

Yup'ik Loanword Etymologies for the Yukaghir Languages and Dialects

Étymologies de mots yup'ik empruntés pour les langues et les dialectes youkaguirs

Peter S. Piispanen

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Résumé de l'article

Dans cet article, jusqu'à vingt-huit nouvelles étymologies de youkaguir sont décrites comme des emprunts esquimaux dans les langues et dialectes youkaguirs de l'extrême nord-est de la Sibérie, avec des considérations phonologiques et sémantiques pour chaque suggestion. Ces résultats apportent de nouvelles perspectives sur la phonologie historique de ces emprunts anciens et fournissent des étymologies assez claires pour un certain nombre de mots youkaguirs isolés. La chronologie des emprunts est également considérée, et divers facteurs pointent vers deux hypothèses concurrentes différentes: les correspondances de youkaguir sont soit le résultat de couches d'emprunt chronologiquement différentes à travers les âges, soit les correspondances représentent en fait les vestiges d'une ancienne affiliation de langage génétique entre les deuxièmement, une hypothèse étayée par les formes phonologiques et la sémantique très divergentes des correspondances youkaguir. On fait valoir que les correspondances esquimaudes sont invariablement de la variété yupik (au lieu de la variété inuit), et que la ou les langues yupik étaient parlées beaucoup plus tôt autour de la rivière Kolyma où youkaguir est actuellement encore parlé, puis en particulier la proximité des youkaguirs de la toundra. La catégorisation sémantique des emprunts se place surtout en tant que phénomènes, actions et perceptions élémentaires, et si elle ne décrit pas réellement une véritable relation de langage génétique, cela suggère au moins des contacts linguistiques très intenses pour le yupik et le yukaghir dans des conditions bilingues ou multilingues susceptibles avec le mariage tribal et où le changement de code était la norme depuis des générations.

Yup'ik Loanword Etymologies for the Yukaghir Languages and Dialects

Peter S. Piispanenⁱ

ABSTRACT

In this paper, up to twenty-eight new Yukaghir etymologies are described as Eskimo borrowings into the Yukaghir languages and dialects of far northeastern Siberia, with phonological and semantic considerations for each suggestion. These findings provide new insights into the historical phonology of these ancient borrowings as well as fairly clear etymologies for a number of isolated Yukaghir words. The chronology of the borrowings is also considered, and various factors reveal two different competing hypotheses: the Yukaghir correspondences have either resulted from chronologically different borrowing layers through the ages, or the correspondences actually represent the remnants of an ancient genetic language affiliation between the two, a hypothesis supported by the very divergent phonological shapes and semantics of the correspondences. It is argued that the Eskimo correspondences are invariably of the Yup'ik variety (instead of the Inuit variety), and that Yup'ik language(s) were spoken in much earlier times around the Kolyma River, where Yukaghir is still spoken, and in particular close to the Tundra Yukaghirs. The semantic categorization of the borrowings places most of them as *elementary phenomena, actions, and perceptions*, and if not actually describing an actual genetic language relationship, this at least suggests very intense linguistic contacts between Yup'ik and Yukaghir under bi- or multi-lingual conditions, such as through tribal marriages and where code-switching was the norm for generations.

KEYWORDS

Lexical borrowing, Eskimo-Aleut, Yup'ik, Inuit, Yukaghir, language contact, genetic language affiliation

RÉSUMÉ

Étymologies de mots yup'ik empruntés pour les langues et les dialectes youkaguirs

Dans cet article, jusqu'à vingt-huit nouvelles étymologies de youkaguir sont décrites comme des emprunts esquimaux dans les langues et dialectes youkaguirs de l'extrême nord-est de la Sibérie, avec des considérations phonologiques et sémantiques pour chaque suggestion. Ces résultats apportent de nouvelles perspectives sur la phonologie historique de ces emprunts anciens et fournissent des étymologies assez claires pour un certain nombre de mots youkaguirs isolés.

i. Department of Baltic Languages, Finnish and German, Stockholm University.
ppiis@bahnhof.se

La chronologie des emprunts est également considérée, et divers facteurs pointent vers deux hypothèses concurrentes différentes: les correspondances de youkaguir sont soit le résultat de couches d'emprunt chronologiquement différentes à travers les âges, soit les correspondances représentent en fait les vestiges d'une ancienne affiliation de langage génétique entre les deuxièmement, une hypothèse étayée par les formes phonologiques et la sémantique très divergentes des correspondances youkaguir. On fait valoir que les correspondances esquimaudes sont invariablement de la variété yupik (au lieu de la variété inuit), et que la ou les langues yupik étaient parlées beaucoup plus tôt autour de la rivière Kolyma où youkaguir est actuellement encore parlé, puis en particulier la proximité des youkaguirs de la toundra. La catégorisation sémantique des emprunts se place surtout en tant que phénomènes, actions et perceptions élémentaires, et si elle ne décrit pas réellement une véritable relation de langage génétique, cela suggère au moins des contacts linguistiques très intenses pour le yupik et le yukaghir dans des conditions bilingues ou multilingues susceptibles avec le mariage tribal et où le changement de code était la norme depuis des générations.

MOTS-CLÉS

Emprunt lexical, Esquimau-Aléout, yupik, inuit, youkaguir, contact linguistique, affiliation génétique

Historically, Yukaghir languages were spread out over a very large geographic area constituted mostly by the Chukotka Autonomous Okrug, northeastern parts of the Sakha Republic, and northern Magadan, with all such languages going back to Late Proto-Yukaghir (PY); the area is thus located between the Lena River in the west and the Anadyr River in the east (Dolgikh 1960). However, only Kolyma Yukaghir (KY) and Tundra Yukaghir (TY), spoken around the Kolyma River of far northeastern Siberia, remain today.

Lexical borrowings are the most common form of contact-induced linguistic change. Numerous lexical borrowings from current and historical neighboring languages, within every semantic field, can be found in all existing and extinct Yukaghir languages and dialects. Such donor language sources include Turkic, Tungusic, Chukchi, Koryak, Mongolic, and Russian (for a recent overview, see Piispanen (2018)).

There are also some known Eskimo¹ borrowings in Yukaghir (see a broad historical and modern overview of the Eskimo languages below (e.g.,

1. As has also been pointed out elsewhere, the shifting political sensitivities of the day have rendered the word *Eskimo* derogatory in eastern Canada and the United States, at least during the last ten years or so. The term *Inuit* is preferred there instead,

Berge 2016), suggesting that these languages (today spoken by over 80,000 speakers, from far northeastern Siberia to Greenland across the North American northern coastal areas), were more widely spread out in earlier times than they are today; speaking in favor of this is the fact (mentioned, for example, in Knut Bergsland's fairly unknown paper (1979, 8), citing archaeological data from Oswalt (1967, 36–60)) that Eskimo settlements have been found dating back to sometime far after 3000 BP around the mouth of the Kolyma River in far northeastern Russia, where Tundra Yukaghir (TY) is now spoken.

In more recent times, but before the seventeenth century, a complex trade network existed, going from the Athabaskans of North America (speaking the Na-Dené languages of the Athabaskan, Eyak, and Tlingit people, among others), through the villages of Unalakleet (in Alaska next to the Bering Strait) and Gambell (on St. Lawrence Island), and the Alaska North Slope (the Alaskan northern coastal area between the Arctic Ocean, the Chukchi Sea off the west point of Point Barrow, and the Beaufort Sea in the east), all the way to the Chukchi and Siberian Eskimo tribes—a network that was extended to the Kolyma River (where Yukaghirs lived) and to the Russian city of Anadyr, and along which Chukchi served as *Lingua Franca* (between the Chukchi, Yukaghirs, Koryak, Russians, Ewen, and Yup'ik until the beginning of the twentieth century (Krupnik 1993)). I suspect that at least parts of the same trade network were already active in ancient times, which would account for many of the historical language contacts in the larger region between the Yukaghir, Chukchi-Koryak, Itelmen, Northern Nivkh, Pre-Yakut, Eskimo, and Tungus(-Manchu) languages.

Naturally, therefore, there are also Eskimo borrowings in Chukchi, spoken in the Chukotka Autonomous Okrug (the easternmost extremity of Siberia) by perhaps some 7,700–15,700 speakers. Although the Chukchi are quite recent “intruders” on the coast of Bering Strait, some of the Eskimo borrowings therein are fairly old (Bergsland 1979, 14, 18).² This assumed historical geographical spread is further supported by the existence of six known Eskimo borrowings also in the northern Tungusic languages, with Ewen being spoken in widely scattered communities in eastern Siberia between Chukotka in the east, the Lena River in the west, the Arctic Ocean in the north and the Aldan River in the south, and Ewenki around widely spaced areas in Inner Mongolia, Chinese Heilongjiang, Russian Krasnoyarsk

whereas *Yup'ik* is preferred in western Canada and Alaska, as I understand it, even though these actually denote specific linguistic and cultural groups. That said, the term *Eskimo* is used here and in the long-established scientific community—with the utmost admiration and respect—to describe the many peoples whose languages, and culture are being studied.

2. I note from the phonology that these borrowings into Chukchi are also clearly from Yup'ik languages.

Krai, and in a large region in southern Siberia between the Pacific and the Ural Mountains (Vovin 2015).

Borrowings into Eskimo languages worldwide have often been from English (where in turn we find the Eskimo borrowings *igloo* and *kayak*, for example), Russian, French, and Danish (Berge and Kaplan 2005), and actually, also less well known, from German (in Labrador through German Moravian missionaries; see Heinrich 1971). Naturally, there have also been local borrowings from other current and historical languages into Eskimo languages, than from these aforementioned nationally sovereign languages. In this paper, the subject is loanword etymologies given as Eskimo borrowings in Yukaghir. It is my hope that the details and the significant number of new materials presented here will generate renewed interest in questions regarding historical lexical borrowings in far northeastern Siberia.

Some of the earlier suggested Eskimo (and Chukchi) borrowings into Yukaghir are commented here:

- Eskimo borrowings in Yukaghir include: Proto-Eskimo ***mamar(-)** ‘to taste good, to suck breast’ (CED, 205); borrowed as MC *momolo* ‘milk’; BO *momólo*, *momólgat* ‘milk’ (noted in Nikolaeva 2006, 273–274). However, this is a common nursery word and therefore may not be a borrowing at all. The nature of the borrowing of PY ***mel-** ‘breast’, suggested below, also from an Eskimo source, shows on the other hand that such lexical borrowings could be possible.
- Proto-Eskimo ***apə-** ‘to become covered in snow’, Proto-Eskimo ***apun** ‘snow (on the ground)’ (CED, 40), possibly borrowed as KY *ebut* ‘virgin snow’, etc. (noted in HDY, 166; Fortescue 1998, 145). However, due to the semantic and phonological differences, I consider this to be an uncertain borrowing, although the vocalism could be explained by labialization.
- Proto-Eskimo ***malruy** ‘two’ (CED, 205), borrowed as PY ***ma:lə-** > TY *maala-* ‘both sides, opposite’; KY *ma:ləyul’əlgə* ‘around’, etc. (HDY, 257; Fortescue 1998, 145). This is a definite borrowing, although a better comparison for semantic reasons might be with the Proto-Eskimo ***malri-** ‘two, pair’ (CED, 205), which could originally be from Northern Nivkh (Nikolaev 2015, 305).
- Proto-Eskimo ***uməy-** ‘to close off or cover’ (CED, 402), borrowed as TY *umusej-* ‘to close, to shut’, etc. (HDY, 443; Fortescue 1998, 145). This is quite likely another borrowing into TY only.
- Proto-Eskimo ***qimuy-** ‘to pull sled’ (CED, 333) > CAY *qimuy-* ‘to pull vigorously (of dog)’; Sirenikski *qəmpələyáxta* ‘driver of a dogsled’; Chaplino *qimúxsaq~kimúxsiq* ‘dog sledge’, *qimúkaq* ‘trained (dog or reindeer)’; Naukan *qimúxsiq* ‘dog team’, *qimúxtāqā* ‘to train dogs to pull a sledge’, etc. (CED, 333); borrowed as (PY ***kemuyo:r** >) TY

kemuguor ‘whim (of a reindeer), a reindeer in folklore’ (borrowing suggested in Piispanen 2018, 133).

- A number of additional Eskimo and Yukaghir (as well as Uralic, Tungusic, Chukchi, Turkic, Mongolic, etc.) correspondences were also suggested by Fortescue (1998); however, all of the Eskimo in the Yukaghir borrowing suggestions presented in this paper are, to the best of my knowledge, new suggestions.
- Chukchi borrowings in Yukaghir include: Chukchi *sawsi* ‘reindeer breeder’ (ESRD, 672), borrowed as TY *čaačaa* ‘a reindeer-breeding Chukchi tribe’ (noted in HDY, 121). The word has undergone some irregular sound changes in Yukaghir, including a progressive vowel assimilation; despite these issues, this is no doubt a borrowing, as is evidenced in the semantics.
- Chukchi *əwəlu*, *əwe-* ‘(wild) reindeer’ (Mudrak 2000, 32), borrowed as PY **ilwə* > KD *ilbe* ‘domestic reindeer’; RS *ilwa*, etc. ‘domestic reindeer’; TY *ilwičē* ‘pasture’, *ilwi-* ‘to graze (TR)’; KD *ilbied’i* ‘Yakut’, etc. (HDY, 173). The word is no doubt an *early* borrowing, as shown by the spread in Yukaghir.

Of importance is that in general, such borrowings into Yukaghir likely did not come directly from Proto-Eskimo-Aleut³ (nor directly from the descending Proto-Inuit⁴ or Proto-Yup’ik⁵), which must have been spoken elsewhere,⁶ but rather from a descending yet currently unidentified daughter language. Also, the sound correspondences of Eskimo borrowings in Yukaghir are far from fully understood—because the prosody, phonology, suffixation patterns, length of lexical roots, etc., are different—and thus,

3. A grouping also known as Eskaleut or Inuit-Yup’ik-Unangan languages. Throughout this paper, I refer to the original common proto-language of Proto-Eskimo-Aleut (PEA) only as Proto-Eskimo. PEA is believed to have diverged into Proto-Eskimo and Proto-Aleut (which as of yet has not been reconstructed) as early as 4000–6000 BP (Bergsland 1986, 1989), with Proto-Eskimo later changing into the descending branches of Proto-Yup’ik and Proto-Inuit.

4. This is also the common ancestor of all Inuit languages (also called Inupik) of Greenlandic, Inuktitut, Inupiaq, Inuinnaqtun, Inuvialuktun, etc. spoken on the American side, thus ranging from Big Diomedé Island in the Bering Strait to the east coast of Greenland.

5. This is the common ancestor of all the Yup’ik languages, spoken both in western and south-central Alaska and in northeast Siberia. Some researchers, including myself, place Sirenikski as a separate fourth branch of Eskimo languages (in addition to Yup’ik, Inuit, and Aleut) originating in Proto-Sirenikski (e.g., Hitch 2017, 2). Though this may be correct, a separate Sirenikski grouping is actually not of any importance for the larger thesis presented here, namely, the study of general etymologies based in (Yup’ik) Eskimo borrowings into Yukaghir.

6. The homeland of all the Eskimo languages is believed to have been in Alaska not Siberia (CED, XI).

determining the exact donor language (which is likely now extinct) is very difficult (see the phonological summary at the end of this text). Furthermore, the history of the Siberian Yup'ik language is less clear, and so, with this paper, I hope to fill in some gaps in the understanding of such matters.

I take heed of Bergsland's warning (regarding comparisons between the Eskimo languages and other far northeastern Siberian languages):

Also, for drawing conclusions of this sort, the comparisons would of course have to be based on an adequate descriptive analysis and should be critically weighed in their short-range perspective. For the question of possible ancient contacts with Samoyed or Yukaghir, for example, there is little point in adducing forms characteristic of some Eskimo subdialect only. In such cases, the resemblance can easily be shown to be accidental. (Bergsland 1979, 10)

Thus, great care in attempting to use well-attested Eskimo roots in the lexical comparisons. On occasion, I will discuss some common features between any known Eskimo daughter language and the Yukaghir form, if applicable and detectable. The directionality of the suggested borrowings will be Eskimo > Yukaghir because each respective root is (usually) widely attested in many Eskimo languages and usually only (but not always) with limited spread in Yukaghir.

I who am not a trained Eskimologist but rather specializing in Yukaghir studies, will for each borrowing determine the donor language, as being either Inuit Eskimo or Yup'ik variety, based on phonology and semantics. One would expect that, as a default, the borrowings in Yukaghir would invariably be of the Yup'ik variety due to geographical reasons, and, indeed, this is what is found with most of the borrowings. I believe that several different chronological waves of Eskimo borrowings may have occurred in Yukaghir, and I trust that future research will shed light on the phonology, prospective donor language, and historical conditions under which the borrowings took place.

Some researchers over many years have directly or indirectly suggested a genetic language relationship in different groupings involving Yukaghir and the Eskimo languages (e.g., as Uralo-Eskimo in Rask 1818;⁷ Uhlenbeck 1905, 1941; Sauvageot 1924, 1953; Bergsland 1959, 1979; Hajdú 1975, 1979; Georg and Seefloth 2001;⁸ and as Uralo-Siberian in Swadesh 1962; Fortescue

7. Indeed, the early Danish linguist Rasmus Rask, usually appreciated for his great insights into Germanic linguistics, also provided numerous interesting ideas presented through fairly convincing comparisons between Finno-Ugric, Tungusic, Turkic, Eskimo, etc. languages—ideas that today are still worthy of pursuit, evaluation, and study.

8. It should be noted that they based their evidence of a long-range genetic relationship on paradigmatic morphology, which is usually considered to be unassailable.

1998). As a working hypothesis, all similarities, including those in the lexicon, are due to ancient language contact situations; hence, for now, I will refer to all lexical correspondences as (ancient) borrowings.

In contrast, however, I firmly believe that Uralic and Yukaghir are genetically related to each other, as both go back to a common Pre-Proto Uralic language stage (also known as Proto-Uralo-Yukaghir); evidence for this can be found not only within the lexical domain, but also with similar phonology (with regular sound laws linking the two branches together), morphological marking, pronominal systems (personal and demonstrative), numerals, negation, typology, and compounding and derivational suffixes.

The semantics of a borrowed root is often narrowed down from that found in Eskimo to that found in Yukaghir. In the literature, all the Eskimo borrowings in Yukaghir have thus far been described only as general Eskimo borrowings; this paper, however, I have tried to conclusively demonstrate that all the Eskimo borrowings are from the Yup'ik branch of languages. Recently, several Northern Nivkh borrowings into Yukaghir, Yakut, Tungusic, Chukchi, and the Eskimo languages—sometimes independently, sometimes seemingly as *Wanderwörter*—have been suggested (Nikolaev 2015), and the findings presented below are assumed to also relate to these extensive historical language contacts. I suspect that both the Eskimo and hypothetical Northern Nivkh borrowings in Yukaghir constitute a considerably older layer of borrowings (as is also supported by the archaeological finding of a very early Eskimo presence at the mouth of the Kolyma River) than those from the considerably younger Altaic Turkic, Mongolic, and Tungusic sources, but such considerations and comparisons remain outside the scope of the current paper.

New Eskimo Borrowings into Yukaghir

Twenty-eight new loanword suggestions can be added to the corpus of Eskimo borrowings into Yukaghir languages and dialects. To my knowledge, none of these have been mentioned in any of the areal comparative works, including those of Fortescue (1998), Nikolaeva (the HDY 2006), and EDAL (2003), among others. In all the Eskimo vocabulary, the symbology/orthography of the Comparative Eskimo Dictionary (CED, 2nd ed. 2010) is used. The dialect and source abbreviations of the CED, as are its sometimes narrowed down sources within brackets, are also reproduced and used in my presentation. I have opted to include only the Proto-Eskimo, CAY, Sirenikski, and NAI forms, that is, one representative of each branch, in detail; other forms of interest are on occasion mentioned due to further semantic or phonological importance. Furthermore, I have assumed that Proto-Eskimo split up into Proto-Yup'ik and Proto-Inuit, respectively (and perhaps also separately into Aleut and Sirenikski). As the latter proto-forms

are not specifically reconstructed in the CED, I have opted to adhere to the forms reconstructed by Professor Oleg A. Mudrak (his Proto-Yup'ik and Proto-Inuit reconstructions are available on the StarLing Database server since 2005).

Proto-Eskimo ***m̥əluy-** 'to suck (breast)' (CED, 216) > Proto-Yup'ik ***m̥əluy-** 'to suck' and Proto-Inuit ***m̥əluy-** 'to suck, milk' (Mudrak 2005), attested in AAY, CAY *m̥əluy-* 'to suck', NSY, CSY *m̥əluy-*, Sirenikski *m̥əl̥əy-* 'to suck or breathe in', SPI, NAI *miluk-* 'to suck', WCI, ECI, and GRI (CED, 216); ?borrowed as PY ***mel-** 'breast' > KY *melut* 'breast'; MO *melur*; etc. (HDY, 263).

The Yukaghir root has been suggested cognate with PFU ***m̥älke** 'breast' (UEW, 267) in numerous publications (e.g., Bouda, Nikolaeva, Fortescue, Dolgopolskij, Piispanen and so on). However, it could instead be an old Eskimo borrowing, as indicated by both the phonology and the semantics. There are no distinguishing phonological or semantic features to distinguish between these options. As a Pre-PU cognate ***m̥älke**, the Yukaghir form would phonologically have become ***mal-** as a monosyllabic root—because PU ***-ä-** always corresponds to ***-a-** in Yukaghir—which then could easily have undergone labialization to PY ***mel-**, although ***mel-** is also the expected form as an Eskimo borrowing (< ***m̥əluy**).

The Uralic and Yukaghir forms have both been compared to Proto-Inuit ***malak** 'front of throat' elsewhere (Fortescue 1998, 142; CED, 204). The meaning of 'breast', specifically, is found throughout the Inuit branch of languages (missing in Yup'ik), and this poses problems. Inuit could not be a source of borrowings into Yukaghir because they are spoken on different continents.

Practically all the Eskimo borrowings in Yukaghir must be from Yup'ik languages, but the meaning of 'breast' could have disappeared from the latter after the borrowing took place (the preceding Proto-Eskimo root also has the reconstructed meaning of 'breast').

The root has a nominal derivational suffix (KY *-t* < PY ***-δ** > TY *-r*) (HDY 2006, 83), along with an epenthetic *-u-*. Phonologically, the Eskimo forms can be divided as follows: ***mul̥(y)** 'nipple' (CED, 221) and ***m̥əluy** 'plur. breasts of a woman, milk, to suck', probably due to contaminations. Assuming a borrowing as a monosyllabic root, PY ***mel-** provides no advantages to assuming Uralic cognancy. Semantically, we have 'breast (of woman), to suck, milk' > 'breast', and is perhaps also paralleled in other languages.

Proto-Eskimo ***alyir-** 'oldsquaw duck (long-tailed duck)' (CED, 23) > Proto-Yup'ik ***aFl̥ə-** ~ ***alyə-** 'eider' and Proto-Inuit ***alyi-** ~

***ajyi-** ‘long-tailed duck’ (Mudrak 2005), attested in CAY *alxiar(aq)* ‘oldsquaw duck’, CSY, Sireniksi *aylakəsəyax* ‘Steller’s eider’, NAI *ažyiq* ‘oldsquaw duck’, WCI, ECI, and GRI; borrowed as (PY ***al’q-** >) TY *al’yure-* ‘to cackle (of birds)’ (HDY, 101).

A direct borrowing into modern TY only, although there are some phonological concerns. An unidentified Inuit language could have provided the word (given the cluster ***-ly-** and the semantics), however the Proto-Yup’ik reconstruction is lacking. All Eskimo forms contain a non-metathesized cluster ***-ly-**, demonstrating Proto-Yup’ik ***alyə-**. Bird names, are subject to onomatopoeic interpretation, which is the reason for the doubly reconstructed proto-forms. The Yukaghir form also indicates ***alyə-** (but with unclear palatalization.⁹ If borrowed, the following applies: TY *-re* (< PY ***-δe**) is an intransitive verbal suffix (HDY, 79), and the *-u-* is epenthetic.

Semantically, the typical behavior of the duck (i.e., cackling), has simply become ‘to cackle’ by adding a verbal suffix; in other words, ‘duck’ > ‘to behave like a duck, i.e., to cackle’. Similar semantic changes can also be observed with other borrowings, such as: Ewen *kuña:-* ‘to gallop (of a horse or reindeer)’, borrowed as TY *quñe* ‘two-year old male reindeer’ (HDY, 390). Borrowings of reindeer terminology in Yukaghir are treated elsewhere (see Piispanen 2015).

Proto-Eskimo ***alu(C)un** ‘spoon’ (CED, 22) > Proto-Yup’ik ***aluŋ- (-unt)** ‘to lick, spoon’ and Proto-Inuit ***aḏlu-γ-** ‘to lick, spoon, tongue’ (Mudrak 2005), attested in AAY, CAY *alujun* ‘dog-feeding trough’, SPI, NAI *aluuttaq* ‘spoon’, WCI, ECI, and GRI; borrowed as (PY ***aluj** >) TD *alui* ‘spoon’ (HDY, 102).

This is another borrowing from a Yup’ik language directly into TD that only retains the original meaning. The donor language cannot readily be identified but the combination of root phonology and semantics makes this a secure borrowing. The meaning of ‘spoon’ is very widely distributed throughout the Eskimo languages.

Proto-Eskimo ***aləmqaR-** ‘to eat greedily’ (CED, 18) > Proto-Yup’ik ***am(ə)qə-** ‘to bite (off), to nibble lips’ and Proto-Inuit ***apqa-la-** ‘to eat quickly’ (Mudrak 2005), attested in AAY, CAY *aləmqaR* ‘to sneak a taste’, CSY, Sireniksi *aləqaR-* ‘to lick’, *amqaR-* ‘to bite’, SPI, NAI *apqataq-* ‘to eat greedily’, ECI, and GRI; borrowed as PY ***amlə-** > KY *amli:-* ‘to swallow’, *amlaj-* ‘to sink’; TY *emlerej-*; KY *amlujbə* ‘sunset’; KD *amlibe* ‘digestive tract’, etc. (HDY, 103).

9. In Yukaghir, both ***-l(‘)q-** and ***-ql-** are phonologically acceptable clusters.

This stem is attested in two harmonic variants: the back variant *amlə-* and the front variant *emlə-*; all Eskimo forms indicate that the former is the primary one. This Yup'ik borrowing has become monosyllabic and suffixed. Roots of the type ***(h)am-** 'to eat' are present in a considerable number of North Amerindian languages, such as in this Proto-Eskimo root. Because the root is already re-constructible in PY (or even earlier), this may represent one of the earliest borrowing layers into Yukaghir. The semantic development is outlined as follows: 'to bite' > 'to swallow' > 'digestive tract, to cut down' > 'to disappear' > 'sunset, to sink, to dive'.

Proto-Eskimo ***at(a)-** 'to be attached or persisting' (CED, 54) > Proto-Yup'ik ***atv-** 'together' and Proto-Inuit ***atta-nt-** 'to be attached' (Mudrak 2005), attested in AAY, CAY *ata-* 'to be attached', NSY, CSY, Sirenikski *atinax* 'together', SPI, NAI *ata-* 'to be attached', WCI, ECI, and GRI; borrowed as (PY ***attə-** >) KY *attəč-* 'to get stuck' (HDY, 114).

The meaning in the Yup'ik languages is clearly 'to be attached, together'. This was borrowed into the KY branch only and given *-č-*, an iterative verbal suffix (HDY, 79). The semantics thus follow 'to be attached' > 'to remain attached, to get stuck'. The geminate in KY is a curiosity also found in the Inuit forms but not in the Yup'ik forms.

Proto-Eskimo ***cajimmir-** 'to want more' (CED, 74) > Proto-Yup'ik ***cajimir-tə-** 'to want more' and Proto-Inuit ***cajiaj ~ *caji-m(m)ir-** 'jealous, to want more' (Mudrak 2005), attested in AAY, CAY *cajimixtə-* 'to want more', SPI, and NAI *saĵimmiq*; borrowed as PY ***čaja-~*čoĵo-** > KY *čaj-* 'to protect, to defend'; TY *čoj-* 'id.', *čoĵole-* 'to feel pity for (TR)', *čoĵorii-* 'to feel pity (TR)', *čoĵoledi-* 'to grieve over (TR)', *čančuore-* 'to protect, to care for (TR)' TK *t'ambi-, t'ambe-, -d'amba*, KY *čajužə-* 'to protect, to defend'; *čajbə-* 'to help', etc. (HDY, 123).

This early borrowing justifies a PY reconstruction. This stem is an example of the rare correspondence K *-a-* ~ T *-o-* (HDY, 114); perhaps borrowing is the reason for this discrepancy. All the Eskimo forms suggest that the proper PY reconstruction is ***čaja-**, however the exact donor language (branch) cannot be readily determined from phonological or semantic considerations.

Semantically, we have 'to want more' and 'jealous' > 'defending (jealously)' and 'to protect (what one desires/wants)'. The meaning 'to feel pity for' is secondary. The semantics should be compared to another borrowing: Yakut *maanuu* 'dear', borrowed as PY ***ma:n-** > TY *maanĵe-* 'to protect jealously without letting somebody go near someone else' (Piispanen 2013, 126–127).

Proto-Eskimo ***kit-** ‘to sink’ (CED, 193) > Proto-Yup’ik ***kitə-** ‘to sink, to drown, to overflow, to immerse in’ and Proto-Inuit ***kitə-** ‘to sink, to settle (water)’ (Mudrak 2005), attested in AAY, CAY *kittə-* ‘to sink, to set (of a celestial body)’, NSY, Sirenikski *kit(ə)-* ‘to drown’, SPI, NAI *kit-* ‘to settle (water)’, WCI, ECI, and GRI; borrowed as (PY ***kitiē-** >) KY *kitiē-* ‘to suffocate, to choke’ (HDY, 214).

This is another example of borrowing from an unidentified Yup’ik language found only in KY (no PY reconstruction is necessary), where *-hé-* is a comitative or proprietive verbal suffix (HDY, 79; Nagasaki 2014). Semantically, the meaning of ‘to drown’ is now found in Yukaghir only as ‘to suffocate, to choke’.

Proto-Eskimo ***nukar** ‘younger sibling (of same sex)’ (CED, 260) > Proto-Yup’ik ***nuka-** (**-lpiya-**, **-ra-**) ‘young man, boy, man (in his prime), sister, second wife’ and Proto-Inuit ***nuka-** (**-tpi(ɥ)a-**, **-ra-**) ‘younger sibling of the same sex, boy, young unmarried man’ (Mudrak 2005), attested in CAY *nukaq* ‘beaver in second year’, NSY, Sirenikski *nuka* ‘sister’, SPI, NAI *nuka(q)* ‘younger sibling’, WCI, ECI, and GRI; borrowed as (PY ***ñuye:-** >) TY *ñuugel* ‘half-brothers’ (HDY, 313).

This is another borrowing found only in TY, where *-l* is a common nominal derivational suffix (HDY, 81). As for semantics, the Chugach *nuka[ɥ]aq* ‘foster daughter’ is comparable to the ‘half-brothers’ in Yukaghir, a kinship term, where the relation is not of full blood. It is assumed that the borrowing took place through intermarriages between Yukaghir and Eskimo populations, where ‘half-brothers’ and ‘half-sisters’ may have been quite common.

Proto-Eskimo ***qalanər(ar)-** ‘to want something urgently’ (CED, 321–322) > Proto-Yup’ik ***qəla-** ‘to need, to urge dogs on, to shoo dogs away, to long for something with impatience, to cause’ and Proto-Inuit ***qəla-** ‘quickly, immediately, to want urgently’ (Mudrak 2005), attested in CAY *qəlanərnaxqə-* ‘to cause to waste time’, CSY, SPI, NAI *qilanaaq-* ‘to want urgently’, WCI, ECI, and GRI; borrowed as PY ***qoll-** > KY *qolluj-* ‘to envy (INTR)’; TY *qollej-*, *qollerii* ‘a dog in folklore [lit. envy]’, etc. (HDY, 384).

This root is widely attested in Yukaghir, and borrowing must have already occurred into PY. The Yukaghir geminate could have arisen due to affective syntax. Phonotactic considerations showed this to be a borrowing from Proto-Chukchi ***əqLe-t-** ‘to be in need, to need’ into Proto-Yup’ik, later providing the borrowing into Yukaghir. Semantically, we have ‘to long for with impatience’ and ‘to want urgently’ > ‘to envy very much’ > ‘to cause to envy’ when *someone else* has what one *longs for urgently*.

Proto-Eskimo ***uLəvkar**- ‘to fill or to be full’ (CED, 398) > Proto-Yup’ik ***uləv**- ‘to overflow, to overload (e.g., a car by people), to fill to overflowing’ and Proto-Inuit ***ulipka**- ‘to fill, to be full’ (Mudrak 2005), attested in NSY, NAI *ulipkaaq*- ‘to fill completely’, WCI, and GRI; borrowed as (PY ***ule**- >) KY *uldiču*- ‘filled’, *uldu*- ‘to stick, to choke’, *ultədej*- ‘to fill’, etc. (HDY, 442).

Here we have another Yup’ik borrowing into KY only. The original semantics of ‘to fill’ is retained in most languages. The Proto-Eskimo root already had the dual meaning of ‘to fill, to fill to overflowing’.

Proto-Eskimo ***ulir** ‘to crack (open)’ (CED, 401) > Proto-Yup’ik ***ulil**- ‘to cut open’ and Proto-Inuit ***uli-ɤ**- ‘to break, to crack, to chip’ (Mudrak 2005), attested in AAY, CAY *ulixtə*- ‘to open or cut something as to expose the inside’, SPI, NAI *uliq*- ‘crack, chip (china, enamel)’, WCI, and ECI; borrowed as (PY ***yl**- >) KY *il’(l)aj*-, *il’(l)a*- ‘to rip up, to open, to undo’; KD *il’ailuol* ‘line’, etc. (HDY, 460).

This is another Yup’ik borrowing into KY only. The phonological changes are trivial, and the Yukaghir palatal liquid *-l’*- may be a direct phonological equivalent to an original ***l(i)**-, followed by suffixation. Semantically, we have ‘to cut open’ (Yup’ik) > ‘to rip open > to open’ (Yukaghir) > ‘to undo’.

Proto-Eskimo ***iqar** ‘dirt’ (CED, 154) > Proto-Yup’ik ***iqā** ‘dirt, dirty, clean’ and Proto-Inuit ***ika-ɣ**-, (**-ɣa**-) ‘untidy, dirty’ (Mudrak 2005), attested in AAY, CAY *iqā(q)* ‘dirt’, NSY, CSY, SPI, NAI *iqari*- ‘to wash’, and WCI; borrowed as (PY ***yɣ**- >) TY *jayul*’, *ayul*’, *eyul* ‘mud, dirt, sludge’, etc. (HDY, 460).

This constitutes another Yup’ik borrowing into TY only (thus no PY form needs to be reconstructed, although this is useful to understand the parallel phonological correspondence, Yup’ik ***iq**- <> PY ***yɣ**-, as is also evidenced in the next borrowing). In Yukaghir, ***-l** (> TY *-l*) is a nominal derivational suffix (HDY, 81).

Proto-Eskimo ***iqqur** ~***iqquy** ‘buttocks or end of something’ (CED, 156–157) > Proto-Yup’ik ***iqruy** ‘end, edge’ and Proto-Inuit ***iqpa-ɤ**- ‘to spread out’ (Mudrak 2005), attested in AAY, CAY *iquk* ‘end’, NSY, CSY, Sirenikski *iqcax* ‘end, edge’, SPI, NAI *iqquk* ‘buttock’, WCI, ECI, and GRI; borrowed as PY ***yɣ**- ‘edge, border, riverbank’ > KY *jayil* ‘edge, border, riverbank’; TY *eyal*, *ayil*; KY *jayilə-a*- ‘to wave [lit. to make an edge]’;

TY *ayaduol'*, *ayaduol*, *eyaduol'* 'bank of a lake where a boat and nets are placed to dry'; TK *ayat'i-* 'to cut skins (several times)', etc. (HDY, 460).

This is another secure Yup'ik borrowing in Yukaghir, where again we have the phonological correspondence of Yup'ik *iq- <> PY *yy-. This can also be compared phonologically to the Proto-Tungusic (TU) *iče- 'to see' (EDAL, 579), borrowed as PY *y:čə- 'to see' (noted in HDY, 460), a root that is also borrowed into Ket, as TU *iče- 'to see' > Ewenki *ičede* 'colour', borrowed as Ket *eztl* 'color' (Khabtagaeva 2017, 83). Semantically, we have 'end, edge' (Yup'ik) to > 'edge' (Yukaghir) > 'border' and 'riverbank'. A similar semantic development through *demarcation* is found with KY *čoy-* 'to cut' > *čoyočə* 'steep riverbank' (HDY, 136). In this set, we also have the opposite but equally logical 'edge, border, riverbank' > 'to cut out (also while sewing)' and 'to wave [lit. to make an edge]'.

Proto-Eskimo *kaki- 'to pierce or prick' (CED, 166) > Proto-Yup'ik *kaki- (-n, -aŋ) 'to spear, to pierce or prick, pin, large fork, fish spear' and Proto-Inuit *kaŋi- 'to prick, large fork, fish spear, pin' (Mudrak 2005), attested in AAY, CAY *kaki-* 'to take a stitch', NSY, Sirenikski *kakit(ə)-* 'to fasten, to pierce with needle, to thrust', SPI, NAI *kaki-* 'to prick', WCI, ECI, and GRI; borrowed as PY *kiye-/*kiŋkə- > KY *kigi:-*, *kige:-*, *kiŋi:-* 'to gore, to prick, to stick, to stab'; TY *kige-*, etc. (HDY, 210).

This widespread borrowing into Yukaghir is from a very well-attested Yup'ik root. The vocalism is unexpected, but the consonantism and semantics indicate this as a borrowing. Based on the Eskimo phonology, the PY form can only be reconstructed as *kiye- (the original *-k- has undergone sonorization (> *-g-) and spirantization (> *-y-) between vowels, which I believe is a regular process in Yukaghir, given certain hitherto unexplored phonological conditioning factors). Semantically, we have 'to spear, to pierce, to prick' (Eskimo) > 'to gore, to prick, to stick, to stab' (Yukaghir).

Proto-Eskimo *qiŋŋar- 'to show displeasure' (CED, 335) > Proto-Yup'ik *qiŋa-(ŋ-) 'to refuse, to do against, to dislike something' and Proto-Inuit *qəŋu-y- 'to show displeasure, to have a fierce look' (Mudrak 2005), attested in AAY, CAY *qiŋaq* 'fetus', *qiŋar-* 'to be pregnant', NSY, CSY, Sirenikski *qiŋar(nar)-* 'to be frightening', SPI, NAI *qiŋaŋtuak-* 'to show displeasure by being sullen', WCI, and GRI; borrowed as (PY *keŋtə- >) KY *keŋdə-* 'to feel sorry for (TR)', etc. (HDY, 206).

This Yup'ik language borrowing is attested only in KY. In Yukaghir, a bare monosyllabic verbal root (*qeŋ) was borrowed, and the root-initial consonant was changed to *k-*, which is preferred with front vowels (instead

of q- due to rules of synharmonism); PY *-tə- (> KY -tə-), on the other hand, is a transitivizing verbal suffix (HDY, 83), resulting in ***keŋtə-**. Semantically, there is a connection between ‘to dislike’ (Eskimo) and the semantically changed, less judgmental ‘to feel sorry for’ (Yukaghir).

There exists a somewhat similar Proto-Eskimo ***qəŋəb-** ‘to be angry’ (CED, 324). Compare (Yup’ik) Naukan *qinákjuyāquq* (< ***qinǝ-ɸ-**) ‘to be discontent with guests’ with (Inuit) SPI Dialects Imaq *qíŋǝkǝjǝqtoq* (< ***qəŋəb-**) ‘to be discontented with guests’. These are likely connected forms. They may actually be connected through an earlier etymon (Pre-Proto-Eskimo?) for phonological and semantic reasons; also, in the same vein, could the previously non-etymologized and isolated form of TY *kiid’ə* (< ***kin-čə**) ‘demon, evil spirit, soul’ (HDY, 212) be an Eskimo borrowing from one of these sources?

Proto-Eskimo ***tarəR-** ‘to be dark’ (CED, 362) > Proto-Yup’ik ***tarrú-** ‘darkness, dusk, to become dark’ and Proto-Inuit ***tau-ɸ(-si-)** ~ ***taru-ɸa-** ‘darkness, dark, black’ (Mudrak 2005), attested in CAY *taaləx* ‘darkness’, NSY, Sirenikski *tara* ‘soot’, SPI, NAI *taaq* ‘darkness, to be dark’, WCI, ECI, and GRI; borrowed as PY ***toro-** > TY *toroŋe-* ‘black, dark, gloomy’; *torojaya* ‘elk’, *toroje* ‘birthmark’, *torojaa* ‘a woman in folklore’, *torojaya-ŋanme* ‘long purple willows [lit. elk willow]’, *toraqə* ~ *toroqodie* ‘a man in folklore’, *toroŋej-burie* ‘crowberry [lit. black berry]’, etc. (HDY, 436).

This other fairly obvious Yup’ik borrowing into TY only. There also exists a derivative, non-donor form with Proto-Eskimo ***taRəRnəR** ‘darkness or dark thing’ (CED, 333). Siberian Yup’ik has only three non-derived color terms (*black*, *white*, and *red*) (Fortescue 2016, 35), while Yukaghir has at least five or six, non-derived color terms with *black*, *white*, *red*, *yellow*, *green*, and *blue*, created in unison according to the so-called evolutionary color system by Berlin and Kay (1969). Because Yukaghir is often exceptionally descriptive and semantically innovative, perhaps there is a culturally aesthetic element involved with using a borrowed lexicon and derived forms. Another comparison of relevance may be with the Proto-Indo-European ***d^herg-** ‘to dim, to darken’ (> Tocharian A *tärkär*; Tocharian B *tarkar* ‘cloud’), though I believe this is only coincidental.

Proto-Eskimo ***tənu-** ‘to push or poke’ (CED, 371) > Proto-Yup’ik ***tənu-** ‘to poke, to push into, to knife, to stick, to nudge’ and Proto-Inuit ***tənu-** ‘to push, to shove’ (Mudrak 2005), attested in AAY, CAY *ənuur-* ‘to push, to shove’, NSY, Sirenikski *tənpizəqar-* ‘to knock into’, SPI, NAI *tinu-*, WCI, ECI, and GRI; borrowed as (PY ***tont-** >) KY *tondu-* ‘to stick (INTR)’, *tottəč-* ‘to stick (TR)’, *tottaj-* ‘to grease’, *tottəyərə-* ‘to take hold of, to catch (TR)’, etc. (HDY, 435).

Although the phonology gives few hints as to the donor language (branch), the semantics appear to suggest a Yup'ik language. Nikolaeva notes for this root that the geminate *-tt-* is the result of assimilation of an **-nd-*, which also shows us that the root was suffixed with PY **-ḍə-* (> KY *-də~d-*), an intransitivizing verbal suffix (HDY, 79). While a PY reconstruction is not readily warranted for this KY root, the widespread semantic developments suggest that this is an *old* borrowing. I suggest that **tonḍə-* (not **tont-*) was borrowed, followed by **tonḍə-* > **tontə-* > **tottə-* (and also the progressive assimilated forms of **tontu-* and **tonto-*). Though the semantics are agreeable, it is unclear why the original first syllable **-ə-* was irregularly reflected as **-o-*, instead of the expected **-e-*, as in other Eskimo borrowings.

Proto-Eskimo **tulur-* 'to butt or bump into' (CED, 380–381) > Proto-Yup'ik **tulur-* 'sharp-pointed, tusk' and Proto-Inuit **tulur-* 'to hit with tusks, to bump into something, canine tooth, fang' (Mudrak 2005), attested in CAY *tulur-* 'to lean on, to be supported on', *tuluq* 'ivory, tusk', NSY, CSY, SPI, NAI *tuluq-* 'to butt, to hit with head or tusk, to attack (of bird), to reach shore (of boat)', WCI, ECI, and GRI; borrowed as (PY **tolč-* >) KY *tol'či:-* 'to hammer, to knock, to beat, to peck', etc. (HDY, 433).

Here is another very limited Eskimo borrowing, but it is an oddity. The phonology of either the Inuit or Yup'ik forms could explain Yukaghir, however the semantics best agrees with the Inuit 'to butt, to hit with head or tusk, to poke'. Such meanings may have existed but were lost from Yup'ik after borrowing into Yukaghir. The vocalism of **-u-* > **-o-* is typical of *early* borrowings (HDY, 63). The cluster of *-l'č-* is atypical morpheme-internal, and borrowing of a bare bisyllabic root (**tolə-* 'to bump') of Yukaghir prosody, followed by suffixation (PY **-či:-* (> KY *-či:-*), a delimitative verbal marker (HDY, 79), and assimilation (**toləči:-* into **tolči:-*, not **tolč-*, as suggested), could explain this well, followed by an assimilative influence of the following long *-i:-* (i.e., **tolči:-* > KY *tol'či:-*). It is not unusual to mark intransitive verbs for continuous *long actions*, *action only once*, etc., and so we get 'to hammer for a while', etc.

Proto-Eskimo **talu* 'screen or partition' (CED, 356–357) > Proto-Yup'ik **talu-(H)i-* 'to hide oneself, to move out of sight, shadow, shade, hunting blind, to go out of sight behind shelter' and Proto-Inuit **talu-* ~ **tālīt* 'to cover, covering, hunting screen, to disappear from view, to set (of sun or moon)' (Mudrak 2005), attested in AAY, CAY *talu* 'partition between two family areas in a house', NSY, SPI, NAI *talu-* 'shooting screen, covering, to cover', WCI, ECI, and GRI; borrowed as (PY **tol* >) KJ *tol* 'supply of food for a journey', etc. (HDY, 433).

This Yup'ik borrowing is attested only in one dialect of KY. Phonologically, only a short bare root was borrowed, and the vowel labialized. Arctic survival is not easy—in a milieu where perhaps 3,500–6,000 calories are required per day—therefore borrowing a word for ‘supply of food for a journey’ makes great sense. Semantically, the Inuit meanings are a better match, but this should be another Yup'ik borrowing. We have ‘cover, shelter’ > ‘to get in under cover, to be hidden, to set (of sun or moon)’ (Eskimo) > ‘covered (or hidden or sheltered) partition/package’ > ‘supply of food for a journey’ (Yukaghir). Compare semantically to TY *poñi-* ‘to put, to leave, to abandon’ > TY *poñinube* ‘place where clothes and other things are left’ (HDY, 359) (which is cognate with PU ***pani-** ‘to put’ and PU ***pane-** ‘to put’ (UEW, 353–354). Another comparison can be made, namely with Proto-Uralic ***tolwa** ‘to bring, to take’ < PU ***toli-** ‘to come’ (Aikio 2002, 29) which, being cognate, would entirely invalidate this borrowing suggestion.

Proto-Eskimo ***qulliquliaq** ‘a species of small bird, plover’ (CED, 344) > Proto-Yup'ik ***quli-** ~ ***kuli-** ‘a kind of seabird’ and ?Proto-Inuit ***qulu'cuq** ‘back of bird’ (Mudrak 2005), attested in WCI and ECI; borrowed as Proto-Tungusic ***kilu-** ‘grey goose, heron, gull, swan’ > Ewen *kular* ‘gull’, *kil'arqa* ‘name of a bird’; Ewenki *kuluk* ‘gull’, etc. (TMS) 1, 392–393, 429); borrowed as (PY ***qulerqa** >) KY *qalerqa* ‘Ross gull (*Larus rosea*)’; TY *qularqaa*, *qul'arqaa* ‘id., a woman in folklore’, etc. (HDY, 389, with comparison to the Ewen *kular*, instead of *kil'arqa*).

This is an old known borrowing from Tungusic into Yukaghir, although it actually dates back further to the Eskimo languages. Semantically, the Proto-Tungusic root ***kilu-** meant ‘a kind of sea bird’ plover, etc., meanings borrowed with the Eskimo word ***kuli-**. These then changed throughout different Tungusic languages, including the Ewen *kil'arqa* ‘name of a bird (likely a gull species)’ with a Tungusic suffix, specifically borrowed as KY *qalerqa* ‘Ross gull (*Larus rosea*)’, etc. Despite the irregular vowel switch, the suggested chain of borrowings presented herein should be correct, given the phonology and suffixation. Moreover, the Eskimo root is clearly a derivative of the Proto-Eskimo ***quliR** ‘upper part’, attested in CAY, NSY, CSY, Sirenikski, SPI, NAI, WCI, ECI, and GRI (CED, 343), because the ‘plover’ has a very characteristic look, as only its upper part is colored; the superlative form is also found with ***qulliR** ‘uppermost one’.

Proto-Eskimo ***cikōiy** ‘squirrel’ (CED, 83) > Proto-Yup'ik ***ciKi(y)-** ~ ***cuku-** ‘lemming’ and Proto-Inuit ***cikriy** ‘squirrel, marmot’ (Mudrak 2005), attested in CAY *cikik* ‘arctic ground squirrel’, *cikixpak* ‘marmot’ CSY, SPI, NAI *sikšik* ‘arctic ground squirrel’, *sikšikpak* ‘hoary marmot’,

WCI, ECI, and GRI; borrowed as PY *čuyur- ‘chipmunk’ > KY čugurube ‘chipmunk’, etc. (HDY, 144).

The Kolyma Yukaghir word for ‘chipmunk’ (I assume *Tamias sibiricus*, a species of ground squirrel) is an Eskimo borrowing meaning ‘squirrel’. The phonology (*čuku-) indicates a Yup’ik donor language, yet the semantics instead point at Inuit. The meaning of ‘squirrel’, however, was already evident at the Proto-Eskimo (and Proto-Yup’ik) stage, as daughter languages have the meaning. The suffixation in KY, however, is unusual as *-r* is a suffix, it is generally found as a nominal derivational suffix in TY only (TY *-r*; KY *-t* < PY **-δ* (HDY, 83). Perhaps the final *-r* in the KY form is from Eskimo with epenthesis.

Proto-Eskimo *qaqutluḡ ‘fulmar’ (CED, 313) > Proto-Yup’ik *(q)aqutluḡ ‘fulmar’ and Proto-Inuit *qaqu’luḡ ‘fulmar, storm bird’ (Mudrak 2005), attested in CSY, Sirenikski qaqə’lukáγəγax ‘fulmar’, SPI, WCI, ECI, and GRI; borrowed as Ewen *ko:gas* ‘loon’; Yakut *kuoyas* ‘loon’ (TMS 1, 403); (PY *qaye:-) KY *qaye:l* ‘loon’ (*Gavia arctica*), etc. (HDY, 374).

The correspondence between Yakut, Ewen, and Yukaghir has been noted before, however Eskimo also has the same root. A relevant comparison can be made with Proto-Nivkh *qhask ‘spotted bird’ > Amuran Nivkh *qaskc* ‘gull with dark spots’, *tol-xasqr* ‘falcon’. According to the CED, Proto-Eskimo did not have the phoneme *s, but the reflex of the Proto-Eskimo *c always appears to me to correspond to either *-s-* or *-h-* in the daughter languages; this raises the question as to what was the real phonetic value of the Proto-Eskimo *c. Furthermore, if *s did not yet exist, what could have been the exact correspondence and native Eskimo sound equivalents of Nivkh *qhask? Could it have been *qhahk or *qhahq, the latter becoming *qaqut-luḡ with Eskimo prosody and suffixation patterns? This root has the properties of a *Wanderwort*.

Proto-Eskimo *təmə ‘body or main part’ (CED, 370) > Proto-Yup’ik *təmə ‘basic part of something, body’ and Proto-Inuit *təmə ‘body, shank of boot, main part of something’ (Mudrak 2005), attested in AAY, CAY *təma* ‘body, main part of something that is attached’, NSY, CSY, Sirenikski *təma* ‘handle’ SPI, NAI *timi* ‘body, body of boot above sole’, WCI, ECI, and GRI; borrowed as (PY *tamnə >) MU *tamna* ‘bone’ (HDY, 426).

This isolated historical Yukaghir form could be a suffixed borrowing. The phonology is acceptable whereas the semantics are not a perfect fit. The Eskimo root also means ‘(body) trunk’, which could have become ‘bone’ in Yukaghir.

Proto-Eskimo ***uqila-** ‘to be fast’ (CED, 414) > Proto-Yup’ik ***uqila-** ‘running (on feet), fast’ and Proto-Inuit ***uqila-** ‘to be a fast runner’ (Mudrak 2005), attested in AAY, CAY *uqila-* ‘to be fast (on one’s feet)’, NSY, SRI, NAI *uqilya-*, WCI, ECI, and GRI; borrowed as (PY ***ölkä-** >) TY *olke-* ‘to run’, *ölkije* ‘runner (a person)’, *ölked-amude* ‘period of time during which a runner runs quickly [lit. running goodness]’; TK *ölkebo-* ‘person who likes running’, etc. (HDY, 324).

This tentative borrowing suggestion not only presupposes a metathesis, but could also explain the morpheme-internal atypical *-Ik-* cluster in Yukaghir. The Eskimo-Yukaghir semantics match, and if this is an Eskimo borrowing, the PY form should be reconstructed as ***olkä-** ‘to run’, with *-u- > *-o- being typical of *early* borrowings (HDY, 63) because the *öl-* could have resulted from palatalization.

Proto-Eskimo ***ciṭa(y)-** ‘to be hard’ (CED, 93) > Proto-Yup’ik ***cəṭəq-(ni-)** ‘to abut against, to balk, to resist, to tense muscles’ and Proto-Inuit ***ciṭə-** ~ ***ciṭ-rə-** ‘hard’ (Mudrak 2005), attested in CAY *cəṭəṅqitə-* ‘to be frozen stiff’, *cəṭəxtaq* ‘frozen fish or meat’ CSY, Sirenikski *sisəqnəx* ‘endurance, self-control’, SPI, NAI *sis-* ‘to harden’, WCI, ECI, and GRI; borrowed as (PY ***ča:tika-** >) TY *čaatikaa* ‘joint disease of old age, formation of liquid on a reindeer’s joints’, etc. (HDY, 127).

Enter a very tentative case: Could this constitute an isolated borrowing only into TY with irregular synharmonism? Semantically, a *joint or leg disease* could equate well with the *bardening or stiffening of joints*, and at least in terms of consonantism, this is phonologically a good match.

Proto-Eskimo ***əpəṛ** ‘dirt’ (CED, 123) > Proto-Yup’ik ***əpṛ-u- (-nAṛ)** ‘dirt, to clean’ and Proto-Inuit ***əpəṛ-** ‘dirt, to get dirty, dirty, clean’ (Mudrak 2005), attested in CSY, Sirenikski *pərnəx* ‘dirt’, *pərnərir-* ‘clean’, SPI, NAI *ipiq* ‘dirt’, *ippak-* ‘to get dirty’, WCI, ECI, and GRI; borrowed as (PY ***epel’ə-** >) KY *epel’ə-* ‘to soil, to dirty oneself, to stain oneself’, etc. (HDY, 163).

This is yet another Yup’ik borrowing into KY only. In Eskimo, a base root meaning ‘dirt, dirty’ can be reconstructed, as well as another root that is the negative of said root, thus rendering the meaning of ‘to clean’, that is, ‘to un-dirty’. Again, the first syllable Eskimo *ə* corresponds directly to *e* in the borrowed Yukaghir form, as is evidenced in several of the aforementioned borrowings. The KY word bears the suffix *-l’ə-*, an intransitive verbal marker (HDY, 81) attached to ***epe-** ‘dirt’, a bare, borrowed root. Semantically, we have ‘dirt’ > ‘to dirty oneself’.

An interesting parallel is found for this borrowing into KY only, with another Yup'ik root also meaning 'dirt' (cf. Proto-Yup'ik **iqa* 'dirt, dirty, clean') borrowed into TY only (cf. TY *jayul*, *aɣul*, *eyul* 'mud, dirt, sludge'), as described above.

Proto-Eskimo **ikviy-* 'to suffer' (CED, 137) > Proto-Yup'ik **ikvi-qə-* 'to feel anguish, to be in need' and Proto-Inuit **ikpi-γə-* 'to feel pain from, to suffer' (Mudrak 2005), attested in CSY, Sirenikski *forkəpəqšūqə(s)-* 'to be tormented', *kəpəqšūqaləx* 'torture', SPI, NAI *ikpigi-* 'to feel a slight pain from', WCI, ECI, and GRI; borrowed as (PY **ikiwə-* >) TY *ikiwii-* 'to frighten, to threaten'; TK *ikiwije(ŋ)* 'fright, scarecrow'; TD *ikowal* 'ghost', etc. (Angere 1957, 71; HDY, 171).

Although this Eskimo form is no longer attested in any of the Siberian languages beyond the distant Chaplino Island, here, the Yup'ik Eskimo root **ikvi-* 'to feel anguish' found itself borrowed only into TY as the semantically connected **ikiwə-* 'to scare', suffixed in various ways. The Eskimo root is attested in a different phonological form in the Inupik branch, with the Proto-Inupik **ikpi-γə-* 'to feel a pain from, to suffer' (CED, 125).

Let us raise an interesting semantic question from an *histoire des mentalités* perspective: Could a complex psychological category such as 'anguish' be already expressed in Proto-Yup'ik? Ancient and prehistoric societies were not very psychologically inclined. Indeed, on the Yup'ik side, only the meaning 'to feel anguish, to be in need' is attested (in Chaplino). On the Inupik side, the meanings are 'to suffer' > 'to cause suffering', 'to feel pain', 'to experience discomfort' and 'to be offensive'. We may conclude that the original root meant 'to suffer, to feel pain'. On the Proto-language level, it appears that meanings such as 'heavy, difficult, to suffer, to feel pain, to scare, to be scared' are valid abstract psychological concepts; beyond that, however, we may never know.

Proto-Eskimo **aḍuyyar* 'clotted blood' (CED, 5) > Proto-Yup'ik **áruy(-ja-)* 'blood, clotted blood' and Proto-Inuit **a(r)uy(-ia-)* ~ **arrə-κ-* 'blood, to bleed, clotted blood, red, to work with something bloody' (Mudrak 2005), attested in AAY, CAY *auyyaq* 'dark mole on skin', NSY, CSY, Sirenikski *aawyyax* '(clotted) blood', SPI, NAI *auyyaq* 'clotted blood', WCI, ECI, and GRI; borrowed as (**awjaq-* >) B *yavoa* 'menstruation' (HDY, 186).

This isolated B word for 'menstruation' is phonologically and prosodically odd and is possibly borrowed from Yup'ik. Phonologically, we may assume something akin to the CAY *auyyaq* (cf. CSY *aawyyaq*) > **awjaq* > **avoa(q)* > *yavoa*, and semantically 'clotted blood' > 'menstruation'. The phonological development is highly irregular from the Eskimo forms. Old Yukaghir records

are often aberrant in comparison with the cognate forms found in later Yukaghir dialects. These words should be compared with the phonologically close Yup'ik Eskimo *aya-* 'to undergo menarche' (and the likely therefrom borrowed Aleut *aya-* 'to menstruate'), another possible donor form.

On the Phonology of Eskimo Borrowings in Yukaghir

The phonology of the found borrowings is summarized in the following table. The donor language will by necessity be of the Yup'ik variety. The term "Late Proto-Yukaghir" is used here to mean either PY or a later daughter language into which the borrowing was made. The older borrowing suggestions discussed at the beginning of this paper are also presented in the table 1.

The rather significant number of correspondences do show fairly clear tendencies toward borrowings (regarding statistical analyses of these results on the determination of cognates and genetic language relationships, see Bengtson and Ruhlen 1994). Phonologically, original Eskimo *a, *i, and *u generally correspond to *a, *i, and *u, respectively, in the borrowed root, unless palatalization (fronting and closing of vowels) or labialization (heightening and closing of vowels) effects are also taking place (for more on this, see Piispanen 2016, 259).

Palatalization effects can occur with *ń, *j, *í, and č, with this last one in KY only. In addition, the unstressed *a can change to *i following a palatalized consonant. Labialization effects can occur with *kw, *p, and *m. Uvularization effects could theoretically occur with *q in borrowings, though this has not been observed in the dataset.¹⁰ The Eskimo *i can spontaneously change into *e in Yukaghir, while the Eskimo root-initial *i- will regularly be found as Yukaghir *y-. Furthermore, the Eskimo first-syllable schwa -ə- generally corresponds to a re-phonologization as a full Yukaghir -e-. Beyond this, the schwa ə is always found in prosodically predictable positions in Yukaghir (i.e., in the second or third root syllable) in native or borrowed vocabulary, given some time. As for the consonants (including *p, *t, *m, *n, *ŋ, *c, *l, and *r), these tend to remain unaltered in Yukaghir as derived from the Eskimo form, except for the aforementioned possible alternations between *k~*g~*q~*γ as synharmonism dictates.

10. Uvularization effects are observable in the Yukaghir lexicon but are comparatively rare, which may suggest that the development of the Yukaghir phoneme *q* itself, causing uvularization (as well as *γ*), has developed late in the Yukaghir phonetic inventory. I put forth that Yukaghir, much earlier, only had *k* (and possibly also *g*), as in the Proto-Uralic (with both hailing from the common Pre-PU), and by Late Proto-Yukaghir, all four phonemes (*k*, *g*, *q*, and *γ*) were fully formed and used in the common lexicon, perhaps due to external linguistic influences through contacts with Eskimo, Yakut, etc.).

Table 1. Summary of the phonology of all suggested lexical borrowings

	Proto-Eskimo	Proto-Yup'ik	Proto-Inuit	Late Proto-Yukaghir
1	*məluɣ -	*məluɣ-	*məluɣ-	*mel-
2	*aɣɪr-	*aŋlə~*aɣə	*aɣɪ~*aɣɪ	*al'q-
3	*alu(C)un	*aluŋ(-unt)	*alu-ɣ-	*aluj
4	*aləmɢar	*am(ə)qə-	*apqa-la-	*am-lə-
5	*at(a)-	*atV-	*atta-nt-	*attə-
6	*caŋimmir-	*caŋi-miɓ-tə-	*caŋi-m(m)ɓ-	*čaŋa-
7	*kit-	*kitə-	*kitə-	*kit-ńe-
8	*nukaɾ-	*nuka-(-lpiɣa-, -ɓa-)	*nuka-(-tɕi(ɓ)a-, -ɓa-)	*ńuyɛ:-
9	*qəlanəɾ(aɾ)-	*qəla-	*qəla-	*qoll-
10	*uLəvkaɾ	*uləv-	*ulipka-	*ule-
11	*ulir-	*uɦɪɳ-	*uli-ɓ-	*yl'-
12	*iqa(ɾ)	*iqa	*ika-ɣ-, (-ŋa-)	*yy-
13	*iqqur~*iqquɣ-	*iqruɣ	*iqpa-ɓ-	*yy-
14	*kaki-	*kaki-(-n, -aɓ)	*kaɕi-	*kiɣɛ-
15	*qinɢar-	*qinɢa-ɓ-	*qəɓu-ɣ-	*keŋ-tə-
16	*taɾəɾ-	*tarrú-	*tau-ɓ(-si-), *taru-ɓa-	*toro-
17	*tənu-	*tənu-	*tənu-	*ton-t-
18	*tulur-	*tulurɓ-	*tulurɓ-	*tol-č-
19	*talu-	*talu-(H)i-	*tálɪt	*tol
20	*qulliquliaq-	*quli~*kuli-	*qulu'cuɣ	*qulerqə
21	*cikdiɣ	*ciKi(ɣ)~*cuku-	*cɪkriɣ	*cuɣur-
22	*qaqutluɣ	*(q)aqutɣ	*qaqu'luy	*qayɛ:-
23	*təmə	*təmə	*təmə	*tamnə
24	*uqila-	*uqila-	*uqila-	*olkə-
25	*citə(ɣ)-	*cətəq(-ni-)	*cɪtə~*cɪt-rə-	*ča:tika:
26	*əpəɾ-	*əpɓ-u-(-nAɓ)	*əpɓ-	*epe-l'ə-
27	*ikviɣ-	*ikvi-qə-	*ikpi-ɣə-	*ikiwə-
28	*aɖuɣyar	*áruɣ(-ja-)	*a(r)uɣ(-ia-)~*arrə-ɓ-	*avoaq
Phonological correspondences of older borrowing suggestions (Eskimo proto-forms from the CED)				
-	*apə-	*apə-	*apə-, *ap-unt	*ew-
-	*maləɓu-(-*(r)i)	*maləɓu, *maləɓi	*maɭɓɕ-, *malɓu-i-	*ma:lə-
-	*uməɣ	*uməɣ, *umət	*uməɣ-	*um-
-	*qimuɣ	*qimuɣ-tə-	*qimuɣ	*kemuyə:r

On the Chronology of the Borrowings

The phonology of Yup'ik borrowings—from one or several donor languages—can be mostly explained, except for a few unruly forms. In contrast, the vocalism of Chukchi borrowings in Yukaghir appears to be more regular than is that of the Eskimo borrowings. Could these Eskimo borrowings constitute some of the oldest chronological layer of borrowings in Yukaghir?

Using the chronological system presented elsewhere for borrowings (Piispanen 2018,110–113), we can preliminarily divide all borrowings into Yukaghir as: *very early* borrowings (2000–2500 BP, i.e., Pre-PY); *early* borrowings (1500 BP, i.e., into the earliest stages of Late Proto-Yukaghir); *late* borrowings (1000 BP, i.e., into the latest stages of Late Proto-Yukaghir); and *very recent* borrowings (a few centuries old, made only into individual Yukaghir dialects or languages). The data suggests this initial thesis: Eskimo and Nivkh borrowings in Yukaghir are very old, though there are some later Eskimo borrowings. Eskimo borrowings have occurred through different chronological waves in several different places. Tungusic, Turkic, Mongolic, and Chukchi borrowings, then, are all much more recent, and Russian borrowings are the youngest. However, the entire methodology of using various simple phonological criteria and peculiarities as an indicator of the chronology of lexical borrowings in Yukaghir must be re-analyzed, re-evaluated, and perfected, and likely revised and improved at a future date.

Discussion on Semantics

A fairly significant number of lexical borrowings between languages that are no longer spoken close to each other were found. Tundra Yukaghir has been the recipient of somewhat more Yup'ik borrowings than has KY. This correlates well with the earlier known Yup'ik presence at the mouth of the Kolyma River. It appears as if Yup'ik speakers may have lived close to Yukaghirs, and in particular the Tundra Yukaghirs.

Semantically, the borrowings take on a wide variety of roles and are particularly focused on basic verbs; this is contrary to the majority of borrowings in the world's languages, which mostly consist of nouns (Hock and Joseph 2009; van Hout and Muysken 1994). An alternative interpretation of the results, which are similar when we compare the lexicon of the genetically affiliated Uralic and Yukaghir languages to each other, could be an implied valid genetic language relationship between Yukaghir and the Eskimo languages. In that case, these findings indicate cognates instead of borrowings; if correct, then the Eskimo languages are, per definition, also genetically related to the Uralic languages (as suggested by Bergsland 1959, 1979, among others). This tentative interpretation requires extensive

comparative research, including the comparisons of typology, morphology, suffixation, pronominal systems, etc., to fully evaluate.

Most borrowings are captured by the semantic heading of “elementary phenomena, actions and perceptions”. The following semantic groups (according to the system used in Rédei 1999) describe the borrowings:

- a) body parts of humans and animals: *breast*, possibly *bone*
- b) animal kingdom: *dog*, *duck*, *gull*, *chipmunk*, possibly *storm bird*
- c) types of work and tools: *spoon*
- d) trade: *supply*
- e) social life and kinship terms: *half-brothers*
- f) health, illness and death: *menstruation*, possibly joint *disease*
- g) elementary phenomena, actions and perceptions: *to lay down*, *to swallow*, *to get stuck*, *to protect*, *to suffocate*, *to envy*, *to fill*, *to rip up*, *to prick*, *to stick*, *to feel sorry for*, *to knock*, possibly *to run*, *to frighten*
- h) other: *dirt* (x2), *edge*, *black*

Conclusions: Borrowings or Cognates?

An anonymous reviewer suggested that the found correspondences between Yukaghir and Eskimo are not necessarily lexical borrowings but could instead be ancient cognates, and even claimed that borrowings would require more solid and detailed argumentation to be convincing. However, only when sufficient lexical, pronominal, numeric, phonological, morphological, and semantic similarities and correspondences are collected (not to mention a few solid sound change laws)—the very edict of the comparative historical linguistics methodology—can we assume possible cognancy. Therefore, all similarities between Yukaghir and Eskimo are now presented as lexical borrowings, though future research may change this view considerably.

It is difficult to take the comparisons beyond what appears to be look-alikes; there are phonological problems and correspondences to explain, and in some cases, the semantics diverge significantly (which is expected after long periods of change). Admittedly, an old genetic language relationship is an attractive hypothesis because it is suggested by phonologically highly distorted and semantically divergent forms. Otherwise, the hypothetical contacts between the Eskimo and Yukaghir languages around the Kolyma River appear to have been too recent to have produced such divergent forms after said borrowings took place. In other words, we may actually be dealing with the ancient remnants of an old genetic language relationship between Yukaghir and Eskimo. If so, then the age of this relationship must go far beyond 4000 BP, the minimum approximate age of the Eskimo-Aleut language family itself (CED, xi), and possibly as far back as 6000 BP or

beyond. Furthermore, because Uralic and Yukaghir, I will boldly claim, are also genetically related languages, we could be forced to posit the existence of a truly ancient Uralo-Yukaghir-Eskimo proto-language in excess of at least 7 or 8 thousand years of age.

Taking the lexical borrowing hypothesis to its conclusion, this paper suggests that a now extinct Yup'ik variety used to be spoken, at least around the Kolyma River, in much earlier times. Can anything be learned about this extinct language and was it similar to the currently existing Eskimo languages on the Asian side? Another study of interest would be to trace possible ancient Yup'ik language branch (lexical and morphological) substrata features in the modern languages of Yakut, Ewen, Ewenki, and Yukaghir. Furthermore, in light of the recently discovered possible Northern Nivkh borrowings in all of these languages (and in Eskimo), it may also be desirable to seek Nivkh substrata features in the languages (particularly as some researchers believe that Nivkh is related to Chukchi).

This line of research could benefit considerably by using the comparative method with a wide assortment of newly published materials of modern and historical dictionaries, including numerous dictionaries published by the Alaska Native Language Center, University of Alaska Fairbanks, on the languages of both sides of the Bering Strait.

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Abbreviations of Eskimo Linguistic Sources

AAY = Alutiiq Alaskan Yup'ik; CAY = Central Alaskan Yup'ik; CSY = Central Siberian Yup'ik; ECI = Eastern Canadian Inuit (Tarramiut dialect); GRI = Greenlandic Inuit (West Greenlandic); NAI = North Alaskan Inuit (Barrow dialect); NSY = Naukanski Siberian Yup'ik; Sirenikski = The Sirenikski language, a separate branch of the Eskimo-Aleut languages; SPI = Seward Peninsula Inuit; WCI = Western Canadian Inuit.

Abbreviations of Yukaghir Linguistic Sources

B =	Materials of Billings 1787
BO =	Materials of Boensing 1781
KD =	Kolyma Yukaghir from Jochelson's manuscript dictionary
KJ =	Kolyma Yukaghir materials of Jochelson (1898 and 1900)
KY =	Modern Kolyma Yukaghir
M =	Materials by Maydell, in Schiefner (1871a, 1871b)
MC =	Chuvan materials of Matjuškin, in Wrangel (1841)
ME =	Materials of Merk 1787
MO =	Omok materials of Matjuškin, in Wrangel (1841)
MU =	Ust'-Janskoe materials of Mueller/Lindenau 1741
SU =	Materials by Suvorov, in Schiefner (1871a)
TD =	Tundra Yukaghir materials of Jochelson (1926)
TK =	Tundra Yukaghir materials of Krejnovič (1958, 1982)
TY =	Modern Tundra Yukaghir
W =	Early materials of Witsen 1692

All the older materials are fully described and referenced in the HDY

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