

Analogy-driven grammaticalization: A case of grammaticalization of sentence-final markers from concomitance-connectives*

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Rhee, Seongha. 2014. **Analogy-driven grammaticalization: A case of grammaticalization of sentence-final markers from concomitance-connectives.** *Linguistic Research* 31(3), 591-614. The Korean connective *-mye* exhibits an intriguing pattern in its grammaticalization into sentence-final particles. From the paradigmatic viewpoint, the form extends its membership from the paradigm of connectives to that of the sentence-final particles. From the semantic-functional viewpoint, the developmental path of *-mye* and its related forms proceeds from the concomitance, to diverse grammatical notions of conditionality, simultaneity, background, commensurability, adversativity, contrast, permissive modality, among others. Various syntagmatic operations bring forth *-myense* through formal reinforcement and further *-tamyense* (and those sharing the paradigmatic affinity) through fusional processes. Crucially involved in this development is the main-clause ellipsis, in which the addressee is compelled to reconstruct the elided main clause, a process where context-induced reinterpretations, or invited inferences, actively take place. Such reinterpreted meanings are actively being conventionalized to become a part of the semantics of the newly created sentence-final particle. A quantitative analysis reveals that the grammatical forms follow the path of the most frequently-used form that spearheads the change. Such changes are enabled purely by their semantic and morphosyntactic similarities, i.e. their paradigm membership, despite their extremely low token frequencies. This is contra two important hypotheses: that analogy is not a decisive mechanism of grammaticalization and that the high frequency is as essential as a prerequisite to set a condition for grammaticalization. (Hankuk University of Foreign Studies)

Keywords grammaticalization, analogy-driven, paradigm-based, insubordination, *-myense*

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1. Introduction

Korean has numerous connectives whose functions are subtle to the extent that their functional boundaries cannot be clearly delineated. Highly grammatical by nature, these connectives are particularly polyfunctional. Among them is the connective *-mye* that exhibits an intriguing grammaticalization pattern. Connective *-mye* started its life as one denoting concomitance, attested in the oldest extant historical records in Old Korean. In modern Korean *-mye* and its derivative forms grammaticalized into sentence-final particles (SFPs) marking diverse stances of the speaker. Along the developmental path it underwent syntagmatic as well as paradigmatic changes. Upon close diachronic and quantitative investigations, this seemingly commonly-attested grammaticalization reveals intriguing aspects that elucidate certain facets pertaining to the mechanisms and dynamics of grammaticalization.

The objective of this paper is three-fold: to elaborate on how the ellipsis of the main clause led to grammaticalization of the utterance-final connective into SFPs; to argue that analogy drove the grammaticalization of diverse SFPs from one salient form; and to explicate how multiple forms can grammaticalize, based on their category membership rather than on the high frequency of individual forms.

This paper is organized in the following manner: Section 2 describes the emergence of *-myense* based on historical sources; Section 3 presents other examples that are similar to *-myense* in their developmental paths; Section 4 discusses various mechanisms that enabled the grammaticalization under focus; and Section 5 summarizes the discussion and concludes the paper.

2. The Emergence of *-myense*

2.1 A Historical Survey

The connective *-mye* is among the oldest grams in Korean. It started its life as a connective denoting concomitance, attested in the oldest extant historical records in Old Korean (OK), as exemplified in (1):¹

¹ Since the records prior to the invention of Hangeul (Korean alphabet) in the mid-15th century made use of Chinese characters based on meaning and/or phonetic value, the exact rendering into

- (1) *pwuce capu-umye pwulcentung-ul kochi-lantay*
 lighting.stick hold-CONN lamp.before.Buddha-ACC fix-as
 'As I refresh the wick of the lamp before Buddha holding a lighting
 stick, ...' (Kwangswukongyangka, *Kyunyecen*, Early Koryo Dynasty,
 Written between c. 963 - 967, recorded in 1075)

The connective *-mye* (note its allomorphic *-umye* above) seems to have been in use for a considerable time, considering the extent of semantic bleaching, thus functional diversity, which is often an indicator of the depth of grammaticalization. It was one of the most frequently used connectives in Middle Korean, marking various senses of concomitance, i.e., Simultaneity, Background, Contingency, Contrast, Enumeration and Alternation. Example (2) illustrates the use of *-mye* that marks Simultaneity ('during the time that'), Background ('when x was occurring') or Contingency ('x happened to occur while y'), a set of senses that emerged early in the history of *-mye*.

- (2) *wangsaseng-ulo ka-mye kilh-ey kannanhA-n salAm po-atAn*
 [name]-to go-CONN way-at be.poor-ADN person see-COND
 'As [Sudal] was travelling to Wangsaseng Castle, if he saw any poor
 people, [he gave alms to them].' (1447, *Sekposangcel* 6:15b)

In the 19th century *-mye* comes to form its semantically and phonologically reinforced form *-myense*, which is also highly polyfunctional. Incidentally, even though *-myense* resembles the conditional marker *-myen*, its function does not bear any similarity with it, because it originated from *-mye+sye*, i.e., followed by the particle denoting, among others, sequentiality (first attested in 1481, *Twusienhay* 6:39), not from *-myen+sye*.²

Korean is not fully guaranteed. In interlinear morphemic glossing, following abbreviations are used: ACC: Accusative; ADN: Adnominal; BEN: Benefactive; CAUS: Causative; COMP: Complementizer; COND: Conditional; CONN: Connective; DAT: Dative; DEC: Declarative; EMPH: Emphatic; IMP: Imperative; NEG: Negative; NOM: Nominative; PASS: Passive; PRES: Present; PST: Past; Q: Interrogative; QUOT: Quotative; SFP: Sentence-Final Particle; and TOP: Topic.

² In its early history, *-mye* became reinforced by a topic marker *-n/-nun* and results in *-myen*, which marked Conditionality (Koo 1989a,b, 1998). This form later develops as a marker of Topic, Hypotheticality, Desiderative and Optative, an instance of 'divergence' (Hopper 1991).

The predominant uses of the newly emerged *-myense* include one as a marker of Simultaneity, Background, Contrast and Adversativity, depending on the situational contexts. As shown in (3) below, the connective *-myense* shares multiple functions with its source form *-mye*, but there are functional differences in that it is only *-mye* that marks Enumeration and Alternation; whereas it is only *-myense* that marks Adversativity. The meanings, present in one but absent in the other, may not be entirely absent from the other form since they are conceptually close, but such meanings are, at least, not immediately available. The major functions of the two form are listed in (3), in which the predominant uses in Modern Korean are bold-faced and underscored.

(3) <i>-mye</i>	<i>-myense</i>
Simultaneity	Simultaneity
Background	Background
Contingency	Contingency
Contrast	<u>Contrast</u>
<u>Enumeration</u>	<u>Adversativity</u>
<u>Alternation</u>	

2.2 The State of Affairs: *-myense* in Present – Day Korean

In Present-Day Korean, diverse usages of *-mye* and *-myense* as a connective persist. Among notable developments is one in which *-myense* developed into a SFP marking Challenge and Derisive. Furthermore, from around 1890s, *-myense* undergoes further syntagmatic fusion with declarative-based complementizer *-tako*, and becomes *-tamyense*, based on reportatives. This development does not occur in one fell swoop, but involves various intermediate changes. The developmental stages are illustrated in (4), in which the declarative sentence-type marker (*-ta*), the locution verb (*ha-* ‘say’), and the connective (*-ko* ‘and’) come into play:

- (4) Stage I: "...V-ta" *ha-ko* (Direct Quotative) > *-tako* (Complementizer)
 Stage II: > *-tako* + *hamyense* (Subordinate Quotative Clause Linker)
 Stage III: > *-tamyense* (Subordinate Clause Linker)
 Stage IV: > *-tamyense* (SFP)

As shown in (4), *-tamyense*, seemingly transparent with respect to the morphemic components, is not a direct product of the sentence-type marking SFP *-ta* and the connective *-myense* that follows it. This composition is not applicable because the SFP cannot be directly followed by a connective of any kind, which would constitute a flagrant violation of verbal morphological rules. It goes through an intermediate stage of quotative construction which involves the complementizer *-tako*. This intermediate stage (Stage II) usage is attested in a newspaper article dated 1896, as illustrated in (5):

- (5) *alasya kongkwon-ey chyulniphA-n-tako hA-myensye*
 Russia embassy-at come.and.go-PRES-COMP say-CONN
liyengsil kangcAyung-ulpoko hA-nAn mal-i
 [name] [name]-DAT say-ADN word-NOM
 'While claiming that he regularly goes to the Russian Embassy, what he said to Lee Youngsil and Kang Jaeung is that...' (1896, *Toklipsinmwun* 523)

The Stage III form *-tamyense* as a subordinate clause linker is a direct result of syntagmatic reduction of the Stage II connective form *-tako hamyense*. At this stage the form carries the function of subordinate clausal linking, signaling temporal overlap (Background or Contingency) or Contrast, as illustrated in (6), also taken from the newspaper article dated 1896, revealing the coexistence of the two related forms in 'divergence' and 'layering' (Hopper 1991):

- (6) *inmin-ul pohohA-yacwu-n-tamyensye ile-n kes-ul*
 people-ACC protect-BEN-PRES-CONN like.this-ADN thing-ACC
pAlkhy-ecwu-cian-nAn kes-un
 clarify-BEN-NEG-ADN thing-TOP
 'While claiming that they [as civil servants] are protecting the people, that they do not clarify this kind of matter [taxes imposed on Koreans by Chinese] is... [neglecting their job]' (1896, *Toklipsinmwun* 1858)

The final stage of the progression is marked by the functional shift of *-tamyense* from the linker function to the sentential-closing function, as exemplified in (7):

(7) A: (I'm going to the movie.)

B: *mwe?* *ne* *aphu-tamyense*

what? you be.sick-SFP

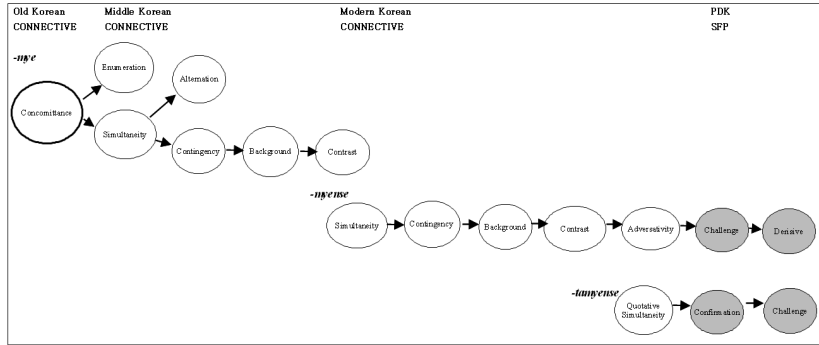
'What? Didn't you say you are sick?'

In (7), Speaker B is challenging the announcement of Speaker A's intention of going to the movies by saying that the intention is incongruent with his previous claim to illness.³ In so doing, Speaker B is 'quoting' Speaker A's previous statement as signalled by the use of *-tamyense*, the earlier functions of which included that of the declarative-based complementizer, a typical device to embed a quoted utterance as a subordinate clause. At this stage, the form qualifies as an evidentiality marker signaling the information source from someone other than the speaker him/herself. However, as the form undergoes functional extension, the evidentiality marking function also fades and the source may not be speaker-external source, or at least the source may not be prominent.

Alongside this development, it is noteworthy that the older form *-myense* also underwent functional extension in Present-Day Korean from the connective to the sentence-final form, much in parallel with the afore-described *-tamyense*. The primary functions of the SFP *-myense* are Challenge and Derisive, as shown in (8).

³ When the contrast is not sharp and the speaker is only presenting the addressee's prior utterance as something to be considered at the moment, the function of *-tamyense* is Confirmation, rather than Challenge. However, the distinction between Confirmation and Challenge is not discrete, and it is only a matter of the speaker's attitude or stance.

(8)



As indicated earlier, *-tamyense* is based on the declarative sentence-type marker *-ta*. An exactly parallel development involving a complementizer is attested with other complementizers, such as those developed from imperative, interrogative and hortative sentence-type markers, as illustrated in (9).

(9) Concomitance-based SFPs (*-{ta}myense* type)⁴

- a. From Declarative origin: *-tamyense*
- b. From Imperative origin: *-lamyense*
- c. From Interrogative origin: *-nyamyense*
- d. From Hortative origin: *-camyense*

As shall be made clear in the following discussion in 4.3, the development was actualized through analogy, i.e., *-tamyense* first developed into a full-fledged grammatical marker and other members followed the trodden path.

3. Other Similar Examples

In the preceding section, we looked at the development of the concomitant-based

⁴ The declarative-based SFP *-tamyense* is in an allomorphy relation with *-lamyense*, the distribution of which is morphologically controlled, i.e., *-lamyense* immediately follows the copula *i-* or the retrospective *-te-*. The same applies to all connectives and SFPs that developed from complementizers. For notational simplicity, the short-hand *-{ta}* will represent *-ta*, *-la*, *-nya*, and *-ca*.

connective *-mye* into a sentence-final particle *-tamyense* after the earlier form *-mye* became a phonologically and semantically reinforced form, i.e. *-myesye*, and then further coalesced into a fused form with a string of forms involving the complementizer *-tako*, which became functionally extended from a connective into a SFP (as discussed in 2.2; also see 4.1 for more discussion). This paper intends to argue, among other things, that grammaticalization of certain forms may be triggered by analogy, contra widespread tendency to relegate it as a mere mechanism of spread rather than innovation. In this section we will look at more data that exhibit similar states of affairs, and thus lend support to the analysis that analogy is not merely a mechanism of the spread of innovated forms but also a mechanism of the change itself.

3.1 Complementizer – based cases of SFPs

Complementizers are a part of the verbal morphology marked on the subordinate clause-final verb and function as connectives linking subordinate clauses with main clauses, with diverse relationship between the two clauses. As was the case with *-mye* and *-myense*, which brought forth *-tamyense* that extended the connective function into a SFP, the complementizers themselves also further grammaticalize into SFPs in Modern Korean.

This interesting phenomenon received much attention from grammaticalization scholars, and thus there is no need to elaborate on the processes involved in the development. For instance, in a series of studies, Rhee (2008a,b,c, 2012, inter alia) describes the process in detail from the grammaticalization perspective. Therefore, it would be sufficient to present some relevant data without exposition. Following sentences exemplify such dual functions: (a) connective uses, i.e. COMP, and (b) SFP uses in each example.

(10) *-tako* (Declarative-based COMP & SFP)

- a. *ku-salam pappu-tako pwulphyengha-yss-ta*
 he-person be.busy-COMP complain-PST-DEC
 'He complained saying that he is busy.'

- b. *na-to yocum hyengphyen-i pyello an coh-tako*

I-also these.days situation-NOM not.very NEG be.good-SFP
 '(I'm telling you that) I'm not in good shape financially these days.'

(11) *-lako* (Imperative-based COMP & SFP)

a. *ku-nun ppalli o-lako solichye-ss-ta*
 he-TOP fast come-COMP yell-PST-DEC
 'He yelled (at me) to come fast.'

b. *hwangtangha-n mal com kumanha-lako*
 be.absurd-ADN word a.little stop-SFP
 'Please stop talking nonsense! (I cannot stand it any more).'

(12) *-nyako* (Interrogative-based COMP & SFP)

a. *ku-ka pothong nappu-n nom-i-nyako mwul-ess-canh-a.*
 he-NOM normal be.bad-ADN fella-be-COMP ask-PST-EMPH-SFP
 'Didn't I ask you if he is a regular bad guy? (i.e. ... if you also think that he is a very bad guy)'

b. *kyay-ka pothong nappu-n nom-i-nyako*
 the.fella-NOM normal be.bad-ADN fella-be-SFP
 'Isn't he a bad guy?!' / 'What a bad guy he is!'

(13) *-cako* (Hortative-based COMP & SFP)

a. *ku-nun tosekwan-ey kathi ka-cako colu-ass-ta*
 he-TOP library-to together go-COMP press-PST-DEC
 'He begged me that I go to the library with him.'

b. *na-to han can mek-cako*
 I-also one cup eat-SFP
 'Let me join you in drinking.'

3.2 Causal-based cases of SFPs

Another category of grammatical forms that are germane to the phenomena under

the present discussion involve the causal marking *-ni* and *-nikka*. The causal marker *-ni* became phonologically and semantically reinforced into *-nikka*, which, in turn, underwent fusional process with the complementizers, a change similar to the one illustrated above. The resultant form, *-tanikka* and its variants depending on the involved clausal types, also developed into SFPs of diverse functions, e.g. marking, most notably, Reassertion and Emphasis.

This particular development, either in part or as a whole, also received much scholarly attention, especially from the grammaticalization and discursive perspectives. For instance, Sohn (1992, 1995, 2003), Ahn (2006), and Rhee (2012), among numerous others, discuss the development in detail. The relevant forms, also showing variations depending on the clause types involved, are as summarized in (14).

- (14) The *-{ta}nikka* forms by the embedded clause-types
- a. From Declarative origin: *-tanikka*
 - b. From Imperative origin: *-lanikka*
 - c. From Interrogative origin: *-nyanikka*
 - d. From Hortative origin: *-canikka*

In particular, Rhee (2012), in his extensive analysis of the semantic change of *-nikka* and its related forms, illustrates the gradual semantic progression along the continuum of CAUSE > REASON > GROUND > CONTINGENCY > CONTRAST > ADVERSATIVITY > REASSERTION > EMPHASIS. These notions can be mapped onto a continuum of domains, and the progression may be construed as occurring across the conceptual domains of CAUSALITY, CONCURRENCE, OPPOSITION and FORCE, or across the conceptual domains of PHYSICAL WORLD, MENTAL WORLD and DISCOURSE WORLD, a pattern much amenable with the metonymic-metaphorical model proposed by Heine et al. (1991). The use of the causality-marking connective *-nikka* and that of the Emphasis-marking SFP *-tanikka* are exemplified in (15), which, for interest of brevity, is restricted to the declarative-based case only:

- (15) a. *pi-ka* *o-nikka* *chwup-ta*
 rain-NOM come-CAUS be.cold-DEC

'It is cold because it's raining.'

- b. *ne cengmal wuski-n-tanikka*
 you really make.laugh-PRES-SFP
 'You are really funny/ridiculous!'

3.3 Conditional – based cases of SFPs

Still another category of SFPs that exhibit a similar pattern of development is the paradigm of SFPs originated from the conditionality marker *-ketun*. This once-dominant conditional marker has been largely relegated to a peripheral function of marking concessive conditionality and, more prominently, a SFP in Modern Korean (Koo 1989a,b, 1999, Koo and Rhee 2001, inter alia). These forms are as listed in (16):

- (16) The *-{ta}ketun* forms by clause types
- a. From Declarative origin: *-taketun*
 - b. From Imperative origin: *-laketun*
 - c. From Interrogative origin: *-nyaketun*
 - d. From Hortative origin: *-caketun*

Since these conditional-based SFPs exhibit exact parallelism in their development, the usage may be exemplified with the declarative-based conditional case only, again for the interest of space and brevity, as in (17), which illustrates the uses of the conditional connective *-ketun* and the SFP *-taketun* that functions as Topic Presenter, Reason Marker or Incidental Marker (Rhee 2002):

- (17) a. *ku-ka o-ketun na com po-lako ha-ela*
 he-NOM come-COND I a.little see-COMP say-IMP
 'If he comes, ask him to see me.'
- b. *ku-ka ecey o-ass-taketun*
 he-NOM yesterday come-PST-SFP
 'He came yesterday.'

3.4 Background-based cases of SFPs

The last category of examples come from the background-marking connective *-tentey*. Historically, this form arose from a combination of diverse morphemes, i.e. the retrospective *-te*, the anterior adnominal *-n*, the defective noun denoting ‘place’ *-tey*, and the locative particle *-ey*. The multimorphemic string *-ta-te-n-tey-ey* underwent syntagmatic compacting and phonological reduction, and the resultant connective *-tentey* emerged. This form primarily marks background but due to the component that participated in its formation, i.e. the retrospective *-te*, it also carries the nuance of retrospection or recollection. A functional peculiarity of this form to note is that as an evidentiality marker, it is only used with respect to the firsthand recollection of an event where the speaker is not the agent, occurring as the sentential subject. Parallel phenomena are observed with the background-based connective, i.e., the connective also forms a series of *-{ta}tentey* SFPs, as summarized in (18).

- (18) Background-based cases
- a. From Declarative origin: *-tatentey*
 - b. From Imperative origin: *-latentey*
 - c. From Interrogative origin: *-nyatentey*
 - d. From Hortative origin: *-catentey*

The usage of the connective *-tentey* and that of the SFP *-{ta}tentey* are illustrated in (19), in which the SFP *-tatentey* functions, among others, as a news-breaker based on the second-hand information:

- (19) a. *ku-ka o-tentey cikum an po-i-ney*
 he-NOM come-CONN now NEG see-PASS-SFP
 ‘I recall seeing him come, but I can’t find him.’
- b. *ku-ka ecey cwuk-ess-tatentey*
 he-NOM yesterday die-PST-SFP
 ‘I heard that he died yesterday.’

4. Discussion

In the preceding sections, we have looked at the data pertaining to the concomitance-based connectives and at the more extensive data that exhibit a similar grammaticalization pattern, i.e. from connectives to SFPs. These source connectives carry the function of marking diverse grammatical notions such as Complementation, Causation, Conditionality, and Background. Furthermore, the SFPs derived from these connectives form a paradigm, in which the members are in an allomorphic relation based on the clause types of the embedded subordinate clauses. Based on the observed data, we now turn to an analysis and discussion of the phenomena from a theoretical viewpoint, e.g. insubordination, context-induced reinterpretation, pragmatic inferences, and, most significantly, analogy-driven grammaticalization.

4.1 Insubordination

The development of the connective into a sentence-final particle is a result of ellipsis in which the main clause is withheld (Rhee 2002, 2008d, 2012, Sohn 2003). This type of ellipsis is attested across languages with diverse nomenclature, e.g. Haiman's (1988) 'inconsequential clauses,' Davis's (n.d.) 'disruption,' Ohori's (1995) 'suspended clauses,' Evans's (2007, 2009) 'insubordination,' Heine et al.'s (2011) 'thetical constructions' and 'insubordinated clause.' Higashiizumi (2006) and her earlier work Iguchi (1998) also address a similar development in Japanese.

A verb-final language, Korean has complex sentences consisting of a subordinate clause followed by a main clause. Therefore, in a typical situation of the insubordination in Korean, the main clause, the latter part of the sentence is withheld leaving the subordinate clause, the end of which is marked with a clausal connective. For instance, in the case of the development of the Challenge-marking SFP *-lamyense* (derived from imperative), the source construction is bi-clausal, from which the main clause is elided. In the source construction, *-lamyense* is a full-fledged concomitance-marking clausal connective, which later develops into a SFP. This is well illustrated in a putative Mother-Son dialogue (20) below, a source construction in which the interrogative main clause (the shaded part) is omitted. Consequently, there remains only the subordinate clause marked with a clausal connective *-lamyense*. When the elliptical use is fully entrenched, as in the form of

(21), the original connective *-lamyense* is reanalyzed as a sentence-final marker simply by virtue of its occurring sentence-finally. The function of the reanalyzed form also changes (see 4.2 below).

(20) Mother: [Run an errand for me.]

Son: *kongpwuha-lamyense*

study-CONN

'Are you asking me to run an errand, while you are telling me to study?'

simpwulum-ka-lay?
errand-go-QUOT.Q

(21) Mother: [Run an errand for me.]

Son: *kongpwuha-lamyense?*

study-SFP (Challenge)

'(What?) Didn't you tell me to study?'

(Lit. 'While you tell me to study...?')

4.2 Context-induced reinterpretation and pragmatic inference

Along with the change in the syntagma illustrated in 4.1, there also occurs concomitant semantic change. When the main clause is missing, the addressee is compelled to reconstruct the elided main clause, a process where context-induced reinterpretations (Heine et al. 1991), or invited inferences, actively take place. Since employing elliptical structures is a commonly resorted strategy in vis-a-vis communication, where interlocutors have non-verbal clues, the process of pragmatic inferencing, or reading the other's mind, is particularly active in the face of incomplete information. Such reinterpreted meanings are actively conventionalized to become a part of the semantics of the newly created SFP. This general inferencing process is illustrated with reference to the development of the *-{ta}myense* SFPs in (22), in which the Concomitance-marking connective acquires the function of the Confirmation- and Challenge-marking SFPs.

(22) Inferring Confirmation and Challenge from Connective *-{ta}myense*

Original Connective Meaning	<ul style="list-style-type: none"> • Concurrence/Background • Contrast
What Addressee Hears	<ul style="list-style-type: none"> • while A • in contrast with A
What Addressee (Re)constructs	<ul style="list-style-type: none"> • in that time frame B • in contrast, B
What Usually Follows When Used as a Connective	<ul style="list-style-type: none"> • concurrent event • contrasting event
What Addressee Infers	<ul style="list-style-type: none"> • [B is the concurrent event of A] B is the current state bearing relevance to A; A was already known to the speaker through a channel other than the addressee >> mild protest >> Addressee Confirmation • [B is the contrasting event of A] B is an event contrasting with A; Speaker thinks the two events must be reconciled; Speaker demands addressee's emendation >> Challenge

The general inference pattern can be applied to the example (21) above, as sketched in (23), in which Mother reanalyzes the function of the *-lamyense* which occurred utterance-finally in the response of her Son.

- (23) Mother's inference of Challenge from the 'running an errand' example
- (i) I heard "[You told me to study]-*LAMYENSE*(concurrent)?".
 - (ii) Son did not finish the sentence.
 - (iii) If Son had completed the sentence it would have been:
 "[You told me to study]-*LAMYENSE*(concurrent), [[how can I run an errand for you at the same time?]]"
 - (iv) Studying and running an errand cannot be performed at the same time.
 - (v) Son thinks that I should revoke either the previous request

(studying) or the current request (running an errand).

(vi) Son is challenging my request.

(vii) *-LAMYENSE* may not be intended to mean 'while'; its meaning is more felicitous when interpreted as 'Challenge'.

(viii) What I heard is:

“[You told me to study]-*LAMYENSE*(challenge)”

As is evident in (23), the grammatical function of *-lamyense* changes from a clausal connective to a SFP, and at the same time, the semantics of the form *-lamyense* changes from Concurrent to Challenge.

4.3 Analogy-driven Grammaticalization

Grammaticalization scholars have shown special interests in the mechanisms of grammaticalization, i.e. the question of what drives the change. There is a widely held view that, unlike reanalysis, which can create new grammatical structures, analogy does not create new grammatical structures but instead contributes to the spread of a rule, i.e. generalization of an already innovated rule (Hopper and Traugott, 2003: 63–69). However, this paper, while acknowledging the critical role played by reanalysis in grammaticalization, argues that there are cases that support the thesis that grammaticalization may be actualized by analogy.

A historical and quantitative analysis reveals that the grammatical forms, especially those under the present discussion, follow the most frequently-used form that spearheads the change. For instance, those forms incorporated with the imperative, interrogative, and hortative markers follow the one with declarative marker. According to a quantitative analysis, such change is enabled purely by their functional and morphosyntactic similarities, i.e. their paradigm membership, despite their extremely low token frequencies. This is contra two important hypotheses: that analogy is not a decisive mechanism of grammaticalization and that the high frequency is as essential as a prerequisite to set a condition for grammaticalization (cf. Bybee and Hopper 2001 and works therein; Krug 2001, Bybee 2003, 2007, 2011, Torres Cacoullos and Walker 2011).

From a survey of historical corpus data, it is revealed that there is a serious disparity among the source constructions of the *-{ta}myense* forms, i.e. *-{ta}ko*

ha-myense, literally denoting ‘while saying’ and *-{ta}ko X-myense* (in which X is a verb, usually of cognition and locution, literally denoting ‘while thinking, suggesting, ordering, etc.’ The frequency of the source constructions is shown in (24) and that of the resultant grammatical forms *-{ta}myense* is shown in (25).⁵

(24) Frequency of the *-{ta}myense* Source Constructions (c. 1890-1920 Sejong Corpus)

	Source Forms	Token Frequency	Total (%)
Declarative	<i>-tako/-lako ha-myense</i>	17	38 (86.3%)
	<i>-tako/-lako X-myense</i>	21	
Imperative	<i>-lako ha-myense</i>	4	4 (9.1%)
	<i>-lako X-myense</i>	0	
Interrogative	<i>-nyako ha-myense</i>	0	1 (2.3%)
	<i>-nyako X-myense</i>	1	
Hortative	<i>-cako ha-myense</i>	1	1 (2.3%)
	<i>-cako X-myense</i>	0	

(25) Frequency of the *-{ta}myense* forms (c. 1890-1920 Sejong Corpus)

	Source Forms	Token Frequency	Total (%)
Declarative	<i>-tamyense/-lamyense</i>	31	31 (100%)
Imperative	<i>-lamyense</i>	0	
Interrogative	<i>-nyamyense</i>	0	
Hortative	<i>-camyense</i>	0	

The disparity among the members of the same paradigm in the historical data is not restricted to the *-{ta}myense* forms only. The development of complementizers shows a similar pattern of grammaticalization. For instance, Rhee (2008d) argues for non-gradual grammaticalization based on a quantitative analysis of the data taken from a historical corpus. The frequency comparison for source constructions and

⁵ The Korean historical corpus used here, referred to as the Sejong Corpus, is a 15 million word historical corpus largely based on the 21st Century Sejong Corpus, a 200 million word corpus, developed by the Korean Ministry of Culture and Tourism. Thanks go to the developers of the corpus and the UNICONC concordance program who generously granted their use for research purposes.

complementizers based on a projection across clause types is as shown in (26) and (27).⁶

(26) Frequency of Complementizer Source Constructions (19th C. Sejong Corpus, Projections normalized per million words, modified from Rhee 2008d)

	Source Forms	Token Frequency	Percentage
Declarative	<i>-ta hako /-la hako</i>	684	82.0%
Imperative	<i>-la hako</i>	78	9.4%
Interrogative	<i>-nya hako</i>	46	5.5%
Hortative	<i>-ca hako</i>	26	3.1%

(27) Frequency of Complementizers (19th C. Sejong Corpus, Projections normalized per million words; modified from Rhee 2008d)

	Source Forms	Token Frequency	Percentage
Declarative	<i>-tako/-lako</i>	2,080	85.4%
Imperative	<i>-lako</i>	281	11.5%
Interrogative	<i>-nyako</i>	16	0.7%
Hortative	<i>-cako</i>	58	2.4%

With respect to the development of these complementizers, Rhee (2008d) shows that the development of certain reportative constructions, in much parallelism with the forms under present discussion, brought new grammatical forms into Korean, *-tako*, *-lako*, *-nyako* and *-cako*. These forms were nearly non-existent until the turn of the 19th century. Until the end of the 18th century, with very few exceptions, only the source constructions of these forms, i.e., *-ta hako*, *-la hako*, *-nya hako* and *-ca hako*, each bearing the sentence-type indicators, were attested, with the declarative-based forms in large number while the others were far less common. However, at the turn of the 19th century, the usage of fully-grammaticalized complementizers exploded, again the declarative-based forms in extremely high

⁶ Rhee (2008d) does not differentiate the sentence-type for the *-{la}*-form which is ambiguous between the declarative and the imperative. The present figures are the results of the application of the normal ratio of 83:17 for declarative vs. imperative to the raw figures in the corpus.

frequency and all others at a considerably lower frequency. Based on the fact that grammaticalization of complementizers proceeded at a remarkable speed within a short period of a few decades, Rhee (2008d) claims that the grammaticalization process involved the creation of a new paradigm rather than individual gram change and that the less frequently used members simply followed the frequently used member by virtue of their category membership, which in this case is the category of sentence-type indicators.

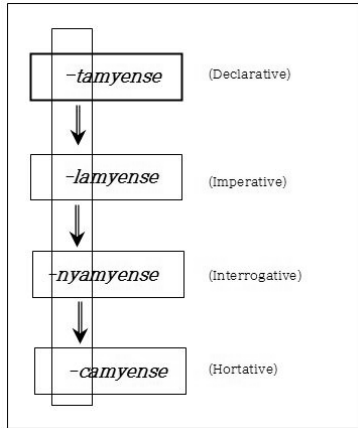
Furthermore, the development of the *-{ta}nikka* forms shows a similar pattern of grammaticalization, i.e., the declarative-based form is leading the change whereas all the others follow its trodden path, as illustrated in (28).

(28) Frequency of *-{ta}nikka* forms (c. 1890-1920, Sejong Corpus, Rhee 2012: 296)

	Source Forms	Token Frequency	Percentage
Declarative	<i>-tanikka /-lanikka</i>	42	60.8%
Imperative	<i>-lanikka</i>	16	23.2%
Hortative	<i>-canikka</i>	11	16.0%
Interrogative	<i>-nyanikka</i>	0	0%

Taking into consideration all the statistical grammaticalization patterns in the 19th century when the complementizers were gradually established (though the earliest form *-tako* is attested in the 17th century) and those at the turn of the 20th century, when the complementizer-related forms were actively innovated, it can be argued that the declarative-based forms were at the lead of the change. All the other members in the paradigm follow this trail-blazer. Therefore, based on the statistical analysis it can be reasonably hypothesized that the *-tamyense* forms underwent the paradigmatic extension in the direction of declarative > imperative > interrogative > hortative (note, however, that the relative order between interrogative and hortative cannot be established from the given statistics).⁷

⁷ In the case of the *-{ta}nikka* forms, the order of development is in this order (see Rhee 2012: 296). However, minor variations at the end do not affect the major claim of this paper that grammaticalization of certain forms may be analogy-driven based on the structural similarities with their trail-blazers. An anonymous reviewer suggests an alternative analysis according to which the *-ko.ha-* deletion rule applies across the board without frequency effects. This wholesale analysis,

(29) Paradigmatic Extension of *-{ta}myense*

From the preceding illustration it becomes clear that the grammaticalization processes under the present discussion, i.e. the development of SFPs from diverse connectives, involve the development of multiple grammatical forms in diverse functions and the creation of a new paradigm that bears structural similarity among individual source constructions, i.e. involving complementizers or even their earlier origin of sentence-type markers. It has been widely accepted that analogy is an important cognitive strategy in language use. Fischer (2011: 39–40), for instance, argues that analogical reasoning keeps playing a role in language evolution, language learning, and language change. The developments of *-{ta}myense*, *-{ta}ko*, *-{ta}nikka*, *-{ta}ketun*, and *-{ta}tentey* altogether present a case where such analogical reasoning can in fact trigger the emergence of multiple grammatical forms bearing structural similarity and eventually create a sub-paradigm. In other words, this type of grammaticalization process is not exemplar-based but paradigm-based, in the sense that the form representing the paradigm spearheads the grammaticalization and all others in the paradigm follow the trodden path. This phenomenon is far from local; in addition to the above-reference series of studies by Rhee, other works by Lehmann (2004), De Smet (2011), Heltoft (2011), among others, argue for the role of analogy in grammaticalization.

One issue that arises immediately is that of the role of use frequency which is

however, cannot effectively resolve the question why *-ta*-related forms historically predate the occurrence of other forms.

widely acknowledged as an important parameter of grammaticalization, even to the point of considering it a necessary condition for a linguistic form to grammaticalize. As Narrog and Heine (2011: 2-3) point out, in some of the definitions of grammaticalization “frequency is portrayed as one of the driving forces, or *the* driving force of grammaticalization” (emphasis original) (e.g. Bybee and Hopper, 2001 and works therein, Krug, 2001; Bybee, 2003, 2007, 2011, Torres Cacoullous and Walker 2011). Undoubtedly, frequency as a result of repetition is an important mechanism because it brings forth habituation and automatization. However, some studies suggest that grammaticalization may not result from high frequency of the linguistic form concerned (e.g. Hundt, 2001; Hoffmann, 2005). The present study also gives support to the claim that the token frequency may not be the necessary prerequisite for a form to be grammaticalized; instead, it may ‘borrow’ the frequency effect of the more prominent member in the same paradigm by virtue of the structural similarity.

5. Conclusion

This paper at the outset described the grammaticalization pattern of the concomitance-based connective *-myense* into the SFP *-tamyense*, showing that the development of the less frequently-used members, i.e. *-lamyense*, *-nyamyense*, and *-camyense*, was enabled by virtue of their membership with the more prominent member *-tamyense*. It is also shown that this pattern is also found in the developmental patterns of the connective forms that involve the forms marking sentence/clause-type markers, e.g. complementizers, causality-marking connectives, conditionality-marking connectives, and background-marking connectives.

Of significant findings in the analysis of the functional shift from the connectives to the SFPs are: (i) that the functional shift of *-myense* from Concomitance to Challenge is not abrupt but gradual along the conceptual continuum; (ii) that the development of SFP *-{ta}myense* is triggered by main clause ellipsis; (iii) that the emergence of the SFP meanings is due to the ‘context-induced reinterpretation’ and pragmatic inferences; (iv) that (inter-)subjective pragmatic inferences used to fill the information gap in elliptical structures become conventionalized comprising the semantics of the emerging function; and (v) that grammaticalization can be triggered

by analogy, i.e. by the structural similarity and paradigm membership, rather than by virtue of high frequency and concomitant conceptual changes.

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