly occurs only in informal spoken registers.

flight, but also in a myriad of events such as going directly home from school at night. Again, this sort of recurring sensorimotor experience is saved as an independent image schema diagrammed as follows.
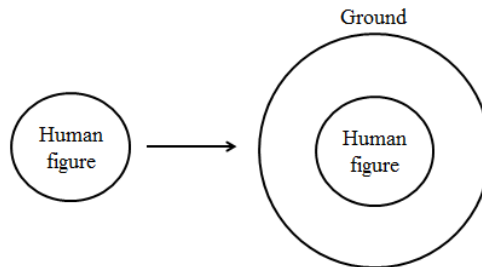
Figure 6. Nonstop arrival image schema

From the figure above and the formula of syntactic construction, what attracts our attention is that the figure is mature human. This relates to our perceptual experience again. Not stopping by somewhere requires the figure to have intention and cognitive control so it does not digress from a trajectory it is originally supposed to traverse and goes directly to a ground. However, we easily see not only pets but also infants digress from a scheduled path due to lack of cognitive or motor control. My data also shows that the subject in this construction is adult for the most part or mature human, at least $5 \sim 6^{th}$ grade elementary school students. This sensorimotor constraint is fully reflected in the corresponding construction in that its subject is only mature human (53/53 hits). More specifically, the construction imposes a stricter restriction on its subject in comparison to the previous two constructions in 4.1.1 and 4.1.2, where both inanimate and animate subjects are permitted. In sum, it seems that this selectional restriction is driven by the sensorimotor constraint.

On the other hand, the image schema is labeled with the patient marker -(*l*)*ul* in *kata*-specific constructions. However, in the literature, the combination of the patient

marker -(*l*)*ul* and *kata* has been most contentious. What makes this controversy particularly interesting and challenging for linguistic description is that the patient marker -(*l*)*ul* combines with the intransitive verb *kata*. The patient marker is not an element that can precede *kata* if we consider only the grammatical property of the verb. Rather, it seems that the combination of -(*l*)*ul* and *kata* is made possible by *kata*-specific constructions. Through the coercion process by constructions, -(*l*)*ul* which is originally a patient marker is changed to a directional marker, which aligns with the constructional meaning of motion. The directional marker -(*l*)*ul* involves two interpretation depending on the semantic type of a ground object. When a ground object is a bounded place noun, -(*l*)*ul* does not allow the construal of 'via somewhere' (i.e. a figure's stopping by somewhere) but expresses a figure necessarily arrives in a ground, which can be likened to nonstop flight without transfer. That is, this encodes the nonstop arrival image schema discussed earlier. However, when a ground object is a unbounded road-type thing, -(*l*)*ul* expresses a figure's passing along the long and narrow ground object, which will be discussed in 4.1.4.

Going back to -(*l*)*ul* without stopping by interpretation, the origin of it should be elucidated first. The first motivation of the nonstop reading is the original patient meaning of the suffix -(*l*)*ul* and constructional coercion, which was briefly introduced in the previous paragraph. When an agent acts on a patient (e.g. I break a vase), there is no intervening entity between the two except optional instruments, and a direct physical relationship exists. However, the original function of the patient marker -(*l*)*ul* no longer applies to *kata*-specific constructions since there cannot be any patient in   motion

events. Rather, the constructions appear to force the marker to become a directional

marker and to mean nonstop arrival when it follows a place noun. To put it another way,

the marker comes to connect a figure and a ground prohibiting a mediating entity as

much as it as a patient marker connects an agent and a patient directly. In this regard, the

two functions of the suffix -(*l*)*ul* do not seem as incompatible.

The second motivation behind the nonstop arrival reading is adverbs that appear

in the current construction − [(mature) human subject + place noun + -(*l*)*ul* + various

conjugaged forms of *kata*]. For instance, the adverb *mwucakceng* 'thoughtlessly' strongly

implies that a figure's motion does not involve stopping by somewhere. In addition, there

is one more adverb found in my data: *ttak* 'fit perfectly'. Examples are as follows.

(36) a. pihayngcang-ul   ttak   ka-ss-nuntey
        Airfield-DIR   fit perfectly   go-PST-CJPRT
        '(somebody) went directly to an airfield but..'
      b. siktang-ul   ttak   ka-ss-nuntey
        restaurant-DIR   fit perfectly   go-PST-CJPRT
        '(somebody) went directly to a restaurant but..'

Even though the literal meaning of the adverb *ttak* is 'fit perfectly' in such a typical

context as checking size of clothes or a chewing gum sticking to a shoe, it seems that the

adverb in a motion context means that a figure and a ground fit perfectly, that is, a figure

directly goes to a ground without digression on a path.[24] In this regard, the semantic

property of the adverbs helps us to acquire a sense that the entire construction may have a

meaning of without stopping by, which is congruent with those adverbs. In addition to the

two adverbs discussed so far, adverbs equivalent to the English adverb 'directly', such as

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[24] Like the directional marker –(*l*)*ul*, the semantic change of the adverb may be the result of coercion by constructions.

(*kot*)*palo* and *kotcang*, which express nonstop motion event, may occur in the current construction even though they were not found in my data. Finally, when we think of how likely the adverbs expressing nonstop motion would occur in the construction trio (i.e. [in/animate subject + place noun + -*ey* + various conjugaged forms of *kata*] meaning arrival with digression possible, [(mature) human subject + place noun + -(*l*)*ul* + various conjugaged forms of *kata*] which may not allow the digression, and [in/animate subject + place noun + -(*u*)*lo* + various conjugaged forms of *kata*] expressing atelic direction motion, it seems that the second construction which is being discussed in this section would attract those adverbs to the greatest degree.

To make matters complicated, in section 2.2, I discussed that another primary function of -(*l*)*ul* is to put focus on the preceding NP as a discourse suffix. Unfortunately, it appears that regardless of semantic domain, this function exerts its influence as long as the suffix occurs in argument structure constructions. Even in *kata*-specific constructions of physical motion, as far as the suffix appears, we cannot completely rule out the semantics of focus. Interestingly, *mikwuk* 'US' is frequently followed by the suffix as presented follows.

(37) thoycikkum-ul   pat-ko   ku ton-ulo   mikwuk-ul   ka-ss-
     eyo
     severance pay-ACC receive-CJPRT the money-by   US-DIR/FOC   go-
     PST-DC
     'After receiving severance pay, (somebody) went to United States by the money'
     (MBC Radio star aired in May 18th, 2016)

The utterance above denotes either somebody directly went to US, which is faithful to the original image schema, or US is the very country somebody went to using his severance pay, or both. Since the focus function is driven at the pragmatic level, but does not stem

from sensorimotor experiences, the function seems to be ubiquitous.

Finally, the summary of this domain, which does not take the focus fuction of -

(*l*)*ul* into account, is presented.

Components				Construction
(mature) human subject	**place noun**	***-(l)ul* (inanimate)**	**conjugated forms of *kata***	**human subject + place noun + *-(l)ul* + conjugated forms of *kata***
figure	ground	arrival without stopping by	physical motion	Meaning: nonstop arrival
				Number of tokens: 53 hits

Table 7. Summary of nonstop arrival

4.1.4 Passing
Constructions:
1) [animate subject + road-type noun + -(*l*)*ul* + various conjugaged forms of *kata*]
2) [animate subject + road-type noun + -(*u*)*lo* + various conjugaged forms of *kata*]
3) [animate subject + road-type noun + no suffix + various conjugaged forms of *kata*]

In terms of physical motion, it is not the case that there should necessarily be a

destination and that the event should be bounded. Rather, it is often the case that we

experience passing somewhere without a specific destination in mind and form a new

image schema from the recurring experience. However, unlike the previous image

schemas, the passing image schema is expressed via as many as three constructions,

which implies that the suffix type may not be the shortest access to the image schema.

The three constructions are instantiated as follows.

(38) a. senhwa-kongcwu-ka   kil-ul   ka-ko
The Senhwa-princess-NOM   road-P   go-CJPRT
issess-upnita
PROG-DC (formal polite)
'The Senhwa princess was going along a road'
b. katen   kil-lo   mos   ka-ko
Used to go to-adnominal   road-through   unable   go-CJPRT
'(somebody) was unable to go through a road (the person) used to go

through' (already suggested in section 2.2)
c. sey   cengkecang   ka-myen
  three   stop   go-if
   'in three stops'   lit. 'if (somebody) goes three stops'

If the types of suffix do not play the most crucial role regarding accessing image schema, then we should turn our attention to another candidate in argument structure constructions. First of all, what the three constructions have in common is road-type NP. In general, if an NP is to function as goal, then it should have a boundary. However, a road is an infinite physical space where a figure passes through, which is not eligible as goal. Thus, it is impossible to know when and where the road ends. This infinite semantic property of road-type NP mainly leads us to the passing image schema: a figure is in the middle of motion at some point of a path.

Unlike in 4.1.1- 4.1.3, the suffix plays an ancillary role. The three types of suffix in argument structure constructions further instantiate the passing image schema differently as presented in following diagrams.
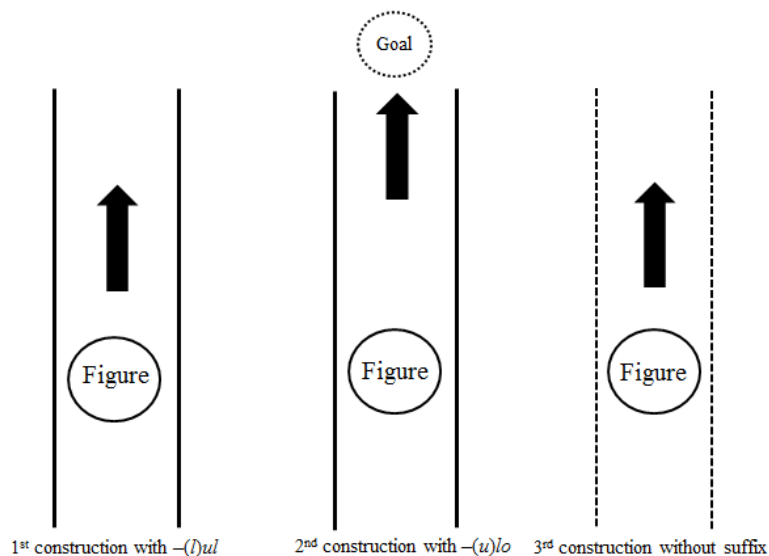

1st construction with –(l)ul   2nd construction with –(u)lo   3rd construction without suffix

Figure 7. Passing image schemas

First, in regard to the suffix -(*l*)*ul*, Hong (1983: 153) explains that the suffix marks a preceding NP as space or place a figure directly moves through.[25] Also, Nam (2003: 116) argues that the phrase of NP-(*l*)*ul* in motion event does not mark where a source and a goal are. In this regard, it seems that -(*l*)*ul* in the first construction foregrounds and profiles an intermediate path (section 2.2). The focal point is that a road-type NP is the very place where motion event is occurring. However, where a figure NP finally arrives after motion event does not seem to matter (i.e. atelic).

The second suffix -(*u*)*lo* in argument structure constructions also profiles a physical space where a trajectory proceeds as pointed out by Hong (1983) and Yang (2004)(section 2.2). However, what makes the second construction differ from the first construction may be that it involves some degree of directionality in the motion event. That is, even though there is no information where a figure NP arrives, the construction subtly implies that a figure may arrive somewhere after motion event. It seems this interpretation derives from the primary meaning of -(*u*)*lo* - direction. Even though it is generally known that the suffix -(*u*)*lo* has direction, path, and selection, etc in its semantics separately, it seems that the meaning of path and direction are combined in this construction. In other words, this construction is not telic, but suggests directionality as was in 4.1.2 on atelic direction motion with the suffix -(*u*)*lo*. In a nutshell, this construction expresses a figure's passing and further implies that it may reach somewhere in the end, which provides us the more instantiated version of the passing image schema compared to the first construction with -(*l*)*ul*.

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[25] But a preceding NP is limited to a road-type NP for the suffix -(*l*)*ul* to function that way. If a place noun such as school with an endpoint precedes the suffix as already shown in 4.1.3, his explanation does not work.

In terms of the degree of instantiation of the passing image schema, the third construction is the least instantiated. It appears that neither foregrounding the ground nor directionality is available due to the absence of suffix. This construction may simply mean a figure's passing. However, its own potential semantics triggered by the absence of suffix should be investigated further. Finally, what has been discussed so far is summarized as follows.

	Components				Construction
#1	**Animate subject**	**road-type noun**	**-(l)ul (inanimate)**	conjugated forms of *kata*	**Animate subject + road-type noun + -(l)ul + conjugated forms of *kata***
	figure	ground	profiling an intermediate path	physical motion	Meaning: a figure proceeds along a profiled path
					Tokens: 3 hits
#2	**Animate subject**	**road-type noun**	**-(u)lo (inanimate)**	conjugated forms of *kata*	**Animate subject + road-type noun + -(u)lo + conjugated forms of *kata***
	figure	ground	profiling an intermediate path with a subtle directionality	physical motion	Meaning: a figure proceeds along a profiled path and may reach somewhere after motion
					Tokens: 2 hits
#3	**Animate subject**	**road-type noun**	**no suffix**	conjugated forms of *kata*	**Animate subject + road-type noun + conjugated forms of *kata***
	figure	ground	?	physical motion	Meaning: a figure proceeds along a path
					Tokens: 2 hits

Table 8. Summary of passing

4.1.5 Leaving
Construction: [in/animate subject+ various conjugated forms of *kata*]

The previous sub-domains from 4.1.1 to 4.1.4 are mainly about starting a new relationship with goal (i.e. either arrival point or direction point) or maintaining the existing relationship (i.e. passing). However, what also very frequently occurs in physical

motion events is cutting off the relationship, i.e. leaving somewhere. The ambivalent deictic nature of the verb *kata*, i.e. to(ward) and away, makes itself fully utilized in expressing motion events of different directional nature. In any case, the leaving image schema is diagrammed.
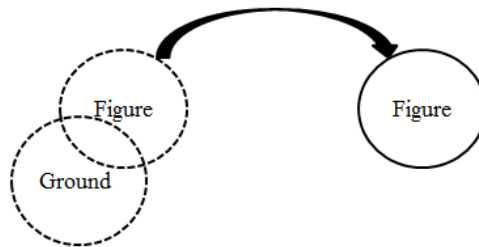
Figure 8. Leaving image schema

Interestingly, the label of the image schema – argument structure construction, remains silent about the ground information. Technically, a relevant ground can be either source or goal. However, source is far more relevant than goal in that the information that a figure is no longer in an original position is crucial, rather than where it goes in terms of the sensorimotor event of leaving. Since information on source is usually situationally available as shown in following examples, the construction does not seem to put its effort on specifying it.

(39) a. yengha-ka   ilccik   ka-kwu
        yengha-NOM   early   go-CJPRT
         'Yengha left early and..'   lit. 'Yengha went early and..'
     b. Ssuleki-tong   eti   ka-ss-ci?
        Trash-can   where   go-PST-INT (informal intimate)
       'Where is the trash can gone?' or 'where is the trash can?'

The fact that a source goes unmentioned subsequently allows a couple of interpretations of what the implicit source is. According to Fillmore (1971: 260), participants in the speech act or "the speaker's body at the time of the speech act" plays a

role of a reference point. More broadly, a departure point can be where the speaker is, as shown in (39), or a third reference point. When a departure point is a third reference point, it is expressed as follows.

(40) imo-ney   cip-eyse   toykey   com   mani   iss-ta   ka-ko
    aunt-family house-from a lot   a little bit a lot   stayed-after go-CJPRT
    '(somebody) used to stay in an aunt's house for a long time and left and..'

In (40), if the figure was not the speaker, the aunt's house may be a third reference point where participants in the speech act were not. However, this type of case where a ground is explicit is rare and only 2 instances were found in my data. Finally, the domain of leaving is summarized as follows.

Components		Construction
in/animate subject	**conjugated forms of *kata***	**in/animate subject + conjugated forms of *kata***
figure	physical motion	Meaning: a figure leaves (an implicit) ground
		Type of Figure: inanimate 1 hit, animate 33 hits
		Type of ground: human 29 hits, place 3 hits, unknown: 2 hits
		Number of tokens: 34 hits

Table 9. Summary of leaving

4.1.6 Physical motion for a certain purpose
Constructions:
1) [animate subject + deverbal noun + -(l)ul + various conjugated forms of *kata*]
2) [animate subject + deverbal noun + various conjugated forms of *kata*]

From this section to 4.1.9, because it is hard to find a clear connection between image schema and the four sub-domains of physical motion, the discussion from now on will be mostly intralinguistic. Like the domain of leaving, this semantic domain has

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hardly been discussed and even recognized in the literature. However, it is clear that this domain is significantly different from what has been discussed from section 4.1.1 to 4.1.5. While the previous five semantic domains are about a pure physical motion and are silent about why a figure moves, a certain event, as purpose of motion and as what a figure NP does after the completion of motion, comes in this domain to a great extent. Similarly, Lichtenberk (1991) brings up the notion of 'purpose' as the relavant factor of allativity. He states that "one normally goes somewhere for a certain purpose, and the purpose situation is necessarily posterior to the time of going (for the connection between purpose and future see also Givón 1973 and Ultan 1978)"(ibid: 497). The instance involving both allativity and purpose found in my data is:

(41) kachi   yehayng-ul   ka-se   ku ttay-nun
     together   trip-ACC   go-CJPRT   that time-TOP
     'We went for a trip together at that time'

While the allativity is expressed in the entire construction, the purpose is encoded in the noun *yehayng* 'trip'.

What plays a crucial role in this domain is deverbal nominals, which is also termed as event nouns and is instantiated as *yehayng* 'trip' above. According to Kang (2002: 4), deverbal nouns simultaneously have nominal properties and predicative properties, and take a case suffix. In my data, it is shown that this type of nouns either take the suffix −(*l*)*ul* or does not take any suffix. In addition, predicative properties can be further instantiated by such meanings as activity, state, relationship, and event (Hong, 1999). Unlike general nouns, deverbal nominals take an argument with the help of function verbs as follows.

(42) from Kang (2002: 11-12)
    a. haksayng-i   wuntong-ul   ha-n-ta
       student-NOM   exercise-ACC   do-IN-DC
       'A student works out'
    b. kyengchal-i   totwuk-ul   chwucek-ul   ha-yess-ta
       police officer-NOM   thief-ACC   chase-ACC   do-PST-DC
       'A police officer chased a thief'

Kang (2002) explains that the subjects (*haksayng* 'student' in 42a and *kyengchal* 'police officer' in 42b), and the object *totwuk* 'thief' in (42b) are semantically required by the deverbal nominals *wuntong* 'exercise' and *chwucek* 'chase', not by the main verb *hata* 'do'.

In addition, Nam & Ywu (2005: 128) argue that deverbal nominals may be indicative of division of simple sentences. They further explained that deverbal nominals are relevant to function verbs in that the combination of the nominals (e.g. *yehayng* 'trip') and function verbs (representatively *-hata* 'do') plays a role of one predicate (e.g. *yehayng-hata* 'travel')(ibid: 129). However, *kata* has barely been mentioned as a function verb which goes with deverbal nominals in previous studeis. It seems that the verb is one of the function verbs relevant to deverbal nominals considering its frequent co-occurrence with deverbal nominals.

On the other hand, it is quite challenging to determine whether a certain noun is deverbal nominal or not. In literature, various conditions have been suggested to identify deverbal nominals. First, we can think of deverbal nouns in terms of verbs which follow them. According to Kang (2002: 4), deverbal nouns tend to co-occur with *hata* 'do' which is known as a typical function verb. In the literature, the verb has been the most crucial and the most frequently mentioned determinant of deverbal nouns. In an extreme case,

Chae (1996) argues that deverbal nouns are a term for immaterial nouns which can combine with the light verb '*ha-*' (i.e. *hata* 'do'). However, Kang (2002) contradicts Chae (1996) arguing that function verbs other than *hata* 'do' can combine with deverbal nouns and thus, the combinability with *hata* 'do' is not a necessary condition for deverbal nominals. He suggests that other than *hata* 'do', verbs which co-occur with deverbal nominals are *toyta* 'become', *tanghata* 'suffer', *sikita* 'make somebody do', *ilukita* 'cause', *nwulita* 'enjoy', which have weak lexical meanings. Thus, it seems that *hata* 'do' is a quick and dirty determinant of deverbal nominals but it should be kept in mind that it is not the case that the verb always works.

The second condition is that deverbal nouns can occur at the end of a sentence but general nouns cannot (Chae 1996, cited in Kang 2002: 13). Kang (2002) calls this the validity of a sentence without a verb[26].

 (43) ku salam-un enceyna il/*pap-ita
   the person-TOP always work/*meal-COP
   'The person is always working/*having a meal' lit.'The person is always work/*meal'

Unlike Chae (1996)'s argument, however, the noun *pap* 'meal' in the sentence above perfectly makes sense since the meaning of *pap* 'meal' can be interpreted as having a meal. If a general noun were something that cannot be interpreted as activity regarding the noun, for instance, *piltong* 'pencil case', the distinction between a deverbal nominal and a general noun would have been clearer.

The third condition is the *cwung* 'in the middle of doing something' test set forth by Kang (2002: 15). He explains that if a noun can precede *cwung* 'in the middle of doing

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[26] This translation is not perfect but is the best one I can come up with as to the original Korean term he named.

something,' the noun is highly likely to be a deverbal nominal. However, due to the aspectual property of *cwung* 'in the middle of doing something', only nouns with the meaning of activity and continuity can combine with it. This is shown as follows.

(44) a. Kang (2002: 15)
  ppalay   cwung
  laundry in the middle of doing
  'in the middle of doing laundry'
  swukcey   cwung
  homework in the middle of doing
  'in the middle of doing homework'
 b. *kuke cwung
  that in the middle of doing
  'in the middle of doing that'
  *imin   cwung
  emigration in the middle of
  'in the middle of emigrating'

In the inventory of deverbal nominals in my data which will be shown soon in this section, all nouns passed this test except for *kuke* 'that' and *imin* 'emigration' which do not involve activity and continuity. In addition to this test, Kang (2002: 15) suggests that bound nouns such as *hwu* 'after', *cen* 'before', *cha* 'for doing something', *si* 'at the time of' function as a test for the identification of deverbal nouns to the similar extent that *cwung* 'in the middle of doing something' does.

(45) yenkwu hwu/cen/cha/si (Kang 2002: 15)
  research after/before/for doing/at the time of
  'after/before/for doing/at the time of research'

Kang (2002: 18) finally argues that even though there is no perfect criterion to identify deverbal nouns, incomplete criteria exist, which are quite useful, as shown so far in this

section. Finally, parts of 34 deverbal nouns[27] which were found in my data are inventoried as follows. Most of them except for the ones already mentioned as exceptions passed the tests discussed so far.

#	Hangeul	Yale Romanization	English equivalent	Frequency
1	여행	*yehayng*	trip	41
2	답사	*tapsa*	field investigation	10
3	연수	*yenswu*	training	9
4	유학	*ywuhak*	studying abroad	9
5	X차(e.g. 1차, 2차)	X*cha* (e.g.1cha, 2cha)	Xth event (e.g. 1st, 2nd meeting)	8
6	휴가	*hywuka*	vacation	7
7	농활	*nonghwal*	activities for rural communities	5
8	도망	*tomang*	escape	4
9	과외	*kwaoy*	tutoring	3

Table 10. List of deverbal nouns

Now that the identification process of deverbal nouns is over, the constructions in this domain should be discussed. As shown in the beginning of this section, there are two constructions 1) [animate subject + deverbal noun + -(*l*)*ul* + various conjugated forms of *kata*] 2) [animate subject + deverbal noun + various conjugated forms of *kata*]. In both constructions, the subject should be animate, which sounds natural given the semantic properties of deverbal nouns discussed in this section. In particular, animals also can be a subject in that they do certain activities such as escape. Also, across the two constructions, it is expressed that the activity expressed in a deverbal noun is a reason and

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[27] The full list of 34 deverbal nouns is in appendix 2.

a purpose of a motion event and that a figure will do the activity once she finishes the movement. For instance, in (46) below, the reason of the figure's movement and what she will do after her movement is participating in a school field trip.

(46) a. nay-ka   eymthi-lul   ka-se
       I-NOM   school field trip-FOC   go-CJPRT
       'I go for a SCHOOL FIELD TRIP and..'
     b. nay-ka   eymthi   ka-se
       I-NOM   school field trip   go-CJPRT
       'I go for a school field trip and..'

However, there is a subtle difference between the two constructions: -(*l*)*ul* and no suffix. Since there has hardly been a discussion about differences between a case with a certain suffix and another case without the suffix in previous studies, I cannot clearly suggest the difference. Roughly speaking, in (46a) with the suffix -(*l*)*ul*, it seems that a deverbal noun (*eymthi* 'school field trip') gets focused and emphasized, which was discussed in section 2.2 - -(*l*)*ul* as discourse suffix. In other words, the meaning of the first construction in (46a) can be paraphrased as 'what I will do after motion is participating in a SCHOOL FIELD TRIP'. In this case, the activity of school field trip is foregrounded and the figure seems backgrounded. In contrast in (46b) without the suffix -(*l*)*ul*, this reading not seem to work and which one is foregrounded or focused is unclear.

Finally, the summary for this domain is suggested as follows.

	Components				Construction #1 and #2
#1	**Animate subject**	**Deverbal noun**	**-(l)ul (47 hits)**	**conjugated forms of *kata***	Meaning: a figure goes to a certain location to do something such as trip or field investigation
	Figure	Specification of a purpose of motion	emphasis of deverbal nominals	Physical motion	
#2	**Animate subject**	**Deverbal noun**	**No suffix (92 hits)**	**conjugated forms of *kata***	Type of figure: Animal: 1 hit Human: 158 hits
	Figure	Specification of a purpose of motion	reduction of -(l)ul	Physical motion	Unknown: 1 hit Total number of hits including topic markers: 160 hits in this domain

Table 11. Summary of Physical motion for a certain purpose

4.1.7 Simple motion

Construction: [in/animate subject + manner adverb/ideophone + conjugated forms of *kata*]

(47) a. sesehi   ka-se
       slowly   go-CJPRT
       'go slowly and'
   b. Kunyang   ka-ta-ka   pwung   ka-ta-ka
       normally   go-DC-CJPRT   whir(ideophone)   go-DC-
       CJPRT
       '(something, maybe a car) kept going back and forth between going normally and going abnormally with whirring sound'

When there is no ground but adverbs or ideophones appear, the argument structure constructions may denote simple motion and *kata* may also be a simple motion verb without involving deixis. 25 tokens were found in this case. Specifically, adverbs (e.g. slowly or ploddingly) or ideophones (e.g. *pwung* in 47b) preceding the verb specify manner involved in the motion. The subject in this construction is either inanimate or animate. What is further crucial in this construction is how a figure moves, but not that a

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figure moves from an original location to another location.

4.1.8 Quantified motion
Constructions:
1) [human subject + measurement phrase + -(*l*)*ul* 'FOC' + conjugated forms of *kata*]
2) [human subject + measurement phrase + conjugated forms of *kata*]

> (48) a. cangcang   yel-sikan-ul   kaya   toy-nuntey   elmana
>   very long   10-hours-ACC   should go   should-CJPRT   how
>
>   simsimhakeyssni
>   boring it would be
>   '(Somebody) should go (somewhere) for as much as 10 hours and how
>   boring it would be!'
>   b. walk 3 minutes, stop 2 minutes (COCA 1992 MAG FieldStream)

In this domain, there are two constructions suggested above and the frequency of each is 2 tokens, respectively. Across those, one of the semantic components of motion event – path is put focus and is further quantified. A measurement phrase expresses how long it takes to complete the motion event. In the expression of Fillmore (1971: 254), a measurement phrase denotes "temporal extent" and the verb *kata* makes "it possible to relate an event to an indication of the extent of time during which the event can be said to have occurred". The sentence in above (48a) means it would take 10 hours to get to the implied ground and this is similar to the English example in (48b).

As discussed in 4.1.6 about the physical motion for a certain purpose, it seems that the semantic difference between these two constructions is whether a measurement phrase is emphasized or not. While a measurement phrase receives emphasis in the first construction, it does not in the second construction. In both constructions, a subject should be human and a measurement phrase is an argument.

4.1.9 Unknown
Construction: [in/animate subject + place noun + conjugated forms of *kata*]

As discussed in Chapter 3, speakers tend to speak fast in real-time speech and this leads to frequent reduction of the suffix preceding *kata*, which however exclusively occurs when the preceding ground nominal is a place noun in *kata*-specific constructions. This also occurs in some African languages (William Croft, P.C.) and in Japanese[28]. On the other hand, the last semantic domain in physical motion involves 388 tokens of the construction, which is the largest. The instances are:

> (49) a. yengkwuk　　　　ka-myeon
> 　　　　United Kingdom　　go-SUBJ
> 　　　　'If (somebody) goes to United Kingdom'
> 　　　b. Seoul　　ka-kwu　　　sipta　　　　　hayse　Seoul
> 　　　　Seoul　　go-CJPRT　would like to　　said　Seoul
> 　　　　wa-ss-ketun-yo?
> 　　　　come-PST-INT-POL
> 　　　　'Because (someonei) said (someonei) would like to go to Seoul, we came to Seoul?' (not a question, kind of confirmation eliciting a listener's response)

In above (49), there is no suffix after NP (i.e. *yengkwuk* 'United Kingdom' and *Seoul* 'Seoul'). Due to the absence of a certain suffix, the information on path semantics is not available. This is the reason this domain is named 'unknown'. However, there could be its own semantics in this construction, which is however still not clear.

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[28] Japanese also shows the omission of suffix when the verb *iku* 'go' is used in the spoken registers (Shiori Yamada, P.C.).
e.g. kankoku　　　iku-n-da
　　　South Korea　go-EMPH-sentence final particle
'(I) will go to South Korea' (emphatic)

4.2 Change in social status

The second semantic domain of *kata*-specific constructions is change in social status, which appeared 275 times in my data. It is the closest to physical motion in that its various syntactic constructions express not only physical motion but also the change of someone's status or role in society. In this domain, metaphor starts to extend its territory and consequently, social change is understood as if it is moving based on our embodied experiences. For instance, starting military service (i.e. change in social status from civilian to soldier) is understood as going into military, even though there is an actual physical motion involved to a military base. This domain has not been investigated well and there is no agreed-upon term for it yet.

First, syntactic constructions occurring in this domain are:

(50) Constructions in change in social status:
1) [human subject + noun of social status + -*ey* + conjugated forms of *kata*]
2) [human subject + noun of social status + -(*u*)*lo* + conjugated forms of *kata*]
3) [human subject + noun of social status + -(*l*)*ul* + conjugated forms of *kata*]
4) [human subject + noun of social status + no suffix + conjugated forms of *kata*]

First of all, subject is human without any exception. This is a natural consequence given that animal or inanimate entity does not have any social status in human society. On the other hand, there are ten types of noun expressing social status such as military or jail, which precedes the suffix. They are presented as follows in the order of frequency.

#	Semantic types of noun	Frequency
1	Military service	125
2	Attending school	96
3	Marriage	12
4	Transfer	10
5	Incarceration	9
6	Combination (mainly with physical motion)	7
7	Employment	6
8	Academic choice in high school	4
9	Changing workplace	4
10	Learning in academy	2
		Total 275

Table 12. Types of nouns of social status

The first and the most frequent type is military service such as *kwuntay* 'military'.

(51) nay   chinkwu-ka   kwuntay-lul   ka-ss-ta
My   friend-NOM   military-FOC   go-PST-ending marker
'my friend went into military'

While the majority of the NPs is *kwuntay* 'military', the rest of the NPs are classified into ground nominal and NP of military status. Ground nominals are *yukkwun*/*haykwun*/*kongkwun* ('army'/'navy'/'air force'), *kwun* 'military', *pyengyek tuklyey epcey* 'military service exception firm', and *kitong takyektay* 'quick reaction forces'. NPs which express military status are *kongik* 'public service worker', *sapyeng* 'the ranks', *sangkun* 'a live-out soldier', *cangkyo* 'commission', *tukkipyeng* 'military specialist', and *hyenyek* 'a soldier on service'. Worthy of note is why this particular type of noun shows the highest frequency accouting for approximately 45% in the entire data of change in social status. Due to the division of North and South parts in the Korean peninsula, South Korea is a conscription-based society. In the face of various kinds of hazards, every adult male is required to serve military service for approximately two

years unless he has a physical or psychological disorder. Thus, military service tends to be frequently talked about regardless of whether a speaker is male or female.

The second type is attending school, which appeared 96 times.

(52) a. katun   tayhak-ul   ka-ss-e
        same   college-FOC   go-PST-informal intimate
        '(Somebody1 and somebody2) went to the same college'
    b. Nay-ka   tayhakwen   ka-l   ke-lako   kulayssteni
        I-NOM   graduate school   go-FUT   thing-citation   said
        'After I said I would go to graduate school (and somebody said..)'

This type is further classified into *tayhak* 'university', *hakkyo* 'school', types of school (e.g. *sakwanhakkyo* 'military academy', *salip* 'private school', etc) particular university (e.g. *sooktay* 'Sookmyung women's university'), college (e.g. College of Engineering), and department type (e.g. the Department of Construction Engineering). The reason this domain shows such a high frequency seems to be because most high school students aim to go to college and college-preparatory process highly matters in Korea.

The third type is marriage, whose frequency is relatively lower than the previous types – 12 observations. In English, when two people start a family, they are said to 'get married', which is somewhat stative. However, Korean speakers understand marriage as more active process in two ways. The first one is *kyelhon* 'marriage' *hata* 'do'. The second one is two types of noun, i.e. *sicip* 'female marriage' or *cangka* 'male marriage', are followed by an optional suffix (focus marker -(*l*)*ul*, topic marker -(*i*)*na* 'no fewer than', or no suffix) and *kata*. Thus, marriage is likened to going to spouse in Korean.

(53) a. kyay-ka   sicip-ul   ka-se
        the person (intimate)-NOM   female marriage-FOC   go-CJPRT
        'She got/gets/will get married and'
    b. Ne   cangka   encey   ka-ni?
        You   male marriage   when   go-INT(informal intimate)

'When do you get married?'

In (53), even though *kyay* 'the person' and *ne* 'you' are gender neutral, *sicip* 'female marriage' and *cangka* 'male marriage' specifies the respective gender of the subject. In Korean, the differences between *sicip* 'female marriage' or *cangka* 'male marriage'+ an optional suffix + *kata*, and *kyelhon* 'marriage' + *hata* 'do' are 1) only the former clarifies the gender of the subject and the former focuses on the individual's marital status, i.e. only either a potential bride or groom 2) the latter with *hata* 'do' has a more collective meaning focusing on the fact that the two persons get married as in English. In addition, since Korea does not have a legal system where a man or woman changes their last name after marriage, *sicip* 'female marriage' or *cangka* 'male marriage'+ an optional suffix + *kata* does not involve the matter of changing one's last name.[29]

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[29] Marriage is expressed in a very similar way in Japanese with the verb *iku* 'go', *kuru* 'come' or *suru* 'do'. However, because the matter of changing one's last name or moving to one's spouse' house comes into play (P.C. Shiori Yamada), interpretation becomes complicated than Korean as follows.

(54) a. female marriage
   yome-ni   iku
   bride-DAT   go
   'The bride changes her last name to her husband's last name and moves to his house'
   yome-ni   kuru
   bride-DAT   come
   'uttered from the perspective of husband or his parents, the bride changes her last name to her husband's last name'
   b. male marriage
   muko-ni   iku
   groom-DAT   go
   'The groom changes his last name to his wife's last name and moves to her house'

   muko-ni   kuru
   groom-DAT   come
   'uttered from the perspective of wife or her parents, the groom changes his last name to the wife's last name'
   c. gender neutral marriage
   kekkoN   suru
   marriage   do
   'either the bride changes her last name to her husband's last name or the groom changes his last name to his wife's last name'

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The fourth type is transfer, where a figure's physical motion to other place of work (e.g. from Seoul to Incheon, from school A to school B, from military unit A to military unit B, etc) and change in position are involved. However, this is a different type of change in social status from the previous types of noun such as military. While the previous types are change in inter-occupations (e.g. from college student to either soldier or house wife), this type of transfer is change in intra-occupation as shown follows.

(55) a. sam-satan-ey   issten   cihwikwan-i
      3-division-in   used to be.adnominal   commander-NOM
      eti   ceki   incheon   ccok-ulo
      where   there   Incheon   side-toward

      ka-ss-e
      go-PST-ending marker (informal intimate)
     'The commander who used to be in the 3rd division transferred to Incheon
     area' ('where there' in glossing is false start without a significant meaning).
   b. pyenha-llamyen   sangkup   pwutay
     comfortable-if you want to be   upper   unit
      ka-ya   tway
      go-should   should
     'If you want to do an easy job, you should transfer to an upper unit'

The fifth type is incarceration. Considering that the typical English equivalent is 'somebody is put in jail' in passive construction, the Korean counterpart seems to denote that criminals spontaneously go to jail and his/her social status shifts from civilian to prisoner. Specific nouns are *kamok* 'jail', *yengchang* 'guardhouse', and *hyengmwuso* 'prison'.

As shown so far, when it comes to marriage in Japanese, the shift of one's last name or moving the spouse' house comes to matter, which is unlike Korean. In this regard, the aspect of the physical motion is reflected in Japanese marriage to a greater degree. Finally, while a suffix in this domain in Korean can be one of the focus marker *-(l)ul*, topic marker *-(i)na* 'no fewer than', or no suffix, Japanese allows *-ni* (DAT), *demo* ('no fewer than', TOP), or *ni-demo*(DAT-TOP) but not no suffix.

(56) a. kamok-ey   ka-nun   ke-ci
       jail-to   go-adnominal   thing-COP
       '(somebody) will end up being in jail'
    b. yechang   ka-l   ppenhan   ke-l
       guardhouse   go-FUT   almost   thing-ACC(contracted –*lul*
       'ACC')
       'the fact that (somebody)was almost incarcerated in the guardhouse'

The title of the sixth semantic type - 'combination' means that other semantic

domain (i.e. physical motion) of *kata*-specific constructions come in, on top of the current

domain change in social status. Out of the entire seven instances of this combination

domain, six instances further explicitly involve various subdomains of physical motion

(e.g. arrival with digression possible in 4.1.1) and one instance does quantified motion of

physical motion (section 4.1.8). Specific nouns of change in social status are *kyohwan*

haksayng 'exchange student', *tayhak*(*kyo*) 'university', and *kwuntay* 'military'. Examples

are:

(57) a. icheni-nyen-ey   cey-ka   mikwuk   se-pwu
        2002-year-in   I(polite)-NOM   US   western-part
       California-ey   kyohwan   haksayng-ul   ka-ssta
        California-in   exchange   student-FOC   go-PST
        wa-ss-e-yo
        come-PST-penultimate ender-ender (polite informal)
       'In 2002, I went to and came back from California in the western part of
       US as an exchange student'
    b. kulem   kwuntay-lul   sip   kaywol-lo-man   ka-key
       If so   military-ACC   10   months-for-just   go-CAUS

       ha-tenka,   e?
       do-should have done   sound of anger
       'If so, (they, probably the Ministry of National Defense) should have
       made (guys) serve in the military just for 10 months, sound of anger'

In (57a), the figure's physical motion is expressed with the arrival point California. The

NP *kyohwan haksayng* 'exchang student' denotes that as the figure moved to California,

her social status changed from college or graduate student in Korea to exchange student in California. In (57b), in addition to military service, the subdomain of physical quantified motion is involved via a measurement phrase *sip kaywol* 'ten months'. In this context, the phrase expresses a military service period the speaker finds desirable but cannot be omitted since it is the resolution to what the speaker is complaining about.

The seventh semantic type of noun is employment. Unlike English where employment is expressed as 'get a job' in a somewhat more active fashion, the equivalent in Korean is literally speaking, 'go to a company'. To be specific, the construction is [omissible human subject + noun expressing a company + ☐ (suffix) + conjugated forms of *kata*]. Nouns that express company are *cikcang* 'workplace', *hoysa* 'company' and *cwungsokiep* 'small firm'.

(58) a. hoysa   ka-myen   wenlay   kulekey   tway
        company   go-if   naturally   so   become
        (informal intimate)
         'If somebody is hired by a company, it naturally becomes so'
     b. nacwungey   i   hyengtul-i   cikcang   kako
        Later   this   guys-NOM   job   go-CJPRT
        'Later these guys got their job and..'

The eighth type is academic choice in high school. Before Korean high students become the second year, they are required to choose either humanities where they focus on subjects such as languages (Korean, English, and one more second language such as Japanese), society and history, or natural sciences where they focus on subjects such as mathematics, physics, chemistry, etc. According to their choice, groups for class-taking are organized and accordingly, students in humanities and those who in natural sciences usually are not in the same group. In addition, this choice influences what department in

college they will apply for. For instance, students in humanities usually apply for departments relevant to humanities, such as linguistics, literature, or history in college. The student's choice over academic sub-area, which is barely said in American English, is expressed as [omissible human subject + either *mwunkwa* 'humanities' or *ikwa* 'natural science' + suffix (*-ey* 'to' or the focus marker *-(l)ul*) + conjugated forms of *kata*].

> (59) mwunkwa-lul   ka-ss-nuntey
>   humanities-FOC   go-PST-CJPRT
>   '(Somebody or the speaker) chose humanities and..'

The ninth type is an umbrealla term - changing workplace, which overlaps with some previous types such as military service and incarceration. Changing workplace basically leads to the shift of what a figure nominal does, which is unlike trasfer. Specific nouns that appeared in this domain are *syopulo* 'show program', *cengpwu kiep* 'government firm', and *yenghwa*(*pan*) 'movie field'. One instance of changing workplace was already discussed in the introduction of 4.2 but is repeated as follows.

> (60) TV-lo   ttun   taumey   yenghwa-pan-ulo
>   TV-via   float(lit)-adnominal   after   movie-field-toward
>   ka-nun   ke-ci
>   go-adnominal   thing-COP (informal intimate)
>   'After becoming famous in TV, it is to move to movie field' or 'After becoming famous in TV, actor/actress usually moves to movie field'

The final type is learning in academy. Specific nouns are *hakwen* 'academy' or *pan* 'class'. Even though what is expressed on surface is 'going to an academy', it entails not only a figure's physical motion there but also her learning. One instance is:

(61) nay-ka   amwuli   aieylchu pan-ul   an   ka-se   tul-eto
     I-NOM   however   IELTS   class-FOC   NEG   go-CJPRT   take-even
     if
     'Even though I do not go to and not take IELTS class, …'

In the (61) above, in addition to the verb *kata* 'go', *tutta* 'take' also appeared, which is however not as common and sounds redundant. Without *tutta* 'take' which would have been more natural, the sentence expresses that the figure goes to an academy and takes IELTS class. However, it is not the case that the speaker is just talking about taking IELTS class by virtue of going there. The highly probable subsequent utterance may be that her score would not be as bad in the IELTS test. Thus, what matters in this domain is change in social status by going to a certain academy. Going to an academy and learning there may mean various things in terms of social status, such as economic status of a figure nominal herself or her parents', or future academic status. Specifically, if somebody goes to an academy, it may imply that she or her parents can afford the tuition in academy and that she is more likely to receive a good score in a certain test than those who do not go to a private academy. Thus, by going to an academy, a figure nominal's social status changes.

On the other hand, this domain apparently inherits all of the four types of suffix (i.e. postposition) from the physical domain: -*ey* ('to', 10 observations), -(*u*)*lo* ('toward' or 'as' used mostly regarding military service , 12 observations), -(*l*)*ul* (discourse suffix of emphasis or directional suffix meaning nonstop arrival, 69 observations in total), and no suffix (157 observations). The rest of the suffixes occurring in this domain are mostly topic markers such as -(*i*)*na* 'no fewer than', -(*n*)*un* 'as for', -*kkaci* 'until', -*lato* 'even', -*man* 'only', -*to* 'also'. However, distinct syntactic constructions with the four main suffix

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types do not make a stark semantic contrast as much as in physical motion, which indicates that image schemas driven from sensorimotor experience are transformed by speakers to some extent in this domain.

First, rather than being the directional suffix meaning nonstop arrival, -(*l*)*ul* seems highly likely to be a focus marker in this domain in that it makes a ground nominal stand out in many cases.

> (62) nay-ka kwuntay-lul ka-ss-e.
>   I-NOM military-FOC go-PST-ender.
>   'I went into the military'

In the example, the information about the military is as salient as the information about 'I', which seems non-canonical in terms of information packaging and argument coding (Croft, to appear). In the (62) above, there are two arguments: I and military. From the viewpoint of the information packaging (ibid: 84), there is a ranking of information status among the two arguments, especially in terms of "their degree of salience or topicality to the interlocutors in the discourse". Croft argues that "this ranking contributes to grammatical encoding of arguments in argument phrases so that prototypically, referents higher in topicality are in grammatically "higher" roles (ibid: 84). This explanation applies to the (62) above in that I, which has the highest topicality, is grammatically encoded as the highest subject role. However, the problem is, by virtue of being followed by the focus marker -(*l*)*ul*, *kwuntay* 'the military' in the object slot is no longer the secondary argument in terms of the information status. Regarding the degree of salience or topicality, *nay* 'I' and *kwuntay* 'military' are similar and thus it cannot be said that one is more salient or topical over the other. Otherwise, when *kwuntay* 'the military' is not

followed by any suffix, the referent 'I' followed by the nominative suffix is more

salient.[30] In this way, -(*l*)*ul* foregrounds and illuminates nouns referring to social status

throughout the data.

Another suffix -(*u*)*lo* is somewhat more complicated in that it gives rise to two

different constructions with different semantics: 'toward' (i.e. atelic change in social

status) and 'as'(e.g. as military specialist).

<blockquote>

(63) a. atelic change in social status

tibi-lo	ttun		taumey	yenghwa-pan-ulo
TV-via	float(lit)-adnominal		after	movie-field-toward
ka-nun		ke-ci		
go-adnominal		thing-COP (informal intimate)		

'After becoming famous in TV, it is to go into movies' or 'After
becoming famous in TV, an actor/actress usually goes into movies'

  b. 'as' followed by social positon or status

kakca	tukkipyeng-ulo	ka-nuntey
each	military specialist-as	go-CJPRT

'each goes (into military) as military specialist'

</blockquote>

(63a) shows the well-known convention in the entertainment industry that an actor or

actress tries to go into movies by becoming famous first in the broadcasting industries.

However, due to the suffix -(*u*)*lo* which inherits the semantics from physical motion to a

great extent, there is no implication that an actor or actress necessarily goes into movies

(i.e. atelic). Movies are a direction point an actor or actress wishes to go to, but not an

arrival point in terms of change in social status. On the other hand in (63b), *tukkipyeng*

'military specialist' is not a ground nominal but the social position or status of the figure

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[30] This example (62) may be an instance of complex predicate, which is not a clear concept. The typical examples are change of state such as 'the taste went' or abstract motion, which will be presented later. In the cases of 'the taste went' and (62), the verb 'go' is a supporting verb and 'the taste' and *kwuntay* 'military' are the most informative part. (William Croft P.C.)

nominal. This indicates that -(*u*)*lo* in this instance is not the same as the first -(*u*)*lo* in the first instance regarding movies. Rather, the semantics of the second -(*u*)*lo* is 'as' and (63b) expresses that each person in a certain group goes into military as military specialist. However, the second usage of -(*u*)*lo* is not as common and tends to be used mostly in military service.

The semantics of –*ey* seems similar to that of the suffix in the physical domain - arrival with digression possible. When it is applied to the change in social status domain, what is expressed with –*ey* may be that a figure participant changes its social status but it may have an intermediate status.

(64) cey-ka   kwuntay-ey   kaki   cenkkaci-nun
     I(POL)-NOM   military-to   going   before-TOP
     'before I go into military'

For instance, in (64), it is expressed that before the speaker would end up going into the military, he may have a different social status, such as college student or salesperson. Thus, the suffix –*ey* makes an interpretive room for a certain intermediate status. Finally, when it comes to the no suffix case in this domain, any specific information is not available as was in the physical motion domain.

So far, it has been discussed that even though the four suffixes are inherited to this domain from physical motion, the semantics of the respective suffix diverges a different degree. As the semantic domain shifts from the physical motion to the change in social status domain, the switch in the semantics of suffixes does not seem to be as odd. On the other hand, since this domain has been barely recognized and discussed in literature, there are not many references in the discussion. In next section, cyber motion

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which also involves some degree of physical motion is discussed.

4.3 Cyber motion
Constructions:
1) [subject + noun of cyber space + –*ey* + conjugated forms of *kata*] : allowed but not found
2) [subject + noun of cyber space + -(*u*)*lo* + conjugated forms of *kata*]
3) [subject + noun of cyber space + -(*l*)*ul* + conjugated forms of *kata*]: allowed but not found
4) [subject + noun of cyber space + no suffix + conjugated forms of *kata*] : allowed but not found

As Information Technology develops and generates unprecedented cyber concepts, speakers come to be in need of ways to express those. Speakers pick physical motion again, strictly speaking image schemas driven by sensorimotor events and their labels, as a way of understanding and expressing cyber concepts by virtue of the metaphorical mechanism. Despite severe shortages of research on cyber entities and spatial metaphor, Matlock et al. (2014) provides a good overview claiming that 1) metaphors "help computer users form coherent mental models of how computers work" (p. 308) 2) websites or webpages are described as places, for instance, "The 100% top websites seemed like a good place" (p.309) and searching or browsing activity as motion. They state that websites or webpages are even described as three-dimensional as shown in ""I tried to search for the movie 'Ransom,' but it was not found so I exited" (p.309).

Finally, they report that while English speakers in 1996 in the experiment setting used various motion verbs such as 'surf', 'float', 'go', etc. to describe web use, the surviving motion verb in the experiment setting in 2013 is only 'go'.

Before we get to how Korean speakers shape their understanding and expressing of cyber concepts based upon physical motion and *kata*-specific constructions, we should answer this question first – "is it really physical space on the screen or cyberspace as a

conceptual domain structured by a spatial metaphor?"(William Croft P.C.). This question was driven in reaction to following Korean and English examples, which are quite confusing.

> (65) a. Mwusen   neythuwekhu   seything-ulo   ka-se?
>   Wireless   network   setting-toward   go-CJPRT
>   'goes to(ward) the wireless network setting and then?'
>   b. wintowucu   epteyitu-lanun   saitu-ey   kase
>   windows   update-called   site-to   go-CJPRT
>   'go to the website called windows update'
>   c. if you go down a little bit

Matlock et al. (2014) answer the question distinguishing 'inside web actions' and 'outside web actions' as cited follows.

"**Inside web actions** were actions taken ″inside" the web, for instance, going to or doing activities in websites, for instance, "I went to the Psychology web page" and "There's a little photo gallery, [in] which I spent most of my time, uh, playing around." **Outside actions** were physical actions that are external to the web, for instance, typing in a URL on the keyboard or manipulating the mouse or other input device....Sometimes they blended inside and outside actions, for instance, "I clicked into it,"…" (p.310).

According to their explanation, (65c) is undoubtedly an outside action. However, (65a-b) shows blending of inside and outside actions in that even though wireless network setting and windows update are expressed as if they were physical places through spatial metaphor, the actions of going to those two are physical due to moving the external mouse. To minimize confusion, ambiguous instances like these are excluded and only

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examples of inside web actions are analyzed in the current section. Only four cases of those were found in my data. One of them is:

(66) allim   pyosicwul-i   eps-e-ci-myense
     notification   bar-NOM   disappear-CJPRT-become-while.CJPRT
     different peyici-lo   ka-key   toy-p-ni-ta
     talun   page-toward   go-CJPRT   become-AH-IN-DC
     'While the notification bar disappears, (it) gets to move to(ward) other page.'

First of all, in the three instances including (66) above, all the subjects were dropped. In another instance, the subject is *peyici* 'page'. Even though it is not clear what the subject exactly is in most cases, the subject may be a person who is doing the browsing activity or a cyber entity such as webpage or internet signal. Second, what occupies the NP position in an oblique phrase in argument structure constructions is either *peyici* 'page' with three observations or *–tey* 'place' which contextually refers to page, with one observation. As briefly mentioned before, this shows that speakers grasp and express cyber/virtual entities as if they were physical places. Regarding the four types of constructions, the three with *–ey,* *-(l)ul,* or no suffix are allowed but did not occur in my data. Also, it does not seem that there are conspicuous semantic contrasts between the four constructions. It follows that even though speakers ground their understanding of cyber entities and expressing those based upon physical motion, the original stark constrasts between the four image schemas in physical motion become blurred in the metaphorical extension from physical motion to cyber motion.

Still, we cannot completely rule out the existence of physical motion in cyber motion. Even in (66), the transition to another page is ultimately accomplished by the web user's manipulation of the mouse. The dim trace of physical motion locates cyber

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motion as the third semantic domain of *kata*-specific constructions. Finally, we log out from the cyber space citing two conceptual metaphors set forth by Matlock et al. (2014: 314) as a summary of what has been discussed so far: "WEB SPACE IS PHYSICAL SPACE" and "OBTAINING INFORMATION IS MOVING THROUGH PHYSICAL SPACE".

4.4 Change of State
Constructions:
1) [various types of subject + various types of NP + -*ey* + conjugated forms of *kata*]
2) [various types of subject + various types of NP + -(*u*)*lo* + conjugated forms of *kata*]
3) [various types of subject + various types of NP + no suffix + conjugated forms of *kata*]
4) [human subject + noun of death (e.g. *kyoswutay* 'gallows', *chenkwuk* 'heaven', *cwunimuy nala* 'the lord's kingdom') + -(*l*)*ul* + conjugated forms of *kata*]: allowed but not found
5) [various types of subject + conjugated forms of *kata*]

Broadly speaking, other semantic domains of *kata*-specific constructions can be regarded as belonging to change of state in that such domains as physical motion (i.e. moving from an original location to a new location) and change in social status (e.g. becoming a prisoner from being a civilian), inherently involve change in various sorts of state. However, in the change of state domain, the scope is narrowed down so that instances where physical motion is a lot more rarefied and more subtly involved than in the previous sub-domains, and only change of a certain state matters are covered. Since change of state is such a ubiquitous phenomenon, the semantic types of the subject and of the destination NP found in the corpus are varied. The sorts of subject are center of gravity, numerical value, color terms, harm, crack, power/energy, human beings supposed to die, and state of a battery. The types of ground nominal are back, numerical values, color terms, human being's health, nouns of death (e.g. gallows, heaven, the lord's kingdom).

As was in the previous domains of change in social status and cyber motion, by the metaphorical operation, speakers construe change of state as if it were physical motion and verbalize it using the name tags (i.e. argument structure constructions containing -*ey* 'to', -(*u*)*lo* 'toward', -(*l*)*ul* 'nonstop arrival', or no suffix) of the four image

schemas grounded in embodied experiences. Worthy of note is that the suffix -(*l*)*ul* is permitted to occur exclusively when it is preceded by nouns of death. It appears that since nouns of death such as heaven and the lord's kingdom are easier to be metaphorically understood as physical space than numerical values or color terms, the image schema tagged with the constructions containing -(*l*)*ul* was inherited exclusively to the constructions containing that nouns meaning death. Even though this suffix was not found in my data, it can mark either nonstop arrival or focus, or both, as was the case in the previous domains.

> (67) Kachi   chenkwuk-ul   ka-ca   ike-nkayo?
>   Together   heaven-DIR/FOC   go-let's   this-Q
>   'Are you saying 'let's die together'?' lit. 'Are you saying 'let's go to heaven together'?'
>   (the suffix -(*l*)*ul* added to the original sentence)

Focusing on the quoted part, this sentence specifically means either 'let's go directly to heaven together without stopping by somewhere' (i.e. nonstop arrival to heaven, let's die together now) or the place we should go to together is HEAVEN, or both. More discussion on death will be continued in the end of this section.

As was the case in the previous metaphorically extended domains, the inherited suffixes in argument structure constructions from physical motion do not involve clear semantic differences. Going one step further, the change of state domain becomes more exotic in that it has the suffix -(*l*)*ul* in a limited condition (i.e. only in constructions including nouns of death) and sometimes does not have an oblique or destination phrase in syntactic constructions. It turned out that out of the entire 16 observations, five

instances do not have a destination phrase.

(68) ppasteyli-ka   hana   te   iss-nuntey   mas   mas-i
     battery-NOM   one   more   exits-CJPRT   taste   taste-NOM
     ka-ss-e
     go-PST-DC (stammering involved)
     'I have one more battery but it died.' lit. 'there exists one more battery but
     the taste went.'

In (68), the absence of a destination phrase seems to be because the information of where

the state of a battery goes is not necessary or even odd. In this way, cases where the

occurrence of only the subject and the verb *kata* sufficiently shows the change of state

and thus, the destination information is not required do not have a destination phrase in

their constructions. In addition to the limited occurrence of argument structure

constructions containing the suffix -(*l*)*ul*, this seems to be the first great syntactic

divergence from the constructions in physical motion, throughout all the semantic

domains of *kata*-specific constructions.

From a more fine-grained perspective, the discussion from now on will

be focusing on two themes: 1) aspectual types: achievement versus accomplishment; 2)

change from a certain state (good, normal, desirable, etc) to the opposite state. To my

knowledge, the first topic has not been discussed well regarding the verb *kata* or *kata*-

specific constructions in previous studies. Some of them recognized the existence of time

involved in the verb *kata*, but they did not progress to the in-depth discussion of it. When

there is a change in state, what is inherent in the event is temporal change. That is, change

of state cannot be thought independently of the flow of time, no matter how short it is.

Regarding the role of time in change of state, Vendler (1957)'s classification should be

introduced first. He proposes a four-way classification of English verbs concerning lexical aspectual properties. Croft (2012) suggests a table including features set forth by Mourelatos (1981) for the respective Vendler's category as follows (ibid: 35, the examples suggested by Vendler (1957) were added in this thesis).

(69) States: stative   durative   unbounded
        e.g. *love* and *know*
     Activities: dynamic   durative   unbounded
        e.g. *run* or *push a cart*
     Achievements: dynamic   punctual   bounded
        e.g. *recognize*, *realize*, *spot* and *identify*
     Accomplishments: dynamic   durative   bounded
        e.g. *run a mile* or *draw a circle*

Out of the four subtypes in Vendler (1957)'s classification, what is pertinent to the change of state domain is achievement and accomplishment in that all the 16 instances in my data turned out to be dynamic (i.e. change is involved), bounded (i.e. the change is supposed to end at some point), and either puncutual (i.e. the change ends instantaneously) or durative (i.e. the change takes some time). More specifically, out of the entire 16 observations, five turned out to be achievement and two turned out accomplishment. The rest of nine instances are unknown.

(70) a. achievement
        Kachi   chenkwuk   ka-ca   ike-nkayo?
        Together   heaven   go-let's   this-Q
     'Are you saying 'let's die together'?' lit. 'Are you saying 'let's go to heaven together'?'

        yoki-ka   zero-ey   ttak   ka-myen
        this-NOM   zero-to   instantaneously/exactly   go-if
        'if this (maybe scale) arrives instantaneously/exactly at zero'
     b. accomplishment
        Hwang-sayk-eyse   ppalkan-sayk   ka-lla   kulen-ta

Yellow-color-from   red-color   go-be about to   so-ender
(informal intimate)
'it's about to change from yellow to red'
c. unknown
cwungsim-i   twi-lo   ka-ketun
center (of gravity)-NOM   back-to(ward)   go-DC
'The center of gravity goes backward'

Since the involved change is instantaneous, the two instances in (70a) are achievement. In contrast, (70b) is considered accomplishment in that the change takes some time for it to be complete (i.e. durative). The reading of (70c) is undecided because whether the change is punctual or durative is not clear.

According to Croft (2012: 31), "aspect is manifested both grammatically and lexically". For example, progressive and simple present constructions show different aspects. Lexically, being Polish is an inherent state but breaking a window is punctual (i.e. achievement) (ibid: 31). However, this either-or approach does not perfectly work in terms of *kata*-specific constructions in that neither the grammatical construction nor the only predicate *kata* unambiguously marks aspect. To put it differently, the tense-aspect construction, which has been discussed to a great degree in the aspect literature, is not a solid yardstick at the moment. Also, it appears that the verb *kata* itself does not inherently have a particular aspectual property[31] but "has a distinctive aspectual potential" (Croft 2012: 39) depending on co-occurring NPs or adverbials in argument structure constructions. For instance, if both the subject and the NP in an oblique phrase are color terms (as in 69b), the construction (but not just the verb *kata* itself) is interpreted as

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[31] According to Croft (2012), Dahl (1985) made a similar argument, which is summarized as: "a predicate does not inherently belong to a single aspectual type. Instead, it has the POTENTIAL to be conceptualized or construed in multiple aspectual types … Hence the aspectual types are also ASPECTUAL CONSTRUALS of predicates" (Croft 2012: 37).

accomplishment. If the subject is human and the NP in an oblique phrase is heaven (as in 70a), the entire construction involves an achievement reading. Therefore, it is not accurate to say that the verb *kata* on its own involves a certain aspectual interpretation. Rather, fully instantiated *kata*-specific constructions of both grammatical and lexical natures are the proper domain where multiple aspectual construals (i.e. achievement or accomplishment) are determined. Finally, there are some cases where the ambiguity between achievement and accomplishment is disambiguated via adverbials. For instance, the construal of achievement for the second example in (70a) is driven by the 'container adverbial' (Croft 2012: 36) *ttak* which denotes instantaneity in the sentence. In this regard, the aspectual interpretations of the entire *kata*-specific constructions are led by semantic properties of an NP or NPs (i.e. the subject or/and the NP in an oblique phrase) or of adverbials.

On the other hand, it has been discussed in the literature that in addition to the verb *kata* 'go', the verb *ota* 'come' also expresses change of state. It has been argued that they differ in terms of whether the change becomes normal or abnormal. While change from normal state to abnormal state is denoted by *kata* 'go', change from abnormal state to normal state is expressed by *ota* 'come' (Lee 1977: 12, Lee 1999: 231, Kwon 2010 cited in Ha & Kim 2014, Rhee 2016: 319). However, it appears that the opposite directions can be also good/bad or desirable/undesirable, etc as will be shown. In any case, it is true that the verbs themselves inherently have certain connotations as their semantic primitives to some extent. The following segments culled from TV show provide evidence. In the show, one of the strongest presidential candidates in Korea was

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asked to read mean tweets people wrote about him and he responded as follows.

> (71) the suggested mean tweet
> ip-ulo   hunghay-se   ip-ulo   ka-neyyo
> mouth-with   flourish-CJPRT   mouth-with   go-DC
> 'The presidential candidate made a success as a politician with his silver tongue and fails with his aggressive remarks' lit. '(The presidential candidate) flourished by (his) mouth and goes by (his) mouth'
>
> the presidential candidate's response to the mean tweet
> acik   ka-ci-n   an-ass-upnita.   tasi   o-l   ke-pnita.
> yet   go-NOM-TOP   NEG-PST-DC   again   come-FUT   thing-DC
> 'I'm not yet gone. I will come again.'
> (SBS *taysencwuca kwukminmeyncep* 'presidential candidate interview by nation' aired in Feb 14th, 2017)[32]

In his response to the mean tweet, he is expressing the meaning of 'becoming far from presidency' via the verb *kata* and the opposite meaning of 'becoming close to presidency' via the verb *ota* 'come'. In this case, even though there is a situational context that he is reading mean tweets, there is no component that leads the verbs to involve the certain connotations in the entire constructions of his response. As already mentioned in the footnote, cases where the verbs show the certain meanings on their own are extremely rare.

What has been overlooked in previous studies is that even though the verbs have those positive or negative meanings by nature, the realization of those is accomplished in argument structure constructions for the most part.

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[32] The change regarding his status as a politician is more of abstract and somewhat different from the instances for change of state discussed in this section. However, the segments are suggested since they are a very rare instance which shows that *kata* 'go' and *ota* 'come' involve certain connotations on their own.

(72) a. taman   ikey   talun   swul-ul   masi-l   ttay-potanun

    but   this.NOM   other   alcohol-ACC drink-adnominal   time-than

    mom-ey-nun   com   tel   hay-ka   ka-n-ta
    body-to-as for a little   less   harm-NOM   go-IN-DC
    'But, in comparison to drinking other alcohol, (drinking) this is less harmful to health.' lit. 'But, in comparison to drinking other alcohol, regarding (drinking) this, harm goes to body to a lesser extent.'

b. kum-i   ka-key   mantu-nun   kyengwu-to   iss-ko
    crack-NOM   go-CAUS   make-adnominal   case-as well   exist-CJPRT
    'There is a case where (somebody) causes (something to have) crack (on it)' lit. 'There is a case where somebody makes crack go'

c. Ha & Kim (2014: 204)
    The milk went/*came bad.
    His father went/*came back into a coma.
    His father miraculously came/*went out of the coma.

Across the examples above, when Korean *kata* and English *go* denote 'toward abnormal state', this meaning comes to float on the surface by the preceding NP such as *hay* 'harm' or *kum* 'crack' and the following argument such as *bad* or *into a coma*, all of which involve connotations of abnormality. In terms of English *come* in (72c), the semantics of 'toward normal state' comes to the surface by 'out of the coma' which involves normal connatation. Thus, it is not necessarily the case that that the verbs realize the certain connotations on their own. Rather, it should be accurately argued that the two verbs tend to come to express either 'toward abnormal state' or vice versa in the domain of argument constructions where co-occuring components[33] (e.g. harm, out of the coma) that have a particular meaning (i.e. abnormal or normal, positive or negative) and thus pull up the

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[33] The co-occurring components are not necessarily arguments such as *harm* or *out of the coma*. They could be adverbials (*osimare-tutu* 'while being missed' in 72b) or main verbs in complex verb constructions (*cwuk* 'die' in the second instance of 72a). Also, in *kata*-specific constructions, some of the strongest semantic types of co-occuring components that derive 'toward abnormal state' or the opposite are death and birth, which is the next topic in the next paragraph.

semantic primitives of the verbs are fully equipped. Otherwise, in most cases, the verbs do not involve any connotations as shown in (70b-c).

Finally, death and birth simultaneously show the main topics in this section - from positive state to bad state or vice versa, and metaphor. There are crosslinguistic evidences as follows.

(73) a. Korean
Kachi   chenkwuk   ka-ca
Together   heaven   go-let's
'Let's die together' lit. 'Let's go to heaven together'

cwuk-e-ka-ta
die-CJPRT-go-DC
'(someone is) in the middle of dying'
* cwuk-e-o-ta
die-CJPRT-come-DC
lit. '(someone is) in the middle of dying'(?)

when a person in high position such as president dies
seke 逝去 'passing away' lit. go-go
*selay 逝來 lit. go-come

b. Japanese
sono   hito-wa   takusan-no   hito-ni   osimare-tutu itta
the   person-TOP   a lot of-POSs   person-by   be missed-while went
'The person passed away while being missed by a lot of people' lit. 'The person went while being missed by a lot of people' (Shiori Yamada P.C.)[34]
c. English
He passed away very suddenly a few days later. (COCA 2015 SPOK NPR).
Because that adorable little baby came to them in January in the middle of all of that awards stuff. (COCA 2010 SPOK NBC_Today)

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[34] While a *kata*-specific construction is used to express death more often in the informal register than in the formal counterpart and usually is accompanied by a destination phrase such as 'to heaven' or 'to gibbet', this is not the case in Japanese. Even if *iku* 'go' is usually written 行く in Japanese, it is necessarily changed to 逝く for death, which is usually found in the written register (Shiori Yamada P.C.). Both Chinese characters, 行 and 逝, mean 'go', though.

Interestingly, in terms of death, all the three languages make use of motion verbs of departure (i.e. go or pass) and their argument structure constructions in the sense of moving from this world to otherworld. This aligns with the previous argument that *kata-*specific constructions express change from normal state (e.g. alive) to abnormal state (e.g. dead) and further shows that DEATH IS DEPARTURE metaphor (Lakoff & Turner, 1989) works across some languages. In contrast, regarding birth, constructions with verbs meaning 'come' are used by virtue of BIRTH IS ARRIVAL metaphor (Lakoff & Turner, 1989) as shown in (72c).

4.5 Abstract motion

As discussed so far, metaphor has been always around us from change in social status (section 4.2). The fifth member of *kata*-specific constructions is abstract motion, whose frequency is the third highest, 214 instances. This domain is the headquarter of metaphor in that physical motion no longer lingers at all but abstract motion occupies the entire territory. Before we start exploring abstract motion which is metaphorically founded, the issues with the term 'abstract' should be brought up first. 'Abstract' may not be as accurate and desirable, and the use of it may even have to be refrained. The biggest problem is that the definition of it highly varies. According to William Croft (P.C.), it can mean general, schematic, or non-physical and in some extreme cases, may disclose that the user of it does not know what something (either modified or predicated by 'abstract') means indeed. In terms of the current thesis, he claims that change in social status (section 4.2) and change of state (section 4.4) may be argued to be 'abstract' from the Lakoffian perspective. In contrast, I have used the term in a narrower sense than in the Lakoffian sense. In a nutshell, the term is highly likely to be contentious and not straightforward enough. However, since I cannot think of any more precise term, I will leave it as it is.

Then, the task at the moment is to disentangle how motion of inherently physical nature can be modified by the troublemaker adjective 'abstract' as in the title of this section, which sounds paradoxical. As human intelligence develops, human beings, more specifically *Homo sapiens*, began to do higher-level thinking and conceptualize abstract concepts such as feeling and time, which has been argued in previous studies of

evolutionary anthropology. However, since those concepts are too intangible and profound to be grasped and expressed per se, more basic concepts that can be understandable and straightforward by themselves, such as those in the physical domain, notably physical motion, were employed. This is the well-known argument proposed by Lakoff & Johnson (1980) in their conceptual theory of metaphor. Proposing some terms, they further elaborate that concepts stemming from physical motion are in a **source domain** and abstract concepts are in a **target domain**. Concerning *kata*-specific constructions, the four image schemas grounded in physical motion are assumed to be some of the defining concepts in the source domain and abstract entities such as time, understanding, affection, are assumed to be in the target domain. In any case, Lakoff & Johnson (1980) claim that there is a **mapping mechanism**, which connects the two domains. By virtue of mapping, it becomes possible to understand and express abstract concepts. The title of this section 'abstract motion' shows that abstract concepts are understood as if they physically moved as a result of the mapping mechanism. According to Lakoff & Johnson (1980), this process of metaphor is conceptually pervasive in the cognitive patterns of human beings, rather than being just for an embellishment function.

Even though Lakoff & Johnson (1980) and other studies provide good resources on metaphor focusing on embodied cognition, the selection of physical motion as source domain makes me raise a question: even if there are various candidates in the physical domain such as physical state (e.g. gravity) or physical substance (e.g. electrolyte), why does the chosen for shaping abstract concepts necessarily have to be physical motion? I propose that this may be because the unchosen candidates are not the ones we are usually

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cognizant of in everyday life unless we are a physicist or a chemist. It is not the case that everytime we put salt into water, we necessarily anticipate that the salt will be set apart into cations and anions, even though this physically happens without any exception. Also, even though we are always not free from gravity, it is not that we are conscious of it all the time feeling sorry about not being able to fly like a bird. In contrast, we are always aware of motion, anticipate what happens next as we move, and as Mandler (1992) argues, form image schemas based upon the recurring experiences. Considering the possible candidates in the physical domain, it seems that the employment criteria for abstract concepts are not necessarily related to just being physical or sensorimotor and how often it occurs (i.e. the occurrence of gravity is uncountable), rather related to whether it is perceived and is reformulated as image schemas by language users.

When it comes to *kata*-specific constructions, the mapping between the source domain and the target domain is not the end of the story, which has hardly been considered in the literature to my knowledge. In the beginning of section 2.1, I mentioned that motion events have the four semantic components – **figure**, **ground**, **path**, and **manner** (Talmy, 1985). I propose that as far as speakers utilize physical motion as source domain to grasp and express abstract entities, which semantic component(s) in physical motion is selected and thus functions as a defining concept should be considered further to fully figure out the metaphorical mechanism operating in terms of *kata*-specific constructions. In principle, there are 15 ways the semantic component(s) can be picked in

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a combinatory fashion.[35] However, it is not the case that all the theoretically possible choices occur. It turned out that only seven cases take part in making abstract entities more understandable and expressable. They are named as: ABSTRACT ENTITY IS A MARCHING OBJECT (only goal-oriented figure chosen, section 4.5.1), ABSTRACT ENTITY IS A GOAL (only ground, specifically goal which can be either arrival point or direction point chosen, section 4.5.2), ABSTRACT ENTITIES ARE MARCHING OBJECT AND GOAL/INTERMEDIATE ROUTE (figure and ground chosen, section 4.5.3), ABSTRACT ENTITY IS A LEAVING OBJECT (only source-oriented figure chosen, section 4.5.4), simple abstract motion (figure and manner chosen, section 4.5.5), quantified abstract motion (figure and path chosen, section 4.5.6), and unknown (section 4.5.7) which was motivated by physical motion (section 4.1.9) but is not necessarily related to the semantic components. The discussion starts off with cases where abstract entities are marching somewhere.

4.5.1 ABSTRACT ENTITY IS A MARCHING OBJECT (Goal-oriented figure)
Constructions:
[abstract subject + suffix + conjugated forms of *kata*]
[abstract subject + suffix + an oblique phrase + conjugated forms of *kata*]
Types of suffix following the subject: *i/ka* 'NOM', *(n)un* 'as for' *to* 'too', no suffix, etc
Types of suffix in an oblique phrase: *-hanthey* 'to'(animate destination only), *-ey* 'to' (inanimate destination only), *-(u)lo* 'toward' (inanimate destination only), etc. N.B. *–(l)ul* 'nonstop arrival or focus' is never allowed.

In the first sub-domain of abstract motion, the figure is a defining concept in conceptualizing abstract entities and the abstract entities occupying the subject slot in

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[35] Only one component out of the four is picked: four cases, only two components are picked: $_4C_2 = \frac{4!}{4!(4-2)!}=$ six cases, only three components are picked = $_4C_3$ = four cases, all the four components are picked = one case. Thus, the total number of cases is 15.

kata-specific constructions are understood as marching toward a destination. However, the destination phrase is not necessarily syntactically expressed, as shown in the two types of constructions above. To put it differently, one of the semantic components of motion – ground is defeated by figure in terms of salience in this sub-domain. Whether there is a destination phrase or not is determined by the semantic types of the subject. Some abstract entities such as affection or interest, semantically but not necessarily syntactically require a destination phrase.

> (74) oykwukin   chinkwu-hanthey   hokam-i   ka-yo
>   foreigner   friend-to   good feeling-NOM   go-DC
>   'I am interested in my foreign (i.e. non-Korean) friend' lit. 'good feeling goes to   my   foreign   friend'
>   (http://www.gohackers.com/?m=bbs&bid=c_love_daily&uid=26190)

The destination phrase such as *oykwukin chinkwu-hanthey* 'to my foreign friend' can be omitted if the information on the phrase (e.g. who affection goes to) is inferrable in a discourse context. On the other hand, this case whose figure is goal-oriented is distinguished from another case where the defining concept is also figure but it is source-oriented, i.e. a leaving object (section 4.5.4). Abstract entities that are leaving do not require a destination phrase both semantically and syntactically, as was the case in leaving in physical motion (section 4.1.5).

      Even though the semantics of abstract entities' marching somewhere is preserved across the different instances in this sub-domain, the constructional meaning highly varies depending on the semantic type of the subject. In contrast, the suffix following the subject and another suffix in an oblique phrase barely influence the final reading of the constructions. It appears that since the abstract figure's moving somewhere matters but

where it ultimately goes is not a focus despite the possibility that the destination phrase

occurs in this domain, the four image schemas in relation to the ground nominal do not

exert their power at the moment. More crucially, the suffix –(l)ul 'nonstop arrival or

focus' is not permitted to occur at all, which is quite similar to change of state (section

4.4) where the suffix is not allowed unless the preceding noun phrase is related to death.

However, the reason for the prohibited –(l)ul regarding the current sub-domain is not

clear as of now. Leaving this issue aside, the semantic types of abstract entities and the

final constructional meanings are presented in the order of frequency.

Semantic types of figure	Korean equivalents	Frequency	Destination phrase	Target meaning (Lit. abstract entity goes)
Understanding	*ihay* 'understanding'	23	N	Understand
Affection	*ceng* 'affection', *hokam* 'good feeling', *aychak* 'attachment'	10	Y	Have favorable feeling for something or somebody
Interest	*son* 'hand', *hokisim* 'curiosity', *nwun* 'eye', *kwansim* 'interest'	5	Y	Get interested in
Doubt	*uysim* 'doubt', *simcung* 'firm belief'	3	Y	Be suspicious of
Distinction	*kwupwun* 'distinction'	2	N	Distinguish
Empathy	*kongkam* 'Empathy'	2	Y	Empathize
Crack	*kum* 'crack'	1	Y	A relationship breaks
Imagination	*sangsang*	1	N	Imagine

	'Imagination'				
Influence	*yenghyang* 'Influence'	1	Y	Influence	
Labor	*son* 'labor'	1	Y	Something requires labor	
Psychological burden	*pwutam* 'Psychological burden'	1	N	Feel onerous	
Thought	*sayngkak* 'thought'	1	Y	Think/care about	
Information	*cengpo* 'Information'	1	Y	Information spreads	
		Total: 52			

Table 13. Semantic types of goal-oriented figure

In the table above, the most frequent type is '*understanding goes*' in the meaning of 'understand'.

> (75) ihay-nun an ka-nu-n-tey
>   understanding-TOP NEG go-IN-RL-place
>   'I do not understand but..' lit. 'understanding does not go but..'

In this case, a moving object in the source domain is mapped onto the entity of understanding in the target domain. Once the figure entity goes (i.e. moves), it means understanding is successful. If the figure does not go, the understanding process fails, as shown in the example above. According to De Mulder (2007: 314), human beings' reasoning processes have been described "as invoking the idea of a journey through space" in some studies. For instance, Emanatian (1997) suggests such an instance as "Do you follow me?" (p.1). Even though the English instance differs from the Korean counterpart '*understanding goes*' in some respects, it seems that intangible understanding is shaped by physical movement in some languages. However, cases where the 'go'-specific constructions express understanding, seem uncommon across languages. Even in

Japanese, understanding is expressed as *rikai* 'understanding' *suru* 'do'.[36]

4.5.2 ABSTRACT ENTITY IS A GOAL (Ground)
Constructions:
1) [(mostly omitted subject) + abstract entity + −*ey* + conjugated forms of *kata*]
2) [(mostly omitted subject) + abstract entity + -(*u*)*lo* + conjugated forms of *kata*]
3) [(mostly omitted subject) + abstract entity + -(*l*)*ul* + conjugated forms of *kata*]: allowed but not found
4) [(mostly omitted subject) + abstract entity + no suffix + conjugated forms of *kata*]

Even though ground lost to figure in the previous section, it recaptures the territory in the second sub-domain of abstract motion. As shown in the four constructions above, while figure tends not to appear syntactically since it is semantically unidentifiable[37], goal which is one of the sub-types of ground, necessarily occurs and functions as the defining concept of abstract entities. In the previous Chapter 2 and section 4.1, I mentioned that there are two types of goal: arrival point marked with the suffix −*ey* 'to' or -(*l*)*ul* 'nonstop arrival' and direction point tagged with the suffix -(*u*)*lo* 'toward'. In contrast, the distinction becomes dysfunctional when the NP in an oblique phrase is followed by nothing (i.e. no suffix). In any case, by virtue of being followed by the first three suffixes or no suffix in *kata*-specific constructions, abstract entities are formulated as if they were a physical place to arrive at or to move toward.

(76) a. silceylo   taum sikan-ey   ka-se   hay   po-l
      Actually   next class-to   go-CJPRT   do   see-FUT
      ke-ko
      thing-CJPRT
      'We are going to try hands-on practice next class..' lit. 'We are going to try

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[36] This is also the case in Korean in that understanding is expressed as *ihay* 'understanding' *hata* 'do' in addition to *ihay* 'understanding' *kata* 'go'.

[37] The only way of figuring out the figure is to infer from the semantic property of the NP in an oblique phrase.

hands-on practice after (we or something such as time) goes to next class'

    taum   sikan   ka-se
    next   class   go-CJPRT
    lit. '(the implicit figure) goes to/toward next class' (modified version of the
    sentence above)
b. pwuncayng-ulo   ka-nu-n
   dispute-toward   go-IN-RL
   '(something) which goes toward dispute'
c. ku   pwupwun-ey   ka-cyo
   that   part-DIR 'to'   go-let's
   'Let's get to that part'   lit. 'Let's go to that part'

    ku   pwupwun-ul   ka-cyo
    that   part-DIR 'nonstop arrival'   go-let's
    'Let's directly get to that part'   lit. 'Let's directly go to that part'
    (modified version of the sentence above)

Across the instances above, abstract entities such as next class, dispute, part (in class situation), are described as physical place. Crucially, the image schemas stemming from physical motion events are inherited to the present sub-domain of abstract motion with the great degree of semantic preservation. In (76a) with –*ey*, which was argued to express arrival with digression possible in physical motion (section 4.1.1), the hidden figure is supposed to arrive at the next class with a possible digression on the way there. In other words, the implicit figure may arrive elsewhere first, such as the end of the current class, before it gets to next class. In (76b) with –(*u*)*lo* which was argued to denote atelic direction motion in physical motion (section 4.1.2), the unexpressed figure appears to move towards a dispute, but whether it finally reaches the dispute is not clear. In other words, whether dispute actually occurs or not is unknown. On the other hand, even though the suffix –(*l*)*ul* of nonstop arrival in physical motion (section 4.1.3), is permitted to occur depending on the preceding NP in abstract motion, it was not found in my data.

However, in the second sentence in (76c), it seems that the meaning of nonstop arrival in the directional marker –(*l*)*ul* in physical motion is also inherited to abstract motion. While the second sentence with the suffix –(*l*)*ul* blocks the abstract digression, the first sentence with –*ey*, 'to,' allows the possibility of digression on the way to that part, such as a certain topic in class. Further, the adverb *palo* 'directly' coordinates more with the second sentence than with the first one, based on intuitive analysis.

In principle, the three types of ground in physical motion − source, intermediate route, and goal (section 2.1) − are possible in abstract motion. However, in my data, when ground seizes power by relegating figure, all the found ground nominals are goal. The semantic types of goal are summarized.

Semantic types of goal	Korean equivalents	Frequency	Target meaning (the implicit figure goes to(ward) abstract entity)
Time	*sikan* 'class lit.time', *macimak* 'last time', etc	29	Go/get to(ward) time
Case	*yeyoy* 'exception', *titeysutu* 't-test', *kwete* 'quarter' etc	25	Go/get to(ward) case or selection
State or situation	*cenmwunhwa* 'specialization', *seykyeyhwa* 'globalization', etc	16	Becomes specialized or globalized lit. Go to(ward) specialization or globalization
Degree	*samang* 'death', *swuchi* 'numerical value', etc	9	Reach a certain degree
Next stage	*taum tongcak* 'next movement', *wis leypeyl* 'upper level', etc	5	Go to(ward) the next stage
		Total: 84	

Table 14. Semantic types of goal

Unlike in the previous section whose main character is figure, the semantic types of goal

are limited and the target meanings of the entire constructions do not vary as much. Noteworthy is that the most frequent semantic type - nouns of time are understood as a static place, rather than a moving object. In the literature on time metaphor, it has been mostly stated that time is a moving object in the metaphor. However, the Korean instance (76a) shows that time is also shaped by physical and static place. Interestingly, the similar example is found in English.

(77) We're going to go to last Sunday (COCA 1994 SPOK: Ind_Limbaugh)

It seems that another type of time metaphor[38] where time is expressed as goal is likely to occur in other languages.

To makes matters complicated, target meaning may go one step further than simple movement, in a certain circumstance in argument structure constructions. When nouns belonging to the second semantic type - case is followed by the –(*u*)*lo* in *kata*-specific constructions, the target meaning may lead to 'selection'.

(79) the following sentences were already introduced in section 2.2 but are repeated here
a. kunyang   kwete-lo   ka-ss-u-myen   coh-keyss-cyo
   just   quarter-toward   go-PST-IN-if   good-FUT-DC
   '(somebody) hopes just the quarter-based system is taken' lit. 'somebody hopes something goes to just quarter'
b. cenkong   mwe-lo   ka-yo   kulem?
   Major   what-toward   go-DC   then

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[38] There is a third type of time metaphor where time is understood as intermediate route.

(78) sikan-ul   yehayng-ha-nun   sonye
    time-DIR (passing)   travel-do-adnominal   girl
    'a girl who travels time'

This is a translated Korean title of the German novel 'Rubinrot' by Kerstin Gier. It seems that the third time metaphor occurs at least in German and in Korean.

'What is going to be your major, then?' lit. 'what does your major go to, then?'
c. mence   yeyoy   ccok-ey   ka-se
   first of all,   exception   side-to   go-CJPRT
   'First of all, (something) goes to the exception side and..'

The four examples above are instances where an abstract case is described as goal, such as a quarter system in college or an exception. (79c) expresses that an unidentifiable figure (e.g. the speaker or the flow of the class, etc) goes to an exception. The possible target meaning of 'selection' is blocked due to the suffix *-ey* which does not have the meaning of 'selection' in it. In contrast, in (79a-b), the interaction between the semantic type of the two NPs (i.e. case) and *–(u)lo* drives the 'selection' reading in *kata*-specific constructions. Considering that (76b) where the suffix exists but the semantic type of the abstract entity is situation, does not have 'selection' meaning, it follows that even though the suffix has 'selection' on its own to some extent (section 2.2)[39], it is not the case that the suffix *–(u)lo* by itself drives the meaning of 'selection'.

The suffix *– (u)lo* matters again regarding the third semantic type. When abstract entities express state or situation, it was found that all of them were followed by *–(u)lo*. Strictly speaking, *–ey*, *-(l)ul*, and no suffix are not permitted to follow nouns meaning 'specialization' and 'globalization' of this sort. This seems to be because of another aforementioned meaning of the suffix in *kata*-specific constructions - 'atelic direction motion'. Considering that state or situation such as 'specialization' and 'globalization' are harder for the implicit figure to reach than other semantic types of goal such as time from a

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[39] For further discussion on selection, see Ko (1998:4) on *–(u)lo* in Korean and Nakayama (2009: 204) on Japanese *iku* 'go.'

purely semantic perspective, the suffix –(*u*)*lo* which involves uncertainty about the figure's arrival, is the best fit.

4.5.3 ABSTRACT ENTITIES ARE MARCHING OBJECT AND GOAL/INTERMEDIATE ROUTE

Constructions:
1) [abstract entity + suffix + abstract entity + -*ey* 'to' + conjugated forms of *kata*](cf. section 4.1.1)
2) [abstract entity + suffix + abstract entity + -(*u*)*lo* 'toward' + conjugated forms of *kata*]: allowed but not found (cf. section 4.1.2)
3) [abstract entity + suffix + abstract entity + -(*l*)*ul* 'passing' + conjugated forms of *kata*] (cf. section 4.1.4)
4) [abstract entity + suffix + abstract entity + no suffix + conjugated forms of *kata*] (cf. section 4.1.9)

In the third sub-domain of abstract motion, figure and ground start to coexist, as shown in the four constructions above. But again, since Korean is a pro-drop language, the abstract entity understood as figure and thus occupying the subject position is omitted quite often. For instance, in following (80c), the implicit figure may be ownership or share, considering the destination phrase containing a large corporation in Korea (i.e. *Cheiljedang*), and the speaker's opinion on the current event. Crucially, it should be noted that the present section where the omission of the figure is licensed in the level of information structure should be distinguished from the previous section 4.5.2 whose figure's identity is originally unidentifiable, which thus is not a matter of omission. In any case, two abstract entities in *kata*-specific constructions are understood as a marching object and ground (i.e. either goal or intermediate route) respectively. Thus, abstract concepts such as social success or onset of relationship are understood as movement. According to the semantic properties of the abstract entity as figure and the abstract entity as ground, the target meaning of the entire argument structure construction (e.g. social

success) varies as indicated in following (80). 15 observations were found and some of them are presented.

(80) Marching object and goal
    a. social success

Cyay-ka	celay-se	ce	wichi-kkaci	ka-ss-kwuna
That kid-NOM	so-CJPRT	that	position-until	go-PST-

interjection
'For a certain reason, that person made it to the top' lit. 'Since the person has a certain characteristic, s/he went to that (high) position'.
    b. onset of relationship (subject omitted)

Kyay-hanthey	ka-l	casin-i	kyay-ka
the kid-to	go-adnominal	self-confidence-NOM	the person-NOM

cou-myensetwu
like-even though

'(I am not) confident enough to be in relationship with the person even though I like the person' lit. '(I don't have) self-confidence to go to the person even though I like the person'
    c. acquisition of ownership (subject omitted)

Ceyilceytang-hanthey	ka-ss-u-myen	acwu	caltwayss-ci
Cheiljedang(CJ)-to	go-PST-IN-if	very	good-DC

'If Cheiljedang (CJ) came to have (something), that is very good' lit. 'if (something) went to Cheiljedang (CJ), that is very good'
    d. extent (subject omitted)

ilek	tay	mak	kakkai	ka-myen
a hundred million	range	just	closely	go-if

'if (something) gets close to the range of just a hundred million' lit. 'if (something) goes closely to the range of just a hundred million'
    e. grammatical movement

mwunpepcek-in	yele	kaci-ka	ko	wichi-ey
grammatical-adnominal	various	sort-NOM	that	position-to

ka-l	swu	iss-ta
go-FUT	can	COP-DC

'Various sorts of grammatical things can go to that position'

As was in section 4.5.1, when an abstract entity is identified with figure, it necessarily is a goal-oriented marching object. In contrast, when an abstract entity is understood as ground, it can be further shaped by either goal or intermediate route. Nine instances of

cases with abstract entity as goal were found, some of which are shown above in (80).

However, there are some entities (e.g. *cyay* 'that kid' in (80a)) that seem to be far from being abstract. Regarding the identification of them, what is brought up at the moment is metonymy and metaphtonymy (Goossens, 1990, cited in Croft & Cruse, 2004). According to Lakoff, Johnson, and Turner, metonymy is described "as a process occurring within the same domain, whereby one conceptual entity, the source, "stands for" and is projected ("mapped"), with a primarily referential purpose, onto another conceptual entity, the target" (Barcelona, 2015: 145). Further citing Lakoff & Johnson (1980: 35), Barcelona (2015: 144) explains that "metonymy is experientially grounded and it involves elements which are experientially (hence, conceptually) contiguous (unlike metaphor)," based on the following sentences taken from Corpus of Contemporary American English (COCA).

> (81) a. That's really his name, Marshall Brain, and he is a brain and he has a
>   wonderful way of describing how everything works, how stuff works,
>   everything from a computer to DNA. (COCA 2002 SPOK CNN_Next)
>   b. The White House says the travel and tourism industry represented 2.7
>   percent of gross domestic product and 7.5 million jobs in 2010. (COCA
>   2012 NEWS AssocPress)

He states that the interpretation that Marshall is a smart person in (81a) is derived by means of the PART FOR WHOLE metonymy in that the body part *brain* which relates to intelligence, describes a certain trait or what type of person he is. Regarding (81b), it is argued that the location "the White House" stands for entities that are in the location, such as U.S. government staff or the President himself. Since both the location and U.S. government staff/the President are "two elements or "parts" of a type of spatial relation

(the "locational" relation)," (81b) is regarded as PART FOR PART metonymy (ibid: 144).

However, since the first interpretation of being physical (e.g. physical person) and the final interpretation of being abstract (e.g. the person's social position) involved in some problematic entities in (80) (e.g. *cyay* 'that kid' in (80a)) straddles in the two different domains (i.e. physical and abstract), which runs counter to the definition of metonymy, we should recognize the possibility that there is something operative that causes the shift of the domain after the preceding metonymical operation – metaphor. The cooperation between metonymy and metaphor is termed as metaphtonymy (Goossens, 1990, cited in Croft & Cruse, 2004). Croft & Cruse (2004: 218) states metaphtonymy as "when both metaphorical and metonymic processes are recruited in the construal of an interpretation". Out of several types of the concept they introduce, the relevant one at the moment is "the same expression that undergoes successive metaphorical and metonymic construal" such as "My lips are sealed" (ibid: 218). They explain that "a literal interpretation of this can be metonymically understood to indicate that the speaker is physically unable to speak. This metonymy can then be metaphorically extended to a situation where the speaker is non-physically constrained. The metonymic construal of the expression thus precedes a metaphorical construal of the same expression" (ibid: 218-219).

The sequence of metonymy first and then metaphor works for most of the erratic entities which seemingly look physical in (80). In (80a), the figure is metonymically reduced to physical traits (i.e. WHOLE FOR PART metonymy) and then is metaphorically changed to abstract traits, i.e. the person's social status. In (80b), the goal

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kyay 'the person' is metonymically understood as something like presumably the person's physical heart? (i.e. WHOLE FOR PART metonymy?, my heart will goes to your heart?) and then is metaphorically grasped as psychological heart. The same process goes to the implicit figure, which is highly likely to end up being understood as a person's feeling or heart. In (80c), *Cheiljedang* is personified in that it is followed by the suffix *–hanthey* for only an animate ground. This shows that the figure in this context is a non-physical persona of the company *Cheiljedang*. The entire company consists of the non-physical part which exists in stock market and the physical part (e.g. the building or headquarter of the company). Consequently, (80c) involves only WHOLE FOR PART metonymy but not metaphtonymy. Finally, the relevance of metonymy and metaphtonymy to abstract motion shows that even though the figure or ground seems like physical, their real identities should not be considered at face value but should be deliberated upon until they are identified as being abstract. In this way, we can avoid the mistake to lead to the target meaning of abstract motion in *kata*-specific constructions but to still consider the figure or ground as being physical without knowing why there is inharmony between the constructional meaning and the component's meaning.

On the other hand, abstract entity such as academic career or conflict of opinions is also metaphorically understood as an intermediate route. One similar instance 'a girl who travels time' was already introduced in the previous section. Six instances of this case were found and some of them are presented in following (82). In section 4.1.4, passing in physical motion was discussed and three syntactic constructions were identified: 1) [animate subject + road-type noun + -(*l*)*ul* + various conjugaged forms of

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kata] 2) [animate subject + road-type noun + -(*u*)*lo* + various conjugaged forms of *kata*]

3) [animate subject + road-type noun + no suffix + various conjugaged forms of *kata*]. In

the current abstract passing, two constructions were inherited from the physical domain:

1) [abstract entity + suffix + road-type noun + -(*l*)*ul* 'passing' + conjugated forms of *kata*]

2) [abstract entity + suffix + road-type noun + no suffix + conjugated forms of *kata*]. The

construction with the suffix -(*u*)*lo* 'toward' is also possible but was not found. Also, as

was in 4.1.4, despite the absence of suffix, the reading of 'passing' was driven by the

semantic property of a road-type NP in the second construction.

> (82) a. swuhakca-lose-uy   ku   kil-ul   cal   ka-ss-ko
>   Mathematician-as-POSS   the   route-DIR   well   go-PST-
>   CJPRT
>   '(Somebody) did a good job in their career as mathematician' lit.
>   '(somebody) went along the route as mathematician well and..'
>   b. kkuth-kkaci   wuli-nun   pyenghayngsen-ul   ka-se
>   end-until   we-TOP   parallel lines-DIR   go-CJPRT
>   'We remained apart (on the issue) to the end and..' lit. 'To the end we
>   went along parallel lines and..'

In the instances, the implicit figure and the figures expressed as *wuli* 'we' proceed along a

(profiled) intermediate route[40]. Also, like passing in physical motion, when the suffix –

(*l*)*ul* appears in constructions, there is little directionality involved. For instance, in (82a)

above, the only information available is that the mathematician was doing well in his/her

academic career. However, there is no implication that (s)he will also do well in future. In

contrast, if the suffix –(*u*)*lo* replaces the suffix –(*l*)*ul*, the construction slightly implies

that the mathematician may succeed.

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[40] But in the second construction - [abstract entity + suffix + road-type noun + no suffix + conjugated forms of *kata*], an intermediate route is not profiled due to the absence of suffix, as was in physical passing.

Metonymy or metaphtonymy is called for again to identify confusing entities above. In (82a), the implicit figure, which is highly likely to be recovered as *ku* 'he' or *kunye* 'she', is actually an abstract entity of a mathematician persona out of his/her various personae, such as parents or teacher (i.e. WHOLE FOR PART metonymy). In (82b), the figures are metonymically understood as their physical positions first (i.e. WHOLE FOR PART metonymy) and then are metaphorically extended to the people's positions regarding a topic, which did not reach reconciliation. Accordingly, *kil* 'road' and *pyenghayngsen* 'parallel lines' that are originally physical become metaphorically extended abstract entities. Finally, Gibbs (2015) mentions "a greater role for metonymy in the development of metaphorical concepts" (p.172). Also, the Lakoffians "emphasize that metonymy can play a vital role in the genesis of metaphorical expressions" (Croft & Cruse, 2004: 218). In this respect, not only metonymy but also metaphtonymy seems to facilitate the emergence of abstract motion.

4.5.4 ABSTRACT ENTITY IS A LEAVING OBJECT (Source-oriented Figure)
Construction: [abstract entity + suffix + conjugated forms of *kata*]

As opposed to the section 4.5.1 ABSTRACT ENTITY IS A MARCHING OBJECT, abstract entities are understood as leaving object. The implicit ground is where the entity leaves from (i.e. source) and the abstract entity is argued to be source-oriented figure. In terms of *kata*-specific constructions, the schematic construction which consists of only subject followed by optional suffix and the verb *kata* was inherited from that of leaving in physical motion (section 4.1.5). On the other hand, semantic types of the abstract entities are time, human that should be interpreted via metaphtonymy, and

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someone's popularity.

Semantic types of figure	Korean equivalents	Frequency	Destination phrase	Target meaning (Lit. abstract entity departs)
Time	*sikan* 'time', *pom* 'spring', etc	22	N	Time goes by
Human	*ne* 'you', *yelepwun* 'you guys', *yeca* 'woman'	3	N	Breakup, graduation, etc
Popularity	*inki* 'popularity'	2	N	Somebody/something loses its popularity
		Total: 27		

Table 15. Semantic types of source-oriented figure

The most frequent type is '*time goes*,' meaning 'time goes by.' This sort of time

metaphor where mobility is given to time, is universal across languages and has been

discussed a lot in the literature (e.g. Fillmore 1971: 268; Lyons 1977: 718; Lakoff &

Johnson, 1980; Shinohara, 1999 on English and Japanese; Yamamoto, 2000 on Japanese;

Ahrens & Huang, 2002 on Mandarin and English; Radden, 2003; Ha & Kim 2014 on

Korean and English; Kim, 2015 on Korean; Suzuki, 2015 on Japanese).

(83) a. Korean
         sikan-un   cemcem   ka-nu-n-kwuna
         Time-TOP   little by little   go-IN-RL-interjection
         'time is passing by little by little!' lit. 'time is going little by little!'
      b. English
         As time goes by, and the global auto industry gets more interconnected
         and complicated… (COCA 2015 SPOK NPR)
      c. Japanese (Suzuki, 2015: 104)
         jikan-ga   yukkuri   susumu
         time-Nom   slowly   move forward
         'Time passes slowly.'

Croft & Cruse (2004: 195) state that "there is presumably some reason why certain

metaphors are conventionalized again and again across languages, while others are not. Lakoff and colleagues argue that their repeated conventionalization is due to their cognitive significance, which in turn is grounded in human experience (hence the title *Metaphors we live by*)". However, as discussed in 4.5.2, time metaphor involves not only time as moving object (I stay the same, time moves past me), but also time as intermediate route and goal (I move through/to(ward) time, time stays the same). Out of the three defining concepts for time, figure has been utilized to a great degree across languages. However, why speakers across languages pick the figure for conceptualizing and verbalizing time is not accounted for by the cognitive significance of certain remarkably conventionalized metaphors. Rather, we should pay attention to the asymmetrical relationship between figure and ground suggested by Croft & Cruse (2004), which was already introduced in section 2.1. They state that while figure is more salient, ground is more backgrounded. Due to this, it seems that figure of more prominence tends to be chosen as defining concept for time.

4.5.5 Simple abstract motion (figure and manner)
Construction: [abstract entity + manner adverb + conjugated forms of *kata*]

In this sub-domain, abstract entities are understood as figure, especially marching object. In addition, the manner of abstract motion is another defining concept for abstract entities in that it further specifies how they move. This corresponds to simple motion in the physical motion (section 4.1.7). 23 instances were found and some of them are as follows.

(84) a. tayhakwen   ilehkey   ka-ya   toyn-ta
        Graduate school   this way   go-should   should-DC
        'The graduate school should go this way'
    b. peytunam   cen   sik-ulo   ka-nun   ke   aninya   hamyense
        Vietnam   war   way-by   go-adnominal   thing   isn't it   while
        saying
        'Saying isn't it that (something) goes in the style of the Vietnam War..'

In (84a), the speaker is talking about a desirable way a certain graduate school to go. In (84b), the speaker is expressing that something abstract, such as military strategy, may be implemented in a Vietnam war-like fashion. As was the case in simple motion in physical motion domain, the focus is on the involved manner in abstract motion, but not on where a figure entity goes, which can be inferred from the absence of a destination phrase. The significant difference between physical motion and abstract motion is that while manner in physical motion tend to be expressed by native Korean adverbs and ideophones, manner in abstract motion is expressed by not only native adverbs (e.g. *ilehkey* 'this way' in 84a) but also the combination of sino-Korean words such as (*pang*(方))*sik* (式) 'way', *pangpep* (方法) 'method', *pyenghwa* (平和) *siwi* (示威) 'peace demonstration' and the antecedent oblique –(*u*)*lo* which means 'by' (e.g. 84b). Also, unlike in physical motion, ideophones, which are also native lexical items, are less likely to occur for expressing manner. In Korean, while conceptually basic concepts in physical domain tend to be expressed in native Korean, conceptually higher-level or intangible concepts tend to be realized in sino-Korean. In this regard, it seems that types of adverbs are influenced by whether a domain they occur is physical or abstract.

4.5.6 Quantified abstract motion (figure and path)
Constructions:
1) [abstract entity + suffix + an adverb or a measurement phrase + –(*l*)*ul* 'FOC' + conjugated forms of *kata*]: allowed but not found
2) [abstract entity + suffix + an adverb or a measurement phrase + conjugated forms of *kata*]

In the last domain, abstract entities are defined by marching object and path as if they are following a course. The abstract course is further quantified by an adverb or a measurement phrase. Twelve instances were found and some of them are:

(85) a. cceyl   olay   ka-ten   khepul-un   kkayci-ko?
      Most   long go-used to   couple-TOM   break up-CJPRT
      'The couple who used to be in relationship for the longest period breaks up?' lit. 'The couple who used to go for the longest period breaks up?
   b. cengchi-ka   kulssey   han   sip   nyen   ka-myense
      politics-NOM   well   approximately   10   years   go-while

      palo   sel-kka   hanun   sayngkak-i   tul-e
      upright   stand-whether   equivalent of   thought-NOM   have-DC
      'Well, I am not sure if politics will stand upright in approximately 10 years' lit. 'Well, I am not sure if politics will stand upright as it goes for approximately 10 years'
  c. physical motion (already suggested in 4.1.8 but repeated here)
      cangcang   yel-sikan-ul   kaya   toy-nuntey   elmana
      very long   10-hours-ACC   should go   should-CJPRT   how

     simsimhakeyssni
     boring it would be
     '(Somebody) should go (somewhere) for as much as 10 hours and how boring it would be!'

The abstract concepts of relationship and politics are expressed as if they move forward[41] for a certain period of time. However, while the quantified path can be further conceived as distance between two grounds in physical motion (85c), it is not the case in abstract equivalent. On the other hand, as was stated in 4.1.8 on the quantification of physical

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[41] Relationship is understood in terms of motion in English as well.
   a. This relationship isn't going anywhere. (Lakoff & Johnson, 1980)
   b. We're headed in opposite directions. (Gibbs, 2015: 169)

motion, the abstract path, is measured by an adverb such as *olay* 'long' or *sipnyen* 'ten years.' It appears that the quantification of abstract motion would be impossible if physical motion as the defining concept in the source domain were not quantified. Further, this domain inherited almost the same constructions by the physical counterpart. A suffix can follow an adverb or a measurement phrase, but only one observation of this type was found in my data. Also, even though the suffix -(*l*)*ul* was found in the data for physical motion, but not quantified abstract motion, it can follow a measurement phrase for emphasis in abstract motion.

4.5.7 Unknown

Unknown cases caused by the absence of suffix have occurred throughout the sub-domains discussed so far. This particular type of constructions with no suffix is also argued to be motivated by physical motion. However, due to the absence of suffix, exactly what type of image schema (e.g. nonstop arrival, etc) is formulated in physical motion first and then is inherited by abstract motion is unclear.

So far, we have explored seven subtypes of abstract motion in *kata*-specific construction. We have seen that there are a lot of abstract entities that are understood in terms of physical motion such as understanding, time, social success, extent, relationship, politics, etc. It further appears that there are significant correspondences between the abstract motion domain and the physical motion domain. In section 4.1, I argued that there are nine sub-semantic domains of physical motion such as arrival with digression possible, nonstop arrival and leaving, and so forth. In abstract motion, seven counterparts of them appeared and their syntax and semantics are motivated by physical motion,

except for physical motion for a certain purpose where deverbal nouns play a crucial role. This implies that Korean speakers exhaustively take advantage of the semantic components in physical motion as defining concepts to comprehend and express abstract entities. Also, the subordinate concepts of ground – the four image schemas were preserved to a greater degree both syntactically and semantically than in other metaphorically extended domains. This does not go with the Principle of Maximized Motivation and implies that language use is another factor influencing inheritance. Finally, the great degree of correspondence between physical motion and abstract motion will be statistically verified in Chapter 5. For further studies on motion in metaphorical use, see Radden (1996), Shinohara (1999), Özçaliskan (2005), and De Mulder (2007).

4.6 Mathematical motion

Construction: [subject + suffix + numerical value + -(*u*)*lo* 'selection'+ conjugated forms of *kata*]

> (86) Yangpyen-ul   yeng-ulo   ka-nun   ke-ya?
>   Both sides-ACC   zero-selection   go-adnominal   thing-INT (informal intimate)
>   'Do we assume that both sides are zero?'

The construction and the only example found describe mathematical motion. This sort of motion may be assumed as one type of abstract motion. However, since the mathematical motion is different from abstract motion both syntactically and semantically, it is explained in a separate section.

First of all, unlike the extremely low frequency of one observation in my data, the syntactic construction appears to be conventionalized when it comes to mathematical motion in my experience. The subject tends to be followed by suffixes such as -(*l*)*ul*,[42] nominative suffix *i* or *ka*, or topic marker. The rest part of the construction consists of an NP of numerical value, the suffix -(*u*)*lo* 'selection', and the verb *kata*.

Semantically, the subject is not a figure but a static abstract entity, and its meaning is specified by the following numerical value, which is unlike in abstract motion. The verb *kata* in this context means to 'deem' or 'regard'. Thus, the whole construction denotes 'an agent in mathematical activity assumes that a mathematical concept (e.g. two sides of a polygon in the aforementioned example) corresponds to a certain numerical value.

To my knowledge, the verb *kata* and its constructions have not been discussed

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[42] Since the original function of -(*l*)*ul* is to mark accusative case, the entire construction with the suffix is grammatically incongruent.

with regard to mathematical motion in the literature and dictionaries. According to Matlock & Bergmann (2014), fictive motion would be helpful to understand 'abstract scientific concepts' such as those in mathematics. They explain that "mathematics is rife with fictive motion (Lakoff and Núñez 2000; Núñez 2008). When discussing limits in calculus, for instance, people often use fictive motion expressions that imply motion and a limit, as in The sum approaches 7 as n goes to infinity" (ibid: 554). In line with this, mathematical concepts or abstract mathematical activities such as calculation in the target domain are understood in terms of physical motion in Korean.

4.7 Doing an activity

    Kata-specific constructions meaning 'doing an activity' seem to be a quite recent use and have hardly been discussed in previous studies. Three observations were found in my data. As implied in the title of this section 'doing an activity', this domain is the great divide between the previous six domains and the forthcoming domains. While the semantics of physical motion is retained across the previous domains in different ways and degrees, it is not necessary the case in the upcoming counterparts. From this domain of 'doing an activity' to 'sometimes', *kata*-specific constructions start to take on new meanings which are barely relevant to motion. However, what separates 'doing an activity' from the latter two domains – 'in any case' and 'sometimes' is that the former is a precursor to constructionalization which applies to the latter two. First of all, Traugott & Trousdale (2013: 22) define constructionalization as "the creation of a formnew-meaningnew pairing, in other words, as the development of a new sign". They argue that "constructionalization involves neoanalysis of morphosyntactic form and semantic/pragmatic meaning…Formal changes alone, and meaning changes alone cannot constitute constructionalization" (ibid: 22). Since not only the semantic change but also the formal change in 'doing an activity' is not as transparent as in 'in any case' and 'sometimes', it is too early to consider 'doing an activity' being an instance of constructionalization. This is illustrated in the following syntactic construction and examples.

Constructions:
1) [(implicit subject) + NP (deverbal noun) + no suffix + conjugated forms of *kata*]
2) [(implicit subject) + NP (deverbal noun) + –(*u*)*lo* 'toward' + conjugated forms of *kata*]:

allowed but not found
3) [(implicit subject) + NP (deverbal noun) + -(*l*)*ul* 'nonstop arrival' + conjugated forms of *kata*] allowed but not found

      (87) a. Mwusun   chiryo   tto   ka-ko
              What   therapy   again   go-connective marker
          '(somebody) does or gets therapy again' lit. therapy goes again or something goes to therapy again
        b. Silchen-un-yo   kkok   kachi   ka-ya
          Practice-TOP-ending marker   certainly   together   go-should

          toy-pnita
          should-ending marker(formal)
          'As for practice, (it) certainly should be done together (with something) or should be accompanied by something (e.g. a theory or plan)' lit. 'As for practice, (it) certainly should go together (with something, e.g. theory or plan)'
        c. icey   ppol-ul   ppay-se   yeksup-to
          now   ball-ACC   take out-CJPRT   counterattack-too
          ka-l   swu   iss-nun   ke   kwu-yo
          go-FUT   can   COP-adnominal   thing   CJPRT-DC
          'Now, (a soccer player) can do counterattack by taking out a ball' lit. 'Now, (a soccer player) can go to counterattack as well by taking out a ball'

The constructions overall consist of implicit subject, NP, suffix such as topic maker or no suffix, and the verb *kata*. Concerning the suffix types, even though –(*u*)*lo* 'toward' and -(*l*)*ul* 'nonstop arrival' did not appear in the data, they are permitted to occur. However, another suffix –*ey* 'to' is not allowed, which indicates that the types of suffix begin to be limited compared to the syntactic constructions of the previous domains except for 'change of state' and 'matthematical motion, both of which show the limited types of suffix. On the other hand, the NP preceding a suffix or no suffix is a deverbal noun in all of the three observations. However, unlike cases where deverbal nouns play a crucial role in physical motion (section 4.1.6), the semantics of motion from one location to another location disappears in this domain. Assuming the meaning of 'physical motion for a

certain purpose' (section 4.1.6) is simply represented as 'do going', which also roughly applies to a variety of aforementioned physical motion related domains such as nonstop arrival (section 4.1.2), it appears that the primary lexical part of 'going' is significantly weakened or lost. Thus, *kata*-specific constructions meaning 'doing an activity' seem to have undergone semantic bleaching where "a sense becomes more general by losing features" (Sweetser 1988: 390). Here, what is crucially presupposed is that not solely the lexical item *kata*, but the entire constructions undergo semantic bleaching. Given that both words and argument structure constructions are form-meaning pairs, it may not be odd to say that both are subject to the process. Himmelmann (2004)'s argument that the proper domain of grammaticlization is constructions, i.e. elements in context, is already discussed in section 2.2 in terms of auxiliary *kata*. This presupposition will be sustained in the next two sections with respect to lexicalization.

The reason this domain 'doing an activity' cannot be regarded as full-grown constructionalization is illustrated not only by its syntactic and semantic properties which do not meet the conditions of constructionalization discussed so far, but also by its non-committal status between grammaticalization and lexicalization. Traugott & Trousdale (2013: 26) set forth 'intermediate' or 'hybrid' constructions, which are partly contentful/lexical and partly procedural/grammatical constructions. 'Doing an activity' seems to be this case in that the constructions are transitive in part (i.e. grammatical) and also partially denote a certain activity whose meaning is specified in the preceding deverbal noun (i.e. lexical). Traugott & Trousdale (2013: 22) state that "gradual constructionalization requires prior constructional changes to have occurred (the

'succession' of small-step neoanalyses)". Considering both its syntax/semantics and ambiguous status between grammaticalization and lexicalization, 'doing an activity' appears to be the constructional change[43] required to precede the two upcoming constructionalizations – 'in any case' and 'sometimes'.

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[43] The metaphorically extended domains from 'change in social status' (section 4.2) to 'mathematical motion' (section 4.6) seem to be also constructional changes before constructionalization (William Croft P.C.).

4.8 In any case
Construction: [*eti* ('where') *kase* ('go and')]

(88) a. Twul-i   eti ka-se
   Two people-NOM where go-CJPRT

   kwulm-e   cwuk-cin anul   ke-lako
   starve-CJPRT   die-CJPRT NEG.FUT thing-quotation
  'In any case, the two people will not starve to death (quotation)' lit.
  'After going anywhere, the two people will not starve to death (quotation)'
 b. eti   ka-se   pantay   yayki-lul mos   ha-
  pnita
  where   go-CJPRT opposition story-ACC cannot   do-
  DC
  'In any case, I cannot express my opposing idea' lit. 'After going
  anywhere, I cannot tell the story of opposition'

    Traugott & Trousdale (2013) classify constructionalization into grammatical

constructionalization and lexical constructionalization. The first one was already

explained in section 2.2 in terms of auxiliary *kata*. In the literature, grammaticalization

and lexicalization have been explained separately. However, Traugott & Trousdale (2013)

lately have tried to incorporate the two under the unified theory of constructionalization.

What is put focus on at the moment is the latter lexicalization or lexical/contentful

constructionalization, which applies to the current domain 'in any case'. According to

Himmelmann (2004), lexicalization is defined as "the emergence of new lexemes from

collocation". Rhee (2016: 21-22) further states that lexicalization should not be confused

with grammaticalization. For instance, he points out that *heute* 'today' in modern German

deriving from *hiu tagu* 'this day' in old high German, or *breakfast* coming from

break+fast in English are not appropriate examples of grammaticalization since they

show changes from content words to content words, not to function words. He explains

that those instances are regarded as lexicalization. Regarding the current domain, the

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construction *eti* 'where' *kase* 'go and' literally means '(somebody) goes anywhere and'. However, it had changed to mean 'in any case' in the end. Like the German and English instances, this construction had undergone change from content item to content item. Thus, the reanalysis of the semantics, one of the conditions to be met to be acknowledged as lexical constructionalization, is thought to have taken place in the construction *eti* 'where' *kase* 'go and'.

As was stated in the previous section, there should be one more reanalysis in terms of morphosyntax to meet the conditions of lexical constructionalization. As illustrated above in the syntactic construction and two examples, the construction *eti* ('where') *kase* ('go and') is fixed, which is unlike all of the previous *kata*-specific constructions. Out of numerous conjugated forms of *kata*, exclusively *kase* follows *eti* 'where'. This is the reanalysis of morphosyntax. Now, the construction *eti* ('where') *kase* ('go and') can be said to be an instance of lexical constructionalization[44] in that it had underwent reanalyses of both morphosyntax and semantics.

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[44] Since the entire construction comes to function as an adverb phrase, the phenomenon it had undergone may be further considered as lexicalization to an adverb, which is also the case for 'sometimes' to be discussed in the next section.

4.9 Sometimes

In the literature, lexicalization regarding *kata* has hardly been brought into linguists' attention. However, Jeon (1986: 80-82) briefly discusses cases involving *kata* 'go' with the examples of *kata-ka* 'every once while an event is ongoing' and *kata-kata* whose semantics is similar to *kata-ka* but involves the greater time interval between the two events. He termed these instances as adverbialization, which however is not accurate. According to William Croft (P.C.), adverbialization is not a different diachronic process than lexicalization. Because adverbs are lexical items, the two cases are an instance of lexicalization.

Similarly, lexical constructionalization to an adverb goes on to the ninth member of *kata*-specific constructions - *kakkum* ('sometimes') or *kanhok* ('sometimes') + *kata* 'go'. The syntactic construction and examples are:

Construction: [*kakkum* ('sometimes') or *kanhok* ('sometimes') + *kata* 'go']

(89) a. Mwunpepcek   cisik-i   tto   issu-myen
      Grammatical   knowledge-NOM   also   exist-if
      macchwu-nun
      get the correct answer- adnominal
      mwuncey-ka   kakkum-[45]kata   iss-e
      question-NOM   sometime-go   exist-ending marker (informal intimate)
     'If (somebody) has grammatical knowledge, there are sometimes questions (somebody) gets correct answers with.'
   b. Kanhok-kata   chwulsek-ul   an   pwulu-nun
      Occasionally-go   attendance-ACC   NEG   call-adnominal

      sensayngnim-tul-i   iss-e-yo
      teacher-PL-NOM   exist-penultimate ending marker-ending marker

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[45] Even though there is no word spacing between the adverb (either *kakkum* or *kanhok*) and *kata*, a solid line is inserted to make a distinction between the two.

(informal polite)
        'Occasionally, there are teachers who do not call the roll'

As *eti* 'where' is followed by exclusively *kase* 'go and' in the previous construction meaning 'in any case', only the citation form of *kata* follows one of the adverbs *kakkum* or *kanhok*, which is the reanalysis of morphosyntax. Interesting is that there is no word spacing between the adverb (either *kakkum* or *kanhok*) and the verb, which differs from the previous construction *eti* 'where' *kase* 'go and'. With respect to this, Himmelmann (2004: 27) discusses five types of lexicalization: 1) univerbation 2) fossilization 3) emergence of a derivational formative 4) splits 5) lexicalization patterns. It appears that the construction without word spacing in the current domain belongs to the first type - univerbation. He explains univerbation as "a frequently recurring collocation of two or more lexical items… i.e. morphologically complex forms become unanalyzable wholes" and gives 'cupboard', 'brainstorming', or 'necklace' as the examples of it (ibid: 28). For the reason that the construction *kakkum* ('sometimes') or *kanhok* ('sometimes') + *kata* 'go' had become the conventionally unified morphological unit just as the English counterparts had, it appears that the construction shows the stronger degree of lexical constructionalization than the previous construction meaning 'in any case'.

One more evidence to indicate that the construction is an instance of lexical constructionalization is its semantics. Even if the construction literally means to physically go somewhere, the semantics of physical motion had been left out and the construction had come to mean 'sometimes'. It may sound redundant and uneconomical in terms of its increased length while the semantics remains almost similar. There may be a question of 'if both adverbs *kakkum* and *kanhok* mean 'sometimes' by themselves, why

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is the verb *kata* attached to either of those redundantly?' This may be because there seem to be mild degree of semantic differences between the semantics before and after the attachment. While the adverb only case i.e. *kakkum* or *kanhok* means 'sometimes' merely from a coar-grained perspective, the case of one of the adverbs followed by *kata* appears to evince the flow or motion of the speaker's consciousness regarding time lag from a fine-grained persepective by virtue of the attachment of *kata*. This aligns with Goldberg (1995)'s principle of no synonymy introduced in the section 4.1.4. However, since the difference between the two cases has hardly been recognized in previous studies, the current proposal is putative and requires further investigation. In any case, the construction had been so conventionalized that the increased length is not an issue. Further, the construction functions as one adverb, whose semantics is no longer analyzable.

In comparison to the previous construction meaning 'in any case', there is much less semantic connection between the source meaning of *kata*-specific constructions - 'physical motion' and 'sometimes'. In other words, the meaning of 'sometimes' is hardly predictable from the physical motion the construction derives from. This shows the unpredictability and non-directionality of semantic changes in lexicalization pointed out by Himmelmann (2004). Finally, the domain of lexicalization in 'sometimes' is not the verb *kata* itself, but the entire construction *kakkum* ('sometimes') or *kanhok* ('sometimes') + *kata* 'go' as it is in the previous domain of 'in any case'.

4.10 Come and go

Regarding English, Fillmore (1971: 272) provides such a sentence as 'people kept coming and going all day'. However, it appears that 'come and go' as a whole has not been well-documented cross-linguistically. Despite the frequent occurrence of it in Korean, it has not been recognized well enough in Korean linguistics, either. In the literature, there has been a propensity that the verbs meaning 'come' and the verbs meaning 'go' across languages are explained separately. Consequently, the various properties involved in the sequence of 'come and go' have not been observed well. This may be because the pair is cross-linguistically uncommon but is Korean-specific. In Japanaese, there are a couple of rough 'go and come' pairs, which however do not seem to be as productive as the Korean counterparts 'come and go' and 'go and come' are. The comparison between the two languages is shown in the following table.

Korean		Japanese	
oko kata 'come and go'	allowed in most semantic domains of *kata*-specific constructions (i.e. physical, abstract, other in-between domains such as 'change in social status', except for domains of lexicalization)	*yukikau*[46] 'go and come'	Allowed presumably only in physical domain
wassta kassta 'came went'		*ittari kitari* 'went came'	
kassta ota 'went and come', etc.			

Table 16. Comparison of 'come and go' and 'go and come' between Korean and Japanese

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[46] In this serial verb construction, the second verb *kau* denotes 'mutually do something', following the conjunctive form a verb mostly *iku* 'go'. Even though the serial verb construction means 'go and come' in the end, the second verb is not the same as *kuru* 'come' and syntactically cannot stand on its own (Shiori Yamada P.C. and from http://dictionary.goo.ne.jp/jn/37314/ meaning/m0u/).

However, it is not the case that the pairs in Korean are more productive only in terms of their semantics. Morphologically, while the Korean counterparts involve more various conjugations, forms other than *ittari kitari* 'went came' are barely observed in Japanese (Shiori Yamada P.C.).

To focus on Korean 'come and go', what is idiosyncratic in it is that the verb *ota* 'come' precedes *kata* 'go' and the two verbs behave as if they are one unit. Unlike in the previous *kata*-specific constructions, the conjugation of the two verbs is not as infinite, rather involves the limited number of conjugations. Further, the various forms of the 'come and go' are followed by several lexical items which funciton as a main verb in a construction, as shown follows.

Subject	Various conjugated forms of *ota* 'come' *kata* 'go' sequence	Following component
Optional	*wassta kassta* 'came went'(21 observations)	*hata* 'do'(verb, 19 observations)
	oko kateni 'come and go and'(one observation)	*kelita* 'sequential continuation of a certain state' (verbifying suffix and/or verb, (one observation)
	ola kala 'come and go' (imperative, one observation), etc	*nolta* 'hang out' (verb, one observation)
		none (two observations)
	23 observations in total	23 observations in total

Table 17. Syntactic constructions of 'come and go' and the components

In these constructions, the subject is frequently omitted as was in the previous *kata*-specific constructions. However, there is a constraint in terms of the combination of the conjugated form of the sequence and the following lexical item. The first sequence

wassta kassta 'came went' should necessarily be followed by a verb since it is an argument (i.e. roughly object) in a construction. Regarding the second sequence *oko kateni* 'come and go and', the ending *–teni* 'and' shows that the sequence functions as a main verb in that the ending follows exclusively predicates. For this reason, nothing follows the sequence. The last imperative *ola kala* 'come and go' combines with *kelita* and *hata*. It cannot go with *nolta* due to the semantic incompatibility. Also for this sequence, the case where there is no following component is not permitted since it functions as an (object) argument in a construction.

The second difference from the previous domains is that the constructions where 'come and go' occurs straddle various semantic domains of *kata*-specific constructions discussed so far.

Semantic domain	Permitted	Actual frequency
1. Physical motion	Y	15
2. Change in social status	Y	0
3. Cyber motion	Y	2
4. Change of state	Y	3
5. Abstract motion (+Physical motion)	Y	3
6. Mathematical motion	Y	0
7. Doing an activity	Y	0
8. In any case	N	0
9. Sometimes	N	0

Table 18. Permission of occurrence and frequency in each semantic domain

As shown above, even though 'come and go' is permitted to occur in the seven semantic domains, it did not in the three domains. The instances of these cases are illustrated as follows.

(90)   a. change in social status
            kamok-ey   wassta   kassta   hata
            jail-to   came   went   do
        '(somebody) goes back and forth between being a prisoner and not
         being a prisoner'
        b. mathematical motion
            yangpyen-ul   wassta   kassta   hata
            both sides-DIR[47]   came   went   do
        '(an abstract entity such as mathematical process) goes back and forth
         between the two sides of a polygon'
        c. doing an activity
            chiryo-lul   wassta   kassta   hata
            therapy-ACC   came   went   do
            '(somebody) goes back and forth between doing therapy and not
             doing it'

In (90a) and (90c), it appears that the verb meaning 'come' plays a role of affirmation and

the verb meaning 'go' functions as negation, which aligns with the discussion in section

4.4.

        As implied in the three instances, noteworthy is that there is an implicit reference

point which makes a distinction between 'come' and 'go' across semantic domains.

Instances of each semantic domain where 'come and go' occurred and a diagram of the

reference point are as follows.

    (91) a. physical motion
            i. melli   wa-ssta   ka-ssta   ha-ki-n   ha-ci
               far   come-PST   go-PST   do-NMLZ-TOP   do-DC
               '(It is true that something or somebody) do coming and going far'
            ii. tangtangha-key   lopi-lul   wa-ssta   ka-ssta   ha-myense
                imposing-ly   lobby-ACC   come-PST   go-PST   do-while
                'while imposingly doing coming and going in the lobby'
            b. cyber motion
            intheneys-ulo   wa-ssta   ka-ssta   ta   wa-ssta   ka-ssta   ha-

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nuntey
internet-through   come-PST   go-PST   all   come-PST   go-PST
do-and
'all (of something such as information) does coming and going, coming and going through the internet and'

c. change of state

i. phichi-nun   i   sengmwun-uy   khuki-ka   wa-ssta
   pitch-TOP   this   glottis-POSS   size-NOM   come-PST

   ka-ssta   ha-nun
   go-PST   do-adnominal
'As for pitch, (it shows that) the size of this glottis varies' Lit. 'As for pitch, (it shows that) the size of this glottis does coming and going'

ii. tolaka-si-l   ttay-ka   toy-myen   ikey
   cengsin-i
   pass away-HON-adnominal   time-NOM   become-if   like this
   spirit-NOM

   wa-ssta   ka-ssta   ilekey   ha-nta-kwu
   come-PST   go-PST   like this   do-DC-CJPRT
'If it is time to pass away, someone's (usually old person) spirit is unstable like this.' lit. 'If it is time to pass away for somebody, the spirit do coming and going like this.'

d. abstract + physical motion

i. kekise   hangsang   kongmwun-i
   there   always   an official document-NOM

   wa-ssta   ka-ssta   ha-kwu-yo
   come-PST   go-PST   do-CJPRT-DC
   'There, an official document always does coming and going'

ii. kwuitu-ka   icey   oynccok-ey   pwuphel-hako   kachi
   Kuyt-NOM   now   left side-on   Buffel-with   together

   i   kongkeyk-ul   wa-ssta   ka-ssta   ha-ta-ka
   this   attack-ACC   come-PST   go-PST   do-DC-CJPRT
'Kuyt attacks back and forth with Buffel on the left side now and' Lit. 'Kuyt does coming and going of attack together with Buffel on the left side now and'

iii. Kanghan   cenpwu-lanun   ku   uymi   haysek
   Strong   government-so called   the   meaning   interpretation

   ttaymwuney   kongpangcen-i   o-ko   ka-teni
   because of   offense and defense-NOM   come-connective marker   go-

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connective marker

'Because of the semantic interpretation of so called strong government, offense and defense went back and forth'
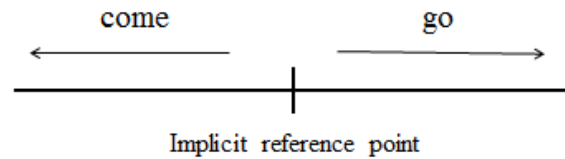

Figure 9. Reference point of 'come and go'

Regarding physical motion, it is described that a physical entity, whether it is animate or inanimate such as vehicle, moves back and forth from a reference point, which is neutral. The reference point does not involve a certain good or bad connotation in it but functions as a mere locational anchor point. As was argued in section 4.4, this is because there is no component involving a certain positive or negative connotation in the argument structure constructions. Thus, 'come' merely denotes that the entity moves toward the point. In contrast, 'go' describes moving away from the reference point. This works the same way in cyber motion as shown in (91b). What is different from physical motion in cyber motion is merely that an entity is not a physical one, but a cyber entity such as information or data, which seems to be between physical and abstract.

As to change of state, the reference point may be either neutral or a normal state, depending on the component in the argument structure constructions. For instance, in (91ci), an explanation is given on a phonetic concept of pitch with the description of the change of the size of glottis. Since the size of glottis does not involve any connotation, the reference point implied is neutral and relates to the time when glottis remains constant in this case. Like previous domains such as physical and cyber motion, the interpretation in this case of change of state involves the reading of moving toward or away from the

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reference point, which boils down to change of state. On the other hand, as there is change of state involved in an entity of a certain connotation, there are cases where the reference point is no longer neutral. In (91cii), the proposition is about an unstable state of a person and thus, the reference point in this case is a normal state. If the person's state is off the state, it is described as 'going' and becoming close to death. If the person's state becomes back to normal, it is described as 'coming' becoming far from death.[48]

Finally, there is a domain where either abstract or physical motions, or both at the same time are involved. In the three instances in (91d), it is not clear whether the entity (i.e. an official document, attack, offense and defense) is abstract or physical. It seems both interpretations are possible. For instance, attack may mean the physical motion of a ball in a soccer game, or the activity of attack is understood as motion. Also, offense and defense may denote the physical motion of participants' voice, or the abstract concept. To put it differently, abstract communication is viewed in terms of physical motion. In any rate, it appears that there is an implicit reference point, which is purely locational.

The last difference compared to the previous semantic domains is related to register. 'Come and go' less frequently occurs in written registers and formal spoken registers than other semantic domains. This is because the pair involves a greater degree of informality triggered by the combination of the two native verbs. Even though it is

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[48] (92) Ku-nun   cengsin-i   olak   kalak   ha-nta
         He-NOM   spirit-NOM   coming   going   do-DC
         'His spirit is unstable'. Lit. 'As for him, the spirit does coming and going'

Lee (1999) argues that the above sentence expresses change of state where a person repeats arriving at normal spiritual state with discernment and digressing from it. Further, according to the Korean standard dictionary, the phrase *olak kalak* is an adverb, which is again the case of lexicalization. However, this is not the case for other 'come and go' pairs such as *wassta kassta*.

impossible to support this argument by providing frequency information of registers as of now, the extremely limited use of the pair in formal registers can be said to be pretty grounded based on my exposure to the Korean language. Simply speaking, it is inappropriate for the Korean president to utter the pair in her public speech.

Additionally, there are 'go and come' pairs as well. They basically express physical motion such as a trip, but also denote change in social status in the sense of finishing military service or getting divorced (i.e. *go* means to get married and *come* means to get unmarried) [49]. The pairs are less common but semantically more straightforward in comparison to 'come and go' pairs. One of their instances is suggested as follows.

> (93) I-nyen   ka-ssta   wa-ya   toy-ko   kwuntay-lul
>   Two-year   go-PST   come-should should-CJPRT military-DIR/FOC
>   '(Somebody or the speaker himself) should serve in the military for two years
>   lit. (Somebody or the speaker himself) should go to military and come in two years

Strictly speaking, both 'come and go' pairs and 'go and come' pairs are not *kata*-specific constructions due to the intervention of 'come'. However, since their observations are considerable and they traverse various semantic domains similar to those in *kata*-specific constructions, they have been introduced as the last member of *kata*-specific constructions.

Throughout this chapter, from 'physical motion' to 'come and go', the discussion has been made in micro analysis. In the concluding chapter, I will discuss the

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[49] 'Go and come' in the sense of divorce is a vulgar way of speaking, which is not allowed in formal settings but is a quite recent use in informal TV show.

implications from Chapter 4 and suggest a generalization with regard to the alternations of argument structure constructions, their inheritance between semantic domains in accordance with semantic extensions (i.e. metaphorical extension and constructionalization), by means of statistical tools from a broader point of view.

5. Conclusion

In the beginning of Chapter 4, the frequency of each semantic domain in *kata*-specific constructions was introduced. The frequency distribution is presented in figure 10.
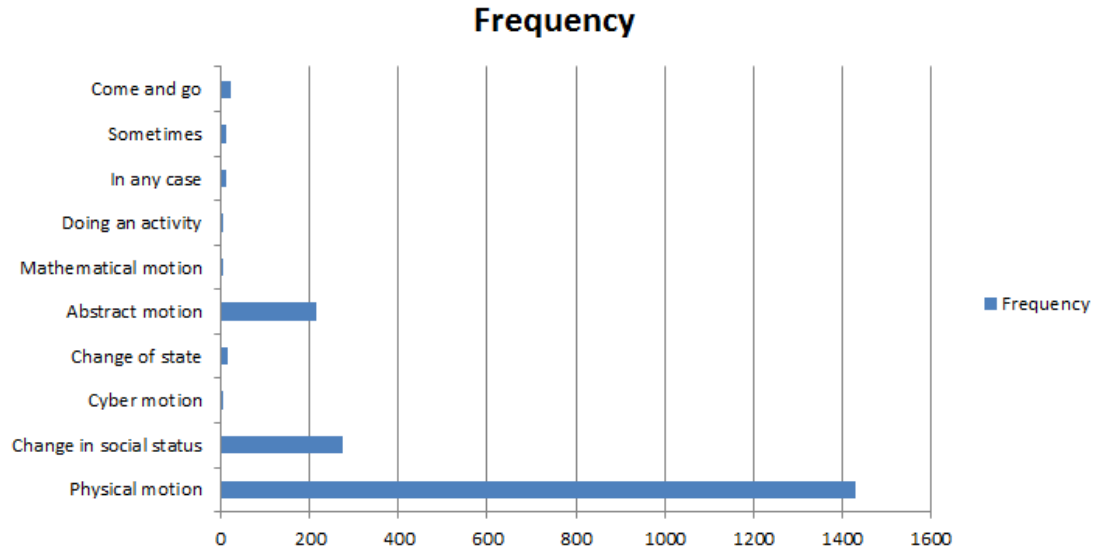
Figure 10. Frequency of each semantic domain in *kata*-specific constructions

As shown in figure 10, it appears that the frequency distribution across the semantic domains in *kata*-specific constructions is extremely skewed toward the physical motion domain. This result challenges the monosemous approach to the verb *kata* taken by some previous studies, which argue that there is a single abstract meaning which works for all of the specified uses of the verb. Considering the frequency distribution, the alleged all-purpose single abstract meaning is not empirically justified. Rather, the result lends support to the assumptions in the current thesis that the physical motion domain is the source domain from which the metaphorical extension and constructionalization derive and that polysemy as well as syntactic variation comes into existence as a result of those.

Of course, there is a strong possibility that the proportion suggested in the figure may not go with the proportion in actual conversation on average. In other words, speakers may talk about abstract motion such as life far more often than physical motion such as going home. In the face of this possibility, the figure based on utterance data, which is almost close to population distribution since recall was maximized in the process of data extraction (Chapter 3), still pinpoints that physical motion is the overwhelming majority. In this regard, at least regarding *kata*-specific constructions, it would be valid to argue that "language representation and use is grounded in our embodied experience with motion in the physical world" (Matlock & Bergmann, 2015: 555).

What should be paid attention to in this chapter is that the semantic extensions leave its trace on the structural side, i.e. the argument structure constructions. The degree of inheritance of argument structure constructions is examined via the types of suffix, i.e. –*ey* 'to', -(*u*)*lo* 'toward', -(*l*)*ul* 'nonstop arrival', and no suffix. This is because the suffix in an oblique phrase is the criterion by which constructions are classified and considered different from each other. The distribution of tokens of the four suffix types across semantic domains, which is expected to play a role of staging area for the upcoming statistical analysis, is presented in table 19. At this point, the polysemy of the suffixes disussed in the previous chapters is not considered for the sake of simplicity and only the broad four categories of suffixes are given focus.

Suffix in an oblique phrase / Semantic domain	*-ey*	*-(u)lo*	*-(l)ul*	No suffix	Suffixes in total
1. Physical motion	223	81	106	492	902
2. Change in social status	10	12	69	157	248
3. Cyber motion	0	4	0	0	4
4. Change of state	1	4	0*	4	9
5. Abstract motion	20	36	3	26	85
6. Mathematical motion	0*	1	0*	0*	1
7. Doing an activity	0*	0*	0	1	1
8. In any case	0*	0*	0*	10	10
9. Sometimes	0*	0*	0*	10	0
10. Come and go	0	2	3	2	7

Table 19. Semantic domains X suffix types with raw frequency

In the table above, there are two types of zeroes: one without an asterisk and the other with it. Zeroes without an asterisk means that even though the suffix is permitted, it merely did not occur in the data. In contrast, zeroes with an asterisk indicate that the suffix is not allowed. As far as zeroes are ambiguous in this way, a stastistical analysis is not viable (Christian Koops P.C.). Instead, there are two ways to overcome this unfavorable situation.[50] The first one is to leave out all the semantic domains with zeroes accompanied by an asterisk, such as 'change of state'. In this way, the surviving domains are only five as presented follows.

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[50] I am grateful to William Croft and Christian Koops for coming up with the two methods for this study.

Suffix in an oblique phrase / Semantic domain	-*ey*	-(*u*)*lo*	-(*l*)*ul*	No suffix	Suffixes in total
1. Physical motion	223 (24.72)	81 (8.98)	106 (11.75)	492 (54.55)	902
2. Change in social status	10 (4.03)	12 (4.84)	69 (27.82)	157 (63.31)	248
3. Cyber motion	0 (0)	4 (100)	0 (0)	0 (0)	4
4. Abstract motion	20 (23.53)	36 (42.35)	3 (3.53)	26 (30.59)	85
5. Come and go	0 (0)	2 (28.57)	3 (42.86)	2 (28.57)	7

Table 20. Surviving five domains with its raw frequency and relative frequency rounded up to two decimal places in parenthesis

Even though quite a few semantic domains disappear, the advantage of this method is that the actual frequencies of the four suffixes are retained. However, the caveat is that due to the different total frequencies (e.g. 902 in physical motion and 85 in abstract motion), raw frequency is highly misleading. Instead, relative frequency, which still preserves the frequency distribution of the four suffixes, will be used in the upcoming statistical analysis.

The second method is binary coding, where no matter how frequent the suffix is, the allowed one is coded as 1 and the disallowed suffix is coded as 0 (cf. Dunn et al., 2005 which attempted the similar method).

Suffix in an oblique phrase / Semantic domain	*-ey*	*-(u)lo*	*-(l)ul*	No suffix
1. Physical motion	1	1	1	1
2. Change in social status	1	1	1	1
3. Cyber motion	1	1	1	1
4. Change of state	1	1	0	1
5. Abstract motion	1	1	1	1
6. Mathematical motion	0	1	0	0
7. Doing an activity	0	0	1	1
8. In any case	0	0	0	1
9. Sometimes	0	0	0	1
10. Come and go	1	1	1	1

Table 21. ten domains with binary coding of the four suffixes

By virtue of this, there is no need to leave out any domain. However, there is a huge loss of the frequency information and some domains (i.e. physical motion, change in social status, cyber motion, abstract motion, come and go) end up all the same even though it is not completely true.   Due to the advantages and shortcomings in each method, it appears that both methods should be implemented separately. The statistical analysis the two methods will be applied to in R is cluster analysis. According to Levshina (2015: 301), "cluster analysis is a family of techniques that can help you discover groups of similar objects in the data." To apply this to the current study, the semantic domains in *kata*-specific constructions are clustered according to their common syntactic similarities. However, the clustering process on the bottom is based upon calculation of the distance via either relative frequencies or binary coding of the four suffix types. That is, distance

in this case is a numerically transformed version of syntactic differences between certain two semantic domains. The discrepancy between the interpretation process based on similarities and its preceding clustering process based on differences may stem from the fact that interpreting based on parallels is far more intuitive and that the notion of distance is inherently driven by differences. If two semantic domains are syntactically less different, the distance between the two will be small. If they are syntactically more disparate, the distance will be large.

There are six distance measures in R: Euclidean, Maximum, Manhattan, Canberra, Binary, and Minkowski (R Core Team, 2016). Out of these, the Canberra and the Binary distance seem to be the best choice for this study. First, Canberra[51] is known to be good at dealing with zero observations which still exist in the table with relative frequency above. Levshina (2015: 307-308) further explains that the Canberra distance "zooms in on the differences between small values, and zooms out from the differences between large values. Therefore, it is very sensitive to small changes near zero, and less influenced by variables with large values." Second, the Binary measure is also known as asymmetric binary. R Core Team (2016) explains that in this measure, "the vectors are regarded as binary bits, so non-zero elements are 'on' and zero elements are 'off'. The distance is the proportion of bits in which only one is on amongst those in which at least one is on". For this reason, the binary measure is optimal for the second cluster analysis in the current study where the coded values are only 0 and 1.

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[51] The formula for this measure is *sum(|x_i - y_i| / |x_i + y_i|)*. R Core Team (2016) states that "terms with zero numerator and denominator are omitted from the sum and treated as if the values were missing. This is intended for non-negative values (e.g., counts)".

By virtue of executing some commands[52], all values which express the syntactic distances between certain two semantic domains are obtained. For the sake of simplicity and convenience, the second cluster analysis with all the ten semantic domains is mainly explained at the moment. First of all, the number of the obtained values is 45. The logic behind this is the same as counting the number of times of shaking hands alternately among ten people. Thus, the notion of combination in mathematics (whose formula was slightly mentioned in section 4.5), which does not factor in the order of selection (i.e. selecting 'physical motion' and 'change of state', and selecting 'change of state' and 'physical motion' are regarded the same) is called for and the formula which leads to 45 is:

(94) the number of distance values between two semantic domains selected out of ten domains

$$10C2 = \frac{10!}{2!(10-2)!} = 45$$

Accordingly, the obtained 45 values are:

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[52] With the function 'dist ( )' which calculates distance in R, the commands d1<-dist(c1,method="canberra") for the first analysis and d2<-dist(c2,method="binary") for the second analysis are executed. The arrow <- means that the object on the right side of it is assigned to the one on the left side it. No matter what the one on the left side of the arrow is, the command should be assigned to something in order for all values produced by the command to be output on surface. For convenience, the commands were assigned to 'd1' and 'd2' respectively.

	1	2	3	4	5	6	7	8	9
2	0.00								
3	0.00	0.00							
4	0.25	0.25	0.25						
5	0.00	0.00	0.00	0.25					
6	0.75	0.75	0.75	0.67	0.75				
7	0.50	0.50	0.50	0.75	0.50	1.00			
8	0.75	0.75	0.75	0.67	0.75	1.00	0.50		
9	0.75	0.75	0.75	0.67	0.75	1.00	0.50	0.00	
10	0.00	0.00	0.00	0.25	0.00	0.75	0.50	0.75	0.75

Table 22. Distance values between two semantic domains (rounded up to two decimal places)[53]

In the table above, what the numbers from one to ten indicate is: 1 = Physical motion, 2 = Change in social status, 3 = Cyber motion, 4 = Change of state, 5 = Abstract motion, 6 = Mathematical motion, 7 = Doing an activity, 8 = In any case, 9 = Sometimes, and 10 = Come and go. The smaller the number, the semantically closer the domain is to the physical motion domain. The syntactic distance between 'Physical motion' (#1) and 'Change in social status' (#2) is 0, which is the lowest and indicates the two semantic domains are syntactically the same.[54] In contrast, the distance between 'Mathematical motion' (#6) and 'Doing an activity' (#7) is 1, which is the biggest and shows that they syntactically have nothing in common. Finally, there are quite a few blanks in the table

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[53] The obtained ten values rounded up to two decimal places for the first analysis with five domains are:

	1	2	3	4
2	1.87			
3	4.79	4.88		
4	1.87	3.28	4.26	
5	3.00	2.88	4.26	2.60

What numbers refer to is: 1= Physical motion, 2 = Change in social status, 3 = Cyber motion, 4 = Abstract motion, 5 = Come and go. This shows that the most syntactically similar domains to 'physical motion' are 'change in social status' and 'abstract motion'. However, without round-off, the closest domain to physical motion is abstract motion, which will be the key discussion in the end of this chapter.

[54] Again, this works only under the condition of binary coding and it is not the case that the two domains are syntactically exactly the same.

above. They are triggered either when selected two domains are the same (e.g. 'cyber motion' (#3) and 'cyber motion' (#3)) or when the distance between two different domains was already produced in the previous column.

Finally, on the basis of the obtained values, semantic domains start to be clustered. Out of many types of cluster analysis, hierarchical agglomerative clustering which "represents all objects as leaves or branches of a clustering tree" (Levshina (2015: 309) will be used. The clustering tree is dendrogram.[55] The dendrograms obtained from the two analyses are presented as follows.
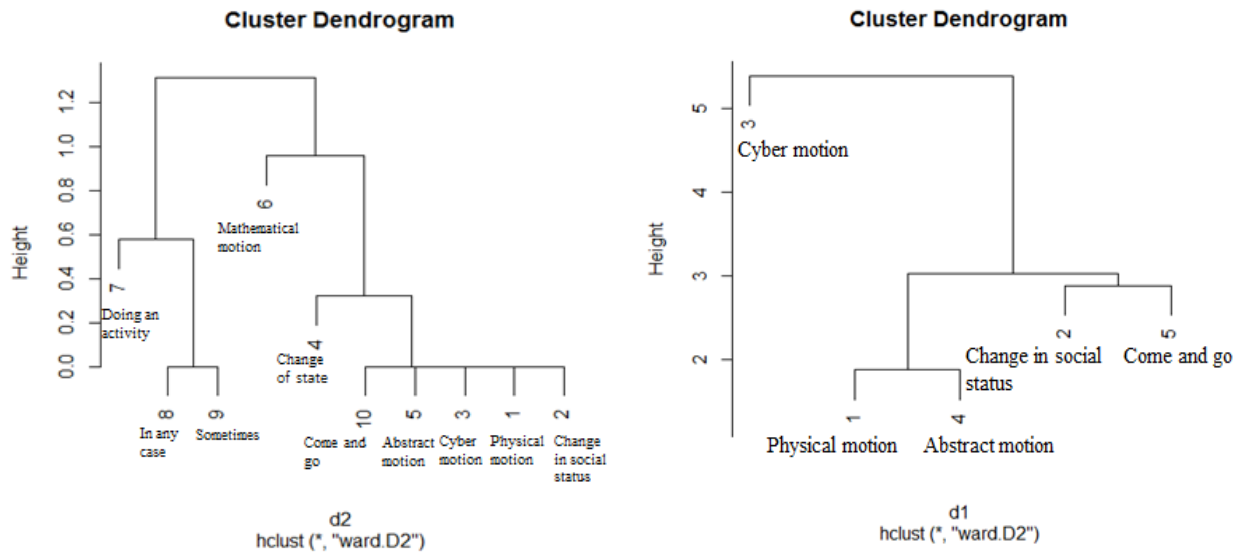

Figure 11. Hierarchical cluster dendrograms:
binary coding of ten domains from bird's-eye view and
relative frequency coding of five domains from worm's-eye view[56]

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[55] To obtain a dendrogram where the semantic domains are represented as branches, the command plot(hclust(d,method="ward.D2")) is executed in R for the both analyses. There are several methods of connecting branches, such as complete, single, average and ward. Out of these, ward (method = "ward.D2"), which is known to yield interpretable results (Gries 2008), is chosen. Levshina (2015: 311) further explains that "the algorithm tries to minimize the increase in the variance in the distances between the members of clusters. This method usually produces compact clusters". On the other hand, hclust ( ) is the function needed to perform hierarchical agglomerative clustering and another function plot ( ) is for visualizing a plot produced by the command following the function.

[56] In the two dendrograms, numbering of semantic domains and the scale on the y-axis (i.e. height) differ. The

Regarding the interpretation of a dendrogram, Levshina (2015: 309) explains that "the lower two elements are merged on the tree, the more similar the merged elements. The higher the merge, the more dissimilar the merged elements." First of all, the interpretation goes to the dendrogram on the left, which shows the syntactic-based clustering of the ten semantic domains from bird's eye view. It is shown that the five semantic domains such as 'physical motion', 'abstract motion', 'cyber motion' are syntactically the most similar to one another. Also, the two domains of lexical constructionalization – 'in any case' and 'sometimes' are also syntactically parallel to a great extent. In the next level, they are merged with 'doing an activity', which is their preceding constructional change. In this way, at the highest position in the dendrogram, the union of the two clans occurs: one clan of constructionalization (i.e. 'doing an activity', 'in any case', 'sometimes') and the other clan of metaphorical extension. This indicates that there is a great syntactic divide between the three domains of constructionalization (i.e. 'doing an activity', 'in any case', 'sometimes') on the one hand and the rest of the seven domains having undergone the metaphorical extension on the other hand. This further casts us an implication that the two types of semantic extensions, i.e. metaphorical extension and constructionalization, leave disparate traces on the syntactic side.

Second, from a more fine-grained perspective, it seems from the dendrogram on the left that the hypothesis in this thesis is borne out to some extent despite some aberrant domains such as 'come and go' and 'change of state' – the closer a certain domain is

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differences in y-axes are due to the different distance matrixes (i.e. Binary and Canberra) applied in the calculation of the distance values.

semantically to the physical motion domain as indicated by numbering in the dendrogram (i.e. the smaller the number, the semantically closer to physical motion), to a greater degree it inherits allowed argument structure constructions from the physical motion domain as shown by merger on the right side. This has been termed as the Principle of Maximized Motivation in the literature and Goldberg (1995: 67) states it as "if construction A is related to construction B syntactically, then the system of construction A is motivated to the degree that it is related to construction B semantically (cf. Haiman 1985a; Lakoff 1987). Such motivation is maximized". Following this principle, it is shown that semantic extensions in *kata*-specific constructions are neither arbitrary nor only focused on semantics. They determine the semantic closeness of a certain domain to the physical motion domain and simultaneously make "mapping of the grammar of the source domain onto the grammar of the target domain" (Gibbs 2015: 170) takes place to a different degree depending on the semantic closeness. In a nutshell, the two mechanisms of semantic extension involved in *kata*-specific constructions – metaphorical extension and constructionalization play a role of an anchor point which provides an inheritance link[57] in the network of *kata*-specific constructions.

However, language is not as easy as we hope and begs further questions. From bird's-eye view, the five domains (i.e. physical motion, change in social status, cyber motion, abstract motion, come and go) on the bottom are camouflaging themselves as if they were five brothers in terms of allowed argument structure constructions. This

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[57] Goldberg (1995: 75) dinstinguishes four types of inheritance link: polysemy links, metaphorical extension links, subpart links, and instance links.

misleading representation is caused by binary coding the first dendrogram is based on. However, if relative frequency is used, the five domains turn out to be very different from each other as shown in the dendrogram on the right. Unlike the previous hypothesis that goes with the principle of maximized motivation, it appears that abstract motion is syntactically the closest neighbor of physical motion, which will be unpacked in a moment. Also, come and go is relatively close to physical motion. If we recall from section 4.10, the domain 'come and go' is an assortment of several semantic domains such as physical, abstract and cyber motion, etc. Out of the entire 23 observations, 15 (65.2%) are physical motion. Considering this, the fact that 'come and go' is syntactically grouped relatively closely with physical motion is not surprising.

The last puzzle to be disentangled in terms of the second dendrogram is how physical motion and abstract motion show the most similar patterns of alternations of argument structure constructions. Their close relationship was already shown in a number of their corresponding sub-domains as repeated follows.

(95) a. passing image schema
    i. physical motion
      senhwa-kongcwu-ka   kil-**ul**   kako   issessupnita
      The Senhwa-princess-NOM   road-DIR   go-CJPRT   PROG (formal polite)
      'The Senhwa princess was going along a road'
    ii. abstract motion
      Swuhakca-loseuy   ku   kil-**ul**   cal   ka-ss-ko
      Mathematician-as   that   route-DIR   well   go-PST-CJPRT
      '(somebody) did a good job in his professional career as a mathematician'
      lit. (somebody) went along the road as a mathematician well
    b. atelic direction motion image schema
    i. physical motion
      Ilpon-**ulo**   ka-se
      Japan-toward   go-CJPRT

> 'go toward Japan and'
> ii. abstract motion
>   pwuncayng-**ulo**   ka-nu-n
>   dispute-toward   go-IN-RL
>   '(something) which goes toward dispute'

As mentioned before, in both cases of (95bi) and (95bii), whether the figure arrived in Japan and dispute respectively is unknown. However, this high degree of correspondence with physical motion does not occur in other domains such as change in social status and cyber motion which are semantically closer to physical motion.

As illustrated in the example sentences above, it appears that image schema (section 4.1) gives a clue for the highest degree of correspondence between physical motion and abstract motion in terms of alternations of *kata*-specific constructions. In terms of source-path-goal, the following four image schemas[58] illustrate translational motion (Talmy 1985: 141) in a different fashion.

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[58] Each schema was already suggested throughout section 4.1 and is recapitulated again here.
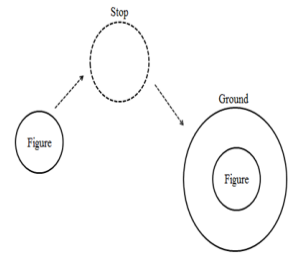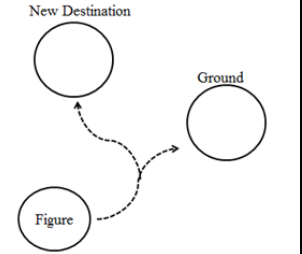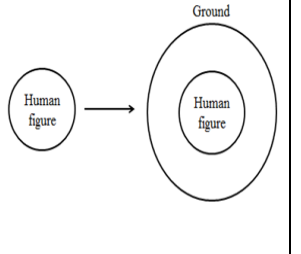
Medium of access to image schema [59]	*-ey*	*-(u)lo*	*-(l)ul*	no suffix
Proposed title in the current thesis	Arrival with digression possible	Atelic direction motion	Nonstop Arrival	Unknown
Image schema				?

Figure 12. Four image schemas deriving from physical motion[60]

Previous studies such as Johnson (1987) and Lakoff (1987) claim that image schemas grounded in physical experiences are foundational in shaping abstract notions, which seem to be a somewhat static perspective. Taking one step further by highlighting the role of language users, I propose that the greatest degree of correspondence between physical motion and abstract motion stems from the fact that Korean speakers actively borrow and use the existing four image schemas founded upon physical motion to express abstract concepts such as time, career as scholar, affection, and so forth due to the absence of way of talking about those per se. In this regard, it may not be fully accurate to say that 'image schemas are projected or preserved for abstract reasoning' equivocating who did it and relegating the role of the agent, which has recurred in the literature. Rather, language

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[59] The suffix is the simplified version of the entire argument structure construction.

[60] Since no suffix does not provide any path semantics, the corresponding image schema is unknown.

users are those who project image schemas by fully making use of them in verbalizing abstract notions. This aligns with one of the fundamental assumptions in usage-based approach – usage shapes grammar. More specifically, the second dendrogram based on relative frequency indicates that language use also plays a pivotal role in providing an inheritance link in the network of *kata*-specific constructions.

Finally, the main conclusions of this thesis are summarized. First, syntactic and semantic variations (i.e. metaphorical extension, grammatical and lexical constructionalization) relevant to the verb *kata* 'go' should be analyzed in the domain of argument structure construction where all the components including the verb are fully specified, i.e. *kata*-specific constructions, but not the verb itself which has been the focus of previous studies. By virture of this, polysemy which has been given excessive attention and syntactic variation that has not been investigated in depth in the literature can be understood in an interactive fashion. Specifically, the first cluster analysis based on binary coding showed that the metaphorical extension and constructionalization starting from the physical motion domain is not limited to the semantic side, but it also influences how and to what extent the allowed argument structure constructions in the physical motion domain are inherited by other semantic domains. This advocates the Principle of Maximized Motivation. However, the second cluster analysis based on relative frequency showed that abstract motion inherits frequency patterns concerning alternations of argument structure constructions from physical motion to the strongest degree, which weakens the principle. This conflict seems to be because the principle does not take extralinguistic motivation into account but the result from the second cluster

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analysis brings language use (i.e. Korean speakers' active utilization of image schemas in physical motion for expressing abstract notions) as another motivation to the forefront.

It follows that language use of extralinguistic nature, which has not yet been recognized as inheritance link in the literature, further casts doubt on the existing assumption in construction grammar that inheritance link exemplifies the Principle of Maximized Motivation (Goldberg 1995: 99) and appears to imply that the principle made a wrong start in part due to its incomplete assumption. Finally, considering all the three types of inheritance link concerning *kata*-specific constructions set forth in the current thesis - metaphorical extension and constructionalization, and language use, it seems that grammar is somehow formed via motivation, either intralinguistically (i.e. semantics) or extralinguistically (i.e. language use). This is what makes *kata*-specific constructions grouped as an organized set in two different ways.

Getting into smaller details, semantic components of motion involved in *kata*-specific constructions are classified as: figure, ground (source, intermediate route-road type/non-road type, goal-arrival/direction point), path, and manner. Out of these, figure and ground nominal are most influential in determining semantic domains due to their conceptual autonomy. Also, in terms of intuitive analysis by which the ten semantic domains were classified, figure and ground nominal were the leading cues. On the other hand, the semantic domains which were newly shed light on in this thesis are: 'change in social status', 'cyber motion', 'mathematical motion', 'doing an activity', 'in any case', and 'sometimes'. In the literature, grammatical constructionalization has been discussed mostly in terms of *kata* as an auxiliary (section 2.2). In this regard, constructionalization

involved in *kata* as a main verb, which was discussed regarding 'doing an activity', 'in any case', and 'sometimes' is noteworthy.

The encoding strategy in *kata*-specific constructions is double framing strategy (Croft et al. 2010) in that both *kata* and a suffix in an oblique phrase mark path. It has been further shown that the path semantics in the three directional suffixes, i.e. –*ey* 'to', -(*u*)*lo* 'toward', -(*l*)*ul* 'nonstop arrival', is not redundant but very crucial in that they specify path semantics that are not included in the path verb *kata*. This is a different perspective from the previous studies, which have belittled the semantic contribution of the suffixes. Before we finally finish this long journey on various kinds of motion from physical motion to 'come and go', two suffixes are briefly touched on. First, the most controversial patient marker -(*l*)*ul* comes to function as the directional marker via the coercion of *kata*-specific constructions. The constructional coercion licenses the companionship between -(*l*)*ul* which used to be a patient marker and *kata*, which would have been impossible otherwise. Regarding another suffix type – no suffix, it was found that the suffix type is allowed only when the preceding NP is inanimate and denotes a place. This may be because the preceding NP is transparently a place noun which does not necessarily require a suffix in some languages (William Croft, P.C.). However, even though it accounts for the largest proportion, 48% in the entire data, the idiosyncratic function of it was not clarified enough. This should be investigated in future studies.

Appendices

Appendix 1

In the following table which shows all conjugated forms of *kata* found in the Sejong Corpus, most terminologies and abbreviations are from Sohn (2001).

Abbreviations in morpheme glosses: SH: subject honorific (Since there are age or social relationships which hold between the speaker and the agent of the motion event, 'older or superior person' is in parenthesis for all uses of subject honorific), AH: addressee honorific, IN: indicative, RT: retrospective, RQ: requestive, DC: declarative, Q: interrogative, PR: propositive, IM: imperative, PLN: plain, INT: intimate, FML: familiar, POL: polite, DEF: deferential, AD: adverbializer, RL: relative, ACC: accusative, PST: past, FUT: future, CJPRT: conjunctive

	Hangeul	**Yale Romanization (Morphological structure, underlined one is ender)**	**Meaning in English (speech level of a sentence ender)**	**Frequency**
1.	가다	Ka-ta (go-DC)	citation form 'go'	28
2.	간다	Ka-n-<u>ta</u> (go-IN-DC)	'(someone or something) goes' (PLN)	52
3.	갔다	Ka-ss-<u>ta</u> (go-PST-DC)	'(someone or something) went' (PLN)	215
4.	가서	Ka-se (go-CJPRT)	'after going'	719
5.	갔고	Ka-ss-ko(go-PST-CJPRT)	'(someone or something) went and then'	10
6.	갔구	Ka-ss-kwu(go-PST-CJPRT)	'(someone or something) went and then' in o-raised form	7
7.	가셔서	Ka-sye-se (go-SH-CJPRT)	'after (older or superior person's) going'	2
8.	가셨고	Ka-sy-ess-ko (go-SH-PST-CJPRT)	'(older or superior person) went and then'	1
9.	가는	Ka-nu-n (go-IN-RL)	'go' in adnominal form	389

10	가는데	Ka-nu-n-tey (go-IN-RL-place)	'go but..' or 'given that (someone or something) goes' (background information provider: Sohn 2001:239)	106
11	가셨는데	Ka-sy-ess-nu-n-tey (go-SH-PST-IN-RL-place)	'given that (older or superior person) went'	2
12	가는데도	Ka-nu-n-tey-to (go-IN-RL-place-although)	'although (someone or something) goes'	1
13	갈라	Ka-lla (go-intentive)	'intend to go'	2
14	가지	Ka-<u>ci</u> (go-NOM)	'going' (PLN)	55
15	갔지	Ka-ss-<u>ci</u> (go-PST-suppositive)	'(someone or something) went' (PLN)	37
16	갈지	Ka-l-ci (go-FUT-suppositive)	'Whether to go'	4
17	가실지	Ka-si-l-ci (go-SH-prospective -whether)	'Whether (older or superior person) goes'	1
18	가고	Ka-ko (go-CJPRT)	'(someone or something) go and'	256
19	가구	Ka-kwu (go-CJPRT)	'(someone or something) go and' in o-raised form	80
20	가시고	Ka-si-ko(go-SH-CJPRT)	'(older or superior person) go and'	2
21	가시구	Ka-si-kwu(go-SH-CJPRT)	'(older or superior person) go and' in o-raised form	2
22	가게	Ka-key (go-AD)	'So that (someone or something) goes'	58
23	갔는지	Ka-ss-nu-n-ci(go-PST- IN-RL-whether)	'Whether (someone or something) went or not'	3
24	가셨는지	Ka-sy-ess-nu-n-ci(go-SH-PST-IN-RL-whether)	'Whether (older or superior person) went or not'	1
25	갔어	Ka-ss-<u>e</u> (go-PST-DC)	'(someone or something) went'	108

			(FML)	
26	가셨어	Ka-sy-ess-<u>e</u> (go-SH-PST- DC)	'(older or superior person) went' (FML)	2
27	갔거든	Ka-ss-ke<u>tun</u> (go-PST-provided that)	'provided that (someone or something) went' (FML)	12
28	가셨거든	Ka-sy-ess-ke<u>tun</u> (go-SH-PST-provided that)	'provided that (older or superior person) went' (FML)	1
29	가거든	Ka-ke<u>tun</u> (go-provided that)	'provided that (someone or something) goes' (FML)	6
30	가던	Ka-ten (go-RT)	'used to go' in adnominal form	7
31	갔던	Ka-ss-ten (go-PST-RT)	'went' in adnominal form	21
32	갈라고	Ka-lla-ko (go-intentive-CJPRT)	'intend to go and'	5
33	가려고	Ka-lye-ko (go-intentive-CJPRT)	'intend to go and'	6
34	갈라구	Ka-lla-kwu (go-intentive-CJPRT)	'intend to go and' in o-raised form	11
35	갔더니	Ka-ss-te-ni(go-PST-RT- CJPRT)	'after going'	14
36	갔대	Ka-ss-<u>tay</u> (go-PST-hearsay)	'(I heard that somebody or something) went' (FML)	5
37	가라	Ka-<u>la</u> (go-IM)	Imperative 'go'(PLN)	28
38	가거라	Ka-ke-<u>la</u> (go-IM-IM)	Imperative 'go' (PLN)	1
39	가니	Ka-<u>ni</u> (go-Q)	'(somebody or something) go?'(PLN)	5
40	갔네	Ka-ss-<u>ney</u> (go-PST-DC)	'(somebody or something) went'(FML)	1
41	갈거니	Ka-l-ke-<u>ni</u> (go-FUT-thing-Q)	'(somebody) will go?' (PLN)	1
42	가질	Ka-ci-l (go-NOM-ACC)	'going-ACC'	1

43	가면	Ka-myen (go-if)	'if (someone or something) goes'	169
44	간다면	Ka-n-ta-myen (go-IN-DC-if)	'if (somebody or something) goes'	1
45	갔으면	Ka-ss-u-myen(go-PST-IN-if)	'if (somebody or something) went'	7
46	가시면	Ka-si-myen (go-SH-if)	'if (older or superior person) goes'	4
47	갔는데	Ka-ss-nu-n-tey (go-PST- IN-RL-place)	'after going'	103
48	갑니다	Ka-p-ni-<u>ta</u> (go-AH-IN-DC)	'(somebody or something) will go' (DEF)	5
49	갔습니다	Ka-ss-up-ni-<u>ta</u> (go-PST-AH-IN-DC)	'(somebody or something) went' (DEF)	3
50	가셨습니다	Ka-sy-ess-sup-ni-<u>ta</u> (go-SH-PST-AH-IN-DC)	'(older or superior person) went' (DEF)	1
51	가요	Ka-<u>yo</u> (go-DC)	'(someone or something) goes'(POL)	26
52	가셨어요	Ka-sy-ess-e-<u>yo</u> (go-SH-PST-IN-DC)	'(older or superior person) went' (POL)	1
53	가기	Ka-ki (go-NOM)	'going'	39
54	가는구나	Ka-nu-n-kwu<u>na</u> (go-IN-RL-interjection)	'(somebody or something) will go!'(FML)	4
55	갔구나	Ka-ss-kwu<u>na</u> (go-PST- interjection)	'(somebody or something) went!' (FML)	2
56	가냐	Ka-<u>nya</u> (go-Q)	'(does somebody or something) go?' (INT)	9
57	가자	Ka-<u>ca</u> (go-let's)	'Let's go' (PLN)	23
58	가며	Ka-mye (go-while)	'while going'	1
59	가면서	Ka-myense (go-while)	'while going'	8
60	간	Ka-n(go-PST/adnominal)	Adnominal '(somebody or something) went'	58
61	가겠다	Ka-keyss-<u>ta</u> (go-	'(Someone or	3

		intention or conjecture-DC)	something) will or may go' (PLN)	
62	가더라	Ka-te-<u>la</u> (go-RT-DC)	'(someone or something) went' (PLN)	4
63	가더라고	Ka-te-la-ko (go-RT-DC-CJPRT)	'(someone or something) went'	1
64	가실	Ka-si-l (go-SH-FUT)	Adnominal '(older or superior person) will go'	2
65	갈려	Ka-l-lye (go-FUT-intentive)	'(someone or something) intends to go'	2
66	가려면	Ka-lye-myen (go-intentive-if)	'if (somebody or something) intends to go'	3
67	갈려면	Ka-l-lye-myen (go-FUT- intentive-if)	'if (somebody or something) intends to go'	8
68	가야	Ka-ya (go-should)	'(somebody or something) should go'	68
69	가더니	Ka-te-ni(go-RT-CJPRT)	'after going'	1
70	갈	Ka-l (go-FUT)	Adnominal '(somebody or something) will go'	138
71	가야지	Ka-ya-<u>ci</u> (go-should-DC)	'(somebody or something) should go' (FML)	21
72	갔죠	Ka-ss-<u>cyo</u> (go-PST-DC)	'(somebody or something) went' (POL)	4
73	가죠	Ka-<u>cyo</u> (go-DC)	'(somebody or something) goes' (POL)	5
74	가시죠	Ka-si-c<u>yo</u> (go-SH-let's or confirmation)	'why don't you go or something goes, right?' (POL)	2
75	가기는	Ka-ki-nun (go-NOM-be)	'going is'	1
76	가긴	Ka-ki-n (go-NOM-be)	'going is'	4

77	갔으니까	Ka-ss-unikka (go-PST-since)	'since (somebody or something) went'	2
78	가믄	Ka-mun (go-if)	'if (somebody or something) goes'	3
79	감	Ka-m (go-NOM)	'going'	2
80	가라고	Ka-la-ko (go-IM-CJPRT)	Imperative 'go and'	8
81	가라구	Ka-la-kwu(go-IM-CJPRT)	Imperative 'go and'	3
82	갔다가	Ka-ss-ta-ka (go-PST-DC-after)	'after going'	60
83	갔다고	Ka-ss-ta-ko (go-PST-DC-CJPRT)	'(somebody or something) went and'	2
84	갔었겠죠	Ka-ss-ess-keyss-<u>cyo</u> (go-PST-PST-conjecture-DC)	'(somebody or something) may have gone'(POL)	1
	Total			**3080**

Table 23. 84 conjugated forms of *kata* found in the Sejong Corpus

Appendix 2

The following table is the full list of deverbal nouns regarding section 4.1.6.

#	Hangeul	Yale Romanization	English equivalent	Frequency
1	X차(e.g. 1차, 2차)	X*cha* (e.g.1cha, 2cha)	Xth event (e.g. 1st, 2nd meeting)	8
2	과외	*kwaoy*	tutoring	3
3	실습	*silsup*	practical training	1
4	교육	*kyoyuk*	training	1
5	그거	*kuke*	That (which refers to a preceding deverbal noun)	1
6	나들이	*natuli*	excursion	1
7	낚시	*naksi*	fishing	1
8	농활	*nonghwal*	activities for rural communities	5
9	답사	*tapsa*	field investigation	10
10	대장정	*taycangceng*	long march	1
11	대회	*tayhoy*	Competition or contest	2
12	도망	*tomang*	escape	4
13	등반	*tungpan*	climbing	1
14	등산	*tungsan*	hiking	2
15	면접	*myencep*	interview	3
16	봉사	*pongsa*	volunteer work	1
17	새터	*sayte*	an orientation for new college students	2
18	선교	*senkyo*	missionary work	1
19	시위	*siwi*	demonstration	2
20	식사	*siksa*	having a meal	1
21	엠티	*MT*	school field trip	8
22	여행	*yehayng*	trip	41

23	연수	*yenswu*	training	9
24	오티	*OT*	orientation	4
25	워크샵	*workshop*	workshop	1
26	유학	*ywuhak*	studying abroad	9
27	이민	*imin*	emigration	1
28	이사	*isa*	move	3
29	집들이	*ciptuli*	housewarming party	1
30	출장	*chwulcang*	business trip	1
31	캠핑	*camping*	camping	1
32	피난	*pinan*	evacuation	1
33	하이킹	*hiking*	hiking	1
34	휴가	*hywuka*	vacation	7

Table 24. Full list of deverbal nouns

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