CAES Vol. 12, № 2 (May 2026)

The Late Jōmon Ainu words for colors and their Proto-Sino-Tibetan counterparts

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Abstract

Late Jōmon Ainu (LJA) terms for colors have clearly seen Proto-Sino-Tibetan (PST) correspondences. LJA "black", "dark" **kur* correlates to PST **ɣVm*(*H*) "dark", "shade". LJA word for "green" / "blue" – **siw-ni-ʔun* literally means "of bitter wood" (*siw-ni* means "bitter wood" – Picrasma quassioides), the stem here is **siw* "bitter". LJA **siw* correlates with PST **sə̄r*(*H*) "yellow", with PST **TiŋH* "green", "black", with PST **Cĭj* – a kind of grass (Tribulus terrestris), also, the PST the form for "bitter", "pungent" is **cV̄p*. LJA "red" **hure* correlates with PST **H^{w}Vr* "red". LJA "white" **retar* is a compound of two roots: *re* that correlates with PST **rĕ̆w*(*H*) "heat", "burn", and *tar* that correlates with PST **tăr* "a kind of cloth", i.e., *re-tar* originally meant "fabric made of nettle". Fabric made of nettle is of white-gray in color; therefore, the word for "white" was derived from the name of the fabric.

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

1. Introduction

Earlier it was shown that the Ainu language is a relative of the Sino-Tibetan family. Ainu and Sino-Tibetan languages demonstrate notorious structural (Akulov 2016, Nonno 2025b, Nonno 2025c) and lexical similarities (Akulov 2026a, 2026b; Akulov, Nonno 2024, 2025a, 2025c, 2025b; 2026; Nonno 2025a).
Ainu is not a distant relative, but is a member of the Sino-Tibetan family, and Ainu is a relic of the Proto-Sino-Tibetan language (Akulov, Nonno 2026: 3 – 4).

Modern / historical Ainu dialects started to diverge in late Jōmon (about 1500 – 300 BCE) (see Nonno 2015: 64), and when we make reconstructions after modern Ainu dialects we receive forms of Late Jōmon Ainu (LJA) – the language that was the immediate ancestor of all modern Ainu dialects.

The current paper continues discovering concrete similarities between Ainu and the Sino-Tibetan languages. The current paper is devoted to discovering similarity between the Late Jōmon Ainu words for colors and their Proto-Sino-Tibetan (PST) counterparts.

The Ainu basically distinguished four colors: "black", "green", "red", and "white", and correspondingly in the Ainu language there are four words for denoting colors. And all existing colors are divided into four categories, for instance, blue, green, and yellow all belong to the same category and are denoted by the word meaning "green"; red, and orange colors belong

to another category and are marked by the word meaning “red”. A similar picture of rubrication of colors can also be seen in other ancient languages.

2. “Black"

2.1. The LJA word “black”

In Hokkaido Ainu there two forms for “black”, “dark”: *kunne* (Batchelor 1905: 250; Kayano 2005: 220; Ōta 2005: 105), and *ekurok* (Batchelor 1905: 101, Kayano 2005: 133, Ōta 2005: 34).
In Sakhalin Ainu the form for “black” is *kunne* (Dobrotvorskii 1875: 154), Dobrotvorskii recorded this word as *kunni* (in the Cyrillic orthography used by Dobrotvorskii – *кунни* [kunni]) (Dobrotvorskii 1875: 154), the variant *kunni* is just a distorted form of *kunne*.
And also in Sakhalin Ainu there is the form *ekurokh* (in the Cyrillic orthography used by Dobrotvorskii – *экурохъ* [ekuroh]), meaning “dark” (Dobrotvorskii 1875: 458),
In Kuril-Kamchatka Ainu the form for “black” is *ekurok* (Krasheninnikov 1994: 187), Krasheninnikov recorded this word as *ekuroko* (in the Cyrillic orthography used by Krasheninnikov – *екурокo* [ekuroko]) (Krasheninnikov 1994: 187), *ekuroko* is just a distorted form of *ekuro*k.

The form *kur* / *kuri* means “shadow”, “cloud”, “dark” (Batchelor 1905: 251, Kayano 2005: 218, Ōta 2005: 106)

Ōta points out that the form *kunne* consists of two components: *kur* “shade”, “shadow” and copula *ne* (Ōta 2005: 105).

The form *kunne* that is represented in modern / historical Ainu dialects evidently is a result of later positional assimilation ($C_1C_2 \rightarrow C_2C_2$) that could be due to a certain influence of the Japanese language, and originally this form had the view of *kur ne*.

As far as the root *kur* “black”, “dark” is represented in all Ainu dialects, so it is possible to reconstruct for LJA the form **kur* for “black”.

2.2. LJA **kur* and its PST correspondence

LJA **kur* “black”, “dark” correlates well with PST **ɣVm*(*H*) “dark”, “shade”.

For our conclusions about resemblance of two word-forms would be less speculative, we calculate the degree of resemblance of the compared forms.
The method of calculation of degree of resemblance is described in Nonno 2025a: 52 – 53; Akulov, Nonno 2025a: 6 – 7; Akulov, Nonno 2025b: 7 – 9.

As far as V in **ɣVm* is not specified, so we can reconstruct any vowel for this V, and in the current case we can reconstruct [u].

LJA [kur] ~ PST [ɣum]

[k] ~ [ɣ] = (voiceless velar plosive consonant) ~ (voiced velar fricative consonant) = (2/4 + 2/4)/2 = 0.5

[u] ~ [u] =1.

[r] ~ [m] = (voiced alveolar flap consonant) ~ (voiced bilabial nasal consonant) = (2/4 + 2/4)/2 = 0.5

[kur] ~ [ɣum] = (0.5 + 1 + 0.5)/3 ≈ 0.66.

For the sake of illustration and in order to get a threshold of the degree of similarity demonstrated by word for colors in related languages we now compare the English word *red* [red] with Spanish word *rojo* [roxo] "red" which are cognate and both originated from Proto-Indo-European *h_1rewd^h "red"[1].

[red] ~ [roxo]

[r] ~ [r] = 1;

[e] ~ [o] = (high-mid front unrounded vowel) ~ (high-mid back rounded vowel) = (3/5 + 3/5)/2 = 0.6;

[d] ~ [x] = (voiced alveolar plosive consonant) ~ (voiceless uvular fricative consonant) = (1/4 + ¼)/2 = 0.25;

The second [o] of [roxo] has no counterpart in [red], so in this case the degree of similarity is zero.

And thus, [red] ~ [roxo] = (1 + 0.6 + 0.25 + 0)/4 ≈ 0.46.

The degree of similarity of LJA **kur* and PST **ɣum* is higher than the degree of similarity of English red and Spanish *rojo*. The fact that forms of LJA and PST demonstrate such value of the degree of similarity which is usually demonstrated by words for colors of languages belonging to the same family means that LJA and PST are related. Along with previously demonstrated facts it means that the Ainu language is related to the Sino-Tibetan family, and that Ainu is a relic of the Proto-Sino-Tibetan language.

2.3. The LJA and PST word "black" / "shade" is cognate with the word "man" / "person"

It's quite remarkable fact that the LJA root for "black" – **kur* looks exactly like the LJA word for "person" / "human being" – **kur*[2]. The PST counterpart of LJA **kur* "person" is the form **kur*[3] and it correlates well with the above-considered PST form for "shade" – **ɣum* (**ɣVm*).
How did it happen that the forms for "man" and "black" coincided? This is not a coincidence. This is a relic of very ancient times. Very ancient ancestors of modern Ainu were dark-skinned

[1] Wiktionary 2026.
[2] Akulov, Nonno 2024: 27.
[3] Akulov, Nonno 2024: 27.

and the simplest and most obvious example of black color was human skin. The word "human being" / “person” appeared first, and then appeared the word “black”.

The same situation can be seen in the Proto-North Caucasian language where **lĭwłĚ* / **łĭwlV̆* "person", "man"[4] and **lHaχ_V* "black"[5].
The North Caucasian languages belong to the Ainu-Minoan stock (Akulov 2018, 2021).

And also the same can be seen, for instance, in Sumerian. Within the Sumerian language[6] there were two sociolects: *eme-gir* and *eme-sal* (where *eme* means "language"). Eme-sal is a feminine sociolect, while *eme-gir* is the standard Sumerian, literally it means “the language of people”, i.e., the Sumerians, and, hence, the form *gir* is a word meaning "man". And the Sumerian word for "black" is *gig*[7].

This fact is interesting for understanding the worldview of ancient peoples: they perceived the world through the prism of the human body.
Modern races began to form after the end of the last ice age (which ended around 12,000 BC). And as recently as about 10,000 years ago, all people were dark-skinned yet. Thus, certain concepts of ancient languages preserved relics of ancient worldview.

3. “Green”/ “blue”

3.1. The LJA word “green” / “blue”

In Hokkaido Ainu dialects the word meaning “green”, “blue”, “yellow” is *siwnin* (Ōta 2005: 204). Batchelor also gives this word in the form *shiunin* (Batchelor 1905: 424).
In the dictionary of Sakhalin Ainu compiled by M. M. Dobrotvsorskii the word for “green” is *shiunin* (in the Cyrillic orthography used by Dodbrotvorskii this word is recorded as *шіунинъ* [ʃiunin]), this is just a distorted form of the word *siwnin*.
In the word-list of Kuril-Kamchatka Ainu compiled by S.P. Krasheninnikov the word for green is *teuninua* (in the Cyrillic orthography used by Krasheninnikov this word is recorded as *меунинуа* [teuninua]). The form *teuninua* evidently is a distorted form *siwnin* with the particle *wa* marking the end of a sentence.
Thus, it is possible to state that the LJA form for “green” is **siwnin*.

However, it is important to note that the form *siwnin* evidently is connected with the form *siw-ni* literally “bitter wood” *Picrasma ailanthoides* or *Picrasma quassioides* (Batchelor 1905: 424, Ōta 2005: 204).
The form *siwnin* literally means “of bitter wood”, it is possible to state that originally the form had the following view: **siw-ni-ʔun.*
And thus, the stem here is **siw*.

It is currently unclear why the LJA word "green" comes from the name of picrasma, and not, for example, simply from the word "grass", picrasma is actually no greener than any other

[4] Starostin 2005b.
[5] Starostin 2005a.
[6] Sumerian also belongs to the Ainu-Minoan stock (Akulov 2022).
[7] Wikipedia 2026c.

plants, but it is the fact that the LJA word "green" was derived from the LJA designation for picrasma.



Fig.1. Picrasma quassioides (image source – Wikipedia 2026b)

3.2. Comparing LJA **siw* with PST counterparts

The LJA form **siw* correlates with PST **sɨ̄ɾ(H)* "yellow"[8], with PST **TiŋH* "green", "black"[9]. And also, with PST **Cǐj* – a kind of grass (Tribulus terrestris)[10].
Also, it is important that in PST the form for "bitter", "pungent" is **cV̄p* (Starostin 2005d).
The PST form **cV̄p* "bitter" evidently is related to PST forms **sɨ̄ɾ(H)* "yellow", and **TiŋH* "green".

3.2.1. LJA **siw* and PST **sɨ̄ɾ(H)*

We suppose that it is more correct to state that [r] in the form **sɨ̄r(H)* is actually voiced alveolar flap – [ɾ].

[8] Starostin 2005g.
[9] Starostin 2005j.
[10] Starostin 2005c.

The form *sɨ̄r*(*H*) is a compact recording of the following forms: *sɨ̄rH* and *sɨ̄r*.

The sign H here marks an unidentified voiceless consonant of laryngeal group, so we suppose that the form *sɨ̄rH* can be rewritten as *sɨ̄rh.*

3.2.1.1. LJA ****siw* **and PST ***sɨ̄rh***

LJA [siw] ~ PST [sɨ̄rh]

[s] ~ [s] = 1;
[i] ~ [ɨ] = (high front unrounded vowel) ~ (high central unrounded long vowel) = (3/4 + 3/5) = 0.675;
[w] ~ [ɾ] = (voiced labial–velar approximant consonant) ~ (voiced alveolar flap consonant) = (2/5 + 2/4)/2 = 0.45;
[h] of [sɨ̄rh] has no counterparts in [siw] so in this case the degree of similarity is zero.

Thus, [siw] ~ [sɨ̄rh] = (1 + 0.675 + 0.45 + 0)/4 ≈ 0.53. This degree of similarity is higher than the degree of similarity of words [red] and [roxo] that is 0.46.

3.2.1.2. LJA ****siw* **and PST ***sɨ̄r***

LJA [siw] ~ PST [sɨ̄r]

[s] ~ [s] = 1;
[i] ~ [ɨ] = (high front unrounded vowel) ~ (high central unrounded long vowel) = (3/4 + 3/5) = 0.675;
[w] ~ [ɾ] = (voiced labial–velar approximant consonant) ~ (voiced alveolar flap consonant) = (2/5 + 2/4)/2 = 0.45.
LJA [siw] ~ PST [sɨ̄r] = (1 + 0.675 + 0.45)/3 ≈ 0.71.

This degree of similarity is significantly higher than the degree of similarity of words [red] and [roxo] that is 0.46.

3.2.2. LJA ****siw* **and PST ****TiŋH*

The PST form **TiŋH* “green”, “black” is a compact recording of the following forms: **Tiŋ* and **TiŋH.*

The sign T here marks an unidentified voiceless consonant of alveolar – alveolo-palatal group, and thus, we suppose that it is possible to write here [t] instead T.

The sign H here marks an unidentified voiceless consonant of laryngeal group, so we suppose that it is possible to write here [h] instead H.

Thus, we have two forms: **tiŋ* and **tiŋh*

3.2.2.1. LJA ****siw* **and PST ****tiŋh*

[siw] ~ [tiŋh]

[s] ~ [t] = (voiceless alveolar fricative consonant) ~ (voiceless alveolar plosive consonant) = (3/4 + ¾)/2 = 0.75;

[i] ~ [i] = 1;

[w] ~ [ŋ] = (voiced labial-velar approximant consonant) ~ (voiced velar nasal consonant) = (3/5 + ¾)/2 = 0.675;

[h] of [tiŋh] has no counterparts in [siw], so in this case the degree of similarity is zero.

[siw] ~ [tiŋh] = (0.75 + 1 + 0.675 + 0)/4 ≈ 0.6.

This value of the degree of similarity is higher than the degree of similarity demonstrated by words [red] and [roxo] that is 0.46.

3.2.2.2. LJA ****siw* and PST ****tiŋ***

[siw] ~ [tiŋ]

[s] ~ [t] = (voiceless alveolar fricative consonant) ~ (voiceless alveolar plosive consonant) = (3/4 + ¾)/2 = 0.75;

[i] ~ [i] = 1;

[w] ~ [ŋ] = (voiced labial-velar approximant consonant) ~ (voiced velar nasal consonant) = (3/5 + ¾)/2 = 0.675.

[siw] ~ [tiŋh] = (0.75 + 1 + 0.675)/3 ≈ 0.81.

This value of the degree of similarity is significantly higher than the degree of similarity demonstrated by words [red] and [roxo] that is 0.46.

3.2.3. LJA ****siw* and PST ****Cĭj***

In the PST form ****Cĭj*** the sign C expresses an unidentified consonant, and thus, it is possible to state that C was [s].

LJA [siw] ~ PST [sĭj]

[s] ~ [s] = 1;
[i] ~ [ĭ] = (high front unrounded vowel) ~ (high front unrounded short vowel) = (4/4 + 4/5)/2 = (1 + 0.8)/2 = 0.9;
[w] ~ [j] = (voiced labial–velar approximant consonant) ~ (voiced palatal approximant consonant) = (3/5 + ¾)/2 = 0.675;

Thus, [siw] ~ [sĭj] = (1 + 0.9 + 0.675)/3 ≈ 0.86.

This value of the degree of similarity is significantly higher than the degree of similarity demonstrated by words [red] and [roxo] that is 0.46.

3.2.4. LJA *_siw_* and PST *_cV̄p_*

As far as the sign V̄ marks an unidentified log vowel, so it is possible to reconstruct here long [i]

LJA [siw] ~ PST [cīp]
[s] ~ [c] = (voiceless alveolar fricative consonant) ~ (voiceless palatal plosive consonant) = (2/4 + 2/4)/2 = 0.5;
[i] ~ [ī] = (high front unrounded vowel) ~ (high front unrounded long vowel) = (4/4 + 4/5)/2 = 0.9;
[w] ~ [p] = (voiced labial-velar approximant consonant) ~ (voiceless bilabial plosive consonant) = (2/5 + 2/5)/2 = 0.4.

LJA [siw] ~ PST [cīp] = (0.5 + 0.9 + 0.4)/3 = 0.6.

This value of the degree of similarity is higher than the degree of similarity demonstrated by words [red] and [roxo] that is 0.46.

4. “Red”

The LJA word for “red” is *_hure_* and the corresponding PST form is *$H^{w}Vr$ (Akulov, Nonno 2024: 27).

The sign H in the form *$H^{w}Vr$ marks an unidentified voiceless consonant of laryngeal group, so we suppose that it is possible to write here [h] instead H.

And the sign V in *$H^{w}Vr$ expresses an unidentified vowel, so we can reconstruct any vowel for this V, and in the current case we can reconstruct [u].

The PST word “red” can be represented as *$h^{w}ur$.

The PST word $h^{w}ur$ “red” is possibly connected with the PST word *$ʔ^{w}\bar{i}j$ “blood”[11].

LJA [hure] ~ PST [h^{w}ur]

[h] ~ [h] = 1;
[^{w}] has no counterparts in [hure], so in this case the degree of similarity is zero;
[u] ~ [u] = 1;
[r] ~ [r] = 1;
[e] of [hure] has no counterparts in [h^{w}ur], so in this case the degree of similarity is zero.

[hure] ~ [h^{w}ur] = (1 + 0 + 1 + 1 + 0)/5 = 0.6.

[11] Starostin 2005k.

This degree of similarity is higher than that of [red] and [roxo] which is 0.46. It means that forms **hure* and **H^wVr* definitely can be cognates.

5. "White"

5.1. The LJA word "white"

In Hokkaido Ainu dialects the word "white" is *retar* (Kayano 2005: 476; Ōta 2005: 178). In the dictionary of Hokkaido Ainu compiled by Jh. Batchelor the word "white" is *retara* (Batchelor 1905: 376), the form *retara* is just the form *retar* distorted by the influence of the Japanese language: under the influence of Japanese language Ainu CVC syllables converted into CVCV syllables.
In the dictionary of Sakhalin Ainu compiled by M. M. Dobrotvsorskii the word for "white" is *tetara* (in the Cyrillic orthography used by Dodbrotvorskii this word is recorded as *темара* [tetara]). This form is just a local variant of the form *retar*: the Ainu /ɾ/ can optionally be realized as [d] / [t], and converting of CVC syllable *tar* into CVCV *tara* is a result of influence of the Japanese language.

In the word-list of Kuril-Kamchatka Ainu compiled by S.P. Krasheninnikov the word for "white" is *retanoo* (in the Cyrillic orthography used by Krasheninnikov this word is recorded as *реманоо* [retanoo]) (Krasheninnikov 1994: 187). The form *retanoo* evidently is a distorted variant of the form *retar.*

And, thus, it is possible to state that the LJA form for "white" is **retar*.

5.2. Comparing LJA *_retar_ with PST *_th(r)Vŋ_

LJA **retar* "white" can be compared to PST **th(r)Vŋ* "clear", "pure"[12].
We suppose that the form **th(r)Vŋ* actually can be rewritten as **thrəŋ.*

If we compare LJA **retar* with PST **thrəŋ* supposing the inversion of consonants (Fig. 2), we receive the following:

[ɾetaɾ] ~ [thɾəŋ]

[r] ~ [r] = 1
[e] ~ [ə] = (high-mid front unrounded vowel) ~ (mid central unrounded vowel) = (3/5 + 3/4)/2 = 0.675;
[t] ~ [t] =1;
[h] of [thrəŋ] has no counterparts in [retar], so in this case the degree of similarity is zero;
[a] of [retar] has no counterparts in [thrəŋ], so in this case the degree of similarity is zero;
the final [r] of [retar] can be compared with [ŋ]:
[ŋ] ~ [ɾ] = (velar voiced nasal consonant) ~ (voiced alveolar flap consonant) = (2/4 + 2/4)/2 = 0.5.

[12] Starostin 2005i.

And thus, [ɾetaɾ] ~ [thɾəŋ] = (1 + 0.675 + 1 + 0 + 0 + 0.5)/ 6 ≈ 0.53. This degree of similarity is higher than that of [red] and [roxo] which is 0.46. It means that forms **ɾetaɾ* and **thɾəŋ* definitely can be cognates.

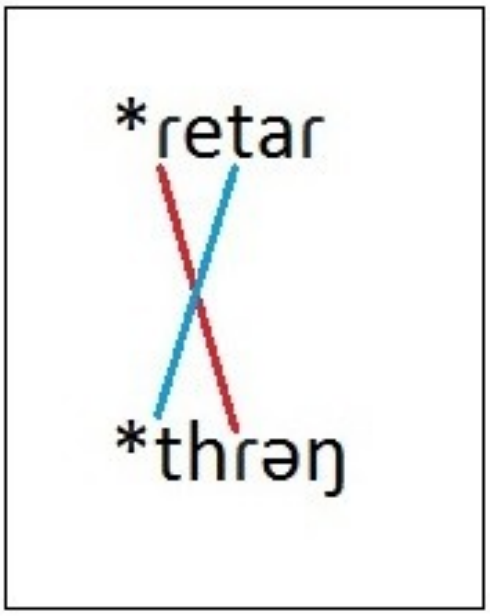


Fig. 2. Scheme representing the inversion that is supposed to have place between forms **ɾetaɾ* and **thɾəŋ*

However, there are two principal obstacles against the possibility of such collation.
First, the inversion supposed above is highly improbable taking into the account the fact that in previous comparisons of LJA and PST forms there are no examples of such transformations.
Second, the fact that the word "white" is supposed to be connected with the word "clear" is actually quite improbable since such association is very abstract while in the thinking of ancient people was very figurative, i.e., the concept of "white" should have been derived from a certain concrete item, not from an abstract idea of "clear".

We suppose that the LJA word "white" – **retar* is a compound of two roots: *re* and *tar*.
The root *re* can be compared with PST form **rĕ̆w*(*H*) "heat", "burn"[13], and also with PST **rĕ* "rope"[14]. The root *re* in this context denotes nettle, i.e., nettle could be was denoted after its main features: nettle is well known as a stinging herb and also nettle was quite a wide spread material for manufacturing of ropes. The PST form **rĕ̆w*(*H*) "heat", "burn" correlates well to the Ainu word *ari* "to burn", "to kindle"[15].

Ōta Mitsuru writes that the word-form *ari* (he records it as *are*) is actually causative of the verb "to sit" – *a-re* where *a* is singular stem of the verb "to sit", and *-re* is one of standard causative suffixes. And according to this logic, to kindle a fire literally means "to seat a fire" (Ōta 2005: 7). However, we suppose that the word-form *ari* / *are* is not a causative, but is a form connected with PST **rĕ̆w*(*H*) "heat", "burn".

[13] Starostin 2005f.
[14] Starostin 2005e.
[15] Kayano 2005: 38.

In this case took place the same transformation as, for instance, in the case of numeral "three": basically the Ainu root meaning "three" is re, but in compounds it becomes *a*r, for instance *ar-wan* "seven" literally "ten without three"[16]. The ending *-i* in *ari* can be just a result of late influence of Japanese, under which Ainu syllables of VC became VCV structures.

The root *tar* can be compared with PST form **tăr* meaning "a kind of cloth"[17]. The PST form **tăr* correlates well with Ainu *tara* "rice bale", "straw bag"[18].
It is quite noteworthy that the Japanese word that is used by Kayano as an equivalent of the Ainu word *tara* is the word 俵 *tawara* (the reading *tawara* is the kun-yomi of the sign 俵).
According to one explanation, the Japanese word *tawara* originally was a compound of the following words: *ta* 田 "field" and *wara* 藁 "straw". According to another explanation the word *tawara* is a compound of verb *tawamu* 撓む "to bend", "to flex", "to bold" and *wara* 藁 "straw", and thus, *tawara* means "bent straw". The fact that there are different versions of the etymology of the word *tawara* suggests that it does not have a clear unambiguous etymology.
Also, it is noteworthy that in the Okinawan language the word "straw bag" 俵 is *tāra* [ta:ra][19]. The Okinawan form *tāra* looks exactly like the Ainu word *tara.*
The Okinawan language is known as one of Japonic idioms (along with the Hachijō dialect) preserving some very archaic features. And thus, it is possible to state that Okinawan *tāra* is closer to the original than Japanese *tawara*.

We suppose that Japanese *tawara* and Okinawan *tāra* originated from Ainu *tara*, and first in the Ancient Japanese language the word *tara* had the meaning "rough fabric", and later in the Japanese language this word was rethought so it would become closer to the word *wara* "straw".

The fact that Okinawan language better preserves the word originated from LJA correlates well with the fact that Okinawan and Ainu people demonstrate notorious resemblance in the aspect of physical anthropology (Hanihara et al 1993).

Although ethnicity is determined not by genetics or physical anthropology, but by the primary language, but languages are spread by people, so when it comes to the relationship between two languages or long-term contact, there must be traces of contact between the two populations, which can be detected by population genetics and physical anthropology. In modern conditions cultural phenomena can be spread through web and media without actual direct contacts of the corresponding populations, but if the matter is about ancient epochs and we see that some ancient languages / cultures have a common origin or certain common features that indicate long-term contacts between two peoples, then physical anthropology and / or population genetics should demonstrate certain traces of contacts or a common origin of the two corresponding populations.
Summarizing all said in this paragraph, it is possible to state that the LJA word-form **retar* "white" is a compound of two roots: *re* + *tar*, where *re* means "stinging herb" or "the herb which is used for manufacturing of ropes" (i.e. nettle), and *tar* means "fabric" / "clothing".
And thus, the form *re-tar* originally meant "fabric made of nettle".

[16] Tamura 2000: 254.
[17] Starostin 2005h.
[18] Kayano 2005: 297.
[19] JLect 2026.

Fabric made of nettle fibers is more white-gray in color, unlike, for example, fabric made of tree bast which has more yellowish / beige tint. Therefore, the word for “white” was derived from the name of the fabric.

In the culture of historical Ainu there were and are special clothes made of nettle fibers, these clothes are named *retarpe* literally “white thing” (see Fig. 3), and the color of *retarpe* differs from that of Ainu clothes made of tree bark fiber which is beige / yellowish (Fig. 4).



Fig. 3. A retarpe (image source – Antiquities Dealers’ Association of America 2026)



Fig. 4. An attus (image source – Wikipedia 2026a)

Thus, the LJA form *retar should be compared not with PST *_th(r)Vŋ_ “clear”, “pure”, but with the PST compound *_rĕw_(_H_) “heat” + *_tăr_ “a kind of cloth”.

The form *_rĕw_(_H_)-_tăr_ is a compact representation of the following two forms: *_rĕw-tăr_ and *_rĕwh-tăr_
The degree of resemblance of LJA *_retar_ and PST *_rĕw-tăr_ is the following:

[r] ~ [r] =1;
[e] ~ [ĕ] = (high-mid front unrounded vowel) ~ (high-mid front unrounded short vowel) = (4/4 + 4/5)/2 = 0.9;
[w] has no counterparts in [retar], so in this case the degree of resemblance is zero;
[t] ~ [t] = 1;
[a] ~ [ă] = (low front unrounded vowel) ~ (low front unrounded short vowel) = (4/4 + 4/5)/2 = 0.9;
[r] ~ [r] = 1.
Thus, *_retar_ ~ *_rĕw-tăr_ = (1 + 0.9 + 0 + 1 + 0.9 + 1)/6 = 0.8.

The degree of resemblance of LJA *_retar_ and PST *_rĕwh-tăr_ is the following:

[r] ~ [r] =1;
[e] ~ [ĕ] = (high-mid front unrounded vowel) ~ (high-mid front unrounded short vowel) = (4/4 + 4/5)/2 = 0.9;
[w] has no counterparts in [retar], so in this case the degree of resemblance is zero;
[h] has no counterparts in [retar], so in this case the degree of resemblance is zero;
[t] ~ [t] = 1;
[a] ~ [ă] = (low front unrounded vowel) ~ (low front unrounded short vowel) = (4/4 + 4/5)/2 = 0.9;
[r] ~ [r] = 1.
Thus, *_retar_ ~ *_rĕwh-tăr_ = (1 + 0.9 + 0 + 0 + 1 + 0.9 + 1)/7 ≈ 0.68.

Both values of the degree of resemblance received for the LJA form *_retar_ and its PST counterparts are significantly higher than the degree of resemblance of [red] and [roxo] which is 0.46.

6. Conclusion

Terms for colors of Late Jōmon Ainu and their Proto-Sino-Tibetan counterparts demonstrate such values of the degree of resemblance, which are usually demonstrated by terms for colors of languages belonging to the same family. Along with previously demonstrated facts it means that the Ainu language is related to the Sino-Tibetan family, and that Ainu is a relic of the Proto-Sino-Tibetan language.

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