Article

A Comparative survey of Uralic and Eyak basic vocabularies

Arnaud Fournet

Abstract: The paper compares the basic vocabularies and phonologies of Eyak, belonging to the Na-Dene family, with Uralic. It is shown that Na-Dene and Uralic are genetically related and close enough to shed light on the phonetic and morphemic structure of each other. Additional Altaic data are provided when possible. A significant number of Eskimo-Aleut loanwords have also been identified in Eyak.

Keywords: Eyak, Na-Dene, Uralic, Eskimo-Aleut, Basic Vocabulary.

1. *Introduction*

Eyak [ʔïjāq] is an extinct language belonging to the Na-Dene family. According to Kari-Potter (2010:3) "Na-Dene (defined throughout the present volume as Athabas[k]an, Eyak and Tlingit, but excluding Haida) is recognized as a language stock that is limited to North America." Thanks to the work done by Michael Krauss a significant amount of information on Eyak has been collected from the last speakers of the language. The language went extinct recently when the last native speaker died on January 21, 2008.

The aim of the present paper is to compare the basic vocabulary of Eyak with Proto-Uralic (PU) and to show that a very significant number of words are shared, which means that Eyak and therefore Na-Dene is closely related to Uralic. Uralic is usually considered to be close to or to include Yukaghir, as stated by Bomhard:

> Uralic-Yukaghir has two divisions, namely, Uralic and Yukaghir. Yukaghir consists of a single branch, while Uralic is divided into Finno-Ugrian and Samoyed. There are about 30 Uralic languages. The internal subgrouping of the Uralic languages is still not fully settled. Finno-Ugrian is thought to have become separated from Samoyed some time between 4,000 to 2,000 BCE. Yukaghir is located in northeastern Siberia, while Uralic languages are spread across northern Eurasia, from Scandinavia and central Europe in the west to north-central Siberia east of the Ural Mountains in the east. (Bomhard 2008:38)

The paper focuses primarily on Eyak and Uralic. There is no etymological or comparative dictionary available for Na-Dene and Uralic-Yukaghir. A preliminary step is to compare available data on Eyak and Uralic. The comparative basis is the 50-word list developed by the Moscow school with some observations and additions.

2. *The phonology of Eyak*

Eyak had the following consonants. The graphic conventions of Athabaskanists follow a Chinese PinYin-like resort to voiced letters for plain voiceless sounds and voiceless letters for aspirated voiceless sounds (Cf. Kari-Potter 2010:349-358).

A conspicuous feature of Eyak is the absence of labial stops and the marginal status of *m*. As will appear below the reason for this absence is that a sound change turned them into glottal stops (and sometimes *h*). The disappearance of labials is probably not very ancient as loanwords from Eskimo-

Aleut also display that feature: *m > Ø. Eyak, and Na-Dene more generally, also has more contrasts for velar and uvular stops than Uralic displays. From that point of view Na-Dene appears to be conservative and Uralic is syncretic and decontrasted. Na-Dene also keeps very clear distinctions between "laryngeals", about all of which have been lost in Uralic as explicit segments, but for some items in Ugric which contain *γ. But as will be shown in the present paper, just as in Indo-European languages lost "laryngeals" have lengthened short vowels, so that Na-Dene long vowels *ā ē ī ū* have the same reflexes in Uralic as the sequences *aH eH iH uH*, whereas *ō and *oH are not attested in Na-Dene but inferrable from sound correspondences with Uralic.

Unaspirated stops:		*d* [t],	*g* [k], *gw* [kʷ], *G* [q]
Aspirated stops:		*t* [tʰ],	*k* [kʰ], *q* [qʰ]
Ejective stops:		*tʔ* [t'],	*kʔ* [k'], *qʔ* [q'], *ʔ* [ʔ]
Unaspirated affricates:		*dz* [ts], *dl* [tɬ], *j* [tʃ]	
Aspirated affricates:		*ts* [tsʰ], *tl* [tɬʰ], *ch* [tʃʰ]	
Ejective affricates:		*tsʔ* [ts'], *tlʔ* [tɬ'], *chʔ* [tʃʕ']	
Fricatives:		*s* [s], *ł* [ɬ], *sh* [ʃ],	*x* [x], *xw* [xʷ], *x̣* [χ], *h* [h]
Nasals:	(*m* [m])	*n* [n]	
Approximants:	*w* [w]	*l* [l], *y* [j], *w* [w]	

Consonantal inventory of Eyak

In recent years Jeff Leer proposed to add a series of palatal stops to the Proto-Na-Dene (PND) inventory. A table of sound correspondences for Athabaskan, Eyak and Tlingit can be found in Kari-Potter (2010:170). In my opinion it remains unclear whether this additional palatal series is legitimate or amounts to a kind of multiplication of entites in order to facilitate "pseudo-cognates". Item16 'hair' examined below tends to show that this palatal series is indeed dubious. Apart from this potential and somewhat controversial series it can be observed that the consonantal inventory of Eyak coincides with that of PND [Proto-Na-Dene], called PAET [Proto-Athabaskan-Eyak-Tlingit] in Kari-Potter (2010:170). Eyak is therefore nearly identical with its direct ancestor as regards consonants and can be considered representative of Na-Dene. Any comparative work on Na-Dene will have to handle the same issues as addressed when tackling Eyak alone.

On the whole Na-Dene can be described as highly conservative apart from the (recent) loss of labial stops while Uralic is fairly innovative with a loss of distinctive features, like voice or aspiration, and a near complete loss of all "laryngeal" phonemes.

The vocalic inventory of Eyak is as follows, from a phonetic point of view:

$$\bar{\text{ı}}\ [\text{i:}]\ \sim\ \text{i}\ [\text{i}] \qquad\qquad \bar{\text{u}}\ [\text{u:}]\ \sim\ \text{u}\ [\text{ʊ}]$$

$$\bar{\text{e}}\ [\text{e:}]\ \sim\ \text{e}\ [\text{ɛ}]\ \sim\ \text{ə}\ [\text{ə}]$$

$$\bar{\text{a}}\ [\text{a:}]\ \sim\ \text{a}\ [\text{a}]$$

Vocalic inventory of Eyak

The vocalic system of Eyak is a rather classical triangular system with the obvious lack of /o/. The same situation exists in Athabaskan. The comparison with Uralic reveals that PND fused the proto-phonemes */o/ and */a/ into /a/, therefore creating a hole in the original triangular system. It has been a controversial issue in Uralistics whether PU had long vowels or not. What Na-Dene shows without any doubt is that half PU phonemes definitely stand for originally long vowels or short vowels lengthened by following "laryngeals". Another point is that the PU proto-phonemes *i ~ *e and *o ~ *u are inverted and erroneously attributed. All these points will get clarified with the examples that follow. A clear distinction must be made between real sound changes and erroneous reconstructions: for example Eyak *chʔiyəqʔ* 'belly' is cognate with UEW 40 *ćojwa* 'belly, stomach'. Both words derive from PUND *čʔiyu:* because of back harmony *čʔiyu* became P(F)U *ćuyu* but note that

Samoyedic Yurak is *t'īw* with no harmonization. The "change" from P(F)U *čuyu* to *ćojwa* results from the incorrect reconstruction of *u and *o in standard Uralistics, whose values are exchanged. Eyak also had nasal vowels, especially *i̯* [ĩ]. It is unclear what diachronic relevance nasality has at the present stage of comparison. Nasality is about never taken into account in the present paper.

3. *Comparative basic vocabulary*

As mentioned before the basis for Eyak-Uralic comparison is the 50-item list of the Moscow school, with occasional resort to synonyms or semantically related words. Uralic forms are taken from the UEW even though it is quite clear that vowels are inadequately reconstructed most of time. More recent reconstructions like Sammallahti (1988) are not significantly better unfortunately. Anyway all these issues are obsolete as Na-Dene and Eyak provide the key to a clear and relevant system.

1. (Stability Index SI=38) 'ash': Eyak *tsi̯ʔtλʔ* ≠ UEW 194-5 *kuð'm-*. Apparently not a cognate but Eyak can be compared with UEW 36 *ćer* 'gray'. The common etymon is PUND *tsiʔtλʔ*. Further comparanda include Korean *čä* 'ashes', Mongolian *čil(baŋ)* 'albinos' and an apophonic variant *tsoʔtλʔ* attested in Uralic Saami *čuorggad, čurgis* 'whitish (hair)', Ostyak *sur* 'gray', Tungusic *čolko* 'grey, white (of hair)' among others. This variant with a back vowel is possibly attested in Eyak *tsʔaʔ* 'gray' although the glottalized initial is a problem or points at another unrelated root.

2. (SI=33) 'bird': Eyak *Gənuh* 'bird, especially a duck'; *kʔaʔtʔ* 'bird' ≠ UEW 249 *limtu* 'bird'. Apparently not a cognate but Eyak can be compared with UEW 111 *ka(ń)ć* 'kind of wild duck' and UEW 673-4 *kosk-* 'goose, duck'. The common etymon is PUND *Gun-* 'bird, especially a duck'. The vocalism reconstructed out of Uralic data is unacceptable. Further Altaic comparanda for *Gun-* include Turkic *quλ-* 'bird, duck'. Eyak *nāẋəg* 'Canada goose' may have a connection with Tungusic *ńuŋńakī* 'goose' although phonetic details seem to be obscured by onomatopeic interferences.

3. (SI=48) 'black': Eyak *cʔəs, tʔuʔč* 'black' ≠ UEW 758 *sim*, especially Cheremis *šimə, šeme* 'black'. Apparently not a cognate but Eyak *cʔəs* can be compared with UEW 46 *ćučk-* 'blackberry'. The Uralic data for 'blackberry' display metatheses and assimilations. In addition Cheremis *šimə, šeme* 'black' is best compared with Eyak *cʔiyuh* 'blackbear', with the same formative as in Eyak *Gənuh* 'bird'. Common etymons are *cʔiy-* and *cʔus-*. The Uralic words listed under UEW 758 *sim* and meaning '(to) rust' have then nothing to do with Cheremis *šimə, šeme* 'black' (< PU *ćīm- < *cʔiy-m-*). Further comparanda include Tungusic *si(l)m* and Chuvash *səʷm* 'shadow, dark place'. There is no Altaic comparanda for PUND *cʔus-* apparently.

4. (SI=20) 'blood': Eyak *dəł* ≠ Uralic 576 *ver* [< 'red']. Not a cognate. Cf. Eyak *dəs, dis* 'clot'. There is no comparandum for Eyak in either Uralic or Altaic. Eyak seems to be a loanword of the root of Eskimo *aðun(əRaR)* 'to bleed' (Cf. CED 5).

5. (SI=34) 'bone': Eyak *cʔəl(ih)* ≠ UEW 254-5 *luw*. Not a direct cognate. Eyak *cʔəl(ih)* 'bone' might be compared with UEW 772 *śelk-* (or *ćelk-*) 'back(bone), hill', Mongolian *sili* 'back of head, nape; mountain ridge' but Eyak *si̯i̯d, si̯i̯tʔ* 'spine with ribs' may be a better match.

6. (SI=13) 'to die': (1) Eyak *l-ł-ʔya* 'to die of old age' [√-ʔya] = UEW 89 *jama-* 'to die, be sick'. Cf. Yukaghir *job-* as well. A clear cognate. Further comparanda include Eyak *-ʔyahG* 'to be sick, tired of sth, sby' and Mongolian *ebe* 'to be sick'. This root *ʔya* probably meant 'to be sick, weak'. (2) Eyak *si̯h* 'to die' = (?) UEW 489 *śur-* 'to die'. Vocalism does not match.

7. (SI=16) 'dog': Eyak *ẋəwā* ≠ UEW 371 *pen*. Not a direct cognate. The Eyak word sounds like an onomatopeia: Cf. Uralic Mokša *uwams* 'to bark'.

8. (SI=15) 'to drink': Eyak *ʔə-də-la* [√*-la*] ≠ UEW 85 *ür-*. Not a direct cognate. Eyak might be compared with UEW 682 *lač, *loč* 'to be wet, soaked with water'.

9. (SI=24) 'dry': Eyak *ʔəhd* ≠ UEW 223-4 *kośka-* ≠ UEW 196-7 *kujwa-*. Not a direct cognate. UEW 223-4 *kośk-* 'dry' best compares with Eyak *qʔəgšʔ* 'dry (skin)' < PUND *qʔugšʔ* 'dry'. UEW 196-7 *kujw-* 'dry' best compares with Eyak *kị̈h* 'dry (wood)' < PUND *kih(u)* 'dry' with back harmonization in Uralic.

10. (SI=32) 'ear': Eyak *žəhẋ* ≠ UEW 370 *pelj-*. Cf. Eyak *žəẋ* 'to hear'. There is no comparandum for Eyak in either Uralic or Altaic. Eyak seems to be a loanword of Eskimo *ciɣun* 'ear' (Cf. CED 75).

11. (SI=25) 'to eat': Eyak *-a* 'to eat' [m lost?] = (?) UEW 8 *amt-* 'to feed'. The UEW does not list Mokša *amams* 'to eat'. Considering that Na-Dene loses *m this is most probably a cognate PUND *am-*.

12. (SI=47) 'egg': (1) Eyak *ʔuhd* 'egg' [m lost?] = (?) UEW 285 *mun-* 'egg, testicle'. Not a clear cognate. Altaic comparanda include Tungusic *umūkta*, Mongolian *ömdege* and Turkic *jumurtka* 'egg' with a contamination of the word 'round' in Turkic which explains initial *j-*. The Altaic words are a transparent derivative of *um-* 'to give birth'. (2) Eyak *qʔaʔ* '(herring) spawn' = UEW 194 *kuð-* [erroneous *u* for *ō*] '(to) spawn' < PUND *qʔoʔ*.

13. (SI=4) 'eye': Eyak *lāẋ* ≠ UEW 479 *śilm-*. Not a direct cognate. Eyak *lāẋ* 'eye' best compares with UEW 257-8 *lvtt-* 'to see' [Hungarian *lát-*])' < PUND *lāẋ* 'eye, to see'. No Altaic comparanda.

14. (SI=7) 'fire': Eyak *qʔa* [same root as 'to burn'] ≠ UEW *tul-*. Not a direct cognate. Eyak *qʔa(h)* 'fire, to burn' best compares with UEW 153 *kü-č-* 'to burn' < PUND *qʔo* 'to burn'.

15. (S=43) 'foot': Eyak *kʔahš-* ≠ UEW 88-9 *ja-lk-*. Not a direct cognate. Uralic *jalk* is a transparent derivative of the verb *ja*: UEW 88 *ja-kka* = Eyak *-ʔeʔa, -ʔya* 'to walk, go'. Further comparanda include Mongolian *yaw-* 'to walk', *ayan* 'journey, travel', Tungusic *ay-* 'to walk', Japanese *ayum-* 'to walk'. Uralic formative *-lk-* can be compared with Mongolian *-lg-* which is used for concrete verbal derivatives. Cf. Eyak *cʔah-łkʔ* 'tail (of seal)' (item41) for a possible instance in Eyak of that formative.

16. (SI=27) 'hair': Eyak *shāw* = UEW 471 *śäw* or *śäŋ*. Tlingit *sha-ẋaw* indicates that this lexeme is in fact a compound of *sha* 'head' and *ẋaw* 'hair'. Uralic *ä* equates ND *ā. In addition *ẋäw-* seems to compare with UEW *wäj-* 'long hair', although phonetic details are obscure. Further comparanda may include Turkic *sač-* '(head) hair', Karakhanid *yovlač* 'fine goat hair'.

17. (SI=11) 'hand': Eyak *qʔaʔcʔ* = Uralic 140 *kätt-*. A clear cognate < PUND *qʔaʔ* with two different suffixes. Uralic *ä* equates ND *ā. Further comparanda include Uralic 137 *kä-m-* 'palm'. There is no clear Altaic comparanda.

18. (SI=49) 'head': Eyak *qah, ciʔ* ≠ UEW 336-7 *ojwa*. Not a direct cognate. Eyak *qah* 'head' best compares with UEW 201 *kul'ma* 'forehead, temple, eyelid, eyebrow' < PUND *qoh* 'head'. Further comparanda include Turkic *jemke(k)* 'top of skull (also brain)', Chuvash *śamga* 'forehead' and Middle Korean *nima* 'forehead'. It therefore appears that Uralic is a compound *qoh-nima* '(head)-forehead'.

19. (SI=45) 'to hear': Eyak *čʔāqʔ* ≠ UEW 197-8 *kul-*, 207-8 *kunt-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak is probably a loanword of Eskimo *tucaR* 'to hear' > CS Yupik *tusaq-* (Cf. CED 345).

20. (SI=14) 'heart': Eyak ʔugł ≠ UEW 477 *śüð-m-. Not a direct cognate. Uralic śüð-m- 'heart' may be compared with Eyak sahd < *sod-h with metathesis and Athabaskan *zəNt 'liver'. Eyak ʔugł 'heart' may be compared with UEW 264 *maksa 'liver' or (another incompatible option) Turkic *baɣir, Tungusic *pākin 'liver', although vocalism is incoherent in both cases. Eyak ʔugł 'heart' is probably a loanword of Eskimo *uŋuman 'heart' with loss of *m (Cf. CED 376).

21. (SI=44) 'horn': Eyak dələh ≠ UEW 12-3 *a[m]t-. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

22. (SI=3) 'I, me, P1Sg': Eyak x(u) ≠ UEW 294 *mv-(n). Not a clear cognate. It can nevertheless be observed that the standard reconstructions with initial *m cannot explain Vogul-Mansi äm (TJ), om (KU), am (P So.), Hungarian én 'I', en-gëm 'me'. The Ugric "prothetic" vowel may be a remnant of the proto-form *x(v). The vowel u of Eyak may also be an indication that there used to be a final *m as Eyak u seems to be the ancient allophone of ə next to a muted out *m. Cf. Eyak ʔuhd 'egg' [m lost?] < *um-, Eyak ʔugł < Eskimo *uŋuman 'heart' with loss of *m. PUND should therefore be reconstructed as *xum- 'I, me, P1.SG'.

23. (SI=42) 'to kill': Eyak -še ≠ UEW 566-7 *weð-. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

24. (SI=41) 'leaf': Eyak tʔahł ≠ UEW 689 *lešt-. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

25. (SI=17) 'louse': Eyak gugs ≠ UEW 515 *täji. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak is probably a loanword of Eskimo *kumak 'louse' with loss of *m (Cf. CED 181).

26. (SI=46) 'meat': Eyak kʔuceʔ 'meat'; ceʔ 'flesh' = UEW 763 *siwvl- 'meat'. A clear cognate < PUND *cew-.

27. (SI=18) 'moon': Eyak x̌ah 'moon' ≠ UEW 211-2 *kuŋ-. Not a direct cognate. Eyak qī 'new moon' better compares with 211-2 *kuŋ- [erroneous vocalism] 'moon' < PUND *qī 'moon'. Cf. Yukaghir *kiŋ- 'moon' as well. Samoyedic majoritarily has [i]. Eyak x̌ah 'moon' may have a relationship with the root of Eskimo *iRaluq 'moon' (Cf. CED 144).

28. (SI=31) 'mouth': Eyak x̌aʔ, saʔ/sā = UEW 492-3 *śuw-. A clear cognate < PUND *śow.

29. (SI=29) 'nail': Eyak x̌ahdz ≠ UEW 157 *künč-. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

30. (SI=10) 'name': Eyak šeh ≠ UEW 305 *nim-. Uralic is a rather late and evolved IE loanword, possibly of Tocharian origin. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak probably has a relationship with Aleut asa 'name' (Cf. CED 51).

31. (SI=23) 'new': Eyak qʔa(h) ≠ UEW 587 *wuð'-. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

32. (SI=50) 'night': Eyak x̌eʔtłʔ = (?) UEW 72 *üj- 'night'. Possibly a cognate < PUND *x̌ew-. Uralic *ü = [o] is harmonized [e].

33. (SI=29) 'nose': Eyak nīčʔ = (?) UEW 303-4 *nēr-. Possibly a cognate.

34. (SI=30) 'not': Eyak dikʔ, (dī)yəx̌- ≠ UEW 68 *e/ä/a. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

35. (SI=21) 'one': Eyak *łi(ʔ), łįhG* ≠ Uralic **ükt-*. Not a cognate. Further comparanda possibly include Mongolian **nige* 'one'.

36. (SI=39) 'rain': Eyak *-le* = UEW 261 **l'u-pš-* 'dew', UEW 377 *pič* 'dew', Mordvin **pizem* 'rain'. Not a direct cognate. Uralic **l'upš-* is most probably a compound **le-* 'rain' and **peč-* 'dew'.

37. (SI=36) 'smoke': Eyak *łąhd* ≠ UEW 59 **čüŋ-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

38. (SI=40) 'star': Eyak *qa* ≠ UEW 210-1 **kuńć-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Cf. Tungusic **xōsi-kta* 'star' for Uralic < **kō(n)ts-*.

39. (SI=9) 'stone': Eyak *cā* ≠ UEW 163-4 **kiw-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak may have a relationship with Eskimo **caliɣaq* 'flat rock' (Cf. CED 65).

40. (SI=35) 'sun': Eyak *gəł-gił* ≠ UEW 96-7 **jel-* 'sun, (day)light'. Yukaghir *jelože* 'sun'. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak is probably of a loanword of Eskimo **qaRu* 'dawn, daylight' (Cf. CED 289) or **qəRiR* 'to be shiny' (Cf. CED 299) .

41. (SI=26) 'tail': Eyak *cʔah-łkʔ* 'tail (of seal)' = (?) UEW 438 **sejp-* 'tail (of animal, not of bird)'. Not a clear cognate because the correspondence *cʔ* ~ *s* is unusual. The root may be a verb √*cʔah* with a concrete formative *-łkʔ*.

42. (SI=5) 'P2.SG, thou': Eyak *n-* ≠ UEW 539-540 **tv*. Another form in Uralic is *-k*, used for Imperative. Eyak *n-* is cognate with Ugric forms not listed in the UEW: Ostyak-Khanty *nöŋ* (Sg.), *nin* (dual), *nəŋ* (Pl.) (Vach), Vogul-Mansi *näw*, *nüw* (Sg.), *nän* (Pl.) (TJ), *nin* (dual) (KU). These isolated Ugric forms would therefore appear to be the most ancient Uralic morphemes for 'P2Sg, thou'.

43. (SI=8) 'tongue': Eyak *ʔnaʔtʔ* = UEW 313-4 **ńälm*. A clear cognate. Uralic **ä* equates ND **ā* or **aH*. There is apparently no comparandum in Altaic.

44. (SI=22) 'tooth': Eyak *ẋū(l)* ≠ UEW 382 **piŋ*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak is probably of a loanword of Alutiiq *xun* 'tooth' (Cf. CED 165).

45. (SI=37) 'tree': Eyak *lis* ≠ UEW 410-1 **pū*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

46. (SI=2) 'two': Eyak *laʔd* ≠ UEW 118-9 **ka/ikt-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic. Eyak may have a relationship with Eskimo **malRuɣ* 'two' (Cf. CED 187) with loss of initial **m*.

47. (SI=28) 'water': Eyak *giyah* ≠ UEW 570 **wet-*. Uralic is possibly a IE loanword. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

48. (SI=1) 'P1Pl, we': Eyak *dā* ≠ Uralic **mv-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic.

49. (SI=12) 'what?': Eyak *dā* ≠ UEW 191 **ku-/ko-*. Not a cognate. There is no comparandum for Eyak in either Uralic or Altaic, apart from the isolated Japanese form: **ta* 'who?'. It is unclear whether Uralic is a IE loanword or not.

50. (SI=6) 'who?': Eyak *dū* ≠ UEW 140-1 *ki/ke-. Cf. Item49.

3. *Synthesis*

Based on the 50-item list the situation between Eyak and Uralic is as follows:

- semantically direct or indirect cognates: 1, 2, 3, 5, 6, 9, 11, 12, 13, 14, 15, 16, 17, 22, 26, 27, 28, 36, 42, 43.
- unclear status: 7, 8, 18, 20, 32, 33, 41.
- Altaic comparanda with no Uralic counterparts: 35, 49, 50.
- Possible loanwords from Indo-European into Uralic: 30, 47.
- Possible loanwords from Eskimo-Aleut into Eyak: 4, 10, 19, 20, 25, 27, 30, 39, 40, 44, 46.
- Unknown origin: 21, 23, 24, 25, 29, 31, 34, 37, 38, 39, 45, 48.

NB: Some numbers are listed more than once.

4. *Vocalism of Proto-Uralo-Na-Dene*

Traditional reconstructions of Proto-Uralic vowel system tend to operate without long vowels. Eyak shows without doubt that this approach cannot be maintained. Proto-Uralic had five pairs of basic vowels, both short and long as summarized in the following table:

PU	Eyak	PUND	UEW	Sammallahti
*a	a	*a	*a	*å
*ā	ā, aH	*ā, *aH	*ä	*ä
*o	a	*o	*i, ü	*ü
*ō	ā, aH	*ō, *oH	*u, o	*u, o
*u	ə (or u)	*u	*o, u	*o
*ū	ū, əH	*ū, *uH	*u, o	*u
*e	e	*e	*i, u	*i
*ē	ē, eH	*ē, *eH	*u, o	*e
*i̇	i	*i̇	*e	*ɨ
*ī	ī, iH	*ī, *iH	*u, ē	*e

Table 1: Proto-Uralic vocalism

Lengthening laryngeals *H can be any of *ʔ, *h, *ẋ or *x. The equivalences are approximative as current systems have only eight units when ten are necessary. Cf. Bomhard (2008:179-180) for a synthetic presentation of current systems. In addition front vowels may have been harmonized into back vowels by following labialized phonemes which adds to the confusion among Uralic internal data.

5. *Conclusions or perspectives*

As a general conclusion only 40% of Eyak's basic vocabulary does not have a connection with Uralic or Altaic. This means that a majority of Eyak basic words have clear or indirect Uralo-Altaic cognates. Among Eyak words with no Uralo-Altaic more than half can be traced to Eskimo-Aleut roots or

words, bearing testimony to lexical exchanges between Eyak speakers and their Eskimo-Aleut immediate neighbors.

The genetic connection between Eyak and Na-Dene with Uralic and Uralo-Altaic is powerful and is the best key to a satisfactory reconstruction of Proto-Uralic.

References

Bomhard, Allan R.

2008   *Reconstructing Proto-Nostratic*, *Comparative Phonology, Morphology, And Vocabulary*. 2. Vol. Leiden: Brill.

Fortescue, Michael; Jacobsen, Steven; Kaplan, Lawrence [CED]

1998   *Comparative Eskimo Dictionary, with Aleut Cognates*. Fairbanks: University of Alaska.

Kari, James; Potter, Ben A. (eds.)

2010   *The Dene-Yeniseian connection*. *APUA5*. Fairbanks: University of Alaska.

Krauss, Michael E.

1970   *Eyak dictionary*. Fairbanks: University of Alaska and Massachusetts Institute of Technology.

Rédei, Károly (éd.) [UEW]

1988   *Uralisches etymologisches Wörterbuch*, 3 Vol. Budapest: Akademiai Kiado.

Sammallahti, Pekka

1988   Historical phonology of the Uralic Languages // Sinor, Denis (ed). *The Uralic Languages*. Leiden: E.J. Brill, pp. 478-554.

Sinor, Denis.

1988   *The Uralic Languages: Description, History and Foreign Influences*. Leiden: Brill.