**110-item wordlists for the Athabaskan group (Na-Dene family)**.

Languages included: Hupa; Mattole; Kato; Taldash Galice; Upper Inlet Tanaina; Outer Inlet Tanaina; Inland Tanaina; Iliamna Tanaina; Central Ahtena; Mentasta Ahtena; Dogrib; North Slavey; Tanacross; Upper Tanana; Lower Tanana; Central Carrier; Koyukon; Degexit’an; Sarsi.

**Hupa**

The main sources are the dictionaries Sapir & Golla 2001; Golla 1996a and the grammars Golla 1970; Golla 1996b. The papers Golla 1964; Golla 1977 are also very useful. In some controversial cases, specific forms have been checked against the text collections Sapir & Golla 2001; Goddard 1904; Golla 1984.

A Hupa Swadesh wordlist is offered in Hoijer 1956: 223 (extracted from Sapir’s field notes). For those cases in which the general semantics of the items in Hoijer 1956 matches our current standards, our list is different from Hoijer’s in 7 entries, namely: ‘to die’, ‘to fly’, ‘to see’, ‘to sit’, ‘small’, ‘water’, ‘yellow’.

We transliterate the alphabets of Golla 1996a; Sapir & Golla 2001 as follows:

|  |  |  |
| --- | --- | --- |
| Golla 1996a | Sapir & Golla 2001 | Current |
| b | b | p |
| m | m | m |
| d | d | t |
| t | t | tʰ (before a vowel) / t (before a consonant or a pause) |
| tʼ | tʼ | tʼ |
| n | n | n |
| nʼ | nʔ | nʔ |
|  |  |  |
| tłʼ | ƛʼ | ƛʼ |
| l | l | l |
| lʼ | lʔ | lʔ |
| ł | ɬ | ɬ |
|  |  |  |
| dz | ʒ | c |
| ts | c | cʰ (before a vowel) / c (before a consonant or a pause) |
| tsʼ | cʼ | cʼ |
| s | s | s |
| sʼ | sʔ | sʼ |
|  |  |  |
| j | ǯ | č |
| ch |  | čʰ (before a vowel) / č (before a consonant or a pause) |
| chw | čʷ | čʰʷ (before a vowel) / čʷ (before a consonant or a pause) |
| chʼ | čʼ | čʼ |
| sh | š | š |
| ngy |  | ɲ |
|  |  |  |
| g, gy | gʸ | kʸ |
| k, ky | kʸ | kʰʸ (before a vowel) / kʸ (before a consonant or a pause) |
| kʼ, kyʼ | kʼʸ | kʼʸ |
|  |  |  |
| G | g | k |
| K | k | kʰ (before a vowel) / k (before a consonant or a pause) |
| Kʼ | kʼ | kʼ |
| x | x | x |
| xw | xʷ | xʷ |
| ng | ŋ | ŋ |
| ngʼ | ŋʔ | ŋʔ |
|  |  |  |
| q | ɢ | q |
| qʼ | qʼ | qʼ |
|  |  |  |
| h | h | h |
| ʼ | ʔ | ʔ |
|  |  |  |
| y | y | y |
| yʼ | yʔ | yʼ |
| w | w | w |
| wʼ | wʔ | wʼ |
| wh | W | ʍ |
|  |  |  |
| i | i | i |
| e | e | e |
| a | a | a |
| o | o | o |
| u |  | u |
| V: | Vˑ | Vː |

Notes.

1. Hupa *k* ⟨G⟩, *kʰ* ⟨K⟩ and *kʼ* ⟨K’⟩ are marginal sounds, attested in diminutive (and sometimes augmentative!) forms as variants of palatal *kʸ, kʰʸ* and *kʼʸ* or in loanwords and onomatopoeic formations Golla 1970: 44, 263.

2. As described in Golla 1970; Golla 1996b: 366, morphophonologically there are three long vowels and three short vowels in Hupa. The long set is: *eː aː oː*; its phonetic realization is normally the same (*eː aː oː*). The morphophonological short set is listed by Golla as *ɨ, a, o* (although the notation *i, a, u* or *i, a, o* should be more appropriate from our point of view). Golla’s morphophonological short *ɨ* realizes as an *e-*like sound before *h, ʔ*, and as an *i*-like sound elsewhere; this opposition *e - i* is reflected in the orthography and in our transcription. Morphophonological short *o* realizes as an *o-*like sound before *h, ʔ, w*, and as *u*-like sound elsewhere; this opposition *o - u* is not reflected in the orthography, where the character *o* is only used; in our transcription we follow the orthography.

3. The character *u* is frequently used in Golla 1996a for short *a* in the position before *C#* or *CC*. E.g., *=nuŋ* ‘to drink’ (q.v.) for *=naŋ* in other sources; *=xucʼ* ‘to bite’ (q.v.) for *=xacʼ* in other sources; *yaʔ-uɬ-qay* ‘(white) louse’ (q.v.) for *yaʔ-aɬ-qay* in other sources.

**Mattole.**

The Mattole language is divided into two dialects: Mattole proper and Bear River (both died out in the middle of the 20th century). See Golla 2011: 78 for general details and Li 1930a: 2–3 for some phonetic peculiarities of the Bear River dialect. Our wordlist is compiled for the Mattole proper dialect, described in Li 1930a. The Mattole Swadesh wordlist, offered in Hoijer 1956, is extracted from Li 1930a. The very short grammar sketch Grune 1994 is, likewise, based on Li 1930a.

The main source for Bear River is the glossary in Goddard 1929, collected from several informants. Goddard’s data are insufficient for compiling the full 110-item list; therefore, we quote the available Bear River forms in the notes. It should be noted that Goddard’s Bear River glosses are not very reliable either phonetically or semantically. It is interesting that the Bear River dialect demonstrates a substantial number of Swadesh items that are different from Mattole proper (see ‘bird’, ‘nail’, ‘egg’, ‘feather’, ‘louse’, ‘meat’, ‘night’, ‘rain’, ‘to see’, ‘skin’, ‘sun’, ‘yellow’, ‘worm’), although it is very likely that in many cases we are merely dealing with Goddard’s inaccurate definitions.

The unpublished Mattole and Bear River glossaries, collected by C. Hart Merriam in 1923 and reported in Golla 2011: 259, remain unavailable to us. The same concerns Mattole proper and Bear River data collected by J. P. Harrington and published by E. L. Mills. 1985. *The papers of John Peabody Harrington in the Smithsonian Institution, 1907-1957*. Vol. 2: *A guide to the field notes: Native American history, language, and culture of Northern and Central California*. White Plains, NY: Kraus International Publications, pp. 3-9.

We transliterate the alphabets of Li 1930a and Goddard 1929 as follows:

|  |  |  |
| --- | --- | --- |
| Li 1930a | Goddard 1929 | Current |
| b | b | p |
|  | p | pʰ |
|  | pʼ | pʼ |
| m | m | m |
|  |  |  |
| d |  | t |
| tx̣ | t | tʰ (before a vowel) / t (before a consonant or a pause) |
| tʼ | tʼ | tʼ |
|  |  |  |
| n | n | n |
| nʼ | nʼ | nʔ |
|  |  |  |
| tʼł |  | ƛʼ |
| l | l | l |
| ł | ł | ɬ |
|  | łʼ | ɬʼ |
|  |  |  |
| ts | ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| tʼs | tsʼ | cʼ |
| s | s | s |
|  |  |  |
| tʼsy |  | cʼʸ |
|  |  |  |
| dj | dj | č |
| tcx | tc | čʰ (before a vowel) / č (before a consonant or a pause) |
| tʼc | tcʼ | čʼ |
| c | c | š |
|  |  |  |
| tc̯ |  | ɕʰ (before a vowel) / ɕ (before a consonant or a pause) |
|  |  |  |
| g | g | k |
| gʷ |  | kʷ |
| kx̣ | k | kʰ (before a vowel) / k (before a consonant or a pause) |
| kʼ | kʼ | kʼ |
| ɣ | ɣ | ɣ |
| ɣʷ |  | ɣʷ |
| x | x | x |
| xw | xw | xʷ |
| ŋ | ñ | ŋ |
| ŋʼ | ñʼ | ŋʔ |
|  |  |  |
| h, ʻ | h, ʻ | h |
| ʼ | ʼ | ʔ |
|  |  |  |
| y | y | y |
| w | w, *w* | w |
| wʼ | wʼ | wʼ |
|  | hw, wh | ʍ |
|  |  |  |
| a | a, α | a |
| e | e, ε, ë | e |
| i, i̱ | i, ι | i |
| o | o, ʚ | o |
|  | u, υ | u |
|  |  |  |
|  | CC | Cː |
|  | Cʻ | Cʰ |
| Vˑ | Vˑ, VV | Vː |
| V́ | V́ | ˈV |

Notes.

1. According to Li 1930a: 5–7, the aspirated series is “strongly aspirated with a velar spirantal glide”. Thus, the transcription *tx kx čxʸ* for *tʰ kʰ čʰ* is possible. On the contrary, *cʰ* and *ɕʰ* is pronounced “with a very weak, and sometimes no, aspiration”.

2. Li (1930a: 9) proposes that the main source of *s* is the secondary defricativization of Mattole *cʰ*.

3. The exact place and manner of articulation of Li’s ⟨tc̯⟩ is not entirely clear; we transcribe this affricate as palatal *ɕʰ* (the transcription *čʰʸ* is also possible).

4. The velar series is actually palatalized (i.e., *kʸ, kʷʸ, kʰʸ, kʼʸ, ɣʸ, ɣʷʸ, xʸ, xʷʸ*), although we prefer to transcribe it as plain velar for the sake of convenience (i.e., *k*, *kʷ* and so on).

5. Li’s ⟨i̱⟩ (a *ə*-like sound) is a variant of *i* in the position near a velar (Li 1930a: 39). We do not distinguish between Li’s ⟨i⟩ and ⟨i̱⟩ in our transcription.

**Kato.**

The Kato language became extinct in the middle or the 2nd half of the 20th century (Golla 2011: 81). The main sources for Kato are the grammar sketch Goddard 1912 and the text collection Goddard 1909. Short Kato wordlists in Curtis 1924: 201–207 and Essene 1942: 85–89 also provide some important lexical information (it should be noted that Essene’s and Curtis’ phonetic transcriptions are poor and unreliable). The Kato Swadesh wordlist, offered in Hoijer 1956: 223–224, is extracted from Goddard 1912.

We transliterate the alphabet of Goddard 1909; Goddard 1912 as follows:

|  |  |
| --- | --- |
| Goddard 1909; Goddard 1912 | Current |
| b | p |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| tʼ | tʼ |
|  |  |
| n | n |
| nɛ | nʔ |
|  |  |
| L | ƛʼ |
| l | l |
| lɛ | lʔ |
| ʟ | ɬ |
| ʟɛ | ɬʼ |
|  |  |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| tsʼ | cʼ |
| s | s |
| sʼ | sʼ |
|  |  |
| dj | č |
| tc | čʰ (before a vowel) / č (before a consonant or a pause) |
| tcʼ | čʼ |
| c | š |
| j | ž |
|  |  |
| g | k |
| gw | kʷ |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| kw | kʰʷ |
| kʼ | kʼ |
| kʼw | kʼʷ |
| ɢ | ɣ |
| ñ | ŋ |
| ñɛ | ŋʔ |
|  |  |
| q | q |
|  |  |
| h, ʻ | h |
| ɛ | ʔ |
|  |  |
| y | y |
| w | w |
|  |  |
| a, ą | a |
| e, ę | e |
| i | i |
| û | ə |
| ī | iː |
| ō | oː |
| ū | uː |

Notes.

1. Not infrequently, in the specific forms recorded by Goddard, we find the aspirated affricates *cʰ čʰ* instead of the expected ejective sounds, e.g., *=cʼa-n* ~ *=cʰa-ŋ* ‘to hear’ or Kato *=čʰiː* ‘to blow’ vs. Hupa =*čʼeː* (see ‘wind’). It is unclear whether we are dealing with sporadic de-ejectivization of *cʼ čʼ* in Kato or with inaccurate transcription on Goddard’s part.

**Taldash Galice.**

The Galice-Applegate language consists of three known dialects: Dakobe (or Applegate), Taldash (or Galice), Nabiltse; all of them became extinct during the 20th century, see Golla 2011: 72–73 (Golla prefers to treat Galice-Applegate as one of the dialects of the generic Rogue River language). Galice-Applegate is poorly documented, but data on the Taldash dialect are sufficient for compiling the 110-item wordlist.

The main sources on Taldash Galice are the papers Hoijer 1966; Hoijer 1973, which are based on data collected by Melville Jacobs and Hoijer in the 1930s and 1950s, and Landar 1977, based on data collected in the mid-20th century from the same Galice speaker that Hoijer had worked with. The Taldash Galice 89-item wordlist in Hoijer 1956: 223 is based on Jacobs’ materials. One Taldash Galice text from Jacobs’ collection was published as Jacobs 1968.

The most reliable transcription of Taldash Galice is offered in Hoijer 1973. On the contrary, transcription in Landar 1977 seems rather inaccurate; in particular, vowel nasality frequently remains unmarked by Landar.

A 19th century vocabulary of Taldash Galice by J. Owen Dorsey (*Galice Creek [Talt uct un tude] vocabulary and grammatical notes*, Yacltun or Galice Creek Jim and Peter Muggins, September 18 - October 9, 1884. NAA MS 4800:(4.1.2) (373), National Anthropological Archives, Smithsonian Institution. 53 pp.), reported in Golla 2011, is unavailable to us.

We transliterate the alphabets of Hoijer 1966; Hoijer 1973 as follows:

|  |  |  |
| --- | --- | --- |
| Hoijer 1973 | Hoijer 1966 | Current |
| b | b | p |
| m | m | m |
|  |  |  |
| d | d | t |
| t | t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t́ | tʼ | tʼ |
| n | n | n |
|  |  |  |
| Ł | tʼł | ƛʼ |
| l | l | l |
| ł | ł | ɬ |
|  |  |  |
| j | dz | c |
| ć | tsʼ | cʼ |
| z | z | z |
| s | s | s |
|  |  |  |
| ǰ | dž | č |
| č | tš | čʰ (before a vowel) / č (before a consonant or a pause) |
| č́ | tšʼ | čʼ |
| š | š | š |
|  |  |  |
| g | g | k |
| gʷ | gʷ | kʷ |
| k | k | kʰ (before a vowel) / k (before a consonant or a pause) |
| kʷ | kʷ | kʰʷ |
| ḱ | kʼ | kʼ |
| ḱʷ | kʼʷ | kʼʷ |
|  |  |  |
| h | h | h |
| ʔ | ʔ | ʔ |
|  |  |  |
| y | y | y |
| w | w | w |
| W | W | ʍ |
|  |  |  |
| a | a | a |
| e | e | e |
| i | i | i |
| o | o | o |
| VV | VV | Vː |
| V̨ | V̨ | Ṽ |

Notes.

1. According to Landar 1977: 294, the alveodentals are actually dental: *t̪ s̪* and so on, although in Hoijer 1966: 320 they are specified as apico-alveolar.

2. It is reported in Golla 2011: 75 that Taldash Galice possesses two additional voiced stops: *b d* (originating from *m n* in many phonetic environments), although in other sources, e.g., Hoijer 1966; Hoijer 1973, voiced *b d* are not mentioned.

3. In Landar 1977: 294, an additional specific sibilant is mentioned: “whistled” *s*, which we provisionally transcribe as *sʸ*.

4. According to Hoijer 1966: 320, *o, oː* are actually realized as *ʊ, ʊː* in all positions except for vowel clusters.

**Tanaina (Upper Inlet, Outer Inlet, Inland, Iliamna).**

The Tanaina (or Dena’ina) language consists of four main dialect groups: Upper Inlet (or Upper Cook Inlet; incl. Susitna Staion, Eklutna, Tyonek, Talkeetna, Knik subdialects), Outer Inlet (or Outer Cook Inlet or Kenai), Inland (incl. Lime Village and Nondalton subdialects), Iliamna. The fifth - extinct and poorly documented - dialect is Seldovia. See Kari 1975; Kari 2007: xii, xxi, xxv; Holton, Kari & Müller 2004: 3 for details. The Upper Inlet dialect is the most innovative in terms of phonetics. There are actually some important discrepancies in the basic vocabularies between the Tanaina dialects; because of this, we have compiled separate lists for each of the four main dialects. Sporadic forms from the Seldovia dialect are quoted in the notes.

The main lexicographic sources for the Tanaina language are the dictionaries Kari 1977; Kari 2007 (all dialects), Wassillie 1979 (Inland dialect) and the grammars and grammar sketches Holton, Kari & Müller 2004 (mostly based on the Inland dialect with references to other dialects), Boraas 2010 (Outer Inlet dialect), Tenenbaum 1978 (Inland dialect), Lovick 2005 (all dialects). Additionally, the texts collected in Tenenbaum 1976 (Inland dialect) have been used to check some forms.

In the dictionaries Kari 1977; Kari 2007, the absence of a dialect siglum means that this specific form is used with this meaning in all the Tanaina dialects. It is explicitly noted in Kari 1977: 12 that if an Iliamna ("Il") form is not quoted separately, the siglum "I" means that the specific form is attested not only in Inland, but also in Iliamna. As for Kari 2007, strictly speaking, it is unclear whether an Iliamna form is assumed to be the same as the Inland one, if Iliamna is not marked separately, or not. It is likely, however, that Kari 2007 has the same system of notation as Kari 1977, i.e., the siglum "I" denotes both Inland and Iliamna, whereas specific Inland forms are labeled as "NL" (i.e., Lime Village and Nondalton - two subdialects of Inland).

Tanaina wordlists, recorded in the early 1930s and published in Osgood 1937, were incorporated into the cumulative dictionaries Kari 1977; Kari 2007, so we do not refer specially to Osgood 1937.

Historical and comparative issues of Tanaina are discussed in Gleason 1960; Kari 1975; Kari 1989; Kari 1996; Landar 1960.

For some basic terms (including Swadesh items), Tanaina dialects can lack original Athabaskan roots, using specific innovative expressions instead. These cases are called "elite replacements" by James Kari (1989: 545; 1996: 59; 2007: xxi), who tends to explain them as taboo replacements. Actually Kari’s "elite replacements" can be divided into two classes. The first class consists of descriptive verbal forms which have superseded original roots, e.g., ‘head’ is expressed as ‘tip that extends’, and so on. In these cases, we are dealing with normal gradual evolution of the original lexicon during natural language development. We are not aware of any positive evidence that such replacements are taboo driven in Tanaina. The second class consists of Tanaina words that are morphologically unanalyzable and unetymologizable. E.g., ‘fire’ is expressed by the enigmatic form *tazʔi* in the bulk of Tanaina dialects, whereas the old inherited term *qʰən* ‘fire’ is only retained in the Upper Inlet dialect. Within the 110-item wordlists, such items are: ‘bone’, ‘fire’, ‘hair’, and possibly ‘eye’, ‘heart’, ‘water’. In these cases, it is probable that we are dealing with remnants of a substrate language, which was superseded by Tanaina centuries ago.

We transliterate the Tanaina alphabet as follows:

|  |  |
| --- | --- |
| Kari 2007; Holton, Kari & Müller 2004; Tenenbaum 1978 | Current |
| b | p |
| m | m |
| v | v |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
|  |  |
| dl | ƛ |
| tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| j | č |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| zh | ž |
| sh | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| ŷ, y | ɣ |
| x | x |
|  |  |
| gg | q |
| q | qʰ (before a vowel) / q (before a consonant or a pause) |
| q’ | qʼ |
| gh | ʁ |
| h | ꭓ |
|  |  |
| w | w |
| y | y |
|  |  |
| ‘ | ʔ |
| ĥ, hh | h |
|  |  |
| i | i |
| e | ə |
| a | a |
| u | u |

Notes.

1. In some Russian loanwords, the foreign sounds *f, r, o, e* (orthographic: ⟨é⟩) occur.

2. It is actually unclear whether the two back series are opposed as velar and uvular (i.e., *k - q, x - χ* etc.) or as palatalized velar and non-palatalized velar (i.e., *kʸ - k, xʸ - x* etc.). Traditional notation of Tanainanists - "front velars" vs. "back velars" - is uninformative, but in Tenenbaum 1978: 26; Lovick 2005: 13, the front series is labeled as "velar" (*k, x* etc.), whereas the back series is explicitly described as "uvular" (*q, χ* etc.). On the other hand, according to the places of articulation figure by Siri Tuttle (quoted in Kari 2007: xxv), the front series looks like palatalized velar (*kʸ, xʸ* etc.), whereas the back series is depicted as simple velar (*k, x* etc.). For our transcription, we prefer the velar - uvular opposition (*k - q, x - χ* etc.).

3. Several regular phonetic and morphological phenomena of dialectal origin are not (or not always) explicitly reflected in the main sections of the dictionaries Kari 1977; Kari 2007. The most important of these are: (1) *v* implies *v* in Inland & Iliamna, but *b* in Upper Inlet & Outer Inlet and *w* in Seldovia; (2) *č čʰ čʼ š* (Outer Inlet, Inland, Iliamna) imply *c cʰ cʼ s* respectively in Upper Inlet, see below for detail; (3) final *-y* implies *-ɣ* in Outer Inlet; (4) the izafet suffix *-a* implies *-a* in Upper Inlet & Inland, but *-ʔa* in Outer Inlet & Iliamna; see Kari 1975; Kari 1977: 20; Kari 2007: xxvi.

4. In the Upper Inlet dialect, the alveolar and postalveolar series have merged, i.e., the Common Tanaina phonemes *c - č, cʰ - čʰ, cʼ - čʼ, s - š* are not discriminated within the corresponding pair. In Kari 1975: 50; Kari 2007: xxvi, the resulting Upper Inlet series is specified as intermediate between alveolar and postalveolar and transcribed with the acute sign ⟨tś, ś, ...⟩ that imply that the only Upper Inlet sibilant series is retracted (*c̠ c̠ʰ c̠ʼ s̠*) *vel sim.* (cf. the naive transcription in Osgood 1937 with Upper Inlet ⟨š⟩ and so on). On the contrary, in Kari 1977: 16 et passim, the resulting Upper Inlet series is described as simple alveolar *c cʰ cʼ s*. In our transcription we follow Kari’s (1977) simplified notation, i.e., *c cʰ cʼ s*. Additionally, it should be noted that in Upper Inlet, the Common Tanaina phonemes *z, ž, ɣ, y* have merged into *y*.

5. The orthographic apostrophe sign is transcribed as *ʔ* (except for the position after ⟨t, c, č, k, q⟩, where it denotes ejectivization), thus ⟨gh’⟩ = *ʁʔ*, ⟨n’⟩ = *nʔ* etc., see Holton, Kari & Müller 2004: 2.

6. The glottal-stop (*ʔ*) is an automatic prothesis in the case of vocalic onset. We do not note it in our transcription.

**Ahtena (Central, Mentasta)**

The Ahtena (or Ahtna, Copper River, Mednovskiy) language consists of four main dialects: Central, Lower, Western, Mentasta/Upper; see Kari 1990: 20 for details. Out of these, the Mentasta dialect is lexically the most distant from the others, whereas Western is the most archaic phonetically. In fact, no lexicostatistical differences between the Central, Lower and Western dialects have been revealed within the 110-item wordlist. Consequently, we only offer two Ahtena lists: Central Ahtena and Mentasta Ahtena (the Lower and Western data are quoted in notes on the Central entries). Non-Mentasta and Mentasta dialects differ in 4 Swadesh words: ‘breast’, ‘heart’, ‘mountain’, ‘sun’. It is interesting that at least in the case of ‘heart’, ‘mountain’, ‘sun’, it is the Mentasta dialect which retains the old Proto-Ahtena terms, whereas the non-Mentasta dialects demonstrates lexical replacements.

The primary lexicographic source for the Ahtena language is the dictionary Kari 1990 (all dialects), supplemented with a phonological and morphological sketch; dictionaries of the Ahtena nominal forms Kari & Buck 1975 and Smelcer 2010 have been used as additional sources. The Ahtena verbal morphology is discussed in details in Kari 1979. Some important phonetic and morphophonological peculiarities of Ahtena are discussed in Rice 2003; Tuttle 2010.

We transliterate the Ahtena alphabet as follows (see especially Tuttle 2010):

|  |  |
| --- | --- |
| Kari 1990; Smelcer 2010 | Current |
| b | p |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a pause) |
| t’ | tʼ |
| n | n |
|  |  |
| dl | ƛ |
| tl | ƛʰ (before a vowel) / ƛ (before a pause) |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| g | kʸ |
| c | kʰʸ (before a vowel) / kʸ (before a pause) |
| c’ | kʼʸ |
|  |  |
| gg | q |
| k | qʰ (before a vowel) / q (before a pause) |
| k’ | qʼ |
| gh | ʁ |
| x | χ |
| ng | ɴ |
|  |  |
| y | y |
| yh | ẙ |
| hw | ʍ |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| i | i |
| e | ə |
| a | a |
| o | o |
| u | u |
| VV | Vː |
| ae | eː |
| V̨ | Ṽ |

Notes.

1. In a few loanwords, the foreign sounds *v* ⟨v⟩*, pʰ* ⟨p⟩ also occur Kari 1990: 14.

2. It must be noted that, unlike other Athabaskan languages, Ahtena phonetically (as well as orthographically) discriminates between aspirated and non-aspirated consonants in the preconsonantal position. This is valid for at least *t* & *tʰ*, e.g., -*tʁ-* ⟨-dgh-⟩ vs. -*tʰn-* ⟨-tn-⟩. Moreover, phonological /t/ becomes aspirated *tʰ* before *p, n* and uvular (as well as velar?) stops, coinciding with /tʰ/. See Tuttle 2010: 349 for details.

3. There is only one sibilant row in the Ahtena dialects. In Kari 1990: 13, 19, it is described as intermediate between alveolar (*c, s* etc.) and postalveolar (*č, š* etc.) for most Ahtena speakers (i.e., the sounds are interpreted as retracted *c̠ c̠ʰ c̠ʼ z̠ s̠*). According to Tuttle 2010: 343, however, the sibilants freely alternate between alveolar (*c, s* etc.) and postalveolar (*č, š*, etc.) places of articulation. For the sake of convenience, we transcribe the Ahtena sibilants as alveolar, i.e., *c cʰ cʼ s z*.

4. As specified in Tuttle 2010: 344, back consonants are opposed as palatal vs. uvular rows. For the sake of convenience, we transcribe the palatal obstruents as palatalized velars, i.e., *kʸ kʰʸ kʼʸ* (as opposed to uvular *q qʰ qʼ*). The extremely rare palatal fricative is transcribed as *ẙ*, i.e., devoiced *y*.

5. The uvular nasal *ɴ* synchronically originates from the cluster *nʁ*, see Kari 1990: 15.

6. There is a number of phonetic and morphological phenomena of dialectal origin in Ahtena. The main discrepancy between the dialects is the fate of the Proto-Ahtena ejectives (*tʼ ƛʼ cʼ kʼʸ qʼ*) in root-final position (regardless of whether the root is modified with a suffix or not). The reflexation scheme is rather complicated Kari 1990: 23; Kari & Buck 1975: xv, and the regular dialectal variants are not always written out in the dictionaries.

7. Other dialectal peculiarities are: *ty > kʸ, tʁ > q, tʰχ > qʰ, nʁ > ɴ, tʰnʁ > qʰɴ* in the Lower dialect; vocalization (i.e. > *V*) of the verbal prefixes *ʁ-* and *z-* in Central, Lower and Western; special behavior of the personal prefixes *kʼʸ-* ‘indefinite’, *cʼ-* ‘1st pl.’, *qʰ-* ‘3rd pl.’; *p-n > m-n* in Mentasta; nasalization *Vn(ʔ) > Ṽ(ʔ)* in final position; drop or harmony of the final *-e(ʔ)* & *-i(ʔ)* in Mentasta. See Kari 1990: 23; Kari & Buck 1975: xv for details. It must be noted that not all dialectal variants are explicitly written out in the main sections of the Ahtena dictionaries, so it is not always possible to reconstruct a specific dialectal form, proceeding from the headwords in the dictionaries.

8. In Mentasta, the special spelling ⟨...nn⟩ / ⟨...nnʼ⟩ is used for the final -*n(ʔ)*, which is retained and does not develop into the nasalization of the preceding vowel, defying the regular rule of the dropping of final \*-*n(ʔ)* in Mentasta (normally such Mentasta forms with retained -*n(ʔ)* originate from Proto-Ahtena \*-*ne(ʔ) /* \*-*ni(ʔ)* with regular vowel reduction in Mentasta). See Kari 1990: 29; Kari & Buck 1975: xix for details.

**Dogrib**

The Dogrib (or Tłįcho) language consists of several close dialects, apparently with minimal lexical differences between them (Saxon & Siemens 1996: xvii). The main phonetic discrepancy between the dialects is the fate of the alveolar and postalveolar series, on which see below. The primary lexicographic source for the Dogrib language is the educational dictionary Saxon & Siemens 1996 together with its revised and enlarged on-line version Saxon & Siemens n.d. Normally we refer to the paper volume Saxon & Siemens 1996, and only when necessary to Saxon & Siemens n.d. The short children’s dictionary Siemens et al. 2007 as well as the etymological wordlists in Ackroyd 1976 appear to also be useful in some cases. The only Dogrib grammars are the Ph.D. thesis Coleman 1976 and the primer Marinakis et al. 2007.

We transliterate the Dogrib alphabet as follows:

|  |  |
| --- | --- |
| Saxon & Siemens 1996; Marinakis et al. 2007 | Current |
| b | p |
| mb | ᵐp |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| nd | ⁿt |
| n | n |
|  |  |
| dl | ƛ |
| tł | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tł’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| j | č |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| zh | ž |
| sh | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| gh | ɣ |
| x | x |
|  |  |
| gw | kʷ |
| kw | kʰʷ (before a vowel) / kʷ (before a consonant or a pause) |
| kw’ | kʼʷ |
|  |  |
| y | y |
| w | w |
| hw | ʍ |
| r | r |
|  |  |
| ʔ | ʔ |
| h | h |
|  |  |
| i, ı | i |
| e | e |
| a | a |
| o | o |
| V̨ | Ṽ |
| VV | Vː |
| V̨V̨ | Ṽː |
| V, VV | V́, V́ː |
| V̀, VV̀ | V̀, V̀ː |

Notes.

1. Normally *r* occurs either in the verbal prefix -*re-* (< *\*-te-*) or in loanwords (cf. Coleman 1976: 9, 17); *r* is frequently omitted by some speakers (Marinakis et al. 2007: 14).

2. Prenasalized *ᵐp ⁿt* are typical for the elder generation, whereas the majority of current speakers simplifies them to *p t* (it should be noted that except for some loanwords, *p* is a new sound for Dogrib; this is not right for *t*, which is a full-fledged phoneme in conservative Dogrib) (Rice & Saxon 2002: 127–128; Coleman 1976: 16).

3. Younger speakers merge the alveolar (*c cʰ cʼ s z*) and postalveolar (*č čʰ čʼ š ž*) series as *c cʰ cʼ s z* (this neutralization also has geographical distribution) (Rice & Saxon 2002: 128–129).

4. Tone is defined for each syllable in the word. Two tones are opposed: high *V́* (not marked in the traditional orthography) and low *V̀* (orthographically *V̀*).

**North Slavey**

North Slavey consists of three dialects: Hare, Bearlake, Mountain. Sometimes these three together with the closely related language South Slavey are treated as dialects of a single Slave language (Rice 1989: 1, 10–11). Our North Slavey list is based on the Hare dialect which is the only one sufficiently documented for our purposes.

The primary lexicographic source for the Hare dialect is the preliminary dictionary Rice 1978 plus the 100-item wordlist in Hoijer 1956: 222, extracted from Petitot’s dictionary (1876). Grammatical information has been taken from the detailed description Rice 1989, based on the South Slavey language accompanied with extensive excursus to three North Slavey dialects. For a separate phonological description of Hare, see Rice 1976.

We transliterate the Hare alphabet of Rice 1978; Rice 1989 as follows:

|  |  |
| --- | --- |
| Rice 1978; Rice 1989 | Current |
| b | p |
| f | f |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
|  |  |
| dl | ƛ |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| j | č |
| ch’ | čʼ |
| zh | ž |
| sh | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| gh | ɣ |
| x | x |
|  |  |
| gw | kʷ |
|  |  |
| y | y |
| w | w |
| w’ | wʼ |
| r | r |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| i | i |
| e | e |
| a | a |
| o | o |
| u | u |
| ie, ee | ie |
|  |  |
| V | V̀ (low) |
| V́ | V́ (high) |
| V̨ | Ṽ |

Notes.

1. The ejective series (*tʼ cʼ* etc.) can optionally be realized as simple voiced segments (*d ʒ* etc.) in the intervocalic position (Rice 1989: 31).

2. Unlike other dialects, modern Hare practically lacks the aspirated affricates *cʰ čʰ ƛʰ*; these are reported to have existed as late as the early 20th c., but recently they shifted to *s š ɬ* respectively, although they are still occasionally retained in a few forms (Rice 1976: 17–18; Rice 1989: 35).

3. Lateral affricates (*ƛ ƛʼ*) frequently have a velar onset.

4. *ž* can be retained in the speech of elder generation, but normally coincides with *y* among younger speakers (Rice 1976: 18; Rice 1989: 32).

5. Hare *wʼ* is actually preglottalized.

6. The glottal stop (*ʔ*) is an automatic prothesis in the case of vocalic onset.

7. For the tonal opposition high / low and tonal assimilation, see Rice 1989: 51.

**Tanacross**

The primary lexicographic source for the Tanacross language is the dictionary Arnold, Thoman & Holton 2009 and the grammar Holton 2000; the unpublished wordlists Brean & Milanowski 1979; McRoy 1973; Shinen 1958 have been used as additional sources.

We transliterate the alphabet of Arnold, Thoman & Holton 2009 as follows (cf. Holton 2000: 312):

|  |  |
| --- | --- |
| Arnold, Thoman & Holton 2009 | Current |
| b | b |
| m | m |
| mb | ᵐb |
|  |  |
| d | t (before a vowel) / d (before a consonant or a pause) |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
| nn | nː |
| nh | n̥ |
| nd | ⁿd / biphonemic nt |
|  |  |
| ddh | tᶿ (before a vowel) / dᶞ (before a consonant or a pause) |
| tth | tᶿʰ (before a vowel) / tᶿ (before a consonant or a pause) |
| tth’ | tᶿʼ |
| dh | ð |
| th | θ̬ |
| th | θ |
|  |  |
| dl | ƛ (before a vowel) / ᴌ (before a consonant or a pause) |
| tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ̬ |
| ł | ɬ |
|  |  |
| dz | c (before a vowel) / ʒ (before a consonant or a pause) |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s̬ |
| s | s |
|  |  |
| j | č (before a vowel) / ǯ (before a consonant or a pause) |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| sh | š̬ |
| sh | š |
|  |  |
| g | k (before a vowel) / g (before a consonant or a pause) |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| gh | ɣ |
| x | x̬ |
| x | x |
|  |  |
| y | y |
| yy | yː |
| yh | y̥ |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| i | i |
| e | e |
| a | a |
| o | o |
| u | u |
|  |  |
| V | V̀ (low) |
| V́ | V́ (high) |
| V̂ | V̂ (falling) |
| V̌ | V̌ (rising) |
| V̋ | V (extra-high) |
| VV | Vː |
| V̨ | Ṽ |

Notes.

1. The velar series is phonetically described as being intermediate between velar and uvular places of articulation, i.e., [k̠, x̠] and so on (Holton 2000: 24).

2. The final suffixal vowels (*-V* and *-Vʔ*) tend to be dropped. Some modern speakers still pronounce a very short *ə*-like sound for the historical final vowels (Holton 2000: 26), but we follow Holton’s transcription and do not mark this vocalic segment.

3. The ejective series (*tʼ, ƛʼ* etc.) is restricted to pre-vocalic position (to be precise, to the root-initial position), where three series of stops and affricates *t / tʰ / tʼ* ⟨d t t’⟩ are opposed (Holton 2000: 23, 29). In the pre-consonantal position or before a pause, only two series of stops and affricates are opposed: voiced and voiceless, e.g., *d / t* ⟨d t⟩ etc. (Holton 2000: 23, 25, 29). One should pay attention to the confused traditional orthography as described in the above table. The main case where the voiced stop/affricate occurs in pre-consonant position is the prefixal 1st sg. subject exponent -*eg-*, which is a very specific contractive development of the old subject morpheme and the “classifier” *-l-* (Holton 2000: 199). In the final position, however, voiced stops/affricates as well as voiced fricatives are frequent. In the positions *-VT*, *-VT-V(ʔ)* (where the final *-V(ʔ)* is a suffix, e.g., possessive *-V́ʔ* or negative *-V̀*, Holton 2000: 26 ff., 270 f.) the historical binary opposition between non-ejective stops and affricates and the ejective ones *t / tʼ* was eliminated in favor of the non-ejective series *t*. At the next stage, this root-final *T* in the intervocalic position *-VT-V(ʔ)* gets voiced: *t > d*. Furthermore, *-V(ʔ)* was reduced to a very short vocalic segment and eventually dropped; this produced such word-final oppositions as -*t / -d*, *-ƛ / -ᴌ* and so on. Such a voicing (which is not a fully phonetically conditioned process, since not each intervocalic voiceless stop/affricate gets voiced) is an interesting feature of Tanacross historical phonetics. In principle, the historical phonetics of Tanacross is seriously "morphologized", and morphemic boundaries between the root and the affixes share a specific status. Besides the aforementioned voicing of stops and affricates in root-final position, the following phenomena can be mentioned: 1) voiced fricatives *ð l z ɣ* get semi-voiced *θ̬ ɬ̬ s̬ x̬* in root-initial position as discussed below; 2) the combination of the obstruent prefix with root-initial *ʔ-* yields a consonant cluster that differs from normal ejectives, e.g., the “classifier” =*t=* plus a root of the shape *=ʔV* produce *t-ʔ*, not *tʼ* as follows from Arnold, Thoman & Holton 2009: 11, 15 and transcription of various verbal forms in Holton 2000: passim; 3) the high tone harmony *V́CV̀ > V́CV́* affects prefixal syllables, whereas root syllables do not harmonize in the same position (Holton 2000: 83 ff.).

4. It should be noted that in Holton 2000, plain stops/affricates in the prevocalic position are frequently transcribed as voiced, not voiceless, e.g., [dɛndîːg] ‘moose’ (Holton 2000: 28), [ɢʶaːy] ‘small’ (Holton 2000: 31) instead of the expected [tɛntîːg], [qᵡaːy]. Such a voiced transcription contradicts the explicit statement that the prevocalic orthographic ⟨d, g etc.⟩ denote the plain voiceless series *t, k* etc. Holton 2000: 23 and the regular transcriptions such as [tiðintah] ‘you are sitting down’ (Holton 2000: 102).

5. The final vowel drop also caused the emergence of a phonological opposition between the voiceless and voiced fricatives *θ / ð, s / z*, etc., and the sonorants *n̥ / n, y̥ / y* in the final position.

6. The so-called semi-voiced fricatives actually possess different articulations, see Holton 2000: 96 ff. for detail. Semi-voiced *ɬ̬* phonetically represents voiceless onset plus voiced coda, i.e., *ɬl*. Other semi-voiced, *θ̬ s̬ š̬ x̬*, may also begin voiceless and transition to voiced (*sz* etc.), but more frequently these have either erratic voice or even no voice at all. According to Holton 2000, the main distinctive feature of *θ̬ s̬ š̬ x̬* is lower amplitude frication noise, i.e., in most cases *θ̬ s̬ š̬ x̬* must be treated as weak voiceless *θ͉ s͉ š͉ x͉* as opposed to neutral voiceless *θ s š x*. I.e., the three-way opposition of the fricatives is to be analyzed as: voiced *ð* / voiceless lax *θ͉* (= *θ̬*) / voiceless tense or neutral *θ*.

7. The semi-voiced fricatives *θ̬ ɬ̬ s̬ x̬* (but not *š̬*) are conditioned allophones of the voiced fricatives, according to Holton 2000: 313. From the formal point of view, however, *θ̬ ɬ̬ s̬ x̬* should not be treated as allophonic variants of *ð l z ɣ*, but rather as full-fledged synchronic phonemes. As follows from Holton 2000: 23, 43–45; Arnold, Thoman & Holton 2009: 24, the semi-voiced fricatives *θ̬ ɬ̬ s̬ x̬* occur as a root-initial segment following the majority of suffixes, e.g., the nominal possessives *š-*, *tè-*, etc., the verbal “classifiers” -*t-, -l-* and so on. The semi-voiced fricatives alternate with the voiceless series *θ ɬ s x* which normally occur after suffixal *-h-* (Holton 2000: 43).

8. *š̬* is a full-fledged phoneme (phonologically can be treated as *ž*), whereas its voiceless counterpart *š* is excluded from the synchronic alternation of the voiceless and voiced fricatives (Holton 2000: 40, 45 ff.).

9. *m ~ ᵐb ~ b* are free variants depending on the speaker (Holton 2000: 51; Arnold, Thoman & Holton 2009: 12).

10. *ⁿd* is an allophonic variant of *n*, which occurs as a root-initial segment, if there is no another nasal in the root (Holton 2000: 56). Some speakers tend to denasalize *ⁿd* > *d* (Holton 2000: 57; Arnold, Thoman & Holton 2009: 12).

11. For long *nː* and *yː*, which occurs as -*nːʔ*, -*yːʔ* in the possessed forms < \**...n-éʔ*, \**...y-éʔ*, see Holton 2000: 59, 61.

12. In the traditional orthography, hyphen is used to mark a combination with the glottal-stop. Thus, ⟨k-’⟩ means *kʔ* (occurs at the morpheme boundaries) as opposed to standard glottalized ⟨k’⟩ *kʼ* (Arnold, Thoman & Holton 2009: 11, 15).

13. In the initial position before a consonant, *n l s š x* become syllabic *n̩ l̩ s̩ š̩ x̩* (Holton 2000: 39, 55, 91).

14. Initial vowels are normally modified by the prothesis *ʔ-* (not noted orthographically), but not always. At least in the case of *u*, initial plain *u-* is orthographical ⟨wu-⟩, whereas orthographical ⟨u-⟩ expresses regular *ʔu-* (Holton 2000: 33; Arnold, Thoman & Holton 2009: 6).

15. *o* & *oː* do not have nasalized counterparts.

16. We assume that Arnold, Thoman & Holton 2009 is the most reliable source as regards tonal transcription of individual forms.

17. The extra-high tone *V*̋ is restricted to the root vowels of negated verbal forms in the final phrasal position (Holton 2000: 81 ff., 271). Thus it is natural to describe the extra-high tone *V*̋ as phrasal prosody.

**Upper Tanana (Tetlin)**

The Upper Tanana language consists of five mutually intelligible dialects: Canadian, Scottie Creek, Northway, Tetlin, Nabesna (Minoura 1994). Northway and Tetlin seem especially close to each other. Available lexicographic data are sufficient for the compilation of one list for the Tetlin dialect (Milanowski 2009). We are thankful to Paul Milanowski and the Tetlin elder Ida Joe who have provided us with several lexical items missing from Milanowski 2009 (these are quoted as “Milanowski, p.c.”, January 2015). Additional sources: Minoura 1994; Minoura 1997.

Lexical data, mostly nominal forms, from the Northway (Milanowski 2007) and Scottie Creek (John 1997) dialects are quoted in the notes.

For the revealed discrepancies between Tetlin-Northway and Scottie Creek see ‘bark’, ‘to eat’, ‘feather’, ‘green’, ‘seed’, and perhaps ‘ashes’.

The following transliterational chart covers our principal sources (see Minoura 1994: 163, 165):

|  |  |  |
| --- | --- | --- |
| Milanowski 2009 | John 1997 | Current |
| b | m | b (in the initial position) / ᵐb (elsewhere) |
| m | m | m |
|  |  |  |
| d | d | t (before a vowel) / d (before a consonant or a pause) |
| t | t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | t’ | tʼ |
| n | n | n / nᵈ (see notes below) |
| nn | nn | nː |
| nh | nh | n̥ |
| nd | nd | nᵈ / biphonemic nt |
|  |  |  |
| ddh | ddh | tᶿ (before a vowel) / dᶞ (before a consonant or a pause) |
| tth | tth | tᶿʰ (before a vowel) / tᶿ (before a consonant or a pause) |
| tth’ | tth’ | tᶿʼ |
| dh | dh | ð |
| th | th | θ̬ |
| th | th | θ |
|  |  |  |
| dl | dl | ƛ (before a vowel) / ᴌ (before a consonant or a pause) |
| tł | tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | tl’ | ƛʼ |
| l | l | l |
| ł | ł | ɬ̬ |
| ł | ł, lh | ɬ |
|  |  |  |
| dz | dz | c (before a vowel) / ʒ (before a consonant or a pause) |
| ts | ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | ts’ | cʼ |
| s | s | s̬ |
| s | s | s |
|  |  |  |
| j | j | č (before a vowel) / ǯ (before a consonant or a pause) |
| ch | ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | ch’ | čʼ |
| sh | sh | š̬ |
| sh | sh | š |
| shy | sh | š̬ʸ |
|  |  |  |
| g | g | k (before a vowel) / ɣ (before a consonant) / g (before a pause) |
| k | k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | k’ | kʼ |
| x | x | x̬ |
| x | x | x |
|  |  |  |
|  | w | w |
| y | y | y |
|  | yy | yː |
| yh | yh | y̥ |
|  |  |  |
| ‘ | ‘ | ʔ |
| h | h | h / ɦ (in the areal prefix *ɦu-*) |
|  |  |  |
| i | i | i |
| e | e | e |
| a | a | a |
| o | o | o |
| u | u | u |
|  | ä | ɤ |
| ü | ü | ɯ |
|  |  |  |
|  | V̀ | V̀ (low) |
|  | V | V (high / neutral) |
|  | V̂ | V̂ (falling) |
|  | V̌ | V̌ (rising) |
|  |  |  |
| VV | VV | Vː |
| V̨ | V̨ | Ṽ |

Notes.

1. The ejective series (*tʼ, ƛʼ* etc.) is restricted to pre-vocalic position (root-initial, to be more precise), where three series of stops and affricates *t / tʰ / tʼ* ⟨d t t’⟩ are opposed. In the pre-consonantal position or before a pause, only two series of stops and affricates are opposed: voiced and voiceless, e.g., *d / t* ⟨d t⟩ etc. (Minoura 1994: 168). Historically, the situation is similar to that of the Tanacross language q.v.

2. The final suffixal vowels (*-ə* and *-əʔ*) tend to be dropped, although some modern speakers still pronounce a *ə*-like sound in the place of the historical final vowels (Minoura 1994: 171). Synchronously, the reduced vowel *ə* should be treated as a morphophonological unit (Minoura 1994: 186–188).

3. The final vowel deletion also caused the emergence of a phonological opposition between voiceless and voiced sonorants *n / n̥, y / y̥* in the final position.

4. A specific feature of Upper Tanana is the development of final root consonants followed by the *ə*-suffix (e.g., the negative or relativizing verbal suffix *-ə* or the possessive nominal suffix *-əʔ*): *tə > dn* ⟨dn⟩*, kə > ɣŋ* ⟨gn⟩*, lə > ᴌ* ⟨l, ll⟩*, nə > nː* ⟨nn⟩ (Minoura 1994: 171–172, 180–182). It may be observed from Minoura 1994: 182–184 that the same development of the morphonological sequence *Cə* can also occur in prefixes.

5. The so-called semi-voiced or lax fricatives (*θ̬ ɬ̬ s̬ š̬ š̬ʸ x̬*) phonetically represent voiceless onset plus voiced coda, i.e., *θð ɬl* etc. (Minoura 1994: 166). Apparently the three-way opposition of the fricatives is to be analyzed as: voiced *ð* / voiceless lax *θ͉* (= *θ̬*) / voiceless tense or neutral *θ*.

6. Historically, the semi-voiced fricatives (*θ̬ ɬ̬ s̬ š̬ x̬*, but not *š̬ʸ*) are conditioned allophones of the voiced fricatives. Synchronously, the semi-voiced fricatives (*θ̬ ɬ̬ s̬ š̬ x̬*) occur as a root-initial segment, whereas their voiced counterparts (*ð l y*) occur in prefixes and as root-initial segments in some compounds (Minoura 1994: 165). It should be noted that the available Upper Tanana sources are not very consistent in their transcription of semi-voiced fricatives.

7. Lax *š̬ʸ* is a full-fledged phoneme (phonologically can be treated as *ž*) which is excluded from the synchronic alternation of the voiceless and voiced fricatives (Minoura 1994: 192–193).

8. According to Minoura 1994: 167, 180, nasal *n m* are attested before *Ṽ*, *Vn*, *C*, *#*. Before *V*(*C*), where *V* and *C* are non-nasal, the complex variants *nᵈ ᵐb* (*~ b*) are pronounced instead. As for the *ᵐb* *~ b* fluctuation, it is stated in Milanowski 2009: 4 that the character ⟨b⟩ is pronounced *b* word-initially and *ᵐb* elsewhere.

9. At least some velar consonants are shifted back toward the uvular zone, i.e., *ḵ x̱* etc. (Minoura 1994: 166; Milanowski 2009: 5). Additionally, the stops *k kʰ* can be pronounced as affricates *kx kxʰ* (Minoura 1994: 166).

10. Initial vowels are normally modified by prothetic *ʔ-* (not noted orthographically), but not always (Minoura 1994: 166, 168). The exceptions are the possessive prefixes *u-* and *i-* which lack *ʔ-* (possessive *u-* can be orthographically represented as ⟨wu-⟩).

11. In addition to the monophthongs listed above, there are several diphthongs in Upper Tanana (Minoura 1994: 163).

12. Pitch accent, i.e. tonal opposition is retained in the Canadian, Scottie Creek and Northway dialects, eroded in Nabesna and lost in Tetlin (Minoura 1994: 178). The low tone is marked, whereas the high one is unmarked or neutral. For tonal assimilation, see Minoura 1994: 178.

**Lower Tanana (Minto)**

The Lower Tanana language consists of three closely related dialects: Minto (Minto-Nenana), Salcha (Salcha-Goodpaster), Chena (Urschel 2006: 4). Out of these, Salcha and Chena are recently extinct, but Minto is still spoken. Available lexicographic data are sufficient for the compilation of one list for the Minto dialect.

The primary lexicographic source for the Minto dialect are the dictionaries Kari 1994; Tuttle 2009, some lexical data can be extracted from Frank, Kari & Ritter 1988; Kari 1991; Krauss 1974; Thompson 1986; the verbal grammar Urschel 2006 has been used as well. Scarce lexical data from the Salcha and Chena dialects are quoted in the notes. No reliable lexicostatistical discrepancies between the dialects have been revealed.

The following transliterational chart covers our principal sources (see Urschel 2006: 20–21):

|  |  |
| --- | --- |
| Kari 1994; Tuttle 2009; Urschel 2006 | Current |
| b | b |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
| nh | n̥ |
|  |  |
| ddh | tᶿ |
| tth | tᶿʰ (before a vowel) / tᶿ (before a consonant or a pause) |
| tth’ | tᶿʼ |
| dh | ð |
| th | θ |
|  |  |
| dl | ƛ |
| tł, tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| dr | c̢ |
| tr | c̢ʰ (before a vowel) / c̢ (before a consonant or a pause) |
| tr’ | c̢ʼ |
| zr | ʐ |
| sr | ʂ |
|  |  |
| j | č |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| sh | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| gh | ɣ |
| x, kh | x |
|  |  |
| y | y |
| yh | y̥ |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| i | i |
| e | ə |
| a | a |
| o | ʌ |
| u | u |
| w | ʊ |
|  |  |
| ę | ə̃ |
| ą, á | ã |
| ų, ú | ũ |

Notes.

1. The ejective series of stops and affricates (*tʼ, ƛʼ* etc.) seems to be restricted to the pre-vocalic position, where three series of stops and affricates *t / tʰ / tʼ* ⟨d t t’⟩ are opposed (but not only to root-initial position, cf. *ɬukʼa* ‘fish’, *cʰəƛʼ-ã* ‘small’).

2. According to Urschel 2006: 16, the vowels *i ʌ u* are long ("full"), whereas *a ə ʊ* are short ("reduced").

3. Nasal vowels (*ə̃ ã ũ*) are rare. Additionally, as follows from the transcription in Kari 1994, they tend to lose their nasalization.

4. The tonal opposition high *V́* (unmarked) / low *V̀* (marked) is residually retained by some older speakers, but synchronically is lost (Urschel 2006: 17–18).

**Central Carrier**

Central Carrier is sometimes referred to simply as the *Carrier* *language* (as opposed to the distinct Southern Carrier language); or the Central Carrier and Southern Carrier languages are treated as dialects of a single Carrier language (in this case, Central Carrier can be called the *Stuart Lake dialect* or *Stuart-Trembleur dialect* of Carrier).

Central Carrier is spoken by several Indian bands: Nak’azdli, Tl’azt’en, Yekooche (Poser 2011a: 2; Poser 2011b: 43), with minimal linguistic discrepancies between them.

The primary lexicographic sources for Central Carrier are the cumulative dictionary Poser 2013 and the English-Central Carrier glossary Poser 2011a plus previous lexicographic works Antoine et al. 1974; Morice 1932; grammatical information has been taken from Poser 2011b; Antoine et al. 1974; Morice 1932.

The following transliterational chart covers the Carrier Linguistic Committee writing system, see Poser 2011b: 11–12 (further see Poser 2000 for Morice’s and Prince’s orthographies and Poser 2011b: 15 for the Carrier syllabics):

|  |  |
| --- | --- |
| Poser 2013 | Current |
| b | p |
| p | pʰ / p (before a consonant or a pause) |
| m | m |
| mb | mp |
| f | f |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
| nd | nt |
|  |  |
| dl | ƛ |
| tł, tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | ƛʼ |
| l | l |
| lh | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| dz | c̪ |
| ts | c̪ʰ (before a vowel) / c̪ (before a consonant or a pause) |
| ts’ | c̪ʼ |
| z | z̪ |
| s | s̪ |
|  |  |
| j | č |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| sh | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| gh | ɣ |
| kh | x |
| ng | ŋ |
|  |  |
| gw | kʷ |
| kw | kʰʷ (before a vowel) / kʷ (before a consonant or a pause) |
| kw’ | kʼʷ |
| ghw | ɣʷ |
| wh | xʷ |
|  |  |
| y | y |
| w | w |
| r | r |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| i | i |
| e | e |
| a | a |
| o | o |
| oo | u |
| u | ʌ |
| ai | ai |

1. *pʰ f r* occur only in French and English loans (Poser 2011b: 13).

2. *c̪ c̪ʰ c̪ʼ z̪ s̪* are lamino-dental sounds, opposed to apico-alveolar *c cʰ cʼ z s* (Poser 2011b: 14).

3. There is a phonological opposition between the initial vowels *V-* and the glottal stop onset *ʔV-* (Poser 2011b: 14).

4. According to Bill Poser (p.c.), Central Carrier has a sort of pitch accent system with low functional load. In Antoine et al. 1974, the vowels are modified with the acute sign (*á, í* etc.) in some morphemes, probably denoting the high tone.

**Koyukon**

The Koyukon (or Denaakk’e, Ten’a) language consists of three main dialects: Lower (Kaltag and Nulato sites), Central (Koyukuk, Huslia, Galena, Ruby and some other sites) and Upper (Tanana, Bearpaw and some other sites); these three are mutually intelligible, although they demonstrate some phonological, grammar and lexical discrepancies, see Jetté & Jones 2000: liii ff.; Jones 1978: 3 ff. for detail.

Our wordlist is based on the Central dialect, which functions as a "norm" for the Koyukon community; relevant dialectal forms are quoted in the notes. For reliable or potential lexicostatistic discrepancies between the dialects see ‘bird’, ‘to bite’, ‘blood’, ‘cold’, ‘knee’, ‘new’, ‘small’, ‘tooth’. The Upper dialect is prone to lexical borrowing from the neighboring Lower Tanana language.

The primary lexicographic sources for Koyukon are the cumulative dictionary Jetté & Jones 2000 (covers main dialects) and the educational English-Koyukon dictionary Jones 1978 (based on the Central dialect); grammatical information has been taken from Kroul 1975; Jones & Kwaraceius 1997; Thompson 1977; Henry & Henry 1965; Landar 1967.

The following transliterational chart covers our principal sources (see also the comparative table in Kroul 1975: 20–21):

|  |  |
| --- | --- |
| Jones 1978; Jetté & Jones 2000 | Current |
| b | p |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
| nh | n̥ |
|  |  |
| dl | ƛ |
| tł, tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tł’, tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
|  |  |
| gg | q |
| kk | qʰ (before a vowel) / q (before a consonant or a pause) |
| kk’ | qʼ |
| gh | ʁ |
| h | χ |
|  |  |
| y | y |
| yh | y̥ |
|  |  |
| ‘ | ʔ |
| ĥ, h | h |
|  |  |
| ee | iː |
| aa | aː |
| oo | uː |
| o | oː |
| e ([Jones 1978]: i, a) | ə |
| u | u |
| ʉ ([Jones 1978]: u) | o |

Notes.

1. *h* is not always distinguished from *χ* in traditional orthography; both may be written as ⟨h⟩.

2. In the Upper dialect (except for root-final position in the Bearpaw subdialect), *k kʰ kʼ > č čʰ čʼ* ⟨j ch ch’⟩ and *y̥* > *š* ⟨sh⟩, whereas the uvular series retains its post-velar articulation. In the Bearpaw subdialect, *k kʰ kʼ > q qʰ qʼ* in root-final position. See Jetté & Jones 2000: lix for details.

3. The glottal stop (*ʔ*) is an automatic prothesis in case of vocalic onset. We do not note it in our transcription.

4. The vowel system of Koyukon is described as four "long or full vowels" ⟨ee, aa, oo, o⟩ and three "short or reduced vowels" ⟨e, u, ʉ⟩ (Jetté & Jones 2000: lxvi, lxx). We transliterate them as the long set *iː aː uː oː* and the short set *ə u o* respectively. According to Kroul 1975: 19, short *u* is actually realized either as *ʊ* or as *ʌ* or somewhere in between the two.

5. In the Lower dialect, final -*V#* and -*Vʔ#* have been deleted.

6. Outermost Koyukon varieties (the Lower dialect and the Toklat-Bearpaw subdialect of Upper Koyukon) retain the tonal opposition *V́* / *V̀* (the lower tone *V̀* is statistically marked), which has been lost in the central area (Jetté & Jones 2000: lvi, lx, lxxi). However, available sources rarely offer any tonal transcription.

**Degexit’an**

Degexit’an (a.k.a. Deg Xinag, Deg Xit’an, Ingalik, Ingalit, Anvik) is a language of Western Alaska which consists of two dialects: Yukon and Kuskokwim, both nearly extinct. The Kuskokwim dialect is poorly described; our list is based on the Yukon dialect.

The primary lexicographic sources for Yukon Degexit’an are the noun glossary Kari 1978, the verbal glossary Kari 1976 and the learners’ dictionary Taff et al. 2007. The text collection and glossary in Chapman 1914 have also been extensively used (the majority of Chapman’s texts was reelicited and retranscribed in the 1970s by James Kari, see Alaska Native Language Archive <http://www.uaf.edu/anla/> for Kari’s scanned manuscripts, identifiers IK974K1975b, IK974K1976f, IK887CK1981). Additional sources are: Hargus 2000; Hargus 2010; Leonard 2007. The missing Swadesh items are: ‘that’, ‘this’.

In several cases, there are discrepancies between the archaic (or sub-dialectal) data of Chapman 1914 and the modern Yukon sources Taff et al. 2007; Kari 1978: we prefer to fill the slot with Chapman’s words for ‘breast’, ‘to drink’, ‘root’, and with two synonyms for ‘near’.

The only revealed lexicostatistic discrepancy between the Yukon and Kuskokwim dialects could be the word for ‘stone’. It should, however, be noted that the Kuskokwim dialect was not systematically recorded.

The following transliterational chart covers our principal sources (see Hargus 2010 and other phonological descriptions):

|  |  |
| --- | --- |
| Kari 1978; Taff et al. 2007 | Current |
| b | p |
| p | pʰ (before a vowel) / p (before a consonant or a pause) |
| m | m |
| mh | m̥ |
| mʼ | mʔ |
|  |  |
| d | t (before a vowel) / d (before a consonant or a pause) |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
| nh | n̥ |
| nʼ | nʔ |
|  |  |
| ddh | tᶿ (before a vowel) / dᶞ (before a consonant or a pause) |
| tth | tᶿʰ (before a vowel) / tᶿ (before a consonant or a pause) |
| tth’ | tᶿʼ |
| dh | ð |
| th | θ |
|  |  |
| dl | ƛ (before a vowel) / ᴌ (before a consonant or a pause) |
| tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c (before a vowel) / ʒ (before a consonant or a pause) |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| dr | c̢ (before a vowel) / ᶚ (before a consonant or a pause) |
| tr | c̢ʰ (before a vowel) / c̢ (before a consonant or a pause) |
| tr’ | c̢ʼ |
| zr | ʐ |
| sr | ʂ |
|  |  |
| j | č (before a vowel) / ǯ (before a consonant or a pause) |
| ch | čʰ (before a vowel) / č (before a consonant or a pause) |
| ch’ | čʼ |
| sh | š |
|  |  |
| g | k (before a vowel) / g (before a consonant or a pause) |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| ng | ŋ |
| ngh | ŋ̥ |
| ngʼ | ŋʔ |
|  |  |
| gg, G | q (before a vowel) / ɢ (before a consonant or a pause) |
| q | qʰ (before a vowel) / q (before a consonant or a pause) |
| q’ | qʼ |
| gh | ʁ |
| x | χ |
|  |  |
| y | y |
| yh | y̥ |
| yʼ | yʔ |
| v | v |
|  |  |
| ‘ | ʔ |
| h | h |
|  |  |
| e | eː |
| a | aː |
| o | oː |
| u | ʊ |
| i | ə |

Notes.

1. *p pʰ* are only attested in loanwords.

2. The situation with the four stop series (*d t tʰ tʼ*) is the same as in Koyukon q.v. The ejective series (*tʼ, ƛʼ* etc.) is restricted to the position before a vowel (to be precise, to the root-initial position), where three series of the stops and affricates *t / tʰ / tʼ* ⟨d t t’⟩ are opposed. In the position before a consonant or a pause, two series of the stops and affricates are opposed: voiced and voiceless, e.g., *d / t* ⟨d t⟩ etc. (Hargus 2010: 34–35). Note the tangled traditional orthography as described in the above table. It is interesting that the final vowel *-ə* which was deleted in the modern language, causing the emergence of a voiced consonant (*-Vtʰ-V(ʔ)* > *-Vd*), is still retained in Chapman’s (1914) transcription.

3. *ʊ* can be phonologically treated as short *o*.

4. Marginal nasal vowels are transcribed for the negative particle *ẽːhẽːʔẽː* ‘no’ in Taff et al. 2007.

**Sarsi**

Sarsi (or Sarcee, Tsuut’ina) is a nearly extinct language which lacks a full-fledged lexicographic description, although available publications allow us to compile the Swadesh wordlist with only minor *lacunae* (missing items include ‘heart’, ‘root’, ‘seed’, ‘salt’, ‘snake’, ‘worm’, ‘year’). The primary sources are the short noun glossary Hoijer & Joël 1963 and the short verb glossary Li 1930b plus the 100-item wordlist in Hoijer 1956: 222–223, based on Edward Sapir’s unpublished field notes. Sarsi texts and phrases offered in Goddard 1915; Sapir 1923; Nanagusja 1996a; Nanagusja 1996b have also been useful for our purposes. Grammatical information as well as some lexical items has been taken from the descriptive grammar Cook 1984 plus some specific grammar papers such as Leer 1997.

The following transliterational chart covers our principal sources:

|  |  |
| --- | --- |
| Cook 1984; Hoijer & Joël 1963 | Current |
| b | p |
| m | m |
|  |  |
| d | t |
| t | tʰ (before a vowel) / t (before a consonant or a pause) |
| t’ | tʼ |
| n | n |
|  |  |
| dl | ƛ |
| tł, tl | ƛʰ (before a vowel) / ƛ (before a consonant or a pause) |
| tł’, tl’ | ƛʼ |
| l | l |
| ł | ɬ |
|  |  |
| dz | c |
| ts | cʰ (before a vowel) / c (before a consonant or a pause) |
| ts’ | cʼ |
| z | z |
| s | s |
|  |  |
| dj, dž | č |
| tc, tš | čʰ (before a vowel) / č (before a consonant or a pause) |
| tc’, tš’ | čʼ |
| j, ž | ž |
| c, š | š |
|  |  |
| g | k |
| k | kʰ (before a vowel) / k (before a consonant or a pause) |
| k’ | kʼ |
| ɣ | ɣ |
| x | x |
|  |  |
| gw | kʷ |
| kw | kʰʷ (before a vowel) / k (before a consonant or a pause) |
| k’w | kʼʷ |
|  |  |
| y | y |
| w | w |
|  |  |
| ʔ | ʔ |
| h | h |
|  |  |
| i | i |
| a | a |
| u (Hoijer 1956: o) | u |
| o, α | ɒ |
|  |  |
| Vˑ | Vː |
| Vː | VV |
|  |  |
| V́ | V́ |
| V̄, V | V̄ |
| V̀ | V̀ |

Notes.

1. *p* is a marginal phoneme. *kʷ, kʰʷ* can be treated as the combination *k, kʰ* + *u*, although *kʼʷ* seems to be an actual phoneme (Cook 1984: 7–8).

2. *ɣi > yi*, although some authors can write down such forms with etymological *ɣ*.

3. The glottal stop (*ʔ*) is an automatic prothesis in the case of vocalic onset. We do not note it in our transcription.

4. *u* is realized in the range between *u* and *o*; *i* - in the range between *i* and *e*; *ɒ* can lose its roundness > ɑ (note that *ɒ* is frequently confused with *a* in the available sources).

5. In addition to the standard opposition between short (*V*) and long (*Vː*) vowels, there exist extra-long vowels which represent the result of recent contractions and can be phonemically treated as vocalic clusters *VV* (Hoijer & Joël 1963: 65; Cook 1971: 13). The majority of long vowels are the result of automatic lengthening before voiced consonants in the final position (e.g., *...az# > ...aːz#*), but in the innovative speech the opposition *V* / *Vː* became phonemic due to devoicing (*...aːz# > ...aːs#*) (Cook 1984: 13, 18–19). It must be noted that morphophonemic contractions can yield either extra-long or long vowels (apparently this reflects two waves of contraction processes). The available sources are not consistent in the matter of length notation.

6. The Sarsi tonal opposition is traditionally described with three level tones: high *V́* / middle *V̄* / low *V̀* (Hoijer & Joël 1963: 65; Cook 1971; Cook 1984: 11–12), although it is likely that the real phonological opposition is binary: high *V́* / low *V̀*, whereas middle *V̄* is the result of fluctuation of either the high or low tones (Cook 1984: 11; Barreda 2011). We have observed substantial inconsistencies in tone notation for individual morphemes in the available sources. Besides the aforementioned level tones, there are contour tones appearing on contracted long or extra-long vowels. In Hoijer & Joël 1963: 65, at least 6 distinct contour tones are reported, but we arbitrarily reduce them to two tones, rising *V̌* and falling *V̂*, in our transcription.

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**Authors:**

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The Hupa, Mattole, Kato, Taldash Galice, Tanaina (Upper Inlet, Outer Inlet, Inland, Iliamna), Ahtena (Central, Mentasta), Dogrib, North Slavey (Hare), Tanacross, Upper Tanana (Tetlin), Lower Tanana (Minto), Central Carrier, Koyukon (Central), Degexit’an, Sarsi wordlists were previously published in: Starostin, George S. (ed.). 2011-2019. Global lexicostatistical database. http://starling.rinet.ru/new100/main.htm