

A USAGE-BASED CONSTRUCTION GRAMMAR
APPROACH TO KOREAN DO-CAUSATIVE
CONSTRUCTIONS

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Abstract: This dissertation examined the two Korean DO-syntactic causatives, *V-key HA* and *V-tolok HA*, from a usage-based construction approach. Previous studies on the two DO-causatives have been heavily grounded in traditional or formalist grammar where the morphemes *-key*, *-tolok*, and *HA* were considered discrete elements, and the meaning of causation was limited to hypotheses about directedness. This dissertation takes the usage-based constructionist approach, treating *V-key HA* and *V-tolok HA* as individual constructions, pairing each form to its meaning. Also, this dissertation brings the cognitive linguistic notions of action chain and force dynamics to explore the semantics of the causative that the two constructions deliver in discourse. To answer questions about the synchronic usages of the two constructions and their relevance to the diachronic change of *-key*, *-tolok*, and their causative constructions, *-key HA* and *-tolok HA*, this dissertation explored both diachronic historical corpora and synchronic present-day corpora. The first part of the dissertation explored the semantic change of *V-key* and *V-tolok* and their development into the causative constructions, *V-key HA* and *V-tolok HA* from the 15th century to the early 20th century. The second part of the dissertation explored the synchronic usages of the two constructions in contemporary written newspaper corpora. The findings revealed that subjectification, pragmatic inferencing, metonymy, chunking, repetition, and habituation played key roles in semantic change and grammaticalization. The findings also showed the polysemous causative senses both constructions share and the distinctive central sense of each construction. The different event profiles each construction denotes trace back to the original semantics of *V-key* and *V-tolok*. This dissertation argues for the value of the usage-based constructionist approach to the study of competing constructions in Korean and the relevance of diachronic evidence in the analysis of contemporary constructions.

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LIST OF LINGUISTIC GLOSS ABBREVIATIONS

ACC	Accusative	INTR	Interrogative
ADV	Adverb(ial)	LOC	Locative
ADN	Adnominal	NEG	Negation, negative
AUX	Auxiliary	NF	Non-finite
BEN	Benefactive	NOMI	Nominalizer/nominalization
CAUS	Causative	NOM	Nominative
COMM	Committal	OBJ	Object
COMP	Complementizer	OBL	Oblique
CONN	Connective	PASS	Passive
COP	Copula	PL	Plural
DAT	Dative	POSS	Possessive
DEC	Declarative	PRS	Present
ENDER	Sentence/clause ender	PROG	Progressive
FUT	Future	PST	Past
GEN	Genitive	PURP	Purposive
IMP	Imperative	QUOT	Quotative
IND	Indicative	REL	Relative
INS	Instrument	TOP	Topic

Adapted from The Leipzig Glossing Rules and Sohn (1999)

CHAPTER I

INTRODUCTION

This dissertation aims to examine the two competing syntactic causatives in Korean, also known as DO-causatives, *V-key HA* and *V-tolok HA*, from a usage-based construction grammar approach. While there has been a large body of research on the two Korean DO-causatives, there are lingering questions about the syntactic and semantic similarities and differences between the two constructions. Before I explain them in detail, let me briefly introduce the two DO-causatives.

The Korean syntactic DO-causative involves a combination of the connective *-key* or *-tolok* with the verb *ha* ‘do’¹ as in Examples (1) and (2).

- (1) *yumi-nun yunswu-eykey sakwa-lul mek-key ha-yss-ta*
Yumi-TOP Yunswu- DAT apple-ACC eat-CAUS-PST-DEC
‘Yumi had Yunswu eat an apple.’

- (2) *yumi-nun yunswu-eykey sakwa-lul mek-tolok ha-yss-ta*
Yumi-TOP Yunswu-DAT apple-ACC eat-CAUS-PST-DEC
‘Yumi had Yunswu eat an apple.’

¹ Instead of *ha* ‘do,’ *mantul* ‘make’ can also be used. This dissertation only focuses on the DO-causatives.

The different forms of the two causatives, V-*key HA* and V-*tolok HA* have been described as delivering causative meaning with some semantic differences in the degree of directedness and affectedness. For example, previous studies on Korean syntactic causatives have mainly described the differences between *-key HA* and *-tolok HA* in terms of the frequency and the directness of causation. Yeon and Brown (2011) explained the difference between *-key HA* and *-tolok HA* as follows: “the causative form *-key ha-* can be replaced with the alternative pattern *-tolok ha-* with little change in meaning. The proposed difference is that *-tolok ha-* appears at a lower frequency than *-key ha-* and also makes the causation sound softer or less direct” (p. 231). As we see, this proposed difference in meaning is vague and limited in its ability to fully capture the conceptual meanings of different types of ‘causation.’

Similarly, Seo (1987) earlier suggested that causative sentences with *-key* encode a stronger affectedness on the causee NP than those with *-tolok ha*, and further argued that *-tolok ha* is not a true causative². He supported his argument from the case marking for the causee NP; suggesting that it is typical to mark the causee NP with the nominative case in the *-tolok ha* form and with the accusative case in the *-key ha* form. Seo posited that the nominative particle indicates a high volition of the causee NP to carry out the forced action, which makes the affectedness of the causative low. In the meantime, the use of an accusative particle for the causee NP indicates the affectedness of the causative is high. Seo further claimed that it is odd to mark the causee NP with the nominative case particle with *-key ha* and the accusative case particle with *-tolok ha*, based on researcher-generated sentences.

One problem with his approach is that the posited patterns do not always appear in naturally occurring discourse, as seen in (3). This newspaper opinion previously discussed reparations made by

² However, many studies (e.g., Kim, 1997, Song, 2015) argue that both V-*key HA* and V-*tolok HA* are syntactic causatives.

war crime countries. The ongoing topic was Germany and their reparation efforts were discussed for victim countries, such as France and Poland.

- (3) *panmyen ilpon-un yenhapkwun-i ku-tul-uy chenhwang-cheycey-lul*
 whereas Japan-TOP Allied Force-NOM that-PL-GEN emperor-system-ACC
kutaylo yuciha-key ha-y kwake-lul chengsanha-l swu eps-nun
 as.it.is maintain-CAUS-CONN past-ACC settle-ADN possibility not.exist -REL
kil-ul kel-e wa-ss-ta
 path- ACC walk-CONN come-PST-DEC

‘On the other hand, as for Japan, because the Allied Force had (Japan) maintain their emperor system, (Japan) has walked toward the path that cannot settle the past.’

(2002, *The Hankyoreh*)

After a review of Germany in the previous discourse context, in (3), the discourse topic switches to Japan. Accordingly, the causee NP ‘Japan’ is morphologically marked with a topic particle *un*. Since Korean is a topic-comment language, in this example, we observe the topic (Japan) is fronted at the beginning of the sentence, which provides a contrast to the previous topic (Germany). This causee NP marked with non-accusative case particle contradicts with Seo’s (1987) argument that the causee with *-key ha* is marked with the accusative case particle. Accordingly, the proposed high affectedness of the causative that the *-key ha* form delivers is unclear. Historically, following the unconditional surrender of Japan, the Allies permitted (but did not force) the Japanese to retain their imperial system. Despite calls from war victims to have Emperor Hirohito tried as a war criminal, the Allies did not force Japan to keep or retain their emperor.

Thus, (3) shows that the previous hypotheses about the DO-causatives do not adequately describe their usages in naturally occurring language: Contrary to Seo (1987), the causee NP ‘Japan’ in (3) with the *-key ha* causative is not marked with the accusative case, and the claim of direct causation or affectedness delivered by *-key ha* is not supported in the discourse. Similarly, in naturally

occurring data, we see many other counter-examples where the causee's case particle is not confined to an accusative particle with *-key ha*, and the directiveness meaning is not always found.

This dissertation started by exploring an answer to such lingering issues. Indeed, one problem with many previous studies of Korean syntactic causatives is that they were largely based on sentence-level syntactic rules without considering the discourse and contexts. Because Korean is a discourse-prominent language, the indisputable relation of a syntactic form and its meaning must be captured through discourse (Strauss, Lee, & Ah, 2006). Distinct from the extensive previous literature on the *V-key HA* and *V-tolok HA* causatives grounded in traditional or formalist grammar, this dissertation applies theories in cognitive linguistics to examine the *V-key HA* and *V-tolok HA* causatives: a usage-based approach (Langacker, 1987; Barlow & Kemmer, 2000; Bybee, 2001; Bybee & Hopper, 2001), construction grammar (Croft & Cruse, 2004; Goldberg, 1995), and force dynamics (Talmy, 1976, 1988, 2000). Examining naturally occurring language is essential in the usage-based approach because language emerges from its usages. In construction grammar, syntactic structures are seen as symbolic units, which are the combination of a certain form and meaning. This symbolic unit is called a construction, which is the basic unit of grammar. Within this approach, the competing Korean syntactic DO-causatives are regarded as individual constructions, *V-key HA* and *V-tolok HA*, each with its own distinctive meaning in discourse. To guide the conceptual meaning of causation, this study takes Talmy's force dynamics (1976, 1988, 2000), which describes the interaction between force entities in a wide range of realms (e.g., from physical to psychological).

Questioning the previously suggested difference between two syntactic causative forms *-key HA* and *-tolok HA*, this dissertation focuses on the syntactic, semantic, and pragmatic features of the *-key HA* and *tolok HA* constructions from usage-based construction approach, analyzing naturally occurring written data. As language changes diachronically and synchronically, this dissertation first examines diachronic data from the late 15th century to the early 20th century to reveal the semantic change of *V-key* and *V-tolok* and their path of constructional change to the causative constructions,

V-key HA and *-tolok HA*. The synchronic usages of the two causatives are further examined through contemporary written news data. The data were analyzed both quantitatively and qualitatively. For the quantitative data analysis, along with the frequency data, I also applied the distinctive collexeme analysis (Gries & Stefanowitsch, 2004) from corpus linguistics to explore the quantitative differences between the two causative constructions. Qualitatively, the meaning of causation of each construction was explored in discourse, taking the notions from the force dynamics.

Broadly, this dissertation aims to answer the following research questions:

- 1) What semantic changes occurred in *V-key* and *V-tolok* and how do these relate to their path of constructional change into the causative constructions, *V-key HA* and *V-tolok HA*?
- 2) What are the synchronic usages of the *V-key HA* and *V-tolok HA* constructions?
- 3) What is the relevance of the diachronic change of *V-key HA* and *V-tolok HA* to their synchronic usages, if any?

This dissertation is composed of five chapters. Chapter II first reviews the theoretical underpinnings of the usage-based approach; construction grammar; semantic change and grammaticalization; and force dynamics and causation. Chapter II further reviews previous literature on the diachronic and synchronic usages of the two DO-causative constructions and lingering issues. Chapter III presents the method, findings, and discussion of the diachronic study where the first research question is explored through historical corpora. Chapter IV presents the method, findings, and discussion of the synchronic study where the second and the third questions are explored through present-day written newspaper corpora. Finally, Chapter V concludes the dissertation.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 A Usage-based Approach and Construction Grammar

In this section, I review a few key tenets of the usage-based approach (Langacker, 1987; Kemmer & Barlow, 2000; Bybee, 2001, 2010; Bybee & Hopper, 2001). A usage-based model of language proposes that the knowledge of the language is informed by language use, and grammar is emergent from its use by language users in contexts. This emergent view is distinct from the assumption that language is generated by abstract rules and domain-specific processes. The usage-based approach views language and linguistic structure as processed through human domain-general cognition processes, which are not specific to language. These domain-general cognition processes include “categorization, chunking, rich memory storage, analogy, and cross-modal association” (Bybee, 2010, p. 7). Below, I repeat the definitions of each term from Bybee (2010).

- Categorization: “the similarity or identity matching that occurs when words and phrases and their component parts are reorganized and matched to stored representations” (p. 7)
- Chunking: “the process by which sequences of units that are used together cohere to form more complex units” (p. 7)

- Rich memory: “the memory storage of the details of experience with language, including phonetic detail for words and phrases, contexts of use, meanings and inferences associated with utterances” (p. 7)
- Analogy: “the process by which novel utterances are created based on previously experienced utterances” (p. 8)

With these domain-general processes, instead of focusing entirely on the grammatical structures within a sentence, the usage-based approach examines actual utterances in context, as noted in Croft and Cruse (2004), “in the usage-based model, properties of the use of utterances in communication also determine the representation of grammatical units in a speaker’s mind” (p. 292). In this sense, grammar is understood as “the cognitive organization of one’s experience with language” (Bybee, 2010, p. 8), and the construction “provides a very appropriate unit for morphological and syntactic representation” (p. 9).

Accordingly, the usage-based approach aligns with the construction grammar approach (Croft and Cruse, 2004; Goldberg, 1995), which views that the knowledge of grammar is construction-based. A widely used definition of construction in construction grammar can be found in Goldberg (2006) as follows:

“any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions known to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency” (p. 5).

This so-called form-meaning pairing of constructions is expected at all levels, from morphemes to fully general linguistic patterns, as shown in Table 2.1 from Goldberg (2003, p. 220).

Table 2.1 Constructions and examples (from Goldberg, 2003, p. 220)

Construction	Form/Example	Function
Morpheme	e.g. <i>anti-, pre-, -ing</i>	
Word	e.g. <i>Avocado, anaconda, and</i>	
Complex word	e.g. <i>Daredevil, shoo-in</i>	
Idiom (filled)	e.g. <i>Going great guns</i>	
Idiom (partially filled)	e.g. <i>Jog <someone's> memory</i>	
Covariational- Conditional construction	Form: The Xer the Yer (e.g. <i>The more you think about it, the less you understand</i>)	Meaning: linked independent and dependent variables
Ditransitive construction	Form: Subj [V Obj 1 Obj 2] (e.g. <i>He gave her a Coke; He baked her a muffin</i>)	Meaning: transfer (intended or actual)
Passive	Form: Sub aux VPpp (PP _{by}) (e.g. <i>The armadillo was hit by a car</i>)	Discourse function: to make undergoer topical and/or actor non-topical

The wide range of constructions can also be found in the syntax-lexicon continuum from Croft and Cruse (2004) as repeated in Table 2.2.

Table 2.2 Construction continuum (from Croft & Cruse, 2004, p. 255)

Construction type	Traditional name	Examples
Complex and (mostly) schematic	syntax	[SBJ <i>be</i> -TNS VERB <i>-en by</i> OBL]
Complex, substantive verb	subcategorization frame	[SBJ <i>consume</i> OBJ]
Complex and (mostly) substantive	idiom	[<i>kick</i> -TNS <i>the bucket</i>]
Complex but bound	morphology	[NOUN- <i>s</i>], [VERB-TNS]
Atomic and schematic	syntactic category	[DEM], [ADJ]
Atomic and substantive	word/lexicon	[<i>this</i>], [<i>green</i>]

As seen from Tables 2.1 and 2.2, construction grammar posits that the unit of grammar is constructions, which can be highly complex and schematic with the linguistic patterns without any filled lexical items (e.g., ditransitive construction and passive) and be highly atomic and substantive as words (e.g., ‘Avocado’ and ‘this’).

Bybee (2006) points out that construction-based grammar has an agreement on a basic point: “Cognitive representations of grammar are organized into constructions which are partially schematic, conventionalized sequences of morphemes with a direct semantic representation” (p. 716). These sets of units are experienced in contexts, and the linguistic experience is memorized

and stored in our cognitive domain like any other life experience. Bybee calls this item-based experience the exemplar model. Every time we encounter language, all information, including the context and linguistic features, are stored as a whole experience; accordingly, each token of experience influences the memory of linguistic items. As each token of experience impacts the memory of linguistic items, token, and type frequency are important factors in grammatical representation. Frequency is further related to entrenchment as noted in (Kemmer & Barlow, 2000): “Higher frequency of a unit or pattern results in a greater degree of what Langacker terms entrenchment, i.e., cognitive routinization, which affects the processing of the unit. [...] The role of frequency in leading to the entrenchment of units in the linguistic system is a crucial aspect of Langacker’s and Bybee’s models” (p. x).

Token frequency – the number of times a particular string occurs in a text or corpus – contributes to creating exemplar clouds, from which schemas may then develop. As the token frequency of certain linguistic items in a certain context becomes higher, the specific item becomes entrenched in our cognitive domain. For example, usage events such as ‘I wanna go; I wanna drink; I wanna leave’ appear with high token frequency. Their phonological and semantic similarity leads them to be grouped together, and they build exemplar clouds. Type frequency – the number of items that may occur in a slot in a schema (for example, the X in ‘*I wanna X*’) – are involved in the productivity of the schema or “the degree of entrenchment of a schema” (Croft & Cruse, 2004, p. 309). For example, in the ‘I wanna X’ schema, if only a limited number of words can occur in the X slot, the construction would have less productivity than a general schema like ‘*be going to V*,’ which would allow many items in a given slot ‘V.’ As the type and token frequency become higher, commonalities in the expressions are accessible in our cognitive domain as a schema, such as ‘I wanna X’.

Thus, the usage-based approach, which is also considered as the constructionist approach, does not posit abstract rules to generate sentences but posits the “what you see is what you get”

approach to syntactic form” (Goldberg, 2003, p. 219) and posits the constructions as “the basis of the input and general cognitive mechanisms (they are constructed)” (p. 219). These main tenets are also found in the constructionist’s study of unusual patterns, and one example is found in Goldberg (2003) as repeated in Table 2.1, the covariational-conditional construction, ‘The Xer the Yer.’ According to Goldberg (2003), in the covariational-conditional construction, the first phrase serves as an independent variable, and the second phrase serves as a dependent variable. In traditional generative grammar, the demonstrative ‘the’ occurs in the noun phrase. However, in this construction, the two major phrases ‘the Xer’ ‘the Yer’ are neither noun phrases nor clauses. Also, these two major phrases do not occur with a conjunction, which is not predictable. Thus, ‘the Xer the Yer’ is not predictable from its components, and it is stored as a construction specifying its particular form and function. This is further related to the notion of compositionality. As noted in Goldberg (1995), “Frege is generally acknowledged to have originally formulated the idea that semantics need to be compositional: the meaning of every expression in a language must be a function of the meanings of its immediate constituents and the syntactic rule used to combine them” (p. 13). As we have seen from the covariational-conditional construction, this traditional view of compositionality does not fully explain all linguistic patterns.

Constructions are systematically organized, where the following two principles (among many) are involved (Goldberg, 1995).

I. The Principle of Maximized Motivation: “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. Such motivation is maximized” (Goldberg, 1995, p. 67).

II. Principle of No Synonymy: “If two constructions are syntactically distinct, they must be semantically or pragmatically distinct” (Goldberg, 1995, p. 67).

The principles resonate the tenets of the construction grammar as the grammar is not a result from abstract rules or underlying syntax. Rather, the grammar emerges from the usage of the language in actual conversation between speakers. From this social interaction, domain-general cognitive skills (e.g., categorization) are applied. This domain-general human cognition is also reflected in constructions, which is also known as motivation. “With respect to constructions, motivation can be observed in the fact that formally similar constructions also tend to be semantically similar” (Hilpert, 2007, p. 19). As the principle of maximized motivation states, “language tends to maximize semantic overlap in formally related constructions” (Hilpert, 2007, p. 19). The principle of no synonymy suggests that a difference in two forms assumes differences in their meaning and usage.

Finally, the usage-based approach views language is a “complex adaptive or self-organizing system” (Bybee, 2010, p. 105), which suggests the important role of language change. Thus, understanding the synchronic and diachronic language change is essential to know the language and grammar.

2.1.2 Semantic Change and Grammaticalization

Croft (2000) noted that “the study of language is about empirically real entities, [...]. The real entities are utterances and speakers’ grammars. Language change occurs via replication of these entities, not through inherent change of an abstract system” (p. 4). As such, a usage-based approach is essential in studies of language change. In usage-based approach, language “exhibits a great deal of variation and gradience” (Bybee, 2010, p. 2). These gradience and variation features of language further emphasize the importance of examining language change as noted by Bybee (2010, p. 10): “since all patterns of linguistic structure have an evolutionary history, part of

the explanation for why languages have particular structures must involve reference to how these structures arose.”

Among various areas of language change, this section is particularly interested in semantic change and grammaticalization in relation to the creation of new constructions. A widely used definition of grammaticalization is found in Hopper and Traugott (2003): “The change whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions and, once grammaticalized, continue to develop new grammatical functions” (p. 18). However, a more recent view towards grammaticalization further acknowledges the whole construction, emphasizing that “grammaticalization is the creation of new constructions” (Bybee, 2003, p. 146). Within the construction grammar perspective to the diachronic change of language, Traugott and Trousdale (2013) coined the term “constructionalization,” which is defined as follows: “constructionalization is the creation of $\text{form}_{\text{new}}\text{-meaning}_{\text{new}}$ (combinations of) signs. It forms new type nodes, which have new syntax or morphology and new coded meaning, in the linguistic network of a population of speakers” (p. 22). According to Traugott and Trousdale (2013), grammatical constructionalization is related to the appearance of new grammatical constructions, and it is different from the lexical constructionalization, which is related to the appearance of new lexical items. In distinguishing the grammatical constructionalization from the lexical constructionalization, Traugott and Trousdale (2013) pointed out three aspects of constructionalization: the increase in schematicity, the increase in productivity, and the decrease in compositionality. This dissertation takes the constructionist views (Bybee, 2003; Traugott & Trousdale, 2013) towards grammaticalization that grammaticalization concerns creating new constructions.

Cross-linguistically, grammaticalization involves several processes in common. For one, specific and concrete meanings become more generalized and abstract. Also, the process seems to be unidirectional, following a highly conventionalized grammaticalization path leading to the new

construction. One notable example is 'be going to' (Bybee, 2007), which shows the movement path from the movement toward a goal to the intention to the future. For example, "we are going to Windsor to see the King" (p. 965) begins with the spatial meaning of 'going.' At the same time, the spatial meaning also allows the inference of the intention meaning as 'to see the King' answers the question of 'why are you going to Windsor?' This intentional meaning became more primary, as shown in the example of "we are going to get married in June" (p. 965). This intention meaning further implies the future meaning, which led to the future meaning of 'be going to' as in "these trees are going to lose their leaves" (p. 965). These examples show that the meaning of 'be going to' started with a specific and concrete meaning in relation to the spatial movement and developed into a more general and abstract meaning of intention and future. Such change occurs gradually with variations in form and function. For example, 'be going to' shows a variation in form as 'gonna' and its various meanings of the movement, intention, and future.

This is an example of primary semantic change operating through pragmatic inference, which "represents a large class of semantic changes where some nonlinguistic contextual factor comes to be part of the meaning of the unit in question, and (a fact not emphasized in the literature) the former meaning of the unit is lost" (Croft, 2000, p. 133). Another example is 'since' which originally denoted the temporal meaning of two events as in "I have done quite a bit of writing since we last met" (Bybee, 2007, p. 977). However, the temporal relation between the events are further extended by inference to other relation as noted in Bybee (2007): "since events described in temporal relation often also have a causal relation, that is the first event causes the second, and since speakers and addressees are usually less interested in pure temporal sequence and more interested in causes, a causal inference becomes conventionalized as part of the meaning of since" (p. 977). As such, pragmatic inference is known to play a key role in semantic change.

Subjectification and inter-subjectification are other pervasive key mechanisms of language change (Traugott & Dasher, 2002). The path of semantic change in grammaticalization moves from “meanings grounded in more or less objectively identifiable extralinguistic situations to meanings grounded in text-making (for example, connectives, anaphoric markers, etc.) to meanings grounded in the speaker’s attitude to or belief about what is said” (Traugott and König, 1991, p. 189). As mentioned in Traugott and Dasher (2002), the use of ‘after all’ is an example of subjectification as its meaning is not merely referential or truth-conditional but is more associated with the discursive meaning and developed into a discourse marker. In communication, the addressee/reader tends to infer the meaning of the linguistic expressions by the speaker/reader, and with this process of inference in communication, the meaning becomes more non-literal and polysemic. This change over time leads to semantic change.

Another key mechanism of semantic change in grammaticalization involves metaphorization and metonymization. Metaphorization is “identifiable as the transfer of reference from one semantic domain to another while preserving aspects of the structural relations present in the original meaning” (Bybee, 2007, p. 975). For example, ‘grasp’ in the physical domain refers to the meaning of “seize” and this meaning developed into the meaning of “understand” in the psychological domain. Metaphorization has been regarded as the main factor for semantic change while metonymization had been considered as a minor factor. However, recently, scholars (Barcelona, 2000, Bybee, 2007, Traugott and Dasher, 2002) have been acknowledging that metonymization is another key mechanism for semantic change. As noted in Traugott and Dasher (2002, p. 29): “construed as a conceptual mechanism by which invited inferences in the associative, continuous stream of speech/writing come to be semanticized over time, metonymization provides as rich an explanation as metaphorization for semantic change, and in many cases a richer one (Traugott 1988, Traugott and König 1991).”

Finally, automatization is another key process for grammaticalization as noted in Bybee (2007):

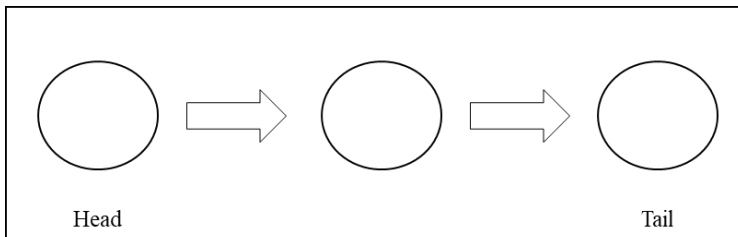
“Some recent studies of grammaticalization have emphasized the point that grammaticalization is the process of automatization of frequently occurring sequences of linguistic elements. [...] With repetition, sequences of units that were previously independent come to be processed as a single unit or chunk. This repackaging has two consequences: the identity of the component units is gradually lost, and the whole chunk begins to reduce in form” (p. 969).

In such changes, domain-general cognitive processes, such as repetition and categorization, also play an important role. The repetition of words in a string lead to an increase in frequency. This high frequency of use further leads to the chunking of the words in a string of words for efficient neuromotor activity. This chunking is well observed from previous studies about English ‘be going to.’ As the words in the sequence occur with high frequency, the unit of the words are more accessed from cognitive storage. Accordingly, they are produced as a unit and become autonomous from the morphemes and words which constitute the unit. Autonomy and high frequency in a chunk lead to the loss of compositionality of the individual morphemes and words; this loss of compositionality is also referred to as bleaching or generalization of meaning.

2.1.3 Conceptualization of Causation

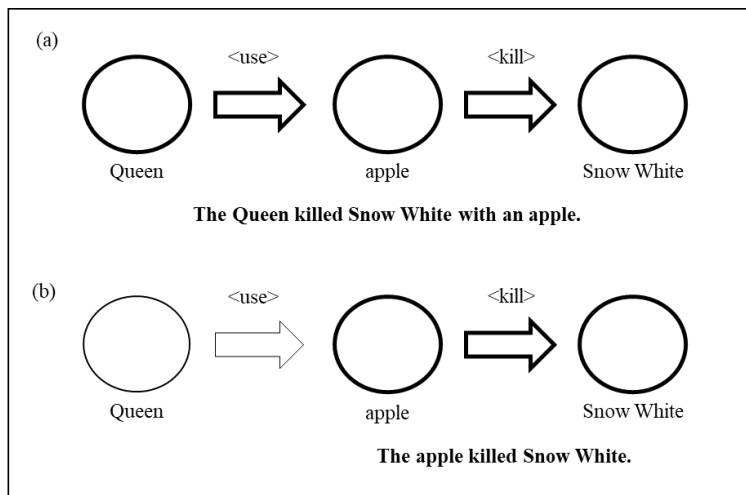
This section reviews the notion of the action chain (Langacker, 1991) and Talmy’s force dynamics (1976, 1988, 2000), which offers an approach to understanding the conceptualization of causation. The concept of causation is understood as a transmission of energy in cognitive linguistics (Langacker, 1991), as shown in Figure 2.1.

Figure 2.1 Action chain (from Langacker, 1991, p. 283)



As shown in Figure 2.1, the circle shape represents an entity, and the transmission of energy is represented through the arrow. The transmission starts from an entity, ‘the head,’ until it reaches ‘the tail.’ Through this notion of the action chain, the clause structure can be described (Gilquin, 2010). Based on given linguistic expressions, different parts of the diagram of the action chain (Figure 2.1) can be profiled³ with a bold line. Figure 2.2 from Gilquin (2010, p. 62) shows the different profiles by linguistic expressions.

Figure 2.2 Linguistic realization of different action chain (from Gilquin, 2010, p. 62)

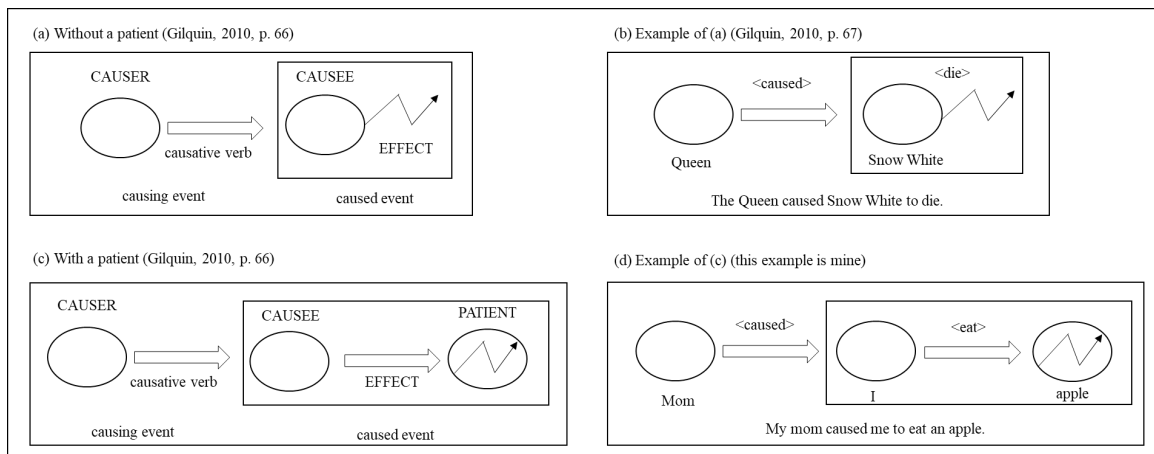


In Figure 2.2, (a) shows the transmission of the energy from the Queen to the apple to Snow White for the sentence ‘the Queen killed Snow White with an apple.’ However, with the gapped expression in (b), the profiled portions are only from the apple to Snow White. As noted

³ “The entity focused by an expression (the one it refers to)” (Langacker, 2011, p. 80).

in Gilquin (2010, p. 63), “using a periphrastic causative construction has the effect of “adding a link at the beginning of an action chain, thereby extending the scope of predication to include the original energy source” (Langacker 1991: 408).” The schematic action chain for the periphrastic causatives is presented in Figure 2.3 with examples.

Figure 2.3 Schematic action chain of a periphrastic causative (adapted from Gilquin, 2010, pp. 66-67)



As shown in Figure 2.3, the causer and causee entities are represented as a circle shape, and the two events, the causing event and the caused event, are presented in a sequence. When the caused event has a patient, the action chain also has another entity, the patient, as a tail of the action chain. The notion of action chain and its representation in the image shows how the concept of causation is construed in the clausal structures.

Another way of understanding the causation is found in Talmy’s force dynamics (1976, 1988, 2000). According to Talmy (2000), force dynamics refers to “how entities interact with respect to force [... and] is a generalization over the traditional linguistic notion of “causatives”: it analyzes ‘causing’ into finer primitives and sets it naturally within a framework that also includes ‘letting’, ‘hindering’, ‘helping’, and still further notions not normally considered in the same context” (p. 409).

Illustrating the force dynamic and force tendency, Talmy (1976, 1988, 2000) presented components of force-dynamic patterns and their representation in diagrams. Talmy first introduced force entities, which are consisted of Agonist, “the focal force entity” (2000, p. 413), and Antagonist, “the force element that opposes Agonist” (p. 413). With these entities, Talmy further explained that “as language treats the concept, an entity is taken to exert a force by virtue of having an intrinsic tendency toward manifesting it – the force may be constant or temporary, but it is in any case not extrinsic” (p. 414). Talmy classified this intrinsic force tendency as either ‘toward motion’ or ‘toward rest.’ These intrinsic force tendencies of the two entities do not have the same strength as one entity has a stronger force tendency than the other entity. Thus, the balance of strengths indicates whether the entity is a stronger entity or a weaker entity. These relative strengths of the two entities’ intrinsic force further yield the result of the force interaction of the two entities, whether the entity maintains its force tendency or is overcome by the stronger entity’s force. This resultant of the force interaction of the two entities are also noted as either ‘toward motion (or action)’ or ‘toward rest (or inaction).’

With these basic notions, Talmy presented different force-dynamic patterns, which include the steady-state force-dynamic pattern. In this pattern, the Antagonist impinges steadily on the Agonist. Examples (1) and (2) from Talmy (2000, p. 416) belong to the steady-state force-dynamic pattern with causative meaning.

- (1) The ball kept rolling because of the wind blowing on it.
- (2) The log kept lying on the incline because of the ridge there.

In (1), two force entities are found: the Agonist (‘the ball’) and the Antagonist (‘the wind’). Their force-dynamic interaction shows the ‘causative’ meaning as the Agonist ‘ball’ did not keep its intrinsic force tendency (i.e., toward rest) as its force tendency was overcome by the

stronger force tendency (i.e., toward motion) of the Antagonist ‘wind’. This type of causative is called ‘toward action.’

In (2), the two force entities are ‘the log’ (Agonist) and ‘the ridge’ (Antagonist). Here, the log has the force tendency toward motion, but this force tendency was not maintained because of the stronger opposing force (i.e., toward rest) from the wind. This type of causative is named as ‘toward rest.’ These two steady-state causative types, (1) and (2), are known as ‘extended causation.’

Another force-dynamic pattern is the shifting force-dynamic patterns. “At this point, another factor can be added – change through time – and with it, the steady-state force-dynamic patterns give rise to a set of change-of-state patterns” (Talmy, 2000, p. 417). One of these patterns involves the shift in state of impingement, as the impingement by the Antagonist enters and leaves rather than staying. Examples (3) and (4) from Talmy (2000, p. 418) show the shift-state of impingement with causative meaning.

(3) The ball’s hitting it made the lamp topple from the table.

(4) The water’s dripping on it made the fire die down.

In (3), the state of the Agonist ‘the lamp’ changed from its intrinsic force tendency (i.e., toward rest) to ‘toward action’ due to the stronger force (i.e., toward motion) from the Antagonist ‘the ball’s hitting.’ The change of state of impingement is also found in (4) as the Agonist ‘the fire’ did not maintain its force tendency (i.e., toward motion) but was overcome by the Antagonist’s force tendency (i.e., toward rest). Both (3) and (4) are classified as causative, and with the shifting state of impingement, (3) and (4) are known onset causation. These four patterns from (1) to (4) are known to constitute the general causative category and have one property in common, which is “the Agonist’s resultant state of activity is the opposite of its intrinsic actional tendency” (Talmy, 2000, p. 418). Further definition of causative from the force-dynamic

perspective can be in Talmy (2000) as “the force-dynamic interpretation is that an object has a natural force tendency and will manifest it unless overcome by either steady or onset impingement with a more forceful object from outside. This is a family of circumstances that language classes together under a single conceptual aegis, one that can appropriately be termed the “causative.”” (p. 419).

Another shifting force-dynamic pattern that is relevant to causative is the ‘letting’ type (See Examples (5) and (6) from Talmy, 2000, p. 418).

(5) The plug’s coming loose let the water flow from the tank.

(6) The stirring rod’s breaking let the particles settle.

In (5), the Agonist’s (‘the water’) force tendency (i.e., toward motion) that was blocked by the stronger Antagonist’s (‘the plug’) opposing force tendency (i.e., toward rest) is now manifested as the Antagonist’s force tendency is disengaged. This example (5) is known as ‘onset letting of motion,’ which is the prototypical letting type. Another letting type, non-prototypical ‘onset letting of rest,’ is shown in (6). In (6), the Agonist’s (‘the particles’) force tendency (i.e., toward rest) that was forcibly not maintained is now maintained as the Antagonist’s (‘the stirring rod’) impingement disappears. Thus, the ending of impingement is related to the ‘letting’ type.

Lastly, the ‘extended letting’ type is possible as secondary steady-state force-dynamic patterns where a stronger Antagonist remains away (steadily disengaged) in the steady-state force-dynamic state (See Examples (7) and (8) from Talmy, 2000, p. 421).

(7) The plug’s staying loose let the water drain from the tank.

(8) The fan’s being broken let the smoke hang still in the chamber.

In (7), the Antagonist ('the plug') is disengaged, and the Agonist ('the water') keeps maintaining its force tendency (i.e., toward motion), and this type is known as 'extended letting of onset.' In (8), the Antagonist ('the fan') is also disengaged, and the Agonist ('the smoke') keeps manifesting its force tendency (i.e., toward rest), and this type is known as 'extended letting of rest.'

As shown in the above examples, we see that the causative types and letting types are defined with respect to the impingement, as Talmy (2000) noted that "causing involves positive impingement: onset causing correlates with the start of impingement and extended causing with its continuation. Letting involves nonimpingement: onset letting correlates with the cessation of impingement and extended letting with its nonoccurrence" (p. 420). The examples from (1) to (8) show force-dynamics in physical domain and physical causation.

The force-dynamics and causation are applied beyond the physical realm as well. For example, it is extended to the psychological realm, where the notion of 'the divided self' from Talmy is relevant. An example is found from Talmy (2000, p. 431) as in (9) and (10).

(9) I held myself back from responding.

(10) I refrained from responding.

In both (9) and (10), the self 'I' shows two different force orientations as one part of the self is toward the action (i.e., responding) while the other part of the self is toward the rest (i.e., not responding).

With the animacy features of the causer and causee, the causative events are classified into four types (Talmy, 1976): inducive causation in which animate causer acts on an animate causee; volitional causation in which an animate causer acts on an inanimate causee; affective causation in which an inanimate causer acts on an animate causee; and physical causation in

which an inanimate causer acts on an inanimate causee. Thus, the notion of force dynamics helps us understand how the meaning of ‘causation’ in various realms is realized in language.

In summary, theories in the usage-based construction grammar, grammaticalization, as well as action chain force-dynamics foreground this dissertation’s approach to examining two different linguistic forms *V-key HA* and *V-tolok HA*. As such, this dissertation posits that *V-key HA* and *V-tolok HA* are causative constructions. How these two constructions manifest the meaning of causation will be explored through the notion of action chain and force-dynamics. Lastly, their path of semantic change and grammaticalization will offer insights into the constructional differences between the two constructions.

In the following section, I will review the diachronic and synchronic studies on the two DO-causatives and lingering issues.

2.2 Korean DO-Causatives: *V-key HA* and *V-tolok HA*

This section presents an overview of the diachronic and synchronic usages of *V-key HA* and *V-tolok HA*. In Korean, it is widely known that two forms of syntactic causatives are possible with a separate verb, *ha* ‘to do’ along with *-key* or *-tolok* marking the predicate of the effect (Song, 2015; Yeon & Brown, 2011)⁴. In present Korean, the causative meanings of the two DO-causative forms are indicated in dictionary entries (National Institute of Korean Language, n.d.) as in Table 2.3, and examples of each meaning entry are listed in (11) and (12). These examples are also from the dictionary entries (the linguistic glosses and the English translation is mine).

⁴ A few studies (e.g., Seo, 1987) argued that *-tolok ha* is not a true causative while most of the others include *-tolok ha* as a causative (Kim, 1997, Song, 2015; Yeon & Brown 2011).

Table 2.3 Meanings of V-*key HA* and V-*tolok HA* in Present Korean

Form	Meanings (from National Institute of Korean Language, n.d.)
V- <i>key HA</i>	(a) An expression used to order someone to do a certain thing or to make something work. (b) An expression used to accept or allow a certain act of another person.
V- <i>tolok HA</i>	(a) An expression used to order someone to do a certain thing or to make something work. (b) An expression used to allow someone to do a certain act. (c) An expression used to order or recommend someone to do a certain act ⁵ . (d) An expression used to indicate the speaker's will or determination to do a certain act. ⁶

As shown in Table 2.3 and examples (11) and (12), V-*key HA* and V-*tolok HA* appear to denote similar causative meanings as in (a) and (b)⁷. In addition, V-*tolok HA* has two more meanings compared to V-*key HA* as in (c) and (d)⁸.

(11) Example sentences of V-*key HA*

(11-a) An expression used to order someone to do a certain thing or to make something work

emeni-nun tongsayng-eykey yak-ul mek-key ha-sy-ess-ta

Mother-TOP younger.sibling-DAT medicine-ACC eat-key ha-HON-PST-DEC

‘Mother made younger sibling take medicine.’

(11-b) An expression used to accept or allow a certain act of another person

mincwu-nun atul-eykey ohwu yetelp si cen-ey-man theyllep-picen-ul

Minjun-TOP son-DAT afternoon eight hour before-at-only television-ACC

po-key ha-nta

watch-key ha-DEC

‘Minjun only lets his son watch television before 8 p.m.’

⁵ In this case, the causee is not present, and the listener is the agent of the *-tolok* clause (Kim, 1993).

⁶ In this case, the causee is not present, and the first person is the agent of the *-tolok* clause (Kim, 1993).

⁷ Comrie (1989) mentioned semantic parameter for causative as a distinction between true causation and permissive.

⁸ These meanings will be discussed in Chapter IV with the contemporary written news data.

- (12) Examples sentences of V-*tolok HA*
- (12-a) An expression used to order someone to do a certain thing or to make something work
senwen-tul-un sungkayk-tul-eykey motwu kwumyengcokki-lul ip-tolok ha-yss-ta
 crew-PL-TOP passenger-PL-DAT all life.jacket-ACC wear-tolok ha-PST-DEC
 ‘The crew made all the passengers wear life jackets.’
- (12-b) An expression used to allow someone to do a certain act
sensayngnim-kkeyse-nun aphun sungkyu-lul cip-ey ka-tolok ha-sy-ess-ta
 teacher-HON-TOP sick Sungkyu-ACC home-to go-tolok ha-HON-PST-DEC
 ‘The teacher let sick Sungkyu go home.’
- (12-c) An expression used to order or recommend someone to do a certain act
yak-un halwu sey pen kkok mek-tolok ha-sey-yo
 medicine-TOP day three times surely eat-tolok ha-HON-DEC
 ‘Please take medicine three times a day.’
- (12-d) An expression used to indicate the speaker's will or determination to do a certain act
camsi annay malssum-ul tuli-tolok ha-keyss-supnita
 for.a.moment announcement speech-ACC give-tolok ha-will-DEC
 ‘I will make sure to give an announcement for a moment.’

As seen from Examples (11-a), (11-b), (12-a), and (12-b), both V-*key HA* and V-*tolok HA* denote the meaning of causation, but it is still unclear when *-key HA* and *-tolok HA* denote the causative meaning as in (11-a) and (12-a) and the permissive ‘letting’ meaning as in (11-b) and (12-b). This ambiguity should be discussed in the context where the two constructions occur with their semantic, pragmatic, and discourse meaning. In the next section, I discuss such issues with the syntactic and semantic features of the two causatives.

2.2.1 Issues in Korean DO-Causatives

To date, studies have widely examined *-key* and *-tolok* as well as V-*key HA* and V-*tolok HA* (Kim, 2009; Kim & Kim, 2011; Kim, 2012; Seo, 1987; Song, 1996, 2015; Rhee & Koo,

2014). This section does not aim to exhaustively review previous studies. Rather, this review focuses on the causative meaning and a few lingering questions regarding the two DO-causatives.

First, how do *-key* and *-tolok* contribute to the causative meaning in *V-key HA* and *V-tolok HA*? Previous studies have identified syntactic and semantic distinctive features of *-key* and *-tolok* and their formation of causatives. Here, I discuss previous literature based on contemporary Korean data. One of the notable studies in causatives is from Song (1996) where Korean causatives were examined from the functional-typological framework and Clause Linkage Theory. Song (1996) defined Korean syntactic causative as a PURP type causative construction⁹ which involves the purposive marker *-ke*¹⁰. Song (1996) also defined the Korean syntactic causative as the PURP type, “which is extremely productive, involves a higher verb *ha-*, literally meaning ‘do’ and an ‘embedded’ clause clearly marked by the so-called ‘complementizer’ *-ke*” (p. 112). Below (13) is an example from Song (1996, p. 112).

(13) PURP Type (Syntactic Causative)

Kiho-ka cini-eke kwail-cip-il masi-**ke** **ha**-əss-ta
Keeho-NOM Jinee-DAT fruit juice-ACC drink-PURP do-PST-IND
‘Keeho caused Jinee to drink the fruit juice.’

(From Song, 1996, p. 112)

This complementizer *-ke* (i.e., *-key*) for the PURP type syntactic causative is also known as “a marker of the subordinate clause in the ordinary purposive construction” (p. 114), which is exemplified in (14).

⁹ Although he used the term, ‘construction’, this term does not refer to constructions used in the construction grammar (Croft, 2001; Goldberg, 1995, 2006).

¹⁰ Song (1996) used a different romanization (i.e., *-ke*) of the target morpheme, *-key*, but both romanizations (i.e., *-key* and *-ke*) refer to the same morpheme *-key*.

(14) Purposive

kiho-ka cini-ka pathi-e o-ke kinyə-ii cip-e
Kiho-NOM Jinee-NOM party-LOC come-PURP she-GEN home-LOC
cənhwa-lil kəl-əss-ta
phone-ACC dial-PST-IND

‘Keeho called Jinee at home so that she could come to the party.’

(From Song, 1996, p. 112)

Song (2015) later pointed out that the purposive element *-ke* (i.e., *-key*) can be replaced with another purposive element *-tolok*. Like Song (2015), other studies argued that the common semantics of *-key* and *-tolok* is ‘purpose’ (Lee, 2010). For example, Lee (2010) pointed out that *-key* and *-tolok* share the common semantics of ‘purpose’ and ‘degree’ while *-key* distinctively denotes ‘state’ and *-tolok* distinctively denotes ‘time.’ Based on this shared ‘purpose’ meaning, Lee (2010) noted that *-key* and *-tolok* denote purposive causative when they are used with a pro-verb *ha* ‘to do.’ Lee (2010) argued that Example (15) shows the purposive causative of *-key ha* and *-tolok ha* because the causer ‘he’ did the causative action, such as direction, suggestion, or inducement, for the purpose of ‘me’ (i.e., the causee) drinking alcohol.

(15) *ku-nun na-eykey swul-ul masit-tolok/key ha-yss-ta*
he-TOP I-DAT alcohol-ACC drink-PURP do-PST-DEC
‘he made me drink alcohol.’

(From Lee, 2010, p. 132; English translation and linguistic glosses are mine)

Thus, previous studies seem to suggest that the ‘purpose’ meaning of *-key* and *-tolok* is key to forming the DO-causatives with the verb *ha*. However, other studies have proposed different meanings of *-key* and *-tolok*. For example, Suk (2006, 2013) proposed the result meaning of *-tolok* contributed to the *-tolok HA* causative¹¹. Furthermore, with the common

¹¹ Suk (2006, 2013) are reviewed in Section 2.2.2.

‘purpose’ meaning contributing to the causative meaning of *V-key HA* and *V-tolok HA*, the previously proposed meaning differences between the two forms regarding the degree of directedness is not fully answered. Therefore, it still remains unclear what semantic contribution of *-key* and *-tolok* is to *V-key HA* and *V-tolok HA* causatives.

Then, the next question arises, what is the syntactic relation between *-key/tolok* to the verb *ha*? In other words, what is the function of the verb, *ha* ‘to do’ in the DO-causatives? Studies have proposed that *ha* in the DO-causatives is a pro-verb (Seo, 1975), verb of cause (Song, 2015), generic verb (Kim, 1984), or an auxiliary verb.

However, these arguments are problematic because *ha* in the DO-causatives does not belong to any of these, as shown in Lee (2017). Grounded in the construction grammar approach (Goldberg, 1995), Lee (2017) showed that *ha* in ‘*X-key ha*’ is neither an auxiliary verb, a main verb, nor a pro-verb. First, Lee (2017) presented the following Examples (16) and (17) for the evidence of *ha* not being an auxiliary verb.

(16) *tongsayng-un cikum pap-ul mek-ko iss-ta*
 younger.sibling-TOP now meal-ACC eat-PROG-DEC
 ‘The younger brother is eating a meal now.’

(17) *emeni-nun ai-{ka/lul/eykey} pap-ul mek-key ha-yss-ta*
 mother-TOP kid-{NOM/ACC/DAT} meal-ACC eat-key ha-PST-DEC
 ‘The mother had the kid eat the meal.’

(From Lee, 2017, p. 79; English translation and linguistic glosses are mine)

As shown in (16), the auxiliary verb ‘*V-ko iss*’ does not serve as a predicate; instead, it only adds the progressive aspectual meaning in grammar. However, in (17), ‘*V-key ha*’ serves as a predicate for the causer, ‘mother.’ Thus, *ha* in *X-key ha* is not an auxiliary verb.

Lee (2017) also pointed out that generative grammarians tend to treat *ha* in ‘X-key *ha*’ as a main verb because *ha* in ‘X-key *ha*’ requires a subject argument. However, this view also exhibits the problem that a specific meaning of *ha* is not identified, which results in the difficulty in setting an argument which assigns a thematic role and semantic restrictions to the subject NP. Below (18) to (20) are examples provided by Lee (2017).

(18) *emeni* *ai-lul* *pap-ul*
 mother (by scooping the rice and putting it into the kid’s mouth) kid-ACC meal-ACC
mek-key ha-sy-ess-ta
 eat-key ha-HON-PST-DEC
 ‘Mom forced the kid to eat a meal.’

(19) *emeni* *ai-lul* *pap-ul* *mek-key ha-sy-ess-ta*
 mother (by strictly directing to eat) kid-ACC meal-ACC eat-key ha-HON-PST-DEC
 ‘Mom ordered the kid to eat a meal.’

(20) *emeni* *ai-lul*
 mother (by serving delicious side dishes) kid-ACC
pap-ul *mek-key ha-sy-ess-ta*
 meal-ACC eat-key ha-HON-PST-DEC
 ‘Mom led the kid to eat a meal.’

(From Lee, 2017, p. 82; English translation and linguistic glosses are mine)

If *ha* in X-key *ha* is the main verb, the meaning of *ha* in each example (18), (19), and (20) should be different, such as ‘to force,’ ‘to order,’ or ‘to lead.’ Since the meaning of *ha* can vary depending on contexts, *ha* in X-key *ha* cannot be the main verb, as the problem arises to set the various different meanings of *ha*. Lee (2017) further suggested one more example in relation to this problem as in (21).

- (21) A: *na-nun yenghuy-lul pap-ul mek-key ha-keyss-e*
 I-TOP Yenghuy-ACC meal-ACC eat-key ha-will-DEC
 ‘I will have Yenghuy eat the meal.’
- B: *mwusun swu-lo pap-ul mek-i¹²-keyss-tanun-ke-ya*
 what way-INST meal-ACC eat-CAUS-will-QUOT-thing-INTR
 ‘In what way will you feed her?’
- A: *cikum-un na-to molu-ci*
 now-TOP I-too not.know-COMM
eccaysstun mek-key ha-l ke-ya
 anyhow eat-key ha-FUT.REL fact-DEC
 ‘I don’t know at the moment. Anyhow (I) will have (her) eat.’

(From Lee, 2017, p. 82; English translation and linguistic glosses are mine)

In (21), in A’s response to B, the causer ‘A’ does not know how to enact the effect of causation ‘eat’ on the causee ‘Yenghuy.’ Thus, *ha* in *X-key ha* does not denote specific semantics, such as ‘to force’ or ‘to order.’ Instead, the ‘*X-key ha*’ construction denotes the causative sense. Thus, Lee (2017) concluded that *ha* in *X-key ha* is not a main verb.

Lastly, Lee (2017) showed that *ha* in ‘*X-key ha*’ is not a pro-verb. At first, Examples (22) and (23) seem to show the pro-verb *ha*, replacing the verbal phrase (i.e., stepped aside to the side).

- (22) *ai-tul-un cha-ka cinaka-key {yeph-ulo pikhyena-ss-ta}*
 kid-PL-TOP car-NOM pass.by-CONN {side-toward step.aside-PST-DEC}
 ‘Kids stepped aside to the side so that the car passes by.’

(From Lee, 2017, p. 84; English translation and linguistic glosses are mine)

¹² *-i-* is a causative morpheme to mark a morphological causative.

- (23) *ai-tul-un cha-ka cinaka-key {ha-yss-ta}*
 kid-PL-TOP car-NOM pass.by-key {ha-PST-DEC}

‘Kids did (=stepped aside) so that the car pass by’

(From Lee, 2017, p. 84; English translation and linguistic glosses are mine)

However, *ha* does not always serve as a pro-verb, as in (24) and (25). The verb phrase ‘ran the playground’ in (24) cannot be replaced with *ha* in (25).

- (24) *ai-tul-un tali-ka pwuleci-key {wuntongcang-ul tal-lyess-ta}*
 kid-PL-TOP leg-NOM break-CONN {playground-ACC run-PST-DEC}

‘Kids ran the playground in a way (their) legs break.’

(From Lee, 2017, p. 84; English translation and linguistic glosses are mine)

- (25) *ai-tul-un tali-ka pwuleci-key *hay-ss-ta*
 kid-PL-TOP leg-NOM break-CONN *do-PST-DEC

*‘Kids did (=ran the playground) in a way (their) legs break.’

(From Lee, 2017, p. 84; English translation and linguistic glosses are mine)

In (25), the meaning from (24) is not preserved, which shows that *ha* does not always function as a pro-verb. In fact, (25) is read as ‘Kids made (their) legs break’ with the causative meaning. Thus, Lee (2017) concluded that *-key ha* can only be used when the relationship between the adverbial subordinate clause and *ha* denotes the causative meaning, which further proves that *ha* is not a pro-verb, and the causative meaning is represented by the construction ‘X-*key ha*.’

Lee (2017) offers insightful discussion with linguistic evidence to consider ‘X-*key ha*’ as a construction for conveying causative meaning. However, the other causative construction V-*tolok ha* was not examined in the study, and the semantics of the causative construction were not fully discussed.

As such, although the two DO-causatives are known to deliver the causative meaning, the discussion on their causative meaning has barely been explored, and their difference in semantics has been limited to a vague mention of the degree of directedness and affectedness (Kim, 2009; Kim, 2012, Song 2015; Yeon & Brown, 2011). For example, Yeon and Brown (2011) noted the difference between *-key HA* and *-tolok HA* as follows: “the causative form *-key ha-* can be replaced with the alternative pattern *-tolok ha-* with little change in meaning. The only difference is that *-tolok ha-* appears at a lower frequency than *-key ha-* and also makes the causation sound softer or less direct” (p. 231).

Many generative grammar-based studies (among others, Kim, 2009; Kim, 2012) proposed that the degree of affectedness is evidenced through the case marking of the causee NP. As noted in Song (2015), cross-linguistic studies have shown evidence “in support of the case marking of the causee NP being determined by agency, control, affectedness, or even topicality of the main participants of the causative situation (Cole, 1983; Hyman and Zimmer 1976; Song 2001, 283-286)” (p. 110) and in Korean, the causee NP’s case marking is known to be relevant to the causee’s control and affectedness. The causee NP marked with the nominative case expresses the causee’s highest level of control and the lowest level of affectedness while the causee NP marked with the accusative case shows the causee’s lowest level of control and the highest level of affectedness, and the causee NP marked with the dative case is in the middle. In Korean, the case marking is realized via particles, and some particles are shown in Table 2.4 from Choi-Jonin (2008).

Table 2.4 Korean particles (from Choi-Jonin, 2008)

Particles	Examples
Case particles	Nominative (<i>i/ka</i>), Accusative (<i>ul/lul</i>), Genitive (<i>uy</i>), Dative (<i>ekey/ey</i> , <i>hante</i> , <i>kkey</i>), Goal (<i>lo/ulo</i> , <i>kkaci</i>), Locative (<i>ey</i> , <i>eyes</i>), Instrument (<i>lo/ulo</i>), Comitative (<i>wa/kwa</i>), etc.
Special particles (or delimiters)	Topic (<i>un/nun</i>), Inclusion (<i>to</i> ‘also’), Limitation (<i>man</i> ‘only’), Addition (<i>cocha</i> ‘even’), Alternative (<i>ina/na</i>), etc.

Similar to Song (2015), Kim (2009) noted that the case marking for the causee NP can be either nominative, dative, or accusative in the syntactic causative *V-key ha*. He argued that the causee NP can be marked with the nominative case in the syntactic causative and represents the weak control of the causer and a low degree of the causer's directedness in the causative. Kim (2009) also noted that the causee's case marking is associated with the causee's agency and the causer's affectedness, as shown in Table 2.5.

Table 2.5 Case marking and the degree of affectedness (created based on Kim, 2009)

Causee NP's case	Causee's agency	Causer's affectedness on Causee
Nominative (<i>i/ka</i>)	strong	weak
Dative (<i>ekey/ey, hante, kkey</i>)		
Accusative (<i>ul/lul</i>)	weak	strong

Studies (Kim & Kim, 2018) also noted that the accusative case particle is the prototypical case particle to denote the affectedness on the theme in the transitivity. As for the causatives, the causee NP with the nominative case aligns with the [+control] feature while the one with the accusative particle aligns with the [-control] feature. In addition, they claimed that the causee NP with the nominative case particle shows a weaker syntactic connection than the one with the accusative case particle because the causee NP-NOM is regarded as in the process from a complex to a simple clause.

Below are example sentences from Kim and Kim (2018, p. 77) with different degrees of affectedness. According to them, in (26-a), the affectedness on the causee NP is weak with [+control] feature, which leads to the interpretation of permission while the causee NP in (26-b) shows the higher affectedness with [-control] feature, which is read as the strong force.

(26)

- 26-a. *uysa-ka yenghuy-ka pap-ul mek-key ha-yss-ta*
 doctor-NOM Yenghuy-NOM meal-ACC eat-key ha-PST-DEC
 'The doctor let Yenghyu eat a meal' [+control feature]

- 26-b. *uysa-ka yenghuy-lul pap-ul mek-key ha-yss-ta*
 doctor-NOM Yenghuy-ACC meal-ACC eat-key ha-PST-DEC
 ‘The doctor made Yenghuy eat a meal.’ [-control feature]

(From Kim & Kim, 2018, p. 77; English translation and linguistic glosses are mine.)

However, this sentence-level analysis does not reflect the features of Korean. First, Korean is a pro-drop language, which allows the omission of nominal arguments. The optionality of the nominals is highly governed by discourse-pragmatic factors (DuBois, 1987). Furthermore, Korean is a discourse-prominent language, and a common phenomenon relevant to this discourse factor in Korean is case particle ellipsis (Lee, 2006; Lee, 2015). A case particle is often omitted in Korean if the nominal is old information or not in focus, which shows the interaction between syntactic, semantic, and discourse-pragmatic factors (Lee, 2015). Therefore, previous studies, which are mainly based on researcher-generated sentences with fully realized nominals and case particles, do not represent the actual language use of Korean. Thus, previous studies’ claims about the degree of affectedness based only on sentence-level syntactic evidence do not confirm the semantics of the DO-causatives in actual use. Instead, the meaning of causation should be explored through context and discourse. Moreover, previously proposed semantic differences between the two causatives, such as the degree of directedness/affectedness, are vague and limited in fully capturing the conceptual meaning of ‘causation.’ To understand the meaning of causation, it is important to examine the force entities and their relations in discourse.

In this section, I have pointed out several issues to be addressed regarding the *V-key HA* and *V-tolok HA* causative constructions in present Korean. In the following sections, I review previous studies on the diachronic change of *-key*, *-tolok*, *V-key HA*, and *V-tolok HA*.

2.2.2 Diachronic Change of *-key* and *-key HA*

According to National Institute of Korean Language (n.d.), *-key* is known to denote result and purposive meaning, which is defined as “a connective ending used when the preceding statement is the purpose, result, method, amount, etc., of something mentioned in the following statement.”

This connective *-key* is widely known to make an adverbial subordinate (Song 1996; Rhee & Koo, 2014), but it has been called different names, such as a result morpheme/complementizer (Lee & Lee, 2003; Wechsler & Noh, 2001; Song, 2005), a purposive element/marker (Song, 1996, 2015) or a purposive complementizer (Park, 1994) or a purposive-adverbial suffix (Kim, 2011), a causative marker (Yi, 2011), and an adverbializer MODE-marker (Rhee & Koo, 2014).

Several studies (Song, 1996; Park, 1994; Kim, 2011) have proposed that the original meaning of *-key* is purposive. Among many, this review is mainly based on Kim’s (2011) study with the examples provided in her article, as Kim (2011) provided ample examples of the diachronic change of *-key* and *-key ha* from historical texts. Kim (2011) proposed that the original source meaning of the suffix *-key* is purposive, ‘in order to’ and named it a ‘purposive connective *-key*’ as in (27).

(27) Purposive connective *-key*

chayk sa-key man-won-man cwu-seyyo

book buy-key 10,000-won-only give-REQ

‘Please give me 10,000 won to buy a book.’

(From Kim, 2011, p. 436)

(27) shows the connective ending *-key* precedes a verb, denoting the purposive meaning. Kim (2011) argued that the purposive connective *-key* is associated with the causative *V-key HA* as shown in (28) below.

(28) Causative *-key ha-* (late 14th century)
Mina-ka ku-eykey chayk-ul ilk-key ha-yess-ta
 Mina-NOM him-DAT book-ACC read-key do-PAST-IND
 ‘Mina made him read the book.’

(From Kim, 2011, p. 436)

As for the development of *-key* to the causative *-key ha-*, Kim (2011) acknowledged the replacement of *-i* with *-key*. According to Kim (2011), in the 15th century, the purposive-adverbial suffix *-key* was common. In late Middle Korean¹³, there was another adverbializer, *-i*, which was the most productive adverbial suffix during the 14th century (Chung, 1998, cited in Kim, 2011). However, *-key* started occurring more frequently than *-i*, which led to the *-i*’s replacement with *-key*. Kim argued that the increased use of *-key* is regarded as a motivation for the emergence of *-key ha*”¹⁴ due to the similar usage of *-key* and *-i*, presenting the following examples:

(29) *kulh-ketun cuzuy as-ko kAcang te-i hA-ya*
 boil-COND dregs remove-CONN most hot-i make-CONN
 ‘When it boils, remove the dregs (of the medicine) and make it very hot ...’

(*Kwukuppang* 1466, 2:33b)

(From Kim, 2011, p. 440)

¹³ “According to the most popular periodization, the Korean language used during the period between the Koryo dynasty (918-1392) and the first 200 years of the Choson dynasty, that is, the tenth to sixteenth century, is termed Middle Korean (henceforth MK). [...] MK is usually divided into Early middle Korean (EMK) and Late Middle Korean (LMK). EMK covers the Koryo dynasty period, while LMK covers the first two centuries of the Choson dynasty until the time of Japanese invasion in 1592 and the subsequent Seven Year Wars (*Imjin Waeran*)” (Sohn, 2015, p. 439).

¹⁴ *A* is used to refer to an old Korean vowel, which was merged into [a], [u], or [u] sounds in Present Korean.

- (30) *cyki tep-key hA-ya* *SIKCEN-ey* *meki-la*
 little hot-key make-CONN before.meal-LOC feed-IMP
 ‘Make it a little hot and feed (the patient) before meals.’

(*Kwukuppang* 1466, 1:13a)

(From Kim, 2011, p. 440)

Example (30) shows such a case where *-key* replaces *-i* (c.f., Example (29)). According to Kim (2011), Example (30) shows the close relationship between the purposive and causative functions of *-key* as it “expresses the meaning of purposive while taking the form of the causative” (pp. 440-441). Kim (2011) further suggested that “the compositional meanings of *-key* and *ha-* ‘do’ (or its older form *hA-*) can easily induce the causative meaning ‘make (causee) do X’” (p. 440) as shown in Example (31).

- (31) *tye POSAL-i* *w-a* *na-lAl* *po-key hA-syosye*
 That saints-NOM come-CONN I-ACC see-key make-DESIRE
 ‘Please make the Buddhist saint come and see me.’

(*Pephwakyeng* 1463 7: 16a)

(From Kim, 2011, p. 440)

Kim (2011) provided abundant examples of historical texts with an overview of the diachronic change of *-key*. However, when it comes to the discussion on the causative *-key ha-*, treating *ha* as the coercive meaning of ‘make’ raises a question about the contribution of ‘the purposive meaning’ of *-key* in the formation of causative *-key ha-*. This view was also observed in her earlier work (Kim, 2008) where she argued that “in the causative *-key hA-*, the verb *hA-* “do” has the causative meaning of “make” and the adverbial suffix *-key*, suffixed to a verb, functions in a similar way as the English to-infinitive. Their combination, the causative *-key hA-*, denotes “make (causee) do X”” (p. 5). Thus, if the causative meaning is carried from the verb *ha* ‘do’, a question still remains why the causative meaning is only delivered with *-key* (or *tolok*).

Similar to Kim’s (2008, 2011) assertion that *-key* denotes the purposive meaning, Rhee & Koo (2014) proposed that *-key* is an adverbializer MODE-marker and pointed out that the use of *-key* constitutes an important channel for the grammaticalization of causatives because syntactically it enabled a verb to occur in adverbial subordination and semantically it added the meaning of mode or purpose. Also, the adverbializer MODE-marker *-key* “inherently carries the futurity marking function” (p. 317), which further “contributes to the emergence of a change-of-state meaning, the essential semantic feature in causatives” (p. 317). Rhee & Koo proposed that the compositional meaning of *-key* along with the do verb *ha* in Middle Korean is “do x so that y becomes z” and argued that this compositional meaning co-existed with the causative meaning in middle Korean, as shown in the example (32).

(32) *pwuin-i manAl-Al patcAv-a cwasi-key.hA¹⁵-ni*

wife/queen-NOM garlic-ACC bring-NF eat-CAUS-as

‘as the wife/queen bring garlic and,

(i) does something so that the king may eat it’ (compositional)

(ii) feeds the king...’ (causative)

(*Sekposangcel* 24, 1447)

(From Rhee and Koo, 2014, p. 318)

However, the proposed compositional meaning ‘do x so that y becomes z’ in (32) from Rhee & Koo (2014) does not seem convincing. First, if *ha* was used for its verbal meaning of ‘to do,’ there should be an argument for the predicate ‘do,’ However, with the *-key* clause ‘wife-NOM garlic-ACC bring and eat-*key*’ serving as an adverbial subordinate, the main clause does not include an argument (i.e., ‘x’ in the compositional meaning of ‘do x so that y becomes z’) for ‘do.’ Second, if *ha* is used as a pro-verb, the co-referential predicate should be found in the

¹⁵ *A* [Λ] is used to refer to an old Korean vowel, which was merged into [a], [u], or [u] sounds in Present Korean.

previous main clause. However, the co-referential predicate is not found. Therefore, ‘do x’ from the suggested compositional meaning, ‘do x so that y becomes z’, does not seem to be found. Instead, the example is interpreted as a causative meaning, ‘the queen makes the king eat the garlic’, where *ha* forms the causative construction with *-key*, not derived from the compositional meanings of ‘to do’ but from the constructional meaning of causative.

In summary, previous studies show that the connective *-key* has appeared since Middle Korean for result, mode, or purposive meaning. As such, to date, there is no agreement on *-key*, and the meaning and function were discussed in various ways. Nevertheless, studies agree that *-key* has formed the causative meaning along with *ha* ‘to do’ since Middle Korean. Despite this acknowledgment, to my knowledge, diachronic studies on *V-key* and *V-key HA* are scarce.

2.2.3 Diachronic Change of *-tolok* and *-tolok HA*

According to the Standard Korean Dictionary (National Institute of Korean Language, n.d.), *-tolok* is defined as “a connective ending used when the preceding statement is the purpose, result, method, amount, etc., of something mentioned in the following statement.” Another proposed contemporary meaning of *-tolok* is also found in Lee and Lee (1999, pp. 189-190, cited in Suk, 2013, p. 59; English translation is mine) as follows: (1) purpose or direction that intentionally leads the event of the following clause, (2) the limit or degree to which it reaches, and (3) the limit of time.

The limit of time meaning is reported to be found in Middle Korean as studies have suggested that *-tolok*, co-occurring with adjectives and verbs, conveyed two meanings in Middle Korean (Suk, 2006; Suk, 2013; Byon, 2015): ‘till’ *tokeup*¹⁶ and ‘deepening’ *iksim*¹⁷. The first

¹⁶ The term *tokeup* and *iksim* are widely used by scholars (e.g., Suk, 2006). However, to capture the meaning more clearly, this dissertation will use the term ‘temporal endpoint.’

¹⁷ The term *iksim* seems to be based on *iksimha* ‘to become severe.’ This dissertation will use the term ‘parallel intensifier’ instead of *iksim*.

meaning of *-tolok* that has been used since Middle Korean is ‘till’ as shown in (33) from the 15th century (34) from the 16th century and (35) from the early 20th century.

- (33) *milaykep mAs-tAlAk*
 future.life end-CONN
 ‘Until the future life ends’

(*Welinsekpo* 21:18)

(From Suk, 2006, p. 44; English translation and linguistic glosses are mine)

- (34) *i pep-ul cwuk-tAlok nis-ti mal-la*
 this method-ACC die-CONN forget-COMM AUX.do.not-IMP
 ‘Don’t forget this method until (you) die.’

(*Kanipyekonpang* 18)

(From Suk, 2006, p. 44; English translation and linguistic glosses are mine)

- (35) *kwapwu-lo nulk-tAlok syucelha-ni*
 widow-INS old-CONN not.being.remarried-CONN
 ‘As (one) remains unmarried until (one) is/gets old as a widow.’

(*Gyojonggyorinsuji* 109)

(From Suk, 2006, p. 53; English translation and linguistic glosses are mine)

According to Suk (2006), the *tokeup* ‘till’ meaning of *-tolok* is used when the event in the second clause is continued or repeated until a certain time point that is presented in the preceding clause. Indeed, the event in the second clause in (35), ‘staying a widow after her husband’s death’ is considered as a continuing event until the temporal endpoint that is denoted in the preceding clause, ‘until being old.’

The second older meaning of *-tolok* is called *iksim* ‘deepening’ in Korean. Example (36) from the 16th century shows this meaning of *-tolok*. As seen in (36), *-tolok* conjoins two clauses,

denoting the intensified degree of the event in the first clause ‘the more detailed’ and its parallel increased intensity of the event in the second clause ‘the better.’

- (36) *teok sangseyha-tolok teok tyohu-nila*
more detailed-CONN more like-ENDER
‘The more detailed it is, the better it is.’

(*Penyekpangthongsa Sang 17*)

(From Suk, 2006, p. 49; English translation and linguistic glosses are mine)

Studies proposed that the *iksim* ‘deepening’ meaning of *-tolok* appears when the *-tolok* clause is repeated and or occurs with adverbs with increased quantity such as *tewuk* ‘more’ *manhi* ‘much’ *cemcem* ‘more and more’ (Suk 2006, Lee, 2005 cited in Byon, 2005). According to Suk (2006), this ‘deepening’ meaning of *-tolok* started to disappear in Modern Korean and is no longer used in present Korean due to the higher frequency of *-ulsulok* for the same meaning of deepening. Then, the temporal endpoint meaning of *-tolok* (e.g., ‘till’) was further developed into the contemporary meanings of ‘result¹⁸’ and ‘the degree¹⁹.’

As for the ‘degree’ meaning, Suk (2006) presented some examples from the late 15th century, showing the ambiguous meanings of ‘till’ and ‘degree’ of *-tolok* as the new degree meaning was not fully established. Example (37) below shows such an example, in which both the ‘till’ and ‘degree’ meanings are possible.

¹⁸ Suk (2006) claimed that the meaning is ‘result’ rather than purposive.

¹⁹ I also refer this meaning as ‘the degree’ in this dissertation.

- (37) *han kep-i nam-tAlok nil-eto mot ta nilu-leniwa*
 one kep-CP pass-CONN speak-although cannot all speak-CONN
 ‘Even though I speak until one *kep* (i.e., infinite time) passes / to the extent which one *kep* passes, I cannot speak [...].’

(*Sokpposangjol* 9:10)

(From Suk, 2006, p. 55; English translation and linguistic glosses are mine)

Suk (2006) explained that the two ambiguous meanings are possible depending on the focus. If the focus is on temporal relation, it is interpreted as ‘until one *kep* passes’; however, with the focus on the situational relation, it is interpreted as ‘to the extent which one *kep* passes.’ Suk (2006) also claimed that these ambiguous meanings of *-tolok* are evidence of how the ‘till’ meaning of *-tolok* developed into the ‘degree’ meaning of *-tolok* to present. Another new meaning of *-tolok* in Present Korean is result (Suk, 2006, 2013) as in (38).

- (38) *nwun-ey ttuy-ci anh-tAlok phyengpemha-n saykkkal-uy*
 eye-at be.noticeable-COMM NEG-CONN normal-REL color-GEN
os-ul ip-nun key coh-keyss-ta
 clothes-ACC wear-NOMI NOMI good-will-DEC

‘It will be good to wear ordinary color of clothes so that (you are) not noticeable.’

(From Suk, 2006, p. 56; English translation and linguistic glosses are mine)

In (38), the event in the first clause with *-tolok* ‘not being noticeable’ denotes the desired result from the event in the second clause ‘wearing clothes of ordinary color.’ Suk (2006, 2013) noted that this new ‘result’ meaning started to appear in the late 17th century, and the *tokeup* ‘till’ and the result meanings were ambiguously used in the 17th century, as shown in Example (39).

(39) *psAl-ul mil-uy pwu-e mAlA-tolok pok-ka'*
rice-ACC wheat-LOC pour-CONN get.dry-CONN fry-CONN

'Pour rice into wheat and fry (them) until (they) get dry' OR 'fry (them) so that (they) get dry'

(*Sinkankwuhwangchwalyo* 6)

(From Suk, 2006, p. 57; English translation and linguistic glosses are mine)

Suk (2006) explained that both meanings are possible depending on the different focus on the relations of the clauses. For example, if the focus is given to the endpoint of time for the continuation of an act or condition of the following clause, the two clauses are considered as temporal relations, which led to the interpretation of 'till (they) dry.' On the other hand, the focus can be based on the situational relationship, which is mainly composed of a clause indicating the outcome situation and a clause indicating the situation that resulted in the outcome. In such a case, the interpretation is based on the 'result' meaning. Thus, Suk (2006) argued that the result meaning of *-tolok* originated from its older meaning of 'till' owing to the frequent appearance of such sentences, including *-tolok*, focusing on situational relations.

Starting in the early 18th century, the result meaning of *tolok* was exclusively used, and Suk (2006) argued that this 'result' meaning of *-tolok* has been regarded as a pathway for the emergence of the DO-causative, *-tolok hA*, in the 18th century. As seen in (40) from the early 20th century, Suk (2013) pointed out that possible ambiguous meanings were found for both causative and resultative interpretation, which suggests that the result meaning of *-tolok* contributed to the causative *-tolok hA*.

(40) *eyleyn pwuin-to honhwuha-key ku-lul taycephay-se kyengseng-kkaci*
 Elen Mrs-too nice-ADV he-ACC treat-CONN Kyeongseng-to
phyenanha-tAlok hA-ya cwu-ess-ta
 comfortable-CONN do-BEF-PST-DEC

‘Mrs. Elen treated him nicely and caused caused (him) to be comfortable to Kyeongseng’
 OR ‘so that (he) is comfortable to Kyeongseng.’

(*Maninkae*)

(From Suk, 2013, p. 35; English translation and linguistic glosses are mine)

Another study that examined the diachronic change of *-tolok* is Jeong (2015). Taking the construction grammar approach, Jeong (2015) examined constructions that take the verb *ha*, including *-tolok ha*. For the *-tolok ha* chapter, she examined how the *-tolok ha* construction was created through diachronic corpora from the 15th century to the 19th century. In her study, she referred the temporal endpoint meaning of *-tolok* (Suk, 2006) to ‘temporal limit,’ and the degree meaning of *-tolok* (Suk, 2006) to the ‘resultative limit.’ She also argued that the result meaning of *-tolok* (Suk, 2006) should be interpreted as the ‘purpose’ meaning. Jeong (2015) further noted that this purpose meaning of *-tolok* further contributed to the emergence of the causative, imperative, and determination meanings²⁰ of *-tolok ha* in present-day Korean.

Her study takes the construction grammar approach, showing the semantic change of *-tolok* in creating the *-tolok ha* construction, which offers insightful findings for *-tolok*. However, the role of the verb *HA* from her analysis merely treats the verb as a placeholder, as she argued that “the verb *ha-da* can be used in a verb slot when the slot is semantically redundant for the verb supposed to fill the slot in question is expected with the help of some specific elements preceding the verb. [...] A verb such as *ha-da* which performs almost only a formal role has also been called a dummy verb or a support verb. However, when it is studied from the viewpoint of

²⁰ Refer to Table 2.3.

construction grammar, it is more effective to refer to it as a placeholder” (pp. 263-264). Such view towards the verb *HA* in the *V-tolok HA* does not show how this construction evolved over the course of centuries. Nevertheless, her findings that *-tolok* denotes the purpose meaning rather than the result meaning (e.g., Suk 2006) suggests the purposive meaning of *-tolok*.

In summary, previous studies (Suk, 2006, 2013) defined the original meanings of *tolok* as *tokeup* ‘until’ and *iksim* ‘deepening’ which existed in the 15th century, where *-tolok* served as an adverbial subordinator. Both meanings co-existed until the early 18th century; however, the former ‘deepening’ meaning of *-tolok* disappeared in the 19th century as a pre-existing connective *-lsulok* replaced it (Suk, 2006) while the ‘until’ meaning of *-tolok* still exists in present-day Korean. The ‘until’ meaning of *-tolok* motivated the emergence of a new meaning, ‘the degree,’ which starts to appear ambiguously with the old meaning ‘until’ in late Middle Korean. Another new ‘result’ meaning of *tolok* started to appear in the late 17th century, and the degree and result meanings were ambiguously used in the 17th century. Suk (2013) further suggested that the emergence of the result meaning is regarded as the motivation for the emergence of the periphrastic *-tolok ha* in the 18th century. Another diachronic study of *-tolok* is found in Jeong (2015), arguing that the result meaning of *-tolok* from (Suk, 2006) should be interpreted as the purpose meaning of *-tolok*. While Suk (2006) argued that the result meaning of *-tolok* was the motivation for the emergence of *-tolok ha*, Jeong (2023) argued that the purpose meaning of *-tolok* was the motivation for the emergence of *-tolok ha*.

This section reviewed previous literature on the diachronic change of *-key* and *-tolok* and their relation to the causative forms, *-key ha* and *-tolok ha*. Despite the large body of literature on the two DO-causatives, *-key ha* and *-tolok ha*, from the traditional and formalist grammar approaches, the syntactic and semantic differences of the two DO-causatives are still not fully captured. For example, the meaning of causation is mainly presented through the researcher’s intuition based on sentence-level examples. Also, the different semantics of the two DO-

causatives, *-key HA* and *-tolok HA*, have been presented in the sense of the directedness of causation. Although diachronic studies on the two DO-causatives offer illuminating findings from early Korean, the information on the corpora remains unspecified in many studies. Furthermore, to my knowledge, studies on the diachronic change of both constructions, *V-key ha* and *V-tolok ha*, are scarce.

To address previous research gaps and to expand the studies on the two DO-causatives in Korean, this study examines the diachronic and synchronic usages of the two causatives within the usage-based construction grammar approach. The diachronic study will be presented in the following chapter.

CHAPTER III

DIACHRONIC STUDY

From the usage-based construction grammar approach, constructions should be examined through the diachronic perspectives to trace back to their grammaticalization. Although previous diachronic studies on the two DO-causatives offer illuminating findings, the token frequency, as well as the process of grammaticalization (e.g., chunking, pragmatic inference), were not clearly presented. Furthermore, to my knowledge, studies on the diachronic change of both constructions, *V-key ha* and *V-tolok ha*, are scarce. To explore the constructional differences, it is imperative to study both constructions from diachronic perspectives. Thus, to address the previous research gaps and to expand the existing studies on the two DO-causatives in Korean, this chapter presents the diachronic study of the two causative constructions with the aim of answering the first research question:

- 1) What semantic changes occurred in *V-key* and *V-tolok* and how do these relate to their path of constructional change into the causative constructions, *V-key HA* and *V-tolok HA*?

Section 3.1 introduces the data collection through the historical corpora and the data analysis. Section 3.2 presents the findings, and Section 3.3 discusses the findings and revisits the research question.

3.1 Methodology

3.1.1 Data Collection

Data were collected from an online historical Korean corpus search engine, *Etuymey*, where historical Korean corpora by the National Institute of Korean Language were stored from the 15th century to the early 20th century. This search engine was particularly chosen due to its accessibility and usability. To date, Korean historical corpora and concordancing tools are still not widely available for public access. However, this web corpora engine enables public access to the data, which is also searchable through the web. I collected random samples of tokens of *-key* and *-tolok* for three target centuries: the 15th century for Late Middle Korean; the 17th century and the 18th century for Modern Korean; and the early 20th century for the (early) Present Korean.

The historical corpora store a wide range of historical texts from religious texts for Buddhism (e.g., in the 15th century) to newspapers (e.g., in the early 20th century). Since an exhaustive collection of all historical texts was not possible due to the vast amount of data, random selection was chosen to enhance the representation of the data from corpora. Therefore, instead of being restricted to a specific genre, the collected data present various genres, which will help to identify the representative usages of *-key*, *-tolok*, *V-key HA*, and *V-tolok HA* over centuries. The list and text types of the sources is presented in Appendix A.

Since the corpora were not morphologically tagged, target tokens of *-key* and *-tolok* and their allomorphs²¹ were manually searched on *Etuymey*, using its search function. Then, a Python script was run to collect random samples of 200 tokens of *key*, *tolok*, and its allomorphs by target centuries from the search results. For example, the Python script collected 200 random tokens of

²¹ In the Middle and modern Korean, *tAlok* was more frequently used than *tolok* (Byon, 2015) and the allomorphs of *-key* were *khey*, *eui*, *ey*, and *keui* (Choi, 2000).

key in the 15th, 17th, 18th, and early 20th centuries. The same data collection was repeated for all the allomorphs of *key*.

Then, the following procedures were done for data cleaning. First, tokens were eliminated when the target *key* and *tolok* were not a grammatical morpheme. For example, *key* appearing in *mu.ji.key* ‘rainbow’ was eliminated as *key* is not a morpheme, which does not have a meaning itself in the word/morpheme *mu.ji.key* ‘rainbow.’ Second, tokens where *-key* and *-tolok* are preceded by verbs were selected for analysis. Lastly, for the 15th century data, the target text in *kwukyel*²², “a system for glossing Chinese texts to be read in Korean” (Whitman, 2015, p. 426) was eliminated, and only the *enhaymwun* text (the Hangul text for the classical Chinese characters) was chosen²³.

3.1.2 Data Analysis

The data analysis was done by first categorizing the syntactic context of V-*key* and V-*tolok*. The syntactic contexts of *-key* and *-tolok* were classified depending on the following predicates as follows:

- (a) verb-*key/tolok* + *X* (*X* other than *HA*)
- (b) verb-*key/tolok* + *HA*

The syntactic context of (a) represents where *-key* and *-tolok* are used for subordinate functions without denoting the causative meaning. In the meantime, the syntactic context of (b)

²² According to Whitman (2015, pp. 423-424), “Korean scholars refer to Chinese characters used to write Korean by Koreans as *chaca* 借字 ‘loan characters.’ and divided loan character orthography (*chaca phyokipep*) into proper name into proper name orthography (*koyu myengsaphyokipep* 固有名詞表記法), *idu* 吏讀 (literally, ‘clerk readings’), and *hyangchal* 鄉札 ‘*hyangka* writing.’ Nam (2012) adds a fourth category: the *kwukyel* 口訣 vernacular glossing system for Chinese Buddhist texts.”

²³ According to Ko (2020), there are three types of materials that help us understand Middle Korean: (1) *Hangul*, (2) *kwukyel*, and (3) *idu*. The *enhaymwun* belongs to the *Hangul* materials, and this *Hangul* text is known to be the main text for studying the Middle Korean. Ko (2020) further noted that “at least when it comes to revealing the grammar structure of the Middle Korean language, it is not necessary to pay attention to the *kwukyel* and *idu* texts” (p. 29; English translation is mine). The discussion of each text type is beyond the scope of this dissertation (refer to Ko (2020) for more in-depth explanations).

represents the causative construction in Present Korean for its constructional causative meaning. This classification of the syntactic environment was necessary to identify the semantics of *-key*, *-tolok*, *-key HA*, and *-tolok HA* as well as to examine their path of diachronic change to the causative constructions.

As for the tokens of (a), throughout the target centuries, when *-key* occurred with a predicate *X* other than *ha*, *toy* ‘to become’ and *mal* ‘not to do’ frequently appeared in the *X* slot of *V-key X*. Tokens of *V-key toy* and *V-key mal* were excluded in this study²⁴ because both are involved with its own grammaticalized structures, as *-key toy* is known to have been grammaticalized to the ‘become-passive’ (Rhee & Koo, 2014) and *mal* have undergone semantic change and grammaticalized (Park, 2010). Thus, in order to focus on the causative construction *-key HA*, tokens of *V-key mal* and *V-key toy* were excluded. Accordingly, the following tokens of *-key* and *-tolok* were collected for analysis (See Table 3.1).

Table 3.1 Tokens²⁵ of *V-key* and *V-tolok* from the historical corpora

Form	15 th C	17 th C	18 th C	Early 20 th C
<i>key</i>	207	139	143	89
<i>tolok</i>	171	178	125	99

After the syntactic context was categorized, the semantics of each syntactic environment were categorized based on the context and discourse. In the context of (a) *verb-key/tolok + X* (*X* other than *HA*), the meaning of *V-key* and *V-tolok* were coded. This coding was based on the discourse and referred to previous studies of the semantics of *V-key* (e.g., Kim, 2011) and *V-tolok* (e.g., Suk, 2006, 2013). In the context of (b) *verb-key/tolok + HA*, the meaning of the construction was coded as compositional, constructional (causative), or ambiguous. For example, when *ha* ‘to

²⁴ The excluded number of tokens are as follows: 1 (15th C), 6 (17th C), 5 (18th C), and 6 (Early 20th C) tokens of *V-key toy* and 6 (17th C) and 9 (18th C) tokens of *V-key mal*.

²⁵ The total number of words (*ecel*) is not presented here as the information was not available and the sampling was not exhaustive but random. *Ecel* is similar to word unit but space-based.

do' is neither a pro-verb, an auxiliary, nor a main verb but only delivers the causative meaning with *-key* or *-tolok*, it was coded as causative. Example (1) from the early 20th century shows the causative meaning of *-key ha*, which was coded as causative in the data analysis.

- (1) *phocol-tul-i* [...] *ku cip kyowu-tul-ul ta capaka-lye ha-nun*
 constable-PL-NOM [...] that house companion-PL-ACC all arrest-in.order.to-REL
kes-ul tahayngghi iwuscip-ey uylowun salam hana-ka
 NOMI-ACC fortunately neighborhood-GEN righteous person one-NOM
phocoltul-eykey ton-ul manhi cwu-ko kumantwu-key ha-ni
 constable-DAT money-ACC much give-and quit-CAUS-CONN

'Fortunately, a righteous man in his neighbor's house gave them a lot of money to the constables and made (the constables) quit to catch all companions of the house.'

(1908, *Kyenghyangcapci*)

The determination of the causative meaning was done based on Talmy's force dynamics, considering the two force entities' force tendencies and the result from the force interaction. For example, the token of V-*key HA* in (1) was coded as 'causative' as the causee's (i.e., constable) existing force (i.e., arresting companions) is overcome by the opposing force (i.e., the righteous man to stop constable arresting companions).

Meanwhile, if *ha* 'to do' conveys its compositional meaning, it was coded as non-causative. Example (2) from the early 20th century shows the non-causative usage of *-tolok ha*. In (2), *ha* is used as a main verb with its compositional meaning of 'to do.' Also, *-tolok* serves as an adverbial subordinator for the temporal endpoint meaning. Thus, the token of *-tolok ha* from (2) was coded as 'non-causative.'

- (2) *hyengpel-ul pam-i machi-tolok ha-ye*
 punishment-ACC night-NOM end-until do-CONN
 ‘does punishment until the night ends.’

(1908, *Kyenghyangcapci*)

3.2 Findings

3.2.1 Diachronic Change of V-key and V-key HA

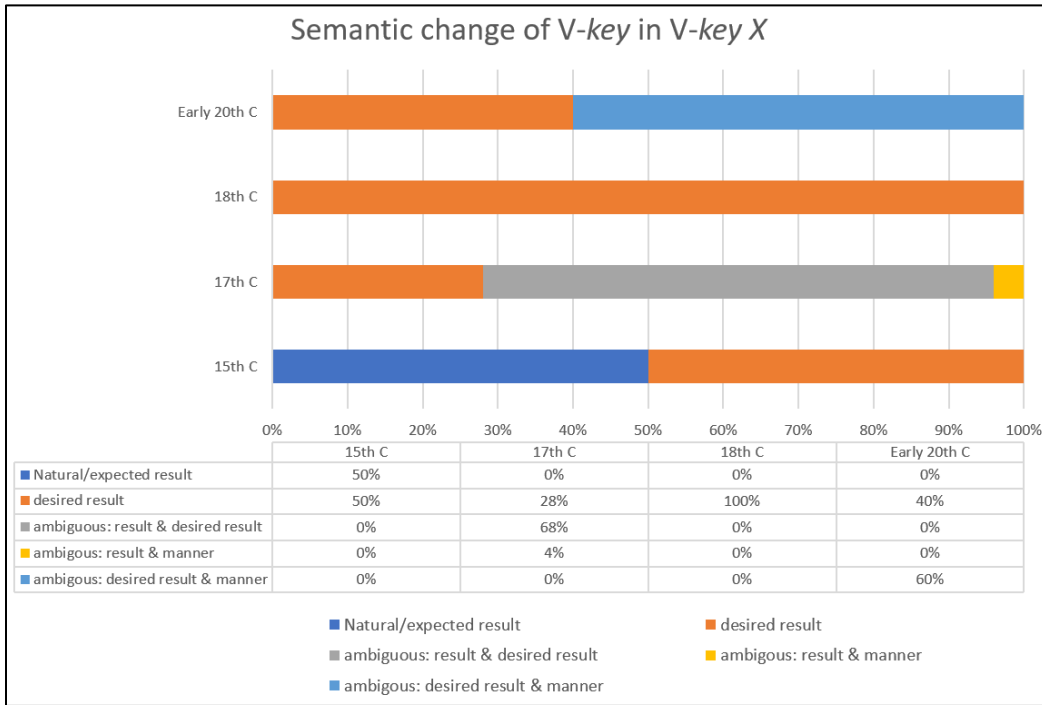
Throughout the target centuries, as shown in Table 3.2, most of the tokens were found to be ‘V-key HA’, where V-key is followed by the verb HA. In the late 15th century, we see that most of the tokens of V-key HA were interpreted as the constructional meaning of causative. The compositional meaning of -key and ha was also found with an ambiguous interpretation of the compositional and constructional meaning. In the 17th century, all tokens of V-key HA except for one token of the ambiguous meaning delivered the constructional meaning of causative. Later in the 18th and early 20th centuries, all tokens of V-key HA conveyed the constructional meaning of causative.

Table 3.2 Tokens of V-key from the historical corpora

Form	Usage	15 th C	17 th C	18 th C	Early 20 th C
V-key X	Adverbial	6	25	9	5
V-key HA	Constructional (causative)	200	113	134	84
	Ambiguous	1	1	0	0
Total		207	139	143	89

When V-key occurred with a predicate X other than ha, -key conveyed an adverbial meaning (See Figure 3.1). In the 15th century, the adverbial meanings of -key in V-key X were natural/expected result meaning and the desired result meaning. Later in the 17th, 18th, and early 20th centuries, we see more of the desired result meaning of -key and ambiguous interpretations.

Figure 3.1 Semantic change of *V-key* in *V-key X* (*X* other than *HA*)



In the following sections, I discuss the findings of the semantic change of *V-key* as well as *V-key HA* with excerpts from the historical corpora.

3.2.1.1. The 15th Century

In the 15th century, among the total 201 tokens of *V-key*, 6 tokens were found to be in *V-key X* while 201 tokens were found in *V-key HA*. In *V-key X*, *-key* served as an adverbial subordinator as in (3) and (4).

- (3) *pwucA hAn lyang-ul cyAhi-yey ssa mul cec-ye*
 aconite one a.unit.of.coinage-ACC paper-in/with wrap water wet-CONN
tteti-key kwu-e
 burst-CONN²⁶ bask-CONN
 ‘wrap a unit of aconite in a paper, soak it in water, and bask it until (it) bursts.’

²⁶ Connective (CONN) is used as the linguistic gloss for the adverbial subordinator *-key* and *-tolok*.

(1489, *Kwukupkanipang*)

- (4) *sanmwAyyAa-ssi sey nilkwup nach-Al nAlon-khey sip-ko*
mountain.berry-seed three seven a.unit-ACC decompose-CONN chew-CONN
'chew three or seven units/pieces of mountain berry seeds until (they) decompose.'

(1489, *Kwukupkanipang*)

In (3) *theci* 'to burst' is preceded by *-key*, denoting the result event (i.e., burst a unit of aconite) from the main predicate 'to bask a unit of aconite.' Similarly, in (4), *nAlon* 'to decompose' is preceded by *-khey*, describing the result event (i.e., the mountain berry seeds decompose) from the main predicate 'chew the mountain berry seeds.' In both, V-*key* can be omitted in the sentence as it serves as an adverbial subordinator. Also, it seems that the verb co-occurring with *-key* is semantically closely related to the main predicate, such as 'burst' with 'bask' and 'decompose' with 'chew' where the event of the adverbial subordinate *-key* clause seems to be a natural outcome or result from the event of the main predicate.

This 'expected/natural result' meaning of *-key* in V-*key X* was taken up 50% in the 15th century while the other 50% of *-key* carried a different sense of result as seen in (5).

- (5) *pwuthye-s ceyca-s wen-ulo sampo-s him*
Buddha-GEN disciple-GEN wish-INS Sampo-GEN strength
nip-e o-key chengha-non mal-i-la
receive-and come-CONN ask-REL word-CP-ENDER
'It is a word that asks for the power of Sampo so that (he) comes with the wishes of Buddha's disciples.'

(1496, *Samtansisikmwun*)

In (5), the *-key* adverbial subordinate clause is not a naturally coming result of the main predicate 'ask for.' Instead, it is interpreted as a desired result. This desired result meaning of *-key*

was also found in the string of words *V-key HA* where the causative meaning was also ambiguously delivered as in (6).

- (6) *cyek-un kes tamAs-ha-m-Al sinayh-ay nulkun-Akey*
 small-REL thing share-do-NOMI-ACC stream-LOC old.man-DAT
mis-key ha-tota
 reach-CONN do-ENDER

‘Make sharing the small thing reach the old man in the stream.’ OR ‘do sharing the small thing so that (it) reaches the old man in the stream.’

(1481, *Twusienhay*)

(6) can be interpreted as causative ‘make sharing the small thing reach the old main in the stream.’ At the same time, (6) can be interpreted with the compositional meaning of *-key* and *-ha*. The verb *ha* in *V-key ha* can be interpreted as the main verb ‘do’ for the argument ‘sharing.’ Then, the *V-key* clause denotes the desired result event (i.e., so that it reaches the old man) from the event of the main predicate (i.e., do sharing the small thing). While the compositionality of *-key* and *-ha* in *V-key HA* could be found from (6), 99.5% of tokens of *V-key HA* conveyed the constructional meaning of causative, where the compositional meanings of *-key* and *ha* were bleached. That is, the compositional meaning of *ha* and the usage of *-key* as an adverbial subordinate function and meaning appear to be lost. This loss of compositionality is also found in (7).

- (7) *uyciha-y se-key hA-myen casik-i cukcay nano-nila*
 lean-by stand-CAUS-if baby-NOM immediately come.out-ENDER

‘if (you) make (the pregnant woman) stand by leaning (during a meal time), the baby comes out immediately.’

(1489, *Kwukupkanipang*)

In (7), the verb *se* ‘to stand’ occurs with *-key hA*, where *hA* does not serve as a pro-verb or auxiliary verb nor deliver its semantics ‘to do.’ Instead, *key hA* forms the causative meaning

where a causer, an elided NP ‘you’, acts on the effect, a causee (an elided NP ‘the pregnant woman’) to stand. Here, the causative meaning is interpreted based on Talmy’s force dynamics (1976, 1988, 2000). The causee’s current force tendency is not ‘standing’, and the action of ‘stand’ is not the continuation of the causee’s will, which led us to identify Example (7) as a prototypical causative.

In addition to the prototypical causative meaning, the permission causative (i.e., ‘let’) is also found in the 15th century when *-key* was followed by *ha* as shown in (8).

- (8) *han kicay-lan emi cwu-e cipuy-sye ssu-key ha-ko*
 one share-TOP mom give-and home-at use-CAUS-CONN
 ‘(the son) give one share to his mom and let her use (it) at home.’

(1459, *Welinsekpo*)

In (8), the causative meaning is interpreted as permission, which can be translated as ‘let’ in English. This permissive meaning is possible based on the discourse context. As the son, *Nabok*, completed the three years for grieving his father’s passing, *Nabok* wanted to do business abroad. Thus, he collected all the money he had and divided it into three. In (8), he is giving one share to his mom, which delivers the permission meaning without indicating a force against his mom’s using the money.

In summary, in the late 15th century, 2.89% of tokens of *-key* was found in *V-key X*, denoting the expected/natural result meaning (50%) and the desired result meaning (50%). Among the 201 tokens of *V-key HA*, the causative meaning was mainly delivered (99.5%) while a token of the ambiguous meaning was found where the compositionality of the *-key* and *ha* were possibly maintained, delivering the desired result meaning. Thus, the findings indicate that the causative meaning of *V-key HA* was already emerging and prevalent alongside the other adverbial meanings of *-key* in the 15th century.

3.2.1.2. The 17th Century

In the 17th century, 17.98% of tokens of *-key* were found in *V-key X*, conveying the desired result meaning (28%), the ambiguous meaning of the expected/natural result and desired result (68%), and the ambiguous meaning of the result and manner (4%). In the 17th century, the sole natural/expected result meaning was not clearly found while the result meaning was mostly interpreted ambiguously with the natural/expected and desired result meanings, as shown in Excerpt (9).

(9) *chil hop toy-key talh-ye*
seven hop become-CONN boil-CONN

‘Boil (it) until (it) becomes seven hops OR so that (it) becomes seven hops.’

(1653, *Pyekonsinpang*)

In (9), the event of the *-key* adverbial subordinate clause ‘become seven hops (hop is a unit of volume)’ denotes the result situation from the event of the main predicate. This result situation in the *-key* adverbial subordinate clause can be understood as a natural result from the event in the main predicate ‘to boil it.’ However, this result meaning can also be interpreted as a ‘desired result’ from the agent’s perspective of the desired event. Interestingly, all tokens of such ambiguous result meaning occurred with one verb, *toy* ‘to become.’ This might be due to the semantics of ‘to become’ where the change to the result is expected.

Along with the ambiguous result meaning, *-key* is also found to serve as the adverbial subordinator for the desired result meaning, as in Excerpt (10).

(10) *kuli al-usi-key cal cyusyenha-si-so*
that.way know-HON-CONN well arrange-HON-CONN

‘Please arrange well so that (you) know that way.’

(1676, *Chephaysine*)

(10) is from a book documenting Japanese phrases and their Korean translations. The target Japanese text is やうに ‘ya(yo)uni’, which denotes one’s desire and wish. Thus, based on the Japanese text and Korean translation, *-key* denotes the speaker’s desired result of knowing rather than an expected or natural result. Excerpt (11) also shows the desired result meaning of *-key*. In (11), the event of the *-key* clause is interpreted as the desired result of the action of ‘hammering’ of iron, not to wear out.

- (11) *swulwisthong anh-i talth-i ani-key kicochilo pak-un soy*
 axle inside-NOM wear.out-NEG-CONN vertically hammer-REL.PST iron
 ‘Vertically hammered iron so that the inside of the axle is not worn out.’
 (1670, *Nokeltayenhay*)

In the 17th century, another ambiguous meaning of V-*key* was found, which can be interpreted as the result and manner meanings, such as in (12).

- (12) *nwunsmul-ul ele kalo-lo hulu-key wu-nola*
 tears-ACC several path-INST run-CONN cry-ENDER
 ‘Cry so that the tears run in several paths’ or ‘Cry in a way tears run in several paths.’
 (1632, *Pwunlyutwukongpwusi*)

In (12), the *-key* adverbial subordinate clause ‘tears run in several paths’ denotes the result situation from the action of the predicate ‘to cry.’ At the same time, this *-key* adverbial subordinate can be interpreted as a manner describing the way a person cries.

When *-key* was followed by *ha*, we see the loss of the adverbial meaning of *-key*. Among the 114 tokens of V-*key HA*, only one token was found to possibly reserve the compositional meaning of *-key* and *HA*, delivering the desired result meaning with ambiguous interpretation for causative. All the other tokens of V-*key HA* (99.1%) delivered the causative meaning with bleached semantics of *-key* and *ha* as in (13).

- (13) *piloso hyokyeng-kwa nonel-Al oyo-key ha-ltini*
 at.last *Hyokeng*-and *None*-ACC memorize-CAUS-CONN
 ‘At last (you) make (them: the boys and girls) memorize *Hyokeng* and *None*.’
 (1632, *Kalyeyenhay*)

In (13), the verb *oyo* ‘to memorize’ occurs with *-key ha*, where *ha* does not serve as a pro-verb or auxiliary verb, nor does it deliver its semantics ‘to do.’ Instead, the causative meaning is delivered through *-key ha* with the causative effect of ‘memorizing the Confucian doctrine books, *Hyokeng* and *None*.’ Also, the permission causative (i.e., ‘let’) was found in the 17th century as in (14).

- (14) *kwun-ul cwu-esyē ka-key ha-si-myen*
 military-ACC give-and go-CAUS-HON-if
 ‘If (you; king) give me the military and let (me) go’
 (1617, *Tongkwuksinsoksamkanghayngsilto*)

Excerpt (14) is a quote from a general talking to a king, asking for permission to attack a country. This permissive meaning is possible as the effect ‘go’ aligns with the causee’s (me) continuing force.

In summary, in the 17th century, as an adverbial subordinator, *V-key* conveyed the result meaning similar to the ones from the 15th century. However, the desired result meaning of *V-key* occurred more frequently. In addition, the result meaning was ambiguous as it can be interpreted as both the result and the desired result as well as the result and manner. Tokens of *V-key ha* delivered mostly the causative meaning with bleached compositional meaning.

3.2.1.3. The 18th Century

In the 18th century, all tokens of *V-key* in *V-key X* delivered the desired result meaning, and all tokens of *V-key HA* (134 tokens) delivered the causative meaning in the 18th century as in Example (15).

- (15) *ney yangkan-uy tolak-a mastangi kamunghyenyen-ul kac-ye*
you bright.world-LOC return-CONN properly Kamunghyenyen-ACC have-CONN
nepi phye-key ha-la
widely spread-CAUS-IMP

‘You return to the bright world and properly have *Kamunghyenyen* (i.e., a book) and make (*Kamunghyenyen*) spread widely.’

(1796, *Kyengsinlokensek*)

Kyengsinlokensek is a book of collection of stories about poetic justice based on Taoist ideas. Excerpt (15) is part of a chapter of the book which talks about people’s fortunate experiences in relation to *Kamunghyenyen* (a book). The previous discourse in (15) talks about a person who died abruptly but woke back up in a day. He tells a story to his wife that there were a lot of people who died from starvation. Somebody who was sitting in a higher position told him that his name was originally written in ‘the book of people who die from hunger.’ However, since he served *Kamunghyenyen*, many people followed him, and he did good deeds, he acknowledged his contribution and moved his name to ‘the book of people who live long with fortune’ and let him go back to this world. Excerpt (15) is what the person from the after world told him. In (15), we see the causative meaning *V-key HA* delivers as the causer is the speaker, the causee is the listener, and the causative event is to spread *Kamunghyenyen*.

In summary, in the 18th century, the findings show that *V-key* in *V-key X* served as an adverbial subordinator denoting mainly the desired result meaning while all tokens of *V-key HA* denoted as causative meaning.

As for V-*key HA*, all tokens of V-*key HA* (84 tokens) delivered the causative meaning. Excerpt (18) is from a Catholic magazine where it talks about the struggles the Catholics faced. Elizabeth, who is a Catholic, was forced to write a pledge document for apostasy, and this causative effect is denoted through the causative construction *-key ha*.

- (18) *paykyoha-nan tacim mwunsi-lAl ssu-key ha-ko*
 apostatize-REL promise document-ACC write-CAUS-CONN
 ‘(the officer) made (her) write a pledge document for apostasy.’
 (1906, *Kyenghyangcapci*)

In addition to the prototypical causative meaning, the permission causative (i.e., ‘let’) is also found as in Example (19).

- (19) *kulena hananim-un salam-ul salangha-s-ya [...] nunghi es-un*
 but God-TOP person-ACC love-HON-and [...] easily acquire-REL
pa-lul twu-key ha-si-ni
 thing-ACC keep-CAUS-HON-CONN
 ‘However, God loves people [...] and let (them; people) keep what (they) have easily gained.’
 (1908, *Sinhakwelpo*)

Example (19) is from a theology magazine which was published to inform the activities of missionaries of early Korean leaders. The effect of ‘keep things acquired’ is not against the causee’s (people) force, which is a grant ‘permission’ from the causer ‘God.’ Thus, the findings show that verb-*key HA* has denoted the causative meaning, both the typical ‘force’ causative and the ‘permission’ causatives in the early 20th century.

3.2.1.5. Section Summary

In summary, in the late 15th century, tokens of *V-key* were adverbial subordinate clauses denoting a natural/expected result meaning and desired result meaning. The expected/natural result meaning seems to be highly associated with the following predicate as a result comes about naturally as the main predicate proceeds. In the 17th century, the desired result meaning was also found, while the sole (natural/expected) result meaning of *-key* was not found. Instead, the ambiguous meaning of result and desired result meanings were found. In fact, this ambiguous meaning was the most frequent meaning in the 17th century. Another ambiguous meaning was found in the 17th century, where the result meaning was ambiguously interpreted as manner. In the 18th Century, all tokens of *V-key* in *V-key X* denoted the desired result meaning, and the sole natural/expected result meaning was not found. In the early 20th century, the intended result meaning of *-key* was still found, and this desired result meaning was also ambiguously interpreted as manner.

Over the centuries, the meaning of *-key* changed, and its meanings became more general, such as from a natural result to both the desired/natural result as well as the manner of the action. This change occurred with overlapping ambiguous meanings over the centuries, which suggests the variant features of language change. It should also be noted that the tokens of *V-key HA* appeared at a high frequency already from the 15th century (97.1%), and among them, 99.5% of tokens delivered the causative meaning. In the 17th century, 99.1% of the *V-key HA* tokens delivered the causative meaning and it was found to be 100% in the 18th and the early 20th century.

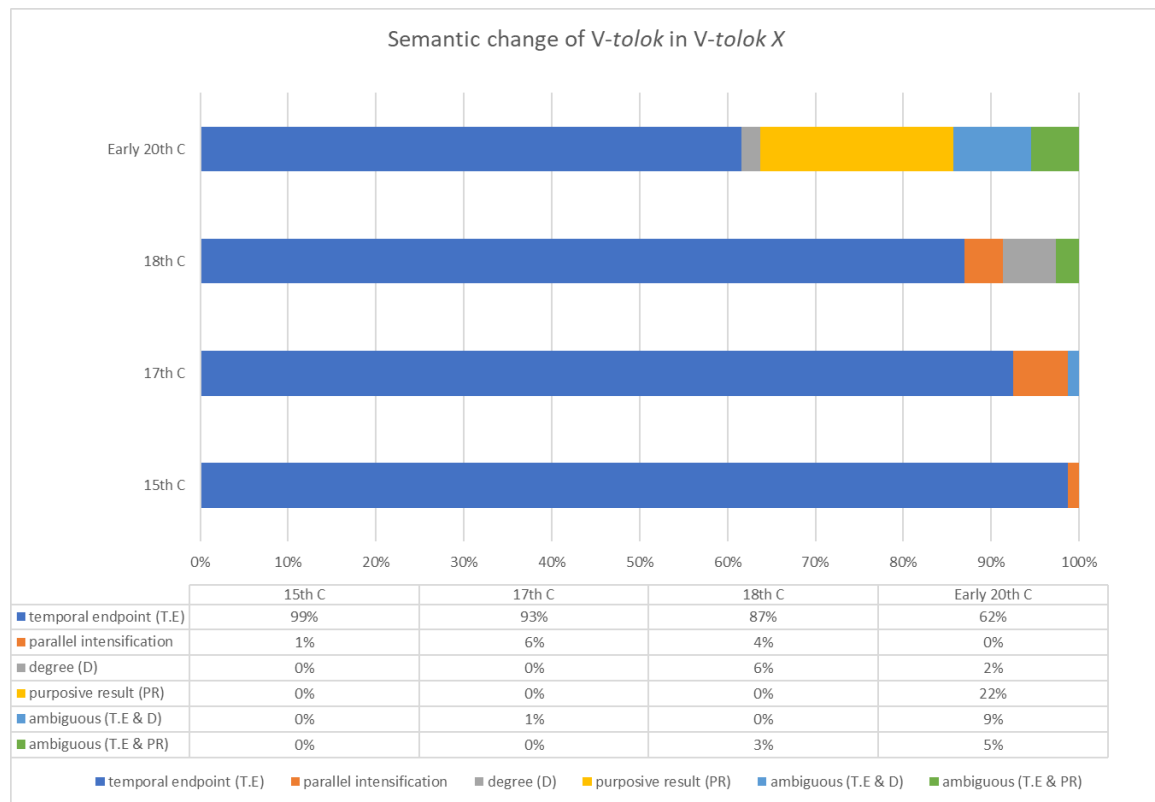
3.2.2 Diachronic Change of *V-tolok* and *V-tolok HA*

Throughout the target centuries, tokens of *V-tolok HA* as well as *V-tolok X* were found. As Table 3.3 shows, *V-tolok* occurred with a verb *X* more frequently than with the verb *HA*, denoting various adverbial meanings, such as the temporal endpoint meaning ‘until’, the parallel intensification meaning, degree of the action, the purposive result meaning, and overlapping ambiguous meanings (see Figure 3.2).

Table 3.3 Tokens of *V-tolok* from the historical corpora

Form	Usage	15 th C	17 th C	18 th C	Early 20 th C
<i>V-tolok X</i> (other than <i>HA</i>)	Adverbial	156	161	114	91
<i>V-tolok HA</i>	Causative	0	0	3	7
	Compositional	15	17	8	1
Total		171	178	125	99

Figure 3.2 Semantic change of *V-tolok* in *V-tolok X* (other than *HA*)



When it comes to *V-tolok* followed by *HA*, the causative meaning of the construction, *V-tolok HA*, did not appear in the 15th and 17th centuries, as all tokens of *V-tolok HA* maintained their compositionality in the 15th and 17th centuries. However, in the 18th century, *V-tolok HA* started to denote causative meaning; however, this was not exclusive as some tokens of *V-tolok HA* still maintained their compositionality.

In the following sections, I present the findings of the diachronic change of *V-tolok* and *V-tolok HA* in the target centuries with example texts from the historical corpora.

3.2.2.1 The 15th Century

In the 15th century, 156 tokens of *-tolok* among the total 171 tokens were found in *V-tolok X* (91.2%), where *-tolok* delivered two meanings, the temporal endpoint meaning ‘until’ (99%) and the parallel intensifier meaning (1%). Similar to the previous studies (see Section 2.2.3), the two older semantic meanings of *-tolok* as the temporal endpoint (c.f. *tokeup* from Suk, 2006) and parallel intensification (c.f. *iksim* from Suk, 2006) meaning were found as in (20) and (21).

(20) *panggong-i cwukwum-ey nilu-tAlok swum-e-si-nila*
 Panggong-NOM death-to reach-CONN hide-and-live-ENDER
 ‘Panggong hides and lives until (he) reaches death.’

(1481, *Twusienhay*)

(21) *manh-i mek-tolok tyohΛ-nila*
 many-ADV eat-CONN good-ENDER
 ‘The more (you) eat, the better it is.’

(1489, *Kwukupkanipang*)

In (20), the temporal endpoint meaning of *-tolok* is found. In (21), we see the parallel intensification meaning of *-tolok* where the *-tolok* clause occurs with the other clause (‘to be good’), denoting the meaning of the increased degree of the event. In such use of *-tolok*, we also

see an adverb ‘many-adverbializer’ in the *-tolok* clause, which aligns with the previous finding (Suk, 2006) that an adverb of increased quantity co-occurs with *-tolok* for the meaning like (21).

15 tokens of *-tolok* appeared with the following verb *HA*, and all of them maintained the compositionality of *-tolok* and *ha*, where *-tolok* delivered the temporal endpoint meaning, as shown in (22) and (23).

- (22) *pey alay-l wulho-toy cyekunmw-ul hwenh-i*
 stomach below-ACC poultice-CONN urine-ACC clear-ADV
po-tolok ha-la
 urinate-CONN do-IMP

‘Poultice (hot salts) below the stomach and do (=poultice) until clearly urinate.’

(1489, *Kwukupkanipangenhay*)

- (23) *yangciho-twAy cyemu-tAlok hA-la*
 brush.teeth-CONN get.dark-CONN do-IMP

‘Brush (your) teeth, but do (=brush your teeth) until it (=the day) gets dark’

(1466, *Kwukupangenhay*)

In (22), the *-tolok* clause is an adverbial subordinate, indicating the temporal endpoint meaning ‘until.’ The following verb *ha* ‘to do’ refers to the action in the previous clause, which is ‘to poultice.’ Similarly, in (23), the *-tolok* clause indicates the temporal endpoint for the action of the main predicate ‘to brush one’s teeth,’ which is realized as a pro-verb *ha*. Thus, in the 15th century, *-tolok* served as an adverbial subordinator, conveying the temporal endpoint and the parallel intensification meaning. The compositional meaning of *V-tolok HA* was still maintained, which is contrary to the emergence of the causative meaning of *V-key HA* in the 15th century.

3.2.2.2 The 17th Century

In the 17th C, among 178 tokens of *-tolok*, 161 tokens (90.4%) were found in *V-tolok X*, where *-tolok* delivered the two older meanings, the temporal endpoint (93%) and parallel

intensification (6%) meanings. Also, we see tokens of *-tolok* (1%) where the ambiguous interpretation of temporal endpoint ‘until’ and degree ‘up to the degree’ are possible, as in (24).

- (24) *kongsim-ey meko-toy puun kuy nas-tolok mek-ula*
 empty.stomach-at eat-CONN swollen symptom be.cured-CONN eat-IMP
 ‘eat (X) in an empty stomach until the swollen symptom is cured [up to the degree which the swollen symptom is cured].’

(1608, *Enhaythaysancipyo*)

The source of (24) is a pharmacology book that explains diseases and ways of treating them. Excerpt (24) is part of a solution of drinking boiled carp soup to treat swelling during pregnancy. In (24), *-tolok* still serves as an adverbial subordinator. However, the semantics are ambiguous as it can be interpreted as a temporal endpoint ‘until the swollen symptom is cured’ as well as the degree meaning ‘up to the degree at which the swollen symptom is cured.’ As this event of ‘the swollen symptom being cured’ is telic, the temporal endpoint meaning is expected. Thus, the event can be interpreted as ‘to the temporal point in which the swollen symptom is cured.’ However, the event also exhibits a process where language users assume a change of an event. Thus, one can expect a change in the healing process. In such cases, one focuses on the change occurring during the process of healing which has a temporal endpoint. Thus, this further leads to the interpretation of ‘to the endpoint at which the degree of healing is complete.’ This interpretation of ‘up to the degree of’ seems to be possible due to the parallel intensification meaning of *-tolok*. For the parallel intensification meaning, *-tolok* assumes a change of situation, which focuses on the process rather than the endpoint. Thus, the intensified event, which changes during the process, now seems to be applied with an end point.

When it comes to *V-tolok HA*, all 17 tokens of *V-tolok HA* (9.6%) were found for its compositional meaning, where *-tolok* delivered the temporal endpoint meaning (88.2%) and the

ambiguous meaning of the temporal endpoint and the degree meaning (11.8%). (25) shows the compositionality of *-tolok* and *ha*.

- (25) *wul-ki-lul sangsa mat-tolok ha-ni*
 cry-NOMI-ACC funeral end-CONN do-CONN
 ‘(he) does crying until the funeral ends.’

(1617, *Tongkwuksinsoksamkanghayngsilto*)

In (25), the *-tolok* clause denotes the temporal endpoint as an adverbial subordinate clause where the main verb *ha* ‘to do’ is used with its argument ‘crying.’ Here, we still see that the compositional meaning of *-tolok* and *ha* is maintained in the string of morphemes *V-tolok ha*. Excerpt (26) also shows where the compositionality remains with *ha* as pro-verb.

- (26) *ku mom-ul mas-tolok ha-nila*
 the body-ACC end-ADV do-ENDER
 [His parents passed away, [...], and he served food to their grave in the morning and evening] ‘and (he) does (=serves the food) until his body ends.’

(1617, *Tongkwuksinsoksamkanghayngsilto*)

In summary, in the 17th century *-tolok* still appeared in *V-tolok X* with a high frequency, and the tokens of *V-tolok HA* still maintained the compositionality, where *-tolok* served as the adverbial subordinator delivering the temporal endpoint, parallel intensification, and ambiguous meaning of the temporal endpoint and the degree meaning.

3.2.2.3 The 18th Century

In the 18th century, similar to the 17th century, we still see the high token frequency of *-tolok* in *V-tolok X* (91.2%), conveying the temporal endpoint meaning (87%) as in (27), parallel intensification meaning (4%) as in (28) and the ambiguous meaning of the temporal endpoint and degree meaning (6%) as in (29).

- (27) *hAn tAl-i nem-tAlok nwue-si-toy*
 one month-NOM pass-CONN lie-HON-CONN
 ‘She lay until a month passes’

(1797, *Olyunhayngsilto*)

- (28) *swul-un mek-tolok cosimhA-ye*
 alcohol-TOP eat-CONN careful-CONN
 ‘The more you drink alcohol, the more cautious you are’

(1790, *Inetaypang*)

- (29) *cyangkwwun sinkyengkuy kwan-ul pes-ko malil-Al twut-Alye*
 general Sinkyengkuy hat-ACC take.off-and head-ACC tap-CONN
phi hulu-tolok tAthon-tay
 blood flow-CONN advise-CONN

‘General Sinkyengkuy took off his hat and tapped his head and advised (the king) until (his) blood flows OR up to the degree (his) blood flows.

(1797, *Olyunhayngsilto*)

We also see *-tolok* ambiguously denoting the temporal endpoint and the purposive result meaning (3%) as in (30).

- (30) *mwusoy-kitong-ey kkos phuy-ye yelumi yel-e ttatuli-tolok*
 steel-pillar-LOC flower bloom-CONN fruit bear-CONN pick-CONN
nwuli-s-osye
 enjoy-HON-ENDER

[live a long life] ‘Enjoy (live long) until/so that the steel pillar blooms flower and bears fruit and (you) pick (it) up.’

(1713, *Akhaksuplyeng*)

In (30), as the context is about wishing somebody’s longevity, the *-tolok* clause can be interpreted as the temporal endpoint meaning ‘until.’ However, the event in the *-tolok* clause

‘pillar blooms flower and bears fruit and (you) pick (it) up’ is a hypothetical situation which just refers to the future that is unlikely to come in real life. Thus, the temporal meaning can also be interpreted as the ‘purposive result’ meaning in the sense that you live long so that you face this unrealistic future time, which still delivers the meaning that you live long.

In terms of *V-tolok HA*, 11 tokens of *-tolok* were found in *V-tolok HA*, and 72.7% of them delivered the compositional meaning as in (31).

- (31) *moys-ye syes-ki-lul nal-i mas-tolok ha-ya*
 serve-and stand-NOM-ACC day-NOM end-CONN do-CONN
 ‘(he) does(=stands and serves (parents)) until the day ends.’

(1737, *Eceynayhwun*)

In (31), *V-tolok* denotes the temporal endpoint meaning ‘until’, and the verb *HA* serves as a light verb ‘do.’ In the 18th century, we started to the causative meaning that *V-tolok HA* delivers (27.3%) as in (32).

- (32) *esti pantAsi kwihyang ponay-tolok hA-lio*
 how surely returning.one’s.hometown send-CAUS-INTR
 ‘how do (I) make (him) return hometown?’

(1760, *Mwumokwangcengchwunglok*)

In (32), the king, as a speaker, talks about his vassal, who is being reported to be punished. Here, *hA* does not serve as a main light verb ‘to do’ nor a pro-verb. Also, *V-tolok* does not denote its compositional meaning. Instead, *V-tolok ha* here forms the causative meaning with the elided causer ‘the king’ and the elided causee ‘the vassal.’ Such causative meaning of *V-tolok HA* appeared in the 18th century (27.3%), distinct from the non-causative meaning of *V-tolok HA* in the earlier centuries.

3.2.2.4 The Early 20th Century

In the early 20th century, 91 tokens of *-tolok* were found in *V-tolok X*, delivering the previously found meanings, such as the temporal endpoint (62%), ambiguous meaning of temporal endpoint and degree (9%), ambiguous meaning of temporal endpoint and purposive result (5%). However, the older parallel intensification meaning is no longer found, and the degree meaning (2%) and the purposive result (22%) delivered their own meaning without ambiguity.

One example of the purposive result meaning of *-tolok* in the 20th century is illustrated below in (33). From a Catholic magazine, this text includes legal questions and answers. In (33), *V-tolok* does not convey the temporal endpoint meaning ('until people report within the deadline') nor the degree meaning ('up to the degree of people reporting within the deadline'). Rather, *V-tolok* conveys the purposive result meaning ('people report within the deadline') from the main predicate (publish the information in the newspaper).

(33) *kuyhan aneylo ta pokohA-tolok sinmwun-ey keycAyhA-la hA-yess-nAnila*

deadline within all report-CONN newspaper-LOC publish-QUOT-PST-ENDER

'(I) told to publish (the information) on the newspaper so that (people) report within the deadline.'

(1910, *Kyenghyangcapci*)

When it comes to *V-tolok HA*, 8 tokens of *V-tolok HA* were found in the early 20th century, and we see the drastic decrease of the compositional meaning with *-tolok HA*. Instead, the majority of the tokens (87.5%) delivered the causative meaning, indicating a semantic bleaching of *ha*. Excerpt (34) is one case.

(34) *kwanwen-i emha-n mal-no paykyoha-nan mal-ul ha-tolok ha-na*
 officer-NOM strict-REL word-INST apostatize-REL word-ACC do-CAUS-CONN
 ‘the officer made (Andria) say words for apostasy.’

(1908, *Kyenghyangcapci*)

In (34), ‘do (say) words for apostasy’ is not interpreted as the compositional meaning of *-tolok*. Even if it is interpreted with the purposive meaning ‘in order to do (say) words for apostasy,’ *ha* in the following predicate does not denote its compositional meaning. Instead, we see the causative meaning with a causer ‘the officer,’ the effect ‘do (say) words for apostasy’, and the omitted causee, ‘Andria.’ This causative meaning is delivered through neither *tolok* nor *ha* alone but through the construction *V-tolok ha*.

In summary, in the early 20th century, *V-tolok* adverbial subordinate conveyed sole temporal endpoint, degree, and purposive result meaning as well as ambiguous meanings where multiple interpretations of overlapping meanings were possible. The string of morphemes *V-tolok HA* conveyed both the compositional meaning and the causative meaning, with the causative meaning appearing with higher frequency (87.5%) than the compositional meaning (12.5%), as shown in Table 3.3.

3.2.2.5 Section Summary

In summary, the findings show that as an adverbial subordinator, *V-tolok* denoted the temporal endpoint ‘until’ meaning in the late 15th century. This temporal endpoint meaning was still found to be the dominant semantics in the 17th and early 20th centuries. Another older meaning of *-tolok* from the 15th century serves as a parallel intensifier where the subordinate clause denotes an intensified degree of the event parallel to the one in the main clause. This meaning persisted in the 17th and 18th centuries but was no longer found in the early 20th century. Starting in the 17th century, we see an ambiguous meaning of *-tolok* where the temporal endpoint meaning is also interpreted as the degree of the predicate in the subordinate clause at the same

time. In the 18th century, another ambiguous meaning was found as *-tolok* is interpreted as both the temporal endpoint and purposive result meanings. In the early 20th century, along with this ambiguous meaning of *-tolok*, a new purposive result is found with the second highest frequency where the subordinate clause denotes the purpose and intent of the event in the main clause.

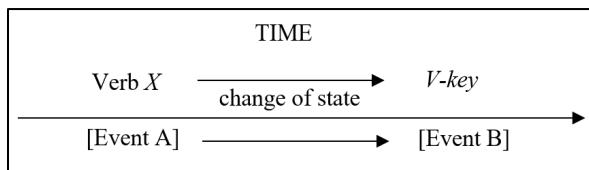
3.3 Discussion

Based on the findings from the diachronic sources, let us revisit the first research question, ‘what semantic changes occurred in *V-key* and *V-tolok*, and how do these relate to their path of constructional change into the causative constructions, *V-key HA* and *V-tolok HA*?’

The findings from the diachronic source show how metonymy, subjectification, and pragmatic inference play a role in the semantic change of *V-key* and *V-tolok*.

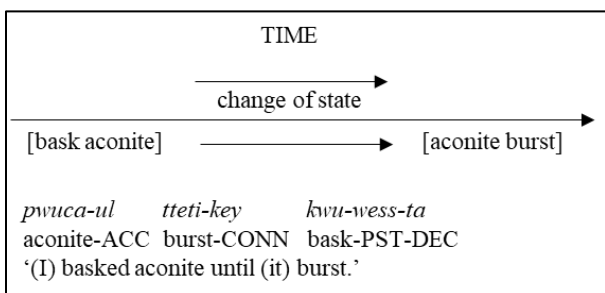
In the late 15th century, the adverbial subordinator *-key* denoted the result event that is expected from the event of the main predicate. This result situation implicates the temporal meaning and event sequences, as shown in Figure 3.3.

Figure 3.3 Image schema of the natural/expected result meaning of *V-key*



This expected and natural result meaning in the 15th century is highly associated with the closely related events in the *V-key* clause and the main clause, as shown in Figure 3.4. As I have discussed, the event of the main clause ‘basking aconite’ is expected to lead to the situation where the aconites are burst, which also implicates the change of state of the *-key* clause event.

Figure 3.4 Example of Figure 3.3



Then, this natural/expected result meaning underwent a semantic change through subjectification. With the human and speaker-centeredness meaning interpretation, the natural/expected result meaning could be interpreted as the desired result meaning. Accordingly, *-key* acquired the intention meaning, which was found as early as the 15th century. This early emergence was noted from the frequency as half of the *-key* was found as ‘the natural/expected result meaning’ and the other half was found as ‘the desired result meaning.’ This desired result meaning also shows a similar event sequence to the one of the natural/expected meaning as the event of the main clause (event A) is done, leading to the desired result event of the *V-key* clause (event B).

Also, starting in the 15th century, the string of morphemes *V-key* and *ha* appeared with high frequency. In the desired result meaning of *V-key*, in some cases, we see the compositional meaning of *V-key* and *ha*, where *ha* serves as a main verb. In this compositional meaning, *ha* denoted an action carried by the subject, intending to lead to a desired result event. However, even in the 15th century, most tokens of *V-key HA* denoted the causative meaning.

The process of this causative meaning formation can be interpreted as follows. With the increased usage of *V-key HA*, *V-key* and *HA* became a chunk. Repeated occurrences of the chunk *V-key HA* involve habituation (Haiman, 1994), “the process by which an organism ceases to respond at the same level to a repeated stimulus” (Bybee, 2003, p. 154), which relates to semantic bleaching and generalization (Bybee, 2003). Indeed, as the chunk *V-key HA* occurred at a high

frequency, we see semantic bleaching and a generalized meaning of *ha*. This semantic bleaching is also related to the light verb and discourse-related features of the verb *ha*. As a pro-verb, the verb *HA* is used when the old and known information in discourse is not repeated and not explicitly mentioned. As a light verb, *ha* ‘do’ takes its semantics mainly from the co-occurring noun. As noted by Bybee (2003, p. 152), “the lexical items found in grammaticalizing constructions ... are themselves already highly generalized in meaning. [...] Among stative verbs, it is “be” and “have” that grammaticalize, and for active verbs, the most generalized, “do” (Bybee, et al., 1994).” The light semantics of *HA* ‘do’ in Korean was also noted in Korean language research as being “used in many grammatical constructions of diverse function” Rhee (2011, p. 766). In this sense, *HA* ‘do’ seem to be a good candidate as a grammaticalizing item.

Cross-linguistically, the ‘do’ verb in many languages is known as one of the first verbs to be used by children, and its meaning is known to be associated with ‘perform an action’ (Clark, 1978). Likewise, the Korean ‘do’ verb *HA* can be regarded to convey the generalized verbal meaning of ‘perform an action.’ With the semantic bleaching of *HA* and the desired result meaning of *V-key*, this generalized verbal meaning of *HA*, along with the speaker’s wish for the desired event, seems to trigger the causee NP referent to be viewed as an agent making the desired result event, which eventually leads to the more abstract meaning of causative through *V-key HA*.

In summary, the semantic change of *V-key* and its constructional change to *V-key HA* can be summarized in Figure 3.5.

Figure 3.5 The path of semantic change of *V-key* and its constructionalization to *V-key HA*

1. Expected/natural result (TIME)	Form: NP ₁ ²⁷ [NP ₂ V ₂ -key] V ₁ : Meaning: NP ₁ V ₁ leading to NP ₂ V
	↓ subjectification and inference
2. Desired result (INTENTION)	Form: NP ₁ [NP ₂ V ₂ -key] V ₁ Meaning: NP ₁ V ₁ so that NP ₂ V ₂
Compositional <i>V-key HA</i>	Form: NP ₁ [NP ₂ V ₂ -key] HA Meaning: NP ₁ do so that NP ₂ V ₂
	Chunking, autonomy, and habituation ↓ <i>HA</i> : semantic bleaching and general verbal meaning <i>-key</i> : the speaker's wish for the desired result event
Causative <i>V-key HA</i>	Form: NP ₁ NP ₂ V-key HA Meaning: NP ₁ cause NP ₂ to V

In terms of the *V-tolok HA* construction, the core older meaning of *V-tolok* is temporal. This temporal endpoint meaning ‘up to the temporal endpoint; until’ implicates the duration of an event in the main predicate (event A) and another event that simultaneously happens to reach an endpoint (event B). These two events are parallel and take place in the same temporal domain. However, with metonymy, language users can further expect that there is an event after passing the temporal point (event C). However, the event after the endpoint is reached is unknown. The image schema of the temporal endpoint meaning of *V-tolok* is presented in Figure 3.6, and an example of Figure 3.6 is presented in Figure 3.7 below.

²⁷ NP₁ and NP₂ might be omitted in discourse.

Figure 3.6 Image schema of the temporal endpoint meaning of *V-tolok*

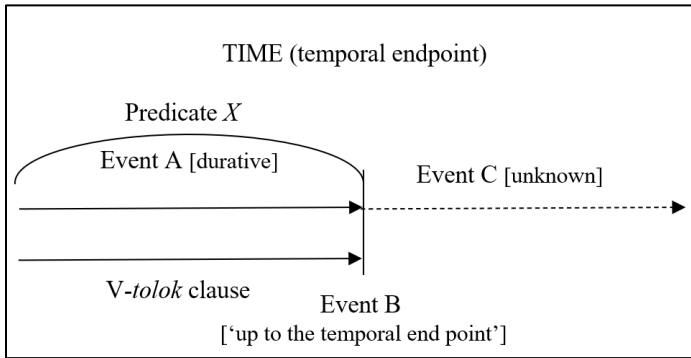
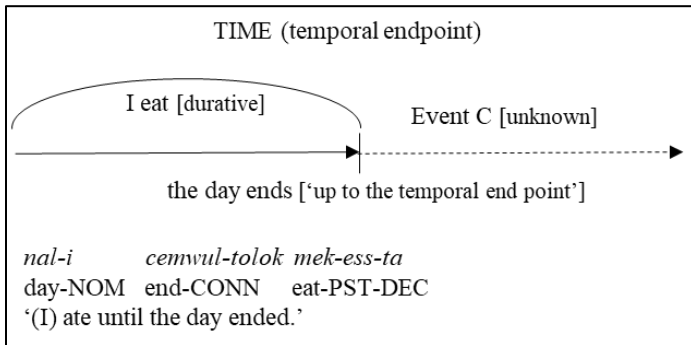


Figure 3.7 Example of Figure 3.6



Another older meaning of *V-tolok* as a parallel intensifier assumes a change of the event in the main predicate (event B) along with a change of the event in the *V-tolok* clause (event A). Here, the events are also parallel with increased intensity, denoting the meaning of 'the Xer, the Yer.' This parallel intensification meaning of *V-tolok* can be visually schematized as in Figure 3.8, and its example can be found in Figure 3.9.

Figure 3.8 Image schema of the parallel intensification meaning of *V-tolok*

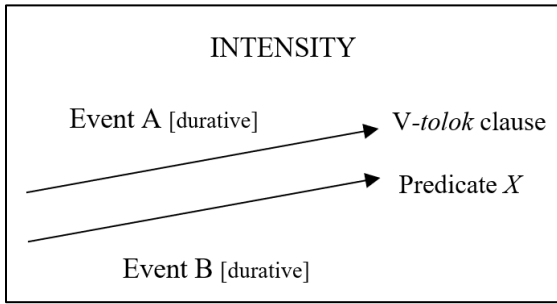
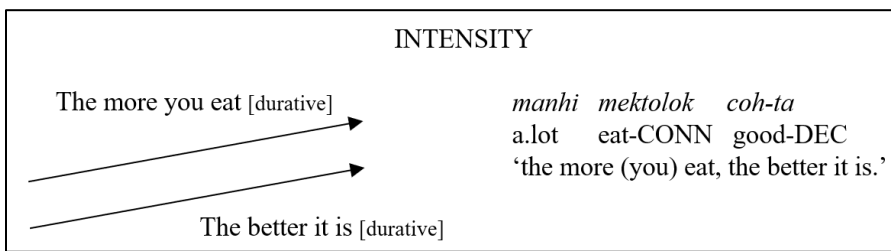


Figure 3.9 Example of Figure 3.8



Starting in the 17th C, we see the new meaning of *-tolok*, ‘degree’ ambiguously interpreted with the temporal endpoint meaning of *-tolok*. This degree meaning of *-tolok* was previously discussed as an extended meaning from ‘until’ (Suk, 2006). However, I argue that both the temporal endpoint meaning and the parallel intensifier meaning contributed to the emergence of the degree meaning. This mechanism is explained through pragmatic inferencing. The temporal endpoint meaning of *-tolok* implies that there is a duration of time with an end point. At the same time, the parallel intensification meaning of *-tolok* suggests that there is a change of action/state, which is more intensified parallel to the main predicate’s event. These two meanings further suggest that during a certain time of period, an action and/or state becomes intensified. The parallel event structure along with the temporal meaning of *V-tolok* allows the language user’s inference about the relation between the two events. As a result, language users make an inference that the action/state of the *tolok* predicate is intensified or changes to the degree where it gets to the endpoint of a certain time period. With this inference, the degree meaning ‘X up to the degree’ is made with the interpretation of the parallel temporal relation as a

change of an event with increased intensity. Since the semantic change is gradient, we see these ambiguous meanings of temporal endpoint and degree meaning of *-tolok* in the 17th century.

Figure 3.10 presents the image schema of the degree meaning, and Figure 3.11 shows an example of Figure 3.10.

Figure 3.10 Image schema of the degree meaning of *V-tolok*

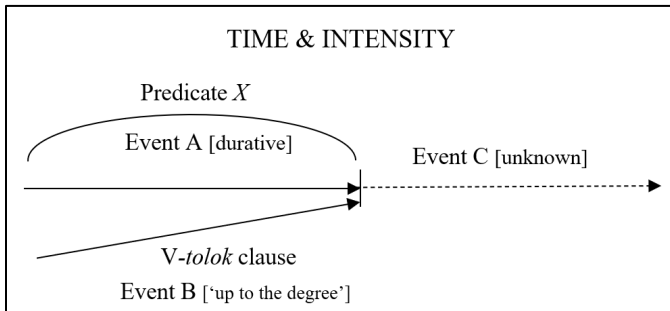
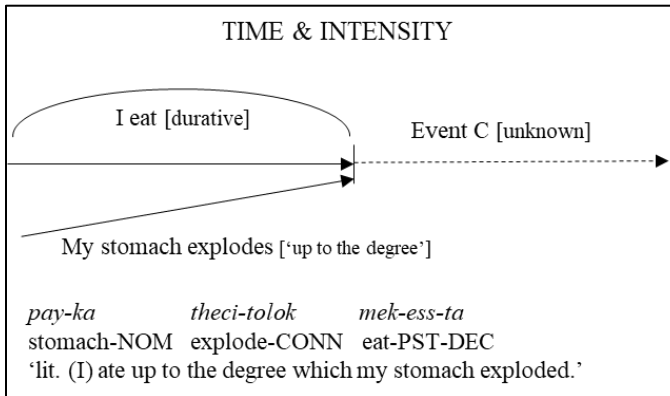


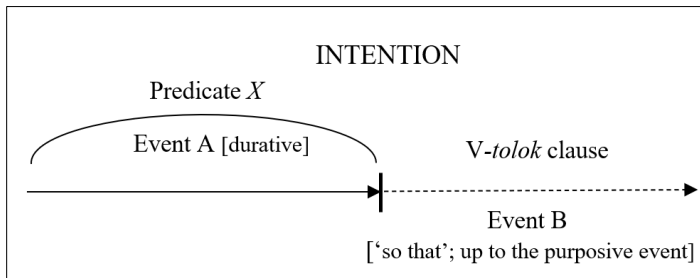
Figure 3.11 Example of Figure 3.10



In the 18th century, the temporal endpoint meaning of *-tolok* was ambiguously interpreted as purposive result meaning. This ambiguous meaning was later found as a sole purposive result meaning in the early 20th century. This purposive result meaning of *-tolok* seems to have been created based on subjectification and pragmatic inferencing. Both the temporal endpoint ‘up to the temporal point’ and the degree ‘up to the degree’ implicate that there is an event that follows after reaching the temporal and situational endpoint of the *-tolok* clause. Then, the temporal endpoint ‘up to the temporal point’ and the intensity meaning from the degree meaning ‘up to the

intensity point' allow the language users to inference the temporal events as 'up to the speaker's purposeful and wishful event.' Here, the event in the *-tolok* clause (event B) does not simultaneously occur with the event in the main clause (event A). Instead, event B occurs after event A, and the factiveness of event B is unknown (see Figure 3.12).

Figure 3.12 Image schema of the purposive result meaning of *-tolok*



With this purposive result meaning of *V-tolok*, when the main verb *ha* follows, *V-tolok HA* conveys the compositional meaning of 'do' and 'so that.' With this increased usage, *V-tolok* and *ha* became a chunk, and through this chunking, we see the semantic bleaching of *ha* with its weakened meaning of 'do.' With this semantic bleaching of *ha*, a more generalized verbal meaning is left in the syntactic position of the main verb. In the meantime, *V-tolok*, occurring in the pre-verbal position, conveys the speaker's purposive result event. This generalized verbal meaning of *ha* along with the speaker's wish for the purposive event seems to trigger the causee NP referent to be viewed as carrying out an action to lead to the purposive result event, which eventually led to the more abstract meaning, causation.

Based on the token frequency of *V-key HA* and *V-tolok HA* from the historical corpora, we can say that the *V-key HA* was already entrenched as a causative construction in Middle Korean. The chunking of *V-key HA* occurred very early, and the chunking was already found with a very high token frequency in the 15th century delivering its constructional causative meaning. In the meantime, the chunking of *V-tolok HA* occurred with a low frequency in the 15th

century, and it was not until the 18th century that the causative meaning of the chunking of *V-tolok HA* was found.

In summary, Figure 3.13 shows the semantic change of *V-tolok* and its constructional change to *V-tolok HA*.

Figure 3.13 The path of semantic change of *V-tolok* and its constructionalization to *V-tolok HA*

1. Temporal endpoint (TIME)	Form: NP ₁ [NP ₂ V _{2-tolok}] V ₁ Meaning: NP ₁ V ₁ up to the temporal point NP ₂ V ₂
1. Parallel intensification (INTENSITY)	Form: [V _{2-tolok}] [Adj/V ₁] Meaning: the V _{2er} the Adj/V _{1er} ↓ subjectification and inference
2. Degree (TIME & INTENSITY)	Form: NP ₁ [NP ₂ V _{2-tolok}] V ₁ Meaning: NP ₁ V ₁ up to the degree NP ₂ V ₂ ↓ subjectification and inference
3. Purposive result (INTENTION)	Form: NP ₁ [NP ₂ V-tolok] X Meaning: NP ₁ X so that NP ₂ V
Compositional <i>V-tolok HA</i>	Form: NP ₁ [NP ₂ V-tolok] HA Meaning: NP ₁ do so that NP ₂ V chunking, autonomy, and habituation ↓ <i>HA</i> : semantic bleaching and generalized verbal function <i>V-tolok</i> : the speaker's wish for the purposive result event
Causative <i>V-tolok HA</i>	Form: NP ₁ NP ₂ V-tolok HA Meaning: NP ₁ cause NP ₂ to V

As I have discussed so far, the findings indicate that the ‘desired result’ meaning of *V-key* and the ‘purposive result’ meaning of ‘-tolok’ contribute to its grammaticalization to the causative construction. Then, what do ‘purposive result’ or ‘desired result’ mean? These meanings and their transition to the causative can also be found in previous typology studies (Schmidtke-Bode, 2009). Schmidtke-Bode (2009, p. 18) defined “the purpose of a particular action as “reason formulated in terms of [the] intended outcome” of that action (Jackson 1995:57)” and proposed the conceptual properties of purposes as follows:

“purposes are intrinsically future-oriented; that is, intentions give rise to actions which in turn may yield the desired outcome. Importantly, though, there is no necessity for the desired result state to come out: not every intention is successfully realized by action. This will prove to be a crucial characteristic in the coding of purpose clauses. In sum, the central conceptual ingredients of purpose are intentionality, target-directedness, future orientation, and a hypothetical result state”

(Schmidtke-Bode, 2009, p. 19)

When it comes to *-key* and *-tolok*, we also find such traits of purpose. As the intention meaning was inferred through the semantic change process, the natural/expected result meaning of *-key* was developed to denote the ‘desired result’ meaning, and the temporal endpoint and the parallel intensification meaning of *-tolok* was further developed to denote the ‘purposive result’ meaning. Schmidtke-Bode (2009) further provided the definition of the purpose clause as follows: “purpose clauses are part of complex sentences which encode that one verbal situation, that of the matrix clause, is performed with the intention of bringing about another situation, that of the purpose clause” (p. 20).

As for Korean, *-key* and *-tolok* are known as adverbial subordinators, marking the purpose clauses (Oh & Shin, 2015; Song, 2015; Jeong, 2023) and further leading to the causative meaning (Song, 2015). However, despite this similar trait that *-key* and *-tolok* share, the way the purpose meaning was developed in *-key* and *-tolok* seems to be different. For example, the older meaning of *-key* is the natural/expected result where the *-key* clause and the main clause events are closely related. Thus, although the later meaning of the ‘desired’ result meaning features the future-oriented result, the event sequence seems to be sequential as the event in the main clause ‘leads to’ the desired event in the *-key* clause. On the contrary, from the older ‘temporal endpoint’ and ‘parallel intensification’ meaning of *-tolok*, the event in the main clause and the event in the -

tolok clause were not sequential. Rather, they are parallel, occurring simultaneously in the same temporal domain. Furthermore, the event of the *-tolok* purpose clause occurs after the event of the main clause. In this sense, the *-tolok* purpose clause seems to carry the “hypothetical result situation” meaning more than the *-key* purpose clause. From the purposive result meaning of *-tolok* and the desired result meaning of *-key*, through grammaticalization, they developed to express a more abstract concept, ‘causation.’

The hypothetical result situation that *-tolok* delivers also seems to be relevant to the findings from Jeong (2023). According to Jeong (2023), the purposive *-tolok* clause usually occurs when the subject of the *-tolok* subordinate clause is not the same as the one of the main clause; and, the subject of the main clause does not directly involve the purposive event (i.e., the *-tolok* clause) and “the control of the main clause subject’s referent over the purposive event is low” (p. 124). Accordingly, the purposive *-tolok* clause features “the purpose with a low possibility of control” (p. 82; English translation is mine, in Korean “통제 가능성이 낮은 목적”). Such findings show the semantic feature of the *-tolok* purpose clause; however, its comparison to *-key* is not found from Jeong (2023).

As noted in Croft (2000), “once periphrastic expression has been chosen to express a novel meaning, it then undergoes FUSION, that is, it is perceived as a fixed unit (Lüdtke 1986:27-31; Keller 1990/1994:110). Lüdtke and Keller present this as a psychological phenomenon, that is, entrenchment. However, it is also a social phenomenon, namely the conventionalization of the periphrastic expression with a particular meaning. In other words, the fusion phrase involves the propagation of the construction as a variant language for the new function. [...] among the ways to reduce this sort of variation are to: (i) fix the word order of the construction – i.e. rigidification; (ii) eliminate optionality – i.e. obligatorification; (iii) reduce the range of elements that fit into a slot in a construction to a closed class or an invariant element – i.e. paradigmaticization” (p. 162).

From the diachronic findings of *V-key* and *V-tolok* to *V-key HA* and *V-tolok HA*, we saw fusion where the fixed order of *V-key HA* and *V-tolok HA* of the construction (rigidification), delivering the novel meaning of causation. Morphosyntactically, the *V-key* and *V-tolok* clause is made obligatory, and there is a loss of independent status of the adverbial subordinate clause of *V-key* and *V-tolok*. Functionally, the compositionality and analyzability of the constructions *V-key HA* and *V-tolok HA* were lost, and their meaning was extended from the compositional ‘result’ (*V-key HA*) and ‘purpose’ (*V-tolok HA*) meanings to the constructional meaning of causative.

So far, we have discussed how both *V-key HA* and *V-tolok HA* constructions were grammaticalized into the causative construction. Before I end this chapter, let me briefly discuss one remaining question: ‘what was the motivation for the emergence of new causative construction *V-tolok HA* while there is an already existing causative construction, *V-key HA*?’

Although this answer is speculative, the analogy would have been attributed to the emergence of the *V-tolok HA* construction. An analogy is defined as “the process by which a speaker comes to use a novel item in construction” (Bybee, 2010, p. 59). From the high token frequency with its causative meaning, the *V-key HA* construction was already entrenched as the causative construction from the 15th century. Thus, the language users already have a highly entrenched experience with utterances of *V-key HA*. With the similar semantic meaning *-tolok* shares with *-key* (i.e., the purposive result meaning), we can assume that *V-tolok HA* started to follow the same path, but the motivation for its grammaticalization to the causative seems to be to fill a niche for a different meaning. We can speculate the evidence from the co-occurring verbs with each construction. Table 3.4 shows the types of co-occurring verbs with the *V-key HA* construction.

Table 3.4 Co-occurring verb types with the *V-key HA* construction

Verb types	15 th C	17 th C	18 th C	Early 20 th C
State	46 (24.2%)	43 (38.1%)	68 (50.7%)	45 (53.6%)
Action	127 (66.8%)	69 (61.1%)	62 (46.3%)	39 (46.4%)
Process	17 (8.9%)	1 (0.9%)	4 (3%)	0
	190 (100%)	113 (100%)	134 (100%)	84 (100%)

In the 15th C, all three types of verbs co-occur with *V-key HA*, while the action verb occurs most frequently. However, the verbs of state started to increase their frequency, and their frequency increased over the centuries. In the 18th century, the state verbs became the most frequent co-occurring verbs, which continued to the early 20th century. When *V-tolok HA* started to denote the causative meaning in the 18th century, the findings of this study's data show that the co-occurring verbs were either action verbs or process verbs, and it was all action verbs in the early 20th century. Thus, the emergence of the *V-tolok HA* construction could be associated with that *V-tolok HA* starting the action-oriented causative meaning.

To conclude, this chapter presented the diachronic change of *-key*, *-tolok*, and its grammaticalization into the causative constructions. In the next chapter, their synchronic usages will be examined.

CHAPTER IV

SYNCHRONIC STUDY

In the previous chapter, we explored the diachronic usages of the *V-key HA* and *V-tolok HA* constructions, discussing how the semantic change and grammaticalization occurred for each construction. In this chapter, we turn our attention to the contemporary usages of both constructions through contemporary written news corpora. Specifically, this chapter answers the second and third research questions of this dissertation:

- 2) What are the synchronic usages of the *V-key HA* and *V-tolok HA* constructions?
- 3) What is the relevance of the diachronic change of *V-key HA* and *V-tolok HA* to their synchronic usages, if any?

Section 4.1 introduces the data collection through the contemporary written news corpora and the data analysis. Section 4.2 presents the findings, and Section 4.3 discusses the findings and revisits the research questions.

4.1 Methodology

4.1.1 Data Collection

To examine the contemporary usage of the DO-causative constructions, I selected written newspaper texts. One of the main reasons for selecting the newspaper corpora is that written newspaper texts include both the general and specific aspects of the written discourse. Newspaper articles include both the expository and persuasive features of writing. Newspaper texts are a type of informational text which delivers information based on facts, including the information of who, what, when, where, how, and why. In addition, newspaper articles have a persuasive feature as the writers' or the publisher's ideologies might be reflected in the news articles (Kim, 1999). Thus, selecting the written newspaper texts helps to examine the two constructions in a specific genre with various written discourse features.

The data were collected NIKL Newspaper Corpus 2020 version 1.0 from *Modu Corpus* (National Institute of Korean Language)²⁸. The corpora offer texts from written newspapers from major daily newspapers, local newspapers, special magazines (e.g., sports, economics), and Internet news between the years 2009 and 2018²⁹. Among these types of news, I selected the data from the major daily newspapers, which include the following publishers: *Kyunghyang Shinmun*, *Naeil Shinmun*, the *Dong-a Ilbo*, the *Chosun Ilbo*, and the *Hankyoreh*.

In order to elicit the target constructions from the corpora, the following procedures were followed. First, I downloaded the files (.JSON) of the major daily newspaper. By using a Python script, tokens of the target constructions, *V-key HA* and *V-tolok HA* were elicited and saved as an excel file³⁰. In doing so, the Python script converted the texts into morphologically tagged texts,

²⁸ The corpora are available for free to people who sign the contract for use.

²⁹ One piece of the metadata about the corpora was the year the file was made: either in 2018 or 2019. Among these two, I only chose those that were made in 2018, which offers a large quantity of the text (Total 5,200,606 *ecel*).

³⁰ I also included *V-khey HA* and *V-tholok HA* as *-khey* and *-tholok* are allomorphs of *-key* and *-tolok* in Present-day Korean.

and the metadata and the text in context were elicited. Then, I manually checked each token and eliminated any irrelevant tokens. As a result, 1866 tokens of *V-key HA* and 1319 tokens of *V-tolok HA* were collected.

4.1.2 Data Analysis

I classified each token of the *V-key HA* and *V-tolok HA* for its meaning, whether it denotes the causative meaning or not. If the meaning was causative, additional coding was conducted as follows.

First, the sense of causative was coded. Talmy's force dynamics were first considered to determine whether the causee's force tendency is maintained or not (e.g., the causative and letting types). Through qualitative discourse analysis, additional senses of the target construction were added (e.g., lead to, allow, etc.).

Second, in order to explore the prototypical form of the causer and causee within each construction, the form of the causer and causee (e.g., noun phrase, clause, in a relative clause) were classified. Also, the clausal level of the causer and causee's appearance was noted, whether they appear in the target clause or were elided (available from the previous clause or discourse). Lastly, the case marking of the causee NP was analyzed. The identification of the causer and causee forms and their appearance in the discourse was important to identify the causer and causee. The analysis was extended to the discourse level since the ellipsis of nominals are common in Korean (Lee, 2006; Lee, 2015). The case marking of the causee NP was also analyzed to verify previous arguments on the influence of the causee's case marking on the causer and causee (Kim, 2009; Kim & Kim, 2018).

Third, the semantic feature of the causer and causee were analyzed based on the classification by Gilquin (2010) as shown in Table 4.1. The animacy feature of the causer and

causee help us identify a classification of causative events (Talmy, 1976)³¹. Also, any semantic features that arose from the data analysis were noted and further examined to explore the semantic differences between the two constructions.

Table 4.1 Semantic nature of causer and causee (from Gilquin, 2010, p. 114)

Form	Animacy	Examples	
Simple or Complex NP	Animate	Human	Kelly
		Human-like	Governments, agencies, organization
		Indeterminate	cases where it was clear that the causer/causee was a human or an object, but its exact nature could not be determined,
	Inanimate	Animal	Bird
		Organism	Autoantibodies
		Indeterminate	cases where it was clear that the causer/causee was a human or an object, but its exact nature could not be determined,

Fourth, the semantic features of the co-occurring verbs with each construction were analyzed. The co-occurring verbs with each construction were examined to explore the semantic features of each construction, as each occurrence of the construction builds the strength of the construction based on exemplar clouds. To examine the general semantic features of co-occurring verbs, the co-occurring verbs were first categorized based on Chafe's (1970) classification of verbs (see Table 4.2). Then, any emerging semantic features were further analyzed.

Table 4.2 Coding schemes for features of co-occurring verbs with *-key* and *-tolok*

Types	Description/Features
Action	answerable to 'what did the noun do?'
States	the situation of the predicate; not answerable to 'what happened? what is happening?'
Process	the change of state; answerable to 'what happened? what is happening?'

After the coding was completed, the different semantic and syntactic features of each construction were quantitatively and qualitatively analyzed. Quantitatively, distinctive collexeme

³¹ Inducive causation, volitional causation, affective causation, and physical causation (refer to Section 2.1.3.)

analysis (Gries & Stefanowitsch, 2004) was conducted to examine which lexical elements are more likely to occur with one construction than the other. Gries & Stefanowitsch developed this method called ‘collostructional analysis’ based on corpus linguistics to examine constructions. Part of the collostructional analysis is collexeme analysis, which is “basically little more than the extension of the quantitative study of collocation (co-occurrences of words) with association measures (AMs) in corpus linguistics to the study of colligation (co-occurrences of words and grammatical patterns or constructions, hence collostruction) in Construction Grammar” (Gries, 2015, p. 507). The process follows the procedures below (Gries, 2015, p. 508):

- “retrieve all instances of a linguistic element e in question (with collocates, a word w ; with CA, a construction cx);
- compute an AM for every relevant element type ty that co-occurs with e (with CA, those are often the words w_{1-n} in a slot of construction cx and are referred to as *collexemes*)”.

Distinctive collexeme analysis³² “identifies lexemes that exhibit a strong preference for one member of the pair as opposed to the other, and thus makes it possible to identify subtle distributional differences between the members of such a pair” (Gries & Stefanowitsch, 2004, p. 97). Thus, distinctive collexeme analysis compares two constructions with regard to their collocational preferences, and it has been used for studies on synchronic and diachronic constructions and alternations (Among many, Hilpert, 2007; Zehentner & Traugott, 2020). In order to examine the differences between the two DO-causative constructions, *V-key HA* and *V-tolok HA*, I used distinctive collexeme analysis as a quantitative part of this study. Qualitatively, I further examined each token in the discourse. Now, let us move on to the following section 4.2 to discuss the findings.

³² Discussing the logical process of collexeme analysis is beyond the scope of this dissertation. For more information, refer to Gries & Stefanowitsch (2004).

4.2 Findings

4.2.1 Compositionality

The findings from the contemporary written newspaper corpora show that the majority of both *V-key HA* (99.5%) and *V-tolok HA* (95.8%) constructions denoted the causative meaning (See Table 4.3).

Table 4.3 The number of tokens of each construction from the contemporary corpora

Constructions	Meaning	N of tokens
<i>V-key HA</i>	Causative	1857 (99.5%)
	Non-causative (compositional)	9 (0.5%)
	Total:	1866 (100%)
<i>V-tolok HA</i>	Causative	1263 (95.8%)
	Non-causative (compositional)	3 (0.2%)
	Ambiguous (compositional or causative)	10 (0.8%)
	Non-causative (self-determination & imperative)	43 (3.2%)
Total:		1319 (100%)

The few instances where the constructions do not denote the causative meaning are discussed briefly below. For the *V-key HA* construction, eight tokens of the verb *nemta* ‘exceed’ and one token of *moluta* ‘not know’ co-occurred with the *V-key HA* construction, which all denoted an adverbial meaning. When the verb *nemta* ‘exceed’ co-occurred with *-key HA*, a duration of time or numeric quantity occurred to denote the adverbial meaning of ‘exceeding the quantity/time’ as shown in Example (1).

- (1) *apeci-wa emeni-nun kyelhon hwu isa-lul sumwu pen-to*
 father-and mother-TOP marriage after moving-ACC twenty times-even
nem-key ha-ys-tay-yo
 exceed-CONN do-PST-QUOT-POL

‘(I heard that) (my) father and mother did moving exceeding 20 times since their marriage.’

(2015, *Hankyoreh*)

In (1), the verb *ha* serves as a main light verb ‘do’ for its argument *isa* ‘moving’, and the verb *numta* ‘exceed’ precedes *-key*, denoting the adverbial meaning of ‘in a way that it exceeds 20 times.’ Similar to (1), when *moluta* ‘not know’ precedes *-key*, it denotes an adverbial meaning of ‘in a way that one is not aware of’ as in (2). In (2), the verb *HA* serves as a pro-verb, co-referencing ‘shaking legs.’

(2) *tali tte-nun kes-un taynac-ey casin-to molu-key*
 leg share-RL NOMI-TOP broad.daylight-at oneself-even not.know-CONN
ha-nun supkwan-i-ciman
 do-REL habit-CP-but

‘Shaking legs is the habit that (a person) does in broad daylight in a way that one is not aware of (i.e.,) without one’s knowledge.’

(2008, *Hankyoreh*)

Thus, both (1) and (2) indicate that the *V-key HA* construction delivers the compositional meaning of *V-key* and *ha* rather than the causative constructional meaning, in which the verb *ha* ‘do’ serves as a main verb or a pro-verb and no causee NP is available. The frequency of these compositional uses was extremely low, only nine tokens out of 1866 tokens (0.48%).

For the *V-tolok HA*, the findings show that ten tokens (0.8%) of the construction denoted ambiguous meanings, and 46 tokens (3.5%) of the denoted non-causative meaning (see Table 4.4).

Table 4.4 Non-causative meanings of *V-tolok HA*

Non-causative meaning		N of tokens
Non-causative (Adverbial)	Purposive ‘in order to’ Degree ‘up to the degree’	2 1
Non-causative (Others) ³³	Speaker’s will and determination Imperative	13 30
Ambiguous	Ambiguous meanings	10
		Total: 56

Let us first discuss the three tokens of V-*tolok HA* where the verb *ha* served as a main verb or a pro-verb with the adverbial meaning of *tolok* (e.g., purposive result ‘so that’ and degree ‘up to the degree’). Excerpt (3) shows that V-*tolok* denotes the purposive meaning ‘so that’ and the verb *ha* ‘to do’ is a verb that is part of the relative clause ‘speech.’

- (3) *hwupo-tul-un intheneys pangsong-ey naw-a cicica-tul*
candidate-PL-TOP Internet broadcast-LOC come.out-and supporter-PL
phi-ka kkulh-tolok ha-l mal mos-ha-l mal ta ha-nta
blood-NOM boil-CONN do-FUT speech cannot-do-FUT speech all do-DEC

‘Candidates appear on the Internet broadcasts and say everything they can or cannot say to upset the supporters (lit. to boil the supporter’s blood).’

(2017, the *Chosun Ilbo*)

In (4), we see the degree meaning of *tolok* with the pro-verb *ha*. In the previous discourse, the speaker talks about how her life got messed up, but she did not give up working. Then, in (4), the speaker talks about how much she worked by using the adverbial meaning of *tolok* as ‘up to the degree of dying.’

- (4) *ai-tul meky-e salli-ki wihay cwuk-tolok ha-yss-unikka*
kid-PL feed-and keep.alive-NOMI for die-CONN do-PST-CONN

‘Because I did (working) up to the degree of dying for feeding (my) children and keeping (them alive).’

(2016, the *Chosun Ilbo*)

³³ Table 2.3 from Section 2.2 include these two usages of V-*tolok HA*.

Thus, (3) and (4) show the compositionality being maintained in *V-tolok HA*. In addition to this adverbial meaning of *V-tolok* and the main verb and pro-verb of *ha*, there are tokens where the *V-tolok HA* construction denotes an imperative meaning and speaker's will with determination. According to previous literature (Kim, 1993; Kim & Kim, 2011), if the causee entity is not available in the clause, the meaning of *V-tolok HA* can be non-causative. In this data, 13 tokens of *V-tolok HA* denoted the speaker's will. In these cases, the speaker is known to be the entity who carries out the event of the *-tolok* clause. Excerpt (5) shows such an example. Excerpt (5) is a quoted sentence which is part of what chairman Lee talks about his plan for the company, CJ. In (5), the verb *cengcinhata* 'devote oneself; work hard' occurs with *-tolok HA*, with an interpretation of the speaker (i.e., 'I') being the same entity who carries out the event of 'devote oneself.'

(5) *CJ-lul wihay tasi cengcinha-l swu iss-tolok ha-keyss-ta*
 CJ-ACC for again devote-ADN possibility exist-CONN³⁴ do-will-DEC

[Chairman Lee said] "I will make sure that I can devote myself (or work hard) for CJ again."

(2016, the *Dong-a Ilbo*)

According to previous literature, tokens like (5) cannot be defined as causative as there are no causer and causee entities, and there is only one event of the speaker carrying the action 'devote.' However, I argue that tokens like (5) can also be considered as causative based on the notion of divided self from Talmy (2000). With this notion, the speaker ('I') who is the subject at the moment with the force tendency toward 'not working hard' can be understood as a causer. Also, there is the other part of 'I' with the force tendency toward 'working hard,' which can be

³⁴ I leave this linguistic gloss as a connective (CONN). Previously, *-tolok* before *-keyss* 'will' was also glossed as 'intend' (Eun & Strauss, 2004).

understood as the causee. Then, (5) can be interpreted as the causative meaning, ‘I will make *myself* be able to work hard for CJ again.’

When the self-determination meaning like (5) is delivered, we see that the futurity marker *-keyss* ‘will’ co-occurs with the *V-tolok HA* construction. Among the 13 tokens of this meaning of *V-tolok HA* (refer to Table 4.4), 12 tokens co-occurred with the futurity auxiliary *-keyss* ‘will’ and one token co-occurred with the future-tense marker *-(u)l*. With the interpretation of the divided self for the causer and causee entities, the present self remains in the present temporal domain while the future to-be-self is in the future temporal domain, denoting a causative meaning as ‘I (*i.e.*, *the present self*) will make *myself* (*i.e.*, *the future myself*) work hard again.’ Thus, the causative meaning can still be delivered, instead of the self-determination meaning.

When both the causer and causee NPs refer to the listener (30 tokens), it is known that *-tolok ha* delivers the imperative meaning. Excerpt (6) shows such a case. In (6), the verb *ssista* ‘wash’ co-occurs with *V-tolok HA*, and the person who carries out the action of the *-tolok* clause ‘wash’ is known to be interpreted as the listener.

- (6) *swuyengcang-eyse hwacangsil sayong hwu son-ul ssis-ul ttay-nun*
 swimming.pool-LOC bathroom use after hand-ACC wash-when-TOP
thukpyelhi kkaykkusi ssis-tolok ha-nta
 especially clean wash-CONN do-DEC

‘When (you) wash your hands after using the bathroom in the swimming pool, (you) especially (should) wash (your hands) clean.’

(2004, the *Dong-a Ilbo*)

According to previous literature (Kim, 1993), usages of *V-tolok HA* like (6) where the listener is the agent of the *V-tolok* clause, and *V-tolok HA* delivers a non-causative imperative meaning. However, similar to (5), (6) can also be understood as a causative meaning with the notion of divided self. A part of the listener ‘you’ with the force tendency toward ‘not washing

hands' can be considered as the causee, and the other part of the listener with the force tendency toward 'washing hands' can be considered as the causer. As a result, *-tolok ha* in (6) can convey the causative meaning, '(you) make (yourself) wash your hands clean.'

Thus, even if *V-tolok HA* includes only one entity (either the speaker or the listener), the causative meaning can also be possible with the notion of the divided self. This interpretation also explains the 10 tokens of *V-tolok HA* that were coded as ambiguous meanings. The ambiguity lies in whether the two entities (causer and causes) are noted in the discourse. Excerpt (7) shows such a case. In (7), the president of the association talks about their future plan to address problems raised by the newspaper, the *Hankyoreh*.

(7) *kimyen hoychang-un "inkwen-mwunc-ey kwanlyenha-y kyoyuk-to*
 Kimyen president-TOP human.right-issue-about be.related.to-CONN education-too
tewuk kanghwaha-ko hyencang silthaycosa-to ha-yse kaysencem-ul
 more reinforce-and field survey-too do-CONN improvement-ACC
chac-tolok ha-keyss-ta"-ko malha-yss-ta
 find-CAUS-will-DEC-QUOT speak-PST-DEC

(2013, the *Hankyoreh*)

(7) with an omitted causee NP arises the ambiguity in meaning. If the omitted NP is considered as the same person as the speaker (i.e., president Kim), the self-determinative meaning is possible as: 'President Kim Yen said, "I will make sure to find improvements as (I/we) further strengthen education on human rights issues." If the omitted NP is considered as a different entity, such as the association President Kim belongs to, the causative meaning is also possible as 'I will make the association find improvements.' Furthermore, with the concept of divided self, the causative meaning of 'I will make (myself) find improvements' is possible.

Thus, this possible causative interpretation involving the existence of the causee entity in (7) as well as the possible causative meaning with the divided self in (5) and (6), suggest that the

V-tolok HA construction can still denote the causative meaning. In this sense, Table 4.4 can be revised to reflect such tokens with the causative meaning as in Table 4.5 below. With this approach, we see that over 99% of the tokens of *V-key HA* and *V-tolok HA* constructions denote the constructional causative meaning.

Table 4.5 Causative and non-causative meaning of each construction

Constructions	Meaning	N of tokens
<i>V-key HA</i>	Causative meaning	1857 (99.5%)
	Non-causative meaning (adverbial)	9 (0.5%)
		Total: 1866 (100%)
<i>V-tolok HA</i>	Causative meaning	1316 (99.8%)
	Non-causative meaning (adverbial)	3 (0.2%)
		Total: 1319 (100%)

In the next section, let us further examine the causative *V-key HA* and *V-tolok HA* constructions.

4.2.2 Causative Constructions

This section reports the qualitative and quantitative findings about the constructional features of the two causative constructions based on the tokens of *V-key HA* (1857 tokens) and *V-tolok HA* (1263 tokens³⁵) with causative meaning (refer to Table 4.3).

4.2.2.1 Meaning of Causation

First, let's explore the constructional meaning of *V-key HA* and *V-tolok HA* in context. The findings show that both constructions denote the prototypical causative meaning with the greater antagonist's force in the force-shifting state. Excerpt (8) includes two tokens of *V-key HA*, which co-occur with the verb *mek* 'to eat' and *nwup* 'to lie', respectively.

³⁵ Although I argue that the imperative meaning and the self-determination meaning of *V-tolok HA* is related to the causative meaning, I did not include tokens of such cases and the ambiguous ones to focus on the tokens denoting the causative meaning unarguably.

(8) *yukkwun mo cwungsa-nun tampay-lul phiwu-nun pyengsa-tul-ul*
 army so.and.so. sergeant-TOP cigarette-ACC smoke-REL soldier-PL-ACC
mo-a kangceylo tampay-lul mek-key ha-yss-ko talun hasa-nun
 gather-and forcefully cigarette-ACC eat-CAUS-PST-and another staff.sergeant-TOP
pwuha-lul syawecang-ey nwup-key ha-n twi chanmwu-lul
 subordinate-ACC shower.booth-LOC lie-CAUS-after cold.water-ACC
ppwuli-ta cekpalt-way
 spray-CONN be.caught-CONN

‘A sergeant in the Army gathered soldiers who smoke and forcefully made (them) eat cigarettes, while another staff sergeant was caught spraying cold water after making his subordinates lie in the shower booth’

(2011, the *Dong-a Ilbo*)

In the first token of *V-key HA*, the causer *cwungsa* ‘a sergeant’ and the causee *pyengsa-tul* ‘soldiers’ appear in the previous clause, which is conjoined with the target clause with the construction *V-key HA*. The causer’s force against the causee’s force tendency is greater than the causee’s force tendency (i.e., not eating the cigarettes) and results in the onset causation of action ‘eating the cigarette.’ The co-occurring adverb *kangceylo* ‘forcefully’ as well as the context of the discourse about the prosecution of the sergeant support the interpretation of the causative meaning. The other token of *V-key HA* in (8) occurs with the explicit causer NP *hasa* ‘staff sergeant’ and the explicit causee NP *pwuha* ‘subordinate’ in the target clause. The causer’s force against the causee’s force tendency is greater than the causee’s force tendency (i.e., not lying in the shower booth) and results in the causee’s onset causing of action (i.e., lying in the shower booth).

This prototypical meaning of causation is also found with the *V-tolok HA* construction. In (9), the *V-tolok HA* construction denotes the authorities of Jeju Island evacuating the Halla Mountain hikers.

- (9) *ceycwuto-nun hanlasan tungsankayk 250-myeng-ul hasan-tholok ha-yss-*
 Jeju.island-TOP Halla.Mountain hiker 250-people-ACC descend-CAUS-PST-
umye hanlasan ipsan-to cenmyen thongceyha-yss-ta
 CONN Halla.Mountain entry-too completely restrict-PST-DEC
 ‘Jeju Island made 250 hikers descend from Halla Mountain and completely restricted the
 entry of Halla Mountain.’

(2005, the *Chosun Ilbo*)

In (9), the causer is ‘(authorities of) Jeju Island’, and the causee is ‘hikers.’ The force tendency of the causer against the causee’s force tendency is greater than the causee’s force tendency, (i.e., hike the mountain) which results in the causee’s onset causation of action (i.e., descend the mountain). Thus, both *V-key HA* and *V-tolok HA* constructions denote the prototypical causation meaning.

The findings also show that the ‘letting’ causation is delivered by both *V-key HA* and *V-tolok HA* constructions, as shown in (10).

- (10) *cang-ssi-nun cinan 1999-nyen cengthongpwu*
 Jang-Mr.-TOP last 1999-year Ministry.of.Information.and.Communication
im-amwukay-(46·3kup) kwukcang-eykey pisangcang cwusik-ul cw-e
 Im-so.and.so-46-level.3 director-DAT unlisted stock-ACC give-and
2-ek-3-chenman-wen-uy siseychaik-ul namki-key ha-nun
 2-hundred.million-3-ten.million-won-of capital.gain-ACC make.profit-CAUS-REL
tung
 etcetera

[Jang is suspected of handing cash and stocks to 12 executives of the Ministry of Information and Communication and the Korea Electronics and Telecommunications Research Institute (ETRI) in 1999]

‘by giving unlisted stocks to the director Lim, a 46-year-old and 3rd-grade official, and letting (Lim) make 230 million won in capital gains.’

(2004, the *Hankyoreh*)

In (10), the *V-key HA* construction co-occurs with the verb *namki* ‘make a profit’, and the causer is Mr. Jang, and the causee is Director Lim. In this context, the causee’s force tendency (i.e., make the 230 million won profit) is maintained; thus, the ‘letting’ meaning is delivered through the *V-key HA* construction.

The *V-tolok HA* construction also delivers the letting causation meaning, as shown in (11). Previously, the discourse discussed government officials’ embezzlement by forging their overtime records and the efforts to prevent such incidents. One way being discussed prior to (11) is that some government offices installed a fingerprint reader at the entrance to prevent forgery. In (11), we see that the causer ‘government officials’ and the causee ‘their boss’ co-occur with the *V-tolok HA* construction.

- (11) *ilpwu kongmwuwen-un i cimwuninsikki-lul akyongha-y caki*
 some government.official-TOP this fingerprint.reader-ACC abuse-CONN oneself
cimwun-ul sangsa cimwun-ulo tunglokha-y sangsa-ka swutang-ul
 fingerprint-ACC boss fingerprint-INS register-CONN boss-NOM extra.pay-ACC
thamek-tolok ha-nun chokwakunmwu-swutang sangnap pangsik-ul
 receive.and.take-CAUS-REL overtime-extra.pay offering method-ACC
kaypalha-ki-to ha-yss-ta
 develop-NOMI-even do-PST-DEC

‘Some government officials abused this fingerprint reader and did even developing a method of paying overtime pay which (the government officials) register their fingerprints as their boss’s fingerprints and let their bosses receive and take the overtime pay.’

(2009, the *Chosun Ilbo*)

In (11), the causee’s force tendency (i.e., receiving and taking the overtime pay) is maintained, which delivers the letting causation in meaning through *-tolok ha*. As shown from (8) to (11), both the prototypical causation and letting meaning are found from both *V-key HA* and *V-tolok HA* constructions.

Also, both constructions co-occur with the auxiliary *-ul swu iss* ‘be able to’ and *-e/a-ya ha* ‘have to’ as well as the negation (e.g., *-ci mosha* ‘cannot’), and deliver the permissive, coercive, and prohibitive meanings. When the constructions occur with *-ul swu iss* ‘be able to’, the permissive meaning is more explicit, as in (12) and (13).

- (12) *change-poyuk-seynthe-wa peynche-change-pkwan tung-ul malyenha-y*
 start.up-foster-center-and venture-start.up-hall etcetera-ACC set.up-and
haksayng-tul-i cikcep chamyeha-yse siceyphwum-kkaci mantu-l
 student-PL-NOM directly participate-CONN prototype-up.to make-ADN
swu iss-tolok ha-yss-ta
 possibility exist-CAUS-PST-DEC

‘(Cencwu University) set up a start-up foster center and a venture start-up hall and allowed students to even make prototypes by participating in the project.’

(2009, the *Chosun Ilbo*)

- (13) *wuli kakkai iss-nun swuph-ul thongh-ay cayen-kwa-uy*
 us closely exist-REL forest-ACC through-CONN nature-with-POSS
kyokam-hapil-ul nwul-il swu iss-key ha-yss-ta
 communication-harmony-ACC enjoy-ADN possibility exist-CAUS-PST-DEC

‘(The author) allowed (people) to enjoy communication and harmony with nature through the forest near us.’

(2004, the *Chosun Ilbo*)

In (12) and (13), both *V-key HA* and *V-tolok HA* constructions co-occur with the auxiliary *-ul swu iss* ‘be able to’, denoting the permissive meaning, where the causee’s intrinsic force tendency is maintained without any impingement.

In the meantime, when the constructions occur with the negation *-ci mosha* ‘cannot’ and *-ci ahn* ‘not’, the constructions denote the meaning of prohibition as in (14) and (15).

- (14) *cwungkwuk esen-tul-i wuli cakcen-ul nwunchi chay-ci*
 China fishing.ship-PL-NOM our operation-ACC sense-COMM
mosha-key ha-nun cohun yekhal-to ha-nta
 NEG-CAUS-REL good role-too do-DEC

[Fog is a hindrance to the operation, but] ‘(it) also plays a good role in preventing Chinese fishing boats from sensing our operation.’

(2011, the *Chosun Ilbo*)

- (15) *yuchiwen-eyse-nun yenge-kyoyuk-ul ha-ci*
 kindergartens-LOC-TOP English-education-ACC do-COMM
mosha-tolok ha-ko iss-um-ulo
 NEG-CAUS-PROG-NOMI-as

‘As (the government) does not allow (teachers) to do English education at kindergartens.’

(2009, the *Hankyoreh*)

In both (14) and (15), the negation co-occurring with *V-key HA* and *V-tolok HA* denote the prohibitive meaning, where the causee’s force tendency is prevented or not allowed.

As we have seen from (8) to (15), we see that both *V-key HA* and *V-tolok HA* constructions denote the causative meaning in a wide range, from the coercive meaning to the permissive meaning, and these meanings are not distinctively used for one construction over the other one. Thus, the meaning difference between the constructions is still obscure.

In the following section, by examining the prototypical form and meaning of each construction, I further explore the differences between the two constructions.

4.2.2.2 Prototypical Form and Meaning of Each Construction

In order to examine the prototypical form and meaning of each construction, I first classified the causer and causee entities by their form and appearance in the target clause. The findings show that the majority of the causer and causee NPs were not explicitly present in the target clause (Table 4.6).

Table 4.6 Occurrence of the causer and causee entities

Types		<i>V-key HA</i>		<i>V-tolok HA</i>	
		Causer	Causee	Causer	Causee
NP	Explicit NP	437 (23.5%)	834 (44.9%)	163 (12.9%)	521 (41.3%)
	Elided NP	1062 (57.2%)	983 (52.9%)	948 (75.1%)	741 (58.7%)
	VP conjoined NP	3 (0.2%)	38 (2%)	0	0
	NP in Relative clause	222 (12%)	2 (0.1%)	111 (8.8%)	1 (0.1%)
	Pronoun referring to the previous clause	5 (0.3%)	0	0	0
Clause	Clause	14 (0.8%)	0	3 (0.2%)	0
	Previous Clause	110 (5.9%)	0	0	0
	Elided Clause	4 (0.2%)	0	38 (3%)	0
Total N		1857 (100%)	1857 (100%)	1263 (100%)	1263 (100%)

As shown in Table 4.6, while the most frequent causer and causee were NPs in both constructions, not only NP but also clause appear as a causer in both *V-key HA* and *V-tolok HA* constructions. Interestingly, the explicit causer and causee NPs with both constructions are not the prototypical forms of both constructions. Instead, the most frequent form of the causer and causee NPs for both constructions appear to be omitted. For example, 57.2% of the causer NPs in the *V-key HA* construction were omitted, and 75.1% of the causer NPs in the *V-tolok HA* construction were omitted. Similarly, 52.9% of the causee NPs in the *V-key HA* construction were omitted, and 58.7% of the causee NPs in the *V-tolok HA* construction were omitted.

If both the causer and causee NPs were considered, only 12.8% (238 tokens) of the causer and causee NPs were explicitly present in the target *V-key HA* construction. It was even lower in percentage for the *V-tolok HA* construction as only 6.0% (76 tokens) of the causer and causee NPs were explicitly present in the target *V-tolok HA* construction. This low percentage of

the explicit causer and causee NPs in both constructions suggests that the prototypical form of the two constructions does not include explicit causer and causee entities in the target clause.

Among many types of causer and causee, for the analysis of the semantic features of the causer and causee NPs, I further selected the explicit, elided, and VP-conjoined NPs (see Table 4.7). As Table 4.7 shows, both constructions seem to have a similar pattern for the causer and causee’s animacy feature, as both constructions appear with the animate causer and animate causee at the highest frequency. However, the *V-key HA* construction allows the inanimate causer (37.2%) more than the *V-tolok HA* construction (27.2%). Here, it is noteworthy that among the 27.2% of the inanimate causer of the *V-tolok HA* construction (302 tokens), 63% of the inanimate causer is the noun phrases relating to law or policies (192 tokens), while among the 37.2% of the inanimate causer of the *V-key HA* construction (559 tokens), only 2.3% was the NP relating to the law or policies (35 tokens).

Table 4.7 Semantic features of the causer and causee NPs

Animacy feature	<i>V-key HA</i>		<i>V-tolok HA</i>		
	Causer NP	Causee NP	Causer NP	Causee NP	
Animate	Human	589 (39.2%)	1321 (71.2%)	280 (25.2%)	716 (56.7%)
	Human-body	0	59 (3.2%)	0	6 (0.5%)
	Human-like	349 (23.3%)	195 (10.5%)	528 (47.5%)	386 (30.6%)
	Animal	3 (0.2%)	20 (1.1%)	0	3 (0.2%)
	Organism	2 (0.1%)	10 (0.5%)	1 (0.1%)	4 (0.3%)
	Indeterminate	0	0	0	0
	Sub N	943 (62.8%)	1605 (86.5%)	809 (72.8%)	1115 (88.4%)
Inanimate	Physical object	296 (19.7%)	163 (8.8%)	100 (9%)	118 (9.4%)
	Policy/law	35 (2.3%)	0	192 (17.3%)	2 (0.2%)
	Abstract object	221 (14.7%)	87 (4.7%)	9 (0.8%)	26 (2.1%)
	Indeterminate	7 (0.5%)	0	1 (0.1%)	0
		Sub N	559 (37.2%)	250 (13.5%)	302 (27.2%)
	Total N	1502 (100%)	1855 (100%)	1111 (100%)	1262 (100%)

(16) and (17) are excerpts with the law/policy causer within each construction, in which the construction conveys the permissive meaning of causation. In (16), the causee’s (‘police’) intrinsic force tendency, ‘ban marches’, is maintained as the causer (‘new law’) aligns with the

causee's force tendency. Thus, the permissive meaning of 'allow' is delivered from the V-key HA construction.

- (16) *say cipsi-pep-un* *sewul-sinay taypwupwun tolo-uy hayngcin-ul*
 new assembly.protest-law-TOP Seoul-town mostly road-GEN march-ACC
kyengchal-i kumciha-l swu iss-key ha-ko
 police-NOM ban-ADN possibility exist-CAUS-and

'New law on the assembly and protest allows police to ban marches on most roads.'

(2007, *Hankyoreh*)

Similarly, in (17), the causee's ('one company') force tendency is maintained as the causer's ('the law') force tendency aligns with the causee's force tendency.

- (17) *2009-nyen 2-wel sihayngtoy-nun cathong-pep-un unhayng-ep-kwa*
 2009-year 2-month take.effect-REL Cathong-law-TOP bank-affair-with
pothem-ep-ul ceyoyha-n motun kumyung epmwu-lul han hoysa-ka
 insurance-affair-ACC exclude-REL all finance work-ACC one company-NOM
chwikupha-l swu iss-tolok ha-y
 deal.with-ADN possibility exist-CAUS-CONN

'The Cathong Law (Capital Market and Financial Investment Act) which comes into effect in February 2009 allows one company to handle all financial affairs except banking and insurance'

(2007, the *Dong-a Ilbo*)

However, when it comes to the coercive meaning of the causation with the causer NP being law and policy related, we see a difference between the two constructions. (18) shows an example where the V-tolok HA construction appears with the law/policy causer. Here, the causative meaning from the V-tolok HA construction is not permissive, and this coercive meaning also implies the social force that the law 'requires' the causee to follow.

- (18) *kwuke-kipon-pep-kwa pangsong-pep pangsong-simuy-kyuceng-un*
 Korean.language-basic-law-and broadcasting-law broadcasting-review-regulation-TOP
pangsong-i palun-mal-ul ssu-tolok ha-ko iss-ta
 broadcasting-NOM right-word-ACC use-CAUS-PROG-DEC
 ‘The basic law on the Korean language, the Broadcasting Act, and the Broadcasting
 Review Regulations is making broadcasting use the right words.’
 (2012, the *Chosun Ilbo*)

Interestingly, in my data, all tokens of V-*key HA* with the law/policy causer delivered the permissive meaning (as in (16)). In contrast, V-*tolok HA* with the law/policy causer delivered the sense of obligation and imperativeness that the causer imposes on the causee.

Such imperativeness and obligation meaning of V-*tolok HA* is also found even if the causer is a non-law/policy NP, as shown in (19).

- (19) *thakona-n sinchey-nunglyek-i talun thulaynsuceynte senswu-lul*
 be.born.with-REL physical-ability-NOM different transgender player-ACC
yeca senswu-tul-kwa kathun liku-eyse ttwi-tolok ha-nun ke-y
 woman player-PL-with same league-LOC play-CAUS-REL NOMI-NOM
kongcengha-ci anh-ta-nun moksoli-to nao-nta
 fair-COMM NEG-PRS-REL voice-too come.out-DEC

[In January last year, the International Olympic Committee (IOC) said that transgender athletes should be guaranteed to participate in the Olympics and other international competitions. Brazilian women's national team coach Jose Roberto Guimaraes is also sending her (Tiffany Abreu) a love call. Of course, there are still many obstacles she has to overcome, including the opposing voices.]

‘Some say that it is not fair that (we) let transgender players who are born with different physical abilities play in the same league with female players.’

(2017, the *Dong-a Ilbo*)

This article discusses the transgender Volleyball athlete Tiffany Abreu, who used to be a male player and debuted in the Brazilian female Volleyball league as the first transgender player.

Prior to (19), the positive responses from the sport were discussed as many organizations allow transgender players. Considering this context, in (19) the causee's (i.e., transgender player) force tendency (i.e., play in the same league with other female players) is maintained without an impingement, delivering this permissive meaning with the sense of obligation and imperativeness.

However, when the same permissive causative meaning with the same co-occurring verb 'to play' is delivered from the *V-key HA* construction, the obligation/imperativeness meaning is not explicit. In (20), the article talks about an upcoming soccer match against Japan in the East Asian Cup. The Korean players who play in the Japanese league were expected to be included, based on the starting list for the match they already had against China.

(20) *panmyen kimyengkwen(kwangcewu eypekulantey)-ul phohamha-n*
 on.the.other.hand Kimyengkwen(Guangzhou Evergrande)-ACC include-REL
cwungkwuk liku sosok 3-myeng-un motwu phwulthaim-ul
 China league being.affiliated.with three-people-TOP all full.time-ACC
ttwi-key ha-yss-ta
 play-CAUS-PST-DEC

[In the match against Japan, it seems that J-leaguers who know Japanese players well are expected to be given a chance to start a game. Of the 23 (Korean national) members of the East Asian Cup team, five are J-leaguers. [...] Coach Stielike did not include any J-leaguers in the starting list for the match against China.]

'On the other hand, (Coach Stielike) let all three players who belong to the Chinese league, including Kim Young-kwon (Guangzhou Evergrande), play full time.'

(2015, the *Dong-a Ilbo*)

Coach Stielike did not include the J-league players in the starting list for the match against China. Then, in (20), contrary to the J-leaguers being excluded from the starting list for the game against China, we see that the coach included the Chinese-leaguers play full-time in that match against China. Here, the meaning of causation is not coercive; but rather permissive as the

causee's (i.e., three players who belong to the Chinese league) force tendency (i.e., to play) is maintained and the contrastive context to the prior discourse where the Japanese league players were not selected for the starting list for the match.

Compared to (19) and (20), we see that the permissive meaning delivered by each construction is slightly different with regard to the sense of social force. For example, the permissive meaning from *V-key HA* in (20) does not involve any social force. On the contrary, the one from the *V-tolok HA* construction in (19) involves social force for the permissive meaning. This sense of 'social force' allowing a certain act seems to be related to the obligation and imperativeness meaning that was delivered by the *V-tolok HA* construction with the law/policy causer NP. Considering the high token frequency of law/policy causer NP with the *V-tolok HA* construction and the obligation and imperativeness meaning that is only found in the *V-tolok HA* construction, the *V-tolok HA* construction seems to be highly associated with the causative meaning that the causer requires causee to carry out something as an obligation. Also, such sense of obligation is delivered through *V-tolok HA* when the causer is a non-law/policy NP. Thus, the sense of obligation seems to be associated with the *V-tolok HA* construction.

The semantic differences between the two constructions can be further found from its co-occurring verbs. First, the findings of the distinctive collexeme analysis (Gries & Stefanowitsch, 2004) showed each construction's preference for the co-occurring verbs. Table 4.8 shows the top 20 verbs that are highly attracted to one construction over the other. The results show that verbs of state, 'to feel' 'to realize' 'to live' 'to be seen,' are the four top verbs that are highly likely to co-occur with the *V-key HA* construction rather than the *V-tolok HA* construction. In contrast, verbs of action, such as 'to do,' 'go through,' 'give,' and 'reduce,' are highly likely to co-occur with the *V-tolok HA* construction over the *V-key HA* construction.

Table 4.8 Top 20 distinctive verbs co-occurring with V-key HA and V-tolok HA

Rank	Verb	N in V-key HA	N in V-tolok HA	Loglikelihood with -key HA	Rank	Verb	N in V-key HA	N in V-tolok HA	Loglikelihood with -tolok HA
1	<i>nukkita</i> 'feel'	61	12	19.29	1	<i>hata</i> 'do'	71	92	16.08
2	<i>kkaytatta</i> 'realize'	21	1	15.35	2	<i>kechita</i> 'go through'	2	10	9.34
3	<i>salta 2</i> 'live'	24	2	14.29	3	<i>cwuta</i> 'give'	2	10	9.34
4	<i>poita</i> 'be seen'	25	4	9.80	4	<i>cwulita</i> 'reduce'	1	7	7.67
5	<i>mannata</i> 'meet'	17	2	8.41	5	<i>hwalyonghata</i> 'utilize'	1	7	7.67
6	<i>mwullenata</i> 'step back'	10	1	5.45	6	<i>patta</i> 'receive'	51	58	6.98
7	<i>kacta</i> 'have'	44	17	4.11	7	<i>sayonghata</i> 'use'	7	15	6.85
8	<i>masita 2</i> 'drink'	8	1	3.81	8	<i>senthaykhata</i> 'select'	2	8	6.53
9	<i>ppacita</i> 'fall'	8	1	3.81	9	<i>cista 2</i> 'build'	4	10	5.48
10	<i>sata</i> 'buy'	8	1	3.81	10	<i>chamyehata</i> 'participate'	2	7	5.20
11	<i>kumantwuta</i> 'quit'	7	1	3.03	11	<i>mantulta</i> 'make'	8	14	4.77
12	<i>pesenata</i> 'get out of'	7	1	3.03	12	<i>iyonghata</i> 'use'	9	15	4.70
13	<i>icta</i> 'forget'	7	1	3.03	13	<i>kacchwuta</i> 'be equipped with'	3	8	4.69
14	<i>tolaota</i> 'return'	6	1	2.28	14	<i>nwulita</i> 'enjoy'	3	8	4.69
15	<i>tulta 3</i> 'strike; occur to'	6	1	2.28	15	<i>mathta 1</i> 'undertake'	3	8	4.69
16	<i>mekta 1</i> 'eat'	6	1	2.28	16	<i>tolakata 2</i> 'be given'	1	5	4.68
17	<i>potal</i> 'take (exam)'	6	1	2.28	17	<i>cheyhemhata</i> 'experience'	1	5	4.68
18	<i>ssuta 2</i> ³⁶ 'write'	11	3	2.27	18	<i>hwakinhata</i> 'check'	2	6	3.93
19	<i>alta</i> 'know'	19	7	2.06	19	<i>ssuta 1</i> 'use'	17	21	3.35
20	<i>iluta</i> 'lose'	8	2	1.90	20	<i>kacita</i> 'have'	4	8	3.34

Such a high association of the verbs of state with the V-key HA construction is also found in the tokens where a verb only occurred with one construction. Table 4.9 shows the top 10 most

³⁶ Running the distinctive collexeme analysis, polysemy was noted as each verb was further numbered to denote the different meaning it delivers. For example, the verb *ssuta* denotes multiple meanings, and *ssuta* 1 was coded as 'to use' while *ssuta* 2 was coded as 'to write.'

frequent verbs which only appeared with one construction. The most frequent verb that only occurred with the *V-key HA* construction is *tteollita* ‘to recollect’ while it was *toyta* ‘to become’ with the *V-tolok HA* construction. Here again, we see that the verbs of state most frequently co-occurred with the *V-key HA* construction, which appear to be ranked top (e.g., *tteollita* ‘recollect’ and *nollata* ‘be surprised’).

Table 4.9 Top 10 verbs only co-occurring with each construction

	Verbs with <i>V-key HA</i>	N of tokens	Verbs with <i>V-tolok HA</i>	N of tokens
1	<i>tteollita</i> ‘recollect’	55	<i>toyta</i> ‘become’	26
2	<i>nollata</i> ‘be surprised’ ³⁷	46	<i>pokohata</i> ‘report’	11
3	<i>swumcita</i> ‘die’	40	<i>nayta</i> ‘give’	10
4	<i>tachita</i> ‘be hurt’	17	<i>cenghata</i> ‘decide’	7
5	<i>cciphwulita</i> ‘frown’	16	<i>selchihata</i> ‘install’	6
6	<i>nayta</i> ‘pay’	14	<i>nullita</i> ‘extend’	5
7	<i>memchwuta</i> ‘stop’	14	<i>twuta</i> ‘set up; establish’	5
8	<i>totpoita</i> ‘stand out’	12	<i>kepwhata</i> ‘refuse’	4
9	<i>sanghata</i> ‘go bad’	9	<i>naylita</i> ‘order; notify’	4
10	<i>memwuluta</i> ‘stay’	8	<i>kyengcaynghata</i> ‘compete’	3

Such findings also align with the high percentage of the state verbs co-occurring with the *V-key HA* construction overall. Table 4.10 shows the token frequency of the types of verbs co-occurring with each construction. The results show that the verbs of state occurred with the *V-key HA* construction at a much higher percentage than with the *V-tolok HA* construction, while the *V-tolok HA* construction co-occurred with the verbs of action at a higher percentage than with the *V-key HA* construction.

Table 4.10 Types of co-occurring verbs with each construction for the causative meaning

Verb types	<i>V-key HA</i>	<i>V-tolok HA</i>
Action	1047 (56.4%)	1050 (83.1%)
State	694 (37.4%)	162 (12.8%)
Process	116 (6.2%)	51 (4.1%)
Number of Tokens	1857 (100%)	1263 (100%)

³⁷ In English translation, *nollata* ‘be surprised’ may seem to be an adjective, but *nollata* is classified as a verb (National Institute of Korean Language, n.d.).

Thus, the findings regarding the co-occurring verbs with each construction indicate that the *V-key HA* construction is highly associated with the verbs of state, while the *V-tolok HA* construction is highly associated with the verbs of action. This association further suggests that the change of state meaning is associated with the *V-key HA* construction. The change of state meaning seems also associated with the causee’s going through a change of mental state, which is from an inanimate causer. Excerpts (21) and (22) show such cases.

(21) *nayngcen sitayuy kacang pwulkilha nal-tu-lul tteolli-key ha-nta*
 Cold.War era-GEN most ominous day-PL-ACC recall-CAUS-DEC

[The NYT said, "this drill is the biggest military step taken since Russian President Vladimir Putin took office, and]

‘(this drill) makes (people) recall the most ominous days of the Cold War era.’”

(2017, the *Chosun Ilbo*)

Excerpt (21) discusses the New York Times’ report on the military drill/training that Russia is planning to conduct in the areas near the NATO countries. In (21), the verb ‘recall’ co-occurs with the *V-key HA* construction, where the inanimate causer and animate causee are both elided. Here, the causee’s current force tendency is not to recall the most ominous days of the Cold War. However, the causer ‘this drill’ makes the change of the causee’s force tendency, which implies the causee’s change of mental status. In other tokens of *V-key HA*, we can also find the change of state implicature as in (22).

(22) *hwunmincengum haylyeypon-un hankul-i inlyusa-ey*
 Hwunmincengum manuscript-TOP Hangul-NOM human.history-in
eps-ten uysasothong cheykyey-i-m-ul hwaksin-khey ha-nta
 not.exist-PST.REL communication system-CP-NOM-ACC be.convinced-CAUS-DEC

‘Hwunmincengum manuscript makes (people or me) be convinced that *Hangul* is a communication system that has not existed in human history.’

(2015, the *Dong-a Ilbo*)

Prior to (22), the excellence of the Korean alphabet, *Hangul* was noted. This excellence is further noted in (22), as the Hwunmincengum³⁸ manuscript makes people (or the speaker himself) be convinced that Hangul is a unique communication system that never existed in human history. Here, the elided causee can be interpreted as generic ‘people’ or the speaker ‘me’, and the causee’s change of mental state is denoted from the *V-key HA* construction. This change of mental state is involuntary as the inanimate causer leads the causee to go through the change of mental state.

As shown in Table 4.7, we have seen that the *V-key HA* construction allows more inanimate causers than the *V-tolok HA* construction. If we zoom in the tokens of the explicit causer and causee NPs in the target clause, this tendency becomes more explicit. As we have seen from Table 4.6, the prototypical form of each construction does not have explicit causer and causee NPs. However, since the majority of the existing literature on the constructions examined the constructions with explicit causer and causee NPs, for comparison purposes, I further examined the 238 tokens of the explicit causer and causee NPs from the *V-key HA* construction and the 76 tokens of the explicit causer and causee NPs from the *V-tolok HA* construction in regard to the animacy features, case marking, and co-occurring verb types.

First, the findings of the animacy features show that both animate and inanimate causer and causee NPs occur in both constructions (see Tables 4.11 and 4.12).

Table 4.11 Animacy feature of the explicit causer and causee NPs with *V-key HA*

	Animate Causer	Inanimate Causer	Total
Animate Causee	74 (31.1%)	109 (45.8%)	183/238 (76.9%)
Inanimate Causee	17 (7.1%)	38 (16.0%)	55/238 (23.1%)
Total	91/238 (38.2%)	147/238 (61.8%)	238/238 100%

³⁸ “A book published as a guide book when King Sejong of the Joseon Dynasty proclaimed the 28 letters of Huminjeong-eum, the Korean alphabet” (National Institute of Korean Language, n.d).

Table 4.12 Animacy feature of the explicit causer and causee NPs with *V-tolok HA*

	Animate Causer	Inanimate Causer	Total
Animate Causee	47 (61.8%)	23 (30.3%)	70/76 (92.1%)
Inanimate Causee	3 (4.0%)	3 (3.9%)	6/76 (7.9%)
Total	50/76 (65.8%)	26/76 (34.2%)	76/76 (100%)

With the explicit causer and causee NPs, we see that both constructions overwhelmingly favor animate causees (76.9% for *V-key HA* and 92.1% for the *V-tolok HA*), but the *-key HA* construction allows more inanimate causees (23.1% for *V-key HA* and 7.9% for *V-tolok HA*). When it comes to the causer, the *V-key HA* construction favors the inanimate causee (61.8%) while the *V-tolok HA* construction favors the animate causer (65.8%). Accordingly, the findings indicate that *V-tolok HA* construction occurs with the animate causer and animate causee NPs with the highest frequency, while the *V-key HA* construction occurs most frequently with the inanimate causer NP and animate causee NP.

This animacy feature is also related to the co-occurring verbs. The types of co-occurring verbs with each construction were examined again in the context where both the causer and causee NPs were explicit in the target clause. As Table 4.13 shows, while both constructions co-occur with the action verbs with the highest percentage, state verbs occur with a higher percentage with the *V-key HA* construction, and action verbs occur with a high percentage with the *V-tolok HA* construction. This result reiterates the earlier findings (see Table 4.10) from the data with all tokens of the two constructions that *V-key HA* co-occurs with the verbs of state more than the one of *V-tolok HA*.

Table 4.13 Types of co-occurring verbs with explicit causer and causee NPs in each construction

Verb types	<i>V-key HA</i>	<i>V-tolok HA</i>
Action	126 (52.9%)	61 (80.3%)
State	100 (42.0%)	13 (17.1%)
Process	12 (5.1%)	2 (2.6%)
Number of Tokens	238 (100%)	76 (100%)

The strong preference for the action verbs for the *V-tolok HA* construction aligns with the animacy features of the causer and causee NP of the construction, as we expect the animate agent to be more associated with the action verbs. In the meantime, the *V-key HA* construction occurs more evenly with the action verbs and state verbs compared to the *V-tolok HA* construction. However, the *V-key HA* construction favors the state verbs more than the *V-tolok HA* construction. With the high frequency of the inanimate causer with the *V-key HA* construction, the change of state meaning where the causee undergoes seems to be associated with the *V-key HA* construction.

Finally, the case marking of the causee NP of each construction was analyzed in order to examine the causer's affectedness on causee meaning that was argued to be played by the different case markings (Kim, 2009; Kim & Kim, 2018). As Table 4.14 shows, the causee NP in each construction occurs with various case particles. Accusative case marking was the most frequent one for the causee NP in the *V-key HA* construction while it was the nominative for the causee NP in the *V-tolok HA* construction. At first, the high frequency of the accusative particle with the *V-key HA* construction and the nominative particle with the *V-tolok HA* construction seems to align with the previous studies (Seo, 1987) that the causee of *V-key HA* is marked with the accusative particle while the causee of the *V-tolok HA* is marked with the nominative particle. However, each construction is not confined to one type of causee case marking, and both constructions appear with other types of case marking for the causee NP.

Table 4.14 Types of case marking for the causee NP in each construction

Causee NP particle	V-key HA	V-tolok HA
NOM	39 (16.38%)	48 (63.15%)
ACC	152 (63.86%)	4 (5.26%)
DAT	25 (10.5%)	13 (17.10%)
GOAL	2 (0.84%)	0
<i>lo hayekum</i> ³⁹	7 (2.94%)	1 (1.31%)
TOP	2 (0.84%)	3 (3.94%)
<i>man</i> ‘only’	1 (0.42%)	1 (1.31%)
<i>to</i> ‘also’	5 (2.10%)	3 (3.94%)
<i>mace</i> ‘so far as; even’	1 (0.42%)	0
Ellipsis	4 (1.68%)	3 (3.94%)
Total	238 (100%)	76 (100%)

Studies who acknowledged the alternation of case marking (Kim, 2009; Kim & Kim, 2018) argued that the causee NP with the accusative case aligns with the causee’s [-control] feature and the causer’s stronger affectedness on the causee while the one with the nominative particle aligns with the causee’s [+control] feature and the causer’s weak affectedness on the causee. However, the causee NP’s case marking does not seem to determine the causer’s [+/-control] feature nor the causer’s affectedness on the causee.

In (23), we see the V-key HA construction in which the causee ‘North Korea’ is marked with the nominative case.

- (23) *ilen sanghwang-eyse wuli-nun kak tangsawkuk-i hamkkey*
 such situation-LOC we-TOP each country.concerned-NOM together
pwukhan-i chwuka hayk-silhem-ul cinhayngha-nun kes-ul
 North.Korea-NOM extra nuclear-experiment-ACC progress-REL NOMI-ACC
memchwu-key ha-ko
 stop-CAUS-CONN
 ‘In such a situation, as for us, we, along with each country concerned, make North Korea stop progressing extra nuclear experiments’

³⁹-*lo hayekum* functions as a marker of the causee (Park, 1994).

(2008, the *Dong-a Ilbo*)

In (23), the causee's intrinsic force (progressing experiment) is not maintained, and the coercive meaning is conveyed through *-key ha*. According to previous studies (Kim, 2009; Kim & Kim, 2019), the causative meaning of (23) should be interpreted as a permissive meaning 'let' as the causee's nominative case marking indicates the strong causee's agency and the weak affectedness of the causer on the causee. However, in discourse, (23) does not show such 'permissive' meaning.

Similarly, in (24), we find the *V-tolok HA* construction in which the causee NP is marked with the nominative particle, not conveying the permissive 'let' meaning.

- (24) *hakkyo-yongci-pwutamkum-i-lan say aphathu-lul pwunyang-pat-un*
school-site-share.of.cost-CP-TOP new apartment-ACC selling.in.lots-receive-REL
cwumin-i hakkyo pwuci kwuip-pi ilpwu-lul nay-tolok ha-n ceyto
resident-NOM school site purchase-cost part-ACC pay-CAUS-REL system
'As for the School Site Sharing of Cost, (it is) a system that makes residents who have received a new apartment pay part of the cost of purchasing school sites.'

(2006, the *Dong-a Ilbo*)

The definition of the School Site Sharing of Cost is given in (24), and right after (24), the article discusses that the Constitutional Court ruled that the School Site Sharing of Cost is unconstitutional. Thus, from the discourse, the interpretation of the causative meaning is coercive as the causee's ('residents') intrinsic force tendency is 'not to pay part of the cost.'

Other counter-examples are also found with the causee marked with the accusative particle where the causee is marked with the accusative case but does not the strong affectedness of the causer on the causee.

In (25), we find the *V-key HA* construction in which the causee ('I') is marked with the accusative particle. (25) introduces a man who collects train tickets as his hobby, in which he finds joy in his life. Thus, the causative meaning in (25) is interpreted as the permissive meaning. Thus, we do not find the [-control] feature from the accusative particle that the causee's agency is weak and the causer's affectedness on the causee is strong, as claimed from previous studies (Kim, 2009; Kim & Kim, 2018).

(25) *chaphyo-nun na-lul hwelhwel nal-key ha-nun nalkay*
 ticket-TOP I-ACC freely fly-CAUS-REL wing
 'Tickets (are) wings that let me fly freely'

(2016, *Hankyoreh*)

Such a counter-example is also found with the *V-tolok HA* construction. (26) reports a case where Minkyu, a 16-year-old boy, sacrificed himself to save an 8-year-old boy, Kang, who fell into the water as the ice on the stream broke. From the discourse, the causee's agency does not seem to be weak because Kang strived to get out of the water, and Minkyu allowed Kang to step on his shoulder to be out of the water. Thus, the accusative particle with the causee NP in (26) does not seem to show features from the previous argument (Kim, 2009; Kim & Kim, 2018).

(26) *minkyu-nun hewucekkeli-myense-to kang-kwun-ul casin-uy*
 Minkyu-TOP flounder-while-even Kang-suffix.for.boys-ACC self-GEN
ekkay-lul palp-tolok ha-yse elum wi-lo milena-yss-ta
 shoulder-ACC step.on-CAUS-CONN ice above-toward push-PST-DEC
 'While floundering, Minkyu pushed Kang onto the ice by letting Kang step on his shoulder.'

(2005, the *Chosun Ilbo*)

As we have seen from (23) to (26), in naturally occurring data, we find that both *V-key HA* and *V-tolok HA* constructions occur with the causee NPs which are marked with the

accusative case and nominative case. Also, the weak or strong affectedness meaning from the causative is found in tokens with both nominative and accusative particles. Furthermore, as we have seen from Table 4.14, both constructions take other types of case marking for the causee NP. Thus, the cause particle does not seem to determine the causer's affectedness on the causee.

In summary, the findings show that both constructions occur with various types of causer and causee, but the elided causer and causee in the target clause was the prototypical form for both constructions. Although both constructions take both animate and inanimate causer and causee NPs, the *V-key HA* construction appears with the inanimate causer and animate causee at the highest frequency. In the meantime, the *V-tolok HA* construction appears with the animate causer and inanimate causee at the highest frequency. While both constructions take all types of verbs, findings show that the state verbs are more associated with the *V-key HA* construction, and the *V-tolok HA* construction is more associated with the action verbs. Finally, both constructions deliver a wide range of causative meanings, and the causee's case marking does not seem to determine the directedness of the causation meaning. However, there found a distinctive meaning between the two constructions, as the *V-key HA* construction is associated with the change of state meaning while the *V-tolok HA* construction delivers the obligation meaning.

4.3 Discussion

Based on the findings from the contemporary synchronic data, now let us revisit the second research question of this dissertation 'what are the synchronic usages of the *V-key HA* and *V-tolok HA* constructions?'

First, the findings revealed that the tokens of *V-key HA* and *V-tolok HA* conveying the causative meaning were found with a high frequency. In both cases, we also found tokens that conveyed the compositional meaning. From a usage-based approach, such findings are not counter-examples of having *V-key HA* and *V-tolok HA* as constructions because the

compositionality can be maintained depending on the contexts. What is more important is whether the chunk of the unit is processed together autonomously with high frequency for an idiosyncratic meaning.

The findings revealed that the *V-key HA* and *V-tolok HA* constructions convey the causative meaning, including a causer and causee entity, whether they are explicit in the discourse or not. Notably, the prototypical form of both constructions had no explicit causer or causee entities; rather, the causer and causee entities were omitted and mostly available in the discourse. Also, the causee's particle use was not limited to one particle; instead, a wide range of particles was used, while the accusative particle with the causee with the *V-key HA* construction and the nominative particle with the causee with the *V-tolok HA* construction occurred most frequently.

Although both constructions preferably occur with the animate causer and animate causee, the *V-key HA* construction occurs more frequently with the inanimate causer than the *V-tolok HA* construction. Such preference suggests that the *V-key HA* construction has the prototype of affective causation while the *V-tolok HA* construction has the prototype of inducive causation. The quantitative findings from the distinctive collexeme analysis and the frequency analysis of the verb types indicate that verbs of state are likely to co-occur with the *V-key HA* construction more than the *V-tolok HA* construction. In contrast, the verbs of action are more likely to co-occur with the *V-tolok HA* construction. The qualitative findings further show that both constructions deliver the prototypical causative and letting meaning of causation, which also deliver a wide range of polysemous senses of causation (e.g., 'force', 'lead', 'permission').

However, the central sense of causation seems to be different. For the *V-key HA* construction, its central sense seems to be related to the change of state. This central 'change of state' meaning of *V-key HA* aligns with previous studies that the semantics of *-key* distinct from *-tolok* in Present Korean is 'state' (Lee, 2010). Also, as the *V-key HA* construction allows more

inanimate causer NP and the verbs of state, the causative sense that the *V-key HA* construction delivers is highly associated with the involuntary change of causee's (mental) state, which strongly implicates the positive outcome of causation.

For the *V-tolok HA* construction, the central sense lies in the purposive meaning, which further leads to the imperative and self-determination meaning of *V-tolok HA*, which have previously been discussed as a non-causative meaning⁴⁰. However, I have discussed that these non-causative imperative and self-determination meanings of *V-tolok HA* can also be interpreted as causative meanings by applying the concept of the divided self from Talmy (see Section 4.2.1).

Delivering the causative meaning, the findings showed that the *V-tolok HA* construction conveys the causative meaning with the deontic sense, which is distinctive from *V-key HA*. The majority of the inanimate causer in the *V-tolok HA* construction appears to be NPs referring to the law and or policy, delivering the 'obligation' or 'imperativeness' meaning that the causee has to follow. Also, even without the causer NP being law or policy, the *V-tolok HA* construction delivered the sense of obligation that is relevant to the social force in the causative meaning. On the contrary, such deontic meaning was not delivered from the *V-key HA* construction either with or without the causer being the law/policy.

Such a deontic meaning of *-tolok HA* seems to be related to the previous study of Jeong (2015). Jeong argued that if the subject of the main clause and the *-tolok HA* clause is the same (i.e., there is no causee) and the *-tolok* clause denotes the situation of a willful action, *-tolok HA* is only used in the contexts of imposing a duty. "The context of imposing a duty" (p. 177, English translation is mine; in Korean, "의무 부과 맥락") is explained in her study as "the situation where the speaker imposes a duty to him/herself by expressing his/her will, [...], or the situation where

⁴⁰ The previously identified non-causative meanings of *V-tolok HA* are the imperative meaning and the speaker's determination (refer to Table 4.4).

the speaker recommends the listener and imposes the duty, that is to say, the context where (the speaker to him/herself or to the listener) imposes the duty” (p. 174; English translation is mine). Through this meaning of ‘imposing the duty,’ Jeong argued that imperative and self-determination meanings are possible. However, Jeong (2015) argued that the causative *V-tolok HA* where the subject of the *-tolok* clause and the main clause (i.e., the causer and the causee) are different, there is no restriction for the imposing duty meaning.

Her findings about the imposition of duty meaning from *-tolok HA* seems to align with this dissertation’s findings that the *V-tolok HA* construction is associated with the deontic sense, delivering the sense of obligation meaning. However, her study does not consider such deontic sense of causative that is delivered through the *V-tolok HA* causative construction. Also, the traditional views towards the non-causative meaning were maintained in her study while I argue that the previously proposed imperative and determination meanings of *V-tolok HA* can still be interpreted as causation with the notion of the divided self.

Polysemy is known to be a feature of construction, which is defined as “the capacity of a linguistic form to express more than one related meaning” (Smirnova & Sommerer, 2020, p. 6). Both *V-key HA* and *V-tolok HA* constructions show polysemous senses of causative, which denote the causative meaning in a continuum from the permission to the coercive meaning. However, with the change of state meaning as a central sense, the *V-key HA* construction the distinctive meaning of ‘successful change of state.’ In the meantime, from the central sense being ‘purposive’, the *V-tolok HA* construction conveys the distinctive meaning of the ‘obligation’ for its causative meaning.

As noted in Zehentner & Traugott (2020, pp. 170-171), “constructions are organized in a network-like structure and are linked by different types of relations (cf. e.g. Goldberg, 1995, pp. 74-84; see Section 2.1.). These are usually modeled as vertical links, which account for

taxonomic relationships. [...] Vertical links hold between constructions on different levels of schematicity, which are organised in a network of “inheritance relations”. This means that lower-level patterns get their specific features from the higher-level constructions which dominate them. The structure of the more substantive daughter construction is thus “sanctioned” by the more general schema (cf. Langacker, 1987).”

Based on the findings, the network of the *V-key HA* and the *V-tolok HA* causative construction schemas can be presented in Figures 4.1 and 4.2. Figure 4.1 shows the various meanings the *V-key HA* construction denotes and its schema (form) and general meaning with its central sense of change of state.

Figure 4.1 Network of the *V-key HA* causative construction schema

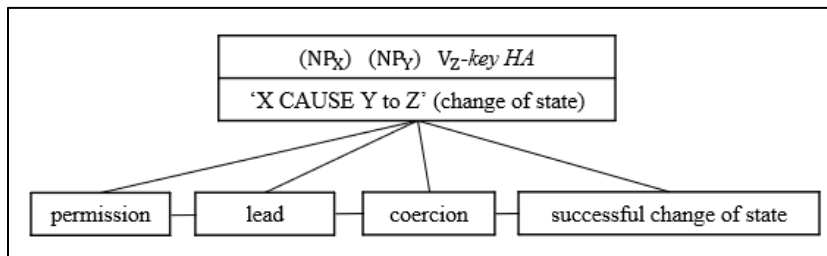
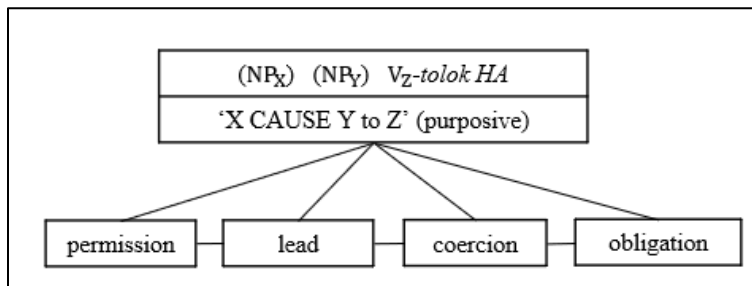


Figure 4.2 shows the various meanings of the *V-tolok HA* construction with its various meanings and its schema (form) and meaning with its central sense of purposive at a higher node.

Figure 4.2 Network of the *V-tolok HA* causative construction schema

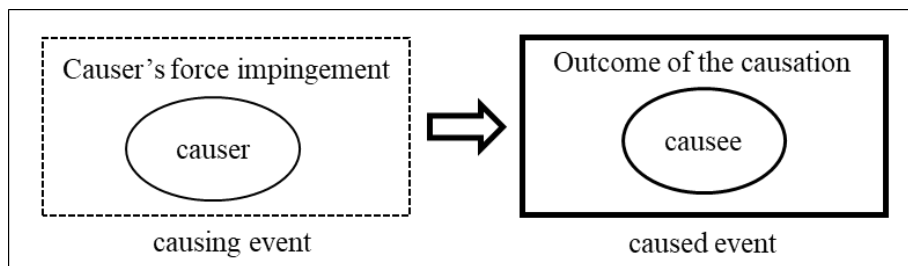


Finally, let us revisit the last research question, ‘what is the relevance of the diachronic change of *V-key HA* and *V-tolok HA* to their synchronic usages, if any?’

The findings from the diachronic corpora showed that the desired result meaning of *-key* and the purposive result meaning of *-tolok* contributed to the causative meaning of each construction. However, the way *-key* and *-tolok* profiles the desired result and purposive result meanings seem to be different.

As I have also mentioned in the previous section 3.3, from the linear event sequence, the older meaning of *-key* delivered, ‘leading to,’ the desired result event seems to be profiled, as from its older usage, the result was expected or naturally coming out. Then, delivering the causative meaning, now the profiled ‘desired result’ event is considered as the caused event. Thus, among the two events of the causative, the *V-key HA* construction profiles the caused event. This action chain in the causative events and event profiles can be presented in Figure 4.3, with the boldfaced line for the profiled caused event.

Figure 4.3 Image schema of the action chain of the *V-key HA* construction

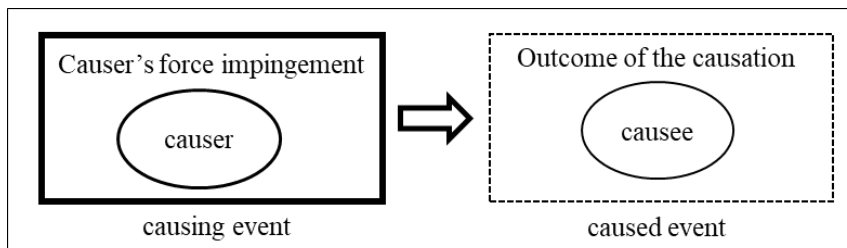


The findings from the synchronic source further support this event profile, as the distinctive semantic features of the co-occurring verbs with *V-key HA* construction were verbs of state, indicating a strong association with the ‘change of state’ meaning.

When it comes to the *V-tolok HA* causative construction, the purposive result meaning of *-tolok* originated from the temporal and the situational endpoint, where the main predicate’s event

during the temporal domain is in focus. The original temporal endpoint meaning of *-tolok* features the event which occurs before an endpoint. Thus, the event beyond the endpoint is unknown. This similar event sequence is also found when *-tolok* delivers the purposive result meaning. This time, the temporal endpoint of *-tolok* is interpreted as the onset of the purposive event, but the factiveness of the event (i.e., the purposive event) is unknown. Accordingly, the hypothetical result situation is more strongly delivered from the *-tolok* purpose clause. Thus, when *-tolok* starts to deliver the causative meaning through *V-tolok HA*, the event that is profiled is still the event prior to the result, which is the causing event in the context of the causative event chain. This action chain in the causative events and event profiles can be presented in Figure 4.4, with the boldfaced lines indicating the profiled causing event.

Figure 4.4 Image schema of the action chain of the *V-tolok HA* construction



As noted by Goldberg (1995), “constructions which correspond to basic sentence types encode as their central senses event types that are basic to human experience” (p. 39). From the usage-based approach, the language users’ accumulated language experience has a strong influence on their processing of new constructions. Stemming from the different event profiles of *-key* and *-tolok* from centuries ago, the previously experienced usage events continue to affect the interpretation of the two contemporary causative constructions, *V-key HA* and *V-tolok HA*. For example, both *V-key HA* and *V-tolok HA* constructions evoke the causing and caused events, with the causer and causee entities. These evoked causative events, by both constructions, do not implicate the positive outcome of the causation. However, due to the different event profiles, the *V-key HA* causative seems to deliver a higher possibility of a positive outcome of the causation

than *V-tolok HA*. I speculate that these different event profiles and the different degree of the implicature of the positive causation outcome might have been the reason for the previously proposed meaning difference between the two causatives that the *-key ha* causative expresses the more direct affectedness of causative than *V-tolok ha* and that *V-tolok ha* sounds softer than *V-key ha*. (Seo, 1987; Yeon & Brown, 2011).

In summary, the diachronic change of *-key* and *-tolok* is not only relevant to the creation of the new causative constructions, *V-key HA* and *V-tolok HA*, but also is associated with the semantic meaning of each construction delivers for the meaning of causation.

CHAPTER V

CONCLUSION

This dissertation started with a question of ‘how the two competing causative constructions, *V-key HA* and *V-tolok HA*, differ.’ Within the usage-based construction grammar approach and theories in cognitive linguistics, the diachronic study in Chapter III explored the mechanism of the semantic change of *-key* and *-tolok* and their grammaticalization to the causative constructions, *-key HA* and *-tolok HA*, through the processes of chunking, repetition, metonymy, pragmatic inferencing, and subjectification. This examination also revealed how the more abstract meaning of ‘causative’ was created. The synchronic study in Chapter IV examined the contemporary usage of both constructions, where the prototypical form and meaning of each construction, as well as its causative meaning, were explored. The findings revealed the central sense of each construction and their associated polysemous causative meanings. Furthermore, Chapter IV revealed that the difference between the two constructions is relevant to the diachronic usage of *-key* and *-tolok*.

As noted by Kemmer and Barlow (2000), “usage events are crucial to the ongoing structuring and operation of the linguistic system. [...] Thus, usage events play a double role in the system: they both result from and also shape, the linguistic system itself in a kind of feedback loop” (p. ix). This also applied to the *V-key HA* and *V-tolok HA* constructions.

As Haiman (1994) also pointed out, the increased frequency of use leads to habituation. Thus, the increased frequency of the *V-key HA* and *V-tolok HA* construction led to habituation, and this led to increased accessibility, and this, in turn, led to more use, which in turn increased the habituation and accessibility again. With this self-feeding cycle, both *V-key HA* and *V-tolok HA* constructions were entrenched as causative constructions over centuries.

However, the strengthening seems to be higher in the *V-key HA* construction. From the diachronic and synchronic data, we see the greater productivity of the *V-key HA* construction with more types of co-occurring verbs, causer, and causee. Also, the emergence of the chunking of the unit was found in the late 15th century, and the frequency of the chunk with the causative meaning was already high in the late 15th century. Thus, we can say that the *V-key HA* construction was already conventionalized as the causative construction. Once the purposive meaning was acquired, the *V-tolok HA* construction started to convey the causative meaning starting in the 18th century.

From the constructionist approach, it is known that linguistic forms that are in competition often lead to differentiation, in which “the functional domain competed over ends up being divided, with each expression filling a unique functional niche” (Smet, et al., 2018, p. 198), while functional overlaps between the constructions are still possible (Smet, et al., 2018). Such cases seem to apply to the *V-key HA* and *V-tolok HA* constructions.

With the functional overlaps between *V-key HA* and *V-tolok HA*, polysemous senses of causation are found in both constructions. However, they differ in terms of their different event profiles in the causative events, which is relevant to their diachronic changes. From the diachronic change of *-key* and *-tolok* and their event structures, the *-key HA* construction profiles the caused event with a stronger implication of a positive causative outcome, while the *V-tolok HA* construction profiles the causing event with a low implication of the positive causative

outcome. Accordingly, the *V-tolok HA* construction highlights the hypothetical purposive situation while the *V-key HA* construction implicates the higher possibility of the successful change of state.

Also, the findings from the synchronic study showed that the *V-key HA* construction conveys more of the successful change of state meaning while the *V-tolok HA* construction conveys the obligation meaning distinctively. The deontic sense that is delivered by the *V-tolok HA* construction seems to show the *V-tolok HA* construction's moving into a niche denoting the deontic sense in the synchronic usage, which differs from the *V-key HA* construction. This deontic niche also relates to the posited non-causative meanings (i.e., the imperative and the self-determination meaning) in present-day Korean. As the *V-tolok HA* construction found its own niche delivering the deontic sense, distinctively from *V-key HA*, the 'obligation' meaning from *V-tolok HA* seems to enable the construction to further denote related meanings, such as the imperative meaning and the self-determination meanings in present-day Korean. Although studies view that such meanings are non-causative because of the absence of the explicit causee NP, as I argued earlier, with the notion of divided self (Talmy, 2000), the imperative and self-determination meanings can be interpreted as causative meanings. Indeed, this interpretation aligns with this dissertation's finding that the deontic sense is distinctively delivered by the *V-tolok HA* construction. However, this dissertation still has not fully identified the path that *V-tolok HA* took to develop this niche since the collected tokens in the relevant diachronic data were very small. This would be an issue for further study.

Expanding the existing diachronic studies on *-key* (e.g., Kim, 2011) and *-tolok* (e.g., Suk, 2006, 2013), this study examined the semantic change and the path of grammaticalization of *-key* and *-tolok* from Middle Korean to the early present Korean era. Such semantic change and grammaticalization were analyzed within the usage-based construction grammar approach, which has not been practiced widely in the study of Korean linguistics. This dissertation also expands

the currently emerging literature from construction grammar in the study of causative constructions (Lee, 2017). Expanding Lee (2017), which focused on the syntactic and semantic evidence for considering ‘*X-key ha*’ as a construction, this dissertation not only examined both causative constructions, *V-key HA* and *V-tolok HA* but also revealed the differences between the two constructions. Moreover, this dissertation revealed the relevance of diachronic evidence in the analysis of the contemporary usage of competing constructions. Thus, this dissertation's diachronic and synchronic findings show the importance of language change and the usage events over history in understanding language and grammar, which also adds to the growing body of studies on the usage-based approach and diachronic construction grammar (Sommerer & Smirnova, 2020). Most importantly, this dissertation contributes to recent emerging studies from construction grammar and usage-based approach in Korean Linguistics.

A few issues merit further investigation. First, the interaction of the causee’s case marking with the causee NP and each construction was not fully explored. Although this dissertation showed that the causee’s case marking could not be the determining factor for the causative meaning of each construction, the interaction of the case marking with the causee entities as well as the construction should be further explored to reveal any other differences between the constructions. Second, the data could be expanded and/or narrowed. For example, data from a different mode of communication, such as spoken data, could be included. Data from the spoken corpora would show the usages of the two constructions in very different contexts. At the same time, a single written genre could be used for future study as this dissertation examines possible genre effects in the diachronic and synchronic studies. By doing so, future studies can also narrow down a specific genre to zoom in on the constructional changes over time or compare their usages from different genres. Finally, a perception study could be implemented to see how people perceive the two constructions in use and whether their perception aligns with the findings.

Distinct from the traditional generative approach, the findings of this dissertation reveal a few important implications for the study of the (Korean) language. The findings showed the importance of the study of naturally occurring language. As the findings from the synchronic sources show, in their actual usage, the prototypical forms of the *V-key HA* and *V-tolok HA* constructions do not have explicit causer and causee entities. This suggests that previous studies with the sentence-level-based analysis with the explicit causer and causee entities do not reflect the actual usage of the two constructions. In studying naturally occurring data, the usage-based approach has acknowledged the importance of using corpus data. Methodologically, this dissertation applied both the quantitative analysis (e.g., distinctive collexeme analysis) and the qualitative analysis, which both contributed to revealing the constructional change, similarities, and differences between the two constructions. Furthermore, this dissertation's comparison of the two constructions from both the diachronic and synchronic sources contributes to the diachronic studies of the Korean causatives, which have not gotten much attention compared to the synchronic studies.

Within the usage-based construction grammar approach and theories in cognitive linguistics, this dissertation shows how these theoretical frameworks can address syntactic puzzles of the Korean DO-causatives and its obscure semantic meaning of causation. Also, both diachronic and synchronic studies helped us understand the competing constructions in synchronic usage. Thus, I argue that the usage-based construction grammar approach provides insights into understanding Korean grammar. The importance of the usage-based approach to the study of Korean grammar is also acknowledged in the applied linguistics field. For example, in the field of Korean language teaching and learning, Lee (2022) argued that “the grammar descriptions needed for language teaching and learning must be usage-based, rather than prescriptive rule-based” (p. 387) by pointing out that the current Korean language learning materials are still rule-based, without considering the language data in contexts and their usages.

In his book chapter, he presented textbook presentations on Korean grammar by comparing them to their actual usages from spoken data, which includes the diachronic and synchronic variations as well as the meaning differences between competing constructions (e.g., the short form of negation and the long form of negation). Likewise, this dissertation contributes to the field of Korean language teaching and learning by revealing the usage of *V-key HA* and *V-tolok HA* constructions, and such findings will help develop the teaching and learning materials within the usage-based approach.

REFERENCES

- Academy of Korean Studies. (n.d.). Encyclopedia of Korean Culture. <https://encykorea.aks.ac.kr/>
- Barcelona, A. (2000). On plausibility of claiming a metonymic motivation for conceptual metaphor. In A. Barcelona. (Ed.), *Metaphor and metonymy at the crossroads* (pp. 31–59). Mouton de Gruyter.
- Barlow, M., & Kemmer, S. (2000). *Usage-based models of language*. Center for the Study of Language and Information.
- Bybee, J. (2001). *Phonology and language use*. Cambridge University Press.
- Bybee, J. (2003) Cognitive processes in grammaticalization. In M. Tomasello (Ed.), *The new psychology of language: Cognitive and functional approaches to language structure*. Volume 2. Mahwah, NJ: Erlbaum. 145–167.
- Bybee, J. (2006). From usage to grammar: the mind's response to repetition. *Language*, 82(4), 711-733.
- Bybee, J. (2007). Diachronic linguistics. In D. Geeraerts & H. Guyckens (Eds.), *The Oxford handbook of cognitive linguistics* (pp. 945-987). Oxford University Press, Inc.
- Bybee, J. (2010). *Language, usage and cognition*. Cambridge University Press
- Bybee, J. (2013). Usage-based theory and exemplar representation. In T. Hoffman. & G. Trousdale (Eds.), *The Oxford handbook of construction grammar* (pp. 49-69). Oxford University Press, Inc.
- Bybee, J., & Hopper, P. (2001). *Frequency and the emergence of linguistic structure*. John Benjamins Publishing Company.
- Bybee, J., Perkins, R., & Pagliuca, W. (1994). *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. University of Chicago Press.
- Byon, Y. (2015). *A study on '(-)darok' in the late middle Korean*. [Unpublished Master's Thesis]. The Academy of Korean Studies.

- Choi-Jonin, I. (2008). Particles and postpositions in Korean. In D. Kurzon & S. Adler (Eds.), *Adpositions: Pragmatic, semantic and syntactic perspectives* (pp. 133-170). John Benjamin Publishing Company.
- Clark, E.V. (1978). Awareness of language: Some evidence from what children say and do. In A. Sinclair., R.J. Jarvella & W.J.M. Levelt (Eds.), *The child's conception of language* (pp. 17-43). Springer.
- Cole, P. (1983). The grammatical role of the causee in the universal grammar. *International Journal of American Linguistics*, 49, 115-133.
- Comrie, B. (1989). *Language universals and linguistic typology: Syntax and morphology*. University of Chicago press.
- Croft, W. (2000). *Explaining language change: An evolutionary approach*. Longman.
- Croft, W. (2001). *Radical construction grammar: Syntactic theory in typological perspective*. Oxford University Press.
- Croft, W., & Cruse, D.A. (2004). *Cognitive linguistics*. Cambridge University Press.
- DuBois, J. W. (1987). The discourse basis of ergativity, *Language*, 63, 805-855.
- Eun, J., & Strauss, S. (2004). The primacy of information status in the alternation between deferential and polite forms in Korean public discourse. *Language Sciences*, 26(3), 251-272.
- Goldberg, A. (1995). *Constructions: A construction grammar approach to argument structure*. University of Chicago Press.
- Goldberg, A. (2003). Constructions: A new theoretical approach to language. *TRENDS in Cognitive Sciences*, 7(5), 219-224.
- Goldberg, A. (2006). *Constructions at Work*. Oxford: Oxford University Press.
- Gries, S.Th. (2015). More (old and new) misunderstandings of collocation analysis: On Schmid and Küchenhoff (2013), *Cognitive Linguistics*, 26(3), 505-536.
- Gries, S.Th., & Stefanowitsch, A. (2004). Extending collocation analysis: A corpus-based perspectives on 'alternations'. *International Journal of Corpus Linguistics*, 9(1), 97-129.
- Haiman, John. (1994). Ritualization and the Development of Language. In W. Pagliuca (Ed.), *Perspectives on Grammaticalization*, 3-28. Amsterdam: John Benjamins.
- Hilpert, M. (2007). *Germanic future constructions: A usage-based approach to grammaticalization* [Unpublished Doctoral Dissertation]. Rice University.
- Hopper, P.J., & Traugott, E.C. (2003). *Grammaticalization* (2nd ed.). Cambridge University Press.

- Hyman, L., & Zimmer, K. (1976). Embedded topic in French. In C. Li (Ed.), *Subject and topic* (pp. 189-211). Academic Press.
- Jackson, H. (1995). *Grammar and meaning: A semantic approach to English grammar*. Longman.
- Jeong, Y. (2015). *A construction-based approach to the function of the verb ha-da*. [Unpublished Doctoral Dissertation]. Korea University. [in Korean].
- Jeong, Y. (2023). Usages and constraints of the ‘-dorok’ purposive construction. *Hansungeomunhak*, 48, 81-125.
- Keller, R. (1990/1994). *On language change: The invisible hand in language*. Routledge. (Translation and expansion of *Sprachwandel: von der unsichtbaren Hand in der Sprache*. Francke.)
- Kim, H. (1993). A study on the meaning of ‘-torok’. *Teaching Korean as a Foreign Language*, 18(1), 63-79. [in Korean].
- Kim, B. (1999). An analysis of writer's subjectivity in news text. *Text Linguistics*, 7, 57-88.
- Kim, H. (1997). *Kwukeuy satongsa yenkwu* [The study on causatives]. Pakiceng.
- Kim, H. & Kim, M. (2011). A study on teaching-learning method of Korean grammar ‘-ge hada’ and ‘-dorok hada’. *Urimal*, 29, 345-366.
- Kim, K. (2009). On the intimacy of causative construction and case marker of causee in Korean. *Han-Geul*, 283, 93-126.
- Kim, M. (2008). The emergence of the Korean modal -keys-: From causative to epistemic and volitive modal. *Discourse and Cognition*, 15(2), 1-27.
- Kim, M. (2011). The historical development of the Korean suffix -key. In H. Sohn & H. Cook & W. O’Grady & L. Scafim & S. Cheon (Eds.). *Japanese/Korean Linguistics 19* (pp. 435-448). CSLI Publications.
- Kim, Y. (1984). Remarks on the so-called Pro-verb “hata”. *Korean Language*, 9(1), 31-63. [In Korean].
- Kim, Y. (2012). Directiveness of causatives in Korean: With focus on their argument structures and event structures. *Urimal*, 30, 111-143.
- Kim, Y., & Kim, I. (2018). *Hankwuke satongmwunuy kyek kyochehye hyensangey tayhaye*. *Woorimal Conference Proceedings*, 67-86. [In Korean].
- Ko, Y. (2020). *Phyocwun cwungsey kwuke mwunpeplon* [Standard middle Korean grammar] (4th ed.). Cipmwuntang. [In Korean].

- Langacker, R.W. (1987). *Foundations of cognitive grammar, volume I: Theoretical prerequisites*. Stanford University Press.
- Langacker, R.W. (1991). *Foundations of cognitive grammar, volume II: Descriptive application*. Stanford CA: Stanford University Press.
- Langacker, R.W. (2011). Grammaticalization and cognitive grammar. In B. Heine & H. Narrog (Eds.), *The oxford handbook of grammaticalization* (pp. 79-91). Oxford University Press.
- Lee, H., & Lee, J. (1999). *Sacensik theyksuthu pwunsekcek kwuke emiuy yenkwu. Hankwukmwunhwasa*. [In Korean].
- Lee, H. (2006). Parallel optimization in case systems: Evidence from case ellipsis in Korean. *Journal of East Asian Linguistics*, 15(1), 69-96.
- Lee, H. (2015). Case particle ellipsis. In L. Brown & J. Yeon (Eds.), *The handbook of Korean linguistics* (pp. 196-211). John Wiley & Sons, Inc.
- Lee, H. (2017). A study on a causative construction of ‘X-key ha-ta’ from the viewpoint of construction grammar. *Studies in Linguistics*, 42, 71-92. [In Korean].
- Lee, H.S (2022). Usage-based approach to grammar in Korean language teaching and learning. In A.S. Byon & D.O. Pyun (Eds.), *The Routledge handbook of Korean as a second language* (pp. 386-413). Taylor & Francis Group.
- Lee, I. (2005). *Hankwuke mwunpe*. [Korean Grammar]. Sewultayhakkyochwulphanmwunhwawen. [In Korean].
- Lee, J. & Lee, C. (2003). Korean resultative constructions. In J. Kim & S. Wechsler (Eds.), *The proceedings of the 9th international conference on HPSG* (pp. 169-186). Stanford University.
- Lee, K. (2010). A study on comprehension of texts by grammar knowledge – Focusing on form ‘-dorok ha-’ and ‘-ge ha-’ in newspaper texts. *Journal of Korean Language Education*, 25, 119-161. [In Korean].
- Lee, M. (2004). Resultative constructions in Korean. [Unpublished doctoral dissertation]. University of Hawaii, Manoa.
- Lüdtke, H. (1986). Esquisse d’une théorie du changement langagier. *La linguistique*, 22, 3-46.
- National Institute of Korean Language. (n.d.). National Institute of Korean Language's Korean-English Learners' Dictionary. <https://krdict.korean.go.kr/eng>
- National Institute of Korean History. (n.d.), Korean History Thesaurus. <http://thesaurus.history.go.kr/>
- Oh, Y., & Shin, Y. (2015). The meaning of ‘-dorok’: ‘Purpose’ from ‘until’. *Kugŏhak*, 74, 261-302. [in Korean].

- Park, J. (1994). *Morphological causatives in Korean: Problems in grammatical polysemy and constructional relations*. [Unpublished doctoral dissertation]. University of California at Berkeley.
- Park, J. (2010). A diachronic study on the grammatical status of ‘malda’. *Eo-Mun-Lon-Chong*, 53, 107-144. [in Korean].
- Rhee, S. (2011). Grammaticalization in Korean. In B. Heine & H. Narrog (Eds.), *The oxford handbook of grammaticalization* (pp. 764-774). Oxford University Press.
- Rhee, S., & Koo, H. (2014). Grammaticalization of causatives and passives. *Poznan Studies in Contemporary Linguistics*, 50(3), 309-337.
- Schmidtke-Bode, K. (2009). *Typology of purpose clauses*. John Benjamin Publishing Company.
- Seo, J. (1975). *Tongsa 'ha-'uy mwunpep* [Grammar of the verb ‘ha-’]. Hyengselchwulphansa. [In Korean].
- Seo, J. (1987). On the verb endings keh and torok. *The Journal of Humanities*, 14, 41-67. [In Korean].
- Sohn, H. (1999). *The Korean language*. Cambridge University Press.
- Sohn, H. (2015). Middle Korean and pre-modern Korean. In L. Brown & J. Yeon (Eds.), *The handbook of Korean linguistics* (pp. 439-458). John Wiley & Sons, Inc.
- Sommerer, L., & Smirnova, E. (Eds.). (2020). *Nodes and networks in diachronic construction grammar*. John Benjamins Publishing Company.
- Smet, H.D., D’hoedt, F., Fonteyn, L., & Gothem, K.V. (2018). The changing functions of competing forms: Attraction and differentiation. *Cognitive Linguistics*, 29(2), 197-234.
- Smirnova, E., & Sommerer, L. (2020). The nature of the node and the network – Open questions in diachronic construction grammar. In L. Sommerer & E. Smirnova. (Eds.), *Nodes and networks in diachronic construction grammar*, (1-42). John Benjamins Publishing Company.
- Song, C. (2013). On the meaning of ‘malda’ in Modern Korean, *The Journal of Korean Language and Literature Education*, 52, 263-284.
- Song, H. (2005). *Causative and resultatives in Korean*. [Unpublished doctoral dissertation]. University of Wisconsin-Madison.
- Song, J. (1996). *Causatives and causation: A universal-typological perspective*. Longman.
- Song, J. (2001). *Linguistic typology: Morphology and syntax*. Pearson (Longman).
- Song, J. (2015). Causatives. In L. Brown & J. Yeon (Eds.), *The handbook of Korean linguistics* (pp. 98-115). John Wiley & Sons, Inc.

- Strauss, S., Lee, J. & Ahn, K. (2006). Applying conceptual grammar to advanced-level language teaching: the case of two completive constructions in Korean. *The Modern Language Journal*, 90(2), 185-209.
- Suk, J. (2006). The history of ‘-dorok’. *Korean Semantics*, 19, 37-63. [In Korean].
- Suk, J. (2013). The history of ‘-dorok’ in Sinsosel. *Ulimalgul*, 59, 25-50. [In Korean].
- Talmy, L. (1976). Semantic causative types. In M. Shibatani (Ed.), *The grammar of causative constructions* (pp. 43–116). Academic.
- Talmy, L. (1988). Force dynamics in language and cognition. *Cognitive Science*, 2, 49-100.
- Talmy, L. (2000). *Toward a cognitive semantics. Volume II: Typology and process in concept structuring*. MIT press.
- Traugott, E.C. (1988). Pragmatic strengthening and grammaticalization. In S. Axmaker & H. Sigmaster (Eds.), *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society* (pp. 406-416). Berkely Linguistics Society.
- Traugott, E.C., & Dasher, R.B. (2002). *Regularity in semantic change*. Cambridge University Press.
- Traugott, E.C., & König, E. (1991). The semantics-pragmatics of grammaticalization revisited. In E.C. Traugott & B. Heine (Eds.), *Approaches to grammaticalization* (pp. 189-218). John Benjamins Publishing Company.
- Traugott, E.C., & Trousdale, G. (2013). *Constructionalization and constructional changes*. Oxford University Press.
- Wechsler, S., & Noh, B. (2001). Morphological causatives in Korean: Problems in grammatical polysemy and constructional relations. *Language Sciences*, 23(4-5), 391-423.
- Whitman, J. (2015). Old Korean. In L. Brown & J. Yeon (Eds.), *The handbook of Korean linguistics* (pp. 421-438). John Wiley & Sons, Inc.
- Yeon, J., & Brown, L. (2011). *Korean: A comprehensive grammar*. Routledge.
- Yi, J. (2011). Sentence meaning construct of causative sentence by ‘-ge/-dorok’, *Korean Language & Literature*, 78, 91-115.
- Zehentner, E., & Traugott, E.C. (2020). Constructional networks and the development of benefactive ditransitives in English. In L. Sommerer & E. Smirnova (Eds.), *Nodes and networks in diachronic construction grammar* (167-211). John Benjamins Publishing Company.

Corpora

Etymey. Available at <https://akorn.bab2min.pe.kr/>

National Institute of Korean Language. (n.d.). *Modu Corpus: NIKL Newspaper Corpus 2020*
(Version 1.0). Available at <https://corpus.korean.go.kr>.

APPENDICES

Appendix A. List of sources collected from the diachronic historical corpora

Century	Classification*
<i>Sekposangcel</i> (1447)	Religion>Buddhism
<i>Welinsekpo</i> (1459)	Religion>Buddhism
<i>Nungemkyengenhay</i> (1461)	Religion>Buddhism
<i>Pephwakyengenhay</i> (1463)	Religion>Buddhism
<i>Amithakyengenhay</i> (1464)	Religion>Buddhism
<i>Kumkangkyengenhay</i> (1464)	Religion>Buddhism
<i>Pwulcengsimkyengtalanikyeng</i> (1464)	Religion>Buddhism
<i>Sencongyengkacipenhay</i> (1464)	Religion>Buddhism
<i>Wenkakkyengenhay</i> (1465)	Religion>Buddhism
<i>Kwukuppangenhay</i> (1466)	Technological sciences>Medical
<i>Mokwucaswusimkyel</i> (1467)	Religion>Buddhism
<i>Siphyentamyohay</i> (1475)	Religion>Buddhism
<i>Samkanghayngsilto</i> (1481)	Literature>Chinese literature
<i>Twusienhay</i> (1481)	Philosophy>Ethics·moral philosophy
<i>Kumkangkyengsamkahay</i> (1482)	Religion>Buddhism
<i>Kumkangkyengsamkaenhay</i> (1482)	Religion>Buddhism
<i>Nammyengchenkyeysongenhay</i> (1482)	Religion>Buddhism
<i>Yenghemyakcho</i> (1485)	Religion>Buddhism
<i>Kwukupkanipang</i> (1489)	Technological sciences>Medical sciences· pharmacology
<i>Kwukupkanipangenhay</i> (1489)	Technological sciences>Medical sciences· pharmacology
<i>Cinenkwenkong</i> (1496)	Religion>Buddhism
<i>Samtansisikmwun</i> (1496)	Religion>Buddhism
<i>Yukcopeppotankyengenhay</i> (1496)	Religion>Buddhism
<i>Cwuyekenhay</i> (1606)	Philosophy>Eastern philosophy Linguistics>Korean language
<i>Enhaythaysancipyo</i> (1608)	Technological sciences>Medical sciences·pharmacology
<i>Senkakwikam</i> (1610)	Religion>Buddhism
<i>Saceykok</i> (1611)	Literature>Korean literature

*Classification is based on National Institute of Korean History (n.d.) and the Academy of Korean Studies (n.d.).

Century	Classification
<i>Sikyengenhay</i> (1613)	Philosophy>Eastern philosophy
<i>Tongkwuksinsoksamkanghayngsilto</i> (1617)	Philosophy>Ethics·moral philosophy
<i>Yehwunenhay</i> (162?)	Linguistics Philosophy>Ethics·moral philosophy Technological sciences>Home economics·home life
<i>Kalyeyenhay</i> (1632)	Philosophy>Eastern philosophy
<i>Pwunlyukongpwutwusienhay</i> (1632)	Literature>Chinese literature
<i>Kwennyemyolok</i> (1637)	Religion>Buddhism
<i>Pwunsanhoypoksauka</i> (1638)	Literature>Korean literature
<i>Wikwunwichinthongkokka</i> (1639)	Literature>Korean literature
<i>Pyekonsinpang</i> (1653)	Technological sciences>Medical sciences·pharmacology
<i>Elokhay</i> (1657)	Linguistics General>Encyclopedia
<i>Kyengminphyenenhay</i> (1658)	Social sciences>Laws·statutes Social sciences>Custom·folklore
<i>Sinkankwuhwangchwalyo</i> (1660)	Sociology·social issues Technological sciences>Medical sciences·pharmacology Technological Sciences>Agricultural studies
<i>Twuchangkyenghempang</i> (1663)	Technological sciences>Medical sciences·pharmacology
<i>Nokeltayenhay</i> (1670)	Social sciences>Education·textbook Linguistics>Chinese language
<i>Chephaysine</i> (1676)	Social sciences>Education·textbook Linguistics>Japanese language
<i>Pakhthongsaenhay</i> (1677)	Linguistics Social sciences>Education·textbook
<i>Sincencachwiyemchopangenhay</i> (1685)	Military
<i>Songkangkasa</i> (1687)	Literature>Korean literature
<i>Chenphwungka</i> (1690)	Literature>Korean literature
<i>Yekeyuhay</i> (1690)	Social sciences>Education·textbook Linguistics>Chinese language
<i>Akhaksuplyeng</i> (1713)	Literature>Korean literature
<i>Olyuncenpienhay</i> (1721)	Linguistics>Korean language Linguistics>Chinese language
<i>Yesaseenhay</i> (1736)	Philosophy>Ethics·moral philosophy
<i>Eceynayhwun</i> (1737)	Linguistics Philosophy>Ethics·moral philosophy
<i>Mongenokeltay</i> (1741)	Social sciences>Education·textbook Linguistics>Other languages
<i>Eceycasengphyenenhay</i> (1746)	Philosophy>Ethics·moral philosophy
<i>Kayswuchephaysine</i> (1748)	Social sciences>Education·textbook Linguistics>Japanese language
<i>Tongmwunyuuhay</i> (1748)	Linguistics>Manchu language
<i>Cwungyongyulkoksensayngenhay</i> (1749)	Philosophy>Eastern philosophy
<i>Mayngcayulkoksensayngenhay</i> (1749)	Philosophy>Eastern philosophy

Century	Classification
<i>Noneyulkoksensayngenhay</i> (1749)	Philosophy>Eastern philosophy
<i>Tayhakyulkoksensayngenhay</i> (1749)	Philosophy>Eastern philosophy
<i>Eceyhwanseenhay</i> (1756)	Philosophy>Ethics·moral philosophy Social sciences>Political science
<i>Congteksinphyenenhay</i> (1758)	Philosophy>Ethics·moral philosophy Linguistics>Korean language
<i>Mwumokwangcengchwunglok</i> (1760)	Philosophy>Ethics·moral philosophy
<i>Taypangkwanpwwulhwaemkyengippwusauyha ythalkyengkyeypohyenhayngwenphwum</i> (1760)	Religion>Buddhism
<i>Cicangkyengenhay</i> (1762)	Linguistics Religion>Buddhism
<i>Eceykyengminum</i> (1762)	Philosophy>Ethics·moral philosophy
<i>Eceykyengseymwuntapenhay</i> (1762)	Literature>Chinese literature
<i>Eceykyengseymwuntapsoklokenhay</i> (1763)	Philosophy>Ethics·moral philosophy
<i>Pakhongsasinsekenhay</i> (1765)	Linguistics>Chinese language
<i>Mongeyuhay</i> (1768)	Linguistics>Other languages
<i>Sipkwusalyakenhay</i> (1772)	History>Asia
<i>Samyekchonghay</i> (1774)	Social sciences>Education·textbook Linguistics>Manchu language
<i>Yempwulpokwenmwun</i> (1776)	Religion>Buddhism Linguistics>Korean language
<i>Myenguylokhay</i> (1777)	Social sciences>Political science History>Asia
<i>Pangenyusek</i> (1778)	Linguistics
<i>Sokmyenguylokenhay</i> (1778)	Social sciences>Political science
<i>Yukyengkitaysominintungyunum</i> (1782)	Politics·administration·legislation
<i>Cahyulcenchik</i> (1783)	Politics·administration·legislation
<i>Eceyyuwenchwuntoyengtongyengsetaysosami nyunum</i> (1783)	Politics·administration·legislation
<i>Yukyengkihongchwungtokamsaswulyengtung yunum</i> (1783)	Politics·administration·legislation
<i>Yunumenhay</i> (1783)	Politics·administration·legislation
<i>Eceysakihopyelcincayunum</i> (1784)	Politics·administration·legislation
<i>Inetaypang</i> (1790)	Social sciences>Education·textbook Linguistics>Japanese language
<i>Cungswumwuwenlokenhay</i> (1792)	Social sciences>Laws·statutes Technological sciences>Medical sciences·pharmacology Linguistics>Korean language
<i>Cwungkannokeltayenhay</i> (1795)	Social sciences>Education·textbook Linguistics>Chinese language
<i>Censelinkwakok</i> (1796)	Religion>Buddhism Linguistics>Korean language
<i>Kyengsinlokensek</i> (1796)	Religion>Taoism
<i>Sincencachopang</i> (1796)	Military
<i>Olyunhayngsilto</i> (1797)	Philosophy>Ethics·moral philosophy

Century	Classification
<i>Kyenghyangcapci</i> (1906)	General>Journals·periodical
<i>Sinhakwelpo</i> (1990s)	General>Journals·periodical
<i>Sokangcel</i> (1990s)	Literature

VITA

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