Puyŏ and Han: Morphological and Lexical Analysis of Two Distinct Language Groups of the Early Korean Peninsula

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Abstract

There were many different languages spoken on the Korean Peninsula in the past, and not all of them were 韓 Han (Koreanic). In the traditional approach, Puyŏ and Han – the two best attested non-Chinese languages of early Korea – are treated as daughter branches of a common Puyŏ-Han proto-language. Christopher I. Beckwith has solidly demonstrated that the Puyŏ or Puyo-Koguryoic languages form a unique branch of the Japanese-Koguryoic language family, unrelated to the Han or Koreanic languages. Nevertheless, speculation on Puyŏ-Han linguistic unity continues to persist. The comparative data in this paper, focusing on the earliest attested Puyo-Koguryoic grammatical morphemes and content words and their translational equivalents in early Han (Koreanic), thoroughly disproves the Puyŏ-Han hypothesis, demonstrating that Puyŏ (Puyo-Koguryoic) and Han (Koreanic) are two mutually distinct unrelated language groups.

Keywords: Puyo-Koguryoic languages, Koreanic languages, historical-comparative linguistics, ethnolinguistic contact, history of the early Korean Peninsula

Povzetek

Na Korejskem polotoku so v preteklosti govorili veliko različnih jezikov in vsi niso bili del skupine hanskih jezikov 韓 (korejske jezikovne družine). Tradicionalno gledano sta pujščina in hanščina – dva najbolj dokazana jezika zgodnje Koreje, ki ne spadata med kitajske jezike – obravnavana kot hčerinski veji skupnega pujohanskega prajezika. Christopher I. Beckwith je prepričljivo dokazal, da pujski ali pujokogurjojski jeziki tvorijo edinstveno vejo japonsko-kogurjojske jezikovne družine, ki ni povezana s hanskimi ali korejskimi jeziki. Kljub temu se domneve o jezikovni enotnosti pujohanskega prajezika še vedno pojavljajo. V tem članku s primerjavo podatkov, ki se osredotočajo na najzgodnejše dokazane pujokogurjojske slovnične morfeme in polnopomenske besede ter njihove prevodne ustreznice v zgodnji hanščini, ovržemo hipotezo o pujohanskem prajeziku in dokažemo, da sta pujščina (pujokogurjojski jeziki) in hanščina (korejska jezikovna družina) dve medsebojno različni, nepovezani jezikovni skupini.

Ključne besede: pujokogurjojski jeziki, korejska jezikovna družina, zgodovinsko-primerjalno jezikoslovje, etnolingvistični stik, zgodovina zgodnjega Korejskega polotoka

1   Introduction

In Korea today, the language family to which Modern Standard Korean, Korean dialects, and other closely related languages such as Cheju (Jeju), Koryŏ-mar, and Yukchin belong is conventionally called 韓國語族 *Han'guk ŏjok*, literally, 'Korean National Language Family'.[1] The inclusion of the word 國 *kuk* 'country' in the term 'Korean National Language Family' implies an a priori assumption that all languages spoken within the modern borders of the modern states of Korea (i.e., South and North) are included in this 'national language family'. By this same logic, Old Chinese, which was spoken in the Four Han Chinese Commanderies (漢四郡 *Han sagun*) of Korea's early history and which was spoken in the state of 辰韓 Chin Han (Beckwith, 2010, p. 215), as well as Middle Chinese, Middle Mongol, Yuan Mandarin, Jurchen, and other languages spoken at one time or another in the area that is now modern Korea should all be included in this 'national language family.'

Given the inherent logical problem of the 'national language family' terminology, I prefer to call the language family to which Modern Standard Korean belongs the 韓語族 *Han ŏjok* 'Han language family' or in English, the Koreanic language family. This terminology correctly asserts a connection with the 韓 Han (earlier read *Kara*) ethnolinguistic group and removes the unintentional or intentional connotations of the 國 *kuk* 'country' element.

The dominant variant of the 'Korean National Language Family' theory treats Puyŏ and Han – the two best-attested non-Chinese languages of early Korea – as daughter branches of a common Puyŏ-Han proto-language, which some have labeled as "扶餘・韓祖語" *Puyŏ-Han choŏ*, or 'Puyŏ-Han Ancestral Language' (e.g. Lee, 1972; Lee, 2017, p. 414).

Christopher I. Beckwith (*KLJ*) has demonstrated the Japanese-Koguryoic language family and the Koguryŏ language's place within that family. In this paper, I will incorporate additional 韓 Han (hereafter: 'Koreanic') and Puyo-Koguryoic data and offer functional morphological and lexical data further demonstrating that Koreanic and Puyo-Koguryoic are separate language groups: Koreanic is a unique language family in its own right, and Puyo-Koguryoic is a divergent branch of the Japanese-Koguryoic language family.

Claims of Puyŏ-Han linguistic unity are often based on little to no actual linguistic data, and no study has yet systematically and comprehensively examined the primary sources on the Koreanic and Puyo-Koguryoic languages to demonstrate or disprove a relationship between Koreanic and

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[1] For the romanization of Modern Standard Korean I employ the McCune-Reischauer system because of its phonetic precision and because it is the international standard for the fields of Korean history and historical-comparative linguistics.

Puyo-Koguryoic. In this paper, I analyze the Chinese, Korean, and Japanese primary historical sources on the early Koreanic and Puyo-Koguryoic languages, including the *Zhou shu*, the *Samguk sagi*, the *Samguk yusa*, and the *Nihon shoki*. This data is supplemented by Chinese, Korean, and Japanese primary sources on Early Middle Korean, including the 12th century *Jilin Leishi* (*Kyerim yusa*), the Koryŏ *Toijanga* (1120 CE), the 12th century Middle Japanese sources *Nichūreki* and *Sezokujiruishō*, and the 13th century *Hyang'yak Kugŭppang*, as well as Koryŏ kugyŏl readings (q.v. Lee, 2011), supplemented by references to Chosŏn Late Middle Korean as attested in the earliest Hangŭl texts. Thus, this work focuses on the earliest solidly attested linguistic data on the Koreanic and Puyo-Koguryoic languages.

Through a systematic comparison of grammatical morphemes and content words from both language groups, I demonstrate that the correspondences between Puyo-Koguryoic and Koreanic are exceedingly few. Those that do exist are loanwords, the primary directionality being from the Puyo-Koguryoic languages to the Koreanic languages as a result of the prestige associated with the Puyŏ dialects after the Puyŏ invasion and subsequent political domination of the Korean Peninsula which lasted until the Tang-Silla alliance led to the unification of the Korean Peninsula under the Unified Silla state in 668 CE. Fascinating sporadic loanword correspondences with Nivkh (Gilyak), Serbi-Mongolic, and Jurchen-Manchu are highlighted when etymologically relevant.

Following a strictly data-based approach (following *KLJ*), this paper provides new lexica on both Puyo-Koguryoic and Koreanic languages. As much as possible, I focus on phonetic readings, and words and grammatical morphemes with semantically glossed or clearly discernible meanings. Speculative traditional readings have been avoided, with few exceptions.

Some traditional readings are undoubtedly correct. For example, it has been long known in the field of Korean studies that the Chinese glyph 火 (MChi *χʷa) is sometimes used to render the phonetic value 伐 (MChi *buar) (*KLJ* 74n, 77n, 78, 83) in transcriptions of early Koreanic languages. That is, the glyph 火 functioning phonetically as 伐 can render the phonetic sequences *pʊr ~ *pɨr ~ *puar in non-Chinese languages of the early Korean Peninsula: For example, early Koreanic *pʊr 'city' and *pɨr 'fire' are sometimes written with the Chinese glyph 火 'fire'. Another, albeit lower frequency, example may be the glyph 文 'writing' for the phonetic value 崐 *kɨr in rendering Old Koguryŏ *kɨr 'writing' (*KLJ* 87). The hyangch'al writing system of the *Samguk yusa* also includes some well-known examples of this kind of mixed, partially semantic and partially phonetic writing. However, such traditional readings are only accepted in this paper if they are solidly

confirmed, especially with unambiguous phonetic transcriptions, ideally with variant transcriptions, such as the example of the partially semantic, partially phonetic rendering of Han-Silla 齒叱今 with the semantic value 齒 'tooth' and the final phonetic sequence 叱今 *-tś-kɨm and its purely phonetic variants 尼叱今 *ni-tś-kɨm and 尼師今 *ni-s-kɨm, which clearly indicate that in Silla territory, the Chinese glyph 齒 'tooth' could be traditionally read with the phonetic value 尼 *ni rendering the Han-Silla word for 'tooth', cognate to Koryŏ Early Middle Korean *ni, Chosŏn Late Middle Korean *ní*, and Modern Standard Korean *i* 'tooth' (see section §6 lexicon below).

By and large, the most reliable data on early Koreanic and Puyo-Koguryoic languages are straightforward phonetic transcriptions in Korean Peninsular Early Middle Chinese. This Chinese dialect is not the same as that spoken in the Tang capital. Beckwith has termed it 'Archaic Northeastern Middle Chinese' for which Shimunek prefers the term 'Korean Peninsular Early Middle Chinese'. I will employ the latter term in this paper. (On this phonetically conservative variety of Chinese, see *KLJ* 93-105; *LASM* 81-82, 84, 86, 87-88; Shimunek, 2021a, pp. 65-67, 72-75; Shimunek, 2021b, pp. 133, 152, 156, 160; and Shimunek, 2023, p. 85.)

This article does not provide an exhaustive listing of all identifiable Puyo-Koguryoic and early Koreanic linguistic lexica – there are many more grammatical morphemes and words attested in early Koreanic and also some additional data in Puyo-Koguryoic languages, especially from Puyŏ-Paekche and Han-Paekche. The data set in this paper has naturally been limited to Puyo-Koguryoic words and grammatical morphemes which have semantic translational equivalents in Koreanic.

2   Korean Peninsular Early Middle Chinese

Traditional studies on languages of the early Korean Peninsula often rely on Modern Standard Korean readings, or at best, Late Middle Korean readings, but these are inaccurate. "The Middle Chinese dialect or dialects of the Korean Peninsula before the middle of the Unified Silla period were highly conservative, retaining phonological characteristics of Late Old Chinese" (Shimunek, 2021b, p. 133). This uniquely Korean Peninsular variety of Early Middle Chinese – hereafter 'Korean Peninsular Early Middle Chinese' (equivalent to Beckwith's 'Archaic Northeastern Middle Chinese', *KLJ* 93-105) – is a *sine qua non* for historical-comparative work on the languages of the early Korean Peninsula. The author has employed Korean Peninsular Early Middle Chinese readings to reconstruct the phonetic forms of Puyo-Koguryoic and early Koreanic data.

3   Language families of the early Korean Peninsula

Historically documented and identified languages of the early Korean Peninsula, defined here as Korea before the 高麗 Koryŏ period, include languages belonging to the Koreanic language family, languages belonging to the Puyo-Koguryoic branch of the Japanese-Koguryoic language family and varieties of Chinese (Beckwith, 2005, pp. 34-64; *KLJ* 28, 118-163; Shimunek, 2021a, p. 66; Shimunek, 2021b, pp. 129-167; Shimunek, 2023, pp. 98-100, 102-103). This is not an exhaustive list – as the author has demonstrated elsewhere, there may be other distinctive and previously unidentified extinct languages of the early Korean Peninsula, vestiges of which remain in the *Samguk sagi* toponym corpora. Some fascinating and unique lexical data is attested in Kara and Paekche, indicating a third (or more), non-Han, non-Puyŏ language of unknown identity. This data will be the subject of a separate study in the future.

4   Koreanic languages vs. Puyo-Koguryoic languages

The Puyo-Koguryoic languages are demonstrably divergently related to Japanese, and do not form a cognate relationship with the Koreanic language family (*KLJ* 1-28, 232; Beckwith, 2005, pp. 49-51 et passim). In the currently dominant tradition, Puyŏ (Puyo-Koguryoic) and Han (Koreanic) are often portrayed as two divergent branches of a common proto-language, as exemplified by Lee Seungjae's summary of Lee Ki-Moon's view (Lee, 2017, p. 414). The traditionalists' primary motivation for including the Puyŏ languages as a sister branch to Han seems to be the preconceived view that they *should be* related, rather than a scientific approach to the data.

4.1   Koreanic vs. Puyo-Koguryoic functional morphology

If we examine the earliest attested Puyo-Koguryoic grammatical morphemes and words, they are clearly unrelated to early Koreanic (see Table 1).[2]

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[2] For a discussion on grammaticalization in the Korean aspectual system, see Kumar (2025) in the same issue.

Table 1: Puyo-Koguryoic and Koreanic grammatical morphemes

Puyo-Koguryoic	Early Koreanic*
CJK ***na** 'genitive' > AKog *na : AJpn *nâ > OJpn *nö > MSJ *no*	≠ CKor ***-ɦɨy** > HS *-ɦɨy : HP *-ɨy : MSK /-ɨy/ 'genitive'
CJK ***si ~ *śi** 'attributive' > OKog *si ~ *śi : OJpn *-si- > MSJ *-shi*	≠ CKor ***-tś ~ *-ts** > HK *-s : HK/HP *-(t)s : HS *-tś ~ *-ts > LMK *-s* 'genitive-attributive'

* 'Early Koreanic' denotes the earliest attested 韓 Han languages and dialects.

4.2   Koreanic vs. Puyo-Koguryoic content words

A comparison of content words in Puyo-Koguryoic and early Koreanic languages reveals no regular cognates. If Puyo-Koguryoic and Koreanic were indeed related as two branches of a common source node (i.e. a common proto-language) as is claimed in most variants of the traditional 'Korean National Language Family', one should expect a significant number of lexical cognates, especially in the highest frequency words. This basic law of language change is summarized below:

> THE LAW OF FREQUENCY AND RETENTION
>
> "The highest frequency morphemes in any language have heavy functional load and light semantic load, and are inherited from the proto-language" (Beckwith, 2008, p. 19; cited here from *LASM* 283).

Hypothetically, any words and morphemes can be borrowed between any languages, but if the Puyo-Koguryoic and Koreanic languages were indeed two branches of a "Korean National Language Family" as is often claimed, the *highest frequency morphemes* (including both grammatical morphemes as well as content words) of these two language groups should exhibit many regular correspondences.

The Puyo-Koguryoic and early Koreanic words compared below are very close to being an exhaustive list of all the Puyo-Koguryoic words and early Koreanic words available to the author at the time of writing for which semantic equivalents or near-equivalents exist in the respective languages. That is, the lists below consist of near-exhaustive lists of semantically or functionally equivalent words and morphemes in the two language groups.

I am not an adherent of any of the 'basic vocabulary' theories: As shown by Beckwith and many others, Swadesh lists, lexicostatistics, and glottochronology are untenable at best, if not pseudoscience (*KLJ*). Nevertheless, organizing the data into semantic categories is useful for

demonstrating that the earliest grammatical morphemes and words in Han languages exhibit no regular cognates with Puyŏ. In the current data set employed in this article, there are exceedingly few lexical correspondences between Puyo-Koguryoic and Koreanic, and the few that exist are well-known loanwords with very clear or inferable historical contexts (e.g., see notes below on Han-Silla *paɦɨy 'rock, precipice', and Koryŏ Early Middle Korean *namur 'lead (metal)' and *kɨr 'writing' in Table 5 and in entries §6.1.1.14 and §6.1.2.1.15).

In order to aid the reader in processing the lexical data, I have organized the lexical items by general semantic spheres. I do not advocate for any of the 'basic vocabulary' theories; the general semantic groupings employed below are simply to help the reader see the scope of lexical comparisons available to the comparativist. The content words discussed below are listed by their lexical categories: numerals, nouns, adjectival verbs, and verbs. The nouns are further divided into the following semantic groupings:

- direction words;
- body part terms;
- rocks, minerals, metals, and geological formations;
- human made structures;
- plant names;
- zoonyms;
- people;
- water and watercourses;
- and supernatural concepts.

Unless otherwise noted, Archaic Koguryŏ (AKog), Old Koguryŏ (OKog), Old Japanese (OJpn), and Common Japanese-Koguryoic (CJK) data cited below are from Christopher I. Beckwith (*KLJ*).

The semantic values in the tables below have been abbreviated and simplified for ease of reading. The reader is advised to consult section §6 for detailed notes on the semantic values of each word listed below, etymological notes, and sources.

4.2.1 Numerals

The Puyo-Koguryoic and Koreanic languages have clearly distinct numeral systems which do not exhibit any cognates between them (see Table 2).

Table 2: Puyo-Koguryoic and Koreanic numerals

	Puyo-Koguryoic	Early Koreanic
'one'	Not attested; cf. OJpn *pitö	≠ HS **...tʌ** : EMK *hatʌn ~ *harʌn : LMK *hλnàh* ~ *hλn-* : MSK *hana*
'two'	Not attested; cf. OJpn *puta	≠ HS **...ɣɨr ~ *...r** > EMK *tuʙur(h?)* (*KYS, NCR, SZR*) : LMK *tŭrh ~ tŭ-* > MSK /tur/ ~ /tu-/
'three'	OKog **mir** : OJpn *mi	≠ HK **ts(ʷ)əy(h)** : EMK *səyh > LMK *sə̆yh ~ sə̀- ~ sə̀k-* > MSK *set ~ se- ~ sək-*
'four'	Not attested; cf. OJpn *yö	≠ HS **(nə?)ri** : EMK *nəyh ~ *ⁿdəyh : LMK *nə̆yh ~ nə̀- ~ nə̀k-* > MSK *net ~ ne- ~ nək-* (cf. Nivkh)
'five'	OKog **ütsɨ** : OJpn *itu	≠ EMK **tasɨs ~ *tasʌs** : LMK *tàsʌ́s ~ tày-*
'six'	Not attested; cf. OJpn *mu	≠ EMK **yəsɨs** ~ **yəsʌs** : LMK *yə̀sɨ́s ~ yə̀y- ~ yə̀s-* > MSK /yəsət/
'seven'	OKog **nan** : OJpn *nana	≠ EMK **irkɨp** ~ **nirkup** ~ **nirkʊp** : LMK *nìrkúp* : MSK /irkʊp/ [i⎸gʊp]
'eight'	Not attested; cf. OJpn *ya	≠ EMK **yətʌrp** : LMK *yə̀tɨ́rp* > MSK /yətər/ [jədə⎸]
'nine'	PP **tɨr** (≠ OJpn *koko ← Ch.)	≠ EMK **ahʊrp** : LMK *àhʊ́p* > MSK /ahʊp/
'ten'	OKog **tək** : OJpn *tə ~ *təwo	≠ EMK **yər(h?)** : LMK *yə́rh* > MSK /yər/ [jə⎸]
'hundred'	Not attested	≠ EMK **ɦun** : LMK *ɦʊ́n*
'thousand' ~ 'ten thousand'	PP **tɨ ~ *tsir ~ *tir** '1,000 ~ 10,000, abundant' → OJpn *ti	≠ LMK **tsîmìn** 'thousand'

As shown above, the attested Puyo-Koguryoic numerals exhibit cognates only with Japanese, not with any of the Koreanic languages. The Puyo-Koguryoic numerals and the Koreanic numerals thus form two clearly distinct lexical sets unrelated to each other.

By contrast, the numeral sets of well-demonstrated language families of the world regularly exhibit systematic correspondences in their numeral systems. For example, English *three*, German *drei* /dʁaɪ̯/, Italian *tre*, French *trois* /tʁwa/, Persian *se(h)*, Pashto *dre*, Agnean *tre*, Kuchean *trey ~ trai* /trəi/, Hittite *teri*, and numerous others are cognate reflexes of a common Indo-European root denoting 'three'. Likewise, for the Serbi-Mongolic languages: Kitan *ɢur 'three' (*LASM*), Middle Mongol *qurban ~ yurban* /gʊrban/, Khalkha *ɢʊrəw*, Buryat *gʊrbən*, Kalmyk *ɢurwn*, Daur *kʷarpə*, Shira Yoghor *kʊrwan*,

Kangjia *kʊrɔ*, Santa *quraŋ*, Moghol *qurban* 'three', and others are cognates (Svantesson et al., 2005, p. 164). Numerous other examples could be cited from any of the world's well-demonstrated language families.

There are also counterexamples in languages of the world, but most have very clear contexts. For example, the numerals of Mangghuer (a Mongolic language) have been replaced by Chinese in the speech of younger speakers due to intensive language contact with Chinese (Dpal-ldan-bkra-shis et al., 1996, p. 4). Modern Standard Korean also has a unique set of Sino-Korean numerals alongside 'native' Koreanic numerals, with each set used in overwhelmingly (but not entirely) mutually exclusive environments (e.g., when telling time, 'native' numerals are used for telling the hour and Sino-Korean numerals are used for telling the minute). (One rare but striking example of free variation between 'native' and Sino-Korean numerals is Modern Standard Korean 四거리 *sagŏri* /sakəri/ and its free variant 네거리 *negŏri* /nekəri/, both denoting 'intersection', literally 'four roads', and which both occur in daily speech with free variation between Sino-Korean *sa* 'four' and the 'native' numeral root *ne-* 'four'). Even English numerals have been borrowed in Modern Standard Korean, albeit in a highly limited context – for tallying baseball scores – but all of these are exceptions to a general trend of numerals retained in divergently related languages.

4.2.2 Nouns

Direction words

The attested Puyo-Koguryoic and Early Koreanic direction words exhibit numerous cognates *within* each language grouping but no cognates between each other (see Table 3).

Table 3: Puyo-Koguryoic and Koreanic direction words

	Puyo-Koguryoic	Early Koreanic *
front ~ south	AKog *kor 'front' : PS ***kʊr** 'south' : PP *kʊrʊ	≠ HS ***mak** 'south' : LMK *màh* 'south' HK/HP ***arp** : LMK *àrpʰ* 'south, front' > MSK /apʰ/ 'front'
back ~ behind ~ north ~ west ~ above ~ evening	AKog ***tsɨar** 'back, behind' > OKog *tśɨri 'north' : OJpn *tsiri ~ *siri 'back, behind; rump, buttocks' OKog ***ɦaɨp** 'west' : OJpn *yami 'darkness, evening'	≠ HS ***tɨra/*tʊra** 'west' ~ ***tɨy** 'north' : HP *ti : LMK *tùýh* > MSK *twi* 'behind; north' HK/HP ***ʊk/*uk** 'above, top' : HS ***ukʊk/*uyʊk/*urʊk** 'north' : LMK *ùh* > MSK *wi* 'above'

	Puyo-Koguryoic	Early Koreanic *
		HS 夜音 **…m** (genitive 夜未 *…m-ɨy) : LMK *pàm ~ pám* > MSK *pam* 'evening'
east	OKog **kati** 'east', OJpn *kəti ~ *koti 'east wind' ~ *pimukatśi 'east' > MSJ *higashi* 'east'	≠ HK **śa** 'east' : HS **sɛyra** 'east' ~ HS dial. *sey 'south' : LMK *sʌ́y* 'east' > MSK /sɛ-/ 'east'
root/base > below	OKog **tśɨəm** 'root, base', OJpn *tśɨməw 'below' > MSJ *shimo* 'below'	≠ HK/HP **arɨ** : HS *ara : LMK *ara* : MSK /arɛ/ 'below'

* (See 'Body part terms' for the metaphorical extension of 'heart' > 'center'.)

The attested Puyo-Koguryoic and Koreanic direction words are distinct and clearly unrelated to each other. The only words that appear even hypothetically relatable are Archaic Koguryŏ *tsɨar 'back, behind' and Han-Silla dial. *tɨra/*tʊra 'west' ~ Han-Silla dial. *tɨy 'north'. If the primary semantic value of the Han-Silla word-forms is 'behind', then one could exploratorily hypothesize a loanword scenario between these Puyo-Koguryoic and Koreanic words, but before such a proposal can be demonstrated or disproven, the Korean-internal etymologies of the Han-Silla words and their cognates in Koreanic must first be established. If the hypothetical metathesis and affrication that must be proposed for such a scenario to be possible can be explained, it could be a loanword of uncertain directionality. All other direction words listed above exhibit no cognates between Puyo-Koguryoic and Koreanic.

Body part terms

The attested body part terms in Puyo-Koguryoic and Koreanic are strikingly different (see Table 4).

Table 4: Puyo-Koguryoic and Koreanic body part terms

	Puyo-Koguryoic	Early Koreanic
tooth	OKog **keyr** 'tooth' : OJpn *ki ~ *gi 'canine tooth'	≠ HS **ni** > EMK *ni > LMK *ní* 'tooth'
heart > center	PS **kɨr** 'center, central' : OKog **kɨr** : OJpn 'heart' > MSJ *kokoro*	≠ HS **…m** 'heart' LMK ***mʌzʌm*** 'heart; mind' LMK ***ryɐ̀mtʰʊ̀ŋ ~ nyɐ̀mtʰʊ̀ŋ*** 'heart (anat.)' LMK ***kàβʌ́ntʌ́y*** 'center, central'
foot	OKog **ɦa** : OJpn *a-	≠ EMK **par** : LMK *pár*

	Puyo-Koguryoic		Early Koreanic
arm ~ shoulder	OKog **maɨ** 'arm, shoulder'	≠	LMK **pʌ̀rh** 'arm' LMK **ə̀skə́y** 'shoulder'
head	OKog **kan** : OJpn *ka-	≠	EMK **mati** : LMK **mə̀rí ~ màrí**

Words for 'tooth' and 'heart' are usually cognate in many of the world's demonstrated language families. For example, English *tooth*, Latin *dens*, Armenian *atam*, Ancient Greek *odoús*, Sanskrit *dát ~ dánta* and others derived from a common Indo-European word for 'tooth'; Hungarian *fog*, Mansi *puŋk*, Finnish *pii* and others from a common Proto-Uralic word for 'tooth'; and Akkadian *šinnum*, Arabic *sinn*, Hebrew *šén*, Ge'ez *sənn* and others derived from a common Proto-Semitic word for 'tooth', to name just a few examples from well-known language families.

In contrast, Puyo-Koguryoic *keyr 'tooth' and early Koreanic *ni 'tooth' are distinct from each other and are unrelatable. Likewise, Puyo-Koguryoic *kɨr 'heart' and early Koreanic 'heart' (e.g. LMK *mʌ̀zʌ̀m ~ ryə̀mtʰʊ̀ŋ*) exhibit no demonstrable connection.

Rocks, minerals, metals, and geological formations

Table 5: Puyo-Koguryoic and Koreanic words for rocks, minerals, and geological formations

	Puyo-Koguryoic		Early Koreanic
mountain	AKog *ɣapma > OKog *ɦaɨp : MSJ *yama* OKog **tar** 'mountain, high', Puyo-Kara *ta 'mountain; high' < CJK *tar	≠	HS *mʊr : HK *pʊ : HP *mʊra ~ *mʊre : EMK mʊy(h?): LMK *mʊ̆yh ~ mʊ̀rʊ́ ~ mʊ̀h* HS ***…ɨm*** : Old Cheju (T'amna) *ʊrɨm*
valley	OKog **tan** 'valley' : OJpn *tani 'valley'	≠	LMK **kʊ̆r** 'valley'
mountain pass ~ highland	CJK ***taw*** 'pass' > OKog *taw 'mountain pass' : PP 'highland' : OJpn *təwpu ~ *təpu ~ *təpaw 'pass'	≠	HS ***tsɛyra*** 'highland' : LMK *tsáy* > MSK S. /tɕɛ/ ~ N. /tsɛ/ 'ridge, mountain pass'
stone/rock, cliff, precipice	Nivkh ⇄ OKog **paɦɨy** 'cliff, mountain, crag, precipice'	→	HS ***paɦɨy*** > LMK *pàɦʊ́y* > MSK *pawi* 'rock, stone; cliff; precipice'

	Puyo-Koguryoic		Early Koreanic
silver/white/gold	OKog ***tśiar** 'silver' : OJpn *tśira- ~ *śirö- > MSJ *shiro* ~ *shira-* 'white, silver' : PS ***sïra** 'gold; Silla'	≠	EMK ***tʊr** : LMK *tʊˇrh* > MSK /tʊr/ [tʊl] 'stone'
		→	HS ***sïra** 'Silla'
metal ~ iron	OKog ***taw** 'iron' ← Ch. dial.	≠	HP ***zïrï/*zirï** : EMK ***sʊy** : LMK *sʊ́y* 'iron, metal'
jade	OKog ***kʊ** 'jade'	← Ch. →	LMK *ʊ́k* 'jade'
lead (metal)	OJpn *namari : OKog ***namur**	→	EMK ***namur**
		≠	LMK *__náp__*

Among the currently decipherable and reconstructible Puyo-Koguryoic and early Koreanic words for geological formations, only one exhibits a clear connection between Puyo-Koguryoic and Koreanic: Old Koguryŏ *paɦïy and Han-Silla *paɦïy both denote 'rock, stone; cliff, crag, precipice'. These words are clearly related to the Nivkh word for 'stone' (*KLJ*). Given the political dominance of Puyŏ speakers after their invasion of the Korean Peninsula, the directionality must be from Puyo-Koguryoic to Koreanic. The word is retained in Modern Standard Korean as *pawi* 'rock, stone, cliff, crag, reef'.

In the territory of Paekche, the attested word for 'rock, stone' is 珍惡 *tśirak 'stone, rock (石)' (*SS* 36, 37). This interpretation relies on a regular Korean Peninsular Early Middle Chinese (KPEMC) phonetic reading of the characters 珍 *tśir and 惡 *ak, and supersedes previous *a priori* attempts to force a Koreanic reading (*pace* Toh, 2005).

As the Puyŏ people were located in Manchuria, neighboring the 鮮卑 *Serbi (*Xianbei*) and other Serbi-Mongolic speakers before their invasion of the Korean Peninsula, it is highly likely that this should be identified as a *Puyŏ*-Paekche word. I thus propose the following etymologies:

Puyŏ-Paekche ***tśirak** 'stone, rock' ← ? early Serbi-Mongolic dialect *čʰɪlaɣ < *čʰɪla-ɣU < Common Serbi-Mongolic *čʰɪla 'stone, rock' > Kitan *čala 'stone, rock'. (The Kitan word was discussed by György Kara (2021)).

Common Serbi-Mongolic *čʰɪla 'stone, rock' > pre-Proto-Mongolic *čʰɪla-ɣU > Proto-Mongolic *čʰɪlaɣʊ > MMgl *čila'u-n* [ʧʰilaɦʊ-n] > modern Khalkha Mongolian **чулуу** [ʧʰʊˈɮʊ] ~ attributive **чулуун** [ʧʰʊˈɮʊ̃] 'stone, rock'.

These words are clearly unrelated to Han-Silla *paɦɨy (and its reflexes Late Middle Korean *pàhɰ́y* and MSK *pawi* 'rock, stone; cliff; precipice') and are likewise unrelated to Early Middle Korean *tʊr ~ Late Middle Korean: 돓 *tuˇrh* ~ MSK 돌 /tʊr/ [tʊ[] 'stone, rock'.

The retention of the velar *k* in the Paekche form indicates a borrowing from a language of the Mongolic branch of Serbi-Mongolic as it exhibits a reduced reflex of the *-ɣU suffix which is one of the morphological innovations distinguishing the Mongolic branch from the Serbi branch of the Serbi-Mongolic language family (see *LASM* 415-416, 449, 459). One may speculate a loanword scenario connected with the historically documented interaction between the 柔然 Jou-jan (*Rouran*) Avar Empire of Mongolia and the Koguryŏ kingdom in 479 CE. Alternatively, it could be the result of a much earlier borrowing from a Serbi-Mongolic dialect into Proto-Puyo-Koguryoic before the establishment of the Koguryŏ kingdom, at a time when Serbi-Mongolic and Puyo-Koguryoic speakers lived together in Manchuria. (On the linguistic homeland of Serbi-Mongolic in Manchuria and North China, see *LASM*.)

Human-made structures and inventions

The earliest unambiguous attestation of a Koreanic word for 'writing' is Koryŏ Early Middle Korean *kɨr 'writing', a well-known borrowing from Old Koguryŏ with a plausible historical context (*KLJ* 174). Attested words for humanmade structures and human inventions exhibit no cognates between Puyo-Koguryoic and Koreanic (see Table 6 below).

Table 6: Puyo-Koguryoic and Koreanic words for humanmade structures and inventions

	Puyo-Koguryoic		Early Koreanic
fortress/city/capital ~ mound ~ place ~ land ~ plot of land	AKog **kuru** > OKog *kuər ~ *kɨr : PP *ki ~ *kɨ ~ *kur : PK *kʊr : PS *kɨr ~ *kʊr PS **na** : OKog *na 'land'	≠	HK **pʊr** : HP *pʊri : HS *pʊri ~ *pʊr 'mound, fortress, city' HK/HP **(t)sas** : HS *...tɕʰ : LMK *tsás 'walled city' HS **miti** : HP **meti** ~ **miti** : LMK *màtʰ ~ màt* 'plot of land' LMK **stáh ~ stàh** 'land'
ford	OKog ***ʊ ~ *ʊy ~ *wəy**	≠	LMK **nʌ̀rʌ̀**
well (for water)	PS ***ɨr** : OKog *ɨr : OJpn *wi	≠	EMK ***umur** > LMK *ùmɨ́r*
door ~ gate	PK **tʊk ~ *tʊ** : OJpn *tö	≠	LMK **ùráy**
writing	OKog ***kɨr**	→	EMK ***kɨr**

	Puyo-Koguryoic		Early Koreanic
drum (musical instrument)	OKog ***taw** : OJpn *tʊtʊmi	≠	EMK ***puk** : LMK **púp** ~ **púpʰ ~ pùpʰ** : MSK *puk*

Plant names

Table 7: Puyo-Koguryoic and Koreanic plant names

	Puyo-Koguryoic		Early Koreanic
tree, wood, forest	OKog ***kɨr** ~ ***key** : OJpn *ki : PP ***ki**	≠	EMK *namk > LMK **nàmk ~ nàmʊ́** HP ***sɨp** : LMK **súp ~ sùpʰɨ̂r**
bamboo	OKog ***na** : OJpn *nö	≠	HK ***tay** : EMK *tay : LMK *táy*
vegetable ~ vine	PS ***na** : OJpn *na	≠	LMK **nètsʰúr** LMK **nʌ̀mʌ̀rh**
soybean	OKog ***pɨy**	≠	LMK **kʰʊ̀ŋ**
orchid ~ bloom ~ cherry ~ flower	OKog ***śayk** : OJpn *sakura ~ *tsakura OJpn ***pana** 'flower'	≠	LMK **pə̀s ~ pə̀t** 'cherry' LMK **pʰɨ̂y**- 'to bloom' EMK ***kʊr/*kʊ(tsˀ)** : LMK *kʊ̀ts ~ kʊ̀s* 'flower'
garlic ~ chives	OKog ***meyr** : OJpn *mira	≠	LMK **mànʌ́r**
leek ~ onion	OKog ***kakey** : OJpn ***ki**	≠	LMK **pʰá**
chestnut	OKog ***taw**	≠	LMK **p* ̆ăm**
pine	OKog ***kur** ~ ***ku**	≠	LMK **sʊ́r**
willow ~ poplar ~ aspen	OKog ***kü ~ *kɨ** OKog ***ya**	≠	LMK **pə̀tĩr** Early Modern Korean **sɑsʌ** (17th c.) ~ **sasɨy** (18th c.) 'aspen, white poplar'*

* MSK /**sasi**-namu/ [sʰaɕinamu] 'aspen, white poplar' is now read in as *sashi* and folk-etymologizable as Sino-Korean 四時 'four seasons', but perhaps the tree name was originally a distinct non-Chinese word.

Zoonyms

It is not uncommon in languages of the world for zoonyms to be borrowed. The currently deciphered Puyo-Koguryoic words for 'ox' are loanwords from Chinese and Serbi-Mongolic, and are unrelated to the earliest Koreanic words for 'ox'.

It is well known that words for 'horse', 'bear', and certain other animal names are widespread areal words transcending language boundaries and

are thus not usable for determining language family relationships (*KLJ*). See Table 8 below.

Table 8: Puyo-Koguryoic and Koreanic zoonyms

	Puyo-Koguryoic		Early Koreanic
ox ~ cow ~ cattle	OKog ***ʊ** ← Ch. PP ***ker** ← ? SM	≠	HS ***śu** > EMK > LMK *syǔ* > MSK /sʊ/
pig	OKog ***ʊ**	≠	EMK ***tʊr/*tʊ(t?)** ← Ch.
horse	OKog ***merʊ**	← areal →	EMK ***mar/*mʌr**
owl	OKog ***tsʊ**	≠	LMK **ǔtpámí** LMK **púhə̀ŋ**
vulture ~ eagle	OKog ***kami**	≠	LMK **sùrí**
bear	OKog ***kum**	← areal →	HP ***kʊma** (*kùmá) LMK *kʊˇm*
fowl ~ bird ~ pheasant ~ chicken	OKog ***tawr** ← Ch.	≠	LMK **skwə̀ŋ** (onom.) LMK **sǎy** 'bird, fowl' LMK **tʌ̀rk** 'chicken, hen' (← areal word)

People

Table 9: Puyo-Koguryoic and Koreanic words for people

	Puyo-Koguryoic		Early Koreanic
human ~ person	OKog ***pen** : OJpn *pi-	≠	LMK **nǔm** LMK **sǎrʎm** ~ **sǎrʌ̀m** ~ **sàrʌ̀m**
man ~ boy ~ child	OKog ***paɨ** 'man' : PS *paɨ 'boy' OKog ***ku** 'child' < CJK ← SM	≠	HS ***pʊk** : HK ***mʊk** 'child, boy'
king ~ ruler ~ lord	OKog ***kay** ~ ***key** 'king' ← East Scythian	≠	HK/HP ***nirim** : LMK *nĭm*

Water and watercourses

Table 10: Puyo-Koguryoic and Koreanic words for water and watercourses

	Puyo-Koguryoic		Early Koreanic
water ~ river	OKog ***mey** : OJpn *mi	≠	HK ***mur** 'water' HK ***ta ~ *tay** : HP *nari ~ *nare : LMK *nǎyh* 'river' HS ***kuər ~ *kur** : LMK *kʌ̀rʎm* > MSK *karam* 'river'

	Puyo-Koguryoic		Early Koreanic
sea ~ ocean	OKog ***pa** : OJpn *pa-	?	HS ***…tʌ ~ *…ak** LMK **pàtáh** ~ **pàrʌ́r**

"If the Old Koguryo word and the root of the Middle Korean words are related, it is by convergence—Korean having borrowing *pa 'sea' from Koguryo and subsequently adding further derivational elements to it" (*KLJ* 178-179).

Supernatural concepts

Attested words for 'spirit, soul, ghost' exhibit no cognates across Puyo-Koguryoic and Koreanic (see Table 11 below).

Table 11: Puyo-Koguryoic and Koreanic words for supernatural concepts

	Puyo-Koguryoic		Early Koreanic
spirit ~ ghost ~ soul	PS ***tɨ** : PP ***tɨr ~ *tśɨr** ~ *tɨ : OJpn *ti	≠	EMK ***(nək?)ś-i** : LMK **nə̀ks** (cf. MSK /kwisin/ ← Ch. 鬼神)

4.2.3   Adjectives and Adjectival Verbs

Table 12: Puyo-Koguryoic and Koreanic adjectives and adjectival verbs

	Puyo-Koguryoic		Early Koreanic
yellow	AKog ***kweru** > OKog *kuər : OJpn *ki ~ *ku	≠	HK ***tʊra-** : LMK **nʉ́rá-**
red	OKog ***śapɨy** : OJpn *(t)sapi ~ *(t)sabi	≠	MSK /p̣arka-/ < /parkah-/ < LMK **pʌ̀rk-ʌ hʌ-** ~ LMK **pʌ̀rk-** 'bright, brilliant' (cf. Common Nivkh *baɣla- 'red')
shallow ~ flat ~ level ~ wide ~ broad ~ vast	OKog ***pirar** ~ ***piriar** ~ OKog *piar : OJpn *pira- ~ *pirö	≠	LMK **nyə̀tʰ-** 'shallow' LMK **nə̀p-** 'wide, broad, vast'
deep	OKog ***puk** : OJpn *pʊka-	≠	EMK ***kipʰ-** : LMK **kìpʰ-**
abundant ~ flourishing ~ rich	OKog ***śa** : OJpn *sa-	≠	LMK **nə̀k nə̀k** LMK **mă̌n hʌ́-** ~ **mà̌n hʌ́-**
cool ~ cold	OKog ***śamiar** < CJK *sam-	≠	LMK **tsʰíp-** ~ **tsʰíβ-** (cf. Common Nivkh *tiv-)

	Puyo-Koguryoic		Early Koreanic
good	OKog ***mey** 'good' : PP *mey 'peaceful'	≠	HK ***na-** 'outstanding'
long	OKog ***namey**, OJpn *naga- ~ *naⁿga-	≠	HK ***kir** : LMK *kĭr-* (cf. Common Nivkh *gǝl- 'long')
happy ~ praise ~ enjoy	Not attested; cf. OJpn ***tanō-** 'enjoy'	≠	HK ***ki** : HS *ki : LMK *kìs-*

4.2.4 Verbs

Attested verbs in Puyo-Koguryoic and early Koreanic reveal no cognates (see Table 13 below). However, there may be one Serbi-Mongolic verb borrowed into Puyo-Koguryoic (details in the entry for Puyŏ-Paekche *tɨ 'gather, meet' in §6.2.2.13 below).

Table 13: Puyo-Koguryoic and Koreanic verbs

	Puyo-Koguryoic		Early Koreanic
overlook ~ look	OKog ***ħa**	≠	HS ***pʊ-**
take	OKog ***taw** : OJpn *tǝwr- < CJK *taw- 'take'	≠	LMK ***kàtsí-*** 'take' LMK ***pàt-*** 'receive' LMK **ǝ˘*t-*** 'acquire'
enter	OKog ***i ~ *yi-** : OJpn *ir ~ *yir-	≠	LMK ***tĩr-***
encounter ~ meet	OKog ***paɨk**	≠	LMK ***màts-***
open	OKog ***tawpi**	≠	LMK ***yǝ˘r-***
gather ~ meet	PP ***tɨ** (← ? SM)	≠	LMK ***mùt-***
exist	Not attested; cf. OJpn ***ar-**	≠	HS ***itś- ~ *ɨtś-** > LMK *ìs-*

5   Concluding remarks

As demonstrated by the grammatical morpheme comparisons in §4.1 Table 1 and by the numerous lexical comparisons in section §4.2, the Puyo-Koguryoic languages and the Koreanic languages clearly do not form a language family relationship. (See section §6 below for primary and secondary sources and for detailed etymological notes.)

The available linguistic data thus cannot support the traditional speculative attempts to connect the Puyo-Koguryoic and Koreanic languages as two branches of a common source node: That is, Puyo-

Koguryoic and Koreanic are unrelated and mutually distinctive language groups.

From this sample of attested Puyo-Koguryoic words and their semantic equivalents in early Koreanic, it is clear that the functional morphology and the vast majority of the lexicon of these two language groups are distinct, aside from a few loanwords from Puyŏ to Han.

Other loanwords include borrowings from Chinese to Puyŏ, Serbi-Mongolic to Puyŏ, and from Puyo-Koguryoic to Jurchen-Manchu. There are also a few Nivkh-Puyŏ and Nivkh-Koreanic lexical correspondences indicative of loanwords. The Han (Koreanic) data in this paper exhibits only one possible connection with Serbi-Mongolic but this is doubtful: Early Koreanic *mur 'water' resembles Common Serbi-Mongolic *murə 'large river' (*LASM* 354).

The logical conclusion is that Puyo-Koguryoic and Koreanic are two distinct, mutually exclusive language groups: That is, Puyŏ or Puyo-Koguryoic is a branch of the Japanese-Koguryoic language family (as demonstrated by Beckwith, *KLJ*) and Koreanic (Han) is a unique language family.

6   Attested and reconstructed Early Koreanic and Puyo-Koguryoic forms

Early Koreanic and Puyo-Koguryoic words and morphemes in this article are discussed in detail below with cognates, etymologies, sources, and earliest reconstructible etyma.

6.1   Early and Medieval Koreanic

This paper addresses some of the earliest linguistic data from the Koreanic language family, including Early Koreanic and Middle Korean. Common Koreanic (CKor) denotes reconstructions based on the comparative method applied to the earliest Koreanic linguistic data. Lexical entries in the sections below are organized alphabetically by their reconstructed forms. Words transcribed in the *Samguk sagi* (*SS*) and the *Samguk yusa* (*SY*) are reconstructed based on Korean Peninsular Early Middle Chinese (KPEMC) readings (q.v. *KLJ*; Shimunek, 2021b; Shimunek, 2021a; and Shimunek, 2023).

6.1.1 Early Koreanic ('Old Korean dialects')

Early Koreanic languages or 'Old Korean dialects' in this paper include Han-Silla, Han-Paekche, and Han-Kara.

6.1.1.1 Han-Silla (HS)

Han-Silla is the Koreanic language spoken Silla. The data here primarily dates to the Unified Silla period, and encompasses the earliest *hyangga* data, semantically glossed and phonetically transcribed words in the Silla toponym corpus in the *Samguk sagi* as well as data from the *Samguk yusa*.

1. HS 二肹 (*SY*) *...ɣɨr ~ 二尸 (*SY*) *...r 'two' < CKor > EMK *tuβur (*KYS*, *NCR*, *SZR*) : LMK *tŭr(h)* > MSK *tur* [tu] ~ *tu-* 'two' (Shimunek, 2021b, pp. 145-147).
2. HS 矣 ~ 衣 (*SY*) *-ɦɨy : HP *-ɨy (see HP *sɨp 'forest' below) < CKor *-ɦɨy ~ *-ɨy 'genitive-attributive suffix' > > MSK 의 /-ɨy/ 'genitive suffix'.
3. HS 隱 (*SY*) *-ɨn : EMK *-n < CKor *-ɨn ~ *-n 'deverbal relative clause forming suffix'.
4. HS 於叱 ~ 有叱 (*SY*) *itś-/*ɨtś- > LMK *ìs-* > MSK 있- /iṣ̆-/ [it ̚ ~ iṣ̆-] 'to exist' (Shimunek, 2021b, p. 146; Shimunek, 2023, p. 96 n. 74, p. 101). The kugyŏl orthographic form 有七 in the 13th century text 舊譯仁王經 *Kuyŏk Inwanggyŏng* (Lee, 2011, p. 60) renders the same verbal root, which I reconstruct as EMK *itś-/*its- 'to exist'. On the change of final *tś/*ts to later *s*, see entry for HS *-tś ~ *-ts 'genitive-attributive suffix' below.
5. HS 岳音 (*SY*) *...ɨm 'mountain' : Old Cheju (T'amna) *ʊrɨm 'mountain' < CKor *ʊrɨ- 'to ascend, go up'. Cf. Common Nivkh *ul- 'high' (*CND* 186).
6. HS 近 (*SS*) *kɨ-r ~ 巾 (*SS*) *ki-r 'good, praise, commend (嘉)' < HS *kɨ- ~ *ki- 'to praise, commend, be good' + *-r 'relative clause forming suffix' (cf. *ki- 'praise' + *itś- 'exist' > LMK *kìs-* 'to rejoice, to be happy').
7. HS 骨 (*SS*) *kuər ~ *kur 'river (川)', perhaps cognate to LMK *kʌrʌ́m* > MSK *karam* 'river', though the vocalism is problematic.
8. HS 心音 (*SY*) *...m 'heart' (also attested as 心未 *...m-ɨy with *-ɨy 'genitive-attributive suffix') : LMK *mʌzʌm* 'heart' > MSK *maɨm* 'heart'.
9. HS 莫 *mak 'south' (erroneously glossed in *SS* as 北 'north', corrected to *南 'south' by Toh, 1987) : LMK *màh* 'south'.
10. HS 彌知 (*SS*) *miti 'vicinity of the capital, royal domain (畿)' : HP *meti ~ *miti 'city' : LMK *màtʰ ~ màt* 'plot of land' < CKor *mati (perhaps *mat-i with -i 'nominative case suffix'). Cf. Jpn *miti* (MSJ *michi*) 'street, road', *mati* (MSJ *machi*) 'town' ← ? early Koreanic.

11. HS 文 (*SS*) *mʊr (KPEMC *mur rendering foreign *mʊr) : HP *mʊra ~ *mʊrɪ : LMK *mʊˇyh ~ mʉ̀rʉ́ ~ mʉ̀h* > MSK 뫼 *moe* [mwe] ~ 메 *me* [me] 'mountain' ([Shimunek, 2023, pp. 98-101](#)).

12. HS 四 刂 (HW) *(nə²)ri 'four' < CKor *nəri(h²) > EMK *nəyh : LMK *nəˇyh* ([Shimunek, 2021b, pp. 142-143](#); revised from [Lee, 2017, p. 143](#)). Cf. Common Nivkh *nə(r)- 'four' (*CND*).

13. HS 尼 (*SS*) *ni ~ 尼 (*SY*) ~ 齒 (*SY*) *ni 'tooth' (attested in HP 尼師今 *ni-s-kɨm and its variants 尼叱今 ~ 齒叱今 *ni-tś-kɨm, composed of HS *ni 'tooth' + *-s ~ *-tś 'genitive-attributive suffix' + *kɨm (noun of unknown meaning) : EMK *ni > LMK *ní* > MSK *i* 'tooth' < CKor *ni 'tooth'.

14. HS 波衣 (*SY*) *pahɨy 'rock, cliff, precipice'← OKog 波兮 *pahɨy ⇄ pre-Nivkh > Common Nivkh *baʀ 'stone' (*CND*, *pace* [Kang, 1983, p. 124](#)).

15. HS 卜 ~ 伏 ~ 福 (*SY*) *pʊk 'child, youth, boy' : HK *mʊk 'child, son'; no cognates in medieval or modern Koreanic ([Shimunek, 2023, pp. 92-94](#), *pace* [Lee, 1970, pp. 201-210](#)).

16. HS 火 (*SS*) [=伐] *pʊr 'mound (丘); fortress, walled city (城)' : HP *pʊri 'soil mountain; mound; high level ground' : HK *pʊ 'mountain' < CKor *pʊr 'mound; fortress, city' (cf. [Kōno, 1987, p. 83](#)).

17. HS 火 (*SS*) [=伐] *pʊ-r 'overlook (臨)', analyzable as HS *pʊ- 'to look, overlook' (cognate to EMK > LMK *pʊˇ- ~ pʊ́- ~ pʊ̀-* 'to look' > MSK /pʊ-/ 'to look') + *-r 'relative clause forming suffix'.

18. HS *-r 'relative clause forming suffix' (see HS *kɨ-r ~ *ki-r 'good' and HS *pʊ-r 'overlook' above) (cf. also [Sin, 2002, p. 63](#), for this suffix in 慕理尸.).

19. HS 竹尸 (HW) *...r ~ 竹伊 (HW) *...i ~ 竹利 (HW) *...ri 'bamboo' : HK *tay 'bamboo' : EMK *tay : LMK *táy* > MSK /tɛ/ 'bamboo' ([Shimunek, 2021b, pp. 142-143](#); revised from [Lee, 2017, pp. 272-273](#)).

20. HS 蒜尸 *...r 'garlic' (compare LMK *mànʌ́r* 'garlic').

21. HS 西良 (*SS*) *sɛyra ~ 東尸 (*SY*) *sʌyr 'east' : HK *śa 'east' (~ dialectal 'south') : LMK *sʌ́y* 'east' > MSK /sɛ-/ 'east' in sailor's jargon 새바람 /sɛ-param/ [sɛbaram] 'east wind' ([Shimunek, 2023, pp. 90-91, 100-101](#)).

22. HS *sɨra ~ *sira ~ *sɨrʊ 'Silla' (← PS *sɨra ~ *sira ~ *sɨrʊ 'gold; Silla' q.v. infra). With the added Han-Silla word *pʊr 'city', the capital city of early Silla is *sɨra *pʊr 'Golden City (金城)' (*SS*) or 'Silla City'. Although the Silla capital was located in what is now the modern city of 慶州 Kyŏngju (Gyeongju), this city name, originally two separate words, was reanalyzed as a single word, and was semantically extended to denote 'capital city' in general: Its Late Middle Korean reflex *syəˇβɨr* 'capital city' is the immediate origin of the capital city of modern South Korea, 서울 MSK /səur/ [sʰəu̯]

'Seoul' (see Kōno, 1987, p. 83, and Lee & Ramsey, 2011, pp. 47, 75 for similar proposals). The Han-Silla reading *sɨra ~ *sira 'Silla' – and specifically the form 新羅 (KPEMC *sirla), read as HS *sira – was replaced in MSK with the later, modern Sino-Korean reading 신라 [ɕʰiːˈa] 'Silla'.

23. HS 首 (SS) *śu 'ox, cow, cattle (牛)' > EMK *śʊ : LMK syǘ > MSK /sʊ/ 'ox' (Shimunek, 2023, pp. 96, 101; KLJ 168)

24. HS 一等 (SY) *...tʌ(N) 'one' : EMK *hatʌn ~ *harʌn (KYS, NCR, SZR) : LMK hʌ̀nàh ~ hʌ̀n- : MSK hana ~ han- 'one' (Shimunek, 2021b, pp. 145-147, revised; Lee Seungjae 2017, p. 145, revised; Tsuji, 2000a, 2000b).

25. HS 海等 (SY) *...tʌ(N) ~ 海惡 (SY) *...ak 'ocean, sea'. Insufficient phonetic details to confirm or demonstrate a connection with LMK pàrʌ́r ~ pàtáh 'ocean, sea' nor for a loanword relationship with OKog *pa 'ocean, sea' (q.v. infra).

26. HS dial. 豆良 (SS) *tɨra/*tʊra 'west (西)' ~ HS dial. 知 (SS) *tɨy/*ti 'north (北)' : HP *ti 'north' : LMK tǔyh 'behind, back; north' > MSK twi 'back, behind'.

27. HS 叱 (SS) *-tś ~ HS northern dial. 次 (SS) *-ts 'genitive-attributive suffix' : HK *-s : HK/HP *-(t)s : LMK -s (-ㅅ) 'genitive-attributive' < CKor *-tś ~ *-ts (Shimunek, 2023, pp. 94-98). As noted by Ross King, 19th century Russian sources on northern dialects attest an affricate /-ts/ 'genitive-attributive suffix' corresponding to Modern Standard Korean orthographic -s 'genitive-attributive' (King, 1991, p. 121; Shimunek, 2023, p. 96).

28. HS 城叱 (SY) *...tś (*tśatś) : HK/HP *(t)sas : LMK tsás 'walled city, fortification' (Shimunek, 2023, pp. 95-96 n. 72, p. 101, with revision pace Kōno, 1987, p. 79).

29. HS 切也 (SS) *tsɛyra 'highland (皐)' : LMK tsáy 'ridge, mountain pass, ridge' > MSK chae S. [tɕɛ] ~ N. [tsɛ] 'ridge, mountain pass' < CKor *tsayrʌ 'ridge, mountain pass'. On the KPEMC reading of the HS transcription, see Shimunek, 2023, p. 86 n. 12.

30. HS 雨谷 (SS) *ukʊk/*uyʊk/*urʊk 'north (北)' : HK/HP *ʊk-/*uk- 'above' : LMK ùh 'above' > MSK wi 'above, upper' (Shimunek, 2023, pp. 97, 101).

6.1.1.2 Han-Paekche (HP)

Han-Paekche is the Koreanic language spoken in the bilingual Paekche kingdom. This language, like all Han languages, is divergently related to the modern Korean language. It was spoken alongside the unrelated Puyŏ-Paekche language (below).

1. HP *-ɨy 'genitive-attributive case suffix' (see entry for HP *sɨp 'forest' below).

2. HP *kʊma (*kùmá) 'bear', attested in transmitted form in Late Middle Korean in the Paekche toponym *kùmá *nʌ́rʌ̀ 'Bear Ford', the name of the Paekche capital Ungjin near modern-day Kongju (Gongju). See LMK kʊ̆m 'bear' for etymological notes.

3. HP 仇知 (SS) *kuti 'gold (金)' : LMK kùrí 'copper' > MSK kuri 'copper'.

4. HP 未知 (SS) *miti ~ 旀知 (SS) *meti 'city (邑)' < CKor *mati (perhaps */mat-i/ with *-i 'nominative case suffix') 'plot of land' > LMK 맏 màtʰ ~ 맏 màt 'plot of land' > MSK 마당 madang 'plot of land, yard', a blend of LMK 맏 màt + Chosŏn Sino-Korean 댱 (場) tyang 'plot of land' (cf. Jpn miti 'street', mati 'town' ← ? early Koreanic).

5. HP 毛良 (SS) *mʊra ~ ムレ ~ 武例 ~ 牟礼 ~ 茂梨 (NS) *mʊrɪ 'tall, high (高); mountain (山)' : HS *mʊr 'mountain' : HK *pʊ 'mountain' : LMK mʊ̆yh ~ mùrʊ́ ~ mùh 'mountain' > MSK 뫼 moe [mwe] ~ 메 me [me] 'mountain' (Shimunek, 2023, pp. 98-101, pace Kōno, 1987, pp. 76-77).

6. HP ナリ (NS) *nari ~ ナレ (NS) *narɪ 'river' : HK *ta ~ *tay 'river' : LMK nǎyh > MSK /nɛ/ 'river, stream' (Shimunek, 2023, p. 101).

7. HP 夫里 (SS) *pʊri 'soil mountain (阜); walled city, fortification (城); high ground (敞)' : HS *pʊri ~ *pʊr 'mound, fortress, city' (cf. Kōno, 1987, p. 83).

8. HP *sɨp 'forest' (SS, attested in the genitive case form 所非 *sɨp-ɨy '[of the] forest (林)' = *sɨp 'forest' + *-ɨy 'genitive-attributive case suffix') : LMK súp 'marsh overgrown with wild plants' ~ sùpʰʌ̌r 'forest' > MSK 숲 /supʰ/ [supˈ~ supʰ-] 'forest'.

9. HP 實於 (SS) *zirɨ/*zirɨ 'iron (鐵)' < ? CKor *źirɨ/*zúrɨ > EMK *sʊy 'iron' > LMK súy 'iron, metal'.

10. HP 知 (SS) *ti 'north (北)' : HS dial. *tɨra/*tʊra 'west' ~ HS dial. *tɨy 'north' : LMK tʊ̆yh 'back, behind; north' > MSK twi 'back, behind'.

6.1.1.3 Han-Kara (HK)

Han-Kara is the Koreanic language spoken in the southern kingdom of Kara (Kaya) before it was absorbed by Silla in the early years of its territorial expansion.

1. HK 吉 (SS) *kir 'long time (永)' : LMK kɨ̆r- 'to be long' : MSK /kir-/ [ki[- ~ kir- ~ ki-] 'long' (cf. Common Nivkh *gəl- 'long', CND). The word 吉 'long time' has previously been treated as a word from Silla territory (Lee & Ramsey, 2011, p. 52). Toh (1987) correctly identifies

this as a word from former Kara territory. It is thus a Han-Kara word.

2. HK 木 (*SS*) *mʊk 'child, son' : HS *pʊk 'child, youth, boy'; no cognates in medieval or modern Koreanic (Shimunek, 2023, pp. 92-94).

3. HK 浦 (*SS*) *pʊ 'mountain (山)' : HS *mʊr ~ HP *mʊra ~ *mʊrɪ : LMK *mʊˇyh ~ mʊ̀rʊ́ ~ mʊ̀h* > MSK 뫼 *moe* [mwe] ~ 메 *me* [me] 'mountain' (Shimunek, 2023, pp. 98-101).

4. HK 勿 (*SS*) *mur 'water (水)' : EMK *mur/*mɨr : LMK *mɨ́r* > MSK /mur/ [muɭ ~ ᵐbuɭ] 'water' (cf. Late Kitan *mur 'river' < CSM *murə 'large river', *LASM* 354).

5. HK 內 (*SS*) *na- 'outstanding (善)' : MSK 나- *na-* 'to excel, be outstanding' as in MSK 잘나- *challa-* 'to be excellent, extraordinary, remarkable' (literally: 'to emerge well') < CKor *na- 'emerge; excel, be outstanding, remarkable'.

6. HK 斯 (*SS*) *-s : HK/HP *-(t)s : HS *-tś ~ *-ts > LMK -*s* 'genitive-attributive' < CKor *-tś ~ *-ts (Shimunek, 2023, pp. 97-98).

7. HK 沙 (*SS*) *śa 'east (東)' (~ dialectal 'south') : HS *sɛyra ~ *sʌyr 'east' : LMK *sʌ́y* 'east' > MSK /sɛ-/ 'east' (e.g. MSK sailor's jargon *saebaram* [sɛbaram] 'east wind') (Shimunek, 2023, pp. 90-91, 100-101).

8. HK 多 (*SS*) *ta ~ 大 (*SS*) *tay 'river (河); brook (谿)' : HP *nari ~ *narɪ 'id.' : LMK *nǎyh* > MSK /nɛ/ 'river, stream' (Shimunek, 2023)

9. HK 推 (*SS*) *tay 'bamboo (竹)' : HS *…r ~ *…i ~ *…ri : LMK *táy* > MSK /tɛ/ 'bamboo'.

10. HK 推 = 崔 (*KLJ* 15) *ts(ʷ)əy(h) 'three': EMK *səy(h) > LMK *sə ˇyh* > MSK *set ~ se- ~ sək-* 'three'.

11. HK 召羅 (*SS*) *tʊra (MChi ⁺ɖiawla) 'yellow (黃)' : EMK Kaesŏng dial. *narʊ- : LMK Hanyang dial. *nʊ́rá-* 'yellow' < CKor *ⁿdʊra- ~ *nʊra- 'yellow'.

6.1.1.4 Han-Kara or Han-Paekche (HK/HP)

Some of the early Koreanic words transcribed in kana in the *Nihon shoki* are difficult to identify as Kara or as Paekche (cf. Kōno, 1987, p. 77). The words are certainly from one of these two kingdoms, but in instances when the exact provenance between these two is unknown, I have indicated them as 'Han-Kara or Han-Paekche' to remain faithful to the source material.

1. HK/HP *arɨ- (*NS* アル- OJpn *aru- ~ アロ- OJpn *aro- ~ 阿留- OJpn *aru-) 'below, lower (下)' : LMK *àrà* 'below' : MSK /arɛ/ 'below' (Shimunek, 2023, pp. 97, 100, *pace* Kōno, 1987, p. 77).

2. HK/HP *arp- (*NS* アリヒ- ~ 阿利比- OJpn *aripi-) 'south (南)' : LMK 앒 *àrpʰ* 'front, south' > MSK 앞 /apʰ/ [ap̚ ~ apʰ-] 'front' (Shimunek, 2023, pp. 97, 100, *pace* Kōno, 1987, p. 77).

3. HK/HP *nirim (☆*nìrím*) (*NS* ニリム OJpn *nirimu) 'lord' (cf. Kōno, 1987, p. 76): LMK *nĭm* : MSK -*nim* 'respectful person suffix' (see etymology in entry for LMK *nĭm* below).

4. HK/HP *-(t)s (*NS* -シ OJpn *tsi/*si) : HS *-tś ~ *-ts > LMK -*s* < CKor *-tś ~ *-ts 'genitive-attributive suffix' (Shimunek, 2023, pp. 97-98).

5. HK/HP *(t)sas (*NS* サシ OJpn *tsatsi/*sasi) 'walled city, fortification' : HS *...tśʰ 'walled city, fortification' : LMK *tsás* (Shimunek, 2023, pp. 95-96n72, 101, with revision).

6. HK/HP *ʊk-/*uk- 'upper, above part' (*NS* オコ- ~ ヲコ- ~ ウヲコ- OJpn *oko- ~ *woko- ~ *uwoko-, glossed 'upper; highest, head, foremost; thriving') : HS *ukʊk/*uyʊk/*urʊk 'north' : LMK *ùh* > MSK *wi* 'above' (Shimunek, 2023, pp. 97, 101).

6.1.2   Middle Korean

Middle Korean is solidly attested in two different periods: Koryŏ Early Middle Korean (EMK) and Chosŏn Late Middle Korean (LMK) (see Lee & Ramsey, 2011 for this periodization). Modern Standard Korean (MSK) forms are only cited when particularly progressive or otherwise informative.

6.1.2.1   Koryŏ Early Middle Korean (EMK)

This data is primarily attested from the early part of the Koryŏ Kingdom before it became a vassal state of the Mongol Empire. The primary sources of EMK data in this paper are sourced in the 12th-century *Jilin Leishi* (*Kyerim Yusa*), the *Nichūreki* (*NCR*), the *Sezokujiruishō* (*SZR*), the 1120 *Toijangga* (*TJ*), the mid-13th century *Hyang'yak Kugŭppang* (*HYKP*), and kugyŏl readings in the 13th century *Kuyŏk Inwanggyŏng* (Lee, 2011). Some of the differences between attested EMK and attested LMK which cannot be explained as regular changes from one period of the language to the next may be due to geographical dialectal differences: In Koryŏ when EMK was spoken, the capital was in Kaesŏng, whereas LMK data is mostly attested from the Chosŏn capital of Hanyang (Seoul).

1. EMK *ahʊrp (*SZR* アフル ~ *KYS* 鵶好) : LMK *àhúp* > MSK /ahʊp/ [aɦʊp] 'nine'. No word for 'nine' is attested in earlier Han (Koreanic) sources. If the final glyph ル in the Middle Japanese transcription アフル (MJpn *aɸuru) is faithful to the original, taken together with the Chinese transcription 鵶好 (KPEMC ☆*aχʊ* ~ MChi Pul. 354, 121

☆ʔaɨχaw) it suggests EMK *ahʊrp 'nine'. (Cf. Attested Middle Chinese 好 *hau* ~ *hou* Cob./Tak. 0428).

2. EMK *han/*hʌn *sʊy (*KYS* 漢歲) 'silver (銀)' (literally: 'white metal') : LMK *hʌ́y-n* 'white' – based on the *KYS* form, Nam reconstructs LMK **hʌy-n *sʊy* 'silver' (Nam, 2024, p. 1470; I have added the asterisks to indicate that this LMK form is not attested in LMK sources – the source Nam cites is *KYS*, so the LMK form is thus Nam's reconstruction).

3. EMK *hatʌn ~ *harʌn (*KYS* 河屯, *NCR* カタナ, *SZR* カラナ) : LMK *hʌ̀nàh* : MSK *hana ~ han-* 'one' (Shimunek, 2021b, pp. 145-146). Considering the limitations of Middle Japanese phonotactics, the kana transcriptions カタナ (*NCR*) MJpn *katana and カラナ (*SZR*) MJpn *karana transcribe EMK *hatʌn ~ *harʌn 'one', as Middle Japanese does not have /h/, /ʌ/, nor does it have coda /n/ (Shimunek, 2021b, pp. 145-146).

4. EMK *ħʊn (*KYS* 醞) : LMK *ħʊ́n* 'hundred'.

5. EMK *irkip ~ *nirkup ~ *nirkʊp (*KYS*, *NCR*, *SZR*) : LMK *nìrkúp* > Early Modern Korean *nirkʊp* > MSK /irkʊp/ [i̞lɡʊp̚] 'seven'. As Tsuji Seiji (2000a, 2000b) has correctly demonstrated, the EMK numeral 'seven' is misglossed as 'eight' in the Middle Japanese sources. The Middle Japanese phonetic transcriptions in *NCR* are the most problematic and clearly involve several layers of copyist errors. I propose that チリクニ is an error for *ニリクチ, and that チ is an error for *フ. The original transcription should thus be reconstructed as *ニリクフ (MJpn *nirikuɸu), rendering EMK *nirkup 'seven' (though erroneously glossed as 'eight'). The transcription タリクニ is an error for *ニリクタ in which the glyph タ is an error for *フ, rendering the same transcription as above, i.e., *ニリクフ (MJpn *nirikuɸu). These necessary revisions, though complicated, are clearly correct, as the *SZR* transcription ニリコフ (MJpn *nirikoɸu) for EMK *nirkʊp precisely matches the *KYS* transcription 一急 *irkip 'seven' and LMK *nirkup ~ nirkʊp* 'seven'.

6. EMK *itś-/*its- (*Kuyŏk Inwanggyŏng* 有叱) 'to exist' (see entry for HS *ɨtś- 'to exist' above).

7. EMK *kipʰ- 'deep', attested in EMK *kipʰ-ɨn (*KYS* 及欣) 'deep (深)' : LMK *kìpʰ-* > MSK /kipʰ-/ 'deep'.

8. EMK *kɨr (*KYS* 乞) 'letter, glyph (字); writing (書)' > LMK *kǐr ~ kɨr* > MSK /kɨr/ [kɨl] 'writing' (see OKog *kɨr 'writing' for etymology).

9. EMK *kʊr/*kʊ(s?)/*kʊ(ts?) (*KYS* 骨) 'flower (花)' : LMK 곶 *kùts* ~ 곳 *kùs* > MSK 꽃 /k͈ʊtɕʰ/ [k͈ʊt̚ ~ k͈ʊtɕʰ-] 'flower, blossoms'.

10. EMK *mar/*mʌr 'horse' ← non-distinctive areal word. See LMK *mὰr* > MSK /mar/ [maɭ] 'horse' below.

11. EMK (*KYS* 麻帝) *mati 'head (頭)' : LMK *mὰrí* 'head' > MSK 'head; hair on one's head'. The EMK word is also the etymon of the LMK sortal unit classifier *màrí* used for counting certain animals, and its MSK reflex *mari*, e.g., MSK /mar han-**mari**/ 'one horse'. (On phoronyms, including classifiers, see Beckwith, 2007b)

12. EMK *mur/*mɨr (*KYS* 沒) 'water (水)' : LMK *mɨ́r* 'water' (see HK *mur 'water' above).

13. EMK *mʊy(h?) (*KYS* 每) 'mountain (山)' : LMK *mʊ˘yh ~ mὺrʊ́ ~ mὺh* > MSK 뫼 *moe* [mwe] ~ 메 *me* [me] 'mountain' (Shimunek, 2023, pp. 99).

14. EMK */namk-i/ (*KYS* 南記) 'tree (木)' = */namk/ 'tree' with /-i/ 'nominative case suffix' > LMK *nàmk ~ nàmù* > MSK *namu* 'tree, wood'.

15. EMK *namur (*HYKP* 那勿) 'lead (metal)' ← OKog *namur 'lead (metal)' (*KLJ* 175; Lee, 1964, p. 17). Replaced in LMK with the unrelated word *náp* (see below).

16. EMK *narʊ-n (*KYS* 那論) 'yellow (黃)' (see entry for HK *tʊra- 'yellow' above).

17. EMK *narʊnɨy (*KYS* 那論義) 'gold (金)'. The root is EMK *narʊ- 'yellow' (see HK *tʊra- 'yellow' above).

18. EMK (*TJ* 魂是) *(nək?)ś-i, inflected form of */(nək?)s/ 'soul' with */-i/ 'nominative case suffix' : LMK 넋 *nὲks* > MSK 넋 /nəks/ [nək̚]# ~ [nəks-] ~ [nəkɕ-] 'soul, spirit, ghost'.

19. EMK *nəyh ~ *ⁿdəyh (*KYS* 洒 ~ *NCR* ト ヰ MJpn *towi ~ ト ヒ MJpn *toɸi ~ *SZR* ト イ MJpn *toi) : LMK *nə˘yh* 'four' (Shimunek, 2021b, pp. 142-143). See HS *...ri 'four' above for etymology. As with EMK *səyh 'three' below, Middle Japanese *ɸ in the *NCR* and *SZR* transcriptions of Early Middle Korean are attempts to render EMK coda *h#* positionally limited by Middle Japanese phonotactics.

20. EMK *ni (*KYS* 你) 'tooth (齒)' > LMK *ní* > MSK /i/ 'tooth' (see HS *nitśkɨm above).

21. EMK **par (*KYS* 潑) 'foot (足)' : LMK *pár* 'foot'.

22. EMK *pʊ- (*KYS* 鋪) 'look' (attested in the sense of 讀 'read') < HS *pʊ 'look' above.

23. EMK *puk (*KYS* 濮) 'drum (鼓)' : LMK *púp ~ púpʰ ~ pùpʰ* > MSK *puk* 'drum'.

24. EMK *səyh (*KYS* 洒) > LMK *sə˘yh* > MSK *set ~ se- ~ sək-* 'three'. Middle Japanese transcriptions of EMK: *NCR* サ ヰ MJpn *sawi ~ ソ ヒ MJpn *soɸi and *SZR* ソ イ MJpn *soi 'three'. Tsuji Seiji (2000a, 2000b)

correctly demonstrates that the semantic glosses for 'three' and 'four' were flipped in *NCR*. The Middle Japanese (MJpn) segment *ɸ is an attempt to render the final *h of the Korean form. Thus, in my analysis, サヰ (MJpn *saɸi) and ソヒ (MJpn *soɸi) are both attempts to render EMK *səyh 'three'. Middle Japanese phonotactics do not allow coda *h#*. Likewise, MJpn *o could render Korean *o*, *ʊ*, or *ə*.

25. EMK *sʊy (*KYS* 歲) 'iron (鐵)' (see HP *zirɨ/*zɨrɨ 'iron').
26. EMK *śʊ (*KYS* 燒) 'ox, cow, cattle (牛)' (see HS *śu 'ox' above).
27. EMK *tasɨs ~ *tasʌs : LMK *tàsʌ́s* 'five'. The EMK forms are attested as follows: 打戌 (*KYS*), ハスヽ ~ ハソヽ ~ サソヽ (*NCR*), and タヽス ~ タスソ (*SZR*). In my analysis, ハ (MJpn *ɸa) is a scribal error for the premodern kana 太 (MJpn *ta). Thus, the transcription ハスヽ should be revised to *太スヽ (MJpn *tasusu) and ハソヽ should be revised to *太ソヽ (MJpn *tasoso). The form サソヽ is a copyist's error for *太ソヽ (MJpn *tasoso). The form タヽス is likewise an error. As Tsuji Seiji (2000a, 2000b) has correctly demonstrated, the *NCR* semantic glosses are flipped: The numeral for five is labeled as 'six', and the numeral for six is glossed as 'five'.
28. EMK *tay (*KYS* 帶) 'bamboo (竹)' : LMK *táy* > MSK /tɛ/ 'bamboo'. See EMK *tay above and HS *...r 'bamboo' above for etymology.
29. EMK *tuβur ~ *tuβu(r) ~ *tuβʊr (*KYS* 途孛, *NCR*, *SZR*) : LMK *tŭr(h)* > MSK *tur ~ tu-* 'two' (Shimunek, 2021b, pp. 145-147). Middle Japanese kana transcriptions of EMK: ツフリ ~ トフ (*NCR*) and ツホル ~ ツフル (*SZR*) (cited from Tsuji 2000a, 2000b), which I read as MJpn *tuɸuri ~ *toɸu ~ tuɸoru ~ tuɸuru.
30. EMK *tʊr (*KYS* 突) 'stone (石)' : LMK *tʊˇrh* 'stone' > MSK *tor* [tʊ⦁] 'stone'.
31. EMK *tʊr/*tʊ(t?) (*KYS* 突) 'pig (豬)'. See LMK *tʊ̀t ~ tʊ̀tʰ* 'pig' below.
32. EMK *umur (*KYS* 烏沒) 'well (井)' > LMK *ùmɨ́r* (cf. LMK *úmh* 'cellar, hole' + *mɨ́r* 'water') > MSK *umur* [umu⦁] 'well'.
33. EMK *yər(h?) (*KYS* 噎 ~ *SZR* エル) : LMK *yə́rh* 'ten'. It is generally agreed that the *NCR* transcriptions of EMK 'ten' are erroneous; as such, I have not cited them here.
34. EMK *yəsɨs ~ *yəsʌs : LMK *yə̀sɨ́s* 'six'. The EMK forms are attested as follows: 逸戌 (*KYS*), エスヽ MJpn *yesusu ~ エソヽ MJpn *yesoso (*NCR*), and エスヽ MJpn *yesusu ~ エスソ MJpn *yesuso (*SZR*). The Japanese glyph エ is pronounced *e* in Modern Standard Japanese, but in Middle Japanese it was pronounced *ye (IPA */je/), and could thus transcribe Middle Korean *yə or *ə. Given the Late Middle Korean and Modern Korean forms, the Japanese glyph エ (MJpn *ye) here is clearly a transcription of EMK */yə/.

35. EMK *yətʌrp (*NCR* エタリ MJpn *yetari* ~ *SZR* エトロフ MJpn *yetoroɸu* ~ *KYS* 逸答) : LMK *yə̀t́irp* 'eight'. The *KYS* transcription 逸答, read *yərtVp, is undoubtedly an attempted phonetic transcription of EMK *yətVrp limited by the phonotactic constraints of Chinese, which at this point in time did not (and even today still does not) allow consonant clusters.

6.1.2.2 Chosŏn Late Middle Korean (LMK)

Late Middle Korean is the language of the earliest Hangŭl texts of the 15th to early 16th centuries. It is important to distinguish these earlier Hangŭl texts from the later, Early Modern Korean texts. Note that the Late Middle Korean and Modern Standard Korean vowel ㅗ (rendered as "o" in most conventional romanization systems) is phonemically treated as /ʊ/ in this paper. Likewise, Late Middle Korean and Modern Standard Korean Hangŭl ㄹ represents the phonemic /r/. Unless otherwise indicated, the Late Middle Korean words below are my phonemic representations of early Hangul orthographic forms in Nam, *Koŏ sajŏn* 古語辭典 (2024) and Hangŭl Hakhoe, *Uri mal k'ŭn sajŏn* 우리 말 큰 사전 (1992).

1. LMK *àhúp* > MSK /aɦʊp/ 'nine' (see EMK *ahʊrp 'nine' above).
2. LMK *àrà* 'below' < CKor > HS *ara : HK/HP *arɨ- 'below' (Shimunek, 2023, p. 97).
3. LMK *àrpʰ* (see entry for HK/HP *arp above).
4. LMK *ə̀skə́y* 'shoulder' > MSK /ək̚ɛ/ 'shoulder'.
5. LMK *ə̌t-* > MSK /ət-/ 'get, have, obtain, acquire, etc.'
6. LMK *hʌ̀nàh* ~ *hʌ̀n-* : MSK *hana* ~ *han-* 'one' (See EMK *hatʌn ~ *harʌn 'one' above).
7. LMK *ɦún* 'hundred' (replaced in MSK with Sino-Korean 百 (백) *paek* [pɛk̚] 'hundred').
8. LMK *ìs-* 'to exist' (see HS *itś- ~ *ɨtś- above for etymology).
9. LMK *kàβʌ́ntʌ́y* > MSK /kaunte/ [kaunde] 'center, central'.
10. LMK *kàtsí-* 'to take, bring'. Superficially similar to Manchu *gajĭ-* 'bring', but perhaps unrelated, cf. Manchu *gai-* 'take' and Manchu *jĭ-* 'come'.
11. LMK *kʰòŋ* 'soybean' > MSK 'bean' (in general).
12. LMK *kìpʰ-* > MSK /kipʰ-/ 'deep'.
13. LMK *kĭr-* 'to be long' : MSK *kir-* [kil̚- ~ kir- ~ ki-] 'long'. See HK *kir 'long time' above for etymology.
14. LMK *kìs-* 'to rejoice, to be happy' < HS *ki- 'to praise, commend, be good' + *itś- 'exist' (see HS *ki-r and HS *itś- above). Cf. MSK 기쁘-

kippŭ- /kipɨ̈-/ 'to be happy' < LMK *kìs-pɨ̈* < LMK *kìs-* 'to be happy, rejoice'.

15. LMK *kɨ̌r ~ kɨ́r* > MSK /kɨr/ [kɨ̈l] 'writing' as in /han kɨr/ [haŋgɨ̈l] 'Hangŭl' (see EMK *kɨr 'writing' above for etymology).
16. LMK *kʌ̀rʌ́m* > MSK *karam* 'river'. (See HS *kur 'river' above.)
17. LMK *kʊˇm* 'bear' ← widespread areal word with comparanda in Chinese, Tibeto-Burman, Koreanic, and Japanese- Koguryoic (*KLJ* 152-153). See HP *kʊma (*kʊ̀má) 'bear' above.
18. LMK *kʊˇr* 'valley' > MSK 골짜기 'valley, vale, canyon, ravine, gorge'.
19. LMK *kʊ̀ts ~ kʊ̀s* > MSK /kʊ̈tɕʰ/ [kʊ̈t̚ ~ kʊ̈tɕʰ-i] 'flower, blossoms' (see EMK *kʊr/*kʊ(s?)/*kʊ(ts?) above).
20. LMK *màh* 'south' (see HP *mak 'south' above). Replaced in MSK with Sino-Korean 南 *nam* 'south' but retained in sailor's jargon as 마파람 [mapʰaram] 'south wind' from */mah-param/ 'south-wind'.
21. LMK *mǎn hʌ́ - ~ màn hʌ́ -* 'to be abundant, plentiful, many' (← Ch. 萬 'ten thousand; plentiful' + LMK *hʌ-*) > MSK 많- *manh-* 'to be plentiful, abundant'.
22. LMK *mànʌ́r* 'garlic' (compare HS 蒜尸 *...r 'garlic').
23. LMK *màrí* sortal unit classifier for counting certain animals (see EMK *mati 'head' above).
24. LMK *màts-* 'meet, receive, greet, encounter, etc.', the root of MSK 맞- /matɕ-/ 'match, correct, agree' etc. and MSK 만나- /manna-/ 'to meet, encounter' etc.
25. LMK *mə̀rí* 'head' (see EMK *mati 'head' above).
26. LMK *mʌ̀r* > MSK /mar/ [mal] 'horse' (see EMK *mar/*mʌr 'horse' above for this non-distinctive areal word).
27. LMK *màtʰ ~ màt* < CKor *mati (perhaps */mat-i/ with *-i 'nominative case suffix') > HP *meti ~ *miti (SS) : HS *miti (SS) (cf. Jpn *miti* 'street', *mati* 'town' ← ? early Koreanic).
28. LMK *mɨ́r* 'water' (see HK *mur 'water' above).
29. LMK *mʊ̀t-* > MSK /mʊi-/ 'gather'.
30. LMK *mʊˇyh ~ mʊ̀rʊ́ ~ mʊ̀h* 'mountain' > MSK 뫼 *mwe* ~ 메 *me-* 'mountain'.
31. LMK *mʌ̀zʌ̀m* 'heart' (> MSK *maɨm* 'heart') < CKor (see HS 心音 *...m 'heart' above).
32. LMK *nàmk ~ nàmʊ̀* 'tree, wood' (see EMK *namk above) > MSK *namu* 'tree, wood'.
33. LMK *náp* 'lead (metal)' > MSK *nap* 'lead'. The LMK and MSK words are unrelated to EMK *namur (see above).
34. LMK *nə̀k nə̀k* > MSK /nək nək/ [nəŋnək] 'plenty, wealthy, well-off, sufficient, rich, abundant'.

35. LMK *nə̀ks* > MSK /nəks/ [nək̚]# ~ [nəks-] ~ [nəkɕ-] 'soul, spirit, ghost'.
36. LMK *nə̀p-* > MSK /nərp-/ 'wide, broad, vast'.
37. LMK *nə̀tsʰúr* 'vine' > MSK /nəntɕʰur/ [nəntɕʰul̚] 'vine'.
38. LMK *nə˘yh ~ nə̀- ~ nə˘k-* > MSK *net ~ ne- ~ nək-* 'four'. See HS *...ri 'four' above for etymology.
39. LMK *ní* > MSK *i* 'tooth' (cf. HS *niskɨm 'tooth' above).
40. LMK *nɨ̆m* 'lord, monarch, ruler' < CKor *nirim (*nìrím) 'lord' > HK/HP *nirim (*nìrím?) 'lord' (*NS*). The Modern Standard Korean reflex -*nim* is a suffix added to titles and personal names to express respect. The older meaning of 'lord' is retained in MSK /imkɨm/ [imgɨm] 'lord, monarch, ruler' < LMK *nɨ̆m-kɨ̆m ~ nɨ̆m-kúm* < LMK *nɨ̆m* 'lord'.
41. LMK *nìrkúp* > Early Modern Korean *nirkʉp* > MSK /irkʊp/ [il̚gʊp] 'seven'.
42. LMK *nʌ̀mʌ̀rh* 'herbs, wild vegetables, sprouts, greens' > MSK /namur/ [namul̚] 'id.'
43. LMK *nʌ̀rʌ̀* 'ford' > MSK *naru* and its bound post-lateral variant -*laru* 'ford' (e.g., Jamsillaru Station on the Seoul Metropolitan Subway).
44. LMK *nʉ́m* 'person, human' > MSK /nʊm/ 'guy, blighter, bloke, bastard, jerk' (the modern word is mostly pejorative). Perhaps related to LMK *nʌ́m ~ nʌ̀m* > MSK *nam* 'other person, stranger'.
45. LMK *nʉ́rá-* 'yellow' (see entry for HK *tʊra- 'yellow' above).
46. LMK *nyə̀mtʰʊ̀ŋ* (see LMK *ryə̀mtʰʊ̀ŋ* below).
47. LMK *nyə̀tʰ˞* > MSK /yətʰ-/ ~ /yatʰ-/ 'shallow'.
48. LMK *pʰá* 'onion, green onion, scallion, spring onion, leek'.
49. LMK *pàhʉ́y* > MSK *pawi* 'rock; crag; reef' (see OKog and HS *paɦɨy above for etymology).
50. LMK *păm* 'chestnut'.
51. LMK *pár* 'foot' < EMK **par* 'foot'.
52. MSK 빨가- /p̚arka-/ [p̚al̚ga-] 'to be red' < 발갛- /parkah-/ 'red' < LMK *pʌ̀rk-ʌ hʌ-* ~ LMK *pʌ̀rk-* > /park-/ 'to be bright, brilliant' (cf. Common Nivkh *baɣla- 'red' *CND* 189, *pace* Kang, 1983, p. 123).
53. LMK *pàrʌ́r ~ pàtáh* > MSK *pada* 'ocean, sea'.
54. LMK *pàt-* > MSK /pat-/ 'get, have, receive, take, obtain, be given, etc.'
55. LMK *pə̀s ~ pə̀t* 'cherry (blossom)' > MSK 벚 (orthographically *pec*, phonemically /pət/), e.g., MSK 벚꽃 'cherry blossom'.
56. LMK *pə̀tɨ̆r* 'willow'.
57. LMK *pʰɨ́y-* > MSK *pʰi-* 'to bloom, blossom'.
58. LMK *pʊ˘- ~ pʉ́- ~ pʉ̀-* 'to look' (see HS *pʊ- above for etymology).
59. LMK *pʌ̀rh* 'arm' > MSK /pʰar/ [pʰal̚] 'arm'.
60. LMK *púhə̀ŋ* > MSK /puəɲi/ 'tufted owl'.

61. LMK *púp ~ púpʰ ~ pùpʰ* 'drum' (see EMK *puk 'drum' above).
62. LMK *ryə̀mtʰʊ̀ŋ ~ nyə̀mtʰʊ̀ŋ* 'heart (bodily organ)'. This word has no currently identified etymology. It may be an onomatopoetic word, imitating the sound of a beating heart.
63. LMK *sărʌ́m ~ sărʌ̀m ~ sàrʌ̀m* 'person, human' > MSK *saram* 'human, person'.
64. LMK *sǎy* 'bird, fowl' > MSK /sɛ/ 'bird'.
65. LMK *sə˘yh ~ sə̀- ~ sə˘k-* > MSK *set ~ se- ~ sək-* 'three'.
66. LMK *sʌ́y* 'east' < CKor > HS *sɛyra ~ HS dial. *sey 'south' : HK *śa 'east' (Shimunek, 2023). Though retained in sailor's jargon, this word has been largely replaced in MSK with Sino-Korean 東 *tong* 'east'.
67. LMK *skwə̀ŋ* 'pheasant' (onomatopoeic in origin) > MSK 꿩 [k̚wən] 'pheasant'.
68. LMK *stáh ~ stàh* 'land' > MSK 땅 [t̚aŋ] 'land'.
69. LMK *sʊ́r* 'pine' > MSK /sʊr/ [sʊɭ ~ sʊ-] 'pine'.
70. LMK *sùrí* 'vulture, eagle' > MSK /tʊksuri/ 'vulture, eagle' with the added Sino-Korean element 禿 /tʊk/ 'bald'.
71. LMK *sʊ́y* 'iron, metal' (see HP *zirɨ/*zirɨ 'iron' above).
72. LMK *syə˘βir ~ syə˘hùr ~ syə˘húr ~ syə˘hùrh ~ syə˘hùrh* 'capital city' < HS *sɨra ~ *sira ~ *sɨrʊ 'Silla' (← PS *sɨra ~ *sira ~ *sɨrʊ 'gold; Silla') + HS *pʊr 'city'.
73. LMK *syʊ́* (see HS 首 *śu 'ox' above).
74. LMK *tàsʌ́s ~ tày-* > MSK *tasət* 'five'.
75. LMK *táy* > MSK *tae* [tɛ] 'bamboo'. See EMK *tay above and HS *...r 'bamboo' above for etymology.
76. LMK *tɨ́r-* > MSK /tɨr-/ [tiɭ- ~ tɨr- ~ ti-] 'enter'.
77. LMK *tsás* < CKor ☆tśátś > HS *...tśʰ : HK/HP *(t)sas 'walled city, fortification' (Shimunek, 2023, pp. 95-96n72, 101, with revision).
78. LMK *tsáy* 'ridge, mountain pass' > MSK S. [tɕɛ] ~ N. [tsɛ] 'ridge, mountain pass' (see HS *tsɛyra above for etymology).
79. LMK *tsɨ́mɨ̀n* 'thousand' (replaced in MSK with Sino-Korean 千 (천) *ch'ŏn* [tɕʰən] 'thousand').
80. LMK *tsʰíp- ~ tsʰíβ-* > MSK /tɕʰup- ~ tɕʰuw-/ 'cold' (cf. Common Nivkh *tiv- 'cold' *CND* 183, *pace* Kang, 1983, p. 110).
81. LMK *tɨr(h) ~ tɨ̆-* > MSK *tur ~ tu-* 'two' (Shimunek, 2021b, pp. 145-147).
82. LMK *tɨ̆yh* 'behind; north' < CKor > HP *ti 'north' : HS dial. *tɨra/*tʊra 'west' ~ HS dial. *tɨy 'north'.
83. LMK *tʊ˘rh* 'stone' > MSK /tʊr/ [tʊɭ] 'stone' (see EMK *tʊr 'stone' above).

84. LMK *tʊ̀t ~ tʊ̀tʰ* ← LOC dial. 豚 (Shimunek, 2021b, p. 138). MSK *twɛʣi < tʊyaʣi < tʊdaʣi* < LMK *tʊ̀t* 'pig' + - *atsi* 'diminutive suffix denoting the young of certain domesticated animals'. Cf. EMK *tʊr/*tʊ(t?) 'pig'.

85. LMK *tʌ̀rk* 'chicken, hen' is an areal word with comparanda in Serbi-Mongolic, Turkic, Manchu-Tungusic, Hungarian, and other languages (*LASM* 372).

86. LMK *ʊ̀h* 'above' < CKor > HS *ukʊk/*uyʊk/*urʊk 'north' : HK/HP *ʊk-/*uk- 'above, top' (Shimunek, 2023, pp. 97, 101).

87. LMK *ʊ́k* 'jade' ← 玉 Ch. 'jade'.

88. LMK *ʊ̀mɨ̋r* 'well' (cf. LMK *ʊ́mh* 'cellar, hole' + *mɨ̋r* 'water' < EMK *umur 'well', *KYS*) > MSK /umur/ [umu⌐] 'well'.

89. LMK *ʊ̀rɐ́y* 'door, gate', replaced in MSK by Sino-Korean Replaced in MSK by Sino-Korean 門 *mun* 'door, gate'.

90. LMK *ʊ́tpámí* > MSK /ʊrpɛmi/ [ʊ⌐pɛmi] 'owl (without tufts)'.

91. LMK *yə̆r-* > MSK /yər-/ [jəɭ- ~ jər- ~ jə-] 'to open'.

92. LMK *yə́rh* > MSK /yər/ [jəɭ] 'ten'.

93. LMK *yə̀sɨ́s ~ yə̀y- ~ yə̀s-* > MSK /yəsət/ 'six'.

94. LMK *yə̀tɨ́rp* > MSK 여덟 /yətər/ [jədəɭ] 'eight'. The final /p/ of the LMK form was lost in MSK at the phonemic level, though it is retained in the orthography. According to Lee and Ramsey, 2011, p. 160, the /p/ phoneme is retained in Cheju [jʌdʌp] 'eight'.

6.1.2.3 Old Cheju (T'amna)

Old Cheju or Han-T'amna is minimally attested in the 17th century *T'amnaji* (*TNJ*). The data in that source indicate a language belonging to the Koreanic language family.

1. Old Cheju (T'amna) 兀音 (*TNJ*) *ʊrɨm 'mountain (岳)' : HS 岳音 (*SY*) *...ɨm 'mountain' < CKor *ʊrɨ- 'to move up, ascend, rise'.

6.2 Puyŏ (Puyo-Koguryoic)

The Puyŏ (Puyo-Koguryoic) languages are distantly related to Japanese, forming a distinct branch of the Japanese-Koguryoic language family (*KLJ*). These languages were spoken by the Puyŏ people of Manchuria, who invaded the 三韓 Three Han states of the early Korean Peninsula and formed the powerful kingdoms of Koguryŏ and Paekche. Puyŏ people also seem to have been instrumental in the early politics of Silla (*KLJ*).

Comparative reconstructions based on more than one Puyŏ dialect are 'Common Puyo-Koguryoic' (CPK). Reconstructions based on Puyŏ and Japanese data are termed 'Common Japanese-Koguryoic' (CJK).

6.2.1 Koguryŏ

Koguryŏ is the language of Koguryŏ, the largest kingdom in Korea's history, which included all of today's Korean Peninsula, extending north into Manchuria and including parts of modern China and Russia. Unless otherwise noted, all Archaic Koguryŏ (AKog), Old Koguryŏ (OKog), Archaic Japanese (AJpn), and Old Japanese (OJpn) cognates cited below are from *KLJ*. As the Koguryŏ lexica in §6.2.1.1 and §6.2.1.2 below have been studied in detail by Beckwith (*KLJ*), I have not reproduced the original Chinese character transcriptions.

6.2.1.1 Archaic Koguryŏ (AKog)

Archaic Koguryŏ is the earliest attested stage of the Koguryŏ language, documented in Late Old Chinese transcriptions of the ca. 3rd century CE (*KLJ*; Shimunek, 2021b, p. 153).

1. AKog *ɣapma > OKog *ɦaɨp : MSJ *yama* < CJK *ɣapma 'mountain' (*KLJ*).
2. AKog *kor 'front' ~ AKog *kör 'right (side)' : ? MSJ *ko* 'this, previous' < OJpn *kö < PJpn *koi (*KLJ*). See entry for PP *kʊrʊ 'south' below for cognate and CPK etymology.
3. AKog *kuru > OKog *kuər 'walled city, fort' : ? OJpn *kura 'storehouse' < CJK *kuru 'walled city, fort, embankment' (*KLJ*), and probably also denoting 'moat'. Additional reflexes of the CJK form include PK *kʊr (*NS*, Shimunek, 2023, p. 95 n72) and PS *kɨr ~ *kʊr (*SS*, see below). See additional comparanda in the entry for PP *ki ~ *kɨ 'walled city, fortification' below.
4. AKog *kweru > OKog *kuər 'yellow' : OJpn *ki ~ *ku (> MSJ *ki-* 'yellow' in *kiiro*) < CJK *kuer(u) 'yellow' (*KLJ*).
5. AKog *mey 'good' (see OKog *mey 'excellent, good' below for etymology and cognates).
6. AKog *na : AJpn *nâ > OJpn *nö < CJK *na 'genitive-attributive' (*KLJ* 118-119, 238, 250, 251).
7. AKog *tsɨar ~ *tsʷiar 'back, behind' > OKog *tśɨri 'north' : OJpn *tsiri ~ *siri 'back, behind; rump, buttocks' < CJK *tsɨri 'back, behind' (*KLJ*).

6.2.1.2 Old Koguryŏ (OKog)

Old Koguryŏ is the language of the *Samguk sagi* Koguryŏ toponym corpus (*KLJ*; Shimunek, 2021b).

1. OKog *ħa 'overlook' (*KLJ*) : PP *ħa 'riverbank, shore' < CPK *ħa 'overlook'. No identified Japanese cognates.
2. OKog *ħa : OJpn *a- 'foot' < CJK (*KLJ*).
3. OKog *ħaɨp 'mountain' (see AKog *ɣapma 'mountain' above for etymology).
4. OKog *ħaɨp 'west' : OJpn *yami 'darkness, evening' (*KLJ*).
5. OKog *i ~ *yi- 'enter' : OJpn *ir ~ *yir- 'enter' < CJK *i 'enter' (*KLJ*).
6. OKog *ɨr 'spring, source; well' : OJpn *wi 'well' < CJK *wir 'spring, well' (*KLJ* 142 and Beckwith, 2006, p. 225). Also cognate to PS *ɨr 'well' (see below).
7. OKog *kakey 'leek blossom' : OJpn *ka 'scent' + OJpn *ki 'onion' (*KLJ*).
8. OKog *kami 'vulture' (*KLJ*).
9. OKog *kan : OJpn *ka- > OJpn *kabu 'head' ~ *kapo 'face' (*KLJ*).
10. OKog *kati 'east' : OJpn *kəti ~ *koti 'east wind' ~ *pimukatśi 'east' > MSJ *higashi* 'east' < CJK *kati 'east' (*KLJ* and Beckwith, 2006, pp. 207-208).
11. OKog *kay ~ *key 'king' : PP *key 'king' : OJpn *kimi 'ruler, lord' < CJK *kay ~ *key 'ruler, monarch' (*KLJ*) ← East Scythian *kay ~ *key < χšayă 'king' (Christopher I. Beckwith, p.c., 2024).
12. OKog *keyr 'tooth' : OJpn *ki ~ *gi 'canine tooth' > MSJ *ki-* as in *kiba* 'animal tooth' (< OJpn *ki 'canine tooth' + *pa 'tooth') (*KLJ*).
13. OKog *kɨr 'center' : < CJK *kɨrɨ 'heart; center' > OJpn 'heart' > MSJ kokoro 'heart' (*KLJ*). Also cognate to PS *kɨr 'center, central' (q.v. infra).
14. OKog *kɨr 'mound; ruins of a city' (*KLJ*) : OKog *kuər 'walled city, fort' below.
15. OKog *kɨr 'tree, wood' : OJpn *kɨ ~ *ki 'tree' < CJK *kɨr 'tree, wood' (*KLJ*).
16. OKog *kɨr 'writing' → EMK *kɨr (*KLJ* 174) > LMK *kɨr ~ *kɨr > MSK /kɨr/ [kɨl] 'writing, glyph'.
17. OKog *ku 'child' : OJpn *kʊ (> MSJ *ko*) < CJK *ku 'child' (*KLJ*) ← Serbi-Mongolic > MKit *ku (*LASM*).
18. OKog *kʊ 'jade' ← Ch. (*KLJ*).
19. OKog *kuər < AKog *kweru 'yellow' : OJpn *ki ~ *ku > MSJ ki- 'yellow' in *kiiro* (*KLJ*).
20. OKog *kuər 'walled city, fort' (see AKog *kuru for etymology).

21. OKog *kum 'bear' : OJpn *kuma < CJK *kuma ← widespread areal word with comparanda in Chinese, Tibeto-Burman, Korean, and Japanese- Koguryoic (*KLJ* 152-153).

22. OKog *kur ~ *ku 'pine' < CJK *kɨr 'tree, wood' (*KLJ*).

23. OKog *kü ~ *kɨ 'poplar, willow' < CJK *kɨr 'tree, wood' (*KLJ*).

24. OKog *maɨ 'arm, shoulder' (*KLJ*).

25. OKog *merʋ 'colt' ← areal word, cf. English *mare* (*KLJ* 1 45-146).

26. OKog *mey 'water, river' : OJpn *mi 'water' > MSJ *mizu* 'water' (*KLJ*).

27. OKog *mey 'excellent, good' < AKog *mey 'good' : OJpn *mi 'exalted, honored' < 'excellent' < CJK *mey 'excellent, good' (*KLJ*). Also cognate to PP *mey 'peaceful, pacified'.

28. OKog *meyr 'garlic' : OJpn *mira 'leek, Chinese chives, fragrant-flowered garlic' < CJK *meyra 'allium' (*KLJ*).

29. OKog *mir 'three' : OJpn *mi 'three' < CJK *mir 'three' (*KLJ*).

30. OKog *na 'bamboo' : OJpn *nö > MSJ -*no* in compounds (*KLJ*).

31. OKog *na 'land, province, prefecture' : pre-OJpn *na- 'earth' > OJpn *nawi 'earthquake' (*KLJ*) : PS *na 'area in the vicinity of the capital'. Superficially an exact match to Manchu-Tungusic *na* 'land', possibly suggesting a Puyo-Koguryoic loanword in Manchu-Tungusic. For other identified Puyo-Koguryoic loanwords in Manchu-Tungusic, specifically in Jurchen-Manchu, see Shimunek, (2021a); Beckwith (2014); and Beckwith (2017).

32. OKog *namey 'long' : OJpn *naga ~ *naᵑga < CJK *na- 'long' (*KLJ*).

33. OKog *namur : OJpn *namari (*KLJ* 133) < CJK *namVr- 'lead (metal)'. OKog *namur → EMK *namur 'lead (metal)' (*KLJ* 175; Lee, 1964, p. 17; *pace* Lee and Ramsey, 2011, p. 96, who read "namol"). Unrelated to LMK *náp* 'lead (metal)'.

34. OKog *nan 'seven' : OJpn *nana 'seven' < CJK *nan 'seven' (*KLJ*). Superficially similar but probably unrelated to Manchu-Tungusic *nadan* 'seven' (*KLJ* 180-181).

35. OKog *pa 'sea' : OJpn *pa- < CJK *pa 'sea' (*KLJ* 134, 178-179). Superficially resembles the first syllable of LMK *pàrʌ́r ~ pàtáh* 'ocean, sea', but a connection, if any, remains to be demonstrated or disproven.

36. OKog *paɦɨy 'cliff, mountain, crag, precipice' (*KLJ*) ⇄ ? pre-Nivkh > Common Nivkh *baʀ 'stone'. (See HS *paɦɨy above).

37. OKog *paɨ 'man' (*KLJ*) : PS *paɨ 'boy, youth' (*SY*) (Shimunek, 2023, p. 93n55, 102) < CPK *paɨ 'male human'.

38. OKog *paɨk 'to encounter, meet' (*KLJ* 134, 182).

39. OKog *pen 'human, person' : OJpn *pi- 'human, person' (*KLJ* xii; Kiyose, 2004, p. 237).

40. OKog *pirar ~ *piriar 'shallow' ~ OKog *piar 'level, flat' : OJpn *pira- 'level, flat' ~ *pirö 'wide, broad, vast' (*KLJ*).

41. OKog *piɨ 'soybean' (*KLJ*). Previously unidentified cognate in OJpn *pi (*pɨ?) 'soybean', via internal reconstruction methods applied to MSJ *hishio* 'fermented soybean paste' < OJpn *pi(t)sipo < *pi 'soy' + *(t)sipo 'salt'.

42. OKog *puk 'deep' : OJpn *pʊka- 'deep' < CJK *puk 'deep' (*KLJ*).

43. OKog *śa 'abundant, flourishing, luxuriant, rich' : OJpn *sa- in OJpn *sati 'fortune, fortunate', *sapa 'much, abundant', *saki 'fortune, fortunate, properous, prosperity', and *sakay- 'flourishing, glory, splendor, abundant, prosperous' (*KLJ*).

44. OKog *śamiar 'cool' : OJpn *samu- ~ *tsamu- 'cool, cold' < CJK *sam- 'cool' (*KLJ*).

45. OKog *śapɨy 'red' : OJpn *(t)sapi ~ *(t)sabi 'rust, to rust; red' < CJK *sapɨy 'red' (*KLJ*).

46. OKog *śayk 'orchid' : OJpn *sakura ~ *tsakura 'cherry (blossom)' < CJK *sak- 'bloom'.

47. OKog *si ~ *śi 'adjective-attributive suffix' : OJpn *-si- < CJK *si ~ *śi 'adjective-attributive' (*KLJ* 119, 251; Shimunek, 2023, p. 98 n. 88).

48. OKog *tan 'valley' : OJpn *tani 'valley' (*KLJ*).

49. OKog *tar 'mountain, high' < CJK *tar 'high, tall; mountain' > OJpn *take- 'high mountain, mountain peak' ~ OJpn *taka- 'high' (*KLJ*) : PK *ta 'mountain; high' (Shimunek, 2023, p. 102).

50. OKog *taw 'iron'← ? 鐵 Ch. dial. (*KLJ*).

51. OKog *taw 'take' : OJpn *təwr- ~ *təwri- 'take' < CJK *taw- 'to take' (*KLJ*).

52. OKog *taw 'chestnut' : OJpn *tʊti 'horse-chestnut' < CJK *taw 'chestnut, horse-chestnut' (*KLJ*).

53. OKog *taw 'drum' : OJpn *tʊtʊmi 'drum' < CJK *taw 'drum' (*KLJ*).

54. OKog *taw 'mountain pass' : OJpn *təwpu- ~ *təpu- ~ *təpaw- > MSJ *tō-* 'to pass through' < CJK *taw- 'pass' (*KLJ*) : PP *taw 'highland' (q.v. infra).

55. OKog *tawpi : OJpn *təwpu- ~ *təpu- ~ *təpaw- 'to pass through, open' < CJK *tawpu- 'to open' (*KLJ*).

56. OKog *tawr 'pheasant' : OJpn *təwri 'fowl, bird' < CJK *tawr 'fowl' ← 鳥 OChi *təwr 'fowl, bird' (*KLJ* 138).

57. OKog *tək : OJpn *tə ~ *təwo < CJK *təkwo (*KLJ*).

58. OKog *tśiar 'silver' : PS *sɨra 'gold' : OJpn *tśira- ~ *śirö- > MSJ *shiro* ~ *shira-* 'white, silver' (*KLJ*).

59. OKog *tśɨəm 'root, base', OJpn *tśɨməw 'below' > MSJ *shimo* 'below' (*KLJ*).

60. OKog *tśɨri 'north' (see AKog *tsɨar for etymology).
61. OKog *tsʊ 'owlet' : Ojpn *tʊku 'owl' (*KLJ*).
62. OKog *ʊ ~ *ʊy ~ *wəy 'ford' : PJpn *u 'crossing' < CJK *u 'crossing; ford' (*KLJ*).
63. OKog *ʊ 'ox, cow, cattle' : OJpn *usi/*utśi/*utsi < *u 'ox' + *si 'animal' < CJK *u 'ox, cow, cattle' ← Old Chinese 牛 *ŋû 'cow, ox, cattle' (*KLJ*).
64. OKog *ʊ 'pig' : OJpn *wi 'boar, pig' < CJK *wi 'pig, boar' (*KLJ*). Middle Kitan *uy/*wi 'pig, boar' may be a borrowing from Japanese-Koguryoic (*LASM* 410).
65. OKog *ütsi 'five' : OJpn *itu 'five' < CJK *itu- ~ *ütu- 'five' (*KLJ*).
66. OKog *ya 'willow' : OJpn *ya- 'willow' < CJK *ya 'willow' (*KLJ*).

6.2.2 Puyŏ-Paekche (PP)

Puyŏ-Paekche is the Puyŏ language of the bilingual kingdom of Paekche, founded by Puyŏ people who had invaded the early Koreanic state or confederation of 馬韓 Ma Han.

1. PP 阿 (*SS*) *ħa 'river bank (湄)', shore (濱)' : OKog *ħa 'overlook' < CPK *ħa 'overlook'.
2. PP 支 (*ZS*) ~ 瑕 *key 'king (王)' (see OKog *key 'king' above for cognates and etymology).
3. PP 見 (*SS*) *ker 'ox, cow, cattle (牛)' ← ? Serbi-Mongolic (cf. MMgl *hüker ~ üker*).
4. PP 其 (*SS*) *ki 'forest (林)' : OKog *kɨr 'tree, wood' (see OKog entry above for etymology).
5. PP 基 ~ 只 ~ 岐 ~ 已 (for *己) (*SS*) *ki ~ *kɨ 'walled city, fortification (城), embankment, ditch (溝)' ~ *kɨr 斤 'city (邑)' < earlier PP *kur 屈 ~ *kuər 骨 ~ *χuər 忽 'walled city, fortification (城), dike, ditch, embankment (堤)' : PK *kʊr 'fortress, walled city' : PS *kɨr 'mound' ~ *kʊr 'walled city, fortress' (Shimunek, 2023, p. 95 n. 72, revised. cf. Kōno, 1987, p. 82). See AKog *kuru 'walled city' above for cognates and etymology.
6. PP 古龍 (*SS*) *kʊrʊ 'south (南)' : PS *kʊr 'south' : AKog *kor 'south, front' < CPK *kʊrʊ 'south, front' (see AKog *kor ~ *kör above for JK comparanda).
7. PP 買 (*SS*) *mey 'peaceful, pacified (安)' : OKog *mey 'excellent, good' (see OKog *mey 'good' above for etymology).
8. PP 買 (*SS*) *mey 'river (川)' < 'water' < CJK *mi 'water' (for detailed etymology and OJpn cognates, see OKog *mey 'water, river' above).

9. PP 乃 (*SS*) *na 'land, place' > 'walled city, fortification (城)' ~ 'unit of area (頃)' attested in the Puyŏ-Paekche phrase 加知乃 *kati *na and its variant 加乙乃 *kar *na 'market' (literally, 'selling place', with PP *kati ~ *kar 'selling' perhaps cognate to Japanese 借り- *kari-* 'to borrow, rent, owe' or perhaps a borrowing from 價 MChi *kaɨ 'sell'). This word is cognate to OKog *na 'land, province, prefecture' (q.v. above for etymology).

10. PP 斯 (*SS*) *-si 'adjective-attributive morpheme' (see entry for OKog *si ~ *śi above).

11. PP 冬 (*SS*) *taw 'highland (皐)' < CPK *taw- 'mountain pass; highland'. The CPK form *taw- 'mountain pass' is superficially similar in form to Middle Mongol *daba-* 'to cross a mountain, pass over, overcome an obstacle', but a connection, if any, remains to be demonstrated.

12. PP 近 (*SS*) *tir/*ʦir 'ample, abundant (殷)' ~ 豆 (*SS*) *tɨ 'ten thousand (萬)' : OJpn 知 *ti 'thousand, thousands, large in number' < CJK *tir/*tɨr 'thousands, large in number'. Alternatively: 千 EMC dial. *tsʰeř → PP → OJpn *ti 'thousand(s), large in number'.

13. PP 豆 (*SS*) *tɨ (KPEMC ☆tʊ rendering foreign *tɨ) 'gather, meet (會)' ← Serbi-Mongolic, cf. Middle Kitan *tiw- 'to gather, meet', cognate to Written Mongol *tegü-* and Middle Mongol *temgü- ~ tüü-* 'collect, gather up' < Common Serbi-Mongolic *tʰəɣu- 'to gather (transitive or intransitive)' (*LASM*).

14. PP 突 (*SS*) *tɨr (KPEMC ☆tʊr rendering foreign *tɨr) 'spirit, ghost (靈)' : OJpn 智 *ti 'spirit, spiritual power (靈)' (*JDB* 452) (> MSJ *chi* ち (靈) 'id.') < CJK *tɨr 'spirit, ghost, spiritual power'.

15. PP 堗 (*SS*) *tɨr/*tʊr 'nine (九)'. No identified cognates. Distinct from MSJ *kokono-* < OJpn *kökönö 'nine', which is ultimately a loanword from Chinese as demonstrated by *KLJ* 161.

16. PP 珍惡 (*SS*) *tśirak 'stone (石)' ← ? early Mongolic dialect *čʰɪlaɣ < *čʰɪla-ɣU < Common Serbi-Mongolic *čʰɪla 'stone, rock' > Kitan *čala 'stone, rock'. My reconstruction *tśirak is based on a straightforward KPEMC phonetic reading of the characters. This reading solves a major problem with traditional readings which attempt to force the Paekche form to match Modern Standard Korean 돌 /tʊr/ [tʊl] or its LMK etymon :돓 *tʊˇrh 'rock, stone'. Given the otherwise attested ethnolinguistic contact between early Japanese-Koguryoic peoples and Serbi-Mongolic peoples, and the lack of identifiable early Koreanic lexical contact with Serbi-Mongolic, this is undoubtedly a Puyŏ-Paekche reflex of an early loan from Serbi-Mongolic. Other words for certain geological

formations are known to be borrowings from neighboring languages, e.g. OKog *paɦɨy 'cliff, crag, mountain, precipice', borrowed from Nivkh (q.v. *KLJ*).

17. PP 舌 (*SS*) *źiar 'west (西)', cognate to AKog 順 *źör ~ 慎 *dźir 'left, east'. Note that dialectal differences in direction orientation are common in languages of Central Eurasia, see Shimunek, 2023, p. 87.

6.2.3   Puyŏ-Silla (PS)

Although the bulk of linguistic data from Silla consists of the Koreanic language Han-Silla, the *Samguk sagi* provides evidence of an intrusive Puyŏ dialect as well, especially among the ruling elite of early Silla. On Puyŏ political influence in early Silla, see *KLJ*. Strikingly, the national progenitor of Silla was born in a place with an obvious Puyŏ etymology: 奈乙 *na *ɨr (*SS*), glossed as 蘿井 'Vine Well', composed of PS *na 'vine' and PS *ɨr, both with unique cognates in Japanese and no cognates in Korean (see below). The early name of the Silla state is also a Puyŏ word, PS *sɨra 'gold; Silla', borrowed into Han-Silla (see HS *sɨra 'Silla' above), and other recently identified Puyŏ elements exist among the Silla linguistic data in the *Samguk sagi* and the *Samguk yusa*. The language of later Silla, however, and certainly the language of the *hyangga* is irrefutably uniquely Koreanic (i.e., Han-Silla). Nevertheless, the intrusive, distinctively Puyŏ linguistic data in early Silla must be acknowledged as such. I term this Puyŏ linguistic data from Silla territory as 'Puyŏ-Silla'.

1. PS 乙 (*SS*) *ɨr 'well (井)' (see OKog *ɨr 'well' above for OJpn cognate and CJK etymology).
2. PS 根 (*SS*) *kɨr 'center, central (中)' : OKog *kɨr (q.v. for etymology).
3. PS 近 (*SS*) *kɨr 'mound (丘)' ~ 月 (Tang AMC *ᵑgʷar*, Cob./Tak. 0734) ~ 活 (*SS*) *kʊrʊ (*SS*) 'walled city, fortress (城)' : PK *kʊr (*SS*) : PP *ki ~ *kɨ 'walled city, fortification' ~ PP *kɨr 'city' < earlier PP *kur ~ *kuər ~ *χuər 'walled city, fortification, dike; ditch; embankment' (Shimunek, 2023, p. 95 n. 72; see AKog *kuru above for Puyo-Koguryoic etymology).
4. PS 官 (*SS*) *kʊr 'south (南)' : PP *kʊrʊ 'south' : AKog *kor 'south, front' < CPK *kʊrʊ 'south, front' (see AKog *kor ~ *kör above for JK comparanda).
5. PS 乃 (*SS*) *na 'area in the vicinity of the capital' : OKog *na 'land, province, prefecture' (q.v. for etymology).
6. PS 奈 (*SS*) *na 'creeping plants, vines (蘿)' : OJpn *na 'vegetable' < CJK *na 'vines, vegetation, vegetables'.

7. PS 巴 (*SY*) *paɨ 'boy, youth' : OKog *paɨ 'man' < CPK *paɨ 'male human; boy, man' (*pace* Lee, 1970, pp. 201-210).

8. PS 徐耶 (*SS*, KPEMC *sɨʌa) ~ 斯羅 (*SS*, KPEMC *sɨla) ~ 新羅 (*SS*, KPEMC *sirla) *sɨra ~ 斯盧 (*SS*, KPEMC *sɨlʊ) *sɨrʊ 'gold (金); Silla' : OKog *tśiar 'silver' (q.v. etymology). On the KPEMC readings of the Chinese transcriptions and on KPEMC *ʌ, which is capable of phonetically transcribing foreign *r and *y, see Shimunek, 2023, p. 86 n. 12. See HS *sɨra 'Silla' above.

6.2.4 Puyŏ-Kara (PK)

The Kara (Kaya) state was absorbed by Silla early in its history. Nevertheless, important linguistic data from Kara can be recovered by analyzing the toponym corpus in the *Samguk sagi* (see Toh, 1987; and Shimunek, 2023).

1. PK 巴利 ~ コリ (*NS*) *kʊr ~ PK 支 (*SS*) *key 'fortress, walled city' : PS *kɨr ~ *kʊr 'mound; walled city, fortress' (Shimunek, 2023, p. 95 n. 72, p. 102; see AKog *kuru above for Puyo-Koguryoic etymology).

2. PK 多 (*SS*) *ta 'high mountain (嶽)' (Shimunek, 2023, pp. 87, 98, 102; see OKog *tar above for detailed etymology).

3. PK 督 ~ 梁 *tʊk ~ *tʊ 'door, gate (門)' : OJpn *tö 'door, gate' < CJK *tʊk > CPK *tʊk → Jurchen-Manchu /duka/ [duqa] 'door, gate' → ? Late Kitan 墮瑰 *tʊqay 'door, gate (門)' (Shimunek, 2021a, pp. 71-76; Shimunek, 2023, p. 102).

Symbols

:	cognates between languages
≠	not cognate
?	uncertain segment or etymology
#	word boundary
>	language-internal change
→	borrowing or loanword across languages
⇄	borrowing or loanword of uncertain directionality
*	reconstruction according to mainstream historical-comparative linguistic methods
✫	speculative reconstruction or traditional reading using rhymes, 反切 *fanqie*, or other traditional methods
[abc]	phonetic transcription
/abc/	phonemic transcription

-        morpheme boundary

*a/*b   competing reconstructions

a ~ b   variant forms (free or conditioned variation)

V   vowel

Sigla and Abbreviations

AJpn   Archaic Japanese

AKog   Archaic Koguryŏ

AMC   Attested Middle Chinese

anat.   anatomy

CJK   Common Japanese-Koguryoic

CKor   Common Koreanic

CN   Common Nivkh (Fortescue's "Proto-Nivkh", cited from *CND*)

CND   Comparative Nivkh Dictionary (Fortescue, 2016)

Cob.   Coblin (1994)

CPK   Common Puyo-Koguryoic

CSM   Common Serbi-Mongolic (*LASM*)

dial.   dialect, dialectal

EMC   Early Middle Chinese

EMK   Early Middle Korean

HK   Han-Kara

HP   Han-Paekche

HS   Han-Silla

HW   Ham'an wooden tablets, from Lee (2017) with revision

HYKP   鄕藥救急方 *Hyang'yak Kugŭppang*

JDB   Omodaka (1967)

JK   Japanese-Koguryoic

JNAH   *Journal of Northeast Asian Studies* (NAHF)

KLJ   Beckwith (2007a)

KPEMC Korean Peninsular Early Middle Chinese

KYS   雞林類事 *Jilin Leishi* (*Kyerim Yusa*), 12th century

LASM   Shimunek (2017)

LMK   Late Middle Korean

MChi   Middle Chinese

MJpn   Middle Japanese
MSJ   Modern Standard Japanese
MSK   Modern Standard Korean
N.   northern
NAHF   Northeast Asian History Foundation
NCR   日中歴 *Nichūreki* (based on 12th c. Japanese sources).
OChi   Old Chinese
OJpn   Old Japanese
OKog   Old Koguryŏ
onom.   onomatopoetic
p.c.   personal communication
PJpn   Proto-Japanese
PK   Puyŏ-Kara
PP   Puyŏ-Paekche
PS   Puyŏ-Silla
Pul.   Pulleyblank (1991)
S.   southern
SM   Serbi-Mongolic
SS   三國史記 *Samguk sagi*
SY   三國遺事 *Samguk yusa*
SZR   世俗字類抄 *Sezokujiruishō* (12th c.)
Tak.   Takata (1988)
TJ   悼二將歌 *Toijangga* (1120)
TNJ   耽羅志 *T'amnaji* (1653)
ZS   周書 *Zhou shu*

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Acknowledgments