

Part VI Varieties of Korean

24 Old Korean

JOHN WHITMAN

1 Introduction

Old Korean (OK) is generally defined as the language of the Unified Silla (668–935) state (K. Lee 1961, 1972; Lee and Ramsey 2011). Based on conservative properties of the language recorded in Koryŏ period interpretive *kwukyel*, Nam (2010b, 2012) proposes a new periodicization which extends the end date of OK to the Mongol invasion in the mid-thirteenth century. We retain the traditional periodization in this chapter, while acknowledging that much of our knowledge of OK comes from materials dating from the Koryŏ (918–1392) period, usually included in Early Middle Korean (EMK). Some treatments of OK also include materials from the Three Kingdoms period prior to 668. Because many details of the linguistic situation—including the basic question of the relationship between the language or languages spoken in the shifting territory controlled by Koguryŏ, Paekche, and Silla—remain unclear, the discussion here focuses on materials that can be associated with Unified Silla or the earlier Silla kingdom, but in the following section I briefly discuss what can be surmised about the linguistic background of the Three Kingdoms period.

2 The Three Kingdoms Period

The Dongyi “Eastern barbarian” sections of the *Wei shu* section of the *Sanguo zhi* (late third century CE) and the *Hou Han shu* (fifth century CE) identify the so-called Samhan “Three Han” (三韓 Sanhan) peoples in the southern part of the Korean peninsula: Mahan (馬韓) in the west central region, Chinhaan (辰韓 Chenhan) in the southeast, and Pyŏnhan (弁韓 Bianhan) in the south. Korean historians identify these groupings as the antecedents of Paekche (百濟), Silla (新羅), and Kaya (加耶) respectively. Mention of Samhan individuals and locales

appears as early as the first century CE in Chinese sources (Sungsi Lee 2013). The inventory of gravekeeper settlements listed on the 414 CE stele memorializing Koguryŏ king Kwanggaet'o (廣開土) lists both Koguryŏ 高句麗 and Han 韓 villages. This indicates that “Han” had contemporary significance as a general ethnonym, and that Han were distinguished from Koguryŏ. The *Wei shu* and *Hou Han shu* suggest a certain amount of linguistic diversity within the Samhan region around the third century. The *Wei shu* describes the language of Chinhan as “not the same as Mahan” (其言語不與馬韓同). It describes the Pyŏnhan and Chinhan populations as “living intermingled together” (弁辰與辰韓雜居), and their languages and customs as similar (言語法俗相似). The *Hou Han shu* begins with the same phrase about intermingled communities, but states that “languages and customs have differences” (言語風俗有異). Korean linguists have interpreted these statements differently. Toh (1980, 2008) in particular finds differences between the vocabulary revealed in placenames associated with Mahan/Paekche and Chinhan/Silla.

The *Wei shu* lists fifty-four Mahan settlement names transcribed with Chinese characters as phonograms. As Toh (2008, 234–235) points out, most are disyllabic: thirty-four are transcribed with two syllables, ten more with the combination of a disyllabic toponym and a suffix. One of the suffixes is identifiable as *-pieliai 卑離, usually related to the Paekche word *puri/byuli*X <夫里> ‘town’ recorded in the toponyms collected in the twelfth century *Samkwuk saki* (三國史記 *Record of the Three Kingdoms*). This word is often compared to Late Middle Korean –Wul ¹[-β#] ‘town’ and Silla (*Samkwuk saki*) -p#r <火> (vernacular reading), -p#r <伐> ‘town.’² The vowels are unclear, but the data suggest one difference between the languages of Mahan and Chinhan: the latter seems to have already undergone a process of contraction of disyllabic roots with a medial sonorant. This contrast is also shown by LMK *kwŏm* ‘bear’: *kwŏmá* id. and LMK *náyh* ‘river’: *noro* (cf. Silla (*Samguk sagi*) *na*那), in the place name *Kwománoro* ‘Kongju’ (orig. ‘Bear River’ 熊川) recorded in the 1446 *Yongpi echen ka*. The Paekche area place name retains the uncontracted dissyllables into the fifteenth century (cf. Kim et al. 1998, 43–44).

The Koguryŏ placenames recorded in the *Samkwuk saki* have been interpreted to show that there were significant differences between the language of Koguryŏ and the language(s) of the Samhan region. K. Lee (1961/1972) made the influential proposal that Koreanic languages should be divided into “Puyŏ” and “Han” branches, with the former branch, including Koguryŏ, closer than the latter to Japanese. Other scholars, such as Beckwith (2007) consider Koguryŏ to be a variety of Japonic. Both of these views are based on the assumption that the placenames grouped in the Koguryŏ gazetteer chapters 35 and 37 of the *Samkwuk saki* all represent the same language. This is comparable to interpreting the Delaware (Lenape), Dutch, English, French, Greek, Iroquoian, and Latin placenames found in New York State in the U.S. as all representing a single original language. The language would be very strange indeed, with unrelated doublets for many words. We find exactly this among the *Samkwuk saki* placenames. For example Koguryŏ (*Samkwuk saki*) 蜜, interpreted as *mir* or *mit* and Silla 推, interpreted as *smir*-on the basis of the vernacular reading of this character as *mir* > *mil* (LMK *mil*- ‘push’) are both glossed as ‘three.’ As many scholars have pointed out, the word indicated by these transcriptions is a good fit with proto-Japonic *mi(t) ‘three.’ But the *Samkwuk saki* also attests the phonograms 悉 *sir/sit* and 史 *sA/sri*X associated with ‘three.’³ As

other scholars (e.g. Ch'ŏn 1990, 138) have pointed out, these spellings are a good fit with LMK *séyh* 'three.' They are also a good fit with OK ordinal *sayd-ap* 'third' (3-ORDINAL) posited by Lee (2010) on the basis of transcriptions from the late seventh or early eighth century on a *mokkan* (inscribed wooden slip) excavated from the Mirok-sa temple site in Iksan. It seems unlikely that a single language would have two unrelated words for 'three,' unless one comes from a foreign source (as is the case with modern Korean *sey* 'three' versus Sino-Korean *sam* 'three'). The *Samkwuk saki* placenames thus appear to include etyma in a direct relationship of ancestry to later Korean, such as the words related to LMK *séyh* 'three,' as well as etyma related to some other language or languages.

Other than placenames like the preceding, with all of their problems of interpretation, linguistic data on the languages of Koguryŏ and Paekche are vanishingly scarce. The Chinese *History of the Southern Dynasties* (*Nan shi*, mid seventh century) states that the language (and clothing) of Paekche was for the most part similar to Koguryŏ (言語服章略與高麗同), and that Paekche interpreters were used to communicate with Sillans (言語待百濟而後通焉). These observations suggest that at least from a contemporary Chinese standpoint, the languages of the three kingdoms were similar.

3 Sources for Old Korean

Our direct sources for Old Korean are limited to materials written with Chinese characters. Among them a primary distinction must be made between materials written by earlier Chinese and Japanese speakers and materials written by speakers of earlier Korean. The *Wei zhi* materials cited above fall into the former category, while the Mirok-sa *mokkan* and other inscriptional materials fall into the latter. Toponymic and other proper name transcriptions attested in the *Samkwuk saki* and other post-OK texts fall into a difficult third category. These sources record material originating in the OK period (or before), but most often the meaning of the original etymon is unclear. At the very least, though, spellings such as the vernacular or *hwun* (訓) reading for 推 'push' as *mil* show that a native Korean reading tradition was at work in the Silla-associated proper name transcriptions in the *Samkwuk saki*.

Lists of OK sources, beginning from the Three Kingdoms period, are provided by Kim et al. (1998, 49–50) and Nam (2012, 42–47). Inscriptional materials are particularly valuable because they are free from the errors of later copyists. Such materials include inscriptions on stone and metal as well as *mokkan* typically inscribed with ink. The earliest inscriptional materials are associated with Koguryŏ; among datable texts the King Kwanggaet'o stele (414) contains numerous non-Sinitic placenames transcribed using Chinese characters as phonograms. Previous scholars have claimed to find traces in the text of this monument of the vernacular Korean *itwu* writing system described below, but Y. Lee (2006) critically reviews this scholarship and concludes that all of the alleged *itwu* features in the stele text are consistent with contemporary Chinese except possibly for the use of the character 之 as a sentence-final suffix or particle (cf. K. Lee 1981).

Korean scholars refer to Chinese characters used to write Korean by Koreans as *chaca* 借字 'loan characters,' and divide loan character orthography (*chaca phyokipep*)

into proper name orthography (*koyu myengsaphyokipep* 固有名詞表記法), *idu* 吏讀 (literally, ‘clerk readings’), and *hyangchal* 鄉札 ‘*hyangka* writing.’ Nam (2012) adds a fourth category: the *kwukyel* 口訣 vernacular glossing system for Chinese Buddhist texts. While the oldest surviving *kwukyel* texts in Korea probably date from EMK, we know that *kwukyel* glossing originated in the Silla period, based on materials preserved in Japan. Below I describe each of these writing practices.

3.1 Proper name orthography

Koyu myengsa phyokipep denotes the systems for spelling Korean place and personal names exemplified by the transcriptions cited from the *Samkwuk saki* in Section 2. These transcriptions use both Chinese characters deployed as phonograms based on their Sino-Korean sound value, such as 悉 used to spell the syllable *sit* (Middle Chinese) or *sir* (Sino-Korean), and as phonograms based on their vernacular or *hwun* 訓 reading in Korean. We can tell from this spelling practice that Korean, like other languages of premodern East Asia, used two strategies for representing their language with Chinese characters: reading them for their sound value in Sino-Korean, ultimately based on the Chinese pronunciation (*um* 音 readings), or reading them based on the vernacular equivalent of the Chinese morpheme expressed by the character (*hwun* 訓 readings).

3.2 *Itwu* 吏讀

Itwu is the longest used and best known loan character writing system. Nam (2012: 42) defines it as any use of loan characters to write Korean prose. As such *itwu* shows great variation: while the text of the King Kwangae’t o stele is close enough to contemporary Chinese to make it debatable whether it contains *itwu* features at all, a Koguryō inscription from less than a century later, the Chungwōn Koguryō stele (中原高句麗 495?) shows the defining feature of *itwu*: it was clearly written to be read in Korean, not Chinese.⁴

The Chungwōn stele is a 2.03 x 0.55 meter stone monument located in Chungju-si, Chungcheong buk-do. In 1979 it was determined by a commission of scholars to be associated with Koguryō. This text contains a number of *itwu*-like features, for example the sentence:

- (1) 建立處 用者 賜 之 (side 1, lines 4–5)
 build place use-r give this
 ‘(I) give the place built to the users.’

Superficially this is a left dislocation structure, with the direct object ‘the place built’ resumed by the pronoun 之, which is ultimately utilized in *itwu* as a sentence final particle, read in LMK as indicative *-ta*. But as Nam (2009, 182) points out, in (1) both direct and indirect object precede the verb, following Korean rather than Chinese word order.

In OK proper, that is in Silla texts, *itwu* emerges as a writing system where Chinese characters are arranged in purely Korean word order. This can be seen in the Namsan sinseng pi (南山新城碑, 591) “New Namsan Castle Inscription,” which

inscribes the vow of the builder of this fortress. Below is the first sentence of this inscription:

- (2) 辛亥年 二月 廿六日 南山 新城 作 節 如 法 以 作
 591 2nd 26th Namsan new castle make time accord rule INST make
 year month day
 'On the 26th day of the 2nd month of the year 591 when (I) made the new
 castle, (I) made it in accordance with the prescribed method.'

Constituent order in this text is head final, following Korean, not Chinese word order. The direct object 'new castle' precedes the verb 'make,' as does the adjunct PP 'in accordance with the rules.' The loan characters 節 'when' and the instrumental 以 represent functional morphemes which have fixed readings in later *itwu*, LMK *tìGwúy* 'time' and the instrumental particle *úlwó* respectively. But these loan characters are chosen on the basis of their meaning (*hwun*) rather than their sound (*um*). We do not know for sure whether the readings, which become known to us for certain only in LMK, date back to OK; all we know is that the characters were used to represent Korean, for they follow Korean word order.

The final step in the development of OK *itwu* is the use of phonogrammatic loan characters to represent Korean functional morphemes by their sound. The Kalhang-sa pagoda inscription (葛項寺石塔銘, 758) in Gimcheon-si, Gyeongsang buk-do shows this usage:

- (3) 二塔 天寶 十七年 戊戌 中 立 在 之
 2 pagoda Tianbao 17 year 758 LOC erect-PERF-CONC
 娣 姊 妹 三人 業 以 成 在 之
 brother elder sister younger sister 3 CL deed INST make-PERF-CONC
 娣 者 零妙寺 言寂法師 在 弥
 brother TOP Yǒngmyo-sa Ŏnjök pǒpsa be-CONJUNCTIVE
 'The two pagodas were erected in the 17th year of Tianbao, 758. Three
 people, a brother and elder and younger sister created (it) as part of their
 practice. The brother was Dharma Master Ŏnjök of Yǒngmyo-sa temple,
 and...'

The loan characters representing the functional morphemes, namely locative 中, perfective 在, conclusive 之 and instrumental 以 have *hwun* readings, selected for their meaning. The loan character 在 'be, exist' represents the copula in line three, and the perfective auxiliary in lines 1 and 2. In the latter function it is read in later *itwu* as LMK *kye-*, the root of the Modern Korean honorific existential verb *kyesi-*, <*kyě-si* 'be-HON'; only the honorific function survives in the modern language.⁶ The last loan character in the last line, 弥(彌), however, is read for its sound (MC *mjieX*), and represents the Korean conjunctive suffix *-mye*. In this text we see *itwu* in almost its complete form, with native Korean suffixes and particles written with loan characters selected for their sound or meaning. Loan characters used in this way are known as *tho* (吐).

3.3 *Kwukyel* 口訣

Kwukyel is a system for glossing Chinese texts to be read in Korean. It appears to have developed in the seventh century with the importation of *Hwaem* (*Huayan* 華嚴) and *Yusik* (*Weishi* 唯識) or *Yogācāra* “consciousness-only” Buddhism into Korea. The development of monastery culture in Silla and the need to teach the vast Mahayana scriptural corpus to a large population of nuns and monks lead to the development of *kwukyel* as a way to make sutras and sutra commentaries in Chinese accessible in Korean. Although glossing might seem to be merely a system of annotation, *kwukyel* glossing was much more systematic than that: a text fully glossed in *kwukyel* is a Korean text, completely readable in Korean. Like Japanese *kunten* (訓点) glossing practice, which was developed under the influence of Korean *kwukyel*, this form of making Chinese texts accessible in the vernacular impacted the later development of Korean writing, particularly the practice of embedding Sino-Korean nouns, most often two character compounds, in sentences with native Korean inflecting elements.

The two attested early *kwukyel* systems correspond to the *Hwaem* and *Yukahayng* (*Yogācāra/Yújiāxing* 瑜伽行) textual traditions.⁷ *Kwukyel* glossing adds loan character glosses, called *catho* (字吐), in the form of abbreviated Chinese characters (*yakcheyca* 略體字), to the original Chinese text or lemma. Most *catho* are also found in *itwu* in the same function, to spell native Korean functional morphemes such as suffixes and particles. In surviving *itwu* texts the *catho* are almost always unabbreviated, but this may be simply an accident of transmission, as surviving *itwu* texts are typically printed, and associated with political, legal, or biographical registers.

Kwukyel glossing also uses symbol glosses, systems of lines and dots, to indicate morphosyntactic information about the Korean reading of the text. Such morphosyntactic glosses include inversion glosses (*yektho* 逆吐) that indicate the word order in the Korean rendition of the text, and point glosses (*cemtho* 點吐) that designate Korean functional morphemes without spelling them out by sound or meaning.⁸ Overviews of *kwukyel* glossing can be found in Nam (1999) and Chung (2006), with a concise description in English in Nam (2012, 46–48). The quantity of *kwukyel* glossed texts in Korea is still small, but the length of the texts makes them our most extensive source for pre-Hangul Korean. Current ongoing research seeks to uncover additional *kwukyel* glossed texts among the Buddhist scriptural materials brought from Silla to Japan in the eighth century. Nam (2012, 46–47) lists six *catho* (character glossed) and six *cemtho* (symbol glossed) texts for OK and EMK. All but two of the symbol glossed texts cited by Nam date from the Koryō period and thus strictly speaking represent EMK, but Nam is correct to point out the archaic nature of their syntax. The two potential Silla-period texts are fascicle 20 of the Cin-pon *Hwaem-kyeng* (晉本華嚴經, Seong’am Museum collection, ninth or tenth century) and the text known as the Sato-pon *Hwaem munuy yokyel* (佐藤本華嚴文義要訣, Japanese Satō-bon *Kegon mongi yōketsu*, late eighth or early ninth century). The latter survives only as a reproduction in Japan, and may represent an early attempt to adapt *kwukyel* glossing to Japanese (Whitman 2009, 2011). However the very existence of this and earlier Japanese *kunten* glossed texts showing features of Korean *kwukyel*

indicates that the Korean tradition is older, and dates back to before the importation of Huayan Buddhism from Silla to Nara in Japan in the first half of the eighth century (Kobayashi 2002, 2006).

Silla and early Koryŏ period *kwukyel* is of the subtype referred to by Korean scholars as *sektokkwukyel* 釋讀口訣, interpretive or translation *kwukyel*. *Sektokkwukyel* glosses the text so that it can be read entirely in Korean with most of the nominal vocabulary left in Sino-Korean. Such texts are similar—and were probably a direct influence on—the mixed Hangul/Sino-Korean Buddhist texts of the fifteenth century. In later EMK, from the thirteenth century on, *sektokkwukyel* is replaced by *swuntok* 順讀 ‘consecutive’ *kwukyel*.⁹ In *swuntok kwukyel*, a sentence or clause is directly read in Sino-Korean. These units of untranslated Chinese are connected by Korean functional items such as the copula or *ho-* ‘do/say.’ This way of reading would be similar to reading the Bible in Latin connected by English ‘be’ and ‘do.’ For example, the first two sentences of Genesis would read, “In principio *did* creavit Deus cælum, et terram. Terra autem *was* erat inanis et vacua.”

Lee et al. (2005–2009) have published an exhaustively reproduced and annotated edition of the earliest symbol glossed texts, both copies of the *Hwaem-kyeng* (Avatamsaka-sūtra). They are xylographs, among the oldest in the world, with drypoint (stylus-inscribed) symbol glosses. We can get a feeling for how the symbol glossing system worked with the following example from the first line of fascicle 20 of the Chin-bon *Hwaem-kyeng* (ninth to tenth century):

- (4) 佛子[42(•)]{34(•)} 何等[41(•)?]為菩薩摩訶薩
 Buddhists-NOM what-ACC be Bodhisattva Mahāsattva
 第八如 相 廻向 [11(•), 31(••), 14(•)]
 # 8 suchness sign transference be-INF say-ADN-be-ADN when-TOP
 ‘when Buddhists ask what is the eighth transference (of the marks of suchness) of Bodhisattvas and Mahasattvas.’

The interpretation here is based on Lee et al. (2009, Vol. 4, 61). The annotations after the characters in the lemma have been devised by *kwukyel* scholars to indicate the position of the symbol gloss. For example, [42(•)] indicates a single dot in the lower lefthand corner of the preceding character, as shown in (5):

- (5) a. 佛·子

A dot in this position is interpreted as *-i* (corresponding to the EMK *cathoor kwukyel* character 卍), probably signifying the nominative particle *-i* (although some scholars have interpreted this gloss in context as marking the vocative particle). The next symbol gloss [41(•)] indicates a single dot in the lower lefthand corner of the character, farther to the left:

- b. 何·等

This signifies the accusative particle (corresponding to the *kwukyelca* 乙). It is sometimes difficult to be certain about the placement of the symbol glosses. Lee et al. (2009, Vol. 4, 61) translate the phrase into modern Korean as in (6):

- (6) Pulca-ya ettehankes-tul-ul Posal Mahasal -uy yetelpccay-uy
 Buddhist-VOC what thing-PL-ACC Bodhisattva Mahasattva GEN eighth -GEN
 cinye moyang hoyhyang ila-ko hanun ka ha-myen.
 'true suchness appearance transference be-COMP do Q do-if
 'Buddhists, when you ask what is the 8th transference (of the appearance of
 true suchness) of Bodhisattvas and Mahasattvas...'

3.4 *Hyangchal* 鄉札

Hyangchal refers to the orthography used to write the twenty-five *hyangka* songs recorded in the *Kyunyŏ cen* (均如傳, 1075) and the *Samkwuk yusa* (三國遺事, late thirteenth century). The former is the biography of the poet monk Kyunyŏ (923–973) and contains eleven poems by him from the very beginning of the Koryŏ period. The fourteen songs collected in the *Samkwuk yusa* date from the seventh to the ninth century.

A salient feature of *hyangchal* orthography found also in proper noun transcriptions is the practice of writing words and morphemes with two characters, the first used as logograph (*hwun*) to represent the meaning and the second as a phonogram (*um*) to represent the final consonant of the morpheme. Numerous examples of this practice can be found in the song *Henhwaka* 獻花歌 collected in the *Samkwuk yusa* and associated with the reign of King Sŏngdŏk (702–732). The interpretation here follows Nam (2010a).

- (7) 紫布 岩乎 过希
 Tolpwo(y) pahwo(y) kos-oy
 azalea crag side-LOC
 執音 乎 手 母牛 放教遣
 Cap-om h-wo(-n) swon amsywo noh-i-si-kwo
 hold-NOM do-MOD-ADN hand cow put-CAUS-HON-GER
 吾盼 不喻 慚盼伊賜等
 Na-lol anti puskuli-so(-n) to(-n)
 me-ACC not ashamed-HON-ADN fact-TOP
 花盼 折叱可 獻乎理音如
 Kwoc-ol kesk-e pat-wo-li-m(-s)-ta.
 flower-ACC pluck-INF present-MOD-NOM-CONC
 'By the side of the azalea crag/if it is not the case that you find me shameful/
 and allow the hand that was holding it to leave the cow/I must pluck the
 flowers and present them to you.'

The combination of *hwun* and *um* can be seen in the spelling of *tolpwoy* (ancestor of *-tallay* in modern *cintallay* 'azalea'), *pahwoy* 'crag, rock' (modern *pa-wuy*), and *cap-om* 'holding.' In the last example 執 'hold' represents the meaning of the verb, while 音 (*u/o*)*m* represents the verbal nominalizing suffix. In other cases suffixes must be inferred from the syntactic context. For example, in line 2 the phonogram 乎 spells the verb *ho-* 'do' plus the modulator suffix *-wu/o-*. This phonogram is used in exactly the same way in *kwukyŏl*. In this context, *h-wo-* must be taken as modifying *swon* 'hand.' In a *kwukyŏl* glossed text, the adnominal ending *-u/on* would be spelled out with the appropriate *catho* (*kwukyŏlca* gloss) or *cemtho* (point gloss), but in the *hyangka* song the ending is left for the reader to supply. This

reflects an obvious difference in genre: *kwukyel* glosses abstruse religious texts in a foreign language (Chinese), while *hyangchal* spells a native Korean text that in many cases was probably familiar to the reader.

As Nam observes, this and other *hyangka* songs contain grammatical features not found in LMK but attested in *kwukyel* texts. For example, the sequence *cap-om h-wo* in line 2 involves the $-(u/o)m$ nominalized form of the verb *cap-* ‘grab, hold’ followed by the verb *ho-* ‘do.’ Nam (2010, 21) points out that the pattern $V-(u/o)m ho-$ is attested in *kwukyel* glosses. Negative 不喻 *anti* in line 3 is used in *kwukyel* texts to negate nominal predicate sentences. According to Nam (2010, 24–27) its use here indicates that negation takes scope over the whole adnominal clause: “if it is not the case that you find me shameful.” Finally, Nam’s reading of the predicate in the last line, $V-m(-s)-ta$, is a pattern signifying deontic or epistemic necessity widely attested in *kwukyel* texts, but found only once in fifteenth century *Hangul* materials (2010, 29–31).

Phonogrammatic spellings in *hyangchal* and *kwukyel* have in common the property that, unlike the *Hangul* orthography of the fifteenth century, they do not represent vowel harmony. Thus the spelling 折叱可 *kesk-e* in line 4 of the *Henhwaka* represents the verb *kesk-* ‘bend, pluck’ plus the infinitive suffix $-e/a$. In LMK we would expect the allomorph $-e$ after this stem, but OK texts do not distinguish the two vowels. Fifteenth-century spelling is phonemic, but *hyangchal* and *kwukyel* are morphophonemic orthographies.

4 Phonology

OK had a vowel system largely similar to LMK, with seven—or as we argue below, eight—vowels, most likely taking part in a tongue root harmony system. The consonant inventory was simpler than LMK and simpler still than Modern Korean. Indirect evidence shows that OK had a pitch accent system similar to LMK or modern Gyeongsang and Hamgyeong varieties.

4.1 Vowels

Older treatments of the OK vowel inventory (e.g. K. Lee 1972; Kim et al. 1998, 73) posit a system built around a $[\pm\text{back}]$ harmonic opposition. Since LMK vowel harmony does not involve such an opposition, this view must claim that Korean underwent one (or more) “vowel shifts” between OK and LMK. More recent work has undermined the philological, historical, and areal bases for the vowel shift hypothesis. Hattori (1975), Vovin (2000), and Ko (2013) reject K. Lee’s (1964) arguments for a vowel shift based on Mongolian loanwords in EMK. Kang’s (1980) reconstruction of the EMK vowel system as represented in the *Jilín lèishì* (*Kyeylim yusa* 鷄林類事, 1103) further calls into question the vowel shift hypothesis. Most important, the interpretation of LMK vowel harmony as a tongue root system (Kim 1993) makes it unnecessary to posit a shift from an earlier $[\pm\text{back}]$ or palatal harmony system. The view that Korean vowel harmony has always involved tongue root harmony fits the areal picture in Northeast Asia (Ko 2012; Ko et al. to appear).

Itō (2007, 267) works back from her analysis of Sino-Korean to propose the vowel system in (8) for the language of Silla at the period when Sino-Korean was established, usually assumed to be the eighth to ninth century.

(8) OK (Silla) Vowel System with LMK equivalents, based on Sino-Korean (Itō 2007, 267)

OK	LMK	OK	LMK	OK	LMK
*i>	i [i]	*i>	u [i]	*u>	wu [u]
*ε>	LMK e [ə]	*ə>	LMK o [ʌ]	*o>	wo [o]
		*a>	LMK a [a]		

This system is not compatible with a palatal harmony system, as Itō points out. For example, *i would have to alternate with *ə, and *u with *o, but these vowels have the same value for [±back]. They do contrast in height, however, and in languages with tongue root harmony, such as the Tungusic and Mongolic languages spoken adjacent to the historical range of Korean, they or similar vowels contrast for the feature [±retracted tongue root]. Rearranged as an R(etracted) T(ongue) R(oot) system, the inventory in (8) looks like (9):

(9) [+back]

*i		[+round]	
*ε	*i	*u	[-RTR]
*a	*ə	*o	[+RTR][+low]

The difficulty with this system is that *a must be analyzed as [-back].¹⁰ A way out of this difficulty is to posit an eighth vowel for OK, *e, corresponding to LMK /ye/. The revised system is given in (10):

(10)

*i > LMK i [i]	*i > LMK u [i]	*u > LMK wu [u]
*e > LMK ye [jə]	*ə > LMK e [ə]	*ʌ > LMK o [ʌ]
*a > LMK a [a]	*o > LMK wo [o]	

A similar proposal is made for proto-Korean by Itō (2013), who reconstructs an eighth vowel *i which surfaces as LMK ye [jə]. As Itō points out, LMK /ye/ has a much higher frequency than other rising diphthongs, and she also adduces phonotactic evidence support for the idea that LMK /ye/ can have a monophthongal source. Itō hypothesizes that *i was the vowel harmonic counterpart of *i, but this would require assuming a palatal harmony system, which as we have seen is problematic; furthermore LMK /i/ and /ye/ show no traces of vowel harmonic alternation. A simpler hypothesis is that the eighth vowel in question was just *e, the [+low] counterpart of *i, and that both of these vowels were neutral with respect to vowel harmony. The resultant system is shown in (11):

(11) [+coronal] [+back]

*i				
*e				
		[+round]		
*ə	*i	*u	[-RTR]	} [+low]
*a	*ʌ	*o	[+RTR]	

On this analysis both *i and *e are [+coronal] and trigger palatalization of the preceding consonant.¹¹ The justification for reconstructing *e for OK rather than proto-Korean is that the strongest evidence for a front value of the vowel corresponding to LMK /e/ in Sino-Korean comes from etyma with /ye/; in nuclei consisting of LMK /e/, without the glide, the Sino-Korean evidence for front *e or *e is weak. The system in (11) also explains the oft-observed fact (e.g. Martin 2000) that LMK /ye/ seems not to obey vowel harmony: in this respect it is the same as /i/.

Lee and Ramsey (2011, 67) make a number of observations about loan character transcriptions for OK vowels that are consistent with a system like (11). For example, they point out that the OK vowels corresponding to LMK /wu/ [u] and /wo/ [o] are transcribed as 于 and 烏. On the vowel shift hypothesis, these vowels should be OK /ü/ and /u/ respectively. But there is no evidence from loan character transcriptions that the contrast between these two vowels involves backness. 于 is reconstructed as MC /hju/ (Baxter and Sagart 2011), and EMC /wuä/, LMC /yǎ/ (Pulleyblank 1991). 烏 is reconstructed as /?u/ (Baxter and Sagart 2011), and EMC ?ɔ (Pulleyblank 1991).

On the analysis in (11), the main change between the OK and LMK vowel system was the merger of *e and *ə. OK *e left its trace in the form of palatalization of the preceding consonant, phonologized as Cye [Cj].

4.2 Consonants

Scholars believe that OK had not developed the voiced spirant series W[β], G [ɣ], /z/ of LMK, although exactly when these consonants developed is not clear (Lee and Ramsey 2011, 64). The reinforced obstruents of Modern Korean did not come into existence as a phonemically distinct series until after LMK (Lee and Ramsey 2011, 128). All scholars agree that OK had the counterparts of the LMK plain stops and affricate /p/ /t/ /k/ /c/, but controversy exists about whether or not OK had a distinct aspirated series corresponding to LMK /ph/ /th/ /kh/ /ch/.

Lee and Ramsey (2011, 64–65) argue that it did. They acknowledge that some LMK aspirates are secondary, arising from sequences of *hVC after syncope of the vowel. K. Lee (1991, 18) shows that stems such as *khu-* ‘big’ and *tho-* ‘ride’ were still disyllabic *huku-* and *hoto-* in EMK. But Lee and Ramsey argue that the existence of aspirates in Sino-Korean indicates that the aspirated series already existed in OK. As they point out (2011, 65), this evidence is not equally strong for all places of articulation: Sino-Korean /kh/ is very rare, /ph/ less so but often mismatched with Middle Chinese. MC aspirated alveolars and palatals are usually reflected in Sino-Korean as aspirated, but even in these series there are instances of mismatches. Sino-Korean aspirates where MC has plain consonants are common in both the labial and alveolar series. The following table based on T. Lee (1985, 2003) shows the matches and mismatches with respect to aspiration between the Sino-Korean readings in the *Hwunmong cahoy* (1527) and the *Guangyun* 廣韻 rime dictionary (1008).

(12)			<i>Hwunmong cahoy</i>							
		p	ph	t	th	k	kh	c	ch	s
<i>Guangyun</i>	p	38	17							
	p'	12	24							
	t			85	10					
	t'									
	k					323	0			
	k'					107	0			
	ts							88	18	1
	ts'							11	57	1
	tʃ							17	13	1
	tʃ'								20	3
	tɕ							3	26	1
	tɕ'							78	14	1

The 3,360 characters collected in the *Hwunmong cahoy* include no instances of /kh/. MC /p'/ is mostly LMK /ph/, but a third of the Chinese aspirates are mismatched. Even among the alveolars, there are numerous mismatches. As many scholars have observed, some of these mismatches were based on graphic analogy with the phonetic element of the character. For example, characters including the phonetic element 皮 (MC bje) have aspirated /ph/ in Sino-Korean, apparently because 皮 itself was borrowed as aspirated *phi*. This initial borrowing was based on a complete mismatch: the MC initial is voiced, not aspirated. Such graphic analogies are conditioned by the context of the borrowing. Thus 波 'wave' (MC *pa*) has the Sino-Korean reading *pha* (e.g. in the *Hwunmong cahoy*), but when this character is borrowed from Chinese as a transcription character for Sanskrit, it retains the original unaspirated reading, for example, 波羅蜜多 *paramilta*, Skt. *pāramitā* (Itō 2007, 50). The reason is that words like *paramilta* were borrowed as a unit. Individual Sino-Korean character readings, in contrast, developed through an extended process of adaptation, analogy, extension, and instruction that continued beyond the OK period.

Lee and Ramsey (2011, 65) provide a stronger argument for the existence of OK aspirated alveolar fricative /c'/ [ts'] from loan character transcriptions. They point out that in Silla placenames the character 荒 'rough, fallow' is matched with the phonograms 居柒, which they compare with MK *kechul*- 'fallow, uncultivated.' 柒 indubitably has an aspirated onset in MC and Sino-Korean. However, Kim et al. (1996, 68) dispute this argument; they point instead to the reduplicated adjective *kesul kesul ha-* 'rough' as a correspondent for the etymon in the Silla placename. Kim et al. conclude that OK had still not developed an aspirated obstruent series. With such sparse data, it is difficult to draw a conclusion, but whatever the start point for the process, Lee and Ramsey's generalization that the aspirated series emerged first with the alveolar stop and affricate /th/ and /ch/ [ts'], next with labial /ph/, and last with velar /kh/ seems unassailable.

4.3 *Suprasegmentals*

We have no direct evidence for pitch accent in OK, but indirect evidence is provided by the partial correspondences between LMK Sino-Korean and MC tone. Kim (1973, 25–26) summarizes these correspondences:

- (13) a. MC level tone (平聲) corresponds to LMK low tone (平聲, unmarked in LMK).
 b. MC rising (上聲) and departing (去聲) tone both correspond primarily to LMK rising tone (上聲, marked with two dots in LMK).
 c. MC entering tone (入聲; oral stop-checked syllables) corresponds to LMK high tone (去聲, marked with one dot in LMK).

Kim suggests that (13b) the correspondence of both MC rising and departing tones to LMK Sino-Korean rising tone reflects the relative perceptual similarity of the two MC tones. MC entering tone (oral stop-checked) syllables were suprasegmentally distinctive enough so that they were assigned their own tonal category in LMK.

The correspondences in (13) have been used by Kim and others to confirm the pitch values marked in LMK *Hankul* materials. From the standpoint of OK, the correspondences tell us that Korean distinguished these prosodic categories at the time that Sino-Korean was established. Although they do not tell us how the categories might have functioned in an overall suprasegmental system, they are consistent with the view that OK already had a lexical pitch accent system like the one found on LMK and modern dialects such as Gyeongsang and Hamgyeong.

5 Morphosyntax

We saw examples of morphosyntactic differences between OK and LMK in our *hyangka* example in section 3.4. Among these differences was the existence of distinct negative forms for verbal and nominal predicates. What we know about OK morphology and syntax is described in detail in Nam (2012, 64–70), with tables comparing forms in *itwu*, *kwukyel*, and *hyangchal*. Here I focus on a few salient features distinguishing OK from later stages of the language.

5.1 Nominalization

In many languages of Northeast Asia, the noun modifying or adnominal forms of verbs are themselves nominalized. Recent research on *kwukyel* texts shows this to have been the case for the ancestors of LMK *-(u/o)l* and *-(u/o)n*, the prospective and realis adnominal endings respectively. These suffixes appear in a wide variety of nominalizing functions in addition to their function as noun modifiers. Properly speaking, the noun modification function can be seen as a subcase of nominalization. One example of nominalization in *-(o/u)n* can be seen in the clause below from the the Nakcang-pon *Kwusek Inwang-kyeng* 落張本 舊釋仁王經 (*Humane King Sutra*) in (14) The discovery of this EMK *kwukyel* glossed fragment in 1973 from within the belly of a bronze and gilt image of Amitābha in a temple in Chungcheong nam-do can be said to have spurred the current interest in *kwukyel* research. The fragment consisted of only five pages of the original xylograph. It is presumed to have been written in the thirteenth century, but the *kwukyel* text preserves many features of OK syntax. In the excerpt from the first two lines in (14) I have supplied the *kwukyelca* in their unabbreviated form, but with underlined sound glosses, following Nam (1976/1999, 104):

- (14) 他方叱 量乎音 可叱爲隱 不知 是飛叱
 THAPANG-s RYANGh-wo-m cisho-n anti i-no-s
 other side-GEN measure do-MOD-NOM act do-ADN not be-PRES-GEN
 衆 有叱在彌
 CYWUNG is-kyə-myə
 masses be-PERF-CONJ
 ‘and there were the masses on the other side whose numbers were
 not to be counted’

Here $-(u/o)n$ in *ho-n* ‘do-ADNOMINAL’ marks a clausal nominalization (as in (7) our *hyangka* example), the complement of the nominal predicate negator *anti*. In contrast the nominalizer $-(u/o)m$ derives an action nominalization from RYANG *h-wo* ‘do-MODULATOR,’ meaning ‘measuring, to measure.’ The disappearance of $-(u/o)l$ and $-(u/o)n$ nominalizations in all but a few fossilized forms in LMK can be seen in part as the result of the expansion of $-(u/o)m$ from action to clausal nominalization, displacing the adnominal suffixes in the latter function.

5.2 Genitives

Itwu, *kwukyel*, and *hyangchal* all attest the genitives found in LMK, [human] $-(u/o)y$ and [nonhuman] but also [honorific] $-s$. In addition, the character 尸 is sometimes used to write a genitive particle in *kwukyel*. Since the same character is used to write the prospective adnominal form in *kwukyel*, this genitive has generally been interpreted as $-l$. Hwang et al. (2009) interpret it in both its adnominal and genitive functions as $-lq$ [r?], the form of the prospective modifier in LMK. This in turn suggests an explanation for the apparent genitive usage. In *kwukyel* texts 尸 is also used to write the noun modifying form of the numerals *twulh* ‘two’ and *yelh* ‘ten,’ for example, 十尸生 ‘ten lives.’ A reasonable interpretation of these spellings is that they derive from *twul-s* ‘two-GEN’ and *yel-s* ‘ten-GEN.’ Postnominally, 尸 spells the honorific genitive after a small number of names for Buddhist deities. The most frequent of these is 菩薩 *pwosal* ‘bodhisattva,’ which also ends in a liquid. We might then hypothesize that 尸 spelled $-l$ +genitive $-s$, however this cluster was pronounced in OK. In adnominal clauses the $-l$ is the clausal nominalizing (adnominal) suffix, but in the numerals and ‘bodhisattva’ it is the final consonant of the uninflecting stem. This spelling convention was extended to the honorific genitive for other Buddhist deities on analogy with ‘bodhisattva.’

5.3 Independence of bare roots

Martin (1997) points out that LMK (and Pre-modern Korean) attest a substantial number of bare root compounds, where V_2 is attached to the uninflected root of V_1 . Examples include *tuwuy-ic-* ‘get overturned/upset’ < *tuwuy-* ‘overturn it, upset it’ + *ic-* ‘wane, get chipped,’ and *kul-talh-* ‘boil and decoct it, boil it down’ < *kulh-* ‘boil it’ + *talh-* ‘get worn down.’ Martin observes that this is an ‘un- Altaic’ feature of Korean: neighboring Northeast Asian languages (including Tungusic, Mongolic, and Turkic) generally make V-V compounds from an inflected form of V_1 , such as a converb or infinitive form.

Nam (2012, 65) points out that this is a byproduct of a more general property of OK. In LMK and modern Korean inflecting stems are bound: they cannot appear uninflected. This appears not to have been true in OK. In addition to compounds, we may note patterns like *i-no-s* ‘be-PRES-GEN’ in (14), where the bare stem of the present auxiliary *no-* is attached to the following noun by the genitive particle *-s*. Nam cites supporting EMK examples from the *Jīlín lèishù* (*Kyeylim yusa*), for example, where 讀書 ‘reading’ is glossed as *kul* [kir] *pwo-* ‘text read,’ with an uninflected verb.

6 Summary

While the evidence for Old Korean is in most cases scantier than we would like and in many cases still under active investigation, facts like those discussed in the previous section show us that OK was in many ways a typologically different language from modern Korean or even the language of the fifteenth-century Hankul texts. It had a more modest consonant but perhaps a slightly richer vowel inventory. It used clausal nominalizations in functions similar to its Northeast Asian neighbors, but differed from them significantly with respect to the independence of inflecting roots.

NOTES

- 1 The author’s research for this chapter was supported by a lab grant from the Academy of Korean Studies, (MEST) (AKS-2011-AAA-2103).
- 2 Transcription of Late Middle Korean in this chapter uses the modified Yale Romanization system in Martin (1992) and Lee and Ramsey (2011). This system corresponds to the transcription in Chapter 25 as follows:

LMK transcription in Chapter 25	Modified Yale Romanization
a. Vowels	a. Vowels
Front Central Back	Front Central Back
ㅣ /i/ ㅡ /ɨ/ ㅓ /wu/	ㅣ /i/ ㅡ /u/ ㅓ /wu/
ㅓ /e/ ㅕ /o/	ㅓ /e/ ㅕ /wo/
ㅗ /a/ • /ó/	ㅗ /a/ • /o/
b. Semivowels	b. Semivowels
/ɟ/ /w/	/ɟ/ /w/

- 3 I use Schuessler’s (2007) *Weizhi* transcriptions. I use LMK traditional Sino-Korean as represented in the *Hwunmong Cahoy* (1527) paired with Middle Chinese for *Samkwuk saki* transcriptions. LMK linguistic examples are given in modified Yale Romanization (Martin 1992), as in endnote 2.
- 4 These spellings are associated with the placename Samcheok-si on the border of Gangwon and Gyeongsang-bukdo. The region was Sillan before passing under Koguryō control in the fifth century. The modern name 三陟 was fixed in the eighth century by Silla king Kyōngdōk. Examples like this show that in at least some cases, Koguryō used phonogrammatic spellings for toponyms associated with the Three Kingdoms period Silla language.

- 5 Nam (2009: 167) refers to the text in the King Kwangaet'o) stele as *pyengchay hanmun* 變體漢文 or *sok hanmun* 俗漢 'vulgar Chinese writing.' In a broader East Asian context, the latter generally refers to Chinese written by Chinese native speakers in a colloquialized style, while the former has tended to refer to substandard Chinese written by Koreans or Japanese. Aldridge (2000) argues that the Japanese namesake, *hentai kanbun*, as used in the early eighth century *Kojiki* 古事記 was written to be read as Japanese. It is thus a counterpart of *itwu*.
- 6 Glosses in this chapter use the following abbreviations, based on Martin (1992): ACC 'accusative,' ADN 'adnominal,' CAUS 'causative,' CL 'classifier,' CONC 'conclusive,' CONJ 'conjunctural,' GEN 'genitive,' GER 'gerund,' HON 'honorific,' INF 'infinitive,' INST 'instrumental,' LOC 'locative,' MOD 'modulator,' NOM 'nominative,' PERF 'perfective,' PL 'plural,' PRES 'present,' Q 'question,' TOP 'topic,' VOC 'vocative.'
- 7 Some scholars (e.g. Lee Seungjae 2001) argue that *kye-* functioned as an honorific suffix in *itwu*. But Nam (2004) argues convincingly that this morpheme was an aspectual auxiliary. The common grammaticalization pattern existential verb > perfective auxiliary supports Nam's view. Modern honorific *kyesi-* is simply the result of grammaticalization of this older existential verb with the honorific suffix *-si*.
- 8 The latter system is attested in the glosses for the Yukasacilon (瑜伽師地論 *Yogacārabhūmi-sāstra*); see Chang (2007).
- 9 For a unified system of terminology for both the Korean and Japanese glossing traditions, see Whitman et al. (2010).
- 10 The term 'consecutive *kwukyŏl*' for *swuntok kwukyŏl* 順讀口訣 is due to King (2007).
- 11 Ko (2010, 2012) handles the LMK vowel system with the four features in (9) plus the feature [coronal] for /i/. In LMK the problem in (9) does not arise, because the [-RTR] counterpart of /a/, /e/ [ə] is not a front vowel. I have drawn heavily on Ko's insights, but the proposed OK system in (11) is original here.
- 12 I owe the idea of reconstructing deriving at least some cases of LMK /ye/ from a primary vowel /e/ to Marc Miyake (personal communication).

REFERENCES

- Aldridge, Edith. 2000. "Principles of *hentai kanbun* word order: Evidence from the *Kojiki*." In *Language Change in East Asia*, edited by Thomas McAuley, 207–232. Stanford, CA: Stanford University Press.
- Baxter, William and Laurent Sagart. 2011. *Baxter-Sagart Old Chinese Reconstruction*. Paris: CRLAO. <http://crlao.ehess.fr/document.php?id=1217>
- Beckwith, C. 2007. *Koguryō, The Language of Japan's Continental Relatives: An Introduction to the Historical-Comparative Study of the Japanese-Koguryōic Languages with a Preliminary Description of Archaic Northeastern Middle Chinese*. Leiden: Brill.
- Chang, Kyungjun. 2007. *Yukasacilon cemtho soktok kwukyŏl uy haytok pangpep yenkwu* (Research on the method of interpretation of symbol interpretive glossing in the Yugasajiron). *Kwukehak chongse* 58. Seoul: Kwuke hakho.
- Ch'ön, So-yöng. 1990. *Kotay kwuke uy ehwi yenkwu* (Research on the lexicon of ancient Korean). Mincok munhwa yenkwu chongse 53. Seoul: Korea University, Mincok munhwa yenkwuse.
- Chung, Jaeyoung. 2006. "Hanguk uy kwukyŏl (Korean kwukyŏl)." *Kwukyŏl yenkwu*, 17: 129–189.
- Hattori Shirō. 1975. "Boin chōwa to chūki chōseno no boin taikai (Vowel harmony and the Middle Korean vowel system)." *Gengo no Kagaku* 6: 1–22.
- Itō, Chiyuki. 2007. *Chōsen kanjion kenkyū* (Research on Sino-Korean). Tokyo: Kyūko-shoin.

- Itō, Chiyuki. 2013. "Korean accent: internal reconstruction and historical development." *Korean Linguistics*, 15(2): 129–198.
- Kang, Sinhang. 1980. *Kyeylim yusa kolye pangen yenkwu* (A study of Koryō dialect in the Jilín lèishi). Seoul: Sungkyunkwan University Press.
- Kim, Juwon. 1993. *Moumcohwa uy yenkwu* [Research on vowel harmony in Korean]. GyeongsanKyōngsan, Korea: Yeungnam University Press.
- Kim, Chong-hun, Park, Young-Bae, Park Tong-gyu, Kim T'ae-hon, Kim Chong-hak. 1996. *Hankwuke uy yeksa* (The history of the Korean language). Seoul: Tayhan kyekwase.
- King, Ross. 2007. "Korean kugyōl writing and the problem of vernacularization in the Sinitic sphere." Paper presented at the Association for Asian Studies, Boston, MA, March 2007.
- Ko, Seongyeon. 2010. "A contrastive view of the evolution of the Korean vowel system." In *MIT Working Papers in Linguistics 61: Proceedings of the 6th Workshop on Altaic Formal Linguistics (WAFL 6)*, edited by Hiroki Maezawa and Azusa Yokogoshi, 181–196.
- Ko, Seongyeon. 2012. "Tongue root harmony and vowel contrast in Northeast Asian languages." PhD diss., Cornell University.
- Ko, Seongyeon. 2013. "The end of the Korean vowel shift controversy." *Korean Linguistics*, 15(2): 195–216.
- Ko, Seongyeon, John Whitman, and Andrew Joseph. 2014, to appear. Comparative consequences of the tongue root harmony analysis for proto-Tungusic, proto-Mongolic, and proto-Korean (with Seongyeon Ko and Andrew Joseph). In *Paradigm Change in the Transeurasian Languages and Beyond*, edited by Martine Robbeets, and Walter Bisang. Amsterdam: John Benjamins.
- Kobayashi, Yoshinori. 2002. "Kankoku no kakuhitsuten to Nihon no kokuten no kankei (The connection between Korean drypoint glossing and older Japanese kunten)." *Kwukyel yenkwu*, 8: 50–57.
- Kobayashi, Yoshinori. 2006. "Nihongo no kunten no ichigenryū (One of the sources of origin of Japanese kunten)." *Kyūko*, 59: 1–19.
- Lee, Ki-Moon. 1961. *Kwuke-sa kaysel*. Seoul: Mincwung sekwan. Revised edition 1972.
- Lee, Ki-Moon. 1964. "Mongolian Loanwords in Middle Korean." *Ural-altaische Jahrbücher*, 35: 188–197.
- Lee, Ki-Moon. 1972. *Kwukeumun-sa yenkwu* (Research on the phonological history of Korean). Seoul: Tower Press.
- Lee, Ki-Moon. 1981. "Itwu uy kiwen ey tayhan il kochal (An observation on the origin of itwu)." *Chintan hakpo*, 52: 65–78.
- Lee, Ki-Moon. 1991. *Kwuke ehwi-sa yenkwu* (Research on the lexicon of earlier Korean). Seoul: Tap chwulphansa.
- Lee, Ki-Moon. 1998. *Kwuke-sa kaysel*, New revised edition. Seoul: Tayhaksa.
- Lee, Ki-Moon and Ramsey, S. Robert. 2011. *A History of the Korean Language*. Cambridge and New York: Cambridge University Press.
- Lee, Seungjae. 2001. "Kotay itwu uy congyengpep '在/kye' ey tayhaye (On the premodern itwu honorific '在/kye')." *Emun yenkwu*, 112: 153–170.
- Lee, Seungjae et al. 2005–2009. *Kakphil kwukyel uy haytok kwa penyek 1–5* (Interpreting and translating kakphil kwukyel). Seoul: Tayhaksa.
- Lee, Sungsi. 2013. "The Samhan, Ye, and Wa in the time of the Lelang and Daifang commanderies." In *The Han Commanderies in Early Korean History*, edited by Mark Byington, 165–189. Cambridge, MA: Harvard University, Early Korea Project Occasional Series.
- Lee, Tonju. 1985/2003. "Hanguo hanziyin de jizhong tese (Several characteristics of Sino-Korean)." *Hanguo xuebao*, 5: 379–390.
- Lee, Yong. 2006. "Kwankaytho taywang pimun uy itwucek yoso (Itwu-like elements in the King Kwangaet'o stele)." *Kwukyel yenkwu*, 2006. 8: 71–90.
- Martin, Samuel E. 1992. *A Reference Grammar of Korean*. Rutland, Vermont: Tuttle.
- Martin, Samuel E. 1997. "Un-Altaic features of the Korean verb." In *Japanese/Korean Linguistics*, Vol. 6, edited by Sohn, Ho-min and John Haig, 3–40. Stanford, CA: CSLI.

- Martin, Samuel E. 2000. "How have Korean vowels changed through time?" *Korean Linguistics (Journal of the International Circle of Korean Linguistics)*, 10: 1–60.
- Nam. 1976/1999. *Kwuyek Inwang-kyeng uy kwukyel yenkwu*. In Nam (1999), 67–139. Originally published in *Tongyanghak* 6: Dangook University Tongyanghak yenkwuso.
- Nam, Phunghyun. 1999. *Kwuke-sa lul wihan kwukyel yenkwu* (Research on *kwukyel* for Korean language history). Seoul: Tayhak-sa.
- Nam, Phunghyun. 2004. "Sisang uy cotongsa 'ㄹ/kye' uyüi paltal (The development of the auxiliary ㄹ/kye)." *Kwuke kwukmunhak*, 138.
- Nam, Phunghyun. 2010a. "Henhwaka uy haytok (The interpretation of the *Henhwaka*)." *Kwukyel yenkwu*, 124: 5–36.
- Nam, Phunghyun. 2010b. "Hankwuke-sa ey isseuy *kwukyel calyo* [*Kwukyel* materials in the context of the history of Korean]." *Kwukyel yenkwu*, 124: 5–36.
- Nam, Pung-hyun. 2012. "Old Korean." In *The Languages of Japan and Korea*, edited by Nicholas Trantner, 41–72. Milton Park, UK: Routledge.
- Pulleyblank, Edwin. 1991. *A Lexicon of Reconstructed Pronunciation in Early Middle Chinese, Late Middle Chinese, and Early Mandarin*. Vancouver: University of British Columbia Press.
- Schuessler, Axel. 2007. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai'i Press.
- Toh, Soo-hee. 1980. *Paykcey cimyeng yenkwu* (Research on Paekche placenames). Daejeon: Chungnam University Paekche Yönguso.
- Toh, Soo-hee. 2008. *Samhan e yenkwu* [Research on Samhan language]. Seoul: Che-i-aen-ssi.
- Vovin, Alexander. 2000. "On the great vowel shift in Middle Korean and position of stress in proto-Korean." *Korean Linguistics (Journal of the International Circle of Korean Linguistics)*, 10: 61–78.
- Whitman, John. 2009. "Koketsu shiryō to kunte shiryō no setten – Satō-bon *Kegon mongi yōketsu* no okototen/toten o chūshin ni (Points of contact between *kwukyel* and *kunte* glossed materials – with a focus on the morphosyntactic glosses in the *Kegon mongi yōketsu*)." Paper given at the 100th Meeting of the Kuntengo gakkai, Kyoto University, Kyoto, Japan, May 2009.
- Whitman, John. 2011. "The ubiquity of the gloss." *Scripta*, 3: 95–121.
- Whitman, John, Miyoung Oh, Jinho Park, Valerio Luigi Alberizzi, Masayuki Tsukimoto, Teiji Kosukegawa, and Tomokazu Takada. 2010. "Toward an international vocabulary for research on vernacular reading of Chinese texts (漢文訓讀 Hanwen xundu)." *Scripta*, 2: 61–84.