

Unexpected Nasal Consonants in Joseon-Era Korean

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The diminutive suffixes *-ngaji* and *-ngsengi* are unique in contemporary Korean in that they both begin with the velar nasal consonant (/ŋ/) and seem to be of Korean origin. Surprisingly, they seem to share no direct genetic affiliation. But by reverse-engineering sound change involving the morpheme-initial velar nasal in the Ulsan dialect, I prove that the historical form of *-aengi* was actually maximally *-ng*; thus the suffixes *-ngaji* and *-ngsaengi* are related if we consider them to be concatenations of this diminutive suffix *-ng* and the suffixes *-aji* and *-sengi*. This is supported by the existence of words with the *-aji* suffix in which the initial velar nasal -ŋ is absent and which have no semantic meaning of diminutiveness.

1. Introduction

Korean is a language of contested linguistic origin spoken primarily on the Korean Peninsula in East Asia. There are approximately 77 million Korean speakers globally, though about 72 million of these speakers reside on the Korean peninsula (Eberhard et al.).

Old Korean is the name given to the first attested stage of the Koreanic family, referring to the language spoken in the Silla kingdom, a small polity at the southeast end of the Korean peninsula. It is attested (at first quite sparsely) from the fifth century until the overthrow of the Silla state in the year 935 (Lee & Ramsey 2011: 48, 50, 55). Soon after that year, the geographic center of written Korean then moved to the capital of this conquering state, the Goryeo kingdom, located near present-day Seoul; this marks the beginning of Early Middle Korean (Lee & Ramsey: 50, 77). Both stages present a number of issues for researchers due to the use of imprecise Chinese phonogram-based writing systems (Chinese characters used for their phonetic rather than semantic content). Korean was written only using these phonogram-based writing systems until the development of *hangeul*, an alphabetic writing system, in the mid-15th century. During and after this latter stage, known as Late Middle Korean, the language split into a number of geographically-bound varieties (Lee & Ramsey 2011: 165-166).

The history of the Korean language has been hotly debated since historical linguists began inquiry into East Asia in the early 20th century. Broadly speaking, Koreanists are divided on whether or not Korean belongs to the proposed Altaic superfamily. Even within the non-Altaicist sphere, conceptions of the familial status of Korean have bifurcated in recent years, with the sticking point being whether the variety spoken on Jeju Island (an island to the southwest of the Korean peninsula) is a dialect of Korean or a language in its own right. To proponents of the former view, Korean is a language isolate; to proponents of the

latter, the Koreanic language family has two living members, Korean and Jejueo (*Jeju* + *eo* “language”).¹

Though Korean linguistic history has been a topic of extensive research since the end of the Second World War, many issues remain underexamined. This is in part due to the difficulty involved in conducting historical linguistics research. Because Jejueo and the dialects split off during Early and Late Middle Korean, Korean historical linguistics is left with internal reconstruction (making educated guesses about the past using only one language, in this case Middle Korean) as its primary means of inquiry into Old Korean phonology. Using comparative and internal reconstruction, the present study will concern one such underexamined case. Though there are about 20 diminutive morphemes in Koreanic, several appear to be phonologically unique. They appear to begin with a velar nasal, which would make them extremely unusual, and so Koreanists disagree on whether they actually do historically begin with a velar nasal. I will examine several competing hypotheses about the origin of the velar nasal to determine which is most parsimonious.

2. Korean phonology and the velar nasal

Modern Koreanic syllable structure is maximally CGVC

(consonant-glide-vowel-consonant), though morphemes do often end in CC

¹ Taking sides in either debate is of little consequence for the purposes of this investigation; but to be able to refer to the variety spoken on Jeju Island, a name must be used. I will use *Jejueo*. Similarly, when speaking of the Korean variety spoken in Seoul and regarded as standard within South Korea, I will use *Seoul Korean*. When referring to properties shared by all modern Koreanic varieties, I will simply use *Koreanic*.

clusters (Lee et al.: 49). In contemporary Koreanic varieties, the velar nasal is prohibited from occupying word-initial position, and occurs in only two diminutives, -ㅇ아ㅓ/ (as in 강아ㅓ/ “puppy”) and -ㅇ쟁이/ (as in Jejueo 강쟁이/ “puppy”) (Shin et al. 2013: 81, Lee & Ramsey: 150). But analyses of the possible syllabic positions of the velar nasal are divided. Whether the velar nasal is syllable-final (Shin et al. 2013: 80) or ambisyllabic (meaning that it straddles two syllables) (Park 2015: 85) in intervocalic contexts continues to be a subject of debate.

Whether Late Middle Korean was different in this regard is uncertain. Though the velar nasal does not appear word-initially in Late Middle Korean, several more morphemes with morpheme-initial velar nasals existed, and one of these velar nasals was treated as syllable-initial when written in *hangeul* (which encodes syllable structure) (Lee & Ramsey 2011: 209).²

Whether this orthographic convention is an accurate representation of Late Middle Korean phonotactics is up for debate, but the fact that these morphemes contained the velar nasal in initial position is itself quite interesting, and is of much use in investigating the history of the velar nasal in the Koreanic family. Three of these five morphemes were borrowed from Chinese; two, however, appear to be ancestral to early Koreanic (Lee & Ramsey 2011: 150).

² Orthographic changes serve as evidence that this morpheme-initial velar nasal was likely analyzed as syllable-final by the 16th century; around that time, these velar nasals came to occupy syllable-coda position of the preceding syllable rather than onset position (Kim-Renaud 1997: 168, Martin 1960: 45). After these spelling changes, the symbol for the velar nasal and the symbol for the zero initial came to be in complementary distribution; being similar in shape (ㅇ vs. ㅇ), they graphically coalesced near the end of that century (Martin 1960: 45).

Unfortunately, we have little to go on regarding the syllable-onset and morpheme-initial velar nasal in Early Middle Korean and Old Korean (henceforth referred to as *Early Koreanic* for the sake of brevity). Most Chinese vocabulary items were borrowed prior to the eighth century, and syllable-coda velar nasals are almost always retained in such vocabulary, showing that the velar nasal was a phoneme in Early Koreanic. But though Middle Chinese allowed for syllable-onset velar nasals, no Old Korean phonograms use Chinese characters with that phonological value (Lee and Ramsey 2011: 87).³

The three aforementioned velar-nasal-initial morphemes of Chinese origin do retain their velar nasals from pre-eighth-century Chinese into Late Middle Korean, showing that the velar nasal could be morpheme-initial in Early Koreanic morphemes of Chinese origin; but it is quite difficult to surmise whether any Koreanic-origin morphemes containing a morpheme-initial velar nasal existed in Early Koreanic, as there are only two such morphemes in Late Middle Korean which seem to be ancestral, and their historical form prior to Late Middle Korean cannot be guaranteed (especially given widespread vowel syncope in Early Middle Korean) (Lee & Ramsey 2011: 89).

³ Attempts have been made towards this goal, however. Based on correspondences between the placename phonograms used by the Baekje and Silla kingdoms in the 8th century, Eom Ik-Sang posits that phonograms sometimes did encode for the velar nasal in coda position (Eom 2019: 19). I find this analysis not entirely convincing for two reasons. First, this conclusion was reached on the basis of only five placename correspondences, so it is entirely possible that coincidence is responsible for the corresponding velar nasals. Second, the Baekje and Silla kingdoms were in very close contact, and for the most part they seem to have shared phonogram transcription systems (Lee & Ramsey 2011: 60); placename phonogram spellings could easily have been borrowed, making the supposed correspondence of phonograms containing a velar nasal a product of borrowed spelling rather than indicative of an actual correspondence in velar nasal content.

The existence of morpheme-initial velar nasals in Early Koreanic is an interesting enough question on its own, and is the motivating background question behind the present investigation. If Early Middle Korean or Old Korean allowed for morpheme-initial velar nasals in native morphemes, this would most definitively be determined when internal reconstruction (educated guesses based on known linguistic data) and phonogram sleuthing (educated guesses about how transcriptions worked) prove mutually informative. In this paper, I will make use of the former tool to address a concern noted by several Koreanists regarding one of the two relevant ancestral suffixes: is the velar nasal in the diminutive suffix *-ngaci* (as well two similar morphemes which scholars do not address) actually part of the morpheme, historically?

2.1 The polite allocutive suffix *-ngi*

The allocutive suffix *-ngi* is noteworthy in two regards. First, it is tonally unusual among verbal suffixes, and its tonal rules are difficult to ascertain. Recall that Middle Korean was a tonal language; in Middle Korean, verbal suffixes almost always took the high tone, with *-ngi* being one of a few exceptions. Lee and Ramsey propose that this was simply because the morpheme *-ngi* contained a low tone as part of its phonological form (Lee & Ramsey 2011: 211). But Kim Wanjin proposes that *-ngi* is unique among Late Middle Korean suffixes in that it starts a new tonal phrase (normally the tonal phrase starts at the beginning of a

word and does not start again within each word) (Wanjin 1973: 79). Either analysis suggests an unusual diachronic path.

Second, the morpheme was likely unstable in Late Middle Korean. The slightly less formal suffix *-o* appears in 15th century texts, often being used alongside *-ngi* in dialogue (Lee & Ramsey 2011: 209-210). Though the velar nasal in the shorter form was of course morpheme-initial, it necessarily occupied coda position of the preceding syllable. And by Early Modern Korean, both *-o* and *-ngi* disappeared as lone forms (Lee & Ramsey 2011: 276). The suffix *-o* survived briefly in the Early Modern Korean idiomatic expression *-(으)뎡* (fossilized from Middle Korean *-(으)뎡* “and also” + *-o*), a fossilized idiomatic expression meaning “coming and going,” but is not found thereafter (Lee & Ramsey 2011: 278). The related suffix *-ngi* survived in the Early Modern Korean polite allocutive verbal suffix *-opnoingita*, which has survived into contemporary Korean as *-ㅁㄴ/ㄷ*; note the disappearance of the velar nasal (Lee & Ramsey 2011: 276).

The morpheme could not have been borrowed, as neither Chinese nor Manchu appears to ever have had allocutive affixes (Baxter & Sagart 1998, Burykin 1999). But beyond its unusual tonal patterning and its quick exit from Late Middle Korean, no evidence suggests that its being velar-nasal-initial is due to any unusual diachronic path. Still, the fact that it is so unusual is interesting.

2.2 The diminutives *-ngaci*, *-ngseyngi*, and *-ngi*

In Late Middle Korean, *-ngaci* is sparsely attested. Nowadays, it appears only in a few select words, which for the most part denote the offspring or young of common animals. Below are listed the normal and diminutivized animal forms containing *-ngaci* in Late Middle Korean. Forms are italicized if they are from Modern Korean (indicating in the diminutive column that no Late Middle Korean form is attested) (Late Middle Korean forms are from Pak 2010).

root	LMK root	dim.	meaning	modern SK
	가히	강아지	dog; puppy	개
	쇼	송아지	cow; calf	소
	몰	망아지	horse; colt	말
	돌	돼지	pig; pig	- ⁴

Note the lack of a nasal in *돼지*. This form is derived from the Late Middle Korean *𑏃* by way of affixation of the diminutive suffix and deletion of *ㅍ* [t^h] (whose phonetic value being aspirated is made certain by the modern *고슴도치* /kosumtotɕ^{hi}/ “hedgehog,” derived from *고슴* (of unknown origin) and MK *twoth* “pig;” t^h > tɕ^h /_i is a rigid phonological rule in Korean, both historically and at present (Sö 2017). We also see several modern Seoul Korean non-animal roots taking the diminutive suffix -*오아지*, listed below:

⁴*twayci*, the formerly diminutivized form, has become the word for both “pig” and “piglet” in modern Korean.

root	dim.	meaning
목	모가지	“throat”; id.
박	바가지	“gourd”; “[its] dried and

hardened shell”

A worthwhile question when presented with these words is whether they actually contain the same -오아지/ morpheme that we see in the diminutivized animal words. The diminutivized forms contain no velar nasal, and there is no semantic distinction between 목 and 모가지. 바가지/ does make sense as a diminutivized form considering that fruits such as gourds shrink when dried. Postulating a separate -아지/ morpheme with no semantic distinction seems unnecessary at this point. At the moment, the most parsimonious conclusion is that the suffixes are the same across the sets, that the velar nasal for whatever reason did not need to appear in these forms, and that semantic shift occurred for 모가지/ in the same way as it seems to have 돼지/ “pig.”

I also analyze two other diminutive suffixes as containing a morpheme-initial velar nasal. These are -앵이/, a common diminutive suffix, and -오쟁이/, which exists in some non-Seoul dialects and which surfaces as part of variant forms of some of the above diminutivized forms in those dialects. One possible explanation for the -오쟁이/ forms is that the velar nasal was inserted (by analogy to the -오아지/ forms) after 새끼 “young animal” became the suffix -쟁이/ (Martin

1960). As the suffix is only used in words referring to young animals, this hypothesis certainly holds water. Below are listed two examples from Jejuo, along with corresponding Seoul Korean -*ㅇ아지*/forms for reference (from Kang 2014: 24, 126):

SK <i>-ngaci</i> dim.	Jejuo <i>-ngsengi</i> dim.	meaning
강아지	강생이	puppy
망아지	망생이	colt

These suffixes are not mentioned by Lee & Ramsey during their discussion of velar-nasal-initial morphemes, and are listed among the other diminutives as *-앵이* and *-생이* by Samuel Martin in his 1992 edition of *A Reference Grammar of Korean*, aligning with his treatment of the diminutive suffix *-ㅇ아지* as *-아지* (Lee & Ramsey 2011: 150-151, Martin 1992: 163). I analyze *-ㅇ생이* as containing a morpheme-initial velar nasal based on the above forms, and I analyze Martin's "*-앵이*" as containing an allomorph *-ㅇㅇ* because of its ability to be added to monosyllabic words without the resulting form containing two syllables.

As for the presence of the velar nasal, there are two competing camps: those such as Lee and Ramsey, who posit that the diminutive suffix *-ㅇ아지* began with a velar nasal (thereby explaining the forms *강아지*, *송아지*, and *망아지*), and those such as In-Ho Kim, who posit that the morpheme *-ㅇ아지* rather began with

a vowel (and was thus actually *-oʔɰ/*), and that the velar nasal in the diminutivized forms originated due to sound change.⁵

Because of how marginal the morpheme-initial velar nasal appears to be, the possibility that the morpheme was vowel-initial rather than velar nasal-initial becomes rather interesting. Certainly, if historical work is to be done using *-oʔɰ/*, it should be determined that the velar nasal being ancestral is a better working theory than that it is not. I will postulate a third solution to this problem: that the velar nasal was once a discrete morpheme of its own, and that it appears in *-oʔɰ/* and *-o ɰo/* by concatenation with existing *-ʔɰ/* and *-ɰo/* suffixes. I will explain my solution to this problem after I explain why two other solutions: that the addition of a velar nasal is the fossilized result of some now-defunct morphophonological sound change process, and that the diminutivized forms containing a velar nasal were once derived from roots containing a velar nasal.

3.1 /ŋ/ insertion as sound change

The first possibility is that there was once a morphophonological process which inserted a velar nasal, either at the beginning of the morpheme *-aci* or at the end of animal morphemes followed by an inflectional suffix. No such process

⁵ Kim In-ho postulates that there existed sometime around the 15th century a phonological process by which word-final *hi* turned into *ng*, citing *또히* → *똥*, *고히* → *콩*, and *구머히* → *구멍* as additional evidence (Kim 1993). This would account for *kangaci* coming from Middle Korean *kahi*; other forms could then be explained by analogy. But problematically, only the first of these supposedly ancestral forms are attested anywhere in the Middle Korean corpus; he also cites *mangaci* as coming from *마히*, when in fact most Koreanists are quite certain that the *//* in *말* is ancestral (see section 4.4). Samuel Martin treats each morpheme as not containing a morpheme-initial velar nasal, but gives no explanation as to where the velar nasal comes from in words such as *강아지* “puppy.”

in Middle Korean is documented, and neither are any forms independent of those under investigation that would suggest the existence of such a process at any prior stage.

Kim In-ho postulates that there existed sometime around the 15th century a phonological process by which word-final \bar{h} turned into \circ , citing $\text{따}\bar{h}$ → 땅 , $\text{고}\bar{h}$ → 콩 , and $\text{구머}\bar{h}$ → 구멍 as additional evidence (Kim 1993). This would account for 강아지 coming from Middle Korean $\text{가}\bar{h}$; other forms could then be explained by analogy. But problematically, only the first of these supposedly ancestral forms are attested anywhere in the Middle Korean corpus; he also cites 망아지 as coming from $\text{마}\bar{h}$, when in fact most Koreanists are quite certain that the ll in 말 is ancestral (see section 4.4). But to Kim's credit, we do see that not only did MK $\text{사}\bar{h}$ turn into SK 땅 ; MK $\text{지}\bar{h}$ also turned into SK $\text{지}\bar{h}$, and MK $\text{모}\bar{h}$ turned into SK $\text{모}\bar{h}$, making a change from \bar{h} to \circ a somewhat more plausible explanation for 강아지 (Sö 2017: 91). This sound change is made slightly more plausible by the observation that contemporary Korean \bar{h} /h/ is sometimes realized as [x] (as in Scottish Gaelic *Loch*), and is sometimes even realized as a velarized glottal (Martin 1960: 27). Still, for this explanation to be applicable to $\text{가}\bar{h}$, deletion of the second vowel would be required, something unmotivated by known Korean sound changes.

3.2 The velar nasal as root-internal

The second possibility is that the velar nasal originates in the root forms of the relevant words, which then lost all trace of that nasal as a result sound change. This would simplify the history of the diminutive suffix -*ㅇ생이*, as the -*생이* portion could possibly be a corruption of *새끼* “young animal,” allowing for forms containing that diminutive to be compounds meaning “young [root word].” Of course, for each of the diminutivized forms in which a velar nasal is present, no velar nasal is present in either its Modern Korean or Middle Korean counterpart. The Middle Korean forms, along with the corresponding Middle Korean diminutivized forms, are given below (from Pak 2001 and 2010):

MK	MK dim.	modern dim.
쇼	송아지	송아지
가히	-	강아지
말	-	망아지

In this line of inquiry, we are required to postulate a pre-MK form for any of 쇼 and 가히 which featured a terminal velar nasal. Note that we do not necessarily have to postulate such a form for both, as we can explain the appearance of the velar nasal in the other by postulating that speakers later inserted it by analogy; evidence for analogy as a productive process affecting -*ㅇ아지* is to be found in section 3.1.

While there is no evidence independent of the diminutive forms under investigation for any of the relevant words containing a velar nasal, there is evidence for a sound change in which a velar nasal in a non-initial syllable deletes when followed by a glottal fricative. This would make *가ᄃ* a likely candidate for being the form containing an original velar nasal, as **강ᄃ*. I posit this sound change on the grounds of the following Seoul Korean-Jejuo correspondences as in (1) (note to be deleted: almost every single Jejuo form here has a vowel that I can't find a way to type. I'll just leave everything in Yale Romanization until I can figure that out):

SK	Jejuo
(1) kamahta	kamanghota
saykkamahta	saykkamanghota
saysnolahta	cisnolanghota
sikkemehta	ssikkememghota
yolehkey	yoyeng
ilehkey	iyeng
celehkey	ceyeng
phalahta	phalanghota
(2) anghata	anghota
konghata	konghota
kyenghem	jenghem

The Seoul Korean forms in (2) show that the rule cannot apply in the initial syllable. Thus, for this rule to be relevant to our investigation of the diminutive, we would have to postulate that the first syllable of pre-MK *가하* contained two morae in addition to postulating a velar nasal, otherwise this phonological rule could not apply, as the velar nasal would not delete. This seems unlikely; in Middle Korean texts with tone markings, the first syllable of *가하* is unmarked; according to the 1527 *훈몽자회*, this indicates that the syllable presented with a short low tone (Pak 2010: 12, Lee & Ramsey 2011: 163). Thus clasis (deletion of a consonant between vowels) likely did not play a role in the development of that syllable. Furthermore, we cannot be certain when this sound change occurred. There is evidence that Jejueo is not a direct descendant of Middle Korean,⁶ making it possible that this sound change occurred prior to middle Korean and thus explaining MK *kahi* as not having a velar nasal, but that would be far too convenient to serve as the basis for any such theory.

⁶ See Stonham 2011 for a detailed analysis based on otherwise unexplainable sibilant correspondences between Middle Korean and Jejueo (Stonham 2011: 106-116). Lee & Ramsey also mention an Old Korean declarative verbal suffix 齊, likely pronounced either as *cyey* or *cye*, of which the Jejueo declarative verbal suffix *ce* seems to be a surviving reflex (despite the suffix failing to survive into Middle Korean) (Lee & Ramsey 2011: 73). Finally, though Jejueo diphthong *yo* [jɔ] did not exist in Late Middle Korean and exists in no contemporary Korean dialect, we can be fairly certain that it did exist in Early Middle Korean based on internal reconstruction using vowel harmony; Furthermore a 1446 text, the *Hunminjeongeum*, even notes that though “There is no need in the national speech” for *yo*, the sound occurs “in the speech of outlying regions” — Jeju Island (Lee & Ramsey 2011: 159-160).

3.3 The velar nasal as a discrete morpheme

The last possibility, which I propose as being the correct one, is that the velar nasal was once a discrete morpheme. The following findings make this hypothesis the most likely.

In the dialect of Ulsan, velar nasals before a vowel that were morpheme-initial in Late Middle Korean delete. I posit this sound change based on the following correspondences (Sin 2014: 854, 849):

LMK	SK	Ulsan dialect	meaning
송아지		송아지	소아지 calf
상어	상어	새	shark
-	장어	재	eel

Note that -*오어* (“fish”) is one of the three velar-nasal-initial morphemes of Chinese origin. Outside of these forms, historical non-morpheme-initial velar nasals persist into modern forms in the Ulsan dialect.

In Seoul Korean, *송이* is the word for “a bunch of flowers, grapes, or mushrooms,” and *팽이* is the word for the enoki mushroom (the former appears in Late Middle Korean as *송이*) (Pak 2010: 300). Each appears to contain the diminutive suffix -*오이*. In the Ulsan dialect, these words surface as *소이* and *페이*, respectively (Sin 2014: 854, 919). This indicates that the velar nasal in each form was morpheme-initial when the above sound change occurred;

otherwise, the lack of a velar nasal in the Ulsan variants is unexplained, as there is no other known sound change that could account for their disappearance. Other instances of words which seem to feature this diminutive suffix also undergo this sound change. Furthermore, there is evidence from Late Middle Korean that *-o* was likely an allomorph of *-o o/*: the Late Middle Korean word for “maggot” surfaced as both *kwumbong* and *kwumbongi*, and in Jeju, there is free variation between *-o o/* and *-o* as a diminutive suffix for some words (such as *morongi* and *morong*, “baby Japanese grenadier anchovy”) (Lee & Ramsey 2011: 97; Kang 2014: 135).

And in fact, because the addition of the subject markers *o/* and *ga/* (but especially *o/*) is a rigidly attested process in Korean language history, it is most likely that *-o* was the original suffix and that *o/* was concatenated as an addition from the subject marker sometime later. This concatenation of *o/* to *-o* is supported by historical evidence: *olchang-o/*, the Seoul Korean word for “tadpole” (whose meaning is obviously diminutive), was recorded as *olchang* in 1446, then became *olchang-o/* soon after (with the vowel changing later) (국어원).

It is then quite possible, if not overwhelmingly likely, that the diminutive suffixes *-o a/* and *-o seŋ-o/* are actually historical concatenations of the diminutive suffix *-o* and the suffixes *-a/* and *-seŋ-o/* (again, likely from *saekki* “young animal”). This explanation also allows for previously puzzling cases to be resolved quite simply. Why does *do/* mean “pig” and not “piglet?” Why does *mogaj/* mean “throat,” without any sense of diminutivization? If the velar nasal is

the historical source of the diminutivization of the words under investigation, and *-oŋ* is a suffix added subsequently, the forms *ŋŋ* and *moŋŋ* become easier to deal with in that it becomes expected for their semantics not to contain any diminutive-like connotation or denotation.

But as a side effect to this analysis, it becomes difficult to discern the semantics of the newly postulated suffix *-oŋ*. Potential insight into this issue is to be gleaned from investigation into the semantic history of *ŋŋ* and *boŋŋ*, as these suffixes contain no velar nasal and thus allow for isolation of the *-oŋ* variable; however, such an analysis is made quite difficult by the small sample size.

3. Conclusion

The diachrony of the allocutive suffix *-o* seems somewhat suspicious given its instability and potentially unique tonal consequences. More importantly, it is likely, based on my analysis in section 2.3, that the suffix *-oŋ* is actually historically composed of two suffixes, a diminutive *-o* and another suffix *-oŋ*. This is an interesting insight into the morphological history of the Koreanic language family; it is possible that inquiry into Early Middle Korean and Old Korean could benefit from looking for traces of these morphemes.

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