

# Diachronic Change of *-key* and *-tolok* to DO-Causatives: A Usage-based Construction Grammar Approach

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## 1 Introduction

Korean syntactic causatives can be made by combining an adverbial subordinator *-key* or *-tolok* with the ‘do’ verb *ha* as in *-key HA* and *-tolok HA*. To date, a large body of literature has examined the semantic and syntactic similarities and differences between the *-key HA* and *-tolok HA* causatives, mainly from the formal grammar approach. Within this approach, *-key/tolok* and *ha* are treated as discrete syntactic elements. However, how the combination of these syntactic elements ended up denoting the non-compositional

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causative meaning has not been fully addressed, and incongruent semantic and syntactic roles of *-key* and *-tolok* and *ha* in the formation of the causatives have been reported.

This study proposes a usage-based (Barlow and Kemmer 2000; Bybee 2001; Langacker 1987) and construction grammar approach (Goldberg 1995; Croft 2001) to better understand the Korean DO-causatives, *V-key HA* and *V-tolok HA*. According to the usage-based approach, a speaker's knowledge of the language is informed by its actual use, and linguistic structures are processed through human domain-general cognitive processes such as categorization, chunking, and rich memory storage (see Bybee 2010). Every usage event determines the representation of grammar in the speaker's mind. This mental representation of grammar is organized into constructions, which can be words, phrases, or highly abstract schemas. As a symbolic unit of form and meaning, construction is the basic unit of language with its own distinctive meaning. In this sense, *V-key HA* and *V-tolok HA* can be considered to form causative constructions.

Following the usage-based construction grammar approach, we would expect that the diachronic co-occurrence of *-key* and *ha* and *-tolok* and *ha* led to certain changes in the meaning and entrenchment of the combined chunks. From the usage-based construction grammar approach, "grammaticalization is the creation of new constructions" (Bybee 2003: 146) which involves mechanisms such as repetition and increased usage, chunking, autonomy, generalization to new contexts, habituation, and pragmatic inference (see Bybee 2010). The increased subjectification in meaning and the pragmatic inferencing contribute to the semantic change as the language users' tendency to infer textual relations over time develops meanings (Traugott and Dasher 2002). Language change does not occur radically; rather, it is gradual, and language changes from its actual usage events in communities and contexts (Bybee 2010). Thus, it is imperative to review *-key* and *-tolok* from a diachronic perspective to understand the two DO-causative constructions in present-day Korean.

However, compared to the abundant literature on the two DO-causatives from synchronic data of present-day Korean, studies on the diachronic perspective of the two DO-causatives are still limited. Some existing studies include Suk (2006, 2013) for the diachronic change of *-tolok* and *-tolok ha*, Kim (2011) for the diachronic change of *-key*, and Choi (2000) for the causative *-key ha*. According to Kim (2011), the purposive meaning of *-key* from Middle Korean led to the emergence of the causative *-key ha*, which is reported to have already appeared in Middle Korean (Choi 2000). Suk (2006, 2013)

presented that the older meanings of *-tolok* are *tokeup*<sup>1</sup> and *iksim*<sup>2</sup> in Middle Korean while the *iksim* meaning disappeared in Modern Korean. Suk (2006) noted that a new ‘degree’ and purposive meaning of *-tolok* originated from the temporal endpoint meaning of *-tolok*. Those studies offer illuminating findings, however, the mechanism of the semantic change of *V-key* and *V-tolok* and their grammaticalization to the causatives have not been fully investigated.

Grounded in a usage-based construction grammar approach, this study aims to examine the semantic change of *V-key* and *V-tolok* and their path of grammaticalization to the causative constructions, *V-key HA* and *V-tolok HA*.

## 2 Method

The data were collected from an online historical Korean corpus search engine *Etymey*, which stores historical Korean corpora collected by the National Institute of Korean Language from the late 15<sup>th</sup> century to the early 20<sup>th</sup> century. Randomly 200 tokens of *-key* and *-tolok* and their allomorphs from target centuries (i.e. late 15<sup>th</sup> century for late Middle Korean; 17<sup>th</sup> and 18<sup>th</sup> centuries for Modern Korean; early 20<sup>th</sup> century for early Present-day Korean) were collected by running Python scripts. Among them, tokens that are preceded by verbs were selected and further classified into two categories, whether *V-key/tolok* is followed by the verb *ha* or *X* other than *HA*.<sup>3</sup> For tokens of *V-key/tolok X*, the adverbial meaning of *-key* and *-tolok* were coded. For tokens of *V-key/tolok HA*, I coded whether they were compositional, constructional (i.e. causative), or ambiguous.

## 3 Findings and Discussion

### 3.1 Diachronic Change of *V-key* and *V-key HA*

The findings showed that most tokens of *V-key* were followed by *HA*, denoting the constructional meaning (i.e. causative) as shown in Table 1.

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<sup>1</sup> It is similar to ‘until’ in English. In this study, I use the term ‘the temporal endpoint’ to refer to this meaning.

<sup>2</sup> It is similar to the comparative correlative (e.g. the *Xer*, the *Yer*). In this study, I use the term ‘the parallel intensification’ to refer to this meaning.

<sup>3</sup> Tokens of *V-key mal* and *V-key toy* were eliminated to fully focus on the *V-key ha* construction.

Form	Meaning	15 <sup>th</sup> C	17 <sup>th</sup> C	18 <sup>th</sup> C	Early 20 <sup>th</sup> C
V-key X	Adverbial	6 (2.9%)	25 (18%)	9 (6.3%)	5 (5.6%)
V-key HA	Constructional	200 (96.6%)	113 (81.3%)	134 (93.7%)	84 (94.4%)
	Ambiguous	1 (0.5%)	1 (0.7%)	0	0
Total number of tokens		207	139	143	89

Table 1. Token frequency of V-key

When V-key was followed by X other than HA, various adverbial meanings were conveyed as shown in Figure 1.

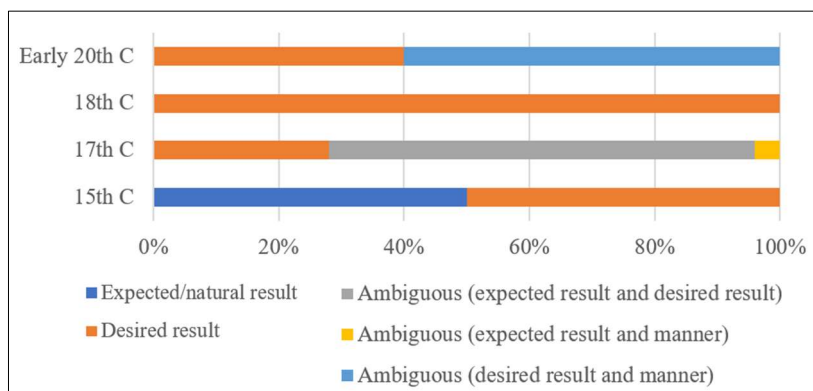


Figure 1. Frequency of the semantic meaning of -key in V-key X

The older meanings of -key in V-key X in the late 15<sup>th</sup> century appeared to denote result events from an event in the main predicate, which can be interpreted as either the expected or natural result meaning as in (1) or the desired result meaning as in (2).

- (1) *pwucA hAn lyang-ul cyAhi-yey ssa*  
 aconite one a.unit.of.coinage-ACC paper-in/with wrap-CONN  
*mul cec-ye tteti-key kwu-e*  
 water wet-CONN burst-CONN bask-CONN  
 ‘wrap a unit of aconite in a paper, soak it in water, and bask it until (it) bursts.’  
 (1489, *Kwukupkanipang*)

- (2) *pwuthye-s cezca-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*)

For the tokens of the natural/expected result meaning, the event of the *-key* clause was semantically highly relevant to the event in the main predicate, as ‘burst aconites’ and ‘bask aconites’ show in (1). In the meantime, the tokens of the desired result meaning of *-key* showed that the event of the *-key* clause is the desired event that the event of the main predicate can bring. The desired result meaning of *-key* appeared from the late 15<sup>th</sup> century to the early 20<sup>th</sup> century while the sole expected/natural result meaning only appeared in the late 15<sup>th</sup> century. Instead, the expected/natural result meaning was mostly found to be ambiguously interpreted as the desired result meaning.

When *V-key* was followed by the verb *HA*, the constructional meaning of ‘causative’ was found with a high frequency throughout the centuries as shown below.

- (3) *uyciha-y se-key hA-myen casik-i cukcay*  
 lean-by stand-CAUS-if baby-NOM immediately  
*nano-nila*  
 come.out-ENDER  
 ‘If (you) make (the pregnant woman) stand by leaning (during a  
 mealtime), the baby comes out immediately.’  
 (1489, *Kwukupkanipang*)

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

- (5) *ney yangkan-uy tolak-a mastangi*  
 you bright.world-LOC return-CONN properly  
*kamungphyen-ul kac-ye nepi phye-key ha-la*  
 Kamungphyen-ACC have-CONN widely spread-CAUS-IMP  
 ‘Return to the bright world and properly have *Kamungphyen* and  
 make (it) spread widely.’  
 (1796, *Kyengsinlokensek*)

- (6) *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*)

As shown in (3) to (6), when *V-key* was followed by *HA*, the compositional meanings of *-key* and *ha* were bleached (i.e. generalized) and the function of *-key* as an adverbial subordinator and *ha* as a main predicate was lost. Instead, a new meaning of causation emerged. The token frequency of *V-key ha* was already high in the late 15<sup>th</sup> century, and its causative meaning was also high as 99.5% of the tokens of *V-key HA* conveyed the causative meaning in the late 15<sup>th</sup> century and 100% in the 18<sup>th</sup> and early 20<sup>th</sup> centuries.

### 3.2 Mechanism of the Diachronic Change of *V-key* and *V-key HA*

In the late 15<sup>th</sup> century, the natural/expected result meaning of *-key* was found, which implicates the temporal meaning and event sequences as the main predicate event leads to the event in the *-key* clause. In such cases, the events of the two clauses are closely related. This natural/expected result meaning of *V-key* was also interpreted as the desired result meaning where the main predicate event leads to the event in the *-key* clause as a desired result, which is not naturally coming out from the event in the main predicate. Such a desired result meaning of *V-key* was found to be more dominant later in the centuries. The event sequence of the natural/expected result meaning of *V-key* can be schematically represented as in Figure 2.

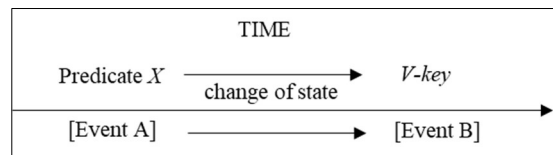


Figure 2. Schematic representation of the natural/expected result meaning of *V-key*

In the meantime, as early as in the 15<sup>th</sup> century, a high frequency of *V-key HA* was found with its constructional meaning of causative. With the increased usage of *V-key HA* as a unit, *V-key HA* became a chunk and was automatically processed. As *V-key HA* became a chunk, we see the semantic bleaching of the verb *ha*. As noted by Bybee (2003: 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).” Such a case is also found in Korean as the verb *ha* has been “used

in many grammatical constructions of diverse function” (Rhee 2011:766). This generalized meaning of ‘do’ of the ‘do’ verbs cross-linguistically is also known to be relevant to the meaning of ‘perform an action’ (Clark 1978). In this sense, the Korean ‘do’ verb *ha* in *V-key HA* can be considered as conveying the general meaning of performing an action. With this generalized meaning of *ha*, the desired result meaning from *-key* in *V-key HA* seems to trigger the causee NP referent to be viewed as an agent making the desired result event, which eventually led to the more abstract meaning of causation through *V-key HA*.

### 3.3 Diachronic Change of *V-tolok* and *V-tolok HA*

Tokens of *V-tolok* were mainly found in the form of *V-tolok X* (see Table 2). The string of *V-tolok* and *HA* was found with a low frequency, and their causative meaning was not found until the 18<sup>th</sup> century.

Form	Meaning	15 <sup>th</sup> C	17 <sup>th</sup> C	18 <sup>th</sup> C	Early 20 <sup>th</sup> C
<i>V-tolok X</i>	Adverbial	156 (91.2%)	161 (90.4%)	114 (91.2%)	91 (91.9%)
	Causative	0	0	3 (2.4%)	7 (7.1%)
<i>V-tolok HA</i>	Compositional	15 (8.8%)	17 (9.6%)	8 (6.4%)	1 (1.0%)
	Total number of tokens	171	178	125	99

Table 2. Token frequency of *V-tolok*

The frequency of the adverbial meaning of *-tolok* in *V-tolok X* is shown in Figure 3.

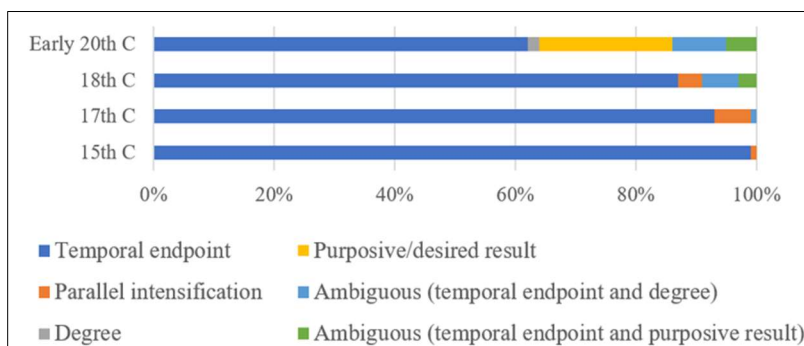


Figure 3. Frequency of the semantic meaning of *-tolok* in *V-tolok X*

The temporal endpoint meaning of *-tolok* appeared throughout the target centuries as shown in (7) and (8).

- (7) *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*)

- (8) *hAn tAl-i nem-tAlok nwue-si-toy*  
 one month-NOM pass-CONN lie-HON-CONN  
 ‘She lay until a month passes’ (1797, *Olyunhayngsilto*)

In the meantime, another older meaning of *-tolok*, parallel intensification, was found from the late 15<sup>th</sup> century to the 18<sup>th</sup> century as shown from (9) to (10).

- (9) *manh-i mek-tolok tyohA-nila*  
 many-ADV eat-CONN good-ENDER  
 ‘The more (you) eat, the better it is.’ (1489, *Kwukupkanipang*)

- (10) *swul-un mek-tolok cosimhA-ye*  
 alcohol-TOP eat-CONN careful-CONN  
 ‘The more you drink alcohol, the more cautious you are’  
 (1790, *Inetaypang*)

The two older meanings of *-tolok* started to denote an ambiguity between the temporal endpoint and degree meanings in the 17<sup>th</sup> and 18<sup>th</sup> centuries as in (11), and the sole degree meaning was found in the early 20<sup>th</sup> century.

- (11) *kongsim-ey meko-toy puun Kuy*  
 empty.stomach-at eat-CONN swollen Symptom  
*nas-tolok mek-ula*  
 be.cured-CONN eat-IMP  
 ‘Eat in an empty stomach until the swollen symptom is cured OR up to the degree which the swollen symptom is cured.’  
 (1608, *Enhaythaysancipyo*)

Another emerging meaning of *-tolok* was the purposive result meaning, starting in the 18<sup>th</sup> century as an ambiguous interpretation with the temporal endpoint meaning, as in (12), and its own purposive result meaning in the early 20<sup>th</sup> century, as in (13).



- (12) *mwusoy-kitong-ey kkos phuy-ye Yelumi*  
 steel-pillar-LOC flower bloom-CONN Fruit  
*yel-e ttatuli-tolok nwuli-s-osye*  
 bear-CONN pick-CONN enjoy-HON-ENDER  
 ‘Enjoy (a long life) until the steel pillar blooms flower and bears  
 fruit and (you) pick (it) up OR so that the steel pillar blooms flower  
 and bears fruit and (you) pick (it) up.’  
 (1713, *Akhaksuplyeng*)

- (13) *Kuyhan aneylo ta pokohA-tolok sinmwun-ey*  
 deadline within all report-CONN newspaper-LOC  
*keycAyhA-la hA-yess-nAnila*  
 publish-QUOT-PST-ENDER  
 ‘(I) told to publish (the information) on the newspaper so that (peo-  
 ple) report within the deadline.’  
 (1910, *Kyenghyangcapci*)

When it comes to *V-tolok HA*, unlike the tokens *V-key HA*, the compositionality of *-tolok* and *ha* were maintained throughout the target centuries, where *-tolok* served as the adverbial subordinator denoting the temporal endpoint meaning as in (14), (15), and (16).

- (14) *yangciho-twAy cyemu-tAlok hA-la*  
 brush.teeth-CONN get.dark-CONN do-IMP  
 ‘Brush (your) teeth but do it until it gets dark.’  
 (1466, *Kwukuppangenhay*)
- (15) *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*)
- (16) *moys-ye syes-ki-lul nal-i mas-tolok ha-ya*  
 serve-and stand-NOMI-ACC day-NOM end-CONN do-CONN  
 ‘(He) does until the day ends.’  
 (1737, *Eceynayhwun*)

However, in the 18th century, 27.3% of tokens of *V-tolok HA* started to deliver the causative meaning as in (17), and 87.5% of tokens of *V-tolok HA* denoted the causative meaning in the early 20<sup>th</sup> century as in (18).

- (17) *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*)
- (18) *kwanwen-i emha-n mal-no paykyoha-nan mal-ul*  
 officer-NOM strict-REL word-INST apostatize-REL word-ACC  
*ha-tolok ha-na*  
 do-CAUS-CONN  
 'The officer made (Andria) say words for apostasy.'  
 (1908, *Kyenghyangcapci*)

In both (17) and (18), the semantic bleaching of *-tolok* and *ha* and the emergence of the causative meaning from *V-tolok HA* were observed. Although the causative meaning of *V-tolok HA* was found from the 18<sup>th</sup> century, the frequency was still very low compared to that of the *V-key HA* construction.

### 3.4 Mechanism of the Diachronic Change of *V-tolok* and *V-tolok HA*

The core older meaning of *-tolok*, temporal endpoint 'up to the temporal endpoint,' implicates the duration of the main predicate event, with another event simultaneously happening to reach an endpoint. These two events are not sequential but parallel and take place in the same temporal domain. However, with metonymy, language users can further draw an assumption that there is an event after passing the temporal endpoint, which is, however, an unknown event from the linguistic expression. (See Figure 4).

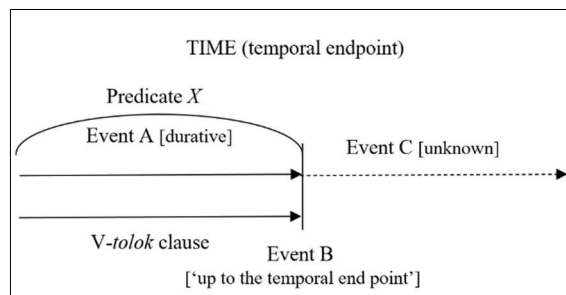


Figure 4. Schematic representation of the temporal endpoint meaning of *V-tolok*

In the meantime, in another older meaning of *-tolok*, the parallel intensification, a change of the main predicate event takes place along with a change

of the *-tolok* clause event. Here, the events are also parallel with increased intensity, denoting the parallel intensification meaning of ‘the Xer, the Yer.’ (See Figure 5).

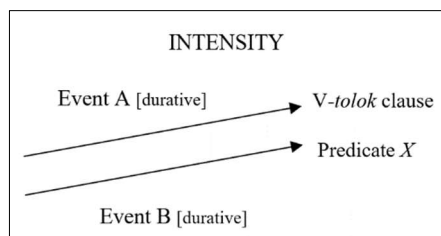


Figure 5. Schematic representation of the parallel intensification meaning of *V-tolok*

Starting in the 17<sup>th</sup> century, we see the new ‘degree’ meaning of *-tolok* ambiguously interpreted with the temporal endpoint meaning of *-tolok*. Previously, studies (Suk 2006) argued that the temporal meaning of *-tolok* led to the emergence of the degree meaning of *-tolok*. However, I argue that not only the temporal endpoint but also the parallel intensification meaning of *-tolok* contributed to the appearance of the degree meaning, which is explained through pragmatic inferencing. The temporal endpoint meaning of *-tolok* implies a durative event (i.e. the main predicate event) up to a temporal endpoint (i.e. the *-tolok* clause event). In the meantime, the parallel intensification meaning of *-tolok* suggests a change of an event or state parallel to a change of another event (i.e. the main predicate event). From these two older meanings of *-tolok*, language users can infer an event that is more intensified (i.e. the main predicate event) or that changes to the degree which it gets to a temporal endpoint (the *-tolok* clause event). With this inference, the degree meaning ‘X up to the degree’ was made. (See Figure 6).

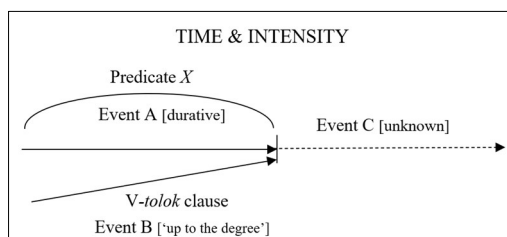


Figure 6. Schematic representation of the degree meaning of *V-tolok*

Later, another new meaning of *-tolok*, the purposive meaning, was found. The temporal endpoint and the degree meanings of *-tolok* implicate that there is an event that follows after reaching the temporal and situational endpoint. Thus, the temporal meaning and the intensity meaning from *-tolok* allow the language users to infer the temporal event as ‘up to the situational point which is the speaker’s purposeful and wishful event.’ Here, the main predicate event and the *-tolok* clause event do not occur simultaneously, and the fictiveness of the *-tolok* clause event is unknown. (See Figure 7).

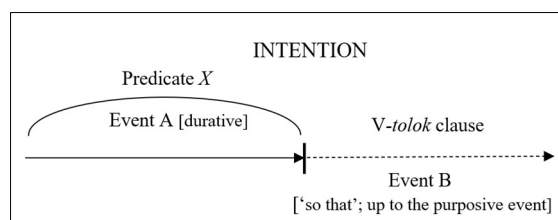


Figure 7. Schematic representation of the purposive result meaning of *V-tolok*

This purposive result meaning of *V-tolok*, when it was followed by *HA* (*V-tolok HA*), conveyed compositional meaning throughout the centuries. However, starting in the 18<sup>th</sup> century, the increased usage of *V-tolok* and *HA* led them to become a chunk, *V-tolok HA*, with the semantic bleaching of *ha*. Thus, the general verbal meaning of *ha* remained, appearing in the syntactic position of the main verb while *V-tolok* appears in the pre-verbal position. 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.

The findings showed the high token frequency of *V-key HA* and its strong association with the causative meaning from the late 15<sup>th</sup> century, which indicates that *V-key HA* was already entrenched as a causative construction in the late 15<sup>th</sup> century. On the contrary, the token frequency of *V-tolok HA* was significantly lower than that of *V-key HA* throughout the centuries and the compositionality of *V-tolok* and *ha* was highly maintained.

Then, what could be the motivation for the emergence of the *V-tolok HA* causative construction? Although it is speculative, the emergence of the *V-tolok HA* construction could be attributed to analogy and filling a niche. Language users already had highly entrenched experiences with the *V-key HA* causative construction. Given the similar semantic meaning (e.g. the desired and purposive result meanings) and the function as a purpose clause that *V-tolok* shares with *V-key*, it could be assumed that *V-tolok HA* started to

follow a similar path as *V-key HA*. However, the motivation for its grammaticalization seems to fill a functional niche. When the *V-tolok HA* causative construction emerged in the 18<sup>th</sup> century, the verbs co-occurring with it were action and process verbs, and in the early 20<sup>th</sup> century, they were all action verbs. In the meantime, the *V-key HA* construction co-occurred with action, state, and process verbs from the 15<sup>th</sup> century where the action verbs were dominantly found. However, starting in the 18<sup>th</sup> century, the *V-key HA* construction co-occurred with state verbs at the highest frequency, and its co-occurrence with action verbs decreased. Thus, the emergence of the *V-tolok HA* causative construction could be associated with the *V-tolok HA* construction starting to convey an action-oriented causative meaning.

#### 4 Conclusion

The findings of the semantic change of *V-key* and *V-tolok* show the gradient and variant nature of language change and how subjectification and pragmatic inferencing play a role in semantic change. Their semantic change also contributed to the meaning of causation of the *V-key HA* and *V-tolok HA* constructions. The desired result meaning of *V-key* and the purposive result meaning of *V-tolok* along with the ‘do’ verb *ha* became a construction, which results in the more abstract meaning of causation in the form of *V-key HA* and *V-tolok HA*. This study argues for the usage-based construction approach and the relevance of diachronic evidence in the analysis of constructions. This study contributes to the existing bodies of literature on the diachronic study and synchronic analysis of Korean DO-causatives.

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