Studies in Asian Geolinguistics

V


Research Institute for Languages and Cultures of Asia and Africa
Tokyo University of Foreign Studies
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## Article

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“Iron” in Korean

1. Classification of word forms

Modern standard word for “iron” is /sø/ or /swe/. Dialectal variation is not so great. Only one basic form, derived from Middle Korean (MK) /soy/, is used. This word basically means metal in general but among the various kinds of metals, iron is the most typical one and in many cases this word simply means iron. Another Sino-Korean word /c her/ (MK t hyer), which specifically means iron, has not been widely used in daily life until modernization began.

As for the cultural aspect of this word, it is generally admitted the people in Korea began to use iron earlier than in Japan, and it was imported to Japan until iron was found and the method of making iron was introduced.

Ogura (1944: 1st vol. 221-222) recorded 16 forms but all contain this common element developed from the MK /soy/. These forms can be classified into three major groups.

Group 1
1a sø, 1b swe, 1c swe, 1d se, 1e se; 1f si
Group 2
2a ?sø, 2b ?swe, 2c ?swe, 2d ?se, 2e ?se, 2f ?si
Group 3
3a sø-ʔkop, 3b swe-ʔkop, 3c swe-ʔkɔt, 3e swe-ʔkat

Forms in Group 1 are the most basic ones. Their differences concerns how the MK diphthong /oy/ is rendered in each dialect. Sometimes the front rounded vowel [ø] (1a) is said to be the standard variety but in fact the diphthong [we] (1b) is the most popular pronunciation of this word in Seoul. Other varieties concerns about the distinction between /e/ and /ɛ/, loss of the glide [w] and vowel raising.

Forms in Group 2 have a reinforced initial consonant /ʔs/. The vowel shows a couple of varieties that are similar to the cases of group 1.

Forms in Group 3 are made up by adding a suffix, of which the meaning is not clear.

2. Geographical distribution and interpretation

The forms with a suffix are used only in the coastal areas in Kangwŏn and Kyŏngsang dialects.

The unrounded front vowel [ɛ] is mainly used in Kyŏngsang and Phŏng’an dialects. In the former cases the distinction between [ɛ] and [e] has been lost in many places including Pusan and Taegu, and for such dialects, Ogura (1944) simply uses the symbol [ɛ]. However, as for Phŏng’an dialects, the distinction between these two vowels is not lost so that it is difficult to explain the form [swe] (1e) found in these dialects.

Historically, the MK word /soy/ (H) seems to have been used for a long time. We also have lots of compounds including the word /soy/ in MK texts:

soy-kırıs: iron ware
soy-ston: iron scrap
soy-pupʰ: bell (lit. iron drum) etc.

As to the etymology of this words, there have been two theories (cf. Kim Minsu (1997) and Kang (2010)) but neither seems to be persuasive.

By the way, it seems important to realize that there is a homonym /soy/ which means ‘lock/key’ in MK, and this poses an interesting question on the etymology of this word. In modern Korean, only compound forms are used for ‘lock/key’, ‘camwulsoy’ and ‘yelssoy’.

In Matisoff (1992), he observed that “Many Southeast Asian languages have a different word for ‘lock/key’ which does seem to be borrowed from Chinese 锁 (Mandarin suǒ), ......”. If we think in the same line as these languages, this word may be a borrowing from Chinese 锁 (Sino-Korean sway).

(This possibility was pointed out by Kurabe Keita at the presentation of this paper.)

One problem with this theory is that, although the word for iron soy and the Sino-Korean sway look similar in the modern language, Sino-Korean reading of this character in MK was sра or sa. (Ito Chiyuki (2007). However, if we look at the form swe found in Phŏng’an dialects as stated above, the word for iron and the Sino-Korean reading of the character 锁 is exactly the same for these dialects, and this fact should be taken into account in explaining the etymology of this word.

Bibliography
Acknowledgements

I am grateful to the Joint researcher of this project Kurabe Keita for his insightful comments. I am also grateful to Professor Endo Mitsuaki for inviting me to this conference.

(Rei Fukui)
“Iron” in Ainu

1. Classification of word forms

In Ainu, the word káni for “metal” was borrowed from Japanese kane and created with it the words for some kinds of metals. Specially for “iron,” there are the following three types in Hattori (1964: 208):

A. kani type:
   káni, káne, kani, kaani

B. X kani type:
   B-1. yayán kaani, yayán káni, yayán káne,
   yayan káne
   B-2: sónikane
   B-3: sirár kani

C. loan word: tecí

2. Geographical distribution and interpretation

Around the 9th or 10th century, when Hokkaido was divided into the Okhotsk culture and the Satsumon culture, people were using iron, which was taken from a trade with Japanese. Although Sakhalin Ainu had the skill of smithery, Hokkaido Ainu lost it because more Japanese iron products were imported, Mamiya (1810) reported.

In Type A, kani type, the words for “metal” are applied as the meaning of “iron.” The vowels /e/ and /i/ in the second syllable of kane and kani, would be influenced by the Tohoku dialects in northeastern Japan. Similarly, there are two forms for “potato,” imo and emo, in the Ainu dialects and Japanese dialects. Ono (1996: 10) reported /e/ can be changed into /i/ in Japanese Ainu speakers’ Japanese, influenced by the Hokkaido dialects of Japanese, i.e., koi < koe “voice,” kairu < kaeru “to go back,” and omai < omae “you.”

Type B, the X kani type, is classified into three subtypes: the B-1 words, i.e. yayán káni etc., mean “general metal,” the B-2 word, sónikane, means “real metal,” and the B-3 term, sirár kani, means “rock metal.” We can also find other metals and metallic tools, compounded with the term káni for “metal” (see Table 1).

As we can see in Type C, tecí, which is the loan word from Japanese tetu 鉄, Japanese tu [tsu] was borrowed into Ainu ci [tsi], since Ainu does not possess the sound [tsu]: i.e., the word for “cabbage,” ﾀｷﾍﾞｯ, was borrowed from kaibetu in the Hokkaido and Akita dialects of Japanese, and the word for “New Year,” sônkaci, came from syoogatu 正月 in Japanese (Tamura 1996: 291, 675).

Map 2 shows differences in accent among the dialects. In the most of the dialects, the words for “metal” are accented on the first syllable, i.e., káni, káne, and kaani. The word kaani of the Sakhalin dialects would be borrowed from the word káni of the Hokkaido dialects, following the correlation between a long vowel aa in Sakhalin and a high pitch á in Hokkaido.

According to the basic accent in the Hokkaido Ainu dialects, a high pitch falls on the second syllable, CVCV. Also, in the Aomori dialects (Japanese) of northeastern Japan, the word for “metal” has a high pitch on the second syllable, [kan ] LH (Hirayama ed.) 1993: 3376). However, the word accent on the second syllable, káni, would be newer than the others and adopt the basic accent rule in the Hokkaido Ainu dialects. Map 2 shows the local distribution of Type B words. Vovin (1993:73-74, 98) reconstructs the proto-Ainu form *kaani HHH “metal,” which comes from the Old Japanese word kane HH “metal”; I suggested a long vowel form is not old above. For example, in the Kyoto dialect of Japanese, the accent-less kane HH, may be borrowed into Ainu with the high pitch falling on the first syllable, káni. The unaccented form of Type C are only distributed in the unaccented dialects of Hokkaido (as seen on Map 2).

<table>
<thead>
<tr>
<th>Reference</th>
<th>Word</th>
<th>Meaning and source</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>hurekani</td>
<td>“red metal”</td>
</tr>
<tr>
<td>silver</td>
<td>sirókani</td>
<td>&lt; J. sirokane 白金</td>
</tr>
<tr>
<td></td>
<td>tetara kaani</td>
<td>“white metal”</td>
</tr>
<tr>
<td>gold</td>
<td>kónkani</td>
<td>&lt; J. kogane 黄金</td>
</tr>
<tr>
<td></td>
<td>“yellow metal”</td>
<td></td>
</tr>
<tr>
<td>gimlet</td>
<td>ikisakani</td>
<td>“metal for drilling a hole in something”</td>
</tr>
<tr>
<td>hammer</td>
<td>kánituci</td>
<td>&lt; J. kanaduci 金槌</td>
</tr>
<tr>
<td></td>
<td>“metallic hammer”</td>
<td></td>
</tr>
<tr>
<td>gun</td>
<td>hecawé káni</td>
<td>“burst metal”</td>
</tr>
<tr>
<td></td>
<td>téppó</td>
<td>&lt; J. teppó 鉄砲</td>
</tr>
</tbody>
</table>

Table 1. Metals and metallic tools
(Hattori 1964: 208, 122; “J.” means Japanese)

Keywords: metal, accent, loan word
Map 1. “Iron” in Ainu

Map 2. “Metal” in Ainu

(Mika Fukazawa)
The word forms representing “iron” in Mongolic and Turkic except the one used in a Mongolic language called Dagur. Metallurgical technology is considered to have transmitted from the Seythians in western Eurasia to eastern Eurasian peoples. The Turks were known as skilled ironworkers as early as the 6th century when they were subjects of Rouran (柔然).

A) temir type

The Turkic forms can be divided into two categories in terms of the tenseness of the initial consonant. The forms are (1) temir (Karachay, Kumyk, Kazakh, Karakalpak, Kirghiz, Nogay, Uzbek, Tuvan, Tofalar, Altai), tämär (Khalaj), tämir (Chuvash), tämir (Chelyms), temir (sakha, Dolgan), and tömür (Uighur) and (2) demir (Turkish, Turkmen, Gagauz, Karaim, Crimean Tatar), dəmir (Azeri), demər (Sarig Uighur), and dimur (Salar).

B) kasō type

Dagur alone has a form of completely different origin, kasō, for “iron.” The etymology of the word is unknown. Because the Tachen dialect in Xinjiang, which is marked with an arrow symbol in the center of the map, is spoken by the descendants of the Dagur soldiers sent from northeastern China in the 18th century, we can say that only one language in the eastern periphery obtained this form in history. (Yoshio Saitō)
“Iron” in Sinitic

1. Classification of word forms

We classified word forms for “iron” into two types: A tie 鐵 and B tieba 鐵巴. The latter comprises a root (tie 鐵) and a suffix (ba 巴).

According to the initials of the phonetic forms, A tie 鐵 is classified into two types: A-1 [tʰ-] and A-2 [h-]. The former type is classified into four types according to endings:

A tie 鐵

A-1 initial [tʰ-]

A-1-1 open: tʰie, tʰi:e, tʰic, tʰia, tʰe, tʰi, tʰa, tʰei, tʰai
A-1-2 glottal stop [-ʔ]: tʰieʔ, tʰiɛʔ, tʰiæʔ, tʰiəʔ, tʰiæʔ, tʰiʔ, tʰieʔ, tʰiæʔ, tʰiəʔ, tʰiæʔ, tʰiʔ
A-1-3 [-t]: tʰiet, tʰiɛt, tʰyet, tʰit, tʰet, tʰɛt
A-1-4 [-k]: tʰik, tʰɛk
A-2 initial [h-]: hi, hiriʔ, hiet, hit, het
B tieba 鐵巴: tʰie pa, tʰi pa

2. Geographical distribution and interpretation

The word forms denoting “iron” in Chinese dialects essentially show a unanimous distribution of A tie 鐵. People in a few places use B tieba 鐵巴, which collocates always with A tie 鐵. However, in some places, tieba 鐵巴 is exclusive to mean “a lump of iron.” This suggests that tieba 鐵巴 was originally derived from an iron object, and later generalized to mean “iron.”

The phonetic forms of A tie 鐵 are consistent with the phonological system of each dialect. The dominant initial consonant is the aspirated voiceless alveolar A-1 [tʰ-]. A-2 [h-] is distributed in Jiangxi and Guangdong provinces. This feature is observed in the Middle Chinese (MC) tou 透 initial in areas speaking the Yue dialect siyi 四邑 subgroup and is a part of the Gan dialect. A remarkable diversity is observed in the behavior of the endings. The endings of tie 鐵 can be classified into four types. Excluding the A-1-1 type, the other three types belong to the ru 入 tone. The A-1-1 open type is mainly distributed in Mandarin-speaking open areas but with varying tone types. For example, it merged into the shang 上 tone in the Beijing 北京 dialect, the yinping 陰平 tone in Xi’an 西安, and the qu 去 tone in Yinchuan 銀川. This can be attributed to the systematic changes of the phonological system, which occurred recently. In the Xiang dialect, the tie 鐵 forms have no coda but retain the ru 入 tone independently of the other tone types. A-1-2 glottal stop [-ʔ] is distributed in areas speaking the Jin, Wu, and Jianghuai Mandarin dialects. A-1-3 [-t] is typically distributed in Guangdong and Guanzhong provinces. A-1-4 [-k] shows a scattered distribution in the Yue dialect areas.

<table>
<thead>
<tr>
<th>ending</th>
<th>place</th>
<th>word form</th>
</tr>
</thead>
<tbody>
<tr>
<td>open</td>
<td>Beijing (Mandarin)</td>
<td>tʰie</td>
</tr>
<tr>
<td></td>
<td>Xi’an (Mandarin)</td>
<td>tʰie</td>
</tr>
<tr>
<td></td>
<td>Yinchuan (Mandarin)</td>
<td>tʰie</td>
</tr>
<tr>
<td></td>
<td>Changsha (Xiang)</td>
<td>tʰie</td>
</tr>
<tr>
<td>[-ʔ]</td>
<td>Taiyuan (Jin)</td>
<td>tʰiɛʔ</td>
</tr>
<tr>
<td></td>
<td>Nantong (Jianghuai)</td>
<td>tʰiʔ</td>
</tr>
<tr>
<td></td>
<td>Suzhou (Wu)</td>
<td>tʰiɛʔ</td>
</tr>
<tr>
<td>[-t]</td>
<td>Guangzhou (Yue)</td>
<td>tʰit</td>
</tr>
<tr>
<td>[-k]</td>
<td>Zengcheng (Yue)</td>
<td>tʰitk</td>
</tr>
</tbody>
</table>

The reconstruction of MC for “iron” by Schussler (2007: 497) is * prést. According to Baxter and Sagart (2014), the Old Chinese (OC) form is * prést (OC) > thet (MC) (http://ocbaxtersagart.lsait.lsa.umich.edu/).

Shuwen jiezi 說文解字 defined tie 鐵 as “黑金也” (black metal). Wang Li (1982: 469) and Sagart (1999: 200–201) showed the derivation of tie 鐵 from the word-family of *(h)l[i]k (black). However, the leading word form for black is hei 黑, which is reconstructed as *ṇok (OC) > xok (MC) (Baxter and Sagart 2014). The possibility that * prést- and *mok- belongs to the same word-family needs to be clarified in future analysis.

<table>
<thead>
<tr>
<th>tie 鐵</th>
<th>OC</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>*l̥ ˤik&gt;det</td>
<td>black horse</td>
<td></td>
</tr>
<tr>
<td>dai 黛</td>
<td>*hk-s&gt;dajH</td>
<td>black pigment for the eyebrows</td>
</tr>
<tr>
<td>yì 黙</td>
<td>*hk&gt;yik</td>
<td>black</td>
</tr>
</tbody>
</table>

In China, meteoric iron objects were found in the sites of the middle of Shang dynasty (1300BC). As for iron manufacturing, the estimated 1000BC ironware discovered in the Xinjiang district is the earliest evidence presently (Lu 2003: 122). Iron use in China was earlier than the other areas in East Asia, and its use later spread more swiftly than bronze. Sagart (1999: 201) showed that the Chinese loan words in Written Tibetan (lčags<hlyak-s) and Tai (Proto-Tai: *hlek (Li 1977: 136)) must have been made very early, that is, before the changes of initials and codas.

Keywords: word-family, loan word

(Fumiki Suzuki, Takashi Ueya, Kenji Yagi)
“iron” in Sinitic

A tie 鐵
A-1 initial [tʰ-]

B tie ba 鐵巴
A-2 initial [h-]

A tie 鐵
A-1 initial [tʰ-]

B tie ba 鐵巴
A-2 initial [h-]
Iron in Tibeto-Burman

1. Classification of word forms

Our data on 517 languages and dialects, including primary data on many Tibetic languages and dialects, can be abstracted into three major types. Among these Types, A and B are especially widespread in terms of the diversity of branches.¹

Type A-1²

cam⁵⁵, ŋam⁵⁵, čam⁵⁵, sam, čam⁵⁵, cam, shvīm, čiam⁵⁵

From WRB sam: įan, įan, thang, than, then

će⁴⁴, sīŋ

com. fon, somu, su′mu

Type A-2

ce⁴², fe⁴², ce¹¹, xe²¹, ce²¹, xe²¹, ci², xi²¹, ci²¹

xe²¹, šha³¹, so⁵⁵, xo⁴⁴, so²¹, ŋu⁴¹, xu²¹, xu²¹, fu⁵³, šu⁴³

cy⁵³, xy⁵³, xi⁵³, xe⁵³, hə³¹

Type A-3

cə³⁵, ci⁵³, fu³¹, jų³¹, sh³⁵, ʂɔ⁵³

Type B

syal, syel, sél, sel, sil, syl

šir, sher, sar

thir, thir, thir, thiʔ, thua

jən²¹, jən, yan

Type C-1

From WRB lcags: htək(s), htʃaks, htək, ʰtəeq, ʰteeq, ʰtəeq, htaeq, ʰteaʔ, ʰtsaʔ, hteeq, ʰteeq, ʰteeq, ʰdzə, ʰdza⁵³

Type C-2

thaʔ²¹, thaʔ⁴⁴, thaʔ⁵³, than²¹, thaʔ²¹

These three widespread types have good etyma in Proto-Tibeto-Burman (PTB).³ Type A reflects a PTB etymon *syam ‘iron’, which gave rise to myriad forms via “feature shuffling” and/or various phonological processes, including: (a) fortition of the initial fricative, e.g. Burmese ʃan; (b) progressive assimilation, e.g. Tshobdun rGyalrong ʃm⁴⁴, Guoke Nusu əč⁵³, Fumin Alo cə²¹; (c) regressive assimilation, e.g. Japhug rGyalrong com, Qianxi Guiqiong jə³³, Lancang Lahu co²⁵; (d) deletion of the final nasal (which sometimes left its trace in the vowel), e.g. Southern Primù ɕi⁵³, Maibeng Guiqiong jə³¹, Jinuo ɕi⁴², Queyu co⁵⁵; (e) retroflexivization, e.g. Longchuan Achang Įam⁵⁵; (f) debuccalization, e.g. Longlin Yi hə³¹; and (g) diphthongization, e.g. Shuangbo Yi ɕiə²¹. In this paper, we divide Type A into three subtypes based on the degree of erosion of the final nasal, which shows some areal patterns (see Section 2).

Type B reflects a PTB etymon *syə:1 *syə:r ‘iron’, from which various modern forms have arisen via processes such as: (a) progressive assimilation, e.g. Sam pang syel; (b) fortition of the fricative, e.g. Falam Lai thir; (c) deletion of the initial, e.g. Ao jən²¹; and (d) nasalization of the final liquid, e.g. Nocte jan.

Type C originates from the PTB etymon *l-tsyak ‘iron’, which gave rise to diverse forms via processes such as: (a) devoicing and fricativization of the prefix, e.g. rNgawa ʰtək, Askyirong Tibetan ʰtəʃ; Rongdag Tibetan ʰdzə⁴²; (b) retroflexivization, e.g. sProsang Tibetan ʰtəʃ; (c) progressive assimilation, e.g. Wache Tibetan ʰtəq; (d) lenition of the final, e.g. Dartsendo Tibetan ʰtəaʔ, Mroha Tibetan ʰtəʃ, Xinchengzi Tibetan ʰdza⁴²; and (e) fortition of the initial affricate, e.g. Pa-O ʰtaʔ²¹. We divide Type C into two subtypes based on the initial consonant, as they are well grounded in terms of both areal and genetic perspectives. Type C-1 mainly represents all modern Tibetic languages and dialects that have their diachronic sources in WRB lcags, while Type C-2 represents Karenic languages that have their sources in PKar *tha²¹. Note further that PTB *l-tsyak is related to Old Chinese *ʃiːk ‘iron’, which was an early loan into many Southeast Asian languages, e.g. Proto-Tai *hlek D, Proto-Palaungic *hlek, Proto-Hmongic *hluwC, and Proto-Mienic *rük (see Tai-Kadai, Austroasiatic, and Hmong-Mien in this volume).

In addition to the three major types, there are some infrequent roots that carry the meaning ‘iron’, which cannot be traced back to the PTB stage, including:

Type D

teo, teu⁵³, teu⁵³, ʰteu⁵³
2. Geographical distribution and interpretation

Primary distribution of Type A, found in TB branches such as Burmish (WrB *sam), Loloish (PLo *xam, Bradley 1979:332), Naxi, Nungic, Qiangic, and rGyalrongic, is located throughout Burma, Yunnan, Sichuan, Guizhou, and northern Thailand. Type A, as illustrated above, shows variation in the degree of erosion of the final nasal. The deletion of the final nasal is predominant especially in Loloish and some Qiangic languages located in the eastern parts of the distribution of Type A (Type A-2). The final nasal is retained elsewhere (Type A-1). It is of interest to note that languages that retain the trace of the final nasal as a nasal vowel (Type A-3) appear to be located at the boundaries between Types A-1 and A-2. Note also that Type A shows variation in vowels (such as fronting and backing), as demonstrated in the previous section. Forms with the vowel /a/ are located in peripheral areas, suggesting their oldness, which is confirmed by their reconstructed form, i.e., PTB *syam. The distribution of varieties involving front and back vowels does not appear to exhibit areal patterns.

Type B, found in Kuki-Chin (PKC *thir, VanBik 2009:132), Central Naga (PCN *jan, Bruhn 2014:414), Tangkhulic (PTk *tir, Mortensen 2012), Northern Naga (PNN *ya:n, French 1983:506), Bodo-Garo (PBG *sur, Joseph and Burling 2006:130), Luish (PLu *sel?, Huziwara 2012:54), and Kiranti languages and dialects, is concentrated in western Burma, northeastern India, and eastern Nepal. Type B, as illustrated above, shows variation in its finals. Although more data are needed for confirmation, it does not seem as though Type B can be reduced to any areal patterns. The fortition of the initial fricative found in some items of Type B (i.e., PTB *s/sy > thi) is a well-established innovation shared by Kuki-Chin languages in western Burma, northeastern India and eastern Bangladesh (VanBik 2009:16–7).

Type C is found in northern and southern parts of the TB distribution. It is prevalent in Tibetan (WrT lcags), Karenic (PKar *tha?°, Luangthongkum 2013), and Tani languages and dialects (PTa *rjok, Sun 1993:391), in which the Tani form is a possible early loan from Tibetan (Sun 1993:297). Among the two major subtypes, Type C-2, which has an alveolar stop, is restricted to Karenic languages in Lower Burma. Type C-1, mostly found in Tibetan languages, shows various kinds of reflexes for the PTB prefix *l-.

This prefix is retained in regions where Western Archaic Tibetan is spoken, and in some parts of the Amdo region, but lost in Ü-Tsang. It became / in most parts of the Khams region and many parts of Amdo, and / in some parts of Khams and Amdo.

Type D, which occurs only in sTaus dialects, appears to reflect a PTB etymon *syam (Type A), as in other Qiangic languages, but also exhibits the feature of Type C. This may be accounted for in terms of their distribution, in regions where Types A and C converge.

Type E is found in Tamangish (TGT) languages of Nepal (PTGT *thir, Mazaudon 1994) and in Jinghpaw of northern Burma and western Yunnan. The cognacy of them, however, is unknown.

Type F is only attested in Bai dialects. It appears to be a loan from Chinese, given that Bai is heavily influenced by it. Although the Bai forms show a superficial similarity to Kuki-Chin languages of Type B, unlike in Kuki-Chin, the sound change from PTB *s/sy to Bai th is not well established in Bai.

Type G, which is distributed in central Nepal, only appears in Newar dialects in our data.

Type H, which is not shown in our maps, is only found in lCangdzong Tibetan spoken in Jiangzhong (Chamdo) of eastern Tibet. This item, possibly having arisen as a result of a semantic shift, may be related to WrT *tha (nye) ‘lead’.

Keywords: Tibeto-Burman, sound changes, feature shuffling, borrowing

(Keita Kurabe, Hiroyuki Suzuki, Kazue Iwasa, Shiho Ebihara, Satoko Shirai, Ikuko Matsuse)
Map 1: “Iron” in Tibeto-Burman

<table>
<thead>
<tr>
<th>Column</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>ɕam55, ʃam, t̪an, t̪aɴ, ʃɨm44, siŋ, ɕom, ʃom55</td>
</tr>
<tr>
<td>A-2</td>
<td>ɕɛ42, ʃɛ42, ɕe11, xɒ21, ʂhɔ31, ss55, ey55, xy55</td>
</tr>
<tr>
<td>A-3</td>
<td>ɕɛ̃35, ɕĩ55, ʃɑ̃31, ʃɔ̃53, ʂõ35, ʂə̃55</td>
</tr>
<tr>
<td>B</td>
<td>syaːl, syel, ɕir, sher, thiir, thiir, janʔ, jan</td>
</tr>
<tr>
<td>C-1</td>
<td>l̥tɕak(s), ɬtʃaks, l̥tɕək, htɕɑʔ, hʈʂɑʔ, htɕəχ</td>
</tr>
<tr>
<td>C-2</td>
<td>thaɁ21, thaɁ44, thaʔ55, tha11, tha21, tha42</td>
</tr>
<tr>
<td>D</td>
<td>tɕo, tɕu53, tɕu˞53, htɕu53</td>
</tr>
<tr>
<td>E</td>
<td>²pʰai, ²pwe, ²pʰeː, phrı̀</td>
</tr>
<tr>
<td>F</td>
<td>the44, thɛ33, the44, tehi44, tehi55, tehi42</td>
</tr>
<tr>
<td>G</td>
<td>nāː, nyā, ne</td>
</tr>
</tbody>
</table>
### Map 2: “Iron” in Tibeto-Burman (detailed)

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>🌐</td>
<td>cam³⁵, ʃam, ʃam, ʃam, ʃim⁴⁴, siŋ, com, ʃom⁵⁵</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2</td>
<td>🌐</td>
<td>ee⁴², fe⁴², ee¹¹, xn³¹, ʂhɔ³¹, sɔ⁵⁵, ey⁵⁵, xy⁵⁵</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-3</td>
<td>🌐</td>
<td>ee³⁵, ee⁵⁵, ʃə³¹, ʃə⁵³, sə³⁵, sə⁵⁵</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>🌐</td>
<td>sya:l, syel, ʃir, sher, thiir, thiir, jan², jan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-1</td>
<td>🌐</td>
<td>lʈɕak(s), lʈʃaks, lʈɕək, htɕɑʔ, hʈʂɑʔ, htɕəχ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>🌐</td>
<td>tɕo, tɕu⁵³, tɕu˞⁵³, htɕu⁵³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>🌐</td>
<td>²pʰai, ²pwe, ²pʰeː, phrı̀</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>🌐</td>
<td>the⁴⁴, the³³, the⁴⁴, tehi⁴⁴, tehi⁵⁵, tehi⁴²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
"Iron" in Hmong-Mien

1. Classification of word forms

The word for "iron" in Hmong-Mien is considered a loan from Chinese. Although Ratliff (2010) considers that the words in all the Hmong-Mien lects are loans from an Old Chinese word, which is reconstructed as *liːk (Baxter and Sagart 2014), she divides them into two groups: The Hmongic forms deriving from Proto-Hmongic *hluwC, and the Mienic forms from Proto-Mienic (PM) *hrūk. However, there are some comparative evidences to indicate that the word forms of Hmongic and Mienic ultimately derive from a single Proto-Hmong-Mien (PHM) etymon. First, the Proto-Mienic onset consonant should also be reconstructed as a lateral. As indicated in Table 1, a velar plosive reflex in Luoxiang (LX) is observed not only in the case of *hr (as in MEASURE) but also in the case of palatalized lateral *lj (as in PADDY). In addition, we must note that the most important test for a proto-rhotic (*ʔr, *hr, and *r) is the reflex of Daping (DP): a dental affricate /ʣ/ (as in MEASURE). What Daping indicates in IRON is not /ʣ/ but /lj/, which is the regular reflex of the palatalized lateral in Ratliff (2010).

Table 1

<table>
<thead>
<tr>
<th></th>
<th>PM</th>
<th>GZ</th>
<th>LX</th>
<th>DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRON</td>
<td>*hr-</td>
<td>lje7</td>
<td>qia7</td>
<td>lje7</td>
</tr>
<tr>
<td>PADDY</td>
<td>*lj-</td>
<td>lje7</td>
<td>gje7</td>
<td>lje7</td>
</tr>
<tr>
<td>MEASURE</td>
<td>*hr-</td>
<td>lau1</td>
<td>ga:u1</td>
<td>dza1</td>
</tr>
</tbody>
</table>

Thus, the form for "iron" in Proto-Mienic is best reconstructed as having a lateral onset. Turning to rhyme, we find a good correspondence set including the two items IRON and ENTER, the latter of which is an indigenous Hmong-Mien word (see Table 2). As indicated in Table 2, which includes two Hmongic lects, Yanghao (YH) and Jiwei (JW), along with one Mienic lect, Daping, the two items exhibit a perfect correspondence.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>PHM</th>
<th>YH</th>
<th>JW</th>
<th>DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRON</td>
<td>-</td>
<td>lho5</td>
<td>lho5</td>
<td>lje7</td>
</tr>
<tr>
<td>ENTER</td>
<td>*bjūk</td>
<td>p6</td>
<td>p6</td>
<td>pje8</td>
</tr>
</tbody>
</table>

1 This does not mean that the present author makes a commitment for this particular reconstruction. The point here is that a single PHM etymon with a lateral initial should be reconstructed.

If we use Ratliff (2010)'s reconstruction of rhyme, we can posit a PHM form as *hljūk. 1 A difference observed between the Hmongic and Mienic forms, in terms of tone, can be explained by later development: Tone 5 in the Hmongic forms and Tone 7 in the Mienic forms are the regular reflexes of PHM Tone D in syllables with a coda *-k.

Although we conclude that all the forms in Hmong-Mien are treated as reflexes of a single etymon, we treat the Tone 5 forms and the Tone 7 forms separately as Type A and Type B in the map of this article, to indicate their different history. The subtypes under each type reflect the presence or absence of a prefix.

A: forms with Tone 5
- A1: lje5
- A2: qo lje5

B: forms with Tone 7
- B1: hlje7
- B2: a hlje7

2. Geographical distribution and interpretation

As all forms for "iron" come from the same origin, and they seem to be quite regular in comparative perspective, we see a uniform distribution in the map of "iron." We notice that some Hmongic lects in Hunan and Guizhou have qo lje5 (A2), a prefixed form, but this may only mean that these lects preserve a more conservative feature, i.e., prefixation, in nominal morphology. If the word was borrowed from Old Chinese, the contact would have occurred in the period of PHM.
"Iron" in Hmong-Mien

A
A-1: l̥o5
A-2: qo l̥o5

B
B-1: hlje7
B-2: a hlje7
Iron: Tai-Kadai

1. Classification of word forms

In this map, word forms are classified into 7 large categories: lek type, khjak type, khat type, thi:t type, va type, go:i type, and maa type.

A. lek type

A-1 lek with higher tone type
lek7, lik7, lak7, lu:k7, le:k7, lia:k7, lek1, lyak3, la4, le4.

A-2 lek with lower tone type
lek2, lek4, li:k2, lek6.

B. khjak type

khjãk7.

C. khat type

khwət7', khɣət7, chit7, ɕət7.

D. thi:t type

D-1 thi:t type (with aspirated initial)
thi:t9.

D-2 thi:t type (with unaspirated initial)
ti:t9, ti:t9', tiət7.

E. va type

E-1 va2 type
va2, wa2.

E-2 fa2 type
fa2, fa4.

F. go:i type

go:i1, ra:i1, xo:i1, huai1, khu:i1, ga:i4, ha:i4, kui1.

G. maa type

maa4.

2. Geographical distribution and interpretation

The proto Tai form for "iron" is reconstructed as *hlék D by Li (1977). This form is preserved in the Central Tai area except for the initial consonant *h, which left its trace as a form of a higher tone (A-1). In Southwestern Tai, its tone changed into the lower series for an unknown reason (A-2).

Sagart (1999: 200-201) pointed out that this proto Tai form is close to the Old Chinese form *hlīk; hence it was borrowed into Tai as well as other Southeast Asian languages after the manufacturing of iron in this area took place. This occurred not earlier than 700-600 BCE, before the regular change *hl- > th- and *-ik > -it took place prior to the age of Middle Chinese.

B type khjak type is seen in Lakkia as khjãk7. Its coda preserves -k, while the onset changed into kh-.

C type khat is found among the Kadai languages, Dong, Sui, Mulao, and Maonan. This sound shape can be considered as an intermediate form, in which the initial changed from *hl- to kh-, while the final consonant experienced the change from *-k to -t. The palatalized forms chit7 and ɕət7 can be the trace of the i-like vowel which caused palatalization of the initial consonant as well as the final consonant.

D type is obviously the borrowed form from the Yue or Hakka dialects just next to the western border of the Northern Tai area. D-1 thi:t type preserves the aspirate initial consonant, while D-2 ti:t type lost aspiration, which is the regular sound change among Northern Tai.

All of the types A, B, C, and D above are considered loan forms from Chinese of different chronological strata and areas.

However, it seems that Type E va is not related to Chinese. E-1 va2 preserves voicedness of the initial consonant as the tone 2 denotes. While E-2 fa2 is a devoiced form, probably due to the later change. This Type F is dominant in the Northern area of Northern Tai, especially in Poai and Northern Zhuang.

The Hlai language in the Hainan Island shows a totally different form, as seen in the F. go:i type. The forms in this category basically show similarity. Detailed changing processes for each form should be studied further.

G. maa type is found in Saek. As is well known, this language generally shows an archaism. The origin of this sole form rests unknown.

Ni (2010: 170) postulates a possible link between fa2, lek7 in Tai and besi in Indonesian. According to him, fa2 is related to the first syllable ba- of the Early Austronesian *bati, *basih, *besih, while lek7 is related to the second syllable -sih.

Bibliography


Keywords: loan words from Chinese, Old Chinese, Middle Chinese, Yue, Hakka, Indonesian, Austronesian, chronological strata

(Mitsuaki ENDO)
lek with higher tone
lek with lower tone
khjak
khət
thi:t
ti:t
va2
fa2
go:i
maa type
Iron: Austroasiatic

1. Classification of word forms

In this map, word forms of “iron” are classified as 15 categories as follows:

A. *bəsiʔ* type
   
   *bəsiʔ* (Aslian)

B. *maːm* type
   
   maːm (Bahnaric: Bahnar, Brao, Tarieng, etc.)
   
   məːm (Bahnaric: Laven)

C. *lɔːs* type
   
   lɔːs (Bahnaric: Chrau), lɔs (Bahnaric: Sre)

D. *taːɁ* type
   
   taːɁ~təːɁ (Katuic: Bru, Ngeq, Kui, Souei),
   
   taːɁ (Katuic: Katang, Ong, Pacoh)
   
   taːk (Katuic: Bru, Sô; Mangic: Mang)
   
   tɛːk (Bahnaric: Stieng)
   
   daek (Khmeric: Khmer; Pearic: Chong of Kompong Som < Khmer)
   
   dɛːk (Pearic: Chong of Samray, Chong of Western Pear < Khmer)
   
   dɛːɁ (Khmeric: Surin Khmer)

E. *tamɨː* type
   
   tamɨː (Bahnaric: Brao), təmɨa (Bahnaric: Su’)

F. *nar* type
   
   nar (Khasic: Khasi)

G. *bərsɔy* type
   
   pəsoa (Monic: Mon)
   
   pəchɤ́j~kəchɤ́j (Monic: Nyah Kur)
   
   phcɔj (Bahnaric: Tampuan)

H. *karaw* types
   
   karaw (Nicobaric: Nancowry)

I. *hlek* type
   
   hlek (Khmuic: Mlabri)
   
   hläic (Palaungic: Lawa)
   
   hlaik (Palaungic: Palaung)
   
   lek (Palaungic: En, Tai Loi, Wa [South])
   
   lik (Palaungic: La, Wa)
   
   lhët (Palaungic: Samtau)

J. *rŋaŋ* type
   
   kaŋáŋ (Palaungic: Hu)
   
   răng (Palaungic: Lamet)
   
   ?aŋàʕ (Palaungic: U)

K. *hrɛm* type
   
   yǐm (Palaungic: K’ala)
   
   rum (Palaungic: Kentung-Wa, Son)
   
   hriam-h’riem-r’iem²~rhem (Palaungic: Wa)

L. *sī(i)r* type
   
   sì: (Bahnaric: Mnong)

   mæ⁴ˈ² θi¹ (Palaungic: Danaw)
   
   hir (Palaungic: Palaung), hir¹ (Palaungic: Riang)

M. *kahɔːŋ* type
   
   kahɔːŋ-raŋɔːŋ-hɔːŋ (Pearic: Chong)
   
   rəhɔːŋ (Pearic: Pear)

N. *k-rac* type
   
   N-1. kʰlat⁷ (Vietic: Chứt [Rục], Malieng), kʰac⁷ (Vietic: Muong), lac (Pong), kʰrat⁷ (Tho [Cuoi Cham])
   
   N-2. šat⁷ (Vietic: Viet, Tho [Lang Lo], Chût [Sách])

O. The other types
   
   endroh (Khmuic: Khmu [Cuang])
   
   cet (Khmuic: Khsing-Mul)
   
   jɔːŋ (Khmuic: Phong), dx:p (Khmuic: Tai Hat)

2. Geographical distribution and interpretation


And each language of Khmuic has its own form. 

*taːʔ* type (D), and *k-rac* type (N) present the a-b-a distribution, which could show that the form D is older than the form N. The Proto-Vietic form *k-rac* is likely to be borrowed from the OC *l̥ ˤik* 鐵, which is related to Tai-Kadai *khat* type.

It is more obvious that the forms of *hlek* type (I) are closely related to the Tai-Kadai *lek* type (Endo 2016), and both of them can be related to the OC *fi:k* 鐵, which is related to Tai-Kadai *khat* type.

The distribution of *sī(i)r* type (L) is peripheral and closely related to the Tibet Burman *syaːl* ≠ *syiːr* type (Kurabe 2016).

*tami:* type (E) could be related to the Mongolic and Turkic *temir* type (Saito 2016).

Bibliography:


Keywords: iron, Austroasiatic

(Masaaki Shimizu)
A. **bəsiʔ type**  
   bəsiʔ (Aslian)

B. **maːm type**  
   maːm / məːm

C. **lɔːs type**  
   lɔːs / lɔs

D. **taːɁ type**  
   taːʔ~taːʔ / taːk / tɛːk / daek / deːk / deːʔ

E. **tami: type**  
   tami: / tamia

F. **nar type**  
   nar

G. **bərsɔy type**  
   pəsoa / pəchɤ́j~kəchɤ́j / phcɔj

H. **karaw types**  
   karaw

I. **hlek type**  
   hlek / hläic / hlaik / lek / lik / lhêt

J. **ryŋ type**  
   kəŋã / ʔəŋã / ʔəŋã⁶

K. **hrem type**  
   yêm / rum / hriam~h'riem~riɛ̂m²~rhem

L. **si(i)r type**  
   si: / mae⁴² ḥi¹ / hir / hir¹

M. **kahɔːŋ type**  
   kahɔːŋ~rahaːŋ~hɔːŋ / rɔːˈŋ

N. **k-rac type**  
   O-1.  kʰlat⁷ / kʰac⁷ / kʰrat⁷
   O-2.  ʂ at⁷

O. The other type
Iron: Semitic languages

1. Classification of word forms

The word forms of “iron” are classified as follows.

A. parzillu type

parzillu, parzîlû, parzîlû, prizlû, frzn ədîd, brôl, brôl, barzel

B. hadî:d type

 hadî:d, hdi:d, hadid, hádîd, ḥâdîd, haṭîa, ladîd, hadîd, lhîdîd, lhôîôî

C. brât type

 brât, bôrât

D. hasî:n type

 haṣîn, haṣṣîn, āḥâṣîn, xâṣî:n,

E. w-żz-l type

 wəzdâl, uzəzdâl, uzəzdâl, zəel,

F. benipe, penipe


2. Geographical distribution and interpretation

A. parzillu type

parzillu type is distributed in the Mesopotamia and Syria area: barzel in Hebrew (תְּצוֹל), parzîlû in Modern Mandaic, prizlû in Urumi, the Neo-Aramaic dialect spoken in northwestern Iran.

The earliest use of this word is parzillu in Akkadian (𒅏𒅖𒅌, mostly written with the Sumerian signs AN-BA.R ‘iron’) in a fragment of a tablet of the first dynasty of Susa (Valério & Yakubovich 2010). And then b-r-ḍ-l in Ugaritic (ל ל ו ל, b-r-ż-l in Phoenician (ฤฤ, parzîlû in Syriac (ܡܫܥ), f-r-z-n (חָדִיד) in Sabaean, an epigraphic South Arabian. In Arabic firzîl (فِرْزَيْل) is ‘fetter’.

These forms were borrowed from non-Semitic, probably Anatolian languages such as Hittite or Luwian as a result of the large-scale Assyrian trade (Forbes 2010).

B. w-żz-l type

w-żz-l type is Berber forms. wəzdâl in Ghadamsi (western Libya), zəel in Nefusa (northern Libya), uzəzdâl in Wargla (central Algeria) and Kabyle (northern Algeria), uzəzdâl in Ayt Seghrouchen (eastern Morocco).

Some Berber languages use also hadî:d type.

C. hadî:d type

hadî:d (حَدِيد) in Classical Arabic, Damascus, Cairo, Baghdad, UAE, Yemen, Bukhara (Uzbekistan); lhâdîd in Tunis, Morocco. hadîd [hadi:d] in Maltese. ladîd and hadîd ‘hard iron, steel’ in Ki-Nubi (Kenya, Uganda).

The consonantal root h-d-d originally has meaning of ‘sharp’ (ḥa’dîd) in Arabic, ḥâdîd in Hebrew. hadî:d is the Arabic word and is not borrowed, because morphologically the meaning of hadî:d is ‘be sharpen’ and this form is not shared with other Semitic languages.

South Arabian languages borrow from Arabic hadî:d: hádîd in Jibbali (Oman), ḥâdîd in Mehdî (Yemen). But Soqotri form is identical with Ethiopic.

Berber languages also use the hadî:d type borrowed from Arabic with the Arabic definite article l along with the Berber word: lhîdîd in Wargla and Ayt Seghrouchen, lhôîôî in Sanhaya (northern Morocco).

D. hasî:n type

haṣî:n type is distributed in Ethiopic and Soqotri (South Arabian in Yemen). xâṣî:n (ክን_ABORT in Ge’ez (the ancient Ethiopic), haṣṣîn in Tigrinya (Eritrea), hasîn in Tigre (Eritrea), āḥâṣîn in Soqotri (a South Arabian language in Yemen).

E. brât type

brât type is distributed in Ethiopic except the ancient Ethiopic Ge’ez. brât (ብረት) in Amhara, Chaha and Harari. In Tigrinya bôrât also is used along with haṣṣîn.

F. benipe, penipe

benipe (ﺏSizePolicy, penipe (払いSizePolicy) in Coptic.

(Youichi Nagato)
Wind and Iron in Nivkh

1. Classification of word forms

‘Wind’ is la in all dialects. No other forms are reported.

The Nivkh word for ‘iron’ is [ʋɨʧ] or [wat]. Some literature list molok, malak, malako (e.g. Savel’eva and Taksami 1965), which are from the Russian word moloko молоко ‘milk’. This is also the form that our Nivkh consultants give when they are asked to translate молоко [məlʌˈko], though it should be noted that the primary stress shifts to the first syllable [ˈmalak], following the default trochaic stress pattern in Nivkh.

In this paper we have decided to use ‘breast (bust, mother’s milk)’ instead since it exhibits broader variety among words that are semantically close to milk.

2. Geographical distribution and interpretation

There are six forms for ‘breast’. We classify them into two types.

<table>
<thead>
<tr>
<th>Type A</th>
<th>Place &amp; Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ʋɨʧ</td>
<td>Kal’ma (Savel’eva and Taksami 1965)</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type B</th>
<th>Place &amp; Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. wat</td>
<td>Poronaisk (Yamaguchi and Izutsu 2004)</td>
</tr>
<tr>
<td>5. cat</td>
<td>Tygmyc (Tangiku, Tanzina and Nitkuk 2008)</td>
</tr>
<tr>
<td>6. wat</td>
<td>Agnevo? Kreinovich</td>
</tr>
<tr>
<td>7. wat</td>
<td>Poronaisk (Austerlitz 1984)</td>
</tr>
</tbody>
</table>

Type A is presumably related to the verb momo- ‘to suck’ or/and to mot- ‘to kiss’. The final -k is a nominalizer. Related words are momos ‘soother’ (-s: nominalizer) and mof soX ‘mother’s milk’ (Savel’eva and Taksami 1970). The vocalic correspondence o>i is unheard of, but the consonantism (m-ʧ-k) provides evidence for mofk and miʧik being related forms.

Type B has either miz- or miN- as roots. It remains to be seen whether these forms are associable to the verb ‘to suck’, since this verb is momo- in these dialects as well. If that could be the case, the transparency with momo- should have been lost at some time in the course of history.

The geographic distribution of Type A and B follows the classic taxonomy of Nivkh dialects which dates back to Shternberg (1900) and Kreinovich (1934): the Amur dialect, spoken in the lower reaches of the Amur River and the west coast of northern Sakhalin, and the Sakhalin dialect spoken on the rest of Sakhalin.1 The geographic distribution of Type A and B forms agrees with this taxonomy: Type A – the Amur dialect and Type B – the Sakhalin dialect.

Among the forms in Type A, miʧik (Ten’gi) resembles the forms in Type B the most. This is expected since in our investigation Ten’gi is the only Amur dialect speaking spot located on Sakhalin. Thus miʧik could be an intermediary form between a proto-type A form mofk and a proto-type B form miXX. This could be investigated by comparing similar parallels between an intermediary form in Ten’gi and those forms reported in other dialects.

Keywords: Nivkh, iron, Amur dialect, Sakhalin dialect

(Hidetoshi Shiraishi)

1 Kreinovich (1934) reported the number of speakers to be 3,200 for the Amur dialect and 850 for Sakhalin.
‘iron’ in Nivkh
Iron: South Asia (IE (Aryan, Iranian, Nuristani), Dravidian, Andamanese, Nihali, Burushaski)

1. Classification of word forms

There are four major categories of word forms – löhá, çimara, áyas, and irumpu – and two minor categories.

A. löhá: löhá, löhá, löhá, löhá, loho, loka, luhā, löh, löh, luhă, löh, lpython, lös, ló, lo, no; [+upaskara]: lokhad, lokhand, lonkăd; [lauhabhāṇḍa]: lōdhū

B. çimara: çimar, çimar, çimarr, çimăr, çimăr, çimăr, çimar, çumăr, çumăr, çumăr, çimăr, çimă, çima, thamara, zime, sëvar

C. áyas: ayas, ahan, ahin, ahyn, ahan, ohan, aśin, aśin, yišn, ya, da, [+upaskara]: ośpōna; [+kāṇḍa]: yākada, yakadapoja, dagaṇḍu

D. irumpu: irumpu, irumper, irimbi, inumpu, inumu, inum, ib

E. rao: remo, lé e, rvoţy, rāo tul

F. karbin: karba, kābīn, kābin

G. pog: pog, pannă

H. others: šēsitar, phalam, ayl, kacci, tāul bōd da, pōht-da

2. Geographical distribution and interpretation

The lexical forms representing the word ‘iron’ can be classified into A) löhá type, B) çimara, C) áyas, D) irumpu, E) rao, F) karbin, G) pog, and H) others.

The distribution of ‘iron’ words is quite simple. On the one hand, most of Indo-European, Burushaski, and Nihali employ the types A, B, or C. On the other hand, Dravidian languages employ D, F, and G types. Type E is for Andamanese.

The most major type is löhá (with symbols). This type is derived from Sanskrit lōhā ‘reddish metal (iron ~ copper)’. Forms of this type are used by Indo-Aryan and Nihali languages, exclusive of the Dardic group, a subgroup of Northwestern Aryan. Historically, the form lōhā in Sanskrit, lōha in Prakrit, and now, for example, lōha लोहा in Oriya, has not changed. Some languages use forms derived from Sanskrit lōhopkśaras. This kind of compound form can be found in type C lōhā later, too. Another original form is lauhabhāṇḍa लौहभाण्ड ‘lōhā pot, lōhā mortar’, and its meaning, such as ‘iron tools’, has surely become vaguer over time.

The çimara type (with symbols) appears in Aryan, Nuristani, and Burushaski languages, which are concentrated in the area of Himalaya, Karakorum, and Hindukush mountain ranges (see Map 2). The original Sanskrit form çimara चीमार might mean ‘copper’, for example in çimaraka ‘chēmar ‘coppersmith’ in Sāmphāṭa-sūtra in Gilgit, but its Chinese version is described as tīe 短 ‘iron’ (Turner 1966: 828).

Interestingly, this type is distributed between most löhā forms of Aryan and the áyas forms of Iranian, but neither any Iranian language nor any Aryan language south of Swat and Kohistan employ a form of this type. Moreover, the sample Sanskrit record is found out in Gilgit, Shina speaking area, and the recent distribution is still just around the place.

The third major type áyas (with symbols) can be seen in all Iranian, southernmost Aryan (Sinhala and Dhivehi), and Vedda languages. The forms originate in Sanskrit áyas अय्य ‘metal’. Historically, this form has changed, on the Aryan hand into avō in Pali and then aya in Prakrit, while on the Iranian hand into ayānīh in Avestan and then aṣin or əhen in Pahlavi. Some forms come from the Sanskrit compounds áyasupkara अय्यसपकर ‘tool made of áyas’, perhaps, or áyaskāṇḍa अय्यसकाण्ड ‘a quantity of áyas’, surely.

Next, the irumpu type (with symbols) is used in Dravidian languages, except for western ones. Western languages of the Dravidian family use forms of the karbin type. It is suggestive that the Tamil karbin form is analytic: karuṇa pog கருணை பொடியை. The pog part can be detected in the minor pog type, which has another candidate, panna, from Kurux. This type comes from Proto-Dravidian, something like *pog ‘gold’. It indicates that the karbin type has been derived from Proto-Dravidian expressions composed like karum pog ‘black gold’, and the irumpu type is also possibly of the ancient form *cirum pog ‘dark gold’ or the like (cf. Tamil iru இரு ‘black’, Kolami ciṟu ‘very dark’, and Malayalam iravu ഇരാവ് ‘night’).

Rao is a minor type in Andamanese. The word reo of rvoţy in Great Andamanese originally meant ‘iron’ and tvy meant ‘sharp’. Tul in Āka Chāriár and Āka Kēdē may be from the same origin as tvy, and the morpheme looks like the initial part of tāul bōd da in Āka Bia-da. While the latter part is similar to pōht-da in Āka
Map 1. ‘Iron’ in South Asia

Map 2. cīmara type
Notes on the Word Form for ‘Iron’ with a Voiced Initial in Tibetic Languages of the Eastern Tibetosphere

Hiroyuki Suzuki

IKOS, University of Oslo / National Museum of Ethnology

Abstract

This article attempts to explain an existence of a word form ‘iron’ of Tibetic languages with a voiced initial which is likely to correspond to Written Tibetan (WrT) lcags ‘iron’. This form is just attested in some linguistic areas within Gannan Prefecture, and a part of the dialects have also a voiced initial for the words like lee ‘tongue’ and bceu ‘ten’. Therefore, the form of ‘iron’ with a voiced initial is also one of the series of exceptions of voicing, and no need to look for another etymon in WrT is assumed.

1 Introduction

This article provides a detailed explanation regarding the word form ‘iron’ of Tibetic languages with a voiced initial, which still corresponds to WrT lcags in Written Tibetan (WrT). It examines the case of Tibetic languages spoken in the eastern Tibetosphere, which Kurabe et al. (this volume) did not describe in detail due to their focus on the whole of the Tibeto-Burman linguistic area. The geographical scope of the eastern Tibetosphere follows the definition of Suzuki (2015).

The data used to create the linguistics maps at the end of this article only includes first-hand materials collected by the author from 2003 to 2016. Because of this, as well as because of time constraints on the part of the author, the data points are not equally distributed within this area, and the points on the map only reflect the current research situation. The present map contains 235 points.

The linguistic maps reflect so-called ‘regiolects’, i.e. dialects with regional differences. Sociolects, which certainly exist in the given area, are not dealt with in this article.

2 Word forms of ‘iron’ in Tibetic languages

In most Tibetic languages, the word form for ‘iron’ corresponds to WrT lcags, with many phonetic realisations, such as [ʰtɕʰaʔ], [ʰtʂʰaʔ], [ʰtɕʰɑʔ], [ʰtɕʰəʔ], [ʰtɕʰəχ], and so on.1 WrT distinguishes khor ‘pig iron’ from lcags, and I did not obtain any data which shows a form corresponding to khor employed as ‘iron’. Hence, it is not necessary to classify word forms depending on etyma. However, there are some dialects which employ a phonetic form of a voiced initial. They are following:

Rongthag: ʰdzaː/
sDedgudgon: ʰdzaː/

These dialects are distributed in Thewo County, Gannan Prefecture, Gansu Province, and they belong to Thewo-smad Tibetan. We should note that similar cases are found in one previous work: Yang (1995) provides a word form for ‘iron’ in five dialects from Gannan Prefecture, among which Liping-Jiuyanzhai and Xinchengzi-Yebei have a voiced initial, as /dʑa3/ and /dʑa5/ respectively.

Therefore I will classify in this article the word forms for ‘iron’ into two large groups for the map: C-type is a straightforward sound correspondence with lcags, and J-type is an irregular form. In addition, there is one dialect which employ a form corresponding to lcags with a suffix, as in /tɕʰaː rs/ (C+-type).

1 A suprasegmental description is uniformly omitted except for citations.
Furthermore, only the lCanggrong dialect spoken in sMarkhams use another root /ʰza/, which seems to be related to the first syllable of WrT zha nye ‘lead’, which is classified here as Z-type. A semantic change might have occurred, or, possibly, it is a mere misunderstanding when the fieldwork. It is less interesting to provide a map without much information regarding the lexical difference, however, we should note that not all the word forms display a lexical variation in Tibetic languages.

3 Potential explanation

A voiced initial is certainly an exceptional sound if it corresponds to lc initial in WrT. Then, how do we understand the existence of examples with a voiced initial for the word ‘iron’? Does it have another WrT etymology? I propose a possibility of an exceptional phonetic correspondence of WrT c with a preradical of the general word of WrT for ‘iron’ lcegs because there are two more words with this type of exception attested in the same or other dialects surrounding Thewo-smad. The two words are WrT lce ‘tongue’ and WrT bcu (tham pa) ‘ten’. Exceptional sound correspondences are following:

Word forms for ‘tongue’
gZari: /ʰdza/
Braggamnang: /ʰdzɑ:/
mBrirdzi: /ʰdzɑ:/
Khaba: /ʰtɕɑ:/
sDedgudgon: /ʰtɕɑ/

Word forms for ‘ten’
gZari: /ʰdzɑ: mба/
Braggamnang: /ʰdzɑ: mба/
mBrirdzi: /ʰdzɯ tɕɑ: mба/
Khaba: /ʰtɕɯ tɕɑ: mба/

Note that these sound correspondences are also considered as an exception. They merely mean that there are other examples that show a change of voicing of a WrT initial c with a preradical letter. As for the word form for ‘tongue’, it is also claimed that the form with a voiced initial corresponds to WrT ljags, a honorific word for ‘tongue’, however, seeing the examples provided in this article, we can consider another possibility, especially, the rhyme of gZari and Khaba does not suggest a relation to WrT -ags.

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References


Map 1: Overall distribution of word forms for ‘iron’.

Legend:
- C
- J
- C+
- Z

Esri, HERE, DeLorme, NGA, USGS | Esri, HERE


Contributors

Rei FUKUI, The University of Tokyo
Mika FUKAZAWA, The Foundation for Research and Promotion of Ainu Culture
Yoshio SAITŌ, Tokyo Gakugei University
Fumiki SUZUKI, Nanzan University
Takashi UEYA, Kyoto University of Foreign Studies
Kenji YAGI, Kokushikan University
Takashi UEYA, Kyoto University of Foreign Studies
Fumiki SUZUKI, Nanzan University
Keita KURABE, Tokyo University of Foreign Studies
Hiroyuki SUZUKI, University of Oslo / National Museum of Ethnology
Kazue IWASA, JSPS / Kyoto University
Satoko SHIRAI, JSPS / University of Tsukuba
Shiho EBIIHARA, Tokyo University of Foreign Studies
Ikuko MATSUSE, Center for Newar Studies
Yoshihisa TAGUCHI, Chiba University
Mitsuaki ENDO, Aoyama Gakuin University
Masaaki SHIMIZU, Osaka University
Yoichi NAGATO, Tokyo University of Foreign Studies
Hidetoshi SHIRAISHI, Sapporo Gakuin University
Noboru YOSHIOKA, National Museum of Ethnology

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