The goal-over-source asymmetry in Thai and Korean

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Abstract

Thai and Korean have large inventories of adpositional particles, including source and goal markers. As reported in many languages, Thai and Korean adpositions also prominently exhibit the 'goal-over-source asymmetry' at multiple levels. This article supports this hypothesis on asymmetry from these two typologically and genealogically distinct languages. In both languages, goal markers far exceed source markers in number, confirming the hypothesis. Even among the allative-ablative-(locative) syncretic forms, the proportion of use for goal marking far exceeds that for source marking, again upholding the asymmetry hypothesis. The multiplicity of forms in the two polar categories is largely due to the stacking of multiple markers of (nearly-)synonymous adpositions as a strategy to reinforce meaning or to add finer shades of meaning. The multiplicity of forms is also due to frequent innovation of new forms, especially goal markers, in an effort to enhance expressivity and to entertain the desire for creativity. This is evident in the fact that the forms being innovated tend to carry more lexical content than older, fully grammaticalized forms, and thus carry more expressive potential. Drawing upon corpus data, this paper addresses the goal-over-source asymmetry in Korean and Thai from pragmatic and grammaticalization perspectives.

Keywords: goal-over-source asymmetry; Thai; Korean

1. Introduction

Because humans exist in space, the notions of space and spatial relationships are conceptual primitives. This has been noted as early as in Piaget and Inhelder (1956 [1948]; see also Levinson, 1996, 2004). Humans even conceptualize non-spatial relationships by means of spatial metaphor (Heine et al., 1991). Human conceptualization patterns are manifested in language structure and language use. Spatial relationships often take the form of polar opposition, e.g., source versus goal, Front versus Back, and so forth These fundamental concepts are encoded in the lexicon as

relational nouns, and in grammar typically by adpositions, i.e., prepositions and postpositions. Despite their seemingly equal salience, adpositions encoding polar concepts are not symmetrical in linguistic manifestations. Some early research (Andersen, 1978) has already noted the presence of such puzzling asymmetries in language.

More recently, such asymmetries have emerged as a topic of interest among cognitive linguists, who observed that in the individual languages they studied, goal markers (such as 'to', 'toward') are more strongly represented than source markers (such as 'from'). This phenomenon is known as the 'goal-over-source asymmetry' (henceforth, the GOS asymmetry) or the 'goal bias' (Bourdin, 1997; Fagard and Kopecka, 2021; Ikegami, 1979, 1987). This kind of asymmetry has been reported across languages, such as German, Polish, Romanian, Georgian, Japanese, as well as Dravidian, Sino-Tibetan, and Oceanian languages, among others (Kopecka & Vuillermet, 2021), and the phenomenon of asymmetry has been investigated from a number of perspectives. The GOS asymmetry has often been attributed to the cognitive and pragmatic salience of goal (e.g. Lakusta & Landau, 2005, 2012; Regier & Zheng, 2007, as cited in Fagard & Kopecka, 2021; see 2.2 for more). Notwithstanding the fact that the investigated languages are widely scattered geographically, those languages are still a relatively small set of world languages, and Thai and Korean have not yet been studied in earnest to date, hence the rationale of the present research. Drawing upon data from Thai and Korean, the present study reports that Korean and Thai adpositions also prominently exhibit the GOS asymmetry, particularly at both conceptual and discourse-pragmatic levels. The newly added corroborating evidence from these two typologically and genealogically distinct languages supports the hypothesis on asymmetry and contributes to a better understanding of human conceptualization of space and the (potentially inherent) cognitive skewing in the human mind that is mirrored in language. Furthermore, this article provides an account of strategies that each language adopts to enrich a paradigm of the grammatical forms encoding spatial relationships, such as developing adpositions from verb serialization, combining markers of similar functions, and forming complex forms with additional lexemes, among others.

2. Theoretical background and previous studies

2.1 Grammaticalization and cognitive linguistics

The primary theoretical underpinnings of the present study include grammaticalization theory and cognitive linguistics. Grammaticalization theory, pioneered by historical linguists who also incorporated a synchronic dimension to their diachronic orientation, has been proven well-suited for investigating the dynamics of language change and linguistic organization. In recent decades, grammaticalization theory has begun to be considered among the strongest explanatory frameworks in diachronic linguistics. Cognitive linguistics, subsuming numerous approaches and diverse theories of grammar, explains linguistic phenomena with reference to diverse psychological and cognitive mechanisms that operate in language use. Closely related to these theoretical frameworks is usage-based grammar, which gives theoretical support to the hypothesis that linguistic systems are shaped by language use, most notably through entrenchment resulting from high frequency of use.

2.2 Previous studies

As alluded to above, the GOS asymmetry has been noted as a pervasive phenomenon across many different languages. In particular, among asymmetries of spatial perception, goal tends to take different manifestations from source with respect to their encoding, usage frequency, word order, combination patterns with motional elements such as path and manner, cooccurrence patterns with other linguistic forms, morphological makeup, semantic density, grammaticalization patterns, etc. (Georgakopoulos & Karatsareas, 2017; Kopecka, 2017; Kopechka & Vuillermet 2021; Moyse-Faurie, 2021). Source and goal exhibit asymmetry in diverse aspects, which clearly suggest that they carry different weights in human cognition.

Although the number of languages studied in extant research is limited, previous studies have found overwhelming consistency in the GOS asymmetry, which has led researchers to conclude that it is a 'language universal' (Ikegami, 1987), or at least a 'recurrent bias' (Bourdin, 1997, p. 190). Indeed, many studies report that, as compared to source, goal is expressed more frequently, more precisely, and more simply (Kopecka & Narasimhan, 2012; Lakusta & Landau, 2005; Stolz, Lestrade & Stolz, 2014). Despite asymmetry in Thai and Korean being widespread and robust, this phenomenon, as indicated above, has not been investigated in earnest to date.

3. Research scope and methodology

To investigate asymmetrical representation in language in a principled way, certain methodological prerequisites become particularly relevant. For instance, an investigation of an individual language may not be as fruitful as multilingual, contrastive research, because the findings might be restricted to language-specific local instances, rather than being readily generalizable to other languages. This is especially true because languages often have attributes not shared by other languages with different typological profiles. Therefore, the language samples need to be typologically diverse, and, further, for the sake of maximum diversity and independence, genealogically unrelated and geographically nonadjacent. Hence, the selection of the two languages in this study is Thai and Korean. The contrast of genealogical and typological profiles of these two languages is summarily shown in Table 1.

The specific research questions pursued in the present study are the following: (i) What are the adpositions and their source lexemes used to encode Source and Goal in Thai and Korean? (ii) With what strength, as manifested by their individual token frequencies, are they represented in language use, and to what extent do they exhibit asymmetry between source and goal in the two languages? and (iii) What are the

Table 1. Genealogical and typological features of Thai and Korean

	Thai	Korean
Language family	Kra-Dai	Transeurasian (Altaic)
	Tai	Koreanic
Morphological cohesion	Isolating (isolated)	Agglutinating (stacked)
Morphological complexity	Analytic (single)	Synthetic (multiple)
Head directionality	Head-initial	Head-final
Adposition	Preposition	Postposition
Word order	VO	OV

sources of asymmetry in the two languages, with respect to human cognitive operations and the specificities of individual typological attributes?

To address these questions, the present study combines different methods: data collection from lexica, historical and contemporary dictionaries, online resources, reference grammars, the contemporary and historical corpora, and, importantly, the authors' native-speaker intuitions. Our statistical analysis is based on the Thai National Corpus (TNC; n.d.), a 33.4-million-word, online-searchable contemporary corpus (mostly 1988–2017), consisting of texts of diverse genres and registers, compiled by Chulalongkorn University, as well as the Korean Drama & Movie Corpus (KDMC), a 24.2-million-word, contemporary corpus consisting of 7,454 scenarios of dramas, sitcoms, and movies in Korean culture from 1992 to 2015, compiled by Min Li.[1]

Before proceeding to a description of source- and goal-marking adpositions in Thai and Korean, a special note is in order. In the Thai linguistic tradition, the notion of 'preposition' is a rather recent one (Rhee, 2021, p. 307–308). Owing to the typological characteristics of an isolating language such as Thai, these prepositions occur without change in form, and thus, the usage of the source category items or the usage of grammaticalized prepositions is often indistinguishable. Radical positions on the issue deny the existence of the category 'preposition' altogether, for the members still retain their source category traits (Warotamasikkhadit, 1988, 1994). Notwithstanding the persistent controversy over word classes, however, decades-old reference grammars, e.g., Iwasaki and Ingkaphirom (2005), Noss (1964), Smyth (2002), among others, recognize the presence of the prepositional category with a large number of members. Following these authors and the research tradition of grammaticalization theory, we regard grammar not as a self-contained *a priori* system but one that is fluid and ever 'emergent' (cf. 'emergent grammar', Hopper, 1987; 'emergentism', O'Grady, 2005). Thus, the Thai prepositions described in this paper should be taken as being of variable strength with respect to prepositionhood.

In this regard, the criteria for including a form in ablative and allative categories are of special importance. It is widely known that serial verb constructions are susceptible to grammaticalization (cf. 'the seed of grammaticalization', DeLancey, 1991, p. 15). When verbs are serialized, some of them lose lexical content and acquire grammatical functions, including those of adpositions. Since Thai extensively uses serial verb constructions, some verbs that are located either directly or relatively close before a noun phrase, either alone or together, tend to be reanalyzed as prepositions or complex prepositions. Certain verbs, such as motion verbs (e.g., 'come' and 'go') and donative verbs (e.g., 'give'), are particularly common in serial verb constructions across languages and susceptible to such functional reanalysis (cf. Aikhenvald, 2006, pp. 30–32; Essegbey, 2004; Meyerhoff, 2001, p. 257; Pullum, 1990). This is particularly true with Thai, as extensively discussed in Bisang (1996), Diller (1988, 2001), Kölver (1984), Post (2007), Sereechareonsatit (1984), Sudumuk (2005), Thepkanjana (1986), among others. Given the background, the present study includes in the inventory

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[1]TNC texts are mostly dated from 1988–2017 (75.8%), but the corpus also contains pre-1988 texts (5.7%), as well as texts of unknown date (18.6%). The text types are variable but information regarding the exact composition of the corpus is unavailable. Since KDMC is drawn entirely from drama and movie scripts ("speech-purposed", Culpeper & Kytö 2010, p. 17), TNC and KDMC are not directly comparable with respect to text genres and registers. The effect of this difference for the present study, however, is deemed inconsequential.

some pre-NP verbs or verbal strings that were initially used as serial verbs but have been, or are being, reanalyzed as prepositions in Contemporary Thai. In addition, multiple forms situated before a noun phrase with considerable conceptual cohesion are also regarded as complex adpositions, if such analysis is warranted from the context. Incidentally, due to the conservative and prescriptive nature of dictionaries, these forms may not be listed as headwords in dictionaries.

Korean is also a serial verb language. However, the effect of verb serialization in the development of postpositions is much weaker than in Thai, largely because Korean verb serialization involves a linker, known as a converb or connective, and normally serial verb constructions involve only two verbs. This contrasts with Thai, in which verb serialization is asyndetic, i.e., serialization occurs with bare forms, a characteristic of an analytic, isolating language, and serialization is quite extensive.[2] Furthermore, Korean noun phrases are followed by particles such as case markers or postpositions, which, if they are sentential objects, are followed by a verb (note that Korean is an OV language). The intervention of nominal particles between the noun and the verb hinders their cohesion, and grammaticalization of a postposition from serialized verbs is less frequent than in Thai. For such structural reasons, Korean periphrastic postpositions often begin with a nominal particle. Similar to Thai, many Korean ablative and allative postpositions, especially those that have been, or are being innovated, are not likely to be found in normative dictionaries as headwords. The researchers discuss this situation further when inventories are introduced in sections 4.1.1 and 4.1.2 for Thai and sections 4.2.2 and 4.2.3 for Korean.

4. Results and discussion

4.1 Source and goal in Thai

4.1.1 Source markers
Contemporary Thai has a few source markers (ablatives) denoting 'from', consisting of either a single word or two words, the most frequent one being *càak*. Examples of these ablatives taken from various sources are shown below in (1) (note that in the examples, complex forms, as in (1e), are shown as a single form with a period between the components):

(1) a. *nók*   *bin*   *ɔ̀ɔk*   *càak*   *kroŋ*
         bird   fly   out   from   cage
         'The bird flew from the cage.'
                    (Sak-Humphry et al. 1997: 210)

     b. kaan   khlúk   kà-pì   pen   sǐnlápà kaan   pruŋ   aahǎan
         NOMZ   mix   shrimp.paste   be   art   NOMZ   combine   food
         thîi   *mii*   *maa*   *tâŋ*   *samǎy*   *Rattanakosin*   *tɔɔŋ*   *tôn*
         that   have   COMPL   from   period   [dynasty name]   part   begin
         'Mixing shrimp paste with rice is the culinary art from the early Rattanakosin period.'
                    (2009, *Mafueang Ro Fan*, Miscellaneous, TNC)

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[2]For instance, Diller (1988, p. 280) gives an example of a sentence consisting of ten serialized verbs, all asyndetically strung together: *Pay aw ma: dat plaeng kae: khay tham sia may* [go-take-come-bend-modify-correct-solve-make-exhaust-be.new] '(She) went and got it, changed it around, fixed it up, and made it just like new.'

c. maa   tɛ̀ɛ   bâan
   come   from   house
   '(I/you/she…) came from home.'
                (2011, Thai Royal Dictionary, online, gloss and translation added)

d. phɔɔ   cɔ̀   aw   náam ɔ̀ɔk troŋ thîi khə̀əy phɔɔŋ ɔ̀ɔk
   when puncture bring water out from place ever   swell   out
   man hìaw   yôn   pay-mòt
   it   wither wrinkle totally
   'After puncturing, in order to take water out from the swollen area, it
   shrinks completely.'
                              (2010, Phloi Kaem Phet, Biography, TNC)

e. *lɛ́-lɛ́ɛw kɔ̂ɔ phóp wâa man daŋ maa càak.troŋ sɨ̀a-sùut*
   then   DM meet that it ˈloud come from   suit
   thîi naay   Yudoji thɔ̀ɔt   aw-wáy
   that [male title] [name] take-off PST

   '…Then (I) found that it (the ringtone) was coming from the suit that Yudoji
   left.'
      (2008, *Alice Kap Kratai Nai Dindaen (Mai) Mahatsachan*, Fiction, TNC)

A detailed discussion of the ways that each of these ablatives was grammaticalized is beyond the immediate scope of the present study, but a brief description helps understand how multiple forms of (near-)synonymous functions arise. (Some relevant discussions are found in Park, 2017a, 2017b; Park & Rhee, 2018; and Rhee, 2021.) The ablative *càak* in (1a) is grammaticalized from the heterosemous verb denoting 'leave, depart'. As indicated above, grammaticalization that began in verb serialization, i.e., 'fly out leave' has been reinterpreted as 'fly out from', along with morphosyntactic reanalysis of [V-V] into [V-preposition]. A similar pattern is found with *tâŋ* in (1b), whose lexical origin is the verb denoting 'start', as well as with (1e), which involves *càak* 'leave'. The ablative *tɛ̀ɛ* in (1c) is unique in that, in its development, the 'departure' notion, central in ablative, seems to have come from the adversative semantics of its source *tɛ̀ɛ* 'but'. The development of ablative *troŋ* in (1d) (also found in (1e)) is likely to have been motivated by the conceptual association of 'straightness', 'straightforwardness', and 'definiteness'. When it modifies a spatial location (*troŋ thîi*, lit. 'straight place'), it would acquire the emphasis meaning ('the exact place'), which, in turn, is subjected to the reanalysis triggered by the cooccurring verb 'bring out'; thus, the string eventually became 'bring out from'. Schematically, the conceptual progression may be [bring out straight place] > [bring out this exact place] > [bring out exactly from]. The ablative *càak.troŋ* merits special attention. Thai ablatives and allatives include a large number of polylexemic forms involving multiple lexemes, each of which is, in many cases, already ablative or allative (note that *càak* and *troŋ* are both ablatives). This type of lexicalization and grammaticalization has been noted in previous studies (Khammee & Rhee, 2023, 2024).[3]

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[3]A state of affairs bearing much relevance to this polylexemic forms developing from multiple, syntactically juxtaposed lexemes has been discussed in Rhee and Khammee (2024) with respect to grammaticalization of future-time markers in Thai.

A list of the inventory of Thai ablatives exemplified above, totaling six, along with their lexical sources, is shown below in (2):[4]

(2)   a.   *càak*   'from'   <   v. 'depart, leave'
       b.   tâŋ tɛ̀ɛ   'from, since'   <   v. 'set, start' + conj./ad. 'but, even'
       c.   tɛ̀ɛ   'from'   <   conj./ad. 'but, even'
       d.   tâŋ   'from'   <   v. 'set, start'
       e.   càak troŋ   'from, right from'   <   v. 'depart, leave' + a./n. 'straight(ness)'
       f.   troŋ   'from, according to' <   a./n. 'straight(ness)'

The list in (2) clearly shows that Thai ablatives are predominantly V-adpositions, most of which have their origin in verb serialization. The N-adposition is not strongly represented since the only candidate *troŋ* is also (and, in fact, primarily) an adjective. Another notable factor is that in some of these, an identical form surfaces in polymorphemic forms, giving the impression that the form is 'changing partners' to create periphrastic forms of equal or similar function. This characteristic is more pronounced with allatives, as shall be clear in the following exposition.

4.1.2 Goal markers

The goal markers (allatives) in Thai, most of which denote 'to' or 'for' (if benefaction is implied), are among the grammatical forms that occur at high frequency. The extensive list is given in (5) below, and some uses of such allatives are exemplified in (3) for monolexemic and (4) polylexemic forms:

(3)   a.   *Puk*   *sɨ́ɨ*   *khanŏm*   *hây*   *Deang*
           [name]   buy   sweets   to/for   [name]
           'Puk bought sweets for Dang.' (Indrambarya 1992: modified)

       b.   thamŋaan   phɨ̂a   lûuk
           work   to/for   kid
           '(They/parents…) work for (their) kids.'
           (2011, *Thai Royal Dictionary*, online, translation added)

       c.   pay   thɨ̌ŋ   bâan
           go   to   house
           '(I) reach home (successfully).'
           (2011, Thai Royal Dictionary, online, gloss and translation added)

       d.   lǝǝy   tôŋ   phaa mɛ̂ɛ   khɔ̌ɔŋ lɔ̀n   pay   sòŋ   thîi thîi-thamŋaan
           have.to   must   take   mother   of   her   go   send   to   workplace
           khɔ̌ɔŋ phɔ̀ɔ Mathurin
           of   father   [name]
           '(I) had to send her mother to Mathurin's father's workplace.'
                                  (2010, *Nai Roi Rak*, Fiction, TNC)

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[4]The etymology information for Thai grams has been largely taken from Indrambarya (1992), Intratat (1996), Iwasaki and Ingkaphirom (2005), Noss (1964), Park (2017a, 2017b), Park and Rhee (2018), Post (2007), Prasithrathsint (2010a, 2010b), Rhee (2021), Rhee and Khammee (2023), among others.

The allatives in the examples above have their transparent lexical origins in contemporary Thai: *hây* from 'give', *phɨ̀a* from 'do for', *thɨ̌ŋ* from 'arrive', and *thîi* from 'place'. The conceptual motivations behind these grammaticalization scenarios are relatively obvious, i.e., transfer of an object from 'give', transfer of benefit from 'do for', and reaching the goal from 'arrive'. The relatively ambiguous one is from 'place' to 'to'. As was the case with some ablatives illustrated in (1), this is due to the contextual effect, i.e., the cooccurring verb 'send'. This type of reinterpretation is a common phenomenon in Thai, as elaborated in Kölver (1984, p. 14), who states that a cooccurring motion verb (e.g., 'go') transforms a static meaning 'at' into a dynamic, directional meaning 'into'.

The next set of examples illustrates four polylexemic forms of a large number of polylexemic allatives (and, more generally, polylexemic prepositions (see Rhee 2021, pp. 307–360)) in Thai.

(4) a. *khruu   mɔ̂ɔp   raaŋwan   hây.kɛ̀ɛ   chǎn*
       teacher   give   reward   to/for   me
       'The teacher gave me a reward (gave a reward to me).' (Rhee & Khammee 2023: 118)

   b. *tɛ̀ɛ   thôykham   thîi   yók   maa   nán   phûŋ-pâw*
      but   speech   that   raise COMPL DM   aim
      pay.thîi   phûu   khǐan   naŋsɨ̌ɨ   Ruthan Thaksin   1   lɛ́   2
      to   person write   book   [book title]   1   and   2
      'But the mentioned statement aimed at the author of *Ruthan Thaksin* 1 and 2.'
                               (2004, *Phasa Amnat Lae Kanmueang*, Academic, TNC)

   c. … *lɛ́ɛw   dəən   pay.yaŋ   sathǎanthîi   taam   phɨ̀an   wâa*
      … then   walk   to   place   follow   friend   say
      '…then walk to the place that her friend told about'
                               (2008, *Kan Phachonphai Khong Huachai Phet*, Fiction, TNC)

   d. Luang Prabang   kɔ̂ɔ   sòŋ   phâa-mǎy   khày plaa-bɨ̀k   khɔ̌ɔŋ   pàa
      [place name]   also   send   silk   egg   giant.catfish thing   forest
      maa.yaŋ   Chiang Mai
      to   [place name]
      '(The people of) Luang Prabang also sent silk, giant catfish eggs, and forest products to Chiang Mai.'
                         (2010, *Kan Wikhro Tamnan Kan Sang Lok Khong Khon Thai*, Academic, TNC)

The examples in (4) all involve allatives consisting of two lexemes: *hai kae* 'give mature', *pay thîi* 'go place', *pay yaŋ* 'go result in', and *maa yaŋ* 'come result in'. In (4a) and (4c), 'mature' and 'result in' seem to add the notion of culmination of a process, i.e., arrival at the goal. Notably, these lexemes constitute the second of the two compound lexemes, and the first lexemes (*hây* and *pay*) are well established allatives. Thus, the morphosyntactic configuration, in which the second lexeme occurs between an allative and a noun phrase, must have contributed to the semantic

Table 2. Allatives in Thai

	Allative	Meaning	Source
a	*hây*	'to, for'	v. 'give'
b	*hây kɛɛ̀*	'to, for'	v. 'give' + n. 'mature'
c	*hây kàp*	'to, for'	v. 'give' + n. 'trap'
d	*con*	'to'	v. 'reach'
e	*con thɨ̌ŋ*	'to'	v. 'reach' + v. 'arrive'
f	*cùap con*	'to'	v. 'meet' + v. 'reach'
g	*con kràthâŋ thɨ̌ŋ*	'to'	v. 'reach' + n. 'state' + v. 'arrive'
h	*kràthâŋ thɨ̌ŋ*	'to'	n. 'state' + v. 'arrive'
i	*thɨ̌ŋ*	'to'	v. 'arrive'
j	*thɨ̌ŋ khɛ̂ɛ*	'to'	v. 'arrive' + ad. 'just'
k	*khɨ̌n*	'to'	v. 'climb, ascend'
l	*sùu*	'to, towards'	v. 'go toward'
m	*pay sùu*	'to, towards'	v. 'go' + v. 'go toward'
n	*pay yaŋ*	'to, towards'	v. 'go' + v. 'result in, cause'
o	*maa yaŋ*	'to, towards'	v. 'come' + v. 'result in, cause'
p	*tɔ̀ɔ*	'to, towards'	v. 'extend, connect'
q	*sǎmràp*	'to, for'	v. 'prepare, arrange'
r	*phɨ̀a*	'to, for'	v. 'do for'
s	*yaŋ*	'to, till'	v. 'support'
t	*thîi*	'to'	n. 'place'
u	*pay thîi*	'to'	v. 'go' + n. 'place'
v	*maa thîi*	'to'	v. 'come' + n. 'place'
w	*kàp*	'to'	n. 'trap'
x	*tràap con*	'to'	n. 'edge' + v. 'reach'
y	*tràap con thɨ̌ŋ*	'to'	n. 'edge' + v. 'reach' + v. 'arrive'
z	*tràap thâw*	'to, till'	n. 'edge' + n. 'equal amount'
aa	*kɛ̀ɛ*	'to, for'	a. 'mature, old'
ab	*kà*	'to'	[p. *kàp* + p. *kɛ̀ɛ*]
ac	*dɛ̀ɛ*	'to, for'	[unknown]

bleaching of these lexemes and their attraction to the preceding allative, e.g., [to-mature me] reanalyzed as [to me (completely reaching me)]. The development of the allative *pay thîi* 'to' from 'go place' is also likely to be the reanalysis and reinterpretation of 'go' as a directional and 'place' as the focused ground, which aligns with the observations in Post (2007, p. 121), who points out the tendency of *pay* 'go' becoming a 'pure functor' in certain configurations. The same applies to *maa* 'come', another common motion verb in Thai, the only difference being the reversed directionality of motion.

The multiplicity of Thai ablatives illustrated in (1) and (2) above is far exceeded by the extensive inventory of allatives shown in Table 2 with their sources.

The comprehensive list of allatives and their lexical sources shown in Table 2 reveals the patterns observed with ablatives, specifically that allatives are predominantly V-adpositions, and even those involving nouns also tend to involve verbs, as in (b), (c), (x), and (y). Grammaticalization of allatives from source lexemes constitutes a meaningful research topic, but is beyond the immediate interest of the present research (Rhee and Khammee (2023) offer one such analysis). Also notable, as is the case with ablatives, is that polymorphemic forms are periphrases consisting of components that are mostly allatives themselves, a state of affairs carrying important implications, as shall be discussed below.

4.2 Source and goal in Korean

Korean is known to have a particularly large number of grammatical forms including postpositions (Rhee, 2021). Therefore, it comes as no surprise that Korean has various ablatives and allatives. An interesting aspect of Korean spatial markers is that there are multiple syncretic forms, as well.

4.2.1 Syncretic forms

One peculiarity of Korean is that a number of forms show allative-ablative (-locative) syncretism, a cross-linguistically rare phenomenon (cf., however, −ni 'to/from' in Japanese, Peter Sells, p.c.; Rhee, 2010, and 'motatives' -ṣa, −le, −de in Ardeşen-Laz, Kutscher 2010). These forms are listed below:

(5) a. -ey   Allative 'to', Ablative 'from', Locative 'at/in'
     b. -eykey   Allative/Dative 'to', Ablative 'from'
     c. -kkey   Allative/Dative 'to:hon', Ablative 'from:hon'
     d. -hanthey Allative/Dative 'to', Ablative 'from'
     e. -se   Ablative 'from', Locative 'at/in'
     f. -eyse   Ablative 'from', Locative 'at/in'

The polyfunctional postpositions *-ey* and *-kkey* are exemplified in the following constructed examples:

(6) a. *san-ey*   *ka-ss-te-ni*   *san-ey*   *iss-nun*   *namwu-tul-i*
        mountain-ALL go-PST-RETR-CONN mountain-LOC exist-ADN tree-PL-NOM
        phokphwung-ey   *pwule-ci-e*   *iss-ess-ta*
        violent.wind-ABL   break-PASS-CONN exist-PST-DEC
        'As I went to the mountain, (I found that) the trees in the mountain had been broken from/by the violent wind (of a storm).'

     b. apeci-kkey   malssumtuli-ess-taka   apeci-kkey   honna-ss-ta
        father-ALL/DAT   tell:HON-PST-TRNS   father-ABL   be.scolded-PST-DEC
        'I told father (about it) and then was scolded by him.'

In example (6a), the postposition *-ey* occurs three times: as an allative ('to'), locative ('at'), and ablative ('from'), respectively. The postposition *-kkey* in (6b) functions as both allative/dative and ablative. A noteworthy aspect of these examples (and other allative-ablative syncretic forms) is that the source encoded by them involves a noun phrase denoting an entity as a source of force, and the movement denoted or implied by the event tends to be abstract rather than physical. For instance, the 'violent wind' in (6a) is not a departure point in a strict sense and the 'scolding' in (6b) does not involve physical movement of 'scolding words' to the speaker. The fact that allative-turned-ablatives do not fully encode a spatial departure point suggests that the functional extension of allatives into the domain of ablatives has not (yet) progressed to a great extent.

4.2.2 Source markers

Contemporary Korean has many ablative markers, including those of syncretism. The most frequently used forms are *-ey* and *-eyse*. It is noteworthy that *-ey* occurs at a

high frequency both as an ablative and allative, a point we will return to later. The uses of ablatives *-eyse* and *-pwuthe* are exemplified below:

(7) a. *thaykwuk-eyse hankwuk-kkaci yehayngha-ss-ta*
       Thailand-ABL   Korea-ALL   travel-PST-DEC
       '(I) traveled from Thailand to Korea.' (constructed)

    b. cip-pwuthe hakkyo-kkaci keli-ka   mel-ta
       house-ABL   school-ALL   distance-NOM be.far-DEC
       'The distance from home to school is far.' (constructed)

    Historically, the ablative *-eyse* 'from' is a coalesced form of *-ey* 'at', *is-* 'exist', and *-e* 'and', compositionally denoting 'exist at x and', and the ablative *-pwuthe* 'from' is from *puth-* 'adhere' and *-e* 'and' (note that *-e* and its variant *-a* are linkers glossed as connectives [cn] in the list). It is clear that 'existing' at a place and 'adhering' to an entity have contributed to the development of the notion of contact with the referenced ground. For instance, 'exist at Thailand and' becomes 'from Thailand' and 'adhere to the house and' becomes 'from house' (cf. Ahn, 1967; Park, 2015; Rhee, 2021; Ryu, 1962). Ablatives and their lexical sources are listed below:[5]

(8) a. *-ey*   'from, at, to'   <   [unknown]

    b. *-eykey*   'from, to'   <   [unknown] + n. 'place' + p. 'at'

    c. *-kkey*   'from, to: hon'   <   n. 'place' + p. 'at'

    d. *-kkeyse*   'from, nom:hon'   <   n. 'place' + v. 'exist' + cn. 'and'

    e. *-hanthey*   'from, to'   <   a. 'one' + n. 'place'
    f. *-pwuthe*   'from'   <   v. 'adhere' + cn. 'and'
    g. *-lopwuthe* 'from'   <   [unknown] + v. 'adhere' + cn. 'and'

    h. *-sepwuthe* 'from'   <   [unknown] + v. 'exist' + v. 'adhere' + cn. 'and'

    i. *-se*   'from, at'   <   v. 'exist' + cn. 'and'
    j. *-eyse*   'from, at'   < [unknown] + v. 'exist' + cn. 'and'

    k. *-lose*   'from, as'   <   [unknown] + v. 'exist' + cn. 'and'

    l. *-eykeyse*   'from'   <   [unknown] + n. 'place' + p. 'at' + v. 'exist' + cn. 'and'

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[5]The etymology information for Korean grams has been largely taken from Ahn (1967), Ahn (1994), Han (2003), Heo (2007), Jang (2010), Kim (1982, 1992, 2014), Kim (2001), Narrog and Rhee (2013), Narrog et al. (2018), Park (2015), Rhee (2003, 2010, 2021), Ryu (1962), Yae (2015), among others. Also, as an anonymous reviewer points out, Kim (1992: 117-139 & 302–303) speculates that *-ey* is likely to have developed from a noun denoting 'middle, center' and *-lo* from a noun denoting 'reason, cause'. This hypothesis, however, is not widely supported in other studies.

m. *-hantheyse* 'from'   <   a. 'one' + n. 'place' + v. 'exist' + cn. 'and'

The list of Korean ablatives above shows that some of them (such as *-ey* and *-lo*) involve unidentified lexical sources, while others grammaticalized mostly from constructions involving a verb, notably the verb of existence, *is-* 'exist'. Some ablatives also involve nouns denoting 'place'. As was noted with the Thai ablatives and allatives, Korean polymorphemic ablatives involve forms that are ablatives themselves. Of further importance is that many Korean allatives involve the morpheme *-e* at the final slot, which is a connective, largely denoting 'and'. This is significant because the notion of departure point, the core semantic element of ablative, is largely derivable from this connective *-e*. For instance, as for *-pwuthe* in (8f), literally denoting 'adhere to x and', can be illustrated with *thaykwuk-pwuthe* [Thailand-ABL] 'from Thailand' in (7), which developed from 'adhere to Thailand and'. The verbal semantics of 'adhere' simply designate the entity to which the sentential subject adheres, and the notion of departure is signaled by the connective *-e* 'and'.

4.2.3 Goal markers

Contemporary Korean also has a large inventory of allatives, among the most frequently used of which are *-ey*, *−ulo*, *−kkaci*, and *-hanthey*. Some are exemplified below:

(9) a. *hakkyo-ey   ka-ss-taka   cip-ey   tolaw-ass-ta*
  school-ALL   go-PST-TRNS   home-ALL   return-PST-DEC
  'I went to school and then returned (to) home.' (constructed)

  b. sopangkwan-i   pwultha-nun   cip-ulo   mwul-ul   cwulkot
   firefighter-nom   burn-adn   house-all   water-acc   continuously
   sso-atay-ss-ta
   shoot-itr-pst-dec
   'Firefighters constantly shot the water to the burning house.' (constructed)

  c. nwu-ka   swul-eytaka   mwul-ul   tha-ss-ta
   someone-nom   wine-all   water-acc   add-pst-dec
   'Someone added water to wine (diluted it).'
   (Wulimalsaym, entry -eytaka, online, gloss and translation added)

  d. elini-hantheytaka   wihemhan   mwulken-ul   cwu-ci.ma-seyo
   child-all   dangerous   thing-acc   give-proh-pol.end
   'Do not give a dangerous thing to a child.'
   (Wulimalsaym, entry -hantheytaka, online, gloss and translation added)

  e. kukes-un   enni-tele   mwul-epw-a
   that-top   older.sister-all   ask-atmp-end
   'For that matter, ask your sister.'
   (Wulimalsaym, entry -tele, online, gloss and translation added)

Two allatives illustrated above, *−ey* in (9a) and *-ulo* in (9b), are incidentally syncretic forms with ablatives. As has been previously noted, the lexical sources of

Table 3. Allatives in Korean

	Allative	Meaning	Source
a	-ey	'to, at, from'	[unknown]
b	-eykey	'to, from'	[unknown] + n. 'place' + p. 'at'
c	-kkey	'to:HON'	n. 'place' + p. 'at'
d	-hanthey	'to'	a. 'one' + n. 'place'
e	-eyta	'to, onto'	[unknown] + v. 'approach' + cn. 'and'
f	-eytaka	'to, onto'	[unknown] + v. 'approach' + cn. 'and'
g	-eytatayko	'to, onto'	[unknown] + v. 'approach' + v. 'touch' + cn. 'and'
h	-eytakatayko	'to, onto'	[unknown] + v. 'approach' + v. 'touch' + cn. 'and'
i	-eytakataykose	'to, onto'	[unknown] + v. 'approach' + v. 'touch' + cn. 'and' + cn. 'and'
j	-eytataykose	'to, onto'	[unknown] + v. 'approach' + v. 'touch' + cn. 'and' + cn. 'and'
k	-tele	'to'	v. 'accompany' + cn. 'and'
l	-kkaci	'to, till'	n. 'edge'
m	-eykkaci	'to, up to'	[unknown] + n. 'edge'
n	-hantheykkaci	'to, up to'	a. 'one' + n. 'place' + n. 'edge'
o	-ulo	'to, toward'	[unknown]
p	-ulokkaci	'to, up to'	[unknown] + n. 'place'
q	-hantheylokkaci	'to, up to'	a. 'one' + n. 'place' + [unknown] + n. 'place'
r	-hantheyta	'to'	a. 'one' + n. 'place' + v. 'approach'
s	-hantheytaka	'to'	a. 'one' + n. 'place' + v. 'approach' + cn. 'and'
t	-hantheytatayko	'to'	a. 'one' + n. 'place' + v. 'approach' + v. 'touch' + cn. 'and'
u	-hantheytakatayko	'to'	a. 'one' + n. 'place' + v. 'approach' + v. 'touch' + cn. 'and'
v	-hantheytakataykose	'to'	a. 'one' + n. 'place' + v. 'approach' + v. 'touch' + cn. 'and' + cn. 'and'
w	-hantheytaykose	'to'	a. 'one' + n. 'place' + v. 'touch' + cn. 'and' + cn. 'and'
x	-hantheytataykose	'to'	a. 'one' + n. 'place' + v. 'touch' + v. 'touch' + cn. 'and' + cn. 'and'
y	-hantheytayko	'to'	a. 'one' + n. 'place' + v. 'touch' + cn. 'to'
z	-hantheylo	'to'	a. 'one' + n. 'place' + [unknown]
aa	-poko	'to'	v. 'see' + cn. 'and'
ab	-pokose	'to'	v. 'see' + cn. 'and' + 'and'
ac	-ulpoko	'to'	p. ACC + v. 'see' + cn. 'and'
ad	-ulpokose	'to'	p. ACC + v. 'see' + cn. 'and' + cn. 'and'
ae	-eykeylo	'to'	[unknown] + n. 'place' + [unknown]
af	-kkeylo	'to:HON'	n. 'place' + [unknown]
ag	-hyanghay	'to, toward'	v. 'face' + cn. 'and'
ah	-ulhyanghay	'to, toward'	p. ACC + v. 'face' + cn. 'and'
ai	-hyanghayse	'to, toward'	v. 'face' + cn. 'and' + cn. 'and'
aj	-ulhyanghayse	'to, toward'	p. ACC + v. 'face' + cn. 'and' + cn. 'and'

these allatives have not yet been identified (see, however, footnote 5), which suggests that they grammaticalized long ago and their lexical meanings have become completely lost. The allative *-eytaka* is a composite form, consisting of the allative *-ey, taku-* 'approach', and *-a* 'and'. Thus, *swul-eytaka* 'to wine' is from the source construction of 'approach wine and'. Similarly, the allative *-hantheytaka* is also from a complex construction, i.e., *han* 'one', *tey* 'place', *taku-* 'approach', and *-a* 'and', suggesting in (9d) a change from 'approaching to the same place as the child is and' to 'to the child'. The allative *-tele* is relatively simpler in composition, i.e., *tAli-* 'accompany' and *-e* 'and', thus 'accompany the older sister and' has become 'to the older sister'. For grammaticalization analysis of some of these allatives, see Heo (2007), Kim (1982), Rhee (2010), Ryu (1962), among others. The allatives in contemporary Korean and their lexical sources are listed in Table 3.

The extensive list of allatives presented here shows many notable aspects of grammaticalization of allatives in Korean. A few lexical items, e.g., the verbs 'approach', 'touch', and 'face', and the nouns 'edge' and 'place', recur in the creation of polymorphemic forms, a state of affairs similar to the developmental scenarios of ablatives. Compared with ablatives, allatives are particularly numerous, a point we will return to later.

4.3 The goal-over-source asymmetry

Based on the exposition in the preceding sections, we will now discuss the GOS asymmetry observed in ablatives and allatives in Thai and Korean. In particular, we will focus on conceptual granularity and pragmatic salience.

4.3.1 Conceptual granularity

In the description of the source and goal markers above, the labels 'ablatives' and 'allatives' have been used. However, source and goal across languages are not unitary notions but can be hypernyms comprising a number of hyponymic concepts. For instance, source may consist of the ablative 'from' and elative/separative 'out of, off', and goal may consist of allative 'to, onto', directional 'toward', lative/illative 'into', terminative 'up to, until', dative 'to (a person)', and translative '(changing) into', and so forth It is evident that in relative terms source is a conceptually (nearly) uniform category denoting the basic notion 'departure', whereas goal exhibits, in addition to the core semantics of 'arrival', more fine-grained specialization, modulated by various semantic features such as the directionality of the movement (e.g., whether or not the trajectory involves the orientation of the trajector), the nature of the target's affectedness by the trajectory (e.g., whether the trajector lands on the target or penetrates it), scalarity of the movement (e.g., whether the trajectory involves movement along a gradient continuum until it reaches termination), humanness or animacy of the target (e.g., whether the entity is a person or an animate being or otherwise), contrastive property of the resultant movement, real or imagined (e.g., whether the end-point is contrasted with the starting point, thus highlighting the change), among other things. In other words, goal is conceptually more fine-grained than source, and this difference is reflected in adpositions in both Thai and Korean.

Apart from the conceptual granularity of the two polar concepts source and goal, Thai and Korean generally make fine distinctions between the semantic features of the target in goal, whereas in source they do not, or they do so more loosely. For instance, Thai source prepositions distinguish between temporal and nontemporal departure points (e.g., the ablative *tâŋtɛɛ* is specialized in time as in 'from 5 o'clock' and cannot mark a strictly spatial departure point as in **tâŋtɛɛ Bangkok* 'from Bangkok'). In Korean, on the other hand, the distinction between temporal and nontemporal is not prominent in ablatives. The distinction made in ablative specialization is largely between human (marked by -*eykey*, −*kkey*, −*kkeyse*, −*hanthey*, or -*hantheyse*) and nonhuman, and between honorific (−*kkey* or -*kkeyse*) and nonhonorific. Differences among ablatives, both in Thai and Korean, include the general tendency to multiply strung forms that are more emphatic in meaning than the monomorphemic forms.

In contrast to these rather simple specializations of ablatives in Thai and Korean, allatives exhibit much more elaborate distinctions carrying finer shades of meaning.

Table 4. Specialization of Thai allatives

Allatives	Living	Animate	Human	Event	Time	Honorific	Formal	Emphatic
hây	+	+	+	−	−	−	−	−
hây kɛ̀ɛ	+	+	+	−	−	−	−	+
hây kàp	−	−	−	−	−	−	−	+
con	−	−	−	+	+	−	−	−
con thǔŋ	+	+	+	+	+	−	+	+
cùap con	−	−	−	+	+	−	+	+
con kràthâŋ thǔŋ	+	+	+	+	+	−	+	+
kràthâŋ thǔŋ	+	+	+	+	+	−	+	+
thǔŋ	+	+	+	+	+	−	−	−
thǔŋ khɛɛ	−	−	−	+	−	+	+	+
khǔn	−	−	−	−	−	−	−	−
sùu	+	+	+	+	−	+	+	−
pay sùu	+	+	+	+	−	−	+	+
pay yaŋ	+	+	+	+	−	−	+	+
maa yaŋ	−	−	+	−	−	−	+	+
tɔɔ	+	+	+	+	−	+	+	−
sǎmràp	+	+	+	+	+	+	+	−
phǔa	+	+	+	+	−	−	+	−
yaŋ	−	−	−	+	+	−	−	−
thîi	+	+	+	−	+	−	−	−
pai thîi	+	+	+	+	−	−	−	+
maa thîi	+	+	+	+	−	−	−	+
kàp	+	+	+	−	−	−	−	−
tràap con	−	−	−	+	+	−	+	+
tràap con thǔŋ	−	−	−	+	+	−	+	+
tràap thâw	−	−	−	+	+	−	+	+
kɛɛ	+	+	+	−	−	−	−	−
kà	+	+	+	−	−	−	−	−
dɛɛ	−	−	+	−	−	+	+	−

First of all, as was the case with ablatives, multiply strung forms in both languages tend to be emphatic in meaning. Furthermore, certain allatives possess additional semantic features at varying degrees as a result of carry-over from the source semantics (an instance of 'persistence' in grammaticalization, Hopper, 1991). For instance, the allatives related to the verb *hây* 'give' (e.g., *hây, hây kɛɛ, hây kàp*, etc.) tend to imply benefaction. In Korean, allatives involving the verbs 'approach' and 'touch' (e.g., −*eyta*, −*eytaka*, −*eytatayko*, etc.) are largely pejorative in addition to being emphatic, a situation related to the fact that those verbs tend to suggest 'recklessness' as part of their semantic nuances, which is also an occasion of 'persistence'. A more in-depth exploration of the complementation pattern of the allatives in Thai reveals a much more elaborate specialization with respect to the semantic features of the landmark NP and speech register, e.g., living (nonhuman and nonanimal), animacy (nonhuman), human, event, time, honorific, formal, emphatic, as shown in Table 4. A caveat is that the positive or negative value indicates that the form usually can or cannot be used for an entity with that semantic property, and that the pattern is a strong tendency but not an inviolable rule.

As for Korean allatives, specialization involves similar semantic features, i.e., living (nonhuman and nonanimal), animate (nonhuman), human, honorific, pejorative,

terminative, directional, formal, and emphatic. Their specialization pattern is shown in Table 5.

Table 5 shows the elaborate system of Korean allatives comparable to those of Thai. The compatibility of individual allatives with the semantic features of the entity is of variable degree, often influenced by idiolectal idiosyncrasy or genre, but the overall organization clearly shows a high level of conceptual granularity and division of labor among the members of the paradigm. For this reason, allatives are more numerous than ablatives, as shown by the contrasts of 29 versus 6 in Thai and 36 versus 13 in Korean. This leads to a natural conclusion that there exists a plainly evident asymmetry between ablatives and allatives; in other words, our cognition is biased toward allatives. This conclusion is in line with findings from crosslinguistic studies by Bourdin (1997) and Zanchi (2017).

4.3.2 Pragmatic salience

In addition to the differences in conceptual granularity, ablatives and allatives in Thai and Korean also exhibit a significant difference at the level of pragmatic salience. In other words, allatives surface more frequently than ablatives, confirming the pattern that has been observed in a number of languages. The asymmetric salience in Korean and Thai is confirmed by the fact that the aggregate token frequency of allatives in the referenced corpus exceeds that of ablatives. The token frequency per million words (pmw) of individual ablatives and allatives in Thai is shown in Tables 6 and 7, respectively. Note that, as indicated earlier, many of these ablatives and allatives in Thai have homophonous lexical items (e.g., *càak* p. 'from' and v. 'leave, depart'; *hây* p. 'to' and v. 'give'). The numbers in the tables are only for those in adpositional uses, despite the distinction rarely being straightforward. Large numbers in the tables are proportional projections from random sampling, i.e., using proportions of adpositions in the random samples of 200 from the total hits for estimation of the total number of adpositions.

A comparison of Tables 6 and 7 clearly shows the GOS asymmetry as follows: allatives are 3.3 times as frequent as ablatives (18,703 versus 5,614). Also notable is that one form in each category, i.e., *càak* for ablative and *hây* for allative, is used at a particularly high frequency compared to other members in the category, accounting for 85.6 percent of ablative, and 35.5 percent of allative. There is only one ablative with a token frequency of over 1,000 pmw, whereas there are five allatives occurring at such frequency. This usage pattern suggests that ablative is 'predominantly' marked by *càak*, whereas the conceptual space of allative is divided into multiple subareas, each of which is indicated by different allative markers.

Korean shows a similar pattern. The token frequency (pmw) of the ablatives and allatives in the corpus is shown in Tables 8 and 9, respectively. It is to be noted that the frequency marked as '0' does not necessarily mean 'no attestation'; it simply indicates that the frequency is below 1 token per million words. In the case of syncretic forms, the frequency count was separated by each function of ablative and allative. Large numbers are proportional projections from random sampling, as was the case with Thai.

A comparison of the ablatives and allatives shown in Tables 8 and 9 reveals a state of affairs comparable to Thai. Allatives occur three times as frequently as ablatives (38,730 versus 12,907), and there are more high-frequency allatives than ablatives (defined here as those with a token frequency of 1,000 pmw or higher).

Table 5. Specialization of Korean allatives

Allatives	Living	Animate	Human	Honorific	Pejorative	Terminative	Directional	Formal	Emphatic
-ey	−	−	−	−	−	−	+	+	−
-eykey	+	+	+	−	−	−	+	+	−
-kkey	−	−	+	+	−	−	+	+	−
-hanthey	−	+	+	−	−	−	+	−	−
-eyta	−	−	−	−	+	−	+	−	+
-eytaka	−	−	−	−	+	−	+	−	+
-eytatayko	−	−	−	−	+	−	+	−	+
-eytakatayko	−	−	−	−	+	−	+	−	+
-eytakataykose	−	−	−	−	+	−	+	−	+
-eytataykose	−	−	−	−	+	−	+	−	+
-tele	−	+	+	−	−	−	−	−	−
-kkaci	−	−	−	−	−	+	+	+	−
-eykkaci	−	−	−	−	−	+	+	+	+
-hantheykkaci	−	+	+	−	−	+	+	−	+
-ulo	+	−	−	−	−	−	+	+	−
-ulokkaci	+	−	−	−	−	+	+	+	+
-hantheylokkaci	−	−	−	−	+	+	+	−	+
-hantheyta	−	+	+	−	+	−	+	−	+
-hantheytaka	−	+	+	−	+	−	+	−	+
-hantheytatayko	−	+	+	−	+	−	+	−	+
-hantheytakatayko	−	+	+	−	+	−	+	−	+
-hantheytakataykose	−	+	+	−	+	−	+	−	+
-hantheytaykose	−	+	+	−	+	−	+	−	+
-hantheytataykose	−	+	+	−	+	−	+	−	+
-hantheytayko	−	+	+	−	+	−	+	−	+
-hantheylo	−	+	+	−	−	−	+	−	+
-poko	−	+	+	−	−	−	+	−	−
-pokose	−	+	+	−	−	−	+	−	+
-ulpoko	−	+	+	−	−	−	+	−	−
-ulpokose	−	+	+	−	−	−	+	−	+
-eykeylo	−	+	+	−	−	−	+	+	−
-kkeylo	−	−	+	+	−	−	+	+	−
-hyanghay	−	−	−	−	−	−	+	+	−
-ulhyanghay	+	+	+	−	−	−	+	+	−
-hyanghayse	−	−	−	−	−	−	+	+	+
-ulhyanghayse	+	+	+	−	−	−	+	+	+

Table 6. Token frequency (pmw) of Thai ablatives

Form	Freq. (pmw)
càak	4,806
tâŋ tɛ̀ɛ	621
tɛ̀ɛ	152
tâŋ	25
càak troŋ	9
troŋ	1
total	5,614

Table 7. Token frequency (pmw) of Thai allatives

Form	Freq. (pmw)	Form	Freq. (pmw)
hây	6,639	pay sùu	234
phɯ̀a	2,803	maa thîi	106
thɯ̌ŋ	1,580	maa yaŋ	56
tɔ̀ɔ	1,493	thîi	18
kàp	1,365	kà	19
con	800	con kràthâŋ thɯ̌ŋ	15
khɯ̂n	751	thɯ̌ŋ khɛ̀ɛ	6
sǎmràp	727	dɛ̀ɛ	5
sùu	491	cùap con	5
kɛ̀ɛ	450	yan	5
hây kàp	246	kràthâŋ thɯ̌ŋ	2
pay yaŋ	237	tràap con	2
con thɯ̌ŋ	235	tràap con thɯ̌ŋ	1
hây kɛ̀ɛ	227	tràap thaw	1
pay thîi	184	Total	18,703

Table 8. Token frequency (pmw) of Korean ablatives

Form	Freq. (pmw)	Form	Freq. (pmw)
-ey	5,154	-eykey	109
-eyse	4,404	-sepwuthe	86
-pwuthe	1,236	-hantheyse	52
-hanthey	822	-lopwuthe	40
-se	615	-kkey	28
-kkeyse	250	-lose	0
-eykeyse	111	Total	12,907

The GOS asymmetry is also observable with syncretic forms. We have already noted that Korean has six postpositions indicating allative-ablative (−Locative) syncretism. Four of these involve allative-ablative syncretism. Their token frequency for individual functions, the numbers of which are included in Tables 8 and 9, is summarized in Table 10.

As shown above, among the Korean syncretic forms, the proportion of use for allative marking far exceeds that for ablative marking. This is no surprise because historically these syncretic forms are allatives and their extension into the domain of ablatives is a rather recent development in history. How this extension is being actualized constitutes a meaningful topic of investigation but is beyond our immediate interest in the present research. The point here is that the usage pattern in contemporary Korean upholds the GOS asymmetry hypothesis.

Table 9. Token frequency (pmw) of Korean allatives

Form	Freq. (pmw)	Form	Freq. (pmw)
-ey	21,905	-pokose	1
-ulo	7,081	-ulpoko	1
-hanthey	3,290	-eytatayko	1
-kkaci	3,216	-eytakatayko	0
-eykey	1,459	-eytakataykose	0
-hyanghay	814	-eytataykose	0
-poko	360	-hantheylokkaci	0
-kkey	175	-hantheytaka	0
-eyta	169	-hantheytatayko	0
-tele	80	-hantheytakatayko	0
-eykeylo	62	-hantheytakataykose	0
-hantheykkaci	28	-hantheytaykose	0
-eytaka	25	-hantheytatayko se	0
-eykkaci	23	-hantheytayko	0
-hyanghayse	18	-ulpokose	0
-hantheylo	9	-kkeylo	0
-ulokkaci	7	-ulhyanghayse	0
-ulhyanghay	4	Total	38,730
-hantheyta	2		

Table 10. Token frequency (pmw) of Korean syncretic forms

Form	Ablative	Allative
-ey	5,154	21,905
-eykey	109	1,459
-kkey	28	175
-hanthey	822	3,290
Total	6,113	26,829

In conclusion, an exploration into the conceptual granularity and pragmatic salience of ablatives and allatives in Thai and Korean strongly supports the GOS asymmetry reported in other languages, e.g., Japanese (Miyajima, 1986), English (Koenig et al., 2003; Stefanowitsch & Rohde, 2004), and multiple European languages (Verkerk, 2017).

Incidentally, a comparison of the Thai and Korean statistics shown above presents an interesting issue which merits brief mention. Apart from the clear asymmetry between ablatives and allatives within each language, the use frequencies between the two languages are remarkably different: ablatives occur at 5,614 pmw in Thai versus 12,907 pmw in Korean, and allatives occur at 18,703 pmw in Thai versus 38,730 pmw in Korean. The overall frequency shows that Korean ablatives and allatives are more than twice as frequent as those in Thai. The reasons for the disparity between the two languages are not immediately clear. It can be suspected, however, that Thai, an isolating and analytic language, does not use grammatical markers in general as often as Korean, an agglutinating and synthetic language. A cursory look at the examples in the preceding exposition clearly shows that Thai sentences involve far fewer grammatical forms than Korean sentences. Therefore, while both languages nearly freely omit sentential arguments along with their nominal trappings including adpositions, the extent of use of grammatical markers is significantly different between the two languages. This echoes the characterization that Thai is a particularly 'pragmatically

oriented' or 'discourse-oriented' language (Bamgroongraks, 1987; see also Huang, 1994 for Chinese). A more conclusive answer to this puzzle, however, should await further research.

4.3.3 Innovation

The final topic for discussion involves innovation of linguistic forms. In both Korean and Thai, the multiplicity of forms in the two polar categories is largely due to the stacking of multiple markers of (near-)synonymous adpositions as a strategy to reinforce meaning or to add finer shades of meaning. For instance, the Thai poly-morphemic allative *con kràthân thǔŋ* 'to' involves both independent and combined allatives, i.e., *con* 'to', *kràthân thǔŋ* 'to', and *thǔŋ* 'to'. A look into the formal construction of Thai allatives, illustrated in (5) above, has made evident that such a pattern is a common strategy for creating polymorphemic adpositions. This type of doubling or tripling of forms in allatives is a strategy also used, albeit to a much lesser degree, in creating ablatives. In fact, this strategy, named the 'polysemy strategy' by Khammee and Rhee (2022) and Rhee (2022), is commonly observed in lexicalization and grammaticalization in Thai. Similarly, the Korean polymorphemic allative -*eytakataykose* 'to' involves -*ey, −eyta, −eytaka*, and -*eytatayko*, all of which are full-fledged allatives in their own right. Naturally, the multiplicity of forms is due at least in part to frequent innovation of new forms by way of building up a new form based on an existing one. Thus, some discussion on the motivation for building up new forms, although speculative in nature, is in order.

The diachronic investigation of the Thai language suffers a regrettable paucity of historical documentation, while Korean, on the other hand, offers rich historical data, especially from Late Middle Korean (LMiK; 1443–1600). A brief historical survey of the forms used for allatives reveals the following chronology. In LMiK, a few forms were already used as full-fledged allatives, notably -*ey* and -*eykey*. During a later time of LMiK, −*hanthey* (from 'one place'), −*eyta* (from 'approach, draw near'), −*tele* (from 'be accompanied by'), and -*poko* (from 'see') joined the paradigm of allatives. In the 19th century (Early Modern Korean; EMoK), a new form -*eytatayko* (from 'approach' and 'touch') is first attested, followed by numerous forms in the 20th century (Modern Korean; MoK), such as -*hantheyta, −hantheytaka, −hantheytayko*, etc., all of which involve 'one place' and 'approach' or 'touch'. This development can be framed as 'expressivity' and 'creativity' as generally observed in languages.

Since language users are in constant search of meanings and patterns in language use, meanings are continually extended through reinterpretation, units are accord-ingly reanalyzed, and constructions are applied to novel structures for experiment and the desire for novelty or creativity (Rhee, 2021, 2023). Heine and Stolz (2008: 332), echoing Croce (1912[1902: 172–174), stated that language is an essentially creative activity. Similarly, Lehmann (1987) asserted that the desire to be original, to say something that has not been uttered before, and to give one's thoughts an imposing expression (creativity) are an essential part of linguistic activity (as cited in Heine & Stolz, 2008: 335). Recurrent innovations in language, leading to multiple layers within a single functional domain, can be accounted for by resorting to the language users' desire for creative language use. Through creativity, language users innovate new forms despite the forms already existing for the same function. Innovated forms tend to involve more specific meanings, which the language innovator desires to exploit. Thus, certain innovative forms tend to carry the speaker's strong emotional or evaluative stance.

If these notions of 'expressivity' and 'creativity' are applied to the Korean allatives, the developmental paths can be interpreted in the following way. In LMiK, there are already well-established allatives, and language users innovate *-hanthey* (from 'one place') to emphasize the co-presence of the trajector and the landmark at a place (i.e., 'arrival'); −*eyta* (from 'approach, draw near') to highlight the trajectory extending toward the landmark (i.e., 'directional movement'); −*tele* (from 'be accompanied by') to emphasize the togetherness of the trajector and the landmark (i.e., 'arrival'); and *-poko* (from 'see') to highlight the trajector's visual attention to the landmark (i.e., 'directionality'). In the 19th and 20th centuries, forms involving 'touch' (in combination with 'approach') were innovated and popularized, all highlighting the trajector's contact or movement intending to make a contact with the landmark. All these added components strengthen the general notion of allative. The novel semantics come from the semantics of the newly recruited lexical items. Evidently, the forms being innovated tend to carry more lexical content than the older, fully grammaticalized forms, and thus carry more expressive potential. As grammaticalized forms tend to be semantically bleached, recruiting forms with richer semantics may well be motivated by the desire for increased expressivity.

Since ablatives are considerably fewer in number than allatives, the innovation can be said to be more frequent with allatives, which, in turn, suggests that language users are more frequently driven to express goal more creatively and expressively, which is another form of the GOS asymmetry. This frequent innovation raises the paradox of the emergence of more complex forms at a higher rate running counter to the previous claim that goals are expressed 'more simply' (Stolz et al., 2014). The resolution of this paradox does not seem to be readily available, but it may involve the more recently observed phenomenon of grammaticalization through 'expansive' motivation (Rhee, 2021, 2022) that brings forth formal complexity to otherwise reductive change in grammaticalization. A more conclusive answer should await further research.

5. Conclusion and future studies

This article had a modest objective, i.e., testing the goal-over-source asymmetry observed in other languages by drawing upon data from Thai and Korean, and it has concluded that the data in the two languages uphold the asymmetry hypothesis. In particular, asymmetry is confirmed with respect to the number of forms in ablative and allative paradigms, the level of subdivision of conceptual spaces, the degree of specialization for host nominal properties, the aggregate token frequency of the markers in the two categories, and the degree of innovation of new forms in the two categories. The findings of this article from an analysis of ablatives and allatives in Thai and Korean, while lending support to the goal-over-source asymmetry as reported in other languages, show how the two polar spatial concepts are differently encoded and used in real life. A fuller understanding will be made possible by both macroscopic and microscopic studies in individual languages or comparing languages for these particular domains.

Abbreviations.

A	adjective
ABL	ablative
ACC	accusative

AD	adverb
ADN	adnominal
ALL	allative
ATMP	attemptive
CN	connective
COMPL	completive
CONJ	conjunction
CONN	connective
DAT	dative
DEC	declarative
DM	discourse marker
EMOK	Early Modern Korean
EMP	emphatic
END	sentence-ender
GOS	Goal-over-Source
HON	honorific
ITR	iterative
LMiK	Late Middle Korean
MOK	Modern Korean
N	noun
NOM	nominative
NOMZ	nominalizer
P	preposition/postposition
PASS	passive
PL	plural
PMW	per million words
POL	polite
PROH	prohibitive
PST	past
RETR	retrospective
TOP	topic
TRNS	transferential
V	verb

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