

Some lexical correspondences between the Ainu language and the Sino-Tibetan family

Alexander Akulov

independent scholar; Saint Petersburg, Russia; e-mail: aynu@inbox.ru

Tresi Nonno

independent scholar; Chiba, Japan; e-mail: tresi_nonno@hotmail.com

Abstract

In 2016 through an analysis of grammar has been shown that Ainu is a relative of the Sino-Tibetan languages. Although grammar is more important than lexis, but lexical similarities are also very important, so the current paper is aimed to demonstrate some lexical correlations between Ainu and Proto-Sino-Tibetan (PST) / Proto-Tibeto-Burman (PTB). In this article are shown 34 reconstructed lexical items of Late Jōmon Ainu (LJA) that can be correlated with certain lexical items of PST or PTB. The most illustrative correlations are the following: “child” LJA **po* ~ PST **pōk* / **poj*, copula / “to be” LJA **ne* ~ PTB **nay*, “deer” LJA **yuk* ~ PTB **d-yuk*; “to dwell” LJA **ʔun* ~ PTB **ʔum*; “face” LJA **nan* ~ PST *ŋār*, “to go” LJA **paye* ~ PTB **pay*, LJA “to be high”, “elevation” – **ri* ~ PTB “mountain” – **ri*; “I” LJA **ku* ~ PTB **ka*; “woman” LJA **mat* ~ PTB **ma*.

Keywords: Ainu language; Sino-Tibetan family; comparative linguistics; Ainu-Minoan stock

1. Introduction

In 2016 it was shown that the Ainu language is a distant relative of the Sino-Tibetan family with the use of Verb Grammar Correlation Index (see Akulov 2016a).

Verb Grammar Correlation Index (VGCI) is a method of comparative linguistics that supposes direct comparison of really existing/existed languages and doesn't require reconstructions. The method is based on the idea that any language is determined by the set of grammatical meanings and by their positional distributions. According to VGCI the degree of correlation/resemblance of two languages is a superposition (logical conjunction) of two indexes: the degree of correlation of sets of grammatical meanings, and the degree of correlation of sets of positional distributions of common meanings. The more closely are certain languages related, the higher is the corresponding index of correlation: two languages are considered as belonging to the same family/stock if the value of their degree of correlation is about 0.4 or higher. The method intentionally deals with pure structures only, i.e.: grammatical meanings and their positional distributions and doesn't pay attention to material implementations (for more details about the method see Akulov 2015).

Although grammar is much more important than lexis, but lexical correlations also are pretty important and interesting: having proved the resemblance of structures it is completely reasonable to turn to comparison of lexis, and so the current paper is aimed to demonstrate some lexical correlations between Ainu and Proto-Sino-Tibetan / Proto-Tibeto-Burman.

2. A list of Ainu words and their Sino-Tibetan correspondences

In the current paper we compare some forms of Late Jōmon Ainu (LJA) with forms of Proto-Sino-Tibetan (PST) and Proto-Tibeto-Burman (PTB).

The Ainu dialects diverged approximately in the time of so called Late Jōmon (1500 BC – 300 BCE) or even earlier (see Nonno 2015b: 64).

1. LJA “bow” – **ku*. This form has been reconstructed after Hokkaido Ainu “bow” – *ku*¹, Sakhalin Ainu “bow” – *kuu*²; Kuril-Kamchatka “bow” – *ku*³. The corresponding form is PST “bow” – **kʷŋ*⁴, and also it is noteworthy that in the Kachin language “bent”, “crooked” is *kuŋ*⁵.

And thus, LJA “bow” – **ku* ~ PST “bow” – **kʷŋ*.

2. LJA “child” – **po*. This form has been reconstructed after Hokkaido Ainu “child” – *po*⁶, and Sakhalin Ainu “child” / “children” – *po*⁷. The corresponding PST forms “child” are **pōk* and **poj*⁸.

And thus, LJA “child” – **po* ~ PST **pōk* or **poj* “child”.

It is noteworthy that in modern Tibetan suffixes *pa/po* are attached to words denoting human beings and animate nouns to indicate male gender, for instance: *khams-pa* “man from Kham” (Wikipedia 2024). And in Ainu *po* “child” is sometimes used as a suffix in names, for instance: *Yay-res-po* – “self-raised child” – a name of an Ainu culture hero. Although the word *po* is generally gender-neutral in Ainu, but in the case of *Yay-res-po* it is a marker of male gender.

3. A LJA copula – **ne*. This form has been reconstructed after Hokkaido Ainu copula – *ne*⁹, Sakhalin Ainu copula – *nee*¹⁰. The corresponding form is PTB copula / “to be” – **nay*¹¹. And it is noteworthy that in some modern Tibeto-Burman languages exist forms that are very close to Ainu *ne*, for instance: in the Tshona (Mama) language (one of Bodic languages) copula is *neʔ*¹², in the Achang (Lianghe) language (one of Burman languages) copula is *ŋεʔ*¹³.

And thus, LJA copula – **ne* ~ PTB copula – **nay*.

4. LJA “deer” – **yuk*. This form has been reconstructed after Hokkaido Ainu “deer” – *yuk*¹⁴, Sakhalin Ainu “deer” – *yuh*¹⁵, Kuril-Kamchatka Ainu “deer” – *juk*¹⁶, in modern

¹ Batchelor 1905: 248.

² Ainugo kyōzai tekisuto.

³ Radlinski 1891: 94.

⁴ Starostin 2005c.

⁵ Starostin 2005c.

⁶ Batchelor 1905: 352.

⁷ Dobrotvorskii 1875: 256.

⁸ Starostin 2005d.

⁹ Tamura 2000: 42 – 43.

¹⁰ Ainugo kyōzai tekisuto.

¹¹ Matisoff 2015l.

¹² Sun et al 1991

¹³ Dai, Cui 1985.

¹⁴ Batchelor 1905: 524.

practical Ainu orthography – *yuk*. The corresponding forms are the following: PTB “deer”, “sambar deer” – **d-yuk*¹⁷, and PST “deer” – **rjōk* (~ *-ū-*)¹⁸. According to Matisoff initial *d-* in *d-yuk* is a prefix of unknown meanings (Matisoff 2003: 139 – 143). And thus, LJA “deer” – **yuk* ~ PTB “deer”, “sambar deer” – **d-yuk*.

We seriously doubt that it is correct to reconstruct prefixes and suffixes consisting of only one consonant for a language that is supposed to have existed in 8th – 7th millennia BCE. It is a very formal approach to reconstruction, which does not take into account the fact that the thinking of ancient people was concrete and figurative. The forms which later became prefixes and suffixes were not yet prefixes and suffixes in the Tibeto-Burman (Sino-Tibetan) Proto-Language that existed in 8th – 7th millennia BCE. All the morphemes which are affixes in modern languages were full-valued words located to the left and right of the main root, and all compounds were simply phrases. In other words, we suppose that the Proto-Tibeto-Burman (Proto-Sino-Tibetan) language had no morphology at all, and all the forms which are described as prefixes and suffixes in grammars of the reconstructed language, actually were full-valued words located to the left and right of the nuclear position.

5. LJA “to dig”, “to cut”, “to scoop” – **ta*. This form has been reconstructed after Hokkaido Ainu “to dig” – *ta*¹⁹, also this *ta* has the following meanings: “to dig up”, “to draw as water” (Batchelor 1905: 435), “to chop”, “to chop up”, “to mangle” – *tata*²⁰; Sakhalin Ainu “to tear”, “to dig”, “to scoop”, “to draw as water” – *ta*²¹. The corresponding forms are the following: PST “to cut” – **tōt* (~ *-ū-*)²², PTB “cut off” – **tsyat*²³, Minimal Old Chinese “to break off”, “to destroy” – **tet*²⁴. And thus, LJA “to dig”, “to cut”, “to scoop” – **ta* ~ PST “to cut” – **tot*, PTB “to break off” – **tet*.
6. LJA “to do”, “to act” – **ki*. This form has been reconstructed after Hokkaido Ainu “to do”, “to act” – *ki*²⁵, Sakhalin Ainu “to do” – *kii*²⁶. The corresponding form is PST “to make” – **q^w[ij]ǎj*²⁷. And, thus: LJA “to do”, “to act” – **ki* ~ PST “to make” – **q^w[ij]ǎj*.
7. LJA “to dwell”, “to live in a place” – **ʔun*. This form has been reconstructed after Hokkaido Ainu “to dwell”, “to live”, “to exist” – *un*²⁸, also the same root can be seen in the word “house” – *uni*²⁹. Taking into account, the fact that all V and VC syllables of

¹⁵ Ainugo kyōzai tekisuto.

¹⁶ Radlinski 1891: 89.

¹⁷ Matisoff 2015f.

¹⁸ Starostin 2005f.

¹⁹ Kayano 2005: 292.

²⁰ Kayano 2005: 294.

²¹ Dobrotsovskii 1875: 313.

²² Starostin 2005e.

²³ Matisoff 2015u.

²⁴ Schuessler 2007: 608.

²⁵ Batchelor 1905: 225.

²⁶ Ainugo kyōzai tekisuto.

²⁷ Starostin 2005g.

²⁸ Kayano 2005: 120.

²⁹ Kayano 2005: 113

modern Ainu in ancient Ainu were ʔV and ʔVC syllables (Nonno 2015b: 64 – 65) it is possible to reconstruct the form $*\text{ʔun}$ for late Jomon Ainu. The corresponding form is PTB “dwell”, “exist”, “live”, “stay” – $*\text{ʔum}$ ³⁰.

Thus, LJA “to dwell”, “to live in a place” – $*\text{ʔun} \sim$ PTB “dwell”, “exist”, “live”, “stay” – $*\text{ʔum}$.

8. LJA “face” – $*\text{nan}$. This form has been reconstructed after Hokkaido Ainu “face” – nan ³¹ – “face”, Sakhalin Ainu “face” – nan ³². The corresponding form is PST “face”, “front side” – $*\text{ŋār}$ ³³.

Thus, LJA “face” – $*\text{nan} \sim$ PST “face” – ŋār .

9. LJA “female breast” – $*\text{to}$. This form has been reconstructed after Hokkaido Ainu “female breast” – to / totto ³⁴ – “female breast”, “milk” – to-pe ³⁵, to-pe literally means “breast water”. The corresponding form is PST “milk”, “breasts” – $*[\text{ʒh}]aw (\sim\text{-ew}; -k)$ ³⁶. And also it is noteworthy that in some modern Tibeto-Burman languages exist forms that are very close to LJA $*\text{to}$: Tibetan “thick milk” – ʒo ³⁷, Burmese “to draw out (milk from the breast)”, “to suck” – cəwʔ ³⁸.

And thus, LJA “breast” – $*\text{to} \sim$ PST “breasts” – $*[\text{ʒh}]aw$.

10. One of LJA forms with meanings “foot”, “leg” – $*\text{kir}$. This form has been reconstructed after Hokkaido Ainu “foot”, “leg” – kir ³⁹, also the same root is represented in the word “to run away” – kira ⁴⁰. And also the word kira – “run”, “run away” is represented in the Sakhalin dialect (Ainugo kyōzai tekisuto), and in Kuril-Kamchatka dialect (Radlinski 1891: 93). The corresponding forms are: PST “foot” – $*k(h)rej$ ⁴¹, and PTB “foot” – $*krəy$ ⁴².

And thus, LJA “foot”, “leg” – $*\text{kir} \sim$ PSR “foot” – $*k(h)rej$, PTB “foot” – $*krəy$.

11. LJA “fur” / “skin” / “rope” – $*\text{rus}$. This form has been reconstructed after Hokkaido Ainu “fur”, “skin” – rus ⁴³, “string”, “rope” – tus ⁴⁴; Sakhalin Ainu “skin”, “fur” – trus ⁴⁵, Kuril-Kamchatka “skin” – rus ⁴⁶. Here should be noted that in the ancient times Ainu people

³⁰ Matisoff 2015w.

³¹ Batchelor 1905: 276

³² Ainugo kyōzai tekisuto.

³³ Starostin 2005i.

³⁴ Chiri 2000.

³⁵ Chiri 2000.

³⁶ Starostin 2005o.

³⁷ Starostin 2005o.

³⁸ Starostin 2005o.

³⁹ Chiri 2000: 48.

⁴⁰ Batchelor 1905: 229.

⁴¹ Starostin 2005j.

⁴² Matisoff 2015i.

⁴³ Kayano 2005: 471.

⁴⁴ Kayano 2005: 328.

⁴⁵ Dobrotvorskii 1875: 343.

⁴⁶ Radlinski 1891: 107.

usually made ropes of animal skins, and so words *rus* “skin”, “fur” and *tus* “rope”, “string” are cognate. The corresponding form is PST “rope” – **rŭj*⁴⁷.

And, thus, LJA “fur” / “skin” / “rope” – **rus* ~ PST **rŭj* – “rope”.

Variants *tus* and *trus* could have derived from the form *rus*, but the reverse transformation is less probable, that’s why we state that the initial LJA form was **rus*.

12. One of LJA forms with meaning “to go” – **paye*. This form can be reconstructed after Hokkaido Ainu “to go” – *paye*⁴⁸ (*paye* is plural form of *arpa* or *oman*). Sakhalin Ainu “to go” – *paye*⁴⁹. The root of forms *paye* and *arpa* is *pa* meaning “to step”, the same root can be seen for instance in the verb *pas* “to run” (Nonno 2916: 40). The corresponding forms are PTB “come” / “go” – **pay*⁵⁰ “come” / “go” and PST “step” / “put aside” – **Pjal*⁵¹.

Thus, LJA “to go” – **paye* ~ PTB “come” / “go” – **pay*, PST “step” / “put aside” – **Pjal*.

13. LJA “hand” – **tek*. This form has been reconstructed after Hokkaido Ainu “hand” – *tek*⁵², Sakhalin Ainu “hand” *teh*⁵³ – “hand”, Kuril-Kamchatka “hand” – *tek*⁵⁴ – “hand”. The corresponding form is PST “hand”, “arm” – **lăk*⁵⁵; also noteworthy are Kachin forms for “hand” – *taɔ*, *lataɔ*⁵⁶.

And thus, LJA “hand” – **tek* ~ PST “hand”, “arm” – **lăk*.

14. LJA “head” – **pa*. This form has been reconstructed after Hokkaido Ainu “head” – *pa*⁵⁷, Sakhalin Ainu “head” – *pa*⁵⁸, Kuril-Kamchatka Ainu “head” – *pa*⁵⁹. The corresponding form is PTB “head”, “center” – **d-bu-s*⁶⁰.

In this form **d-bu-s* the root is *bu*, **d-* is a prefix of unclear meaning (Matisoff 2003: 139 – 143), and **-s* is a suffix meaning “place” (Matisoff 2003: 468), and thus: **d-bu-s* means “head place”. Thus, in the current case only roots are actually compared.

LJA “head” – **pa* ~ PTB “head”, “center” – **d-bu-s*.

As it has been noted above, we suppose that it is correct to reconstruct prefixes and suffixes consisting of only one consonant for a language that existed in 8th – 7th millennia BCE. The forms which later became prefixes and suffixes were not yet prefixes and suffixes in the Tibeto-Burman (Sino-Tibetan) Proto-Language. All the morphemes which are affixes in modern languages were full-valued words located to the left and right of the main root, and all compounds were simply phrases. We suppose that the Proto-Tibeto-Burman (Proto-Sino-

⁴⁷ Starostin 2005s.

⁴⁸ Batchelor 1905: 341.

⁴⁹ Ainugo kyōzai tekisuto.

⁵⁰ Matisoff 2015p.

⁵¹ Starostin S. A. 2005u.

⁵² Kayano 2005: 320.

⁵³ Kindaichi 1993: 369.

⁵⁴ Krasheninnikov 1994: 186.

⁵⁵ Starostin 2005k.

⁵⁶ Starostin 2005k.

⁵⁷ Batchelor 1905: 332.

⁵⁸ Dobrotvorskii 1875: 243.

⁵⁹ Radlinski 1891: 102.

⁶⁰ Matisoff 2015e.

Tibetan) language had no morphology at all, and all the forms which are described as prefixes and suffixes in grammars of the reconstructed language, actually were full-valued words located to the left and right of the nuclear position.

15. LJA “to hear”, “to listen” – **nu*. This form has been reconstructed after Hokkaido Ainu “to hear”, “to listen” – *nu*⁶¹, Sakhalin Ainu “to hear” – *nuu*⁶². The corresponding form is PST “hear” – **ńV(n)*⁶³.

And thus, LJA “to hear”, “to listen” – **nu* ~ PST “to hear” – **ńV(n)*.

16. LJA “to be high”, “elevation” – **ri*. This form has been reconstructed after Hokkaido Ainu “high”, “tall” – *ri*⁶⁴, “high place” – *rik*⁶⁵; Sakhalin Ainu “to be high” – *rii*⁶⁶; Kuril-Kamchatka forms “to be high” – *tri wa*⁶⁷ (the word “high” in the Kuril-Kamchatka idiom of Ainu is *ri*), “on top” – *rikta*⁶⁸. The corresponding form is PTB “mountain” – **ri*⁶⁹.

And thus, LJA “to be high”, “elevation” – **ri* ~ PTB “mountain” – **ri*.

It is noteworthy that the root *ri* in the meaning of “hill” can be seen in some place names of Ainu origin. For instance, N. G. Munro writes the following:

When, therefore, we find many localities where shellheaps exist bearing names traceable to Ainu roots, we can only assume that persons using the same language as the Ainu were formerly established in such places. Indeed we can scarcely insist on so much, for these roots might prove to be a heritage from a stock language common to the Japanese and Ainu. With regard to local names, however, we are assisted by the fact that Ainu place names are often descriptive of the locality. Ōmori, for instance, is generally supposed to be of Japanese origin, and to refer to a large wood or forest. But in suggesting that the name of this locality (which derives special interest from having been the first shellmound in Japan to yield up its treasures to scientific research) comes from two Ainu words 'O' "projecting" and Mori a "little hill", I am stating a topographical fact of much interest to a primitive people. A rising ground in the neighbourhood of the sea was of prime importance to the shell-mound builders. Here the village was safe from tidal waves and enjoyed a better strategical position than if built on the lower levels (Munro 1908: 669).

⁶¹ Batchelor 1905: 296 – 297.

⁶² Ainugo kyōzai tekisuto.

⁶³ Starostin 2005l.

⁶⁴ Kayano 2005: 467.

⁶⁵ Chiri 2000: 10.

⁶⁶ Dobrotvorskii 1875: 274.

⁶⁷ Krashennikov 1994: 187.

⁶⁸ Radlinksi 1891: 107.

⁶⁹ Matisoff 2015r.



Fig. 1. The location of Ōmori where the first shell heap in Japan was discovered (the map has been made after Google Maps screenshot)

17. LJA “hole” – **puy*. This form has been reconstructed after Hokkaido Ainu “hole” – *puy*⁷⁰ – “hole”, Sakhalin Ainu “hole”, “channel”, “passage” – *puy*⁷¹ – “hole”, “channel”, “passage”. The corresponding forms are: PST “hole”, “cave” – **phŭk*⁷²; PTB – “hole” **puŋ*⁷³.

And thus, LJA “hole” – **puy* ~ PTB “hole” – **puŋ*; PST “hole”, “cave” – **phŭk*.

18. One of LJA forms with meanings “I”, “me” – **ku*. This form has been reconstructed after Ainu *ku* = – a marker of 1st person singular of subject and agent that is represented in all Ainu dialects⁷⁴. It is possible to state that the Ainu language of the Late Jōmon had almost no morphology (Nonno 2015b), so all the modern compounds were sentences

⁷⁰ Kayano 2005: 388.

⁷¹ Dobrotvorskii 1875: 264.

⁷² Starostin 2005m.

⁷³ Matisoff 2015q.

⁷⁴ Tamura 2000: 49, 59.

and affixes were full-valued words, and so the modern prefix *ku=/k=* meaning 1st person singular subject/agent in LJA was a full-valued word **ku* meaning “I”, “me”. The corresponding form is PTB “I”, “me” – **ka*⁷⁵. Thus, LJA “I”, “me” – **ku* ~ PTB “I”, “me” – **ka*.

19. LJA “lake” – **to*. This form has been reconstructed after Hokkaido Ainu “lake” – *to*⁷⁶, Sakhalin Ainu “lake” – *too*⁷⁷, Kuril-Kamchatka Ainu “lake” – *to*⁷⁸. The corresponding form is PST “lake”, “still water” – **dhel*⁷⁹. And thus, LJA “lake” – **to* ~ PST “lake” – **dhel*.

20. LJA “large”, “big” – **poro*. This form has been reconstructed after Hokkaido Ainu “large”, “big”, “great” – *poro*⁸⁰, Sakhalin Ainu “big” – *poro*⁸¹. The corresponding form is PST “big” – **Pri(H)*⁸². And thus, LJA “big”, “large” – **poro* ~ PST “big” – **Pri(H)*.

21. LJA “lower part”, “under” – **ra*. This form has been reconstructed after Hokkaido Ainu “lower part” “under”, “low place” – *ra*⁸³, Sakhalin Ainu “to go down”, “to descend” – *ran*⁸⁴ (in Sakhalin Ainu plural form of *ran* is *rah*). The corresponding form is Proto-Karenic “below”, “under”, “underneath” – **laʔ*⁸⁵. And thus, LJA “lower part”, “under” – **ra* ~ PKar “below”, “under” – **laʔ*.

22. LJA “mouth” – **tar*. This form has been reconstructed after Hokkaido Ainu “mouth” – *par*⁸⁶, also there is the form of *cara*⁸⁷ [*tsara*]/*caro*⁸⁸ [*tsaro*]; Sakhalin Ainu “mouth” – *paro* / *paru*⁸⁹, and also *cara*⁹⁰ [*tsara*]; Kuril-Kamchatka Ainu “mouth” – *car*⁹¹ [*tsar*]. Forms *par/car*, and *paro/caro* evidently should be considered as variants of the same word. And thus, for LJA it is possible to reconstruct a form in which the initial consonant is something between [t] and [p], namely: [t̚] – voiceless linguolabial plosive. The corresponding form is PTB “hold in mouth”, “bite” – **par*⁹².

⁷⁵ Matisoff 2015m.

⁷⁶ Batchelor 1905: 447.

⁷⁷ Ainugo kyōzai tekisuto.

⁷⁸ Radlinski 1891: 114.

⁷⁹ Starostin 2005n

⁸⁰ Batchelor 1905: 356.

⁸¹ Dobrotvorskii 1875: 260.

⁸² Starostin 2005b.

⁸³ Kayano 2005: 456.

⁸⁴ Ainugo kyōzai tekisuto.

⁸⁵ Matisoff 2015b.

⁸⁶ Batchelor 1905: 336

⁸⁷ Batchelor 1905: 61

⁸⁸ Batchelor 1905: 61

⁸⁹ Dobrotvorskii 1875: 246.

⁹⁰ Dobrotvorskii 1875: 407.

⁹¹ Radlinski 1891: 73.

⁹² Matisoff 2015o.

The fact that for LJA can be reconstructed the form **tar*, from which the PTB **par* can be derived, suggests that Proto-Ainu separated from Proto-Sino-Tibetan earlier than Proto-Sino-Tibetan split into separate languages.

23. LJA “no”, “there is not”, a marker of negation – **somo*. This form has been reconstructed after Hokkaido Ainu Ainu *somo* – negative marker placed before a verb phrase, this negative marker negates the phrase⁹³, and Sakhalin Ainu “no”, “there is not” – *somo*⁹⁴. In Kuril-Kamchatka Ainu the form of *eyn* is used instead of *somo* as a marker of negation (Akulov 2016b: 38) and the form *somo* isn't used in this idiom.

The corresponding form is PTB “perish” “be spend”, “be lost”, “lose”, “disappear”, “exhausted”, “forget” – **g/s-ma-t/n*⁹⁵.

And thus, LJA “no”, “there is not” – **somo* ~ PTB **s-ma-t* or **s-ma-n*.

The PTB forms **s-ma-t* / **s-ma-n* evidently a verb/predicative, but not a noun/substantive.

Here it is necessary to make some clarifications.

Based on the data of the Ainu language, it is difficult to understand the inner form of this word. It can be assumed that the word *somo* is connected with the Ainu word “side” – *sam*⁹⁶, however, this supposition seems to be incorrect.

The word *sam* seems to have originated from the root *sa* meaning “sea”. This root *sa* denotes sea in opposition to *ya* “land”; from these roots originated two quite frequent verbs: *san/sap* means “to go down”, “to go to the sea”, and *yan/yap* means “to land”, “to disembark” (Akulov 2005: 117). It should be noted that the sea could not be associated with the idea of negation for the ancient Ainu (Jōmon people), because the sea was a very important and positive part of their life, an important source of food, and also a mean of communication.

And thus, it seems to be perspective to collate the LJA form **somo* with PTB forms **s-ma-t* or **s-ma-n*.

As it has been noted above, we seriously doubt that it is correct to reconstruct prefixes and suffixes consisting of only one consonant for a language that existed several thousand years ago. It is a very formal approach to reconstruction, which does not take into account the fact that the thinking of ancient people was concrete and figurative. The forms which later became prefixes and suffixes were not yet prefixes and suffixes in the Tibeto-Burman (Sino-Tibetan) Proto-Language that existed several thousand years ago. All the morphemes which are modern prefixes/suffixes were full-valued words located to the left and right of the main root, and all compounds were simply phrases. In other words, we suppose that the Proto-Sino-Tibetan language had no morphology at all, and all the forms which are described as prefixes and suffixes in grammars of the reconstructed language, actually were full-valued words located to the left and right of the nuclear position.

⁹³ Tamura 2000: 94 – 95.

⁹⁴ Dobrotvorskii 1875: 307.

⁹⁵ Matisoff 2015h.

⁹⁶ Kayano 2005: 257.

For instance, in the Jingpho language⁹⁷ can be seen such forms as: *sha mat* (Marrison 1967), and *šə mat* (Weidert 1987) – both forms mean “to lose”. In the Guiqiong language⁹⁸ can be seen the form *šo mu ta* – “forget” (Sun 1991).

We suppose that these forms are much closer to the form that probably existed in the Proto-Language, rather than the form **g/s-ma-t/n* reconstructed by Matisoff.

Matisoff points that the reconstructed prefix **s-* has directive, causative, or intensive meaning before verb roots (Matisoff 2003: 100).

This reconstructed **s-* corresponds to a highly productive causative marker *šə* existing in the Jingpho language (Matisoff 2003: 101).

This prefix evidently can be correlated with the form **ser* – “forge”, “make”⁹⁹ reconstructed for Proto-Kuki-Chin, and also with the form **sa* – “do” / “make”¹⁰⁰ reconstructed for the Proto-Tangkhalic language¹⁰¹.

Expressing the causative using the verb “to do” / “to make” or its derivatives is a linguistic universal. For instance, in English causative is formed with use the verb *to make*; in French causative is formed with use of verb *faire* “to make”, “to do”, “to perform”; in Japanese causative constructions are formed with use of suffixes *-seru/-saseru* which are derivatives of verb *suru* “to do”; in Ainu suffixes that are used for creating causative forms all are derivatives of verb *ki* “to do”, “to perform” (Nonno 2015a).

According to Matisoff, the reconstructed suffix **-t* could function as a verbalizer of nominal roots (Matisoff 2003: 457).

We suppose, however, that in the Proto-Tibeto-Burman language there were no suffixes consisting of a single consonant, but all forms which later became prefixes and suffixes were full-valued words placed left or right to the nuclear position.

The suffix **-t* reconstructed by Matisoff, evidently can be connected with the Proto-Tibeto-Burman form **ta* – “live”¹⁰², and so we suppose that it is more correct to reconstruct the postposition of **ta* in the current case instead of suffix *-t*. This **ta* being placed after a substantive/noun, acts as a verbalizer, i.e.: converts a substantive into a predicative.

Matisoff points that the reconstructed suffix **-n* in some cases could be a transitivizer (Matisoff 2003: 446). We suppose that this hypothetical suffix can be collated with a Proto-Tibeto-Burman copula – **nay*¹⁰³, and it is more correct to reconstruct for the Proto-Tibeto-Burman language a postposition of **nay* that functioned as a verbalizer.

As for the root *ma*, it looks exactly the same as the word that means “woman”, “female” reconstructed for the Proto-Tibeto-Burman language – *ma*¹⁰⁴.

It should be noted here that ancient people conceptualized the idea of the absence of something not abstractly, but with the help of visual images, and the simplest, the most

⁹⁷ Jingpho is a member of the Sal branch of the Tibeto-Burman languages.

⁹⁸ Guiqiong belong to the Qiangic branch of the Tibeto-Burman languages.

⁹⁹ Matisoff 2015c.

¹⁰⁰ Matisoff 2015x.

¹⁰¹ Tangkhalic languages form a group within the Kuki-Chin-Naga language.

¹⁰² Matisoff 2015t.

¹⁰³ Matisoff 2015l.

¹⁰⁴ Matisoff 2015k.

common example of the absence of something that ancient people could observe is female anatomy, namely female genitalia.

It is interesting and noteworthy that for the Proto-Language of the Angami-Pochuri group¹⁰⁵ was reconstructed the form **mo* for “vagina”¹⁰⁶.

It is noteworthy, that in some modern languages negation can be expressed with the mention of female genitals. For instance, in the Russian language, in mat (a kind of vulgar/obscene language) some expressions with the word *pizda* “cunt” are used to express negation: *poshlo po pizde* literally “it went along cunt” or *nakrylos’ pizdoi* literally “it has been covered by cunt” – both expressions are somehow alike English expression *it has been fucked up*.

This moment of absence as a characteristic feature of female genitalia is reflected in the Chinese concept of yin and yang.

Also, this point is reflected in ancient mythologies, for example, in the version of the ancient Japanese myth about the creation of the Japanese islands represented in Kojiki: “Then Izanagi asked the goddess Izanami no Mikoto, his younger sister: “How is your body structured?”; and when he asked, “My body grew and grew, but there is one place that never grew,” she answered. Then the god Izanagi no Mikoto said: “My body has grown and grown, but there is one place that has grown too much. Therefore, I think, insert the place that has grown too much on my body into the place that has not grown on your body, and give birth to a country...”

Thus, we can say that the form reconstructed for the Proto-Tibeto-Burman language: **se ma ta* / **se ma* expressing the idea of absence, originally had the meaning “turned into a woman,” “make something/somebody be like a woman.”

Gradually, the concrete figurative content disappears and the actual idea of absence remains, and in Proto-Tibeto-Burman the word *ma* appears, expressing simply the idea of absence in its pure form.

24. LJA “one” – **si-ne*. This form has been reconstructed after Hokkaido Ainu “one” – *sine*¹⁰⁷, Sakhalin Ainu “one” – *sine*¹⁰⁸, Kuril-Kamchatka Ainu “one” – *sinep*¹⁰⁹, *sinep* actually means “one thing”. It should be noted that in the Ainu word *sine* the root is *si* that is probably connected with the Ainu word “true” (Tamura 2000: 254), however, we suppose that it is more correct to state that the root *si* of the form *sine* is a cognate with *si-* – a prefix meaning “self”. This *si-* means that a certain action is performed solely by agent without any outer help (Akulov 2017: 8). The corresponding forms are: PST “one” – **tyik* / **tyak*¹¹⁰, PTB “one” – **tyak* / **g-t(y)ik*¹¹¹.
And thus, LJA “one” – **si-ne* ~ PST “one” – **tyik* / **tyak*, PTB “one” – **tyak* / **g-t(y)ik*.

¹⁰⁵ Angami-Pochuri group is a group within Kuki-Naga-Chin languages.

¹⁰⁶ Matisoff 2015a.

¹⁰⁷ Kayano 2005: 268.

¹⁰⁸ Dobrotvorskii 1875: 294.

¹⁰⁹ Krasheninnikov 1994: 187

¹¹⁰ LaPolla 1987

¹¹¹ Matisoff2015v.

25. LJA “person”, “human being” – **kur*. This form has been reconstructed after Hokkaido Ainu “human being”, “person”, “man” – *kur*¹¹², Sakhalin Ainu “person, “human being” – *kuh*¹¹³, and Kuril-Kamchatka “human being” – *kur*¹¹⁴. Contrary to the popular point of view, the Ainu-Russian dictionary compiled by M. M. Dobrotvorskii contains not only forms of Sakhalin dialect, but also forms of Hokkaido and Kuril-Kamchatka dialects. The corresponding form is PST “honoured person” – **kūr*¹¹⁵.
And thus, LJA “person”, “human being” – **kur* ~ PST “honored person” – **kūr*.
26. LJA “red”, “to be red” – **hure*. This form is reconstructed after Hokkaido Ainu “to be red” – *hure*¹¹⁶, Sakhalin Ainu “to be red” – *huure*¹¹⁷. The corresponding form is PST “red” – **H^wVr*¹¹⁸.
And thus, LJA “red”, “to be red” – **hure* ~ PST “red” – **H^wVr*.
27. LJA “to sit” – **ʔa*. This form is reconstructed after Hokkaido Ainu “to sit” – *a*¹¹⁹, and Sakhalin Ainu “to sit” – *a*¹²⁰. Also, we should keep in mind that all V and VC syllables of modern Ainu in ancient Ainu were ʔV and ʔVC syllables (Nonno 2015b: 64 – 65). The corresponding form is PST “to be” – **ʔǎ*¹²¹.
And, thus: LJA “to sit” – **ʔa* ~ PST “to be” – **ʔǎ*.
28. LJA “to sleep” – **mo kor*. This form has been reconstructed after Hokkaido Ainu “to sleep” – *mo-kor*¹²², Sakhalin Ainu *mokor*, (after *mokoro* represented in the dictionary compiled by Dobrotvorskii¹²³), Kuril-Kamchatka *mokor* (after *mukari* “to sleep” represented in the dictionary compiled by Dybowski¹²⁴). The component *mo* of *mokor* means “silent”, and *kor* means “to have”. The corresponding forms are: PST “dream” – **mǎŋ / *mǎk*¹²⁵, and PTB “dream” – **s/r-ma(ŋ/k)*¹²⁶.
And thus, LJA “to sleep” – **mo kor* ~ PST “dream” – **mǎŋ / *mǎk*.

According to Matisoff, the **s*- prefix has the meaning of directive, causative, or intensive before verb stems (Matisoff 2003: 100).

And the **r*- prefix reconstructed for some verbs has the meaning of directive (transitive) (Matisoff 2003: 127).

As it was noted above, we seriously doubt that it is correct to reconstruct prefixes and suffixes consisting of only one consonant for a language that existed in 8th – 7th millennia BCE.

¹¹² Kayano 2005: 218.

¹¹³ Ainugo kyōzai tekisuto.

¹¹⁴ Dobrotvorskii 1875: 155.

¹¹⁵ Starostin 2005p

¹¹⁶ Kayano 2005: 393

¹¹⁷ Ainugo kyōzai tekisuto.

¹¹⁸ Starostin 2005q.

¹¹⁹ Batchelor 1905: 3

¹²⁰ Dobrotvorskii 1875: 3

¹²¹ Starostin 2005a.

¹²² Kayano 2005: 433.

¹²³ Dobrotvorskii 1875: 173

¹²⁴ Radlinski 1891: 96

¹²⁵ Starostin 2005h

¹²⁶ Matisoff 2015s.

Anyway, the Ainu root *mo* “to be silent” can be correlated with the Proto-Sino-Tibetan form **mǎŋ / *mǎk* – “dream”.

29. LJA “Sun”, “Moon” – **tiw-pe / *tiu-pe*. This form is reconstructed after Hokkaido dialects form – *cup*¹²⁷ [t̄sup] – “Sun”, “Moon”, Sakhalin Ainu “Sun”, “Moon” – *cuh*¹²⁸ [t̄suh], and Kuril-Kamchatka Ainu “Sun”, “Moon” – *cup*¹²⁹ [t̄sup]. It is more correct to rewrite *cup* as *tiup*. The root of this word evidently is “to burn” – *tiu* (in modern practical Ainu orthography – *ciu/ciw*¹³⁰). And the suffix *-pe* is a nominalizer – “thing”, “being” (Tamura 2000: 124). Thus, **tiw-pe* means “burning thing”, “shining thing”. The corresponding form is PST root with meanings “bright” “shine” – **[t]ǎw*¹³¹, also it is noteworthy that in the Kachin language there is form “be shining” – *tu*¹³².

And, thus, LJA “to burn” – **ɣtiw* ~ PST “bright”, “shine” – **[t]ǎw*.

30. LJA “tear” – **nu*. This form has been reconstructed after Hokkaido Ainu “tear” / “tears” – *nu*¹³³, Sakhalin Ainu “tear” – *nube*¹³⁴ (in modern practical Ainu orthography – *nu-pe* literally “tear thing”), Kuril-Kamchatka Ainu “tear” – *nubi*¹³⁵ (in modern practical Ainu orthography – *nu-pe* – “tear thing”). The corresponding forms are PTB “weep”, “cry” – **ŋəw*¹³⁶ and **ŋuw*¹³⁷.

Thus, LJA “tear” – **nu* ~ PTB “weep”, “cry” – **ŋəw, *ŋuw*.

31. LJA “thorax” – **ram*. This form has been reconstructed after Hokkaido Ainu “chest”, “breast”, “thorax” – *ram*¹³⁸, Sakhalin Ainu “heart” – *ramu*¹³⁹. The corresponding form is PTB “chest” – **b-raŋ / *g-raŋ*¹⁴⁰.

And thus, LJA “thorax” – **ram* ~ PST “chest” – **b-raŋ / *g-raŋ*.

According to Matisoff the **b-* prefix can be reconstructed for some nouns (Matisoff 2003: 130 – 131), but its meaning is unclear. The meaning of the **g-* is unclear as well (Matisoff 2003: 134 – 135).

As we have already noted above we doubt that in PTB existed affixes especially consisting of only one consonant. And thus, we suppose that in the current case we should compare roots only, i.e.: LJA *ram* and PTB *raŋ*.

¹²⁷ Kayano 2005: 316.

¹²⁸ Ainugo kyōzai tekisuto.

¹²⁹ Radlinski 1891: 74 – 75.

¹³⁰ Batchelor 1905: 81.

¹³¹ Starostin 2005t.

¹³² Starostin 2005t.

¹³³ Batchelor 1905: 297.

¹³⁴ Dobrotvorskii 1875: 204.

¹³⁵ Radlinski 1891: 99.

¹³⁶ Matisoff 2015n.

¹³⁷ LaPolla 1987.

¹³⁸ Chiri 2000.

¹³⁹ Ainugo kyōzai tekisuto.

¹⁴⁰ Matisoff 2015d.

32. LJA “way” – **ru*. This form has been reconstructed after Hokkaido Ainu “way”, “path” – *ru*¹⁴¹, Sakhalin Ainu “way, “road” – *ru / tru*¹⁴², Kuril-Kamchatka Ainu “trace”, “track” – *ru*¹⁴³. The corresponding forms are PST “road” – **lā*, **lǎm*¹⁴⁴, and PTB “road” – **lam*¹⁴⁵. And thus, LJA “way” – **ru* ~ PST “road” – **lā*, **lǎm*; PTB “road” – **lam*.
33. LJA “wind” – **rera*. This form has been reconstructed after Hokkaido Ainu “wind” – *rera*¹⁴⁶, Sakhalin Ainu “wind” – *rera*¹⁴⁷, Kuril-Kamchatka Ainu “wind” – *r’er*¹⁴⁸, *ksera*¹⁴⁹. The form *r’er* evidently is a late distortion, probably it is a result of an influence of the Itelmen language on the phonotactics of Kamchatka Ainu. The form *ksera* evidently is a distorted recording of the word *rera*. The corresponding form is PTB “wind” – **g-laj*¹⁵⁰. The meaning of the **g-* is unclear (Matisoff 2003: 134 – 135). And as it has been noted above we suppose that it is completely incorrect to reconstruct morphology in general and prefixes consisting of only one consonant in particular for a language that supposedly existed in 8th – 7th millennia BCE. And thus, in the current case we collate LJA “wind” – **rera* and PTB root “wind” – **lej*.
34. LJA “woman” – **mat*. This form has been reconstructed after Hokkaido Ainu “female”, “wife”, “woman” – *mat*¹⁵¹, Sakhalin “female” – *mah*¹⁵², Kuril-Kamchatka “girl”, “woman” – *mat*¹⁵³. The corresponding forms are the following: PTB “female”, “mother” **ma*¹⁵⁴, PST “mother”, “woman – **māH*¹⁵⁵, PST “woman”, “bride” – **məw*¹⁵⁶. And thus, LJA “woman” – **mat* ~ PTB “female”, “mother” – **ma*, PST “woman”, “mother” – **māH*, PST “woman”, “bride” – **məw*.

It is noteworthy that in the Ainu language *mat* is used as a standard suffix denoting female gender in names of human and animate beings, for instance: *Tomisam-pet-un-mat* – “woman from the Tomisam river” (in the Ainu language grammatical gender exists on the set of animate nouns and nouns denoting humans). And in modern Tibetan suffixes *ma/mo* are attached to words denoting human beings and animate nouns to indicate female gender, for instance: *kham-s-mo* “woman from Kham” (Wikipedia 2024).

¹⁴¹ Batchelor 1905: 380

¹⁴² Dobrotvorskii 1875: 277.

¹⁴³ Radlinski 1891: 107.

¹⁴⁴ Starostin 2005r

¹⁴⁵ Matisoff 2015j.

¹⁴⁶ Kayano 2005: 477.

¹⁴⁷ Dobrotvorskii 1875: 273.

¹⁴⁸ Radlinski 1891: 106.

¹⁴⁹ Krasheninnikov 1994: 185.

¹⁵⁰ Matisoff J. A. 2015g

¹⁵¹ Batchelor 1905: 260.

¹⁵² Dobrotvorskii 1875: 166.

¹⁵³ Dobrotvorskii 1875: 165.

¹⁵⁴ Matisoff J. A. 2015k.

¹⁵⁵ Starostin 2005v.

¹⁵⁶ Starostin 2005v.

4. Some preliminary conclusions

In this article we paid attention to the most noticeable and obvious lexical similarities. If you continue your research, you will probably find many more lexical similarities.

Based on the fact that forms reconstructed for the Late Jomon Ainu language, from which the forms of Sino-Tibetan languages can be derived, it is possible to state that Proto-Ainu separated from the Proto-Sino-Tibetan language before it began to split up into separated languages.

References

Ainugo kyōzai tekisuto アイヌ語教材テキスト (Ainu language teaching materials) Tango risuto (Ainugo ・ Nihongo) Karafuto 単語リスト (アイヌ語 ・ 日本語) カラフト (A word list (Ainu – Japanese) Sakhalin dialect) https://www.ff-ainu.or.jp/web/potal_site/details/post.html – accessed March 2024

Akulov A. Yu. 2005. Rekonstruktsiya traditsionnykh predstavlenii ainov o prostranstve po rezul'tatam analiza fol'klornykh tekstov hokkaidoskikh ainov (Reconstruction of traditional Ainu notions about space after the results of analysis of folklore texts of Hokkaido Ainu). *Kraevedcheskii Byulleten'* (Local history bulletin), 2004, № 3; pp.: 114 – 120

Akulov A. 2016a. Ainu is a relative of Sino-Tibetan stock (preliminary notes). *Cultural Anthropology and Ethnosemiotics*, Vol. 2, № 2; pp.: 31 – 38

Akulov A. 2016b. Krashennnikov's and Dybowski's materials as sources on grammar of Kamchatka – Northern Kuril Ainu dialect. *Cultural Anthropology and Ethnosemiotics*, Vol. 2, № 1; pp.: 34 – 40

Akulov A. 2017. The verb of Kuril-Kamchatka Ainu: a general overview. *Cultural Anthropology and Ethnosemiotics*, Vol 3, № 1; pp.: 2 – 21

Akulov A. 2015. Verbal Grammar Correlation Index (VGCI) method: a detailed description. *Cultural Anthropology and Ethnosemiotics*, Vol.1, № 4; pp.: 19 – 42

Batchelor Jh. 1905. An Ainu-English-Japanese dictionary: (including A grammar of the Ainu language). Tokyo: Methodist publishing house; London, K. Paul, Trench, Trübner, co.

Chiri Mashiō 知里真志保 2000. Chimei ainugo shōjiten 地名アイヌ語小事典 (Short dictionary of place names of Ainu language). Hokkido shuppankikaku sentā. Sapporo

Dai Qingxia 戴庆厦, Cui Zhizhao 崔志超.1985. *Achangyu jianzhi* 阿昌语简志 (Brief description of the Achang language). Nationalities Press, Beijing.

Dobrotvorskii M. M. 1875. *Ainsko-russkii slovar'* (An Ainu-Russian dictionary). Izdatel'stvo Kazanskogo universiteta. Kazan'

Kayano Shigeru 萱野茂 2005. *Ainugo jiten* アイヌ語辞典 (Ainu language dictionary). Sanseido, Tokyo

Kindaichi Kyōsuke. 金田一京助. 1993. Karafuto Ainugo taiyō 樺太アイヌ語大要 (A short sketch of the Sakhalin Ainu language). *Kindaichi Kyōsuke zenshū. Dai-go-kan*. 金田一京助全集、第五卷 (Complete Works of Kindaichi Kyōsuke, Vol. 5), Sanseidō, Tokyo; pp.: 367 – 391

Krasheninnikov S. P. 1994. *Opisaniye zemli Kamchatka* (Kamchatka land description). Vol. II. Nauka, Saint Petersburg

LaPolla R. J. 1987 Dulong and Proto-Tibeto-Burman. *Linguistics of the Tibeto-Burman Area*. Vol. 10, N 1; pp.: 1 – 43

Marrison G. E. 1967. *The classification of the Naga Languages of north-east India*. Ph.D. Dissertation, School of Oriental and African Studies, University of London

Matisoff J. 2003. *Handbook of Proto-Tibeto-Burman: system and philosophy of Sino-Tibetan reconstruction*. University of California Press. Berkeley - Los Angeles - London

Matisoff J. A. 2015a. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1353 NEIA *mo “vagina”
<https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1353> – accessed March 2024

Matisoff J. A. 2015b. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon # 7225 PKar *laʔ^D “below” / “under”, “underneath” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/7225> – accessed March 2024

Matisoff J. A. 2015c. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #4651 PKC *ser “forge” / “make” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/4651> – accessed February 2024

Matisoff J. A. 2015d. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #288 PTB *b/g-raŋ “chest”
<https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/288> – accessed March 2024

Matisoff J. A. 2015e. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #385 PTB *d-bu-s “head”
<https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/385> – accessed March 2024

Matisoff J. A. 2015f. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #2794 PTB *d-yuk “deer” (sambhur/sambar)
<https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/2794> – accessed March 2024

Matisoff J. A. 2015g. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #2412 PTB *g-ləj “wind”
<https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/2412> – ccessed March 2024

Matisoff J. A. 2015h. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1860 PTB *g/s-ma-t/n “perish”, “be spend”, “be lost”, “lose” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1860> – accessed March 2024

Matisoff J. A. 2015i. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #335 PTB *krəy “foot” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/335> – accessed March 2024

Matisoff J. A. 2015j. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1017 PTB *lam “road” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1017> – accessed March 2024

Matisoff J. A. 2015k. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1619 PTB *ma “female” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1619> – accessed March 2024

Matisoff J. A. 2015l. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #5741 PTB *nay “copula” / “be” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/5741> – accessed March 2024

Matisoff J. A. 2015m. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #2530 PTB *ŋa-y ʰ *ka “I” / “me” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/2530> – accessed March 2024

Matisoff J. A. 2015n. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1104 PTB *ŋəw “weep” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1104> – accessed March 2024

Matisoff J. A. 2015o. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1774 PTB *par “hold in mouth” / “bite” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1774> – accessed March 2024

Matisoff J. A. 2015p. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #446 PTB *pay “come” / “go” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/446> – accessed March 2024

Matisoff J. A. 2015q. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1423 PTB *puŋ “hole” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1423> – accessed March 2024

Matisoff J. A. 2015r. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #6076 PTB *ri “mountain” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/6076> – accessed March 2024

Matisoff J. A. 2015s. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #126 PTB *s/r-ma(ŋ/k) “dream” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/126> – accessed March 2024

Matisoff J. A. 2015t. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1819 PTB *ta “live” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1819> – accessed March 2024

Matisoff J. A. 2015u. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #1007 PTB *tsyat “cut off” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/1007> – accessed March 2024

Matisoff J. A. 2015v. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #2726 PTB *tyak – *g-t(y)ik “one” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/2726> – accessed March 2024

Matisoff J. A. 2015w. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #4477 PTB *ʔum “dwell” / “exist” / “live” / “stay” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/4477> – accessed March 2024

Matisoff J. A. 2015x. Sino-Tibetan Etymological Dictionary and Thesaurus. Etymon #6740 PTK *sa “do” / “make” <https://stedt.berkeley.edu/~stedt-cgi/rootcanal.pl/etymon/6740> – accessed March 2024

Munro N. G. 1908. *Prehistoric Japan*. Yokohama

Nonno T. 2015a. History of Ainu causatives. *Cultural Anthropology and Ethnosemiotics*, Vol. 1, № 3; pp.: 14 – 18

Nonno T. 2016. Some preliminary notes on etymology of some Ainu suppletive verbs. *Cultural Anthropology and Ethnosemiotics*, Vol. 2, № 3; pp.: 36 – 41

Nonno T. 2015b. Some preliminary thoughts on the structure of Late Jōmon Ainu language. *Cultural Anthropology and Ethnosemiotics*, Vol. 1, № 2; pp.: 64 – 67

Radliński I. 1891. Słowniki narzecza Ludów Kamczackich. I. Słownik narzecza Ainów, zamieszkujących wyspę Szumszu w łańcuchu Kurylskim przy Kamczatce. ze zbiorów Prof. B. Dybowskiego (dictionaries of Kamchatka people. I. Dictionary of language of Ainu living in the island of Shumshu in the Kuril chain near Kamchatka. From collection of Prof. Dybowski) in *Rozprawy Akademii umiejętności, Wydział Fylogiczny, Serya II, Tom I. Nakł. Akademii umiejętności, Krakow*; pp.: 53 – 119 <https://archive.org/details/s2rozprawy01pols> – accessed March 2024

Schuessler A. 2007. *ABC Etymological Dictionary of Old Chinese*. University of Hawai'i Press. Honolulu

Starostin S. A. 2005a. Sino-Tibetan etymology database. Meaning “to be”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=to+be&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text k ach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005b. Sino-Tibetan etymology database. Meaning “big”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=big&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005c. Sino-Tibetan etymology database. Meaning “bow”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=bow&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005d. Sino-Tibetan etymology database. Meaning “child”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=child&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005e. Sino-Tibetan etymology database. Meaning “cut”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=cut&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto>

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Starostin S. A. 2005f. Sino-Tibetan etymology database. Meaning “deer”
<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of=f&text=proto&method=proto=substring&ic=proto=on&text=meaning=deer&method=meaning=substring&ic=meaning=on&text=chin=&method=chin=substring&ic=chin=on&text=tib=&method=tib=substring&ic=tib=on&text=burm=&method=burm=substring&ic=burm=on&text=kach=&method=kach=substring&ic=kach=on&text=lush=&method=lush=substring&ic=lush=on&text=lepcha=&method=lepcha=substring&ic=lepcha=on&text=kir=&method=kir=substring&ic=kir=on&text=comments=&method=comments=substring&ic=comments=on&text=any=&method=any=substring&ic=any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005g. Sino-Tibetan etymology database. Meaning “to do”
<https://starlingdb.org/cgi-bin/response.cgi?single=1&basename=%2fdata%2fsintib%2fstibet&text=number=2549&root=config> – accessed March 2024

Starostin S. A. 2005h. Sino-Tibetan etymology database. Meaning “dream”
<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of=f&text=proto&method=proto=substring&ic=proto=on&text=meaning=dream&method=meaning=substring&ic=meaning=on&text=chin=&method=chin=substring&ic=chin=on&text=tib=&method=tib=substring&ic=tib=on&text=burm=&method=burm=substring&ic=burm=on&text=kach=&method=kach=substring&ic=kach=on&text=lush=&method=lush=substring&ic=lush=on&text=lepcha=&method=lepcha=substring&ic=lepcha=on&text=kir=&method=kir=substring&ic=kir=on&text=comments=&method=comments=substring&ic=comments=on&text=any=&method=any=substring&ic=any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005i. Sino-Tibetan etymology database. Meaning “face”
<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of=f&text=proto&method=proto=substring&ic=proto=on&text=meaning=face&method=meaning=substring&ic=meaning=on&text=chin=&method=chin=substring&ic=chin=on&text=tib=&method=tib=substring&ic=tib=on&text=burm=&method=burm=substring&ic=burm=on&text=kach=&method=kach=substring&ic=kach=on&text=lush=&method=lush=substring&ic=lush=on&text=lepcha=&method=lepcha=substring&ic=lepcha=on&text=kir=&method=kir=substring&ic=kir=on&text=comments=&method=comments=substring&ic=comments=on&text=any=&method=any=substring&ic=any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005j. Sino-Tibetan etymology database. Meaning “foot”

https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=foot&method meani ng=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&m ethod tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kac h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&te xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir =on&text comments=&method comments=substring&ic comments=on&text any=&method _any=substring&ic any=on&sort=proto – accessed March 2024

Starostin S. A. 2005k. Sino-Tibetan etymology database. Meaning “hand”

https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=hand&method meani ng=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&m ethod tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kac h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&te xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir =on&text comments=&method comments=substring&ic comments=on&text any=&method _any=substring&ic any=on&sort=proto – accessed March 2024

Starostin S. A. 2005l. Sino-Tibetan etymology database. Meaning “hear”

https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=hear&method meani ng=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&m ethod tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kac h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&te xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir =on&text comments=&method comments=substring&ic comments=on&text any=&method _any=substring&ic any=on&sort=proto – accessed March 2024

Starostin S. A. 2005m. Sino-Tibetan etymology database. Meaning “hole”

https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=hole&method meani ng=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&m ethod tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kac h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&te xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir =on&text comments=&method comments=substring&ic comments=on&text any=&method _any=substring&ic any=on&sort=proto – accessed March 2024

Starostin S. A. 2005n. Sino-Tibetan etymology database. Meaning “lake”

https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=lake&method meani ng=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&m ethod tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kac h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&te xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir =on&text comments=&method comments=substring&ic comments=on&text any=&method _any=substring&ic any=on&sort=proto

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Starostin S. A. 2005o. Sino-Tibetan etymology database. Meaning “milk”
https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&off=&text_proto=&method_proto=substring&ic_proto=on&text_meaning=milk&method_meaning=substring&ic_meaning=on&text_chin=&method_chin=substring&ic_chin=on&text_tib=&method_tib=substring&ic_tib=on&text_burm=&method_burm=substring&ic_burm=on&text_kach=&method_kach=substring&ic_kach=on&text_lush=&method_lush=substring&ic_lush=on&text_lepcha=&method_lepcha=substring&ic_lepcha=on&text_kir=&method_kir=substring&ic_kir=on&text_comments=&method_comments=substring&ic_comments=on&text_any=&method_any=substring&ic_any=on&sort=proto – accessed March 2024

Starostin S. A. 2005p. Sino-Tibetan etymology database. Meaning “person”
https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&off=&text_proto=&method_proto=substring&ic_proto=on&text_meaning=person&method_meaning=substring&ic_meaning=on&text_chin=&method_chin=substring&ic_chin=on&text_tib=&method_tib=substring&ic_tib=on&text_burm=&method_burm=substring&ic_burm=on&text_kach=&method_kach=substring&ic_kach=on&text_lush=&method_lush=substring&ic_lush=on&text_lepcha=&method_lepcha=substring&ic_lepcha=on&text_kir=&method_kir=substring&ic_kir=on&text_comments=&method_comments=substring&ic_comments=on&text_any=&method_any=substring&ic_any=on&sort=proto – accessed March 2024

Starostin S. A. 2005q. Sino-Tibetan etymology database. Meaning “red”
https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=21&off=&text_proto=&method_proto=substring&ic_proto=on&text_meaning=red&method_meaning=substring&ic_meaning=on&text_chin=&method_chin=substring&ic_chin=on&text_tib=&method_tib=substring&ic_tib=on&text_burm=&method_burm=substring&ic_burm=on&text_kach=&method_kach=substring&ic_kach=on&text_lush=&method_lush=substring&ic_lush=on&text_lepcha=&method_lepcha=substring&ic_lepcha=on&text_kir=&method_kir=substring&ic_kir=on&text_comments=&method_comments=substring&ic_comments=on&text_any=&method_any=substring&ic_any=on&sort=proto – accessed March 2024

Starostin S. A. 2005r. Sino-Tibetan etymology database. Meaning “road”
https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&off=&text_proto=&method_proto=substring&ic_proto=on&text_meaning=road&method_meaning=substring&ic_meaning=on&text_chin=&method_chin=substring&ic_chin=on&text_tib=&method_tib=substring&ic_tib=on&text_burm=&method_burm=substring&ic_burm=on&text_kach=&method_kach=substring&ic_kach=on&text_lush=&method_lush=substring&ic_lush=on&text_lepcha=&method_lepcha=substring&ic_lepcha=on&text_kir=&method_kir=substring&ic_kir=on&text_comments=&method_comments=substring&ic_comments=on&text_any=&method_any=substring&ic_any=on&sort=proto

[xt lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto](#) – accessed March 2024

Starostin S. A. 2005s. Sino-Tibetan etymology database. Meaning “rope”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=rope&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005t. Sino-Tibetan etymology database. Meaning “shine”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=shine&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005u. Sino-Tibetan etymology database. Meaning “step”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=step&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach h=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Starostin S. A. 2005v. Sino-Tibetan etymology database. Meaning “woman”

<https://starlingdb.org/cgi-bin/response.cgi?root=config&morpho=0&basename=%5Cdata%5Csintib%5Cstibet&first=1&of f=&text proto=&method proto=substring&ic proto=on&text meaning=woman&method meaning=substring&ic meaning=on&text chin=&method chin=substring&ic chin=on&text tib=&method tib=substring&ic tib=on&text burm=&method burm=substring&ic burm=on&text kach=&method kach=substring&ic kach=on&text lush=&method lush=substring&ic lush=on&text lepcha=&method lepcha=substring&ic lepcha=on&text kir=&method kir=substring&ic kir=on&text comments=&method comments=substring&ic comments=on&text any=&method any=substring&ic any=on&sort=proto> – accessed March 2024

Sun Hongkai 孙宏开(et al) 1991. *Zangmianyu yuyin he cihui* 藏缅语语音和词汇 (Tibeto-Burman phonology and lexicon). Chinese Social Sciences Press, Beijing

Tamura S. 2000. *The Ainu language*. Sanseidō, Tokyo

Weidert A. K. 1987. *Tibeto-Burman tonology: A comparative account*. John Benjamins Publishing Co. Amsterdam and Philadelphia:

Wikipedia 2024. Modern Lhasa Tibetan grammar
https://en.wikipedia.org/wiki/Modern_Lhasa_Tibetan_grammar – accessed March 2024