Sergei L. Nikolaev
Institute of Slavic studies of the Russian Academy of Sciences (Moscow/Novosibirsk); sergenicko@mail.ru

Toward the reconstruction of Proto-Algonquian-Wakashan. Part 1: Proof of the Algonquian-Wakashan relationship

The first part of the present study, following a general introduction (§1), presents a classification and approximate glottochronological dating for the Algonquian-Wakashan languages (§2), a preliminary discussion of regular sound correspondences between Proto-Wakashan, Proto-Nivkh, and Proto-Algic (§3), and an analysis of the Algonquian-Wakashan "basic lexicon" (§4). The main novelty of the present article is in its attempt at formal demonstration of a genetic relationship between the Nivkh, Algic, and Wakashan languages, arrived at by means of the standard comparative method, i. e. establishing a system of regular sound correspondences between the vocabularies of the compared languages. Proto-Salishan is considered as a remote relative of Proto-Algonquian-Wakashan; at the same time, no close ("Mosan") relationship between Wakashan and Salish has been traced. Additionally, lexical correspondences between Proto-Chukchi-Kamchatkan, Proto-Algonquian-Wakashan, and Proto-Salishan are also reviewed. The conclusion is that no genetic relationship exists between Chukchi-Kamchatkan, on the one hand, and Algonquian-Wakashan, languages (Nivkh included), on the other hand. Instead, it seems more likely that Proto-Chukchi-Kamchatkan has borrowed words from Wakashan, Salishan, and Algic (but probably not vice versa; §5). The Algonquian-Wakashan, Salishan and Chukchi-Kamchatkan common cultural lexicon is also examined, resulting in the identification of numerous "cultural" loans from Wakashan and Salish into Proto-Chukchi-Kamchatkan. Borrowing from Salishan into Proto-Nivkh was far less intensive, as there are no reliable Nivkh-Wakashan contact words. Proto-Algic has no borrowed "cultural" words from the mentioned languages (§6).

Keywords: Algonquian-Wakashan languages, Algic languages, Wakashan languages, Nivkh language, historical phonology, basic lexicon, cultural lexicon.

1. Introduction

1.1. Edward Sapir (1929) had originally proposed the Algonkin-Wakashan phylum (elsewhere denoted as Algonquian-Wakashan, Algonquian-Mosan and Almosan = Algonquian + Mosan) with the following internal classification: 1. Algonkin–Ritwan [Algic][1]. (1) Algonkin [Algonquian]. (2) Beothuk. (3) Ritwan. (a) Wiyot. (b) Yurok. 2. Kootenay [Kutenai]. 3. Mosan (Wakashan-Salish). (1) Wakashan (Kwakiutl-Nootka). (2) Chimakuan. (3) Salish. The term "Mosan" was derived from the common designation of 'four' in Salishan (**mu-s*), Chimakuan (**maʔy-as*) and Wakashan (**mu:*) languages.

Morris Swadesh (1953a, 1953b) published a large list of similar Salishan, Wakashan and Chimakuan roots and stems as a demonstration of the Mosan genetic relationship; lexical correspondences were provided along with Proto-Mosan reconstructions. Swadesh was comparing forms from attested languages, since the Proto-Salishan, Proto-Chimakuan, and Proto-Wakashan reconstructions had not yet been produced. Although Swadesh's Mosan recon-

[1] The current synonyms are given in square brackets.

structions are rather speculative, no system of regular sound correspondences was established, and genetic relationship of the languages could not be considered proven, his work still laid the basis for further study.

Sapir's "Algonkin-Wakashan" (or "Almosan") remains a speculative hypothesis, not to mention Joseph Greenberg's "Almosan–Keresiouan"[2]. While Mosan is considered as a probable (although not properly demonstrated) diachronic unit with features typical of a *Sprachbund* (Beck 1997), both "Almosan" and "Almosan–Keresiouan" have been rejected by most specialists in Native American languages (Campbell 2000: 327–328). Nevertheless, the reasoning of the "non-believers" is no more or less convincing as that of the "believers", since both positions remain equally unfounded. Neither are there any convincing arguments for "Macro-Algonquian", allegedly including, besides Algic, also the "Gulf" languages of the Muskogean family (Creek, Choktaw, etc.) and Natchez, Atakapan, Chitimacha, Tunica, and Tonkawa (Haas 1958, 1959, 1960: 983–987). Indeed, the Muskogean languages have several striking lexical similarities with Algic, but a serious evaluation of the evidence will be possible only after the completion of a reconstruction for Proto-Gulf (Goddard 1979: 106). There are also hypotheses on Chukchi-Kamchatkan-Nivkh-Almosan (Mudrak & Nikolaev 1989) and Chukchi-Kamchatkan-Nivkh relationship (Fortescue 2011, see §5). A simple collection of vaguely homologous words, or even a superficially more impressive group of similar monosyllabic affixes from various contemporaneous languages do not really count as convincing arguments in favor of their etymological cognacy.

1.2. As of now, our chances to resolve the Mosan and Algonquian-Wakashan controversies have significantly increased. The main achievement in this respect of the last 50 years has been the reconstruction of parent languages of families allegedly pertaining to the Algonquian-Wakashan macrophylum. This allows to compare data on much deeper levels than those of contemporary languages, and, therefore, avoid being misled by comparisons that represent nothing more than secondary accidental resemblances.

The Proto-Wakashan, as well as the Proto-North and Proto-South Wakashan forms, have been reconstructed in the "Comparative Wakashan dictionary" by M. Fortescue (2007). The Proto-Wakashan data are far from complete: although we do possess a full list of the Northern Wakashan roots by N. Lincoln and J. Rath (1980), similar work on South Wakashan is yet to be done, since Fortescue's dictionary contains only a part of South Wakashan cognates. Consequently, Proto-North Wakashan forms will appear in the present comparison much more often than South Wakashan.

Publication of the Quileute dictionary (Powell & Woodruff 1976) permits us to determine the classificatory status of the Chimakuan languages[3]. For the time being, however, work on the Quileute materials is still underway, so in this part of the paper I only quote them where absolutely necessary. Data on Chemakum are so scarce that it is not even possible to fill up a quarter of Swadesh's wordlist.

The Algic family includes the Algonquian subfamily with numerous languages, of which Central and Eastern Algonquian languages are reliable sources for a definitive reconstruction

[2] Greenberg (1987) included Sapir's Algonkin–Wakashan (denoted as "Almosan") into the "Almosan–Keresiouan" phylum along with the Caddoan, Iroquoian, Keresan, and Siouan–Catawban families. This hypothesis presumes an exclusive distant relationship and has not been properly supported with standard methods of comparative linguistics.

[3] Chimakuan languages (Quileute and the scarcely documented Chemakum) belong to the same phylum as Wakashan. The Quileute material still requires further processing in its historical aspect; therefore, only the most important Quileute and Chemakum data are given in the present paper.

(Bloomfield 1925; Sapir 1929; Miller 1959). For the most part, the Proto-Algonquian dictionaries (Aubin 1975; Hewson 1993) rely on material from these languages. The Plains Algonquian languages have ruined sound systems; many of their forms allow multiple historical interpretations and are therefore often "adscribed" to the dependable comparisons, although occasionally they can render the previous reconstructions more exact in certain aspects (Goddard 1974, 1982; Proulx 1977, 1989; Siebert 1941). The languages of the Ritwan subfamily (Yurok, Wiyot) are rather archaic and sufficient for an appropriate phonological reconstruction of Proto-Algic, but they put rather fragmentary data at our disposal: there is a relatively full Yurok vocabulary (Robins 1958) and a much more incomplete list of the Wiyot forms (Teeter & Nichols 1993; additional field data in P. Proulx's articles). Due to this, the number of Proto-Algic forms is much smaller than could be expected for a protolanguage that had most likely split no earlier than circa 3500 B.C.[4] Paul Proulx's articles (1984a, 1984b, 1985, 1991, 1992, 1994) contain the bulk of Algic comparisons; some addenda are also available in Berman 1984, 1990. The Algic protoforms as reconstructed by Paul Proulx are used in the present article, with only slight modifications.

The Proto-Salishan phonology was reconstructed by Aert Kuipers, who has published an etymological dictionary (2002) in which not only the Proto-Salishan protoforms, but also those of both Salishan groups (Internal and Coast Salish) are given. Newman 1979 contains some additional information on personal affixes in Proto-Salishan.

Oleg Mudrak's comparative study on the so-called "Palaeo-Asian" languages make an important contribution to our understanding of the linguistic situation in Northeast Asia, and allows us to integrate the lexical material of Eskimo, Nivkh, Chukchi-Kamchatkan, and Yukaghir families in our comparison *in corpore*. In the present article, the following works by Mudrak have been taken into consideration: his reconstructions of Proto-Chukchi and Proto-Itelmen (Mudrak 2000; the comparative database "Chukchi-Kamchatkan etymology" at http://starling.rinet.ru), Proto-Eskimo (Mudrak 2011; the comparative database "Eskimo etymology" at http://starling.rinet.ru), and his as of yet unpublished Proto-Nivkh and Proto-Yukaghir databases, kindly provided to the author of the present paper with valuable personal commentary. Still another version of the Chukchi-Kamchatkan reconstruction, together with a comparative dictionary, has been published by Michael Fortescue (2005). Finally, Mudrak's as of yet unpublished database *niodet.dbf* assembles numerous lexical similarities between Proto-Nivkh, Proto-Yukaghir, and Proto-Chukchi-Kamchatkan.

1.3. The present article aims to conclusively demonstrate genetic relationship between the Nivkh family[5] and both the Algic and Wakashan language families, as compared to the rather speculative conclusions in Mudrak & Nikolaev 1989. The Nivkh family is the only constituent of this tripartite phylum in Northeast Asia; all of its relatives had relocated to North America, covering the territories adjacent to the homogenous Na-Dene area, and for many centuries had had no further contact with Nivkh.

[4] This explains the prevalence of the binary Proto-North Wakashan and Proto-Nivkh lexical correspondences over the Proto- Wakashan/Proto-South Wakashan and Proto-Algic/Proto-Algonquian ones. We dispose of the North Wakashan and Nivkh lexical material *in corpore*, whereas Proto-Algonquian data are limited, with ca. 800 reconstructed roots. Materials on Proto-Algic, Proto-Wakashan, and Proto-South Wakashan are even more scarce.

[5] The Nivkh family should include not only the contemporary Nivkh languages, but also some extinct language or languages that must have served as the source for borrowings into Yukaghir and Proto-Chukchi-Kamchatkan. Contemporary languages include Amur Nivkh and Sakhalin Nivkh with three dialects (Northern, Eastern, and Southern).

In my opinion, genetic relationship between Nivkh, Algic, and Chimakuan-Wakashan is quite plausible, while the resemblances between Chukchi-Kamchatkan and Nivkh look rather like results of long-term mutual borrowings (contrary to Fortescue 2011, see §5). Traditionally, Nivkh has been attributed to the so-called "Palaeo-Asian", or "Palaeo-Sibirian" language grouping, which is in reality nothing more than a *Sprachbund*. Attempts to include Nivkh into the Nostratic (*sensu stricto*)[6] macrophylum, based on several lexical parallels with Uralic and Altaic languages, have not been confirmed by lexicostatistics. These parallels are most likely due to the fact that Nivkh contains numerous loanwords of Tungus-Manchu origin, and, vice versa, Nivkh loans from different time periods are found in Chukchi-Koryak, Itelmen, Yukaghir, and Tungus-Manchu languages.

Concerning vocabulary, the Palaeo-Siberian and Northwest American *Sprachbund*s demonstrate a real hodge-podge of multilateral borrowings from poorly identifiable sources and with obscure etymologies[7]. Consequently, we are obliged to thoroughly examine the different lexical strata of the languages in question, trying to distinguish between loans and inherited vocabulary. At this stage of study we intentionally avoid comparisons that imply non-trivial semantical changes, even though such cases were undoubtedly quite common over several thousand years of independent history of the Algonquian-Wakashan languages.

Comparative lexical material that serves as the basis for the present study may be found in the author's own databases on Algonquian-Wakashan, Wakashan, Salishan, Chimakuan, and Algic etymology (unpublished, but available upon request), as well as certain databases and publications by different authors (see the complete list of "Language abbreviations and sources" appended to the paper).

I express a deep gratitude to George Starostin for his invaluable help with my English in writing this paper.

2. Internal classification of the Algonquian-Wakashan languages

2.1. As is well known, the very fact of numerous lexical similarities between two or more languages does not testify in favor of a genetic relationship between them, unless the similarities have been satisfactorily elaborated into a set of etymologies based on recurrent sound correspondences. Furthermore, even when such correspondences have been established, they can also be due to mass borrowing from one language into another, rather than genetic relationship[8]. Lexicostatistics makes it possible to perform a preliminary evaluation of observed similarities between languages, to differentiate between cognate and borrowed strata of vocabulary, and to determine the chronology (relative and even absolute) of divergence of related languages[9]. Proof of genetic relationship is achieved only through the demonstration of a sys-

[6] Joseph Greenberg and S. A. Starostin use the term "Eurasiatic", which is more precise for this language macrophylum, since "classic" Nostratic (according to H. Pedersen, V. M. Illich-Svitych and A. Dolgopolski) also includes — or, more accurately, is also an immediate ancestor — of Afro-Asiatic, a separate macrofamily probably cognate with Nostratic (*sensu stricto*) on a much deeper level (Starostin 1989b).

[7] See §6 for notes on the cultural lexicon, and §5 on lexical parallels between Chukchi-Kamchatkan languages, on one hand, and Algonquian-Wakashan and Salishan languages, on the other hand.

[8] For example, Romanian shows almost ideal phonetic correspondences between the bulk of ancient Slavic borrowings and their immediate source (close to Old Bulgarian), see examples in Mihăilă 1973.

[9] See further on lexicostatistics (including glottochronology) as a component part of comparative linguistics in Gell-Mann et al. 2009; Kassian et al. 2010, 2014; G. Starostin 2010, 2014; S. Starostin 1989a, 1999, 2000, 2007; S. Starostin et al. 1995.

tem of regular sound correspondences operating *in toto* on the inherited lexicon of related languages, primarily within its basic strata where mutual borrowings are usually rare[10].

2.2. The Algonquian-Wakashan classification and preliminary glottochronological datings are reproduced in Fig. 1[11]. This scheme is the result of processing data from one reconstructed (Proto-North Wakashan, ca. 500 A.D.) and several modern Algonquian-Wakashan languages, corresponding to Sergei Starostin's 110-item wordlist[12], with the aid of the StarLing software package[13]; additional calculations were also performed on the basis of George Starostin's 50-item wordlist[14]. Etymological support exists for the overwhelming majority of the entries on the 110-item list; the forms marked as cognate with each other are tied together by regular sound correspondences (§3) and are extremely unlikely to have been borrowed from outside sources after the original disintegration of Proto-Algonquian-Wakashan. Percentages of lexical coincidence are shown in Tables 1 and 2. An annotated survey of the comparative data used in lexicostatistical calculations will be given in the second part of the present article, since it has to be accompanied with detailed comments on historical phonology: sound changes in the history of the Nivkh and Algic families have been so substantial that cognates are frequently unrecognizable to "the naked eye".

2.3. The Salishan family is one further Native American taxon that seems to show signs of further phylogenetic unity with Algonquian-Wakashan. There are numerous lexical similarities between Proto-Salishan and Proto-Algonquian-Wakashan within the "basic lexicon" (§4), including personal pronouns and numerals 1–3 (§4, 7); however, regular sound correspondences remain unestablished, leaving the Salish-Algonquian-Wakashan relationship in the realm of speculation. If the observed similarities are taken at face value, that could indicate that Proto-Salishan had diverged from Proto-Salish-Algonquian-Wakashan ("Almosan", in J. Greenberg's terms) ca. 2000 years prior to the subsequent disintegration of Proto-Algonquian-Wakashan.

---

[10] It makes little sense to discuss morphological similarities between languages that are so remotely related, but it may be noted that Proto-Wakashan, Proto-Nivkh and Proto-Algic are reconstructed as polysynthetic languages with weak prefixation and well-developed suffixation, including incorporation of nominal and verbal roots as "lexical suffixes". In this respect Nivkh may be considered as the most archaic constituent, since, although the "incorporated" nominal and verbal forms in Nivkh are marked with morphophonemic sound alternations, they have not been transformed into proper suffixal forms, the way it happened in Proto-Chimakuan-Wakashan and in Proto-Algic. A peculiar feature of these languages is suppletion in the sphere of body part terms and in some other lexemes, when independent and suffixal forms are derived from different roots (a serious problem for lexicostatistical work on those of the languages that are poorly documented). Polysynthesis is also well developed in Na-Dene, Chukchi-Kamchatkan, and Eskimo-Aleut languages, i. e. it can be considered a *Sprachbund*-level phenomenon. Formal borders between noun and verbal stems are rather arbitrary. Several "non-trivial" PAW affixes may be reconstructed, such as **ŋV-*, attached to inalienable nouns, or the plural infix **-Ay-*. Several other common monosyllabic nominal and verbal suffixes have also been noted, but they are generally irrelevant for the demonstration of remote relationship, since similar auxiliary morphemes with the appropriate grammatical meanings may be found in the majority of the world's language families.

[11] The glottochronological dates should not be treated as incontestable facts and will undoubtedly undergo modifications once the material of all the constituents of Algonquian-Wakashan (most importantly, Quileute, and perhaps Kutenai as well) is taken into account. The current datings reflect a highly approximate temporal scale of linguistic divergence.

[12] Reflects the standard 100-item Swadesh wordlist with 10 additional items, included for the sake of improved accuracy in classifying and dating closely related languages.

[13] StarLing for Windows, v. 2.5.3: computerized system for multilingual database processing, (c) 1985–2005 by S. A. Starostin, StarLing Software Inc. (available for download at http://starling.rinet.ru).

[14] A shortened Swadesh list, specially prepared for a rough evaluation of genetic relationship, particularly useful on remote time depths (G. Starostin 2010).

Figure 1. Genetic tree of the Algonquian-Wakashan macrophylum (with glottochronological dating).

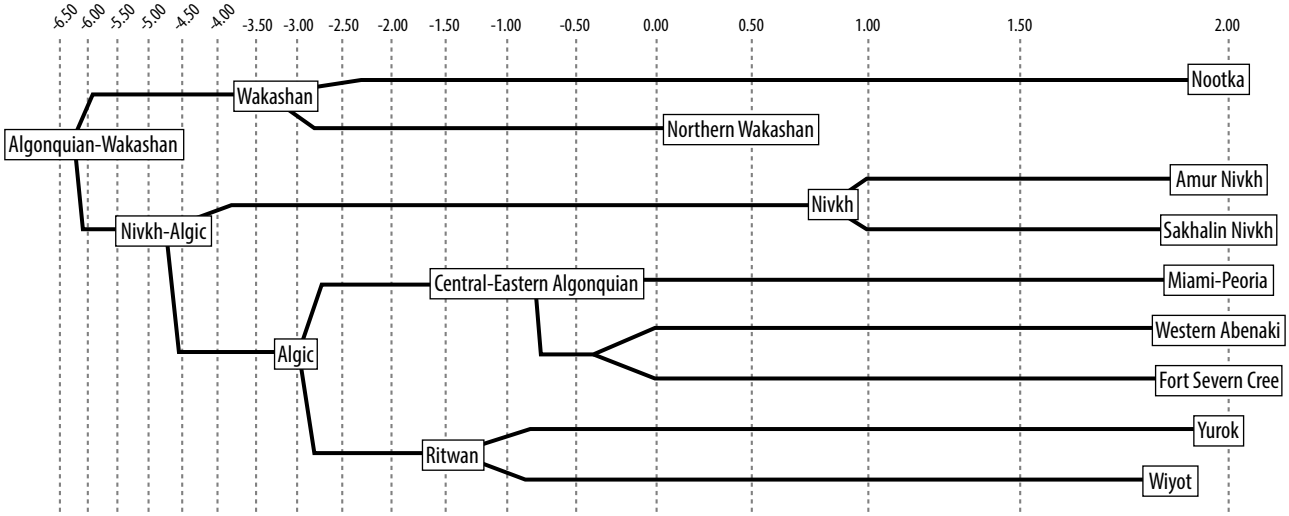

Table 1. Percentages of lexical cognacy in the 50-item wordlist between Algonquian-Wakashan languages.

	Nootka	Amur Nivkh	Sakhalin Nivkh	Western Abenaki	Miami	Cree	Wiyot[15]	Yurok
North Wakashan	34%	21%	19%	15%	17%	15%	19%	17%
Nootka		12%	15%	14%	14%	14%	12%	10%
Amur Nivkh			92%	22%	22%	20%	16%	24%
Sakhalin Nivkh				22%	24%	22%	21%	24%
Western Abenaki					64%	72%	37%	30%
Miami (Peoria)						66%	42%	32%
Cree (Fort Severn)							42%	30%
Wiyot								56%

Table 2. Percentages of lexical cognacy in the 110-item wordlist between Algonquian-Wakashan languages.

	Nootka	Amur Nivkh	Sakhalin Nivkh	Western Abenaki	Miami	Cree	Wiyot	Yurok
North Wakashan	31%	16%	16%	11%	12%	12%	16%	16%
Nootka		12%	12%	10%	11%	11%	9%	10%
Amur Nivkh			91%	19%	20%	17%	16%	23%
Sakhalin Nivkh				19%	21%	17%	16%	22%
Western Abenaki					58%	64%	30%	25%
Miami Peoria						64%	34%	27%
Cree (Fort Severn)							34%	23%
Wiyot								47%

[15] Some imbalances in the percentages shown by Wiyot are due to incomplete 50- and 110-item wordlists, as well as insufficient information on precise meanings of certain words.

Table 3.[16]

Algonquian-Wakashan macrophylum (ca. 6500 B.C.)
- **Chimakuan-Wakashan phylum** (ca. 5000 B.C.)
  - Wakashan family (ca. 3000 B.C.)
    - Northern Wakashan (Kwakiutlan) subfamily
      - Haisla
      - Kwakiutl (Kwak'wala)
      - Heiltsuk
      - Oowekyala
    - Southern Wakashan (Nootkan) subfamily
      - Makah (†)
      - Nitinaht (Ditidaht)
      - Nootka (Nuuchahnulth)
  - Chimakuan family
    - Quileute
    - Chemakum (†)
- **Nivkh-Algic phylum** (ca. 5000 B.C.)
  - Nivkh family
    - Southern Nivkh subfamily (ca. 700 A.D.)
      - Amur Nivkh
      - Sakhalin Nivkh
    - Northern Nivkh subfamily
      - Northern Nivkh (†)[17]
  - Algic family (ca. 3000 B.C.)
    - Algonquian subfamily (ca. 1500 B.C.)
      - Plains tribe
        - Blackfoot, Arapaho, Gros Ventre, Cheyenne
      - Central-eastern tribe (ca. 700 B.C.)
        - Central group: Cree—Montagnais—Naskapi, Menominee, Ojibwe, Potawatomi, Sauk—Fox—Kickapoo, Shawnee, Miami—Illinois(†), etc.
        - Eastern group: Micmac, Western Abenaki, Eastern Abenaki(†), Malecite—Passamaquoddy, Narragansett(†), Mohegan—Pequot (†), Massachusett, Quiripi—Naugatuck-Unquachog (†), Mahican (†), Delaware, Nanticoke—Piscataway (†), Carolina Algonquian (Pamilco †), Powhatan (†), etc.
    - Ritwan subfamily (ca. 1400 B.C.)
      - Wiyot (†)
      - Yurok

[16] Approximate dates of disintegration are shown in brackets.

[17] This language may be reconstructed in part, based on the phonetic characteristics of Nivkh loanwords in Proto-Chukchi-Kamchatkan and especially in Proto-Yukaghir.

Kutenai may also be somehow related to Algonquian-Wakashan, probably representing its separate branch, but the data are too scarce to establish both sound correspondences and its position in the classification[18]. A relatively close relationship between the Chimakuan and Wakashan families seems to be beyond serious doubt, even though it has not been proven according to standard comparative methodology (Powell 1993). The place of Beothuk is unclear due to the unreliability of lexical data.

Sapir's Algonquian-Wakashan phylogenetic unity (§1.1) seems to be generally confirmed, except for the inclusion of Salishan directly into the "narrow" Algonquian-Wakashan macrophylum. The impression of an immediate Salish-Chimakuan-Wakashan relationship is produced by phonological resemblances, typologically similar sound changes and numerous contact words resulting from the prolonged amalgamation of Salishan and Chimakuan-Wakashan languages in the Northwest American *Sprachbund*. Subsequently, the term "Mosan" loses its "authentic" phylogenetic significance.

All the other Eurasian and North American languages either show much more distant genetic relationship with Algonquian-Wakashan, or no relationship at all. In particular, any specific relation to the Iroquois-Caddoan phylum, Keresan and Siouan families (as per Greenberg) is out of the question.

2.4. Lexicostatistics suggests the following phylogeny for the Algonquian-Wakashan macrophylum: Table 3.

3. Algonquian-Wakashan sound correspondences

Genetic relationship between Proto-Wakashan, Proto-Nivkh, and Proto-Algic may be demonstrated by means of the standard comparative method, i. e. the establishment of a system of regular sound correspondences between the compared vocabularies, including the "basic lexicon". Part 2 of the present article will be specially dedicated to the Algonquian-Wakashan sound correspondences; positional distribution of the reflexes of PAW phonemes will be described in more details in subsequent papers.

Table 4 contains a simplified version of sound correspondences; its purpose is to provide a basic reference model for orientation among the lexical comparisons quoted below.

4. Algonquian-Wakashan "basic lexicon"

4.1. In the present paper the words (roots) with lexical meanings that have been included in Sergei Starostin's 110-item wordlist are conventionally denoted as belonging to the "basic lexicon". Below we list the most likely Algonquian-Wakashan etymologies that represent this particular layer of the "basic lexicon". The seeming "synonymy" of several PAW roots (e. g., two PAW roots for 'breast/heart', three roots for 'head', etc.) is the inevitable result of the approximate nature of semantic reconstruction; more formally, it means that in each case at least one of the comparanda meets the semantic requirements of the 110-item wordlist.

In spite of its incompleteness (there are no lexical correspondences for several terms), the Proto-Algonquian-Wakashan "basic lexicon", reconstructed on the basis of regular sound correspondences between Nivkh, Algic and Wakashan (§3), would seem to constitute sufficient evidence for their genetic relationship. The following list contains lexical correspondences

[18] The only accessible source on Kutenai for me has been Boas 1918.

Table 4. Principal sound correspondences between Proto-Wakashan, Proto-Nivkh, and Proto-Algic.[19]

	Proto Wakashan	**Proto Nivkh**	**Proto Algic**
Obstruents			
*p[1]	*p	*ph-[2], *f	*p[3]
*b	*b-, *p[4]	*p[5]	*p ~ *ph
*p’	*p’-, *p	*p	*p
*t	*t	*th-, t[6]	*t (/*č[7])
*d	*d-, *t	*t	*d ~ *th
*t’	*t’-, *t	*t	*t (/*č)
*c	*s	*ch-[8], *s	*c (/*č)
*ʒ	*s	*c	*ʒ ~ *ch (~ d[9])
*c’	*c’-, *c	*ch-, *s [10]	*c (/*č)
*s	*s	*ch-, *s	*s (/*š)
*č	*c-, *s	*ch-, *s	*č (/*c ~ *t)
*ǯ	*ʒ-, *s	*c[11]	*ǯ ~ *čh (~ d)
*č’	*c’-, *c	*ch-, *s	*č (/*c ~ *t)
*š	*s	*ch-, *s	*š (/*s)
*ƛ	*ƛ	*th-, *l	*ɬ (/*š)
*ʟ	*ʟ-, *ƛ	*l	*ʟ ~ *ɬ
*ƛ’	*ƛ’-, *ƛ	*t-, *l	*ɬ
*ɬ	*ɬ	*th- ~ *l[12]	*ɬ
*k	*k	*Kh-[13], *X	*k
*g	*g-, *k	*K[14]	*g[15] ~ *kh
*k’	*k’-, *x	*Kh-, *K	*k-
*x	*x	*Kh-, *X	
*k^{w}	*k^{w}[16]	*Kh-, *X	*kw
*g^{w}	*g^{w}-, *k^{w}	*K	*ɣw- ~ *khw
*k’^{w}	*k’^{w}-, *k^{w}	*Kh-, *K ~ *v [17]	*kw
*x^{w}	*x^{w}	*Kh-, *X ~ *v	*kw ~ *w
*q	*q	*h-[18] ~ *Kh-, *X	*k
*ɢ	*ɢ-/*g-[19]	*h- ~ *Kh-, *X	*g ~ *kh
*q’	*q’-, *χ	*K	*k ~ *ʔ[20]
*χ	*χ	*h- ~ *Kh-, *X	*k
*q^{w}	*q^{w}	*h- ~ *Kh-, *X	*kw

[19] In this table the signs “/” and comma separate positional reflexes; the sign “~” separates reflexes with unclear distribution. An intermediate Proto-Nivkh-Algic reconstructruction, although indispensable for methodological reasons, is not really necessary for practical ones, since the reduced sound systems in both Proto-Algic and Proto-Nivkh would result either in several equiprobable and equally clumsy/useless reconstructions, or, if external data are taken into proper account, in a reconstruction that is pretty much equal to Proto-Algonquian-Wakashan itself. Since the chronological distance between PAW and PNA must not have been very large, PNA phonology could hardly have had time to introduce multiple changes that would significantly distinguish it from PAW.

	Proto Wakashan	Proto Nivkh	Proto Algic
*ɢʷ	*ɢʷ-, *qʷ	*K	*ɣw- ~ *khw
*q'ʷ	*q'ʷ-, *qʷ	*K ~ *v	*kw
*χʷ	*χʷ	*h- ~ *Kh-, *X ~ *v	*kw ~ *w
*ʔ	*ʔ[21]	*ʔ-, *∅	*ʔ
*h	*ʔ-, *∅	*h-, *∅	*ʔ-, *h
Sonorants			
*ɣ[22]	*-x-	*-j-/*-∅-	*-h-/*-∅-
*ɣʷ	*gʷ-, *w/*∅[23]	*f-, *v/*∅ (/*-X-[24])	*w-, *ɣw
*ʁ	*-χ-	*-j-/*-∅-	*-ɣ-
*ʁʷ	*ɢʷ-, *w/*∅	*-v-/*-∅- (/*-X-)	*w-/*ʔ-, *w
*w	*w	*v-/*ʔ-[25], *v/∅	
*w'	*w'		
*y	*y	*y-/*ʔ-, *j/*∅	*y-/*ʔ-, *y
*y'	*y'		
*r	*l-, *ɬ/*l[26]	*r	*l[27] (/*r)
*r'	*l'-, *l'/*ɬ		
*l	*l-[28], *ɬ/*l[29]	*l	*l
*l'	*l'-, *l'/*ɬ		
*Ĺ (?)	*y-, *ɬ/*l	*l	*l-, y
*l' (?)	*y'-, *l'/*ɬ		
*m	*m	*m	*m
*m'	*m'		
*n[30]	*n	*n	*n
*n'	*n'		
*ń	*n	*ń	*n
*ń'	*n'		
*ŋ	*n	*ŋ	*m-, n
*ŋ'	*n'		
Clusters (sonorants+obstruents)			
*wC	*wC/*C[31]	*vC	*C
*yC	*C	*jC	*C
*rC	*C	*rC	*hC[32]
*lC	*lC	*lC	*ɬC
*ĹC	*C	*lC	*ɬC
*mC	*mC	*NC[33]	*nC
*nC[34]	*nC	*(N)C	*nC
*ŋC	*C	*NC	*C

	Proto Wakashan	Proto Nivkh	Proto Algic
Vowels[35]			
*i	*i[36]	*e ~ *i[37]	PA[38] *e
*e	*a		PA *a ~ *e
*ä	*i	*a	
*ɨ	*u	*ə ~ *ɨ	
*ə	*a		
*a	*a	*a	
*o	*a	*o ~ *u	
*u	*u		
*i:	*i:	*e ~ *i	PA *i: ~ *e:
*e:	*a:		PA *e: (~ *a:)
*ä:	*i:	*a	PA *a: (~*e:)
*ə:	*a:	*ə ~ *ɨ	PA *a: (~*e:)
*ɨ:	*u:		PA *o:
*a:	*a:	*a	PA *a: (~ *o:)
*o:	*a:	*o ~ *u	PA *o: (~*a:)
*u:	*u:		PA *o:
*ü: (?)	*i:		PA *i: ~ *e: ~ *o:

Notes on the table:

[1] Clusters consisting of two obstruents are, as a rule, simplified in PW, so that the first component is deleted or develops into *ʔ, *h.

[2] The PNi aspirated palatal, velar and uvular stops/affricates (*ch, kh, qh*) are in complementary distribution with fricatives (*s, x, χ*): stops/affricates in root-initial and fricatives in medial/coda position. All of the PNi root-medial plain stops and voiceless fricatives have positional voiced allophones, mostly with obvious distribution (voiced allophones between vowels and before sonorants, etc.): *p~b, t~d, c~z, k~g, q~ɢ, s~z, x~ɣ, χ~ʁ*. Irregular voiced obstruents serve as indications of an original intervocalic position; such cases are analysed in part 2 of the present article. In this table, only voiceless allophones are shown. Positional variants of the root-initial stops/affricates in the alternations *ph~f, th~řh, ch~s, kh~x, qh~χ; p~v, t~r, c~z, k~ɣ, q~ʁ*, in which fricatives appear after actual or former (deleted) vowels and sonorants in the "incorporated" forms, are not given in the table, either. Cf.: *ɬus=pɨńx* 'meat soup' ~ *cho=vɨńx* 'fish soup'; *luvr=ćosq* 'to break a spoon' ~ *laq=zosq* 'to break a ski'; *thiv- ~ řiv- ~ i-řp-* 'to sit', etc.

[3] In Proto-Algonquian, all four PAlg series of stops/affricates merged in one: **p, *t, *s*, etc. The origin of PAlg glottalized consonants (**p', *t', *k', *c', *č'*) remains unclear. The PAlg phonemes denoted by Paul Proulx (1994) as **T , *K , *L, *C , *č* (I interpret them as voiced stops/affricates **d, *g, *l, *ʒ, *ǯ*) are regular reflexes of the PAW voiced consonants. Likewise, PAlg aspirated stops (**ph, *th, *kh, *ch, *čh*) reflect PAW voiced consonants. There is also a case of the alternation *D~Th*: PA **-ety-* 'belly', Yu. *-ey-ah* 'stomach, belly' (< PAlg **-edey-*), but Wi. *-ith* 'belly' (< PAlg **-ethey-*). Proulx is probably right that PAlg glottalized and aspirated stops represent former consonantal clusters. In this case, there were only two series of stop phonemes in PAlg: voiced and unvoiced.

[4] Probably as a result of redistribution of root coda consonants on morphemic boundaries (where samdhi rules must have developed at an early date, just as they did in PW), aspirated stops became generalized in the PW root coda. Only several archaic derivatives have voiced and glottalized stops in the root coda position.

[5] PAW **Nb* > PNi *m*. This is a particular case of the general development PAW **ND* > PNi **N* (where *D* = any voiced stop/affricate).

[6] Dental stops are deleted before consonants in PNi. Further developments of some consonantal clusters took place after vowel deletion: PAW **TVyV-* (*T* = any dental stop) > PNi **c(h)V-*, PAW **KVlV-* and **KVyV-* (*K* = any velar) > PNi **c(h)V-;* PAW **QVlV-* (*Q* = any uvular) > PNi **KjV-* (before front vowels) /**KV-* (elsewhere).

[7] PAlg dental stops/affricates, dental and lateral fricatives, and the lateral sonorant **l* have special "diminutive" allophones, given in the table in brackets.

[8] Phonetically, PNi **ch* and **c* were palatal affricates [*ć*ʰ] and [*ć*], and **s* was a palatal fricative [*ś*]. In contemporary Nivkh the reflexation of **c* is habitually pronounced as [*ʲk*] (palatal stop), the reflexation of **ch* — as [*ć*ʰ] (palatal affricate) and the reflexation of **s* — as [*s*] (dental sibilant).

[9] PAlg **d, *t* instead of **ǯ, *č* appear as a result of hypercorrection, since PAlg **ǯ, *č* are the regular "diminutive" substitutes of **d, *t*. "Diminutive" allophones of **č, *ǯ* are **c, *ʒ*. The next step was the formation of secondary diminutive forms of diminutives; as semantic difference between allomorphs became obliterated, ternary oppositions of alternating root forms (with *T*~*C*~*Č*) came into being. Occasionally external comparison helps reveal the original shape of the root.

[10] Also PNi **z-* of onomatopoeic origin.

[11] PAW **ŋǯ* > PNi **ŋ*. This is a particular case of the development PAW **ND* > PNi **N* (where *D* = any voiced stop/affricate).

[12] PAW **ɬ* is deleted before consonants in PNi.

[13] At some stage in the history of Proto-Nivkh, velars (/*K*/) and uvulars (/*Q*/) became redistributed, depending on the ensuing vowel. Historical distribution is generally obvious, in spite of a few secondary exceptions: /*K*/ before /*u*/, front and middle vowels, /*Q*/ before /*a*/, /*o*/. /*Q*/ before /*e*/ goes back to PAW labialized uvulars (e.g. PAW **ʁʷi:* > PNi **qe-ŋ* 'whale'). In root-final position, both velars and uvulars are present; most probably, they reflect the quality of the coda vowels that were deleted. In the present table PNi **Kh, *K, *X* denote both velars and uvulars.

[14] PAW **Ng* > PNi *ŋ*. This is a particular case of the development PAW **ND* > PNi **N* (where *D* = any voiced stop/affricate).

[15] PAlg **g* > **ɣ* before *w*.

[16] Labialization of PW velars and uvulars is unstable before and after /*u*(*:*)/.

[17] Root-medial **-v-* is a regular reflexation of PAW **k'ʷ, *xʷ, *q'ʷ, *χʷ*, maybe also of some other labialized velars and uvulars. Such reflexations as PAW **-k'ʷ-* > PNi **-K-* should be treated as results of delabialisation.

[18] PNi **h-* appears instead of **qh-* as the result of an old type of samdhi in "incorporated" forms, cf. **qhaw-*/**haw-* 'call', **qhew-*/**hew-* 'slant', **qhosq-ŋ*/**hosq-ŋ* 'man's apron'.

[19] PAW **ʁ* > PW **g-* before *i*(*:*).

[20] E. g. PAW **q'-* > PAlg **ʔ-* in PAW **q'E:nVcV-* (~ *ŋ, ń, c'*) > PAlg **ʔe:nece* 'bivalve shell' ▪ PWN **q'ənc-* 'chitons (sea prunes, Chinese slippers)'.

[21] Root-medial PW **-ʔ-* and PAlg **-ʔ-, *-h-* also regularly reflect several stops/affricates before obstruents: PWN **k'ʷaʔqʷ-* 'lichen' < PAW **k'ʷa:t'qʷA*; PAlg **kweht-* ~ **kwehc-* 'other' < PAW **qʷaKt'V* ~ **qʷaKc'V*, etc. Sometimes the origin of PAlg **ʔ, *h* before consonants is obscure.

[22] PAW **ɣ* and **ɣʷ* were velar glides (velar sonorants), like in Salish, Wiyot, Yurok and Tlingit. PAW **ʁ, *ʁʷ* were uvular or post-uvular glides, as in Proto-Salishan.

[23] The distribution between **y* and **∅, *w* and **∅* in PW and PNi most likely depended on the surrounding vowels.

[24] Reflexations of delabialized glides after and before consonants.

[25] Reflexations of PAW **w/w'* and **y/y'* in PNi and PAlg depend on the following vowels. PNi **v* is reflected as [*w*] before consonants.

[26] **-l-* before consonants and in fossilized allomorphs of several roots.

[27] PAlg **l* of any origin is replaced by **ɬ* before consonants.

[28] Early PW **ly-* > PW **y-*.

[29] **-l-* before consonants and in fossilized allomorphs of several roots.

[30] PAW **n, *ń, *ŋ* > PChim **l* (> Quil., Chem. *l*) and PAW **n', ń', *ŋ'* > PChim **n* (> Quil. *d*, Chem. *n*).

[31] After *u*(*:*).

[32] PAW **r'C* > PAlg **ɬC* (?).

[33] The choice between **m, *n* and **ŋ* in PNi reflexes of PAW **mC, *nC* and **ŋC* depends on the following consonant.

[34] In case of vowel elision, PAW **nVw* > **nw* > PW **nm*, PNi **m*; PAW **ŋVw* > **ŋw* > PNi **m*.

[35] Judging from the back consonant split into velars/uvulars in PNi coda position, they were originally followed by different vowels. For PAW, I reconstruct root coda *-*A* where PNi has uvulars and root coda *-*E* where PNi has velars. Phonetic typology of ancient (Altaic, Uralic, North Caucasian) and contiguous (Chukchi-Kamchatkan, Yukaghir, Eskimo) protolanguages seems to indirectly corroborate the reconstruction of disyllabic roots in Proto-Algonquian-Wakashan. It is also possible that reconstruction of coda vowels will explain the double reflexation of root-medial vowels in Proto-Nivkh and Proto-Algic.

[36] Quality and quantity of PW vowels are preserved in PWS. In PWN, all PW short vowels yield **ə*, whereas long vowels retain differences in quality: PW **i:* > PWN **i, *a:* > **a, *u:* > **u*.

[37] There are several cases of PAW **i(:)* > PNi **ɨ* after velars and uvulars.

[38] The PAlg forms are too scarce for establishing regular vowel correspondences. PAlg **i* and **e* > PA **e*, PAlg **o* and **o:* > PA *o:*. Unlike PW and PNi, quantitative ablaut was widespread in PAlg, its most frequent manifestation being the gradation **a/*e*. Long and short vowels also tend to alternate; as a result, we observe fragments of such ablaut series as **a:* / **e:* / **a* (**o*) / **e* (**i*)/ **∅*, **o:* / **a:* / **a* (**o*)/ **e* (**i*) / **∅*. It seems that all PAW short vowels except for **i* had merged in Early PAlg **ə*, which later split again into **a* (**o*) ~ **e* (**i*) ~ **∅*. Long vowels also show several ablaut alternations that hinder reconstruction of the original phoneme. We restrict ourselves to "long/long" and "short/short" correspondences between PW and PA. In PW, short and long vowels form a consistent opposition, so that the presence of allomorphs with shortened syllables does not hinder the reconstruction of the initial full form of the root; in PAlg, however, the vowel may reflect any random degree of ablaut that has been generalized. In PA, long vowels are often the results of contraction: in particular, PA **i:* goes back to PAlg **-eɣ-e-*, i. e. reflects the contraction of root vowel **-e-* with the preceding diminutive or plural infix **-eɣ-*.

between Proto-Wakashan (with or without Chimakuan), on the one hand, and Proto-Nivkh and/or Proto-Algic, on the other hand. PAW reconstructions and general comments are separated from the data with the symbol ‖; potential cognates in Proto-Salishan are separated with the symbol ◊. A few Nivkh-Algic cognates without any Chimakuan-Wakashan counterparts are also included, provided they have further parallels in Proto-Salishan, since such roots may have had the required meaning as early as in Proto-Algonquian-Wakashan[20]. The alleged "Northern Nivkh" forms that have been borrowed into Proto-Yukaghir are denoted as NiY ("Nivkh in Yukaghir").

1a. All$_1$. PWS **n'u:m'-* 'all' ▪ PNi **mɨŋ-* (~ *-ə-*) 'wholly'[21] ‖ PAW **ŋ'ɨ:m'V* ~ **m'ɨ:ŋ'V*[22].

1b. All$_2$. PNi **sek*[23] 'all' ▪ PA **ča:k-*[24] 'completely' ‖ PNA[25] **če:k'E* (~ **č', q'*) ◊ Cf. PS **cuk^w* 'to be all there, be complete'.

[20] In this case it is of little importance whether the corresponding Proto-Salishan forms are inherited or have been borrowed from Proto-Wakashan, since lexical contacts between Proto-Algic and Proto-Salishan have not been observed at all.

[21] Am. *mɨ-doχ* 'as a whole' < PNi **mɨŋ-doχ* (~ *ə*).

[22] In protoforms the tilde symbol (~) denotes alternative variants of reconstruction, rather than an actual alternation in the protolanguage. Capital letters should be decoded as follows: *A* = indefinite back vowel, *C* = any sibilant (alveolar) affricate, *Č* = any hushing (palato-alveolar) affricate, *E* = indefinite front vowel, *K* = any velar, *L* = any lateral, *O* = **u* ~ **o*, *P* = any labial stop, *Q* = any uvular stop, *V* = any vowel, *X* = any velar or uvular fricative. This notation is used when available comparative material is insufficient to definitively choose one particular PAW phoneme.

[23] "Incorporated" form of **chek*.

[24] With "expressive" **č* instead of regular **š* < PAlg **č*.

[25] Phonetically, the Proto-Nivkh-Algic reconstructions would not differ from the hypothetical PAW forms that chronologically precede them, but the denotation "PNA" is used for purposes of chronological stratification of the vocabulary.

2. Ashes. PNi **phl-ɨŋg* ‘ashes’ ▪ PAlg **p(el)-enekw-*[26] ‘ashes, dust’ ‖ PNA **pVl-əŋVk’^{w}E*[27] ◊ Cf. PS **pə-q’^{w}* ‘powder’.
3. Bark (tree). PWN **χak^{w}-, *χax^{w}-* ‘bark; scab’ ▪ PNi **kerʁa-ř* ‘birch bark (with fine scales), «black birch»’ ‖ PAW **χe:rg^{w}A ~ *ge:rχ^{w}A.*
4a. Belly$_1$. PW **da:k’-* ‘belly’[28] ▪ PNi **taq(a)-l* ‘fish abdomen’ ▪ PAlg **ta:ɣ-w-*[29] ‘belly, stomach’ ‖ PAW **da:k’A ~ *t’a:gA*[30].
4b. Belly$_2$. PWN **-(k)ʔis* (suff.) ‘belly, body’ ▪ PNi **vic* ‘body’, NiY **wiʒie* ‘body’ ▪ PA **wi:s-* ‘belly fat’ ‖ PAW **w’i:ʒV.*
5. Big ? [There are two Nivkh-Algic roots, see §4.3].
6a. Bird$_1$ (large). PWN **pał-* [along with an irregular variant **mał-*] ‘swallow (bird)’ ▪ PAlg **pel-e:ɣw-* ‘large bird’ ‖ PAW **pa:rV* (*~ e:, ə:, o:, l*) ◊ Cf. PSC **paʔl* ‘large bird’.
6b. Bird$_2$ (singing). PW **c’i:k^{w}-* ‘bird (generic)’; PWN **c’əsq^{w}-, *cəsq^{w}-* ‘any small songbird’ ▪ PNi **zaq* ‘chickadee’ ▪ PAlg **co:c’k-* ‘small bird’ [reduplication] ‖ PAW **c’ä:q’^{w}A,*c’V:cq’^{w}A* ◊ PS **c’yaq^{w}, *c’q^{w}ay, *c’k’^{w}əy* ‘small bird’.
6c. Bird$_3$ (singing). PWN **sup-, *cup-* ‘robin (*Turdus migratorius*)’ ▪ PNi **cev-r-q* ‘bird (singing, generic)’ ▪ PAlg **c-eɣ-ep-* [with diminutive infix] > PA **si:p-e:hs-* ‘bird (generic)’ ‖ PAW **ʒi:pV ~ *ʒi:pV.*
6d. Bird$_4$ (singing). PWS **n’i:n’-i:č-, *n’ayn’-ays-* ‘small bird’ ▪ Quil. *dí:d-oʔos* ‘bird (generic)’ ▪ PA **nen-emeXk-* ‘small bird (wren, thunderbird, hummingbird)’ ‖ PAW **n’i:n’V* (*~ ń’*) ◊ Cf. PS **nin-aʔ* ‘great horned owl’.
7. Bite — see ‘Eat’.
8. Black ?
9a. Blood$_1$. PWN **ʔəl-k^{w}-* ‘blood’; **ʔəl-x^{w}-* ‘to bleed’ ▪ Quil. *łi-č-* ‘blood’, *łi:-* ‘to bleed’ ▪ PNi **ŋ-ar*[31] ‘blood’ ‖ PAW **ʔarV* ◊ Cf. PSI **m-il’-k’* ‘blood’, PS **m-il’* ‘bleed’.
9b/66. Blood$_2$. PW **c’i:x-* > Kw. *c’ix-a* ‘boiled blood’; ? PWN **c’ix-* ‘lean (meat)’ ▪ PNi **choχ* ‘pitch, sap; blood’ ▪ PAlg **-ck-oʔw-* ‘blood; red’[32] ‖ PAW **c’ü:xA* ◊ Cf. PS **ciʁ^{w}* ‘to bleed’; **ciq^{w}, *caq^{w}* ‘to bleed; red’.
10a. Bone$_1$. PWN **łəq^{w}-, *ƛ’əq^{w}-* ‘pit (in fruit); inside of sea eggs (urchins); brain’ ▪ PNi **ŋə-k* ‘gristle’[33] ▪ PAlg **-łk-* ‘bone’[34] ‖ PAW **łVq’(^{w})E ~ *ʔVłq’(^{w})E.*

---

[26] PAW structures **PVlVC(V)K, *PVlVN(V)K* develop into PAlg **pelVC(V)K, *pelVn(V)K*, with **l* preserved in Wi. as *-ł-* (e. g., *płətk , płətw-* ‘stone’) but deleted in PA (**-pełkw-* ‘stone’) and Yu. (*pełk-* ‘gravel’). The same reflexation is seen in Yu. *penkw* ‘acorn flour’, PA **penkw-* ‘ashes’ ~ PNi **phlɨng-* ‘ashes’; PA **-pakw-* ‘leaf’ ~ PNi **phlaŋq* ‘leaf’, but in these cases the corresponding Wi. forms are absent.

[27] This PNA stem is a compound, consisting of PAW **pVlV* ‘powder ?’ and **ʔənV(-k’^{w}V)* ‘fire’.

[28] PWN **tk’-* (< **dək’-*), suff. **-(s-)dak’ʒ(-a)*, PWS **tač’* ‘belly’.

[29] PAlg nominal stems may include one of the 3 thematic formants: **-∅-, *-w-,* and **-y-*. These affixes have no lexical meaning and have probably evolved out of root coda vowels. After velars the formant **-w-* phonetically coincides with the reflex of labialization (*^{w}) and may only be differentiated from the latter by means of external comparison.

[30] Reconstruction of PAW glottal features of stops/affricates (voiceless/voiced/glottalized) in roots containing two stops or affricates is somewhat difficult, due to assimilaton/dissimilation of glottal features in the history of languages; therefore, several roots have optional protoforms.

[31] PNi **ŋa-/*ŋə-/*ŋ-* is a prefixal morph, represented in body part terms. It corresponds to the PAlg prefix*m(e)- ‘indefinite possession prefix’ in “inalienable” nouns (body parts, kinship terms, ‘louse’, ‘dog’) and further to PS **m-* ‘prefixal morph in “inalienable” nouns’.

[32] PA **mesk-w-* ‘blood; red’ (with fossilized prefix); Wi. *-ətk-əʔw-ik* ‘blood’.

[33] PNi **–k* < **-łkE.*

[34] PA **w-ełk-an-, *w-ałk-an-*, suff. **-(V)k-an-* ‘bone’, Wi. *w-ətk-əd-át* ‘bones’, Yu. *ʔw-əłk-əʔ* ‘bone’.

10b. Bone$_2$. PW **χa:x-* 'bone' ▪ Quil. *qa:χ* 'bone' ▪ PNi **xuski* 'fish bones' ‖ PAW **χo:ck'E* (~ *č, s, š*).

11a/40. Breast$_1$/heart. PWN **t'əq-* 'chest, breast' ▪ PNi **ŋə-rɣɨ-r* 'breast; wing' ▪ PAlg **te(:)k-w-l-*, dimin. **če:k-w-r-* 'heart'[35]; Yu. *tekʷ* 'chest' ‖ PAW **t'ɨqE* (~ *ə*).

11b/40. Breast$_2$/heart. PWN *-ʔp(-a)* (suff.) 'chest' ▪ PNi **ŋ-if* 'heart' ‖ PAW **ʔipV* (~ *e*).

12a. Burn$_1$. PWN **pəx-* 'to heat, hot (like metal)' ▪ PNi **phu-, *phuj-* 'set fire; shine (sun)' ▪ PAlg **po:w -, *pew-, *pu-* 'put on the fire'; ? PA **apw-* 'heat, roast, bake' ‖ PAW **poɣV* (~ *u*) ◊ Cf. PSI **p'əʁ* 'to burn (esp. of forest fire)'.

12b. Burn$_2$. PWN **qʷał-* 'to burn (to cinders)' ▪ PNi **hil-m-, *helm-*[*h*]*elm-* 'blaze', **hi*[*l*]*m-ř* 'cinders' ‖ PAW **qʷe:lV* (~ *ĺ, ł*).

13. Claw (nail). PWN **k'ʷut-* 'to nail' ▪ PNi **tək-ń* 'claw, fingernail', NiY **tuk-nə-* 'nail (peg)'[36] ▪ PAlg **-tk-an-,*-čk-an-, *-čk-en-*[37] 'claw, hoof, finger-, toenail' ‖ PAW **t'ɨ:k'ʷE ~ *k'ʷɨ:t'V*[38].

14a. Cloud$_1$. PWS **łi:w'aχ-* 'get cloudy'▪ PNi **lax* 'cloud' ▪ PAlg **a:lwadek-w-, *a:lewdek-w-* 'cloud'[39] ‖ PAW **ʔä:lVw'adVχE.*

14b. Cloud$_2$. PWN **ʔən-u-* 'cloud', **ʔun-qʷ-* 'fog' ▪ NiY **niwə-* 'cloud'[40] ▪ PA **awan-w-* 'fog' ‖ PAW **ʔVwɨ:nV* (~ *ń, ŋ*).

15a. Cold$_1$. PW **k'in-* 'feel cold' ▪ PNi **kɨŋ-* 'freeze, cool down' ▪ PA **ko:n-* 'snow' ‖ PAW **k'i:wŋV* ◊ Cf. PS **k'im* 'cold, to freeze'.

15b. Cold$_2$. PWN **ƛ'uχʷ-* 'ice; to ice up, to freeze, to congeal' ▪ PNi **ləkrɨ-* 'to chill'; NiY **Ílerkə-* (~ *j-*) 'to shiver with cold' ▪ PA **tahk-* 'cool, cold'[41] ‖ PAW **ƛ'ɨrq'E ~ *ʟɨrq'E* ◊ PS **ƛ'əxʷ* 'cold (object)'.

15c. Cold$_3$. PWN **t'ənɜ-* 'cold' ▪ PNi **tuz-* 'cool' ‖ PAW **t'onsV* (~ *u, c, ʒ, š, č, ǯ*).

16. Come ?

17. Die. PWS **n'ap-xt-a:-* 'die instantly from blow' ▪ PNi **pńu-* 'die (about twins)' [metathesis of **ńp-u-*] ▪ PA **nep-* 'die'[42] ‖ PAW **ń'abV* (~ *e, o, ə, p'*).

18a. Dog$_1$. PWS **q'in-iƛ-* 'dog' ▪ PNi **qan-ŋ* 'dog' ‖ PAW **q'änV*[43]. Here the correlation of the PW suffix **-(V)ƛ(ʔ)-* and the PNi suffix **-ŋ* is exactly the same as in PWN **n'a-ƛ'-* 'wolverine' and PNi **ŋɨ-ŋ* 'otter' ◊ Cf. PSC **qʷm-ay* 'dog'.

18b. Dog$_2$. PNW **w'ac'* 'dog' (< PW **wa:-s-ʔa*), **w'as-* 'to hunt with dog' ▪ PAlg **way-e(h)c-* 'dog' ‖ PAW **w'a:yV-ʒV*, derived from PAW **w'a:yV* 'to bark', cf. PW **w'a:-*, PNi **vaj-* 'to bark'.

19. Drink — see 'Water$_1$'.

20. Dry. PWN **q'ək-* 'to dry (and pound) salmon eggs' ▪ Quil. *q'i:x-* 'dry' ▪ PNi **qharχa-*[44] 'dry, dried up' ▪ PAlg **ka:hk-* 'dry' ‖ PAW **q'a:rkA ~ *qa:rkA.*

---

[35] Wi. *-atw-*, Yu. *cekw-s* 'heart', dim. *tekw-s-aʔr* 'heart of salmon, uvula'; PA *-te:h-* 'heart'.

[36] A similar root in PTM, **thokon-* 'middle finger', was borrowed into PNi as **tokoń* 'little finger'.

[37] PA **we-ška(n)-š-y-, *we-tka(n)-š-y-* 'fingernail, claw, hoof'; Wi. *-tkən(-əɣ)* 'finger-, toenail'; Yu. *ʔwe-łke-teɣ* 'fingernail, toenail, claw'.

[38] This PAW root must have had the original meanings 'nail (peg)' and 'finger-, toenail, claw, hoof'.

[39] PA **aletkw-* and **watkw-* 'cloud', Yu. *lewkw-, rewkw-* 'cloudy, misty'; Wi. *ʔalúk-š* 'shadow'. P. Proulx (1994, #304) reconstructs **aleᴛewkw-, *a:laᴛekw-, *a:leᴛewk-*, but the insertion of **w* after **ᴛ* is, in my opinion, rather superfluous.

[40] Metathesis either in "Northern Nivkh" or in Proto-Yukaghir.

[41] Instead of **łahk-*, probably due to dissimilation: **ƛ'ɨrq'- > *t'ɨrq'-*.

[42] In light of external comparanda, PAlg **nep-* 'sleep' either represents a different root, or its meaning has metaphorically evolved from 'die'.

[43] Cf. PEsk (Sibirian) **qhənə-* 'dog, polar fox', a possible loan from Algonquian-Wakashan (unless it happens to be inherited from Proto-Nostratic).

[44] Am. *qharχ-qharʁa-ʒ* 'dry'.

21a. Ear$_1$. PWN **-hat-u* (suff.) ‘ear’ ▪ PAlg **-ht-ʔl-*, **-hč-ʔr-* ‘ear; to listen’[45] ‖ PAW **ha:tV* (~ *t’*, *e:*, *ə:*, *o:*).

21b/39. Ear$_2$/hear. PW **na*(*:*)- ‘hear’[46] ▪ Quil. *ʔò:-lá:-x-at*, suff. *-la-x* ‘ear’ ▪ PNi **no-s* ‘ear’[47] ▪ PA **no:-nt-* ‘hear’ [< PAlg **no*(*:*)*-Vm-t-*] ‖ PAW **no:* ◊ Cf. PS **t-ʔan-iʔ*, **t-ʔan-aʔ* ‘ear’, suff. **-an-iʔ*, **-an-aʔ* ‘ear(side)’; ? **q*(-)*an* ‘hear’.

21c — see ‘Hear$_2$’

22a. Earth$_1$. PWS **nis-m’a-k* ‘land, country’, PWN **-ɢ-m’a-* ‘tribe’ ▪ PNi **mi-f* ‘land, place’; **ma-mi*, **or-mi* ‘clay’ ▪ PAlg **-a:m-ehkw-* ‘earth, soil’ ‖ PAW **m’e: ~ *ʔe:m’V*[48] ◊ Cf. PS **-mi-x^{w}* ‘earth, land, ground’.

22b. Earth$_2$. PW **c’ak^{w}-* ‘dirt’ ▪ Quil. *c’iq’á:ti* ‘ground, land, earth, world, territory’ ▪ PAlg **ačk-*, **ečk-* ‘earth, land’ ‖ PAW **č’ak^{w}V ~ *ʔač’k^{w}V* (~ *e*, *ə*, *o*) ◊ Cf. PS **c’iq’* ‘mud’.

23a/7. Eat$_1$/bite. PW **ham’-* ‘eat’, **m’a:-*, **m’a-l-* ‘bite, hold in teeth’, PWS **m’a:-* ‘bite’; **ma:-c-*, **ma*(*:*)*-s-* ‘eat as side dish’ ▪ PNi **am-* ‘(fish)bait’; **əm-x*, **əm-k* ‘mouth’[49] ▪ PAlg **amw-* ‘eat’, **-Vm-* (suff.) ‘with the mouth, eating, biting’; PA **mo:*[*h*]*w-*, **mi:t-* ‘eat’ ‖ PAW **m’a:hV ~ *ham’V* ◊ Cf. PS **ʔum-*, **ʔam-*, **m-* ‘to feed, food’; **ma-l* ‘(fish)bait’; PSC **ma-k^{w}* ‘to eat, put into mouth, chew’.

23b/7. Eat$_2$/bite. PW **q’Vns-* > PWN **q’ənsˑ* ‘to eat meat’; **q’əs-* ‘to eat meat or fat’; **-q’əs* (suff.) ‘eat, put in mouth’; PWS *-’i:ks* ‘eat, consume’ ▪ PNi **haz-* ‘to bite’ ‖ PAW **q’ancV ~ *qancV* (~ *s*).

24a. Egg$_1$. PWN **qəl-χ-* ‘egg; to lay eggs (said of a bird); to have children’; PWN **t’əlq-* ‘roe, spawn in fish’[50] ▪ PNi **t-qhla-* ‘to spawn’ ‖ PAW **qalV*.

24b. Egg$_2$. PWN **n’i:-* ‘salmon roe’[51] ▪ PNi **ŋoj-eq* ‘egg’[52], **ŋoj* ‘penis’[53], **ŋoj-choχ* ‘sperm’ ▪ ? PA **a:mi:-w-* ‘to spawn’ ‖ PAW **ŋ’ü:yV*.

25a. Eye$_1$. PWS **ɢ-ał-*[54] ‘eye’ ▪ PAlg **-ʔeł* in **čep-ʔeł-*, **-čp-ʔeł-* ‘eyelash’ ‖ PAW **ʔałV* (~ *e*, *ə*, *o*) ◊ Cf. PS **-ł* in **cəp-ł* ‘eyebrow, eyelash’.

25b. Eye$_2$ — see ‘See’.

26a. Fat$_1$ (n.). PWN **ɢ^{w}uł-* ‘animal fat, tallow, marrow’ ▪ PAlg **wel-* ‘fat (n.)’ ‖ PAW **ʁ^{w}o:lV* (~ *i:*).

26b. Fat$_2$ (n.). PNi **ŋoχ* ‘fat (n.)’, **ŋɨɣ-l-* ‘fat (adj.)’ ▪ PA **mak*(*-*)*w-* ‘grease’[55] ‖ PNA **ŋok*(*^{w}*)*A* (~ *u*, *q*, *X*). Supposedly a derived stem, cf. PNi **ŋa-r-* ‘be fat’ and further PS **nu̯-s*, **na̯-s* ‘marrow, fat, oil’.

---

[45] PA **-ht-aw-ak-* ‘ear’, suff. **-ht-*, **-hš-* ‘ear; to listen’; Wi. *-ətb-əl-úk* ‘ear’, *šáp-ər-uk-* ‘to listen’; Yu. *cp-eɣ-aʔr* ‘ear’, *cp-eʔr-oy-* ‘to listen’, *r-eʔr-oy-* ‘to hear sth. as news’, *cp-ey-uʔr* ‘to tell a story’.

[46] PW **na:-* > PWN **na-* in Kw. *nanaɢiga* ‘obey’; PW **na-* > PWS **na-* in **naʔa:-* ‘hear; sense’; **nayi-* ‘echo’.

[47] A deverbative with suffixal **-c-/-ch-*, cf. *mo-c* ‘female breast, teat’, derived from **mo-mo-* ‘to suck’.

[48] Many PAW roots have “inversed” allomorphs **CVCV, *ʔVCCV*. The latter structures prevail in Proto Nivkh-Algic.

[49] With the same suffix as **hil-x, *hil-k* ‘tongue’ ~ **hel-*[*h*]*el-* ‘lick’ and with a parallel vowel alternation (**əm-x ~ *am-*).

[50] PWN **t’əlq-* (only Kw. *t’l̥q’iʔ* ‘roe, spawn in fish’) corresponds directly to PNi **t-qhla-* ‘to spawn’ and contains the same prefix **t-*, i. e. **t’əlq-* < **t-ʔVql-*. Suffixal **-χ-* in **qəl-χ-* is one of the PW “stem extenders”, partly cognate with the PNi “numerative affixes” added to numerals. In the current case, PW **-χ-* (a desemanticized “stem extender”) may be equal to PNi **-ik, *-ix* ‘numerative affix for small round objects’. PCS **qəlχ* ‘fish roe’ is borrowed from Wakashan.

[51] PWN **Gi-n’i* ‘salmon roe’, PWS **n’i-x^{w}* ‘salmon roe, kidneys’.

[52] Borrowed into Orok as *ŋojoqo* ‘egg’.

[53] Probably with semantic development ‘egg/testicle > genitals > penis’. The semantic shift may have been assisted by the presence of the homonymous root **ŋoj* ‘bough’.

[54] With the prefix of “inalienable” possession, cf. **ɢ-i:xk-* ‘louse’, **ɢ-as-* ‘eye’ (originally ‘face’).

[55] In PA **makw-ehš-e:w-en-i* ‘feast, banquet’.

27. Feather. PWN **məχ-* ‘long feather of eagle’ ▪ PNi **ŋə-mx* ‘head hair; animal hair’ ▪ PA **mi:kw-an-* ‘feather’ ‖ PAW **mɨ:χE.*
28. Fire$_1$. PW **ʔan-, *ʔanak^w-* ‘fire’ ▪ PNi **phl-ɨŋ-g* ‘ashes’ ▪ PAlg **p(el)-enekw-* ‘ashes, dust’[56] ‖ PAW **ʔəŋV(-k’^{w}E).*
28. Fire$_2$. PWN **mi-* ‘to flame’ ▪ PAlg **me-hš-* ‘fire’ [with diminutive suffix] ‖ PA **mi.*
29. Fish$_1$. PNi **qaŋ* ‘trout’ ▪ PAlg **ki:ko:n-* ‘fish (generic)’ [reduplication] ‖ PNA **ga:ŋV* ◊ Cf. PS **kan-ax^w* ‘salmon (generic term)’.
29. Fish$_2$. PW **ʒu:-x^w-* ‘cohoe salmon’ ▪ PNi **cho* ‘fish (generic)’ ‖ PAW **ǯu:* ◊ Cf. PS **caw’i-n* ‘coho salmon’[57].
30. Fly (vb.). PWN **n’əl-* ‘to fly’ > Kw. *n’l̥-xʔid, nl̥-xʔid* ‘to fly’ ▪ PNi **nul-jo-* ‘hurry’ ▪ PAlg *-a:l-, *-el-*[58] ‘to fly’; PA **-iʔ-l* ‘to fly’ [with incorporated **-ip-* ‘speed’] ‖ PAW **n’o:lV.*
31. Foot. PWS (suff.) **-cit’-a* ‘leg, thigh’, **-c’i:ɬ* ‘foot’ ▪ PNi **ŋə-z(ɨ)l* ‘foot, sole’ ▪ PAlg **-cit-ɬ-* ‘foot’[59] ‖ PAW **ci:t’V(-lV).*
32. Full. PWS **nis-* ‘be full, satiated’ ▪ PA **mo:š-k-en-*, suff. **-aš-k-en-*[60] ‘full’ ‖ PAW **ŋü:šV.*
33. Give. PW **c’u:-* ‘to give’ ▪ PA **-ahǯ-, *-ehǯ-* ‘to give, to give food’ ‖ PAW **č’ɨʁ^{w}V ~ *ʔɨʁ^{w}ǯV* (*~ o:, u:*).
34. Good ?
35a. Green$_1$. PW **q’am- ~ *q’^{w}am-* ‘green, unripe’ ▪ PNi **qoŋ-ɢ-r* ‘green’, NiY **qomo-* ‘green’ ‖ PAW **q’omV.*
35b. Green$_2$. PWN **q^{w}iɬ-* ‘blue, turquoise’ ▪ PNi **qala-* ‘green, unripe’, NiY **qola-* (*~ k*) ‘green, yellow’ ‖ PAW **qü:lV ~ *ɢü:lV* (*~ Ĺ, ɬ*) ◊ Cf. PS **k^{w}ə̓l* ‘green, yellow’ or **q^{w}ay* ‘blue, green; bruise’.
36. Hair.[61] PW **hap-* ‘hair (facial, body)’ ▪ PNi **əf* ‘moustache, beard, tentacles’; **ŋ-əv-r-ki* ‘body hair’ ▪ PAlg **-ep-l, *-ep-r* ‘hair (facial, head)’, PA **-iːɬ-eʔɬ-* ‘head hair’ (“head+hair”) ‖ PAW **hə:pV* ‘hair (facial, head)’ ◊ PSI **wəp* ‘hair, fur, cover of grass, weed’.
37a. Hand$_1$. PW **du:mq^w-* > PWN **duq^w-, *dəmq^w-* ‘armpit’ ▪ PNi **təmk* ‘hand, arm’, NiY **ϑirqa-* ‘hand, finger, paw, sole’ ‖ PAW **dɨ:mq’^{w}E.*
37b. Hand$_2$. PW **-n’uk^w* (suff.) ‘in hand’ ▪ PA **-neɬk-* ‘arm’ ‖ PAW **n’oĺk’V* (*~ ń’, u, sk’*).
37c. Hand$_3$. PW **-i:k-s* (suff.) ‘in/by hand’ ▪ ? PAlg **-e(:)k-* ‘hand’ in Yu. *pən-ek* ‘hand measure’, *pən-ek’-əh* ‘hand length’ ‖ PAW **ʔi:kV* ◊ Cf. PS **-ak, *-ak-aʔ, *-ak-is(t)* (suff.) ‘hand, lower arm’.
38a. Head$_1$. PW **t’uq^w-* ‘head’ ▪ Quil. *-t’i-*, Chem. *-t’e:q-l* ‘head’ ▪ PNi **thəx* ‘forehead’ ‖ PAW **t’ɨq^{w}E ~ *tɨq^{w}E.*
38b. Head$_2$. PW **-ɢam(-ɬ), *-s-ɢam* (suff.) ‘round thing; mask’ [originally perhaps ‘head’]’; PWN **ɢ^{w}u-ɢ^{w}m-i* ‘face’ [“head-face”, compound consisting of PW **ɢ^{w}u:-* ‘face’ and **ɢam-* ‘head’] ▪ PNi **hemi* ‘temple’ ‖ PAW **ɢemV* ◊ Cf. PS **q’^{w}um* ‘head, skull, hair on head’.
38c. Head$_3$. PWN **hix-* ‘head’ ▪ PNi **oɣ-r-i* ‘nape (of the neck)’ ‖ PAW **hü:xE.*
38d. Head$_4$. Quil. *dók^{w}č’-it* ‘head (usually fish or animals)’ ▪ PNi **coŋɣ-r*[62] ‘head’ ▪ PAlg **-a:čk-w-, *-ečk-, *-etk-* ‘head’[63] ‖ PAW **č’ɨ:ŋ’kE ~ *ŋ’ɨ:č’kE.*

---

[56] See fn. 26.

[57] PWS **c’a:wiɬ* ‘spring (king) salmon’ is borrowed from Salishan.

[58] “Incorporated” forms with deleted **n-*, cf. 'Full', 'Swim'.

[59] PA **-sit-* and secondary **-ƛiƛ-* in Ritwan: Wi. *-eliɬ* ‘foot’.

[60] With regular loss of the initial sonorant in the “suffixal” form, cf. PAlg **nape:ɣw-, *-a:pe:ɣw-* ‘man, male’, PA **nepy-, *-epy-* ‘water’, etc., also PAlg **-o:l-* (i. e. **-[m]o:l-*) ‘swim’ < PAW **mə:rV-.*

[61] There are no special PW, PNi and PAlg roots for simply ‘head hair’ or ‘single hair’. The meaning ‘head hair’ is usually denoted with composite forms consisting of ‘head’ and ‘facial/animal hair’.

[62] The Sakh. variant *coŋqr* has *-q-*, probably under the influence of PNi **-qər* ‘neck’.

[63] PA **-etkw-, -ešky-* (suff.) ‘head’, Yu. *m-ołkw-* ‘head’.

39a. Hear$_1$. PWN **qaχ^w-* (~ *-x^w-*) ‘to hear, to listen’ ▪ Quil. *q^{w}oq^w-al-* ‘hear’ ▪ PNi **heχ-* ‘hear about, feel’ ‖ PAW **qe:χ^{w}A* (~ *x^w*).

39b. Hear$_2$/ear. PWS **-ʔam-iɬ* (suff.) ‘ear’ ▪ PNi **m-la* ‘ear’, **mɨ-* ‘hear, listen’ ▪ PAlg **-V?m-* ‘by hearing (also ‘by thought’) in Yur *k-oʔm-* ‘hear’ (also ‘understand, feel’), Wi *kən-iʔm-iɬ* ‘hear’, PA **pe:m-t-*, **no:m-t-* ‘hear’ (< **pe-em-*, **no*(*:*)*-Vm-*) ‖ PAW **mə ~ *ʔəmV* ‘hear’, **ʔəmə-lV* (~ *ɬ*) ‘ear’. Two different PAW roots may have gotten contaminated in Algic due to the reanalysis of **k-* in ‘know, understand’ as a prefix; see ‘Know’.

40. Heart — see ‘Breast’.

41. Horn. PWN **wəƛ-* ‘horn, antler’ ▪ PA **-wi:ɬ-* ‘horn’[64] ‖ PAW **wi:ʟV* (~ *ƛ*, *ƛ’*) ◊ PS **wiƛ’* ~ **wil’* ‘horn’[65].

42. I. PW **nu:-* ‘I; we’ ▪ Quil. *lá:-b*, Chem. *lá:-ʔaɬ*[66] ▪ PNi **ńi* ‘I’; **ńɨ-ŋ* ‘we (excl.)’ ▪ PAlg **neʔ-* (pref.) ‘I, me, my’, **neʔila* ‘I (independent pronoun)’ ‖ PAW **ńV*. PW *-u:* is a result of vowel contraction. ◊ Cf. PS **n-cə*, **cə-nəʔ*[67] [with deictic particle **cə*] ‘I (independent pronoun)’; **n-* ‘1st singular possessive prefix’, **-an* ‘1st singular transitive subject suffix’, **-k-an* ‘1st singular intransitive subject affix’, etc.

43. Kill. PWN **ʔəlχ-* ‘to kill, murder, beat up’ ▪ PNi **khu-* ‘kill’ [also passive **khu-* ‘perish (in the battle)’] ‖ PAW **ʔVlχV* ◊ PS **χ^{w}ay* ‘perish (pl.), disappear’.

44a. Knee$_1$. PWS **-p’iq-a* (suff.) ‘knee’ ▪ PNi **pix*, **pixt-* ‘knee’, NiY **poɣoδi-* (~ *ɔ*) ‘knee’ ‖ PAW **p’iqE*.

44b. Knee$_2$. PWN **-χt-am’u*[68] ‘knee’ ▪ PAlg **ʔaket-*[69] ‘knee’ ‖ PAW **ʔVχVtV* (~ *d, t’*).

45a. Know$_1$. PWS **χam-*[70] ‘know, know how, recognize’ ▪ Quil. *χab-* ‘to know how’ ▪ PNi **khim-*, **him-* ‘know, understand, realize’ ▪ PAlg **kom-* (~ *a:*) > Yu. *kom-* ‘understand, feel’ [also ‘hear’, formally containing prefix *k-* and root PAlg **-Vm-* ‘by thought’ (also ‘by hearing’)] ‖ PAW **χemV*. See comment on ‘Hear$_2$’.

45b. Know$_2$. PWS **huχtak^w-* ‘know how, learn, expert’ ▪ PA **ketk-* ‘know, recognize’ ‖ PAW **huχVtak*(*^{w}*)*V* (~ *o, d, e, ə, o, k’, g*).

46. Leaf. PWN **pəlq-* ~ *-χ-* > Ha. *pɬχa* ‘flower, blossom’[71] ▪ PNi **phlaŋq* ‘leaf, branch of broad-leaved tree’[72] ▪ PAlg **p*(*el*)*ak-w-* > PA **-pak-w-* ‘leaf’ ‖ PAW **pVlaŋq’A* ◊ Cf. PS **packl* [< **palk-c*] ‘leaf’.

47. Lie. PWN **ɬi-* ‘to lie (said of many people)’ ▪ PAlg **-Vhɬ* ‘to lie, fall’ ‖ PAW **ɬi:hV* ~ **hi:ɬV* (~ *e:*).

48. Liver$_1$. PW **l’a:q-* ‘liver’ ▪ PNi **ŋa-rq-aj* (~ *ə*) ‘milt’ ▪ PAlg **-ɬkw-en-* ‘liver’ ‖ PAW **r’a:q’^{w}A* ~ **ʔa:r’q’^{w}A* (~ *ə:*) ◊ Cf. PS **ɬiq^w* ‘flesh, meat’.

48b. Liver$_2$. PWN **tək-* (~ *x*) ‘bile, gall’ ▪ PNi **thiu-ř* (< **thiɣu-ř*) ‘liver, kidney’ ‖ PAW **tikV* (~ *x*).

---

[64] Cheyenne *vevêsce, -évesé-*, Arapaho *hini:nis*, Delaware *wi:la:wan*, Kickapoo *-wi:n-*, Miami (Peoria) *wi:wi:la* ‘horn’, etc.

[65] Bella Coola *wiƛ’-aχ*, Shuswap *wl-aps* ‘horn’.

[66] PChim **l* is a regular reflexation of PChiW **n*, whereas PChim **n* (Quil. *d*) < PChiW **n’*.

[67] Bella Coola *n-c*, Clallam *ʔə́-c*, Saanich *ʔə-sə*, Cowlitz, Upper Chelalis *ʔə́n-ca*, Puget *ʔə-cá*, Lilloet *s-ʔen-c*, Moses-Columbia, Okanagan *ʔin-cá*, Thompson River *n-cé vs.* Coeur d’Alene *či-neʔ*, Halkomelem *cu-n* ‘I’.

[68] With the specificatory suffix **-*(*a*)*m’u* ‘underlying or implicated in’.

[69] PA **ket-ekw-*, Yu. *ʔə:kəɬ*, (suff.) *-ekeɬ-* ‘knee’.

[70] Makah, Ditidaht *χab-up* ‘know, recognize (a person)’, Nootka *ħam-up*, dial. *ħam-i:p* ‘knowing, recognizing’, caus. *ħim.-* ‘show’.

[71] Concerning semantics, cf. PNi **com-r* ‘leaf; flower’ and PNi **eŋv-* ‘to flower’, **eŋv-k* ‘flower’ ~ PA **ani:py-* ‘leaf’ < PNA **ʔEŋE:pV-* (~ *ŋ’*) ‘leaf, flower’.

[72] Borrowed in PIt as **pʊl’ă-* ‘leaf’. This loan has substituted PChK **ʔəx^{w}tə* ‘leaf’, still retained in Southern Itelmen *kaz-aĺ* ‘September (“leaf-month”)’.

49. Long. PWN **gəl-* ‘long, tall’ ▪ PNi **kɨl-* ‘long’ ‖ PAW **gɨlV* (*~ ə, Í*).
50. Louse. PW **ɢ-i:xk-*[73] ‘louse’ ▪ Quil. *wí:k’is* ‘louse’ ▪ PNi **hiřk-r* ‘nit, body louse’ ▪ PAlg **ihk-w-* ‘louse’ ‖ PAW **hi:rxk’E* ◊ Cf. PS **m-əxk-n ~ *m-əxk’-n* ‘head louse’.
51. Man. PW **-ʔi:t(a)χʷ, *-ʔat(a)χʷ* ‘man of tribe or residing at; male inhabitant of; people of, where one lives’ ▪ PNi **utk-* ‘man, husband’ ‖ PAW **ʔ[oyV]tOq’E*.
52. Many ? [There is a Nivkh-Algic root, see §4.3].
53. Meat. PWN **diqʷ-* ‘meat, flesh’ in Oo. *diq’ʷm̥y’a* ‘cheek meat of fish’, Ha. *dìqʷa* ‘diseased fish with white spots in flesh’ ▪ PNi **tju-ř* ‘meat’[74]; NiY **cu:l* ‘meat’ ▪ PAlg **-daw-, *-dew-*[75] ‘meat, flesh’ ‖ PAW **diʁʷV ~ *diɢʷV* (*~ e*).
54. Moon. PWN **n’uʔs-i* ‘moon, month’[76] ▪ PNi **loŋ-* ‘moon’, NiY **jä-loⁿ:ʒə* ‘sun’[77] ‖ PAW **l’u:ŋ’ʒV-*.
55. Mountain — ?
56a. Mouth$_1$. PW **-(h)aqs-* (suff.) ‘mouth’ ▪ PNi **hes* ‘larynx’, **hes-qr* ‘throat, gullet’ ▪ PA *-t-kweł-, *-kweł-* ‘nose’[78] ‖ PAW **qʷesV ~ *heqʷsV* ◊ Cf. PS **m-əqs-n* ‘nose’; **-qs(-n)* (suff.) ‘nose; point, end’.
56b. Mouth$_2$. Quil. *ʔól-it* ‘mouth’ ▪ PNi **əl* ‘mouth’ ▪ PAlg **-o:ɬ-* ‘mouth’ ‖ PAW **ʔi:ɬV* (*~ ƛ, ƛ’*).
57a. Name$_1$. PW **-kł-* (suff.) ‘named’[79], PWN **-kl(-a)* ‘refer to’ ▪ Quil *kʷol-áʔ* ‘name’ ▪ PAlg **-ekl-* > PA **-eʔl-* ‘narrate (sacred story)’[80] ‖ PAW **kVlV ~ *ʔVklV*.
57b. Name$_2$. PNi **qha* ‘name’ ▪ PAlg **w(-eɣ)-en-* ‘name; to mention by name’; **-e(:)w-* > Yu. *-ew* ‘name’ ‖ PNA **xʷa ~ *ʔaxʷV* ◊ Cf. PS **kʷa- ~ *kʷi-* ‘name, to name’.
58a. Neck$_1$. PWN **k’ʷəns-* (*~ c*) ‘gill(s)’ ▪ Quil. *-q’ʷos* ‘neck’ ▪ PNi **qhos-ŋ* ‘neck, Adam’s apple’ ▪ PAlg **-sk-w-* ‘neck’[81] [metathesis] ‖ PAW **k’onsV* ◊ Cf. PS **k’əs-pan* ‘neck’.
58b. Neck$_2$. PWN **q’ʷu-* ‘neck’ ▪ PAlg **-kwe:y-aw-, *-kway-aw-* (suff.) ‘neck’ ‖ PAW **q’ʷɨ:yV*.
59. New. PW **c’u:-x-* ‘new’ ▪ Quil. *c’á:-ta* ‘new’ ▪ PNi **chu-ř-, *chi-ř-* ‘new’, NiY **cirov-* ‘new’ ▪ PAlg **ci:-, *ci-* (*~ č*) > Yu. *ca-ʔan, ci-n-* ‘new’ ‖ PAW **c’i:wV* (*~ č’*).
60a. Night$_1$. PWS **ʔatχ-iyi* ‘night’[82] ▪ PNi **thaχ* ‘afterglow’ ▪ PA **-etk-* ‘night’ [in **tep-etk-* ‘(dark) night’; **l-etk-an-* ‘it is evening; by night’] ‖ PAW **taχA ~ *ʔatχA*.
60b. Night$_2$. PWN **nikʷ-, *nəkʷ-* ‘night, at night’ ▪ PNi **ńak-r* ‘night’[83] ▪ PAlg **neɣt-, *neɣč-* ‘last night’ ‖ PAW **ńä:gʷE ~ *ńä:gʷt(’)V* ◊ Cf. PS **nat* ‘night; 24-hour period’.

---

[73] With the prefix of indefinite inalienable possession, “someone’s louse”, cf. **ɢ-ał-*‘eye’ and **ɢ-as-* ‘eye’ (originally ‘face’).

[74] Am. *cur*, Sakh. *tuř*. In PNi, the PNA diminutive infix **-Vɣ-* was inserted in the root (**d-Vɣ-əʁʷ- > *djəʁʷ-*), cf. the PAlg reconstruction.

[75] PA *-i:yaw-* ‘flesh; body’, Yu. *tew-on, -tew* ‘flesh’. P. Proulx’s (1994, #375) reconstruction: **weTewi, *weɣeTawi* ‘(her) flesh, body’ (these forms contain the detachable possessive prefix **wəʔe-* and the infix **-eɣ(e)*).

[76] PW **n’-* in place of **l’-* by assimilation with **-ŋ’-* (developed into **-ʔ-*).

[77] Evenki *loŋžama* ‘sickle moon’ is a “Northern Nivkh” or Yukaghir loan.

[78] PA **t-* in this stem may be related to the PS prefix **t-* in body part terms (**t-ʔan-* ‘ear’, **t-al-* ‘tongue’, etc.).

[79] PWN **-(x)ƛ(-a)* ‘named, called’; PWS **-qɬ(-a:)* ‘named, called; having as name’. The PWS uvular is due to contamination with PWN **ɢał-* ‘to call (sb. names)’ < PAW **ɢa:lV-* (*~ e:, ə:, o:*) ‘speak’, hence PNi **qlaj-* ‘speak’; PAlg **ga:l-, *ga:ɬ-* ‘speak’ and further PS **qʷal* ‘to speak, think’.

[80] I. e. ‘to refer to ancestors’ names’.

[81] PA **-łkw-e:-k-an-*, suff. **-Vłkw-/*-Vkw-* ‘neck’; Wi. *-əsw-* ‘neck’ in *hi-tákw-əsw-al-ił* ‘she fell and broke her neck’, (*hu*)*w-ásw-itk-əd-əʔl* ‘her neck’.

[82] Borrowed into Coast Tsimshian as *ʔa:tk*, Gitksan *ʔaχxʷ* ‘night’.

[83] Only Am. *muɣv ńakr* ‘day and night, 24-hour period’, consisting of *muɣv* ‘day’and *ńakr*, obviously meaning ‘night’. The latter word is not attested in free use. The vowel *-a-* in the form *ńakr* is irregular.

61a. Nose$_1$. PWS **q'aw-a:n-*[84] 'fish nose, fish nose cartilage' ▪ PAlg **-łk-eɣ-ew-* (*~ sk*) [with diminutive infix] > PA **-łki:w-an-* 'nose' ‖ PAW **lVq'awV* (*~ e, ə, o*).

61b. Nose$_2$. PWN **waq^w-* 'cape' ▪ PNi **vix* 'nose' ‖ PAW **we:q^{w}E*.

62. Not. PWN **k'i-, *k'ə-* 'negative stem'[85], PWN **-k(a)* (suff.) 'un-' ▪ PNi **qha-u-* 'no, there isn't' ▪ PAlg **ka-* 'negative stem' ‖ PAW **kä:*.

63. One. PW **n'a-m* 'one' ▪ PNi **ńɨ-, *ńə-ń* 'one'; **nu-ɣi* 'first, fore' ▪ PAlg **ne-kwe(h)t- ~ *ne-kwehc-* 'one' [compound "one+half"], PA **ne-hš-ihk-e:w-* 'alone', **na-y-* 'only; all in one place', **na-w-at-* 'first' ‖ PAW **ń'ə* ◊ PS **na-k', *n-k'u* 'one, another', **na-qas* 'one'.

64. Person. PW **bak^w- ~ *buk^w-* 'human being' ▪ PNi **ńivɣ-ŋ* 'person; Nivkh' ▪ PAlg **na(:)pe:ɣw-* 'man, male' ‖ PAW **be:k^{w}E ~ *pe:g^{w}E* [PNA **ń'V-pe:g^{w}E-* may be analysed as "one + person"].

65. Rain. PWN **y'ug^w-* 'to rain'; **y'ug^{w}a-* 'rain' ▪ PNi **ju* 'dew' ‖ PAW **y'ɨ:ɣ^{w}E* (*~ *o:, *u:*).

66. Red. Quil. *p'ič'-* 'red' [*č'* < PChi **k'*] ▪ PNi **paʁ-* 'red, red-haired' ▪ PAlg **(ne-)pek-, *(ne-)pak-* 'red; blood' ‖ PAW **p'akV*[86].

67. Road ? [There is a Nivkh-Algic root, see §4.3].

68. Root. PW **ƛ'u:p'ak* 'root' ▪ Quil. *c'á:boq^w-ł* 'root' ▪ PNi **vizlɨx* (*~ -řl-*) 'root'; NiY **waδiụlu:* 'root' [with metathesis][87] ▪ PAlg **(wʔe-)dlayep-, *(wʔe-)dlayepi:t(a)k-*[88] 'root' ‖ PAW **č'VlVyɨp'V, *č'VlVyɨp'ə:tkE*[89] ◊ Cf. PS **c'apaʔχ* 'cedar root'.

69. Round. PWN **kəlx-* 'round, round thing, to turn (wheel), to make sth. round' ▪ PNi **kulku-ř* 'wheel' ▪ PA **kwe:łk-* 'turn, return' ‖ PAW **kulk'V, *k'ulk'V* or **k'^{w}i:lk'V*[90] (?) — contamination of various allomorphs or similar roots. ◊ Cf. PS **q'əlχ, *q'laχ* 'round; circle' and **χ^{w}ələq'^{w}* 'round, to roll'.

70. Sand. PWN **q'əp-* 'sand' ▪ PNi **qom-r* (*~ -ř*)[91] 'sand' ‖ PAW **q'ombV* (*~ u*).

71. Say ? [There is a Nivkh-Algic root, see §4.3].

72/25. See/eye. PW **n'a:-* in **n'a:-k-* 'look', PWS suff. **-in'aw-χ* 'seeking', PWN **n'u-* 'to aim' ▪ Quil. *da-q'^{w}ó:* 'eye' ▪ PNi **ńu-* 'look, watch'[92], **ń-řɨ-* 'see; find', **ńa-χ*[93] 'eye', **ńi-saχ* 'tears', **ń-xɨr* 'eyelashes', **ńi-t-* 'to aim'; NiY **nu(ɣ)ə-* 'see, find', **nojdi-* 'watch, guard' ▪ PAlg **ne:-w-* 'see'; **nenʔ-, *nenʔ-aw-* 'to look for', PA **na-t-(a)w-* 'seek, hunt' ‖ PAW **ń'ə:*.

73. Seed — ?

---

[84] Cf. the same suffix in PWS **q'im-a:n-* 'navel'.

[85] Apparently **k'i-, *k'ə-* < **k(a)ʔi(:)*, cf. absence of glottalization in **-k(a)* and PNi **qha-* < **ka-*.

[86] Cf. PWN **pəx-* 'to bleed sb.' and PNi **pu-* 'to bleed'.

[87] The NiY form reflects PAW **-p'-* as **-ụ-;* coda *-u:* < **-uɣ(u)*. In Early PNi, the root must have looked like **weʒlibəx-* = PAlg **(wʔe-)dlayepi:t(a)k-*. The PNi form contains the fossilized 3rd person possessive prefix, cf. PAlg.

[88] PA **we-tye:pitki ~ *we-tye:piski ~ *we-tye:piški*, suff. **-tye:petk-;* Wi. *ʔu-wə-lápitk-əʔl, ʔu-lápitk-əʔl* 'roots'; Yu. *ʔwə-ʔ* 'root(s)', *ʔwo-ʔłp-'eʔy* 'angelica root', *ʔwə-ʔłp-itək* 'root, willow root', also *ʔwo-hp-eɣ* 'spruce root'. P. Proulx's (1992, #94) reconstruction is **wʔetlʔeyepi:teke, *wʔetlʔeyepi:take* (or, alternatively, **wʔetleyʔVpiteke*). PAlg **(wʔe-)dlayep-* contains secondary *-d-* instead of **-ǯ-*. Glottalization of **č'-* was lost due to dissimilation.

[89] Cf. the similarity between the bizarre PAW root for 'root' and PNC **Hi̯χi̯īwVłV̄* 'root'.

[90] Cf. a similar PAW root **x^{w}i:łV* 'turn'**:** PWN **x^{w}ił-* 'to turn back', PNi **khel-ɣel-* 'turn round', PA **kwe:ł-* 'turn, return' (cf. also PAlg **kel-om-* 'turn').

[91] In spite of formal resemblance, this PNi root (kept in Sakhalin Nivkh only) is not a loanword from Altaic (instead, PAlt **ki̯umo* 'sand, dust' may be compared with PEsk **qhəmi* 'hill, snowdrift', **qhəmu* 'sand, stale ice' and PUr **kumV* 'thin snow').

[92] PNi **ńu-* probably contains suffixal **-w-*, cf. PAlg **ne:-w-*, PWS **-i-n'a-w-χ*.

[93] Formal resemblance between PNi **ńaχ* and PEA **na:ɢ, *ne:ɢ* 'eye' is accidental, since the latter forms descend from PND **lə-waɢ-*, a compound that consists of the determinative prefix **lə-* 'face' and the root **waɢ-* 'eye'. PNi **ńaχ* ≈ Quil. *daq'^{w}ó:*, where *da-* < **ń'a-*, and the 2nd (suffixal) component may be cognate with PNi **-χ*.

74. Sit. PWS **t'i:q^{w}-* 'to sit' ▪ PNi **thiv-* 'to sit, sit down', NiY **ϑaɣa-* (*~ ɔ, v*) 'sit' ‖ PAW **t'i:q'^{w}V ~ *ti:q'^{w}V.*
75a. Skin$_1$**.** PWS **ƛ'iχ-aq* 'skin, fur' ▪ PAlg **ʟo:k-* 'skin, leather' ‖ PAW **ʟü:q'V ~ *ƛ'ü:q'V.*
75b. Skin$_2$. PNi **ŋa-ɣr, *ŋə-ɣr* 'skin (animals)' ▪ PAlg **-ɣl-, *-ɣr-* 'skin, scale'[94] ‖ PNA **ɣVrV* ◊ Cf. PS **k'^{w}əl'* 'skin, feather, porcupine quill'.
76. Sleep. PWN **k'ał-* 'to sleep, to dream' ▪ PNi **qho-* 'to sleep'[95] ▪ PAlg **-i:łkw-, *-ełkw-* 'sleep, dream' ‖ PAW **k'(^{w})ołV ~ *ʔołk'^{w}A.*
77. Small ?
78. Smoke. PWN **w'aχ-* 'to produce or use smoke' ▪ PNi **thusk-* 'to smoke fish' [compound with **thu-* 'to burn, smoke'] ▪ PA **wi:šk-w-* 'to smoke (leather or meat)' ‖ PAW **w'e:čq'E* (*~ š*).
79a. Stand$_1$. PW **ʟa:-* 'stand' ▪ PNi **la-r-* 'to get up on the back paws' ▪ PA **ła-m-at-* 'stand up, erase' ‖ PAW **ʟa:.*
79b. Stand$_2$. PNi **kəp-r-* 'stand, stand up' ▪ PAlg **-ga:p-* 'stand' ‖ PNA **gə:p'V* ◊ Cf. PSI **ɣap* 'to stand upright'.
80. Star — ? [There is a Nivkh-Algic root, see §4.3].
81a. Stone$_1$. PWN **cək^{w}-, *cəx^{w}-* 'rock fence, fish trap made of stones' ▪ PNi **ceɣ-ra-* 'rock, cliff'[96] ▪ PAlg **ček'w-* 'big stone, rock'[97] ‖ PAW **čik^{w}E ~ *čik'^{w}E* (*~ e*).
81b. Stone$_2$. PW **nuk-* 'mountain' ▪ PNi **ŋɨk-r* (*~ *-ə-*) 'clod' ‖ PAW **ŋɨgE.*
82. Sun[98]**.** PNi **kheŋ-* 'sun'[99], NiY **kinʒə-* 'moon, month' ▪ PAlg **k-eɣ-ečh-* 'sun, moon', **kečh-* 'sunshine, daylight' ‖ PNA **kiŋžV* (*~ q, X*) ◊ Cf. PS **k^{w}usən* 'star'.
83. Swim. PWN **mał-* 'swim' ▪ PNi **mrə-* 'swim (human, animal), bathe'; NiY **mör*(*i*)- 'swim' ▪ PAlg **-o:l-* 'swim'[100] ‖ PAW **mə:rV.* Perhaps a suffixal derivate, cf. PWN **mi-* 'to swim (fish), crawl (snake)'.
84a. Tail$_1$. PW **na:k-* (*~ n'-*) 'tail of fish or bird' ▪ Quil. *-doq^{w}* 'fishtail' ▪ PNi **ŋəki* 'tail'; NiY **ĺaqi-l, *l-* 'tail of animals' ‖ PAW **ŋ'ə:gE* ◊ PS **-anak* (suff.) 'tail, anus, buttocks'.
84b. Tail$_2$. PWN **c'ax-* 'tail of a fish' ▪ PNi **ŋə-sk* 'tail fin (of a seal)' ▪ PAlg **–ček-w-an-, *-č-eɣ-ek-an-* 'tail (of fish, bird), rump'[101] ‖ PAW **č'a:k'E* (*~ e:, ə:, o:*).
85/86b. That, this$_1$. PWN **w'ə-* 'this ("empty root")' ▪ PNi **iv-ŋ* 'he', **əv-ŋ* 'he (honor.)' ▪ PAlg **weʔ-* '3rd person'; **we* 'this (nonpersonal, extended)'; **wa* 'this (personal, extended)' ‖ PAW **w'V.*
85/86c. That, this$_2$. PW **da* 'this, that' ▪ PNi **tu-* 'this', **toń-* 'this (visible)' ▪ PAlg **t-* 'the one (known but not previously mentioned)' ‖ PAW **dV.*
85/86d. That, this$_3$. PW **ga:* 'this; here' ▪ PNi **ku-* 'that (invisible)' ▪ PAlg **kw-Vl-* 'she, he, it' ‖ PAW **g(^{w})V.*

---

[94] PA **wa-ʔl-ak-ay-* 'skin, scale', **wa-ʔš-ak-ay-* 'skin', **-łam-eš-k-ay-* 'inner skin, membrane'; Wi. *wá-t-k-ay* 'skin'; Yu. *sr-ahkw-oh* 'loincloth', *sl-ekw* 'clothes (a single set)'.

[95] PNi **qho-* < **łqho-.*

[96] Borrowed into Manchu and Nanai as *žaχar* 'pebble, boulder'.

[97] PA **ši:kw-an-* 'cliff, grindstone' (< PAlg pl. **č-eɣ-ek'w-*); Yu. *cek'^{w}-eł* 'prayer stone "seat" (semicircular wall of mortared stones)'.

[98] Reconstruction of roots for 'moon' and especially for 'sun' in Native American protolanguages is rather difficult, since the words *sun, moon* and even *stars* are usually denoted with the common term 'luminary', further specified as "night luminary" or "day luminary".

[99] PIt **qъńʔъ-sxɔ, *qъŋʔ* 'moon' is a Nivkh loan.

[100] With regular loss of the initial sonorant in "suffixal" forms, cf. PA **mo:šken-, *-ašken-* 'full', **nepy-, *-epy-* 'water', **nep-* 'sleep', **wih-p-* 'sleep with others', **na:pe:w-, *-a:pe:w-* 'man, male', etc.

[101] PA **-šekw-an-* 'tail of fish'; **-šyi:k-an-* 'rump'; Wi. *we-tútk* 'ventral fin'; Yu. *cək^{w}* 'bird's tail'; *cecekw* 'fin of fish'.

85/86e. That, this$_4$. PW **y'i:-* 'that yonder'; **y'a:* 'that'; **y'u(:)-* 'that (near you)' ▪ PNi **a-* 'that, there'[102] ▪ PAlg **ya* 'that (personal, extended); then'; **yo* 'that (restricted)' ‖ PAW **y'V*.

85/86a. That, this$_5$. PW **hi:-* 'that ("empty root")' ▪ PNi **hu-ŋ-* 'this ("a little farther")'; **ho-* 'this (remote)' ‖ PAW **hV*.

86. This — see 'That'.

87. Thou. PChi **ki-* > Quil. *či*, Chem. *ce:ya* 'thou' ▪ PNi **chi* 'thou'[103] ▪ PAlg **keʔ-* (prefix) 'thou, thee, thy', **keʔila* 'thou' ‖ PAW **kV* ◊ Cf. PS **n-k^{w}ə, *n-ɣ^{w}ə* 'thou (independent pronoun)', **ʔən[ɣ^{w}]-* '2nd singular possessive prefix' **-ax^{w}* '2nd singular transitive subject suffix', **-k-əx^{w}* '2nd singular intransitive subject affix', etc.

88. Tongue. Quil. *łiłí:-t-ot* 'tongue' [reduplication] ▪ PNi **hil-k, *hil-x* 'tongue', **hel-*[*h*]*el-* 'lick'[104] ▪ PA **-e:ł-any-* 'tongue'[105] ‖ PAW **hi:łV* (~ *e:, ƛ*) ◊ Cf. PSI **t-ạł-aʔ* 'tongue'.

89a. Tooth$_1$. PW **gi:g-* 'tooth' ▪ PNi **khɨk* 'fang' ‖ PAW **ɢ*[*i*]*:gE*.

89b. Tooth$_2$. PWN **-xs-i*(*ʔa*) (suff.) 'tooth' ▪ PNi **ŋə-ɣs, *ŋə-ɣz-ɨr* (~ *-ř*) 'tooth' ‖ PAW **xEcV* (~ *s*).

90. Tree. PW **suk-* > PWS **suč'*(*as*) 'tree' ▪ PNi **ciɣ-r, *cxə-r* 'tree' ‖ PAW **ʒik^{w}E* ◊ Cf. PS **cəq* 'tree'.

91. Two. PW **ma:-, *ma-* in PW **ma:ʔła* 'two', PWN **mə-t-* 'twins'; PW **mu:* 'four' ▪ Quil. *báʔyas* 'four', Chem. *ma:ʔis, miʔi:s* (< PChi **ma-ʔy-as*) 'four' ▪ PNi **mi-, *me-*, NiY **mä:l-* 'two'[106] ‖ PAW **me:* 'two', **me-yE:wV* 'four'[107] ◊ PS **mu-s* 'four'.

92a. Walk$_1$ (go). PWN **wə-n-* 'to go, go ahead' ▪ PNi **vi-* 'walk, go' ▪ PAlg **we-hł-* 'walk' ‖ PAW **wi*(*:*).

92b. Walk$_2$ (go). PWN **ha-* 'to go, move' ▪ PAlg **-a:-* 'to go' ‖ PAW **ha:* (~ *e:, ə:*).

93. Warm$_1$. PWN **k^{w}ux^{w}-* 'warm' ▪ PNi **qhav-* 'hot' ‖ PAW **k^{w}äx^{w}V*.

93b. Warm$_2$. PWN **pəc'-* 'to warm oneself by the fire' ▪ PA **pas-et-* 'be hot' ‖ PAW **pVc'V*.

94a/19. Water$_1$, drink. PW **k'a-, *ʔak*[*'*]^{w}- > PWS **č'a-* 'drink'; PWS **č'a-ʔak^{w}* 'water'[108] ▪ PChi **k'^{w}a:y-, *k'a:w-* > Quil *k'^{w}á:ya*, Chem. *c'ó:wa, -c'o:* 'water' ▪ PNi **əɣ-* 'give to drink, irrigate, pour on'; **iɣ-r* 'creek' ▪ PAlg **-a:hkw-, -ehkw-* 'drink'[109], **-a:kawy-, *-ekawy-* 'to flow'; PA **akw-* (adverbial stem) 'out of/in the water'; **-a:k-amy-, *-e:k-amy-* (suff.) 'natural body of water', **kwa:-p-* 'out of the water' ‖ PAW **k'*(*^{w}*)*e: ~ *ʔe:k'*(*^{w}*)*V* ◊ Cf. PS **ʔuq^{w}* 'drink; water'; **q^{w}uʔ, *qu-l, *qa-l* 'water; drink'; suff. **-q^{w}a, *-k^{w}a* 'water'.

94b. Water$_2$. PWN **w'ap-* 'water' ▪ PNi **fi* 'dew'[110] ▪ PAlg **ʔa:ʔp-* 'liquid'; PAlg **piʔ-ihk-* > Yu. *paʔ-ah* 'water, juice; be/get wet' ‖ PAW **w'e:pV ~ *pe:w'V*.

---

[102] PNi **a-* 'there, downriver', **a-ɣɨ-* 'there (distant)', **a-, *a-hu-* 'that (visible distant)'.

[103] Historical phonetics does not prohibit us from linking together PNi **chi* and PW **su:-* 'thou', so that PAW **cV-* or **sV-* may be reconstructed. But a closer connection between Nivkh and Algic urges us to think of PW **su:-* as a local Wakashan innovation (or archaism) and consider PNi **chi* as cognate with PAlg **keʔila* instead (cf. PNi **ńi* 'I' ≈ PAlg **neʔila*).

[104] The PNi term for 'tongue' is derived from the verb 'to lick', which is in its turn derived from the PAW root meaning 'tongue'.

[105] Should be distinguished from PA **-i:ł-an-*, descending from PAlg **-i:pł-* 'tongue' and related to PNi **əvlɨ-x* 'lip' < PNA **ʔɨ:płV* 'lip, tip of tongue'.

[106] PEsk **maləʁu-* 'two' is a loan from Wakashan or "Northern Nivkh", while Proto-Aleut **a*(*:*)*lax* 'two' has an areal parallel in Chimakuan-Wakashan: PWS **ʔała*, Quil. *łá-ʔw*, Chem. *łá-k^{w}a*.

[107] The PNA stem for 'four' contains the same 2nd component: PNi **nɨ-, *nu-* ▪ PAlg **ni-ye:ʔw-* < PAW **nE-yE:wV* with PAW **nE-* as in PAlg **n-iš-, *n-id-, *ne-yiš-* 'two' (cf. PS **ʔəs-, *was, *n-was* 'two').

[108] This PWS compound seems to have meant 'drinking water'.

[109] PA **men-ehkw-*, Yu *r-ek^{w}-ohp-* 'to drink'.

[110] "Incorporated" allomorph of **phi.*

95. We[111]. Quil. *lo-bá:ʔa*, Chem. *má:ʔa-ɬ* ‘we’ ▪ PNi **me-* ‘we’ ‖ PAW **m’i* (~ *e*) ◊ Cf. PS **n-ʔim-* ‘we’[112].

96/98a. What, who$_1$. PW **ʔan-ga, *ʔan-g^{w}a* ‘who’ ▪ PNi **an-q* ‘who’ ▪ PAlg **ke:-kw-* ‘something; which?’; **we:-kw-* ‘what’ ‖ PAW **g^{w}V* ◊ PS **ka*(*n*) ‘interrogative stem (do what? do something; (be) where, how?)’.

96/98b. What, who$_2$. PW **way*(*a*) (~ *w’-*) ‘interrogative stem’ ▪ PAlg **we:-kw-* ‘what’, **wV-ɬʔa* ‘who?’, PA **a-we:-na* ‘who’ ‖ PAW **wV* (~ *w’*) ◊ Cf. PS **wa-t* ‘who?’

96/98c. What, who$_3$. PNi **thju-* > Am. *si-*, Sakh. *ř^{h}u-* ‘what?’ [“incorporated” allomorphs of Am. **chi,* Sakh. **thu*], **tha-* ‘who?’ ▪ PAlg **ta:-ɬ, *tV-ɬʔ-* ‘interrogative stem’ ‖ PNA **tV* ◊ Cf. PS **ta-mʔ* ‘what?’ (and perhaps **wa-t* ‘who?’).

97. White — ?

98. Who — see ‘What’.

99. Woman. PW **łuk^{w}-* ‘woman’ ▪ PNi **ř^{h}aŋq* ‘woman’[113] ▪ PAlg **ełkw-* ‘woman, female’ ‖ PAW **ʔVłäŋk’*(*^{w}*)*V* ◊ Cf. PS **łan-ayʔ* ‘woman’.

100. Yellow — ?

101. Far. PWS **s-aya:-* (~ **χ-*) ‘far’ ▪ PA **aya:-k*(*w*)- ‘far off’ ‖ PAW **ʔaya:-* (~ *e, ə*).

102. Heavy — ?

103a. Near$_1$. PWN **ma-k-* ‘near, next to, close’ ▪ PNi **ma-* ‘near, close’; NiY **mi*(*ä*)*-kə* ‘near’ ▪ PAlg **ma:-ɬ-* ‘side by side, in a row’ ‖ PAW **ma:.*

103b. Near$_2$. PW **ʟa-* ‘near’ ▪ PNi **la-ʁ-* ‘near’, *-le-* (postpos.) ‘near’ ‖ PAW **ʟa*.

104. Salt — ?

105. Short. PWN **c’ək^{w}-* ‘short’ ▪ PAlg **tetkw-, *tatkw-, *tačkw-* ‘be short’ [reduplication] ‖ PAW **č’Vk^{w}V* ◊ Cf. PSI **x^{w}ic* ‘short’.

106. Snake. PW **q’^{w}in-* ‘snail, slug’ ▪ PNi **veŋ-* in Sakh. *veŋ-umlaŋ* ‘ratsnake (?)’[114] ▪ PA **kenw-e:pikw-* ‘snake’ ‖ PAW **q’^{w}iŋV.* PA **kenw-* instead of ***kwen-* under the influence of **kenw-* ‘long’ ◊ Cf. PS **k’ínk’^{w}u* ‘snake’.

107. Thin. PWS **pu:k-* ‘thin (flexible obj.)’[115] ▪ PA **pepak-* ‘thin, lean’ [reduplication] ‖ PAW **po:kV* (~ *u:*) ◊ Cf. PSI **p’aχ* ‘thin (layer)’.

108. Wind. PW **yu:-*[116] ‘wind; to blow (wind)’ ▪ PNi **la* ‘wind’; NiY **ilijə-* ‘wind’ ▪ PAlg **lo:yew-* ‘blow’ ‖ PAW **la:yVwV*[117] ◊ Cf. PS **-al-aq* (suff.) ‘wind, weather’.

---

[111] In Proto-Wakashan and Proto-Algic, ‘we exclusive’ is derived from the *‘I’*-stem and ‘we inclusive’ is derived from the *‘thou’*-stem with pluralizing suffixes. On the contrary, PNi **ńi-ŋ* ‘we exclusive’ is *‘”I”*-stem plural’, whereas ‘we inclusive’ preserves the original PWA root for ‘we’.

[112] Bella Coola *ɬ-m-iɬ*, Sechelt *n-ím-uɬ*, Clallam *ɬ-ni-ʔəŋ-ɬ*, Saanich *ɬ-n-iŋ-əɬ*, Cowlitz *ʔin-im*, Upper Chelalis *ʔin-ím*, Puget *d-íbə-ɬ*, Lilloet *s-n-ím-uɬ*, Okanagan *m-n-im-ɬ-tt* ‘we’.

[113] Fossilized “incorporated” form of **thaŋq*.

[114] This compound consists of **veŋ* ‘?’ + **umlaŋ* ‘snake’ and is translated as “удав” (i. e. “boa”). Apparently we deal here with such large non-poisonous snakes as ratsnakes (*Elaphe*) which do not inhabit Sakhalin but are widespread in the Far East (ratsnakes, like boas, smother their prey). Note in particular such species as the Russian ratsnake (*Elaphe schrenckii*), 150–190 cm. long, inhabiting the Amur River basin, Eastern Mongolia, Southeast Siberia, Northern Manchuria and Korea; cf. also the Japanese striped snake (*Elaphe japonica*), 110–150 cm. long, and the Japanese ratsnake (*Elaphe climacophora*), 110–130 cm. long, both located in Kunashir and Japan.

[115] PWN **pəlk^{w}-* ‘thin and flat’ has *-l-* by analogy with the synonymous root **pəl’-* < PAW **pAl’V* (~ *r’*) ‘flat’.

[116] PW **yu:-* < **yyV:w-* < **lyV:w-* < **la:yVw-*.

[117] Cf. PA **le:hle:-* ‘breathe’ [reduplication] and further PSC **həli, *ʔəli* ‘life, spirit’.

109. Worm[118]. PWN **k'^{w}ə̨l-p-*[119] > Ha. *k'^{w}l̥bn̥ì* 'worm' ▪ PNi **kɬlaŋa* 'snake'[120] and **chŋa* 'viper', NiY **kölniʒə-* 'worm, caterpillar'[121] ‖ PAW **k'^{w}ɬlVŋV* (~ *ə*) ◊ Cf. PS **q'yaƛ'an* 'snail, slug'.
110. Year. PW **-ʔin-χ* (suff.) 'year, season' ▪ PNi **ań* 'year'[122] ▪ PAlg **-en-* 'season' in PA **ni:p-en-* 'summer', Yu. *kiš-en-* 'be summer; summer' [lit. 'warm season'] ‖ PAW **ʔäńV* ◊ Cf. PS **-án-ax^{w}* (suff.) 'season, year'.

4.2. Stability of Proto-Algonquian-Wakashan roots within the 110-item wordlist. Precise phonetic/semantic reconstruction of several PAW roots with the 110-item wordlist meanings seems to be impossible, which is not surprising for such a remote relationship, demonstrated on a restricted volume of lexical material. Sometimes binary comparison of two daughter languages (Proto-Chimakuan-Wakashan and Proto-Nivkh-Algic) does not allow us to determine which of the two "competing" roots was inherited from the parent language, and only external correspondences in Salishan permit to yield preference to one of them.

Not surprisingly, the "lost roots" of PAW are usually the ones whose lexical meanings have lower values ("weights") on the scale of Sergei Starostin[123]. Table 5 shows that within the 110-item wordlist, reconstructible PAW roots prevail over absent ones in all the conventional groups of the value hierarchy (1–30, 31–60, 61–90, 91–110). As a matter of fact, in groups with the values from 1 to 60 only 2 roots are "lost" completely.

Table 5. Preservation/loss of Proto-Algonquian-Wakashan roots with 100-wordlist meanings.[124]

	Reconstructible	**Lost**
1–30	we[1], I[3], fire[7], tongue[8], two[2], eye[4], thou[5], who[6], stone[9] name[10], hand[11], what[12], die[13], heart[14], drink[15], dog[16], louse[17], moon[18], claw[19], blood[20], one[21], tooth[22], new[23], dry[24], liver[25], eat[26], tail[27], this[28], hair[29], water[30] (30 = 100%)	
31–60	nose[31], not[32], mouth[33], full[34], ear[35], that[36], bird[37], bone[38], sun[39], smoke[40], stand[41], tree[42], ashes[43], rain[45], fish[47], neck[48], breast[49], give[44], leaf[50], kill[52], foot[53], sit[54], root[55], thin[56], horn[57], fly[58] hear[59], skin[60] (28 = 93%)	star[46], come[51] (2 = 7%)
61–90	long[61], worm[62], meat[63], know[65], egg[68], knee[70], head[72], sleep[73], burn[74], earth[75], year[76], feather[77], swim[78], white[79], bite[80], fat[81], man[82], person[83], all[84], snake[85], night[86], see[87], walk[89], warm[90] (24 = 80%)	road[64], salt[66], say[67], seed[69], black[71], heavy[88] (6 = 20%)
91–110	red[91], cold[92], woman[93], round[94], near[95], lie[97], green[98], cloud[99], far[100], bark[102], sand[103], short[104], wind[108], belly[109] (14 = 70%)	yellow[96], big[101], good[105], many[106], mountain[107], small[110] (6 = 30%)

[118] 'Worm (generic)', including caterpillars and other small/harmless apodal animals. 'Angleworm' is usually denoted with special terms because of its specific relation to "fishing".

[119] Perhaps < **k'^{w}Vlŋ-p-*.

[120] This form may be a loan from Salish, §6.

[121] Similar Altaic terms seem to be contact words, since they are limited to the Far East: PTM **kulīn* 'worm, snake', PKor **kùrjəŋí* 'adder, viper'.

[122] Also PAW **hü:-ʔäńV* > PWN **hi-ʔən-χ* 'summer' and PNi **hon-f* 'spring (season)' [with positional (?) development **ń* > *n*].

[123] See S. Starostin 2007. Average stability indexes were calculated on the basis of assembled 100- and 110-item wordlists of 14 language families of Eurasia and Africa.

[124] The average stability index as per S. Starostin is indexed in square brackets.

4.3. Proto Nivkh-Algic "basic lexicon". Nivkh and Algic both go back to Proto-Nivkh-Algic that, according to preliminary glottochronological calculations, may have diverged from Proto-Chimakuan-Wakashan ca. 6500 years B. C. and existed until ca. 5000 B.C. The Nivkh-Algic "basic lexicon" contains several specific roots without known Algonquian-Wakashan etymologies, but, naturally, some of them may be archaic, having been lost in Wakashan. The rest of the presumable Nivkh-Algic 110-item wordlist terms have been listed above, under the general Algonquian-Wakashan lexical correspondences section (§4.1).

5a. Big_1. PNi **pil-* 'big' ▪ PAlg **pel-* 'big' ‖ PNA **p'ilV* (*~ e, ɬ*).
5b. Big_2. PNi **maŋG-* 'strong, main'[125] ▪ PA **mank-* 'big' ‖ PNA **maŋgA* (*~ m', ä, k', q', G*).
12. Burn. PNi **thuv-* 'burn'; *thuf* 'smoke'▪ PAlg **tye?w-* 'burn' ‖ PNA **toyVq'^{w}V* (*~ u, x^{w}*).
17. Die. PNi **mu-, *muj-v-* 'die' ▪ PAlg **ma:hy-* 'die' ‖ PNA **mo:yV* (*~ m'*).
18. Dog. PNi **ajm* 'dog (taboo)'[126] ▪ PA **ałem-w-* 'dog'‖ PNA **?ałVmV-* (*~ ä, ƛ, ƛ', L, m'*).
20. Dry. PNi **che-* 'to dry' ▪ PAlg **ce(:)-* (*~ č-*) in Yu. *ce-?l-* 'dry (adj.)' ‖ PNA **ci(:)* [*~ c', č, č', e(:)*].
23. Eat. PNi **ńi-* 'eat' ▪ PAlg **no:-n-* > Yu. *nu-n-* 'feed, food' ‖ PNA **ńi:wV* (*~ ń', e:*).
24. Egg, brood. PNi **ŋ-əvi* 'nest' ▪ PAlg **-a:w-* 'egg' ‖ PNA **?ə:wV* (*~ h, w'*).
31. Foot, leg. PNi **ŋə-cx* 'foot, leg' ▪ PAlg **-čk-, *-tk-* 'foot, leg'[127] ‖ PNA **č'VkE* (*~ q, X*).
33. Give. PNi **kh-im-, *im-* 'give, hand over' ▪ PAlg **mi:-l-* 'give' ‖ PNA **mi: ~ *?i:mV* (*~ m'*).
46. Leaf, flower. PNi **eŋv-* 'to flower', **eŋv-k* 'flower' ▪ PA **ani:p-y-* 'leaf' ‖ PNA **?Eŋi:pV-* (*~ ŋ'*).
52. Many. PNi **mal-ʁ-, *mel-ʁ-* 'numerous'[128] ▪ PA **ma:l-* 'many, much' ‖ PNA **ma:lV* (*~ m', ä:*).
67. Road. PNi **ŋol* 'path' ▪ PA **mye:-* 'road, trail' ‖ PNA **ŋoĺV* (*~ ŋ', u*)
71. Say. PNi **it-* 'say, tell' ▪ PAlg **the-, *tha-* 'to talk' ‖ PNA **di ~ *?idV.*
80. Star. PNi **uńɣ(i̇)-r* 'star' ▪ PA **ał-a:nk-w-* 'star' ‖ PNA **?o(:)ńkE* (*~ q, X*).
85/86. This/that. PNi **lil-ŋ* 'indeed that, just that' ▪ PAlg **er-, *ar-; *el-, *al-* 'thither, thus, that way, like that, that sort' ‖ PNA **?ilV* (*~ e*).
92. Walk. PNi **ple-w-* 'go for a walk' ▪ PAlg **ba:l- ~ *ba:r-* 'walk, go' ‖ PNA **be:lV.*

5. Proto Chukchi-Kamchatkan, Proto-Algonquian-Wakashan and Proto-Salishan lexical correspondences

5.1. Genetic relationship of Nivkh, Chukchi-Kamchatkan, Algic and Salishan was asserted in Mudrak & Nikolaev 1989. As of now, I seriously doubt whether Proto-Chukchi-Kamchatkan shares an immediate common ancestor with Nivkh, Wakashan and Algic; a more natural conclusion is that PChK merely shares with the latter languages a large number of contact words. An Eastern Nostratic origin for Chukchi-Kamchatkan was proposed by Aharon Dolgopolsky (1964; Golovastikov & Dolgopolsky 1972), and the Chukchi-Kamchatkan material was also in-

[125] PNi **maŋG-* is semantically influenced by PTM **maŋga* 'strong, hard', but analysis of the PA ancestral form **mank-* prevents us from treating it as a simple borrowing from PTM. Inside the Altaic phylum, the only parallel for PTM **maŋga* is in Ryukyuan (Shuri *mágí-,* Yonakuni *máí-*); consequently, the item may be considered an areal word, possibly even a borrowing from Nivkh-Algic. Elsewhere in Northeast Asia, cf. PEsk **maŋKV-* 'stronger than, tough' and PChK **mejŋə-* 'big, many', which may also be loans. The proper PAlt root for 'many, big' is **mana*.

[126] Borrowed into PIt as **həĺme* (*~ *h^{w}-, *-jm-*) 'puppy'. PNi **-j-* instead of the regular *-l-* may be tentatively explained by a "tabooistic" mutation of the original phonetics.

[127] PA **-tk-a:t-* 'leg', **-etk-(a:-), *-ešk-* 'by foot or body motion'; Wi. *-ačk-ač* 'leg'; Yu. *-eck-ah* 'foot', suff. *-eck-* 'foot, footprint, track'.

[128] Cf. PTM **mal(u)kun* 'many', perhaps of Algonquian-Wakashan origin..

cluded as relevant into Sergei Starostin's comparative database for "Nostratic etymology"[129]. I, too, share the opinion that Chukchi-Kamchatkan is a constituent of Nostratic, although its classificatory status remains to be ascertained (see table 6)[130].

5.2. Roots belonging to the "cultural lexicon" are analysed in §6. Binary lexical correspondences between Nivkh and Chukchi-Kamchatkan are not taken into consideration here, since lexical contacts between the languages of these two families probably remained strong until quite recently, requiring a more thorough special study of their shared lexicon with the aim of etymological stratification.

Here as well as in §6 the most similar forms are separated with the symbol ≈ (as a rule, this presumes borrowing from one language into another). The single tilde symbol (~) means "less similar" and is mostly used to separate cognate forms. The notation "(possible) cognates" refers to internal Algonquian-Wakashan relationship. PChK roots with meanings that correspond to those of the "basic lexicon" items on the 110-item wordlist are listed at the beginning of the lists and are underlined.

5.2.1. Chukchi-Kamchatkan and Wakashan set. The majority of binary lexical correspondences involves Proto-Wakashan. Some Wakashan roots with no PAW etymology may have been borrowed from Chukchi-Kamchatkan.

Wakashan has a unique (in light of the Algonquian-Wakashan etymology) root for 'thou': **su:-*, which resembles the Chukchi-Kamchatkan form for the 2nd person pronoun **(gə-)sə*. On the other hand, Chimakuan preserves the standard PAW root for 'thou': Quil. *či*, Chem. *cé:ya* < PChiW **ki-*. One possibility is that Wakashan has borrowed the root for 'thou' from Chukchi-Kamchatkan; another, somewhat preferable, is that the archaic second stem had been preserved under the areal influence of PChK.

1. PChK **Gətχəm* 'bone'[131] ≈ PW **χa:x-* 'bone' ~ Quil. *qa:χ* 'bone' ~ PNi **xuski* 'fish bones' [cognates, PAW **χo:ck'E* (~ *č, s, š*)].
2. PChK **ʔəłuła-* (~ *-l-*) 'eye' [reduplication] ≈ PWS **ɢ-ał-* 'eye' ~ PAlg **-ʔeł* in **čep-ʔeł-*, **-čp-ʔeł-* 'eyelash' [cognates, PAW **ʔałV* (~ *e, ə, o*)] ~ PS **-ł* in **cəp-ł* 'eyebrow, eyelash'.
3. PChK **Gɔtga-* 'foot, leg' ≈ PW **gʷi:gʷi:* 'leg, foot, flipper' ~ PAlg **-ki:k-* > Yu. *-ekik* 'hip(s)' [cognates, PAW **gʷi:-* 'leg'].
4. PChK **ʔunki* 'night'[132] ≈ PWN **nikʷ-*, **nəkʷ-* 'night, at night' ~ PNi **ńak-r* 'night' ~ PAlg **neɣt-*, **neɣč-* 'last night' [cognates, PAW **ńä:gʷE* ~ **ńä:gʷt(')V*] ~ PS **nat* 'night; 24-hour period'.

[129] Online version at http://starling.rinet.ru/ ("Tower of Babel").

[130] The position of the remaining Palaeo-Asian/Palaeo-Siberian languages, little by little, becomes more transparent. Eskimo-Aleut is a family that is rightfully included into the Nostratic macrofamily, where it shares several isoglosses with Proto-Altaic. Proto-Eskimo-Aleut is included as a peer entity into Sergei Starostin's database for "Nostratic etymology". The alternate hypothesis of a genetic relationship between Wakashan and Eskimo-Aleut is supported only by J. Holst (2005). Yukaghir family is undoubtedly cognate with Proto-Uralic and has remarcable number of contact words along with Chukchi-Kamchatkan and loans from some Nivkh-like source ("Northern Nivkh" in my notation).

[131] The presence of an "infixed" dental consonant into *QVKV/KVQV*-type structures is observed elsewhere in some PChK roots that were probably borrowed from Wakashan: **kʷitχə* 'sphagnum' ~ NW **kʼʷaʔqʷ-* 'lichen' (cognate with PNi **vaʁ-ŋ* 'moss', Yu. *kikʷt-*); **ɢɔtga-* 'foot, leg' ~ PW **gʷi:gʷi:* 'leg, foot, flipper'. Cf. also **qučχə* 'dog' ~ PS **s-qaχaʔ* 'dog' and PNi **qaχ* 'husky dog (heading a team)'. PChK probably retains here a more ancient shape of the PW forms, since as a rule, the first obstruent in PAW consonantal clusters is deleted in PW, cf. PNi **xuski* 'fish bones' ~ PW **χak-* 'fish backbone', etc.

[132] May also go back to PNostr **nVkʼ(t)V* 'night', together with PIE **nok(t)-*.

5. PChK **k'axa-* 'back, shoulders' ≈ PWN **χak-* 'backbone of fish' ~ PNi **harq, *har(ʁ)r* (~ **-ř*) 'dried fish backbone' ~ PA **-ta-ka:k-w-* 'spine' [cognates, PAW **χa:rGA*].
6. PChK **Guƛ-χə-* 'before' ≈ PW **ga:l-* 'first; before'.
7. PChK **ʔəkəxʷa-* 'branch' ≈ PW **k'ʷa:χ-* '(dry) branches', PNW **q'ʷaχ-* 'hemlock branches'.
8. PChK **q'ulə-* 'break, pierce' ≈ PWN **q'ʷiɬ-* 'to break, crumble, grind up, crush, shatter, mince'.
9. PChu **ləmə-* 'female breast, teat' [dissimilation of **nəmə-*] ≈ PWS **ʔanma* 'breast; suckle'; PWN **wən-* 'milk' [metathesis] ~ PNi **mo-mo-* 'suck' [reduplication]; **mo-c-* 'suck; kiss', **mo-c* 'breast (female)' ~ PAlg **no:w-, *new-* 'to suck' [cognated, PAW **no:wV ~ *wo:nV ~ *ʔo:nwV*].
10. PChK **kaxʷa-* 'burn (intr.)' ≈ PWN **xiq-* 'to burn, set on fire, fire, red-hot'.
11. PChK **ʔelu-* 'chew' ≈ PWN **ʔul-χ-* 'chew'.
12. PChK **ʔaćiq-la-* 'cough, sneeze' ≈ PWS **w'as-aq-* 'cough' ~ PA **weʔɬ-* 'cough' [cognates, PAW **w'asV* (*~ e, o, ə*)].
13. PChK **ʔɔkɔtɔ-* 'hard' ≈ PWS **qat-* 'hard'.
14. PChK **q'uqu-* 'hole' ≈ PW **kʷawχʷ-* 'hole'.
15. PChK **piŋi-* 'light, lamp; to shine' ≈ PW **pənq-* 'to glare, shine, light (like a match)'.
16. PChK **łixe-ƛ-* 'look, watch'; **ʔəłVχu-* 'look, look out' ≈ NW **ƛax-* 'to look for lice' ~ PNi **khi-* 'wait' ~ PAlg **ekł-, *ełk-* 'wait, watch' [cognates, PAW **ʔe:ƛxE ~ *ƛe:xE*].
17. PChK **k'inu* 'navel, scar' ≈ PWS **q'im-a:n*(*a*) 'navel' [the same derivation as in **q'aw-a:n-* 'nose'] ~ PNi **khɨlm-ř* 'navel' [cognates, PAW **q'iĺmV ~ *qiĺmV*].
18. PChK **kʷaśqɔ* (*~ -šq-*) 'other; two' ≈ PW**qakc'a* 'other, following' > PWS **qakc'a* 'three' ("another number [after two]") ~ PNi **-vasq*[133] 'half, one of a pair' ~ PAlg **kwe*(*h*)*t- ~ *kwehc-* 'other'[134] [cognates, PAW **qʷaKt'V ~ *qʷaKc'V*].
19. PChK **ʔiƛχu-* 'slippery' ≈ PWN **ƛəx-* 'to slip, slide' ~ PNi **leɣ-, *th-leɣ-* 'slide' [cognates, PAW **ƛExE ~ *ʟExE*] ~ PS **lix* 'slime, slimy'
20. PChK **ʔəć'əxʷə-* 'stir, move' ≈ PWN **ʒikʷ-* 'to move, function, operate'.
21. PChK **ʔimiśa* 'thick' ≈ PWN **ʔəms-* 'thick (box, snow, a layer of sth.)'.
22. PChK **cijlxə* 'wing' ≈ PWN **c'əlk-* 'feather'.

5.2.2. Chukchi-Kamchatkan and Algic set.

1. PChK **piŋu* 'ashes' ≈ PAlg **p*(*el*)*enekw-* > PA **penkw-* 'ashes, powder' ~ PNi **phlɨŋg* 'ashes' [cognates, PNA **pVl-əŋVk'ʷE*].
2. PChK **meł-* 'good' ≈ PA **mel-*(*a*)*w-* 'good'.
3. PChK **ʔipiŋəl* 'root' ≈ PA **we-tpeny-, -tpeny-* 'edible root, tuber'.
4. PChK **jiłə* 'tongue'[135] ≈ PA **-e:ɬ-an-y-* 'tongue' ~ PNi **hil-x* 'tongue', **hel-*[*h*]*el-* 'lick' [cognates, PNA **hi:ɬV* (*~ e:, ƛ*)] ~ PSI **t-ạɬ-a*ʔ 'tongue'.
5. PChK **ńic'e* 'two' ≈ PAlg **ni-ǯ-, *ni-d-, *ne-yiǯ-* 'two' ~ PS **ʔəs-* 'two'.
6. PChK **ʔəłqə-* (*~ lq*) 'bone (suffixal); chest bone' ≈ PAlg ** -łk-* 'bone' ~ PNi **ŋ-ɨk* (*~ *-ə-*) 'gristle' ~ PWN **łəqʷ-, *ƛ'əqʷ-* 'pit (in fruit); inside of sea eggs (urchins); brain' [cognates, PAW **ɬVq'ʷV-*].

---

[133] The isolated foms *pasq, pazʁ-r* with irregular **p-* have been derived (with hypercorrection) from the incorporated forms **-vasq, *-fasq* after numerals: *ń-vasq, me-vasq, c-fasq*, etc.

[134] PA **ne-kwetw-* 'one', **kwet-ak-* 'other'; Yu *kəht-, koht-* 'one' PAlg < **ne-kwaht-, *ne-kwe*(*h*)*t-*. Yu *kohc-ekin* 'one strand' and Wi. *kuc-* 'one' < PAlg **ne-kwehc-*. Here, the root **kwehc-* may have become contaminated with **kwet-*, which has a different origin and is cognate with PNi **hutɨ* 'middle', NiY **ködi-*(*δə-*) 'inner, amidst' (PChK **gut-nu-* 'middle, half' may have been borrowed from PNi) and PW **qa:t-* 'to cut in two' < PAW **qʷot'V*.

[135] Probably not directly related to PNostr **tilV*(*ŋV*) 'tongue' > PAlt **tilV*, PIE **dlenĝhw-*.

7. PChK **ćiłk'e-* 'hip' ~ PAlg **-so:g-* 'hip'.
8. PChK **kečju-* 'strong, good' ≈ PA **kešy-* 'good' ~ PSI **χəs-* 'good'.

5.2.3. Chukchi-Kamchatkan and Nivkh set. Here we only quote Nivkh roots of PAW origin. The numerous Nivkh and Chukchi-Kamchatkan lexical comparanda without parallels in other Algonquian-Wakashan families and/or in Proto-Salishan are not quoted here because of the necessity of a more detailed etymological study of such sets which arose under the conditions of multingual lexical interchange within the Palaeo-Sibirian *Sprachbund* (see lexical material in Fortescue 2011: 1369–1373). Some discrepancies between PChK and PNi forms may be due to the fact that the actual contacts were between Proto-Chukchi-Kamchatkan and the extinguished northern branch of Nivkh.

1. PChK **ʔɔmɔń* 'all' ≈ PNi **mɨŋ-* (*~ ə*) 'wholly' ~ PWS **n'u:m'-* 'all' [cognates, PAW **ŋ'ɨ:m'V ~ *m'ɨ:ŋ'V*].
2. PChK **kərxɔ-* 'dry'[136] ≈ PNi **qharχa-harʁa-* 'hard, dry' ~ PAlg **ka:hk-* 'dry' ~ PWN **q'ək-* 'to dry (and pound) salmon eggs' ~ Quil. *q'i:x-* 'dry' [cognates, PAW **q'a:rkA ~ *qa:rkA*].
3. PChK **ʔeŋer* 'star' ≈ PNi **uńɣ(ɨ)-r* 'star' ~ PA **ał-a:nkw-* 'star' [cognates, PNA **ʔo(:)ńkE* (*~ q, X*)].
4. PChK **ʔəw-* 'brood, nest' ≈ PNi **ŋ-əvi* 'nest'; NiY **avụδ* 'nest, den' ~ PAlg **-a:w-* 'egg' [cognates, PNA **ʔə:wV* (*~ h, w*') 'egg, brood'].
5. PChK **ʔə(l)p'əl-* 'cheek' ~ PNi **əvlɨ-x* 'lip' ~ PAlg **-i:pł-* 'tongue'[137] [cognates, PNA **ʔ*[*e:*]*płV* 'lip, tip of tongue'].
6. PChK **ćɨkołɨ* 'animal's head' ≈ PNi **coŋɣ-r* 'head' ~ PAlg **-a:čk-w-*, **-ečk-*, **-etk-* 'head' ~ Quil. *dók^{w}č'-it* 'head (usually fish or animals)' [cognates, PAW **č'ɨ:ŋ'kE ~ *ŋ'ɨ:č'kE*].
7. PChK **gut-nu-* 'middle, half' ≈ PNi **hutɨ* 'middle', NiY **ködi-*(*δə-*) 'inner, amidst' ~ PA **kwet-ak-* 'other' ~ PW **qa:t-* 'to cut in two' [cognates, PAW **q^{w}ot'V*].
8. PChK **ʔalkə-* 'notice, wonder' ≈ PNi **alɣ-* 'find out, learn' ~ PWN **wəlx^{w}-* 'to do sth. at short notice' [cognates, PAW **walx^{w}E* (*~ ~ ä*)].

5.2.4. Chukchi-Kamchatkan and Salishan set.

1. PChK **qała-* 'belly, stomach' ≈ PS **k'^{w}al* 'belly, stomach'.
2. PChK **k'^{w}exə-* 'claw, finger-, toenail' ≈ PS **q'^{w}aχ, *q'^{w}aχ^{w}* 'claw, leg, foot, nail'.
3. PChK **ʔeŋχełe-* 'to be afraid'≈ PSI **nχal* 'to be afraid'.
4. PChK **qapiti-* 'back, hump' ≈ PS **k'^{w}əpt* 'backbone' ~ PAlg **-tapti:tak-*, **-tapti:tek-* 'backbone'[138].
5. PChK **ʔeq'ełe-* 'bind, hobble' ≈ PS **q'əl* 'to spin, curl, wind/tie around' ~ PW **k'ul-*, **k'il-* 'tie, bind'.
6. PChu **kiwle* '(clotted) blood, clot of blood' ≈ PSC **q^{w}il* 'blood, to bleed'.
7. PChK **cim-* 'cover' ≈ PS **ʔic'am* 'to cover with a blanket, dress'.
8. PChK **q'emi* 'top of the head, head hair' ≈ PS **q'^{w}um* 'head, skull, hair on head' ~ PNi **hemi* 'temple', NiY **qami* (*~ k-*) 'back of the head' ~ PW **-ɢam(ł)*, **-s-Gam* 'round thing; mask' [originally perhaps 'head']; PWN **ɢ^{w}u-ɢ^{w}m-i* 'face' [compound "face+head", i. e. "head-face"] [cognates, PAW **ɢemV*].
9. PChK **ƛx^{w}ɔ-n-* 'hig, upper' ≈ PSC **ƛ'uk'^{w}* 'high'.

[136] Probably not cognate (at least not directly) with PNostr **k'Vk'V* 'dry' which has no **-r-*: PAlt **k'i̯ăk'e* (*~ -k-, -a*), PUr **koksV*, PAleut **qaka-*.

[137] Wi. *-ipł*, Yu. *-ipł*, PA **-i:ł-an-* 'tongue'. Should be distinguished from PA **-e:ł-an-* 'tongue', related to PNi **hil-x* 'id.' (with the same suffix **-x* as in **əvlɨ-x*) and going back to PAW **hi:łV* (*~ e:, ƛ*) 'tongue'.

[138] Probably instead of **-kapti:tak-*. This root should be distinguished from PA **-ta-ka:k-w-* 'spine'.

10. PChK **ʔɔqɔla-x^{w}ola* ‘husband’ ≈ PSI **χal-wiʔ* ‘husband’.
11. PChK **čijmə-* ‘small; crumb(s)’ ≈ PS **cim* ‘small; children’.
12. PIt **tömkə-č, *-tɤŋ^{w}uk* ‘thumb’ ≈ PSI **tum’-k-st* ‘thumb’ ~ PNi **tuńm* ‘toe’.
13. PChK **x^{w}əł-qu-* ‘weak, fragile’; **x^{w}ɬil-x^{w}a-* ‘weak, careless’ ≈ PS **ʁ^{w}al’* ‘weak, tired, faint, sleep’ ~ PW **waył-, *w’ayƛ-* ‘weak’.

5.3. Analysis of the lexical parallels between Chukchi-Kamchatkan, on the one hand, and either Algonquian-Wakashan (including Nivkh) or Salishan, on the other hand, shows a very heterogenous picture: the Proto-Chukchi-Kamchatkan forms resemble either Wakashan (§5.2.1) or Salishan (§5.2.4), either Algic (§5.2.2) or Nivkh (§5.2.3) counterparts.

Among other things, the PChK 110-item wordlist includes: 1) the “Wakashan-like” **Gətχəm* ‘bone’, **ʔəłuła-* (*~ l*) ‘eye’,**Gɔtga-* ‘leg, foot’; **ʔunki* ‘night’; 2) the “Algic-like” **piŋu* ‘ashes’, **meł-* ‘good’, **ʔipiŋəl* ‘root’, **jiłə* ‘tongue’ and **ńic’e* ‘two’; 3) the “Nivkh-like” **ʔɔmɔń* ‘all’, **kərxɔ-* ‘dry’, **ʔeŋer* ‘star’; 4) the “Salish-like” **qała-* ‘belly, stomach’, **k’^{w}exə-* ‘claw, finger-, toenail’. The presence of 14 loanwords on the 110-item wordlist is not a typological miracle (for example, Hindi has 12, Breton and Albanian both have 13, Gujarati has 15, Ossetian has 23, Pashto has 24 and Gypsy dialects have from 25 to 30 loans on the respective lists). Some Algic counterparts of the PChK terms have no Algonquian-Wakashan etymology and thus, could have been borrowed from Chukchi-Kamchatkan[139].

Regular development of PAW roots in PChK in the image and likeness of different Algonquian-Wakashan languages is not very probable; there is no unified system of phonetic correspondences that could be established between the Chukchi-Kamchatkan roots and similar Nivkh, Algic, Wakashan and Salishan forms, regardless of whatever variant of the Proto-Chukchi-Kamchatkan reconstruction is used.

The Proto-Chukchi-Kamchatkan personal pronouns ‘I’ and ‘thou’ are straight reflections of Nostratic pronouns: PChK **(ɣɔ-)mɔ* ‘I’,[140] **(ɣə-)sə* ‘thou’[141], in sharp contrast with PAW **ńV-*, PS **nə-, *ʔən-* ‘I’; PAW **kV-*, PS **k^{w}ə-, *χ^{w}ə-* ‘thou’, whence PNi **ńi* ‘I’ and **chi* ‘thou’. Such systematic differences between personal pronouns is a serious argument in determining genetic relationship and classifying macrophyla (Table 6). Unlike Proto-Nivkh, Proto-Chukchi-Kamchatkan could hardly be considered an Algonquian-Wakashan language.

Michael Fortescue (2011) has put forward a hypothesis of a Chukotko-Kamchatkan-Amuric language family that includes Chukchi, Koryak and Itelmen, on one hand, and Nivkh, on the other. The Chukotko-Kamchatkan-Nivkh lexical material (pp. 1369–1373) is accompanied with reconstructions that are marked with question signs and claim to have been made on the basis of such sound correspondences (p. 1363) as cannot really be found in any practical situations, unless they happen to be observed between a couple of closely-related dialects. Countless exceptions are quite obvious from the adduced examples and remain unexplained; lexical correspondences include numerous words from peripheral lexical strata, and percentages of direct root matches on the 110-item wordlist are critically minimal, let alone such comparanda as PNi **ŋif* ~ ChK **liŋ* ‘heart’ that both allegedly reflect the protoform **liŋ-* (p. 1371).

---

[139] Several Chukchi-Kamchatkan roots may really speak in favor of a very remote (“Borean”) relationship of Algonquian-Wakashan and Salish, on one hand, and Chukchi-Kamchatkan and other Nostratic languages, on the other hand. For example, PChK **ʔix^{w}-* ‘water’, **x^{w}i-* ‘flow; river’ (> PChu **we-jem* ‘river’, PIt **x^{w}i-* ‘flow’) resemble both PAW **k’^{w}e: ~ *ʔe:k’^{w}V* (and PS **ʔuq^{w} , *q^{w}uʔ* ‘drink; water’) and PNostr **ʕEk’u* ‘water’ > PAlt **i̯ák’a* (*~ -k-*); **uk’u* (*~ -k-*) ‘wet, wash’, PUr **joke* ‘river’, PDrav **uk-* ‘spill, pour’, PIE **h$_{2}$ek^{w}-* ‘water’, **h$_{1}$eg^{w}-* ‘drink’.

[140] Cf. PIE **h$_{1}$me-*, PAlt **bĭ*, PUr **mE*, PKartv **me-* ‘I, me’.

[141] Cf. PAlt, PKartv **si* ‘thou’.

Table 6. Distribution of personal pronoun stems in several East Asian and Northwest American language families.

	Almosan macrofamily					Nostratic macrofamily					
	PS	PW	PChi	PAlg	PNi	PChK	PEsk	PAlt	PYuk	PUr	PIE
1 sg.	*nə-	*nu:-	*la-	*ne-	*ńi						
						*-mɔ	*vi	*bǐ	*me-	*mE	*$h_1$me-
2 sg.	*k^{w}ə-		*ki-	*ke-	*chi						
		*su:-				*-sə	*-və-c	*si			
									*tə-	*tE	*te-
1 pl.	*n-ʔim-		*ma:ʔ		*me-	*mu-r-	*va-	*bǐ-	*mi-	*mE	*me-
		*nu:-		*ne-	*ńi-						*ne-

6. Common Algonquian-Wakashan, Salishan and Chukchi-Kamchatkan cultural lexicon

6.1. There is some evidence that speakers of Proto-Salishan, Proto-Wakashan, Proto-Nivkh, Proto-Algic, and Proto-Chukchi-Kamchatkan originally dwelled close to each other in a single area. This can be illustrated with shared cultural terms, found in these languages. The shared cultural lexicon is quite large and includes terms for foraging, hunting for land and sea game, fishing, shamanism, natural conditions, and household objects.

6.2. In the lists adduced below we restrict ourselves to lexical parallels that contain Chukchi-Kamchatkan and/or Nivkh counterparts. The occasional comparanda in Eskimo and Na-Dene languages are listed as well. Binary lexical parallels between Nivkh and Chukchi-Kamchatkan are not included (see §5.2), nor are binary parallels between Salishan and Wakashan, which are even today characterized by intensive lexical interchange in Northwest America, far from the original Circumberingian area.

6.2.1. Berries and foraging.

1. PChK **ʔəməʟe* 'berries, edible fruits' ≈ PWN **mał-* 'fruit', **məl-k-* 'berry' ~ NiY **mal-ʒə* 'berry (cloud-, nagoon-, black-, raspberry)' ~ PA **małw-* 'wild rice (*Zizania* sp.)'[142] [cognates, PAW **ma:ɬV*] ~ PS **mul'-sm, *mal'-sm* 'blueberry sp.'.
2. PWN **nək^w-* 'salal berry' ~ PAlg **mihkhw-* 'salal berry'[143] [cognates, PAW **ŋi:rg^{w}V*] ~ PSC **mik'^{w}-əɬ* 'salal berry'.
3. PNi **maɣ-r* (*~ ə, -ř*) 'red bilberry' ≈ PSI **tməq^w* 'thornberry' ~ PND **dA*[*m*]*Ax^{w}E* 'berry sp. (lowbush craneberry, bearberry)'.
4. PNi **haqaq* 'red bilberry' ~ PWN **qək-* 'bunchberries (*Cornus canadensis*)' [possibly cognates, PAW **hAqAgV*].
5. PNi **təm* 'cranberry' ≈ PS **t'am-* 'gooseberry'~ PWN **t'əm-s-* 'bunchberry (*Unifolium dilatum*)' [PNi and PW may be cognates, ? PAW **t'ɨmV* (*~ ə*)].
6. PNi **qəp* 'bird cherry' and **qaf-qaf* 'stone berry' ≈ PS **q^{w}ʔup* 'crabapple'.
7. PNi **kel-m* 'raspberry' ~ PWN **qiɬ-* 'bog cranberries' ~ PS **qala* 'red huckleberry'.
8. PS **q'^{w}al* 'berry (generic)' and PSC **q'^{w}il*(*a*) 'salmonberry (*Rubus sp.*)' ≈ PEA **q^{w}aʔƛ'a, *q'^{w}aƛ'a* 'salmonberry, cloudberry (*Rubus* sp.)'.

[142] *Zizania palustris* and *Z. aquatica*, their grain was historically gathered and eaten in North America

[143] Wi. *bíkh^{w}əl*, Yu. *mahkew* 'salal', *mahkuł* 'salal berry'.

9. PNi **qatax* ‘red bilberry’ ≈ PS **kətux^{w}* ‘bog cranberry, blackberry’.
10. PChK **k^{w}egeri* ‘rosehip’ ≈ PSI **k^{w}ək^{w}aw*’ ‘rosehip’.
11. PChK **ʔeχlu-* ‘pick berries’ ≈ PWN **q’^{w}aʔɬ-* ‘to pick sprouts’.
12. PChK **ǯiɬi-* ‘choose, gather’ ≈ PWN **səl-iʔ-* ‘to choose’.

6.2.2. Salmon.

1. PChK **kalja* ‘Siberian salmon’ ≈ PS **qal* ‘salmon (generic)’ ~ PWN **ɢ^{w}uɬ-* ‘trout’ ~ PNi **qhol* ‘common rud’ [cognates, PAW **ɢu:lV* (*~ ɬ*). Note that the Nivkh term denotes a fish that is unrelated to salmon species].
3. PNi **vel* ‘Siberian salmon’ ~ PS **wal* ‘fish (generic)’.
4. PChK **ʔex^{w}eću* ‘salmon sp.’ ≈ PS **kasəw’, *kəw’s* [metathesis] ‘spring or silver salmon’ ~ PNi **vɨc(i)k* ‘Siberian salmon’.
5. PChK **k^{w}iru* ‘red salmon, coho salmon’ ≈ PS **k’^{w}ul-əx^{w}* ‘dog salmon’.
6. PChK **gajk’ɔx^{w}, *k’ajgɔx^{w}* ‘salmon (generic)’ ≈ PW **ɢi:-χ^{w}aχ* ‘steelhead salmon’ [a compound with **ɢi:-* ‘whale’].

6.2.3. Sea mammals, water fowl, shellfish.

1. PChK **six^{w}* ‘whale, sea lion’ and **səske* ‘walrus; a k. of fish’ [reduplication] ≈ PWN **saʔk^{w}-* ‘seal, seal meat’ ~ PAlg **a:ckw-, *eckw-* ‘seal’ [cognates, PAW **ʔa:ck^{w}V ~ *ca:ʔk^{w}V* (*~ ə:, o:*)] ~ PS **ʔasx^{w}* ‘seal’.
2. PNi **mɨɣ-r-ʒ* (*~ ə*) ‘sea-lion’ ~ PWN **max^{w}-* ‘sea lion’ [cognates, PAW **mə:x^{w}E*]. This one and the following entry are absent in PChK and probably represent Proto-Salishan-Algonquian-Wakashan heritage.
3. PNi **qe-ŋ* ‘whale’ ~ PWN **ɢ^{w}i-* ‘whale’ [cognates, PAW **ɢ^{w}i:*] ~ PS **q^{w}ə-nis* ‘whale’.
4. PChK **q^{w}ali* ‘sea mammal’s fat’ ≈ PWN **ɢ^{w}uɬ-* ‘animal fat, tallow, marrow’ ~ PAlg **wel-* ‘fat’ [cognates, PAW **ʁ^{w}ɨ:lV* (*~ o:*)].
5. PChu **ɔɣbɔnko* ‘eider’ ≈ PNi **awŋk* (*~ ə*) ‘duck sp.’ ~ PWN **ʔənq-* ‘duck (generic)’ ~ Quil. *díq’diq*’ ‘duck, mallard’ [cognates, PAW **ʔäwäŋɢ^{w}E*] ◊ PSC **muʔq^{w}* ‘duck (generic)’.
6. PChK **ʔax^{w}ŋə-* ‘duck sp.’ ≈ PNi **iɣŋa* ‘merganser’ ~ PW **ʔa(ʔa)naq, *hanɢa:q* ‘goose’ [cognates, PAW **heqe:ŋV* or **heŋe:qV*].
7. PChK **qex^{w}ən-* ‘crab, cancer’ ≈ PS **k’^{w}ux^{w}aniʔ* ‘clam sp.’ ~ PWN **k’ənx^{w}-* ‘crab’ ~ PND **Gimiχa* ‘shellfish (abalone, dentalium)’.

6.2.4. Fur game.

1. PEsk **nanu-* ‘polar bear’ ≈ PW **na:na* ‘grizzly bear’ [reduplication] ~ PNi **ŋa* ‘animal, beast’ ~ PA **mah-* ‘wolf’ [cognates, PAW **ŋa:ɣV*] ~ PND **niwni* ‘large beast of prey’[144] ~ PS **mɣaw* ‘large feline or canine (fox, coyote, lynx, cougar)’.
2. PNi **qhot-r* ‘brown bear’ ≈ PSC **kətx^{w}-n* ‘black bear’.
3. PChu **ụmqạ* ‘polar bear’ ~ PWS **mucmuχ-aq* ‘bear’ [reduplication] ~ PS **miχ-ał* ‘black bear’[145].

[144] Kw. *nun-* ‘wolf (myth name)’ is a Tlingit loan.

[145] A similar PNA root **molk’E* (*~ m’, u*) ‘bear’ is present in PAlg **małk-w-* ‘bear’ and PNi **molk* ‘Asian black bear (*Ursus thibetanus*)’ [wrongly translated in dictionaries as ‘медведь-муравьед’, i. e. sloth bear (*Melursus ursinus*) inhabiting Indian subcontinent and Sri Lanka]. The PNi (or even PNA) root was borrowed in PTM as **mō*[*nǯ*]*ika* ‘Asian black bear’, where it became phonetically contaminated with the reflexation of PAlt **mi̯ŭnǯù* ‘badger’. Yu. *nik^{w}-ec* ‘grizzly bear’ is related to PWN **nuk^{w}-* ‘fur seal’ and PA **nekekw-* ‘otter’ [with reduplication], all from PAW **ni:k^{w}V* (*~ ń, k’^{w}*).

4. PChK **sipuqe* ‘polar fox’ ≈ PS **c’ipəq* ‘striped skunk (*Mephitis mephitis*)’ ~ PA **šeka:kw-* ‘striped skunk’ [perhaps with **-k-* instead of **-p-* due to contamination with **šek-* ‘urinate’ and **wa:kw-* ‘fox’][146].
5. PChK **kuƛi-me, *ƛiku-mi* ‘sable’ ≈ PW **k’^{w}aƛ-, *k’^{w}al-* ‘land otter’[147].
6. PChK **ŋeƛ* ‘otter’ ≈ PWN **n’a-ƛ’-* ‘wolverine’ ~ PNi **ŋɨ-ŋ* ‘otter’ [cognates, PAW **ŋ’ɨ:*. Here we have the same correlation between the suffixes PW **-(V)ƛ(ʔ)-* ~ PNi **-ŋ* as in PWS **q’in-iƛ* ~ PNi **qan-ŋ* ‘dog’ (both from PAW **q’änV* ‘dog’)].
7. PChK **ljax^{w}ɔ-lχɔ-* ‘squirrel, mouse’ ≈ PAlg **alyekw-* ‘squirrel’ ~ PNi **laq-r* ‘squirrel’ [cognates, PNA **ʔVlya(:)k’A* (*~ ä, q’*)] ~ Eyak *łəkuš-ʔi:ʔah* ‘shrew(-mouse)’.
8. PChK **łeq’-* ‘weasel, wolverine’ ≈ PNi **laq-laq* ‘sable (fur)’ ~ PS **łk’-am* ‘weasel’ ~ Tlingit *nuk-šiya:n, łuk-šiya:n* ‘American mink (*Neovison vison*)’.
9. PChK **lχixne* ‘wolf’ ≈ Kw. *ʔul’ìgn̥* ‘wolf’ ~ PNi **liɣ-ř* ‘wolf’ [possible cognates, PAW **ʔVl’i:kE*].

6.2.5. Spiritual power, shamanism.

1. PChK **kalaxə-* (*~ ł*) ‘devil’ ≈ PS **k^{w}əlx* ‘spirit power, shaman’.
2. PNi **milk* ‘devil, wooden idol’ ≈ PSI **məlk’*^{w} ‘shadow, spirit’ ~ PW **ʟu:k^{w}-* ‘supernatural power’.
3. PChK **niń-Rit* ‘pagan deity’ ≈ PS **naʔm* ‘shaman (power)’ ~ NiY **möncə* ‘spiritual power’ ~ PA **maneto:-* ‘spirit’ [possible cognates, PNA **mVnV-* (*~ m’, n’, ń, ń’*)].

6.2.6. Natural conditions.

1. PChK **ʔano-* ‘spring (season)’ ≈ PNi **ań* ‘year’; **h-on-f* ‘spring (season)’ ~ PAlg **-en-* ‘season’ > Yu. *kiš-en-* ‘summer’ (*kiš-* ‘warm’) ~ PW **-ʔin-χ* ‘year, season’; PWN **hi-ʔən-χ* ‘summer’ [cognates, PAW **ʔäńV*, **hü:-ʔäńV*] ~ PS **-án-ax^{w}* ‘season, year’.
2. PChK **paŋo* ‘snowfall’, **piŋa-* (*~ ń*) ‘to snow; snowfall’ ≈ PA **pipo:n-* ‘winter’ [with reduplication].
3. PChK **ɢano-* ~ **qano-* ‘winter; hoarfrost’ ≈ PA **ko:n-* ‘snow’ ~ PNi **kɨŋ-* ‘freeze, cool down’ ~ PW **k’in-* ‘feel cold’ [cognates, PAW **k’i:wŋV*] ~ PS **k’im* ‘cold, to freeze’.
4. PChK **ʔələwəl* ‘blow (of wind); wind’ ≈ PAlg **lo:yew-* ‘to blow (incl. wind)’ ~ PNi **la* ‘wind’; NiY **ilijə-* ‘wind’ ~ PW **yu:-* ‘wind; to blow (wind)’ [cognates, PAW **la:yVwV*] ~ PS **-al-aq* (suff.) ‘wind, weather’.
5. PChK **ʔəjVŋa-* ~ **ʔənVja-* ‘fog, cloud’ ≈ PW **ʔun-* ‘cloud, fog’ ~ PA **awanw-* ‘fog’ [cognates, PAW **ʔVwonV* (*~ u, ŋ*)].
6. PChK **ʔić*[*i*]*ka-* ‘slush, mud’ ≈ PS **c’iq’* ‘mud’ ~ PW **c’ak^{w}-* ‘dirt’ ~ PAlg **ačk-, *ečk-* ‘earth, land’ [cognates, PAW **ʔač’ak^{w}V* (*~ e, ə, o*)].
7. PChK **ʔumukə* ‘(woody) mountain, forest’ ≈ PW **nuk-* ‘mountain’ ~ PNi **ŋɨk-r-* (*~ *-ə-*) ‘clod’ [cognates, PAW **ŋɨgE*].
8. PChu **piŋ*(*k*)*ə-* ‘gnat, midge’ ≈ PA **penk-w-* ‘gnat’ ~ PNi **pheŋg-r* ‘fly (n.)’ [cognates, PNA **pink’E* (*~e; q’*)].
9. PChK **šilmə* ‘eagle’ ≈ PNi **cham-ŋ* ‘eagle’ [< **khjam-* < **khlaŋw-*], NiY **comə-* (*~ -ɔ-*) ‘raven’ ~ PAlg **kenlew-* ‘a sp. of brownish hawk’ [cognates, PNA **xVlaŋVwV* or **xVŋalVwV* (*~ ä, k’, k*)].

---

[146] It is obvious that the Salishan source of the PChK word did not mean ‘(striped) skunk’, since this animal is absent in Alaska, Northern Canada and Eurasia.

[147] Cf. also PYuk **küləvəi-* ‘polar fox (black), fox’, Ni. Sakh. *holo, holu* ‘squirrel’.

6.2.6. Household terms.

1. PNi **qaχ* 'husky dog (heading a team)' ≈ PS **qaχ-aʔ* 'dog'[148].
2. PNi **tixf, *tiɣvs* 'language' ≈ PS **t-ix^{w}c,* (suff.) *-x^{w}c-* 'tongue'.
3. PChK **du-* 'door' ≈ PNi **thɨ* 'door; ice-hole' ~ PAlg **thaɣw-, *theɣw-* 'through an opening, passage, space, or door; out' [cognates, PNA **dəɣ^{w}V ~ *təɣ^{w}V* (*~ ɨ*)].
4. PChK **ʔəśx^{w}e*[*n*]*u* 'shoe' ~ PNi **m-omsq* (*~ -řq*) 'women's footwear' ~ PAlg **m-atk-es-en-* 'shoe' [cognates, PNA **ʔomčVkA* (*~ h-, u*). PNi **m-* reflects prefix **ŋ-, *momsq* < **ŋ-omsq* as a result of distant assimilation].
5. PChK **ɢaχa* 'axe' ≈ PNi **qhaχ* 'spear, to spear' ~ PWN **qəlχ-* 'to spear salmon' [possible cognates, PAW **qaĺχA* (*~ ä*)].
6. PChK **tijmi-* 'to paddle' and **timi* 'raft' ≈ PA **či:m-* [< PAlg **Teyim-*] 'to paddle' ~ PNi **com* 'raft'; **combi-zombi-* 'to paddle in turns' ~ PWN **t'əm- ,*t'əm-s-* 'old, worn-out canoe' [cognates, PAW **t'əyomV* (*~ u*)].
7. PChK **ʔim-ƛi* 'burden (on the shoulders)' ≈ PW **ʔam-* 'carry on one's back, shoulders' ~ PAlg **-o:m-* 'carry on one's back' [cognates, PAW **ʔo:mV*].
8. PChK **k^{w}itχə* 'sphagnum'[149] ≈ PAlg **ki:kwt-* > Yu. *kik^{w}t-en-* 'moss; rotten wood' ~ PWN **k'^{w}aʔq^{w}-* 'lichen' [cognates, PAW **k'^{w}a:t'q^{w}A*].
9. PChK **x^{w}atap* 'moss' ≈ PSI **q^{w}əl'ap* 'black lichen'.
10. PChK **ʔɔkɔx^{w}ɔ-* 'shell; dress' ≈ PWN **q'^{w}uχ^{w}-, *q'^{w}uχ-* 'to dress'.
11. PChK **sipa-* (*~ r-*) 'hide' ≈ PSI **sip'-ay'* 'skin, hide' ~ PWN **sap-* 'to skin, scalp, remove the surface layer of sth.'.
12. PChK **x^{w}ir* 'rope; (single) hair' ≈ PS **χ^{w}il'-m* 'rope, string, twine, thread'.

The following Nivkh-Algic root keeps its original meaning 'stone suitable for making tools[150]' only in Algic. In Proto-Central Algonquian, this meaning evolved into 'metal suitable for making tools', whereas in Nivkh the evolution chain must have been 'stone ware > metal ware > chain'. While still in its transitional meaning, the word was borrowed into Proto-Chukchi-Kamchatkan[151].

13. PChK **pɔlk^{w}ɔ-* 'metal (iron, copper)' ≈ PNi **vəlki* 'chain' ~ PAlg **pelełk-*'stone suitable for making tools'[152] [possible cognates, PNA **pɨLVlk'*(*^{w}*)*E* (*~ ə*). In spite of irregular **v-* in PNi, borrowing of the PNi root either from Algic or Chukchi-Kamchatkan is improbable].

6.3. It appears that the main directions of borrowing were 1) from Salishan to Nivkh (mostly names for berries) and Chukchi-Kamchatkan; 2) from Wakashan and Algic to Chukchi-Kamchatkan. There are no convincing signs of any direct borrowing between Wakashan and Nivkh, nor are there any specific similarities between the Salishan and Wakashan forms within the lexicon in question. Algic has no loans from any of the mentioned languages.

---

[148] Cf. PChK **qučχə* 'dog'.

[149] Dried sphagnum moss is used in northern Arctic regions as a building insulating material.

[150] Cryptocrystalline materials such as chert or flint, radiolarite, chalcedony, basalt, quartzite and obsidian.

[151] The similar PND term **wigšə* 'stone; stone knife' (> Tl. *we:kš* 'ulu', Eyak *we:gš-g* 'ulu [woman's scraper-knife for splitting fish, etc.]', PAth **we:š* 'stone; [stone] knife') is cognate with Proto-North-Caucasian **mHōK*(*V*)*ć'V* 'flint'. PNi **vəcx* (*~ ɨ*) 'arrow- or spearhead' (secondarily interpreted as derived from **vəc* 'metal', **vəcu-* 'to forge'), NiY **waqcə-* 'cutting edge' seems to be an ancient Na-Dene loan. PNi **vəc* 'metal' may be a variant of the same borrowing.

[152] Yu. *pełk-* 'pebbles, gravel', Wi. *płátk, płátw-* 'rock, stone', PA **pełkw-, *-a:-pełkw-* 'stone, gravel'.

The arrows in Table 7 point at the presumable recipients of borrowings. The later lexical interchange between Nivkh and Chukchi-Kamchatkan, Salish and Wakashan is not taken into account.

Table 7. Direction of borrowing for cultural terms

	Salish	Wakashan	Algic
Chukchi-Kamchatkan	←	←	←
Nivkh	←	—	—
Salish		(—)	—
Wakashan			—

6.4. The lexical parallels listed in §§5–6 allow us to suppose a rather long stay of the Salishan and Wakashan speakers in Eastern Siberia, not far from the Pacific shore, in the neighborhood of Proto-Nivkh and Proto-ChukchiKamchatkan speakers, since borrowing of such terms as names of berries and land fur game can be explained as a result of long-term economic ties between speakers, but hardly as one of occasional trips across the Bering Strait[153]. It seems as though Proto-Chukchi-Kamchatkan speakers could have migrated from somewhere into the territory originally occupied by Salishan and Algonquian-Wakashan speakers, whose household terms and natural conditions were significantly different from former Chukchi-Kamchatkan ones. The most intense language contacts were with Proto-Wakashan, Proto-Nivkh, and Proto-Algic languages, terms from which occupy 10% of the PChK 110-item wordlist.

It does not matter whether Proto-Chukchi-Kamchatkan people met with the remnants of the Salishan, Algic and Wakashan tribes that got stuck in Asia, or if the contact had occurred before the latter resettled into America. Assumption of multiple migrations from Siberia into America does not conflict with archaeogenetics[154]; there were no serious obstacles for seafaring coastal settlers to cross over the Bering Strait even after the Bering land bridge had melted and the continents parted around 10 thousands years ago.

It remains paradoxical that not just cultural terms, but lexical similarities in general are quite infrequent between Wakashan, Salishan, and Chukchi-Kamchatkan, on the one hand, and Proto-Na-Dene, Proto-Eyak-Athabaskan and Proto-Athabaskan, on the other hand[155], even though the Alaskan homeland of the latter was part of the Circumberingian area, being situated right between Chukotka and the American homelands of Algonkin, Wakash and Salish tribes. There are several significant borrowings from Na-Dene to Nivkh, yet they are absent in Algic.

In a similar vein, Proto-Eskimo does not reveal a significant quantity of supposedly direct borrowings from Proto-Nivkh, Proto-Wakashan, or Salishan (the related Aleut vocabulary re-

[153] Re-emigration of Proto-Nivkh (as well as of Proto-Chukchi-Kamchatkan) speakers back from America would be incredible, thus there can be no doubt that the homeland of the Proto-Nivkh-Algonquian language was situated in Northeast Asia.

[154] "The genomic continent-wide patterns observed here can be explained most parsimoniously by a single main colonization event, as proposed by some interpretations of archaeological, mitochondrial, and Y-chromosomal data ⟨…⟩ Alternatively, similar patterns could result from gene flow across the Bering Strait in the last few thousand years, together with continual interactions between neighbors on both sides of the Bering Strait. It is also possible to envision a series of prehistoric migrations, possibly from the same source population, with the more recent descendants gradually diffusing into pre-existing Native American populations" (Sijia Wang et al. 2007: 2059–2060).

[155] Contemporary Athabaskan languages have some words with a "Wakashan-like" shape.

mains very poorly explored in this respect). Nor is there any evidence of immediate cultural contacts between Nivkh and Chukchi-Kamchatkan, on the one hand, and Northwest Native American languages, such as Tsimshian/Gitksan and Sahaptin/Nez-Percé, on the other hand. Finally, Proto-Altaic and Proto-Uralic show no signs of cultural contacts with either Algonquian-Wakashan or Salishan, except for a rather curious resemblance between the Algonquian-Wakashan and Uralic numerals (§7).

§7. External relations of the Algonquian-Wakashan numerals

The first four numerals found in Algonquian-Wakashan and Salishan find very likely parallels in Proto-Uralic. Although the resemblance is striking, the direction, time, and (mainly) location of hypothetical borrowing would remain a complete mystery.

1. PAW **ń'ə-*q(ʷ)ot'V* > PAlg **ne-kwet-* 'one' (analysed as 'one + half') — cf. PUr **ikte* (**ükte*) 'one'.
2. PAW **q(ʷ)aKt'V ~ *q(ʷ)aKc'V* > PWS **qakc'a* 'three' [hence is borrowed PChK **kʷaśqɔ* (~ *-šq-*) 'other; two'] ▪ PNi **-vasq* 'half, one of a pair' ▪ PAlg **ne-kwe(h)t- ~ *ne-kwehc-* 'one' (= 'one+half') — cf. PUr **kakta* (**käktä*) 'two'.
3. PAW **gilV* (~ *e*) > Quil. *q*ʷ*ą́:ʔl* 'three' ▪ PNi **ce-* 'three' [< **kje-* < **kle-*] ▪ PAlg **n-ikhl-, *n-ikhr-* 'three', also PS **kaʔɬ-as* 'three' — cf. PUr **kolme* (**kulme*) 'three'.
4. PNA **nE-yE:w* (~ *n'*) > PNi **nɨ-, *nu-* 'four' ▪ PAlg **ni-ye:ʔw-* 'four' — cf. PUr **ńeljä* 'four'.

Language abbreviations and sources

Am. — Amur Nivkh.

Chem. — Chemakum, acc. to Powell 1993 and Boas 1892.

Coast Tsimshian — acc. to Dunn 1995.

Eyak — acc. to Krauss 1970.

Gitksan — acc. to Hindle & Rigsby 1973.

Ha. — Haisla, acc. to Lincoln & Rath 1980.

He. — Heiltsuk, acc. to Lincoln & Rath 1980.

Kw. — Kwak'wala (Kwakiutl), acc. to Lincoln & Rath 1980.

NiY — "Nivkh of Yukaghir borrowings", the hypothetical Northern Sakhalin language. Forms are given acc. to Mudrak's unpublished comparative Yukaghir database (*jukaet.dbf*).

Oo. — Oowekyala, acc. to Lincoln & Rath 1980.

PA — Proto-Algonquian, acc. to Aubin 1975; Goddard 1974, 1982; Hewson 1993; Proulx 1984a, 1984b, 1989, 1991, 1992, 1994 [transliteration elements: **ϑ → *ɬ; *xk, *xp → *tk, *tp; *çk, *çp → sk, *sp*].

PAlg — Proto-Algic, acc. to Proulx 1984a, 1984b, 1991, 1992, 1994. Several PAlg roots have been added by me in accordance with Proulx's reconstruction. I interpret the PAlg phonemes denoted by Paul Proulx as **T , *K , *L, *C , *Č* as voiced (**d, *g, *ʟ, *ʒ, *ǯ*). Proulx's **S* (which only occurs in clusters) I interpret as **ɣ*; its regular reflexations are PA **ʔ*, Wi. *∅* and Yu. *s* (< **r* < **ɣ*). This PAlg phoneme corresponds to velars in other Algonquian-Wakashan languages. The "normal" PAlg velar glide **ɣ* does not occur in consonantal clusters.

PAlt — Proto-Altaic, acc. to Starostin et al. 2003.

PAth — Proto-Athabaskan, author's own reconstruction.

PAW — Proto-Algonquian-Wakashan, author's own reconstruction.

PChi — Proto-Chumakuan, author's own reconstruction.

PChK — acc. to Mudrak 2000 and Mudrak's comparative database "Chukchi-Kamchatkan etymology" (online at http://starling.rinet.ru).

PChu — acc. to Mudrak 2000 and Mudrak's comparative database "Chukchi-Koryak etymology" (online at http://starling.rinet.ru).

PChiW — Proto-Chimakum-Wakashan, author's own reconstruction.

PDrav — Proto-Dravidian, acc. to G. Starostin's comparative database "Dravidian etymology" (online at http://starling.rinet.ru).

PEA — Proto-Eyak-Athabaskan, acc. to Krauss & Leer 1981.

PEsk — Proto-Eskimo, acc. to Mudrak 2011 and Mudrak's comparative database "Eskimo etymology" (online at http://starling.rinet.ru).

PFU — Proto-Finno-Ugric, see PUr.

PIE — Proto-Indo-European, acc. to author's own comparative database "Indo-European etymology" (online at http://starling.rinet.ru).

PIt — acc. to Mudrak 2000 and Mudrak's comparative database "Itelmen etymology" (online at http://starling.rinet.ru).

PKartv — Proto-Kartvelian, acc. to S. Starostin's comparative database "Kartvelian etymology" (online at http://starling.rinet.ru).

PKor — Proto-Korean, acc. to Starostin et al. 2003.

PMong — Proto-Mongolian, acc. to Starostin et al. 2003.

PNA — Proto-Nivkh-Algic, author's own reconstruction.

PNC — Proto-North-Caucasian, acc. to Nikolaev & Starostin 1994.

PND — Proto-Na-Dene, acc. to Nikolaev 2014.

PNi — Proto-Nivkh, author's reconstruction according to materials in Mudrak's comparative Nivkh database *nivget. dbf.*

PNostr — Proto-Nostratic, acc. to S. Starostin's comparative database "Nostratic etymology' (online at http://starling.rinet.ru).

PS — Proto-Salishan, acc. to Kuipers 2002.

PSC — Proto-Central Salish, acc. to Kuipers 2002.

PSI — Proto-Interior Salish, acc. to Kuipers 2002.

PTM — Proto-Tungus-Manchu, acc. to Starostin et al. 2003.

PTurk — Proto-Turkic, acc. to Starostin et al. 2003.

PUr — Proto-Uralic, acc. to S. Starostin's database "Uralic etymology" (online at http://starling.rinet.ru).

PW — Proto-Wakashan, acc. to Fortescue 2007.

PWN — Proto-Southern Wakashan, acc. to Fortescue 2007.

PWS — Proto-Northern Wakashan, acc. to Fortescue 2007 and Lincoln & Rath 1980.

PYuk — acc. to Mudrak's unpublished comparative Yukaghir database *jukaet.dbf.* I consistently replace Mudrak's root-initial **r-* with **ʁ-*.

Sakh. — Sakhalin Nivkh.

Quil. — Quileute, acc. to Powell & Woodruff 1976.

Tlingit — acc. to Leer 1975.

Wi. — Wiyot, acc. to Teeter & Nichols 1993 and Proulx 1984a, 1984b, 1989, 1991, 1992, 1994.

Yu. — Yurok, acc. to Robins 1958 and Proulx 1985.

References

Aubin 1975 — George F. Aubin. *A Proto-Algonquian dictionary*. Ottawa: National Museums of Canada.

Beck 1997 — David Beck. Mosan III: a problem of remote common proximity. *Papers for the 32nd International Conference on Salishan and Neighboring Languages*. Port Angeles, pp. 22–46.

Berman 1984 — Howard Berman. Proto-Algonquian-Ritwan verbal roots. *International Journal of American Linguistics*, 50 (3), pp. 335–342.

Berman 1990 — Howard Berman. New Algonquian–Ritwan cognate sets. *International Journal of American Linguistics*, 56(3), pp. 431–434.

Bloomfield 1925 — Leonard Bloomfield. On the Sound System of Central Algonquian. *Language*, 1(4), pp. 130–156.

Boas 1892 — Franz Boas. Notes on the Chemakum language. *American Anthropologist*, 5, 1, pp. 37–44.

Boas 1918 — Franz Boas. *Kutenai tales*. Bureau of American Ethnology, Bul. 59. Washington.

Campbell 2000 — Lyle Campbell. *American Indian languages: The historical linguistics of Native America*. Oxford University Press.

Dolgopolsky 1964 — A. B. Dolgopolsky. Gipoteza drevnejshego rodstva yazykov Severnoj Evrazii (problemy foneticheskikh sootvetstvij). *VII Mezhdunarodnyj kongress antropologicheskikh i etnograficheskikh nauk*. Moscow: Nauka.

Dunn 1995 — J. A. Dunn. *Sm'algyax. A reference dictionary and grammar for the Coast Tsimshian language*. Seattle: University of Washington Press.

Fortescue 2005 — Michael Fortescue. *Comparative Chukotko-Kamchatkan Dictionary*. Berlin: Mouton de Gruyter.

Fortescue 2007 — Michael Fortescue. *Comparative Wakashan dictionary*. München: LINCOM Europa.

Fortescue 2011 — Michael Fortescue. The relationship of Nivkh to Chukotko-Kamchatkan revisited. *Lingua*, 121 (8), pp. 1359–1376.

Gell-Mann et al. 2009 — M. Gell-Mann, I. Peiros, G. Starostin. Distant language relationship: The current perspective. *Journal of Language Relationship*, 1, pp. 13–30.

Goddard 1974 — Ives Goddard. An outline of the historical phonology of Arapaho and Atsina. *International Journal of American Linguistics*, 40 (2), pp. 102–116.

Goddard 1979 — Ives Goddard. Comparative Algonquian. *The languages of Native America: Historical and comparative assessment*. Ed. by Lyle Campbell and Marianne Mithun. Austin: University of Texas Press, pp. 70–132.

Goddard 1982 — Ives Goddard. The historical phonology of Munsee. *International Journal of American Linguistics*, 48 (1), pp. 16–28.

Golovastikov & Dolgopolsky 1972 — A. N. Golovastikov, A. B. Dolgopolsky. Rekonstrukciya chukotsko-kamchatskix kornej I nostraticheskie etimologii. *Konferenciya po srevnitel'no-istoricheskoj grammatike indoevropejskix yazykov. Predvaritel'nye materialy*. Moscow: Nauka.

Greenberg 1987 — Joseph H. Greenberg. *Language in the Americas*. Stanford University Press.

Haas 1958 — Mary R. Haas. A new linguistic relationship in North America: Algonkian and the Gulf languages. *Southwestern Journal of Anthropology*, 14, pp. 231–264.

Haas 1959 — Mary R. Haas. Tonkawa and Algonkian. *Anthropological Linguistics*, 1 (2), pp. 1–6.

Haas 1960 — Mary R. Haas. Some genetic affiliations of Algonkian. *Culture in History: Essays in Honor of Paul Radin*. Ed. by S. Diamond. New York: Columbia University Press, pp. 977–992.

Hewson 1993 — John Hewson. *A computer-generated dictionary of Proto-Algonquian*. Ottawa: Canadian Museum of Civilization.

Hindle & Rigsby 1973 — Lonnie Hindle, Bruce Rigsby. *A short practical dictionary of the Gitksan language*. Northwest anthropological research notes, 7, No. 1. University of Idaho.

Holst 2005 — Jan Henrik Holst. *Einführung in die Eskimo-Aleutischen Sprachen*. Hamburg: Buske Verlag.

Kassian et al. 2010 — A. Kassian, G. Starostin, A. Dybo, V. Chernov. The Swadesh wordlist. An attempt at semantic specification. *Journal of Language Relationship*, 4, pp. 46–89.

Kassian et al. 2014 — A. Kassian, M. Zhivlov, G. Starostin. Veroyatnostnaya otsenka indoevropejsko-ural'skogo rodstva: formalizovannoe sravnenie rekonstruirovannoj bazisnoj leksiki. *Indoevropejskoe yazykoznanie i klassicheskaya filologiya XVIII.* Sankt-Peterburg, pp. 381–408.

Krauss 1970 — Michael E. Krauss. *Eyak dictionary & Indexes*. http://www.uaf.edu/anla/item.xml?id=EY961K2011.

Krauss & Leer 1981 — Michael E. Krauss, Jeff Leer. *Athabaskan, Eyak, and Tlingit sonorants*. Alaska Native Language Center Research Papers, No. 5. Fairbanks: University of Alaska.

Kuipers 2002 — Aert Hendrik Kuipers. *Salish Etymological Dictionary*. Occasional Papers in Linguistics, Vol. 16. Linguistics Laboratory, University of Montana.

Leer 1975 — Jeff Leer. *Tlingit stemlist, typed with numerous annotations by the author, including comparanda in Athabaskan and Eyak, making this document valuable for Comparative Athabaskan-Eyak-Tlingit as well*. Ms., 88 pp. Online at: http://www.uaf.edu/anla/item.xml?id=TL962L1975m.

Lincoln & Rath 1980 — Neville J. Lincoln, John C. Rath. *North Wakashan Comparative Root List*. Mercury Series, Canadian Ethnology Service Paper No. 68. Ottawa: Canadian Museum of Civilization.

Mihăilă 1973 — Gheorghe Mihăilă. *Studii de lexicologie şi istorie a lingvisticii româneşti*. Bucureşti: Editura didactica şi pedagogica.

Miller 1959 — Wick R. Miller. An Outline of Shawnee historical phonology. *International Journal of American linguistics*, 25 (1), pp. 16–21.

Mudrak 2000 — O. A. Mudrak. *Etimologicheskij slovar' chukotsko-kamchatskikh yazykov*. Moscow: YaRK.

Mudrak 2011 — O. A. Mudrak. *Eskimosskij etimologikon*. Moscow: Tezaurus.

Mudrak & Nikolaev 1989 — O. Mudrak, S. Nikolaev. Gilyak and Chukchi-Kamchatkan as Almosan-Keresiouan languages: Lexical evidence (Preliminary report). *Explorations in Language Macrofamilies*. Bochum, Universitätsverlag Dr. Norbert Brockmeyer, pp. 67–87.

Newman 1979 — Stanley Newman. A history of the Salish possessive and subject forms. *International Journal of American linguistics*, 45 (3), pp. 207–223.

Nikolaev 2014 — S. L. Nikolaev. Toward the reconstruction of Proto-Na-Dene. *Journal of Language Relationship*, 11, pp. 103–123.

Nikolaev & Starostin 1994 — Sergei L. Nikolaev, Sergei A. Starostin. *A North Caucasian Etymological Dictionary*. Moscow: Asterisk Publishers.

Powell 1993 — J. V. Powell. Chimakuan and Wakashan — the case for common remote origin: another look at suggestive sound correspondences. *American Indian Linguistics and Ethnography in honor of Laurence C. Thompson*. Missoula: UMOPL-Linguistics Laboratory, University of Montana, pp. 451–470.

Powell & Woodruff 1976 — J.V. Powell, Fred Woodruff. *Quileute dictionary*. Northwest anthropological research notes. Memoir No. 3. Part 2. Moscow (Idaho): University of Idaho.

Proulx 1977 — Paul Proulx. Connective vowels in Proto-Algonquian. *International Journal of American linguistics*, 43 (2), pp. 156–157.

Proulx 1984a — Paul Proulx. Proto-Algic II: Verbs. *International Journal of American linguistics*, 50 (1), pp. 59–94.

Proulx 1984b — Paul Proulx. Proto-Algic I: Phonological sketch. *International Journal of American linguistics*, 50 (2), pp. 165–207.

Proulx 1985 — Paul Proulx. Notes on Yurok derivation. *Studies in Native American languages IV*. Kansas Working Papers in Linguistics, 10 (2). University of Kansas, pp. 101–143.

Proulx 1989 — Paul Proulx. A sketch of Blackfoot historical phonology. *International Journal of American linguistics*, 55 (1), pp. 43–82.

Proulx 1991 — Paul Proulx. Proto-Algic III: Pronouns. *Kansas Working Papers in Linguistics*, 16. University of Kansas, pp. 129–170.

Proulx 1992 — Paul Proulx. Proto-Algic IV: Nouns. *Kansas Working Papers in Linguistics*, 17 (2). University of Kansas, pp. 11–58.

Proulx 1994 — Paul Proulx. Proto-Algic V: Doublets and their implications. *Kansas Working Papers in Linguistics*, 19 (2). University of Kansas, pp. 113–183.

Robins 1958 — Robert H. Robins. *The Yurok Language: Grammar, Texts, Lexicon*. University of California, Publications in Linguistics, Vol. 15.

Sapir 1929 — Edward Sapir. Central and North American languages. *The Encyclopædia Britannica* (14 ed.). Vol. 5. London, pp. 138–141.

Siebert 1941 — Frank T. Siebert Jr. Certain Proto-Algonquian Consonant Clusters. *Language*, 17 (4), pp. 298–303.

Sijia Wang et al. 2007 — Sijia Wang, Cecil M Lewis, Jr., Mattias Jakobsson, Sohini Ramachandran, Nicolas Ray, Gabriel Bedoya, Winston Rojas, Maria V. Parra, Julio A. Molina, Carla Gallo, Guido Mazzotti, Giovanni Poletti, Kim Hill, Ana M. Hurtado, Damian Labuda, William Klitz, Ramiro Barrantes, Maria Cátira Bortolini, Francisco M. Salzano, Maria Luiza Petzl-Erler, Luiza T. Tsuneto, Elena Llop, Francisco Rothhammer, Laurent Excoffier, Marcus W. Feldman, Noah A. Rosenberg, Andrés Ruiz-Linares. Genetic Variation and Population Structure in Native Americans. *PLoS Genetics*, 3 (11), e185. doi:10.1371/journal.pgen.0030185.

G. Starostin 2010 — George Starostin. Preliminary lexicostatistics as a basis for language classification: A new approach. *Journal of Language Relationship*, 3, pp. 79–116.

G. Starostin 2014 — George Starostin. Macro-comparative linguistics in the 21st century: state of the art and perspectives. *Journal of Language Relationship*, 11, pp. 1–12.

S. Starostin 1989a — S. A. Starostin. Sravnitel'no-istoricheskoe yazykoznanie i leksikostatistika. *Lingvisticheskaya rekonstruktsiya i drevnejshaya istoriya Vostoka*. Moscow: Nauka, s. 3–39. Reprinted in: S.A. Starostin. *Trudy po yazykoznaniyu*. Moscow: Yazyki slavyanskikh kul'tur, 2007, s. 407–447.

S. Starostin 1989b — Sergei Starostin. Nostratic and Sino-Caucasian. *Explorations in Language Macrofamilies*. Bochum: Universitätsverlag Dr. Norbert Brockmeyer, pp. 42–67.

S. Starostin 1999 — Sergei Starostin. Methodology of long-range comparison. *Historical Linguistics & Lexicostatistics*. Ed. by Vitaly Shevoroshkin & Paul J. Sidwell. Melbourne, pp. 61–66.

S. Starostin 2000 — Sergei Starostin. Comparative-Historical Linguistics and Lexicostatistics. *Time Depth in Historical Linguistics*, v. 1. Cambridge: The McDonald Institute for Archaeological Research, pp. 223–265.

S. Starostin 2007 — S. A. Starostin. Opredelenie ustojchivosti bazovoj leksiki. In: S. A. Starostin. *Trudy po yazykoznaniyu*. Moscow: Yazyki slavyanskikh kul'tur, s. 827–839.

S. Starostin et al. 1995 — S. A. Starostin, V. A. Dybo, A. V. Dybo, E. A. Helimsky, A. Ju. Militarev, O. A. Mudrak, G. S. Starostin. *Basic Nostratic-Afrasian-Sino-Caucasian lexical correspondences*. Ms. (unpublished).

S. Starostin et al. 2003 — S. A. Starostin, A. V. Dybo, O. A. Mudrak. *Etymological dictionary of the Altaic languages*. Leiden: Brill.

Swadesh 1953a — Morris Swadesh. Mosan I: A problem of remote common origin. *International Journal of American linguistics*, 19 (1), pp. 26–44.

Swadesh 1953b — Morris Swadesh. Mosan II: Comparative Vocabulary. *International Journal of American linguistics*, 19 (3), pp. 223–236.

Teeter & Nichols 1993 — Karl V. Teeter, John D. Nichols. *Wiyot Handbook I. Glossary and concordance*. Algonquian and Iroquoian Linguistics Memoir 10. Winnipeg.

С. *Л.* Николаев. К реконструкции алгонкино-вакашского праязыка. Ч. 1: Обоснование алгонкино-вакашского родства.

Первая часть настоящей статьи содержит введение (§ 1), классификацию алгонкино-вакашских языков и предварительные глоттохронологические датировки (§ 2), сводку регулярных фонетических соответствий между правакашским, пранивхским и праалгийским языками (§ 3) и анализ алгонкино-вакашской «базовой лексики» (§ 4). Научная новизна статьи заключается в попытке формального доказательства генетического родства между нивхским, алгийскими (алгонкино-ритванскими) и вакашскими языками стандартным компаративистическим методом, т. е. путем установления системы регулярных фонетических соответствий между словарями сравниваемых языков. Прасэлишский язык признается отдаленно родственным праалгонкино-вакашскому, однако специфическое («мосанское») родство между сэлишской и вакашской семьями не прослеживается. В дополнение к этому рассматриваются лексические переллели между прачукотско-камчатским, праалгонкино-вакашским и прасэлишским языками. Делается вывод, что генетическое родство между чукотско-камчатскими и алгонкино-вакашскими (включая нивхский) языками отсутствует. Представляется, что прачукотско-камчатский содержит многочисленные заимствования из вакашских, сэлишских и алгийских языков (заимствования в эти языки из прачукотско-камчатского маловероятны, § 5). В результате анализа культурной лексики, общей для алгонкино-вакашских, сэлишских и чукотско-камчатских языков, делается вывод о том, что многочисленные «культурные» слова были заимствованы в прачукотско-камчатский из вакашских и сэлишских языков. Заимствование вакашской и сэлишской лексики в пранивхский было менее интенсивным, надежные вакашско-нивхские заимствования отсутствуют. Праалгийский не имеет «культурных» заимствований из перечисленных языков (§ 6).

Ключевые слова: алгонкино-вакашские языки, алгийские языки, вакашские языки, нивхский язык, историческая фонология, базовая лексика, культурная лексика.