

On the classification of the Samoyedic languages

Dedicated to the memory of Eugene Helimski (1950–2007)

The article is introduced by a survey and discussion of previous models of classification of the Samoyedic languages. The main part is devoted to a new model of classification, based on the application of so-called recalibrated glottochronology, including a full documentation of wordlists with etymological remarks, statistics and sources. Finally, the present result is compared with previous models. This article follows the study by Blažek 2012, thus completing the Uralic language family.

For the first time in AD 1096, the ethnonym *Samoyed* [Самойѣдъ] was used in *Tale of Bygone Years* (Повѣсть временныхъ лѣтъ), probably about the Nenets (Blažek, Hofírková & Kovář 2011: 207, 217–218). The first record of words from any Samoyedic language was mediated by a British merchant Richard James. In a manuscript of his *Russian Vocabulary* from 1618–1620, he included several words identified as Nenets (Stipa 1981: 57–58; Blažek & Kovář 2013: 279). In his treatise *Dissertatio de origine Germanorum* from 1710, Gottfried Wilhelm Leibniz proposed that the Samoyedic languages together with Saamic, Finnish, Estonian, Livonian, Komi, and Hungarian had their origin in a language of one great nation of the North (Blažek & Kovář 2013: 281–282).

Among linguists studying **Samoyedic** languages there is no consensus concerning their genetic classification. Here we shall compare four models, two of them qualitative and the other two quantitative. In diagram A, the traditional model (Collinder 1960: 11; cf. also Janhunen 1977 = J: 7, and Ruhlen 1987: 328, followed by *Ethnologue*, including even the most recent, 17th, edition from 2013 – left) is compared with a somewhat revolutionary model by Janhunen (Janhunen 1998: 459 – right), unfortunately presented without any details:

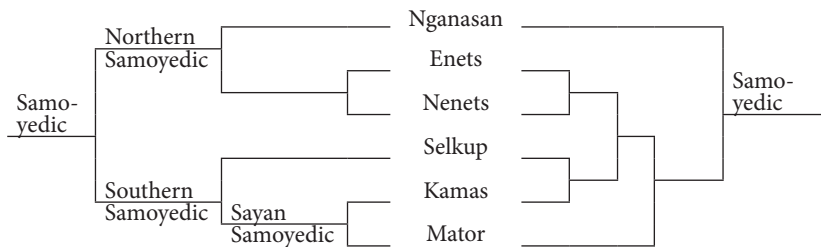


Diagram A: The traditional model (on the left) compared with the model by Janhunen (1998) (on the right)

The alternative models based on application of lexicostatistics and glotto-chronology were proposed by Helimski (Xelimskij 1982: 39 – left) and Starostin (2004 – right):

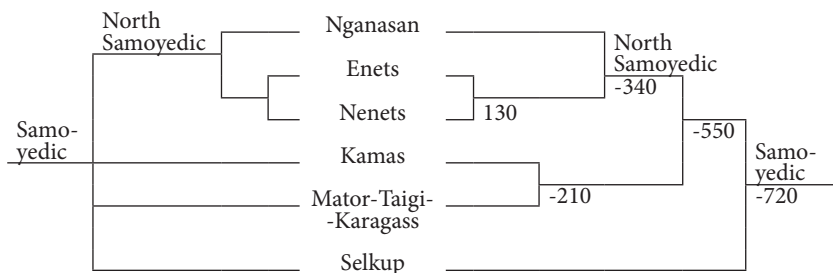


Diagram B: The alternative models by Helimski (left) and Starostin (right)

%	Enets	Nganasan	Selkup	Kamas	Mator
Nenets	65/87 = 74.7	53/86 = 61.6	49/87 = 56.3	49/87 = 56.3	50/86 = 58.1
Enets		62/86 = 72.1	52/87 = 59.8	51/87 = 58.6	50/86 = 58.1
Nganasan			47/86 = 54.6	47/86 = 54.6	46/85 = 54.1
Selkup				51/87 = 58.6	44/86 = 51.2
Kamas					50/86 = 58.1

Table 1: Results of Helimski (Xelimskij 1982: 39)

Helimski's model operates with four coordinate branches, although his published results (Xelimskij 1982: 39), applying the standard cladistic procedure based on average values (left side of Diagram C), give another conclusion, namely three coordinate branches: North Samoyedic, Kamas-Mator, Selkup, while the procedure operating with minimum values leads to the binarily organized structure (right side):

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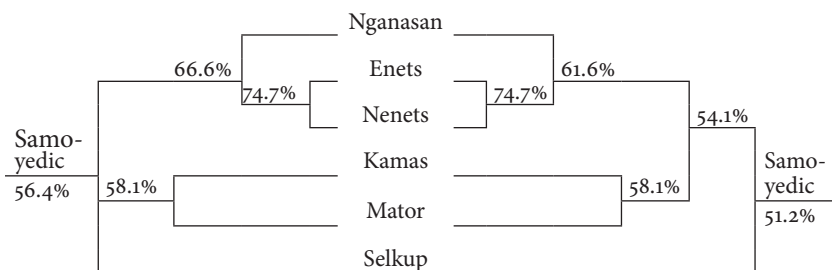


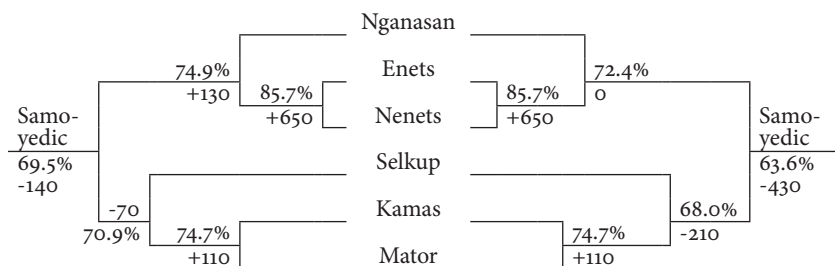
Diagram C: The models based on real results of Helimski, applying the average (left) and minimum (right) values.

The results of the present study, whose methodology is described in Blažek 2012, 81–91, are summarized in Table 2:

%	Enets	Nganasan	Selkup	Kamas	Mator
Nenets	84/98 = 85.71	71/98 = 72.44	73/98 = 74.49	62.5/92 = 67.93	68/91 = 74.72
Enets		75/97 = 77.32	70/96 = 72.92	62.5/92 = 67.93	66/91 = 72.52
Nganasan			63/97 = 64.94	58.5/92 = 63.59	60/90 = 66.66
Selkup				68/92 = 73.91	60.5/89 = 67.98
Kamas					63.5/85 = 74.71

Table 2: The results of the present study

Applying both cladistic procedures, one based on average values (left) and the second on minimum values (right), the following schemes are generated (Diagram D):



Note: The lexical data of Mator are from the 18th century, whereas the main source of all other wordlists are vocabularies collected by Castrén in the 1840s, supplemented and sometimes verified by lexicons published in the 20th century. With respect to this fact, the time estimations should be shifted to *c.* the 3rd century. The question is how much, if lexemes are collected from both older and younger sources in order to obtain a maximal completeness.

Diagram D: The models based on the present results.

The topologies of the left and right parts of diagram D correspond to one another. In principle, they confirm the north/south dichotomy, proposed in traditional handbooks. With regard to the thin interval 1.4% between the disintegration of Common Samoyedic and the separation of Selkup from Kamas and Mator, meaning less than plus/minus one cognate item, it is legitimate to approximate the common disintegration around 70% (c. 100 BCE) for three more or less parallel branches: North Samoyedic, Early Selkup and Kamas-Mator. This alternative conclusion agrees with the left diagram C, based on percentages calculated by Helimski.

Besides the tree diagram, it is useful to depict mutual relations between related languages as a net diagram, shown below in E, where the highest percentages are displayed:

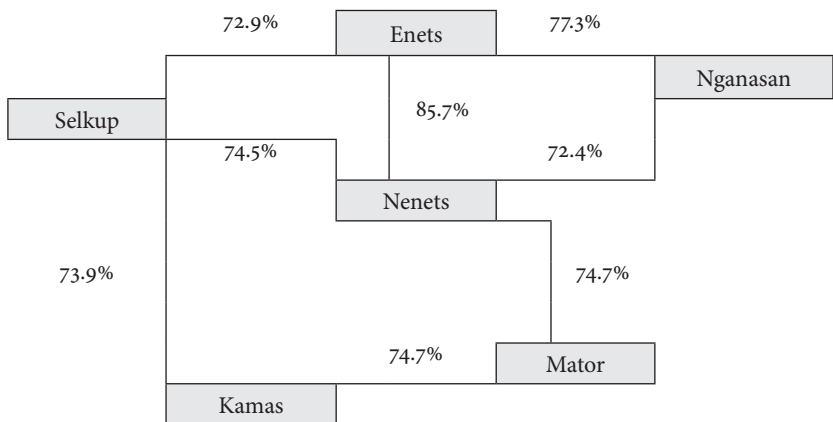


Diagram E: The net diagram connecting the closest relatives

Table 2 shows some apparently deviant results. First of all, the weak links of Nganasan with all other Samoyedic languages with the exception of Enets may be explained by the strong influence of an unidentified pre-Samoyedic substratum of the Taimyr Peninsula, while the higher number of Enets-Nganasan cognates was probably caused by their direct contact in the recent past. Similarly, the relatively high scores between Selkup-Nenanets and Selkup-Enets can also be ascribed to their neighbourhood existing till the 20th century. In the 18th century, Kamas and Mator were also spoken in adjoining areas in Southern Siberia (cf. Helimski 1997 = H: 14–16). Rather surprising is a relatively high score between Nenanets and Mator. It could be

explained by their former neighbourhood. On the other hand, every result operating with Mator (and Kamas) is distorted by the fact that there are 4 missing items and 5 identified loanwords (in Kamas 1 + 7, respectively).

The results obtained in the present research should be verified. One of the best tools is analysis of old loanwords, borrowed in this case still before the disintegration of Common Samoyedic. Janhunen (1998: 477) recognized the following old strata of borrowings:

- (a) Tocharian¹ — disintegration c. 400 BCE; hypothetical identification with Afanasievo culture in South Siberia dated to 37th–25th cent. BCE, followed by the culture of Okunevo dated to 25th–19th cent. BCE (Svyatko et al. 2009: 244), formed probably by early Samoyeds (Vadecakaja 1990: 73), and so-called Tarim mummies from c. 2000 BCE (Mallory & Mair 2000: 314–318; Blažek & Schwarz 2011: 136–137, 129).
- (b) Ugric² — disintegration c. 1480 BCE (Blažek 2012, 34).
- (c) Proto-Bolgar³ — disintegration of proto-Turkic into proto-Bolgar and the mainstream called Common Turkic is dated to c. 100 BCE or to 0 by Dybo, depending upon the choice of synonyms (Dybo 2006: 70–771), and to c. 120 BCE by Mudrak (2009: 172–179, see also Schwarz & Blažek 2011: 31–32).

From these chronological data it is possible to estimate that contacts between ancestors of Samoyeds and Tocharians could have been realized around 2500 BCE. On the other hand, it is not necessary to operate with proto-Ugric as a source of Samoyedic **num*, if the Ob-Ugric disintegration (c. 400 BCE) preceded the disintegration of Samoyedic (c. 140 BCE, or 3rd century BCE with respect to the times of records). In the case of proto-Bolgar, the situation is opposite: its separation (between 120 BCE and 0) follows after the disintegration of Samoyedic (3rd cent. BCE / 160 BCE; other estimations are still deeper in time – see Diagram B right; according to A. Dybo (2006: 783) Selkup separated c. 410 BCE, followed by the North & South Samoyedic disintegration dated to 140 BCE). This means that the examples quoted by Janhunen as proto-Bolgar (with respect to Samoyedic **jür* vs. Volga Bolgar **jür*, Chuvash *šěr*, but Common Turkic **jüz*) should be ascribed to proto-Turkic (**jūr*; cf. H 244; Jo 124; Dybo 2006: 786). This conclusion is extraordinarily important in the discussion of the priority of **r* (implying secondary ‘zetacism’) or **z* (implying secondary ‘rhotacism’) in favour of original **r̥*. Summing up, it is possible to conclude that the disin-

tegration of Samoyedic in the 3rd–2nd century BCE happened between the disintegrations of its neighbours, Ob-Ugric around 400 BCE and Turkic around 100 BCE.

The Samoyedic homeland is localized by Xelimskij (1989 [2000]: 15–17) in the Southwest Siberian taiga, in the area delimited by a triangle formed by the cities of Tomsk, Krasnoyarsk and Eniseisk. The ancestors of the Selkups moved to the north along the Ob. The North Samoyeds migrated to the north along the Yenisei. The ancestors of Kamas-Koibal tribes moved to the south in the Sayan Mountains, the ancestors of Mator-Taigi-Karagas tribes to the east between the Kan and Mana rivers, right tributaries of the Yenisei. All these migrations could have been caused by ancestors of the Yeniseic populations, forming a part of the Hunnic tribal union at that time. Finally, the Yeniseians followed them, perhaps under pressure from the Turkic populations. Janhunen (2009: 72), and subsequently Parpola (2012: 294), identify the proto-Samoyeds with the Tagar bronze age archaeological culture, dated between the 7th and 3rd century BCE in South Siberia, concretely in the eastern part of Kemerovo province, the southern part of Krasnoyarsk Territory and the Republic of Khakassia.

The percentages of cognates between the individual Samoyedic and Finno-Ugric languages vary between 35% (Finnish vs. Nganasan, Finnish vs. Kamas) and 18–19% (North and Inari Saami vs. Selkup; Hungarian vs. Enets). More coherent are the results obtained from average values: maximum 28.62% of Finnic vs. Samoyedic against 22.39% of Mordvinian-Samoyedic and 22.95% of Saamic-Samoyedic. The average of all averages is *c.* 25%, corresponding to 3320 BCE (or *c.* 3400 BCE, if the earlier records of some wordlists are taken in account) as a date of disintegration of Uralic into Finno-Ugric and Samoyedic. This agrees better with the dating to 3430 BCE by S. Starostin (2004) than to 3840 BCE, as proposed by his son G. Starostin (p.c., 26 Nov, 2010).

Statistics

Missing items: Nenets: \emptyset ; Enets: ##69, 73; Nganasan: #73; Kamas: #73; Mator: ##51, 71, 73, 86.

Identified loanwords: Nenets: \emptyset ; Enets: \emptyset ; Nganasan: #66; Selkup: ##55, 96; Kamas: ##1, 6, 8, 27, 35, 69, 100; Mator: ##20, 69, 77, 97, 99.

Non-cognates (Σ) and shares of common cognates (σ):

Nenets-Enets: 3 bark, 11 breast, 24 egg, 26 fat, 27 feather, 35 green, 50 louse, 55 mountain, 59 new, 80 star, 83 swim, 84 tail, 85/2 that, 86/2 this, 87 thou; Σ 14; $\sigma = 84/98 = 85.11\%$.

Nenets-Nganasan: 1 all, 2 ashes, 3 bark, 5 big, 6/2 bird, 8 black, 11 breast, 12 burn, 22 earth, 24 egg, 32 full, 34 good, 35 green, 46 leaf, 49 long, 50 louse, 54 moon, 55 mountain, 59 new, 61 nose, 69 round, 70 sand, 77 small, 80 star, 86/2 this, 87 thou, 93 warm, 95/2 we, 96/2 what; Σ 27; σ 71/98 = 72.44%.

Enets-Nganasan: 1 all, 2/2 ashes, 5 big, 6 bird, 8 black, 22 earth, 26 fat, 27 feather, 32 full, 34 good, 35 green, 46 leaf, 49 long, 54 moon, 55 mountain, 61 nose, 70/2 sand, 71 say, ?77 small, 83 swim, 85/2 that, 86/2 this, 93 warm, 95/2 we; Σ 21; $\sigma = 76/97 = 78.35\%$.

Nenets-Selkup: 1 all, 2/2 ashes, 8 black, 11 breast, 24 egg, 26 fat, 31 foot, 32 full, 35 green, 38 head, 47 lie, 50 louse, 51 man, 52 many, 59 new, 64 person, 69 round, 70 sand, 77 small, 80 star, 82 sun, 85/2 that, 86/2 this, 87 thou, 93 warm, 95/2 we, 100 yellow; Σ 25; $\sigma = 73/98 = 74.49\%$.

Enets-Selkup: 1 all, 2/2 ashes, 4 belly, 6/2 bird, 8 black, 11 breast, 20 dry, 24 egg, 27 feather, 31 foot, 32 full, 38 head, 47 lie, 51 man, 52 many, 58 neck, ?59 new, 64 person, 70 sand, 77 small, 80 star, 82 sun, 83 swim, 84 tail, 93 warm, 95/2 we, 98 who, 100 yellow; Σ 26; $\sigma = 70/96 = 72.92\%$.

Nganasan-Selkup: 1 all, 2 ashes, 4 belly, 5 big, 6/2 bird, 8 black, 11 breast, 12 burn, 20 dry, 22 earth, 24 egg, 26 fat, 31 foot, 32 full, 34 good, 35 green, 38 head, 46 leaf, 47 lie, 49 long, 51 man, 52 many, 54 moon, 58 neck, 59 new, 61 nose, 64 person, 69 round, 70/2 sand, 71 say, 80 star, 82 sun, ?83 swim, 85/2 that, 86/2 this, 98/2 who, 100 yellow; Σ 34; $\sigma = 63/97 = 64.94\%$.

Nenets-Kamas: 2/2 ashes, 7 bite, 11 breast, 12 burn, 20 dry, 24 egg, 26 fat, 30 fly, 32 full, 34 good, 38 head, 44 knee, 45 know, 47 lie, 50 louse, 53 meat, 54 moon, 55 mountain, 59 new, 64 person, 66 red, 67 road, 69 round, 70 sand, 77 small, 80 star, 83 swim, 85/2 that, 87 thou, 93 warm, 95/2 we; Σ 29.5; $\sigma = 62.5/92 = 67.93\%$.

Enets-Kamas: 2/2 ashes, 4 belly, 7 bite, 11 breast, 12 burn, 20 dry, 26 fat, 30 fly, 32 full, 34 good, 38 head, 44 knee, 45 know, 47 lie, 53 meat, 54 moon, 55 mountain, 58 neck, 59 new, 64 person, 66 red, 67 road, 70 sand, 77 small, 80 star, 83 swim, 84 tail, 92 walk, 93 warm, 95/2 we, 98/2 who; Σ 29.5; $\sigma = 62.5/92 = 67.93\%$.

Nganasan-Kamas: 2 ashes, 5 big, 7 bite, 11 breast, 12 burn, 20 dry, 22 earth, 26 fat, 30 fly, 32 full, 34 good, 38 head, 44 knee, 45 know, 46 leaf, 47 lie, 49 long, 53 meat, 58 neck, 59 new, 61 nose, 64 person, 67 road, 69 round, 70 sand, 71 say, 72 see, 77 small, 80 star, 83 swim, 84 tail, 85/2 that, 93 warm, 96/2 what, 98/2 who; Σ 33.5; $\sigma = 58.5/92 = 63.59\%$.

Selkup-Kamas: 7 bite, ?11 breast, 12 burn, 20 dry, 24 egg, 26 fat, 30 fly, 31 foot, 32 full, 34 good, 44 knee, 45 know, 52 many, 54 moon, 59 new, 64 person, 66 red, 67 road, 69 round, 70 sand, 71 say, 77 small, 82 sun, 93 warm, 98/2 who; Σ 24; $\sigma = 68/92 = 73.91\%$.

Nenets-Mator: 2/2 ashes, 3 bark, 6 bird, 7 bite, 8 black, 11 breast, 24 egg, 32 full, 34 good, 35 green, 46 leaf, 47 lie, 48 liver, 54 moon, 55 mountain, 59 new, 64 person, 67 road, 70 sand, 80 star, 85/2 that, 87 thou, 95/2 we, 96/2 what, 100 yellow; Σ 23; $\sigma = 68/91 = 74.72\%$.

Enets-Mator: 1/2 all, 2/2 ashes, 3 bark, 4 belly, 6 bird, 7 bite, 8 black, 24 egg, 26 foot, 27 feather, 32 full, 34 good, 35 green, 46 leaf, 47 lie, 48 liver, 50 louse, 54 moon, 55 mountain, 67 road, 70 sand, 80 star, 83 swim, 84 tail, 95/2 we, 98/2 what, 100 yellow; Σ 25; $\sigma = 66/91 = 72.52\%$.

Nganasan-Mator: 1 all, 2 ashes, 3 bark, 4 belly, 5 big, 6 bird, 7 bite, 8 black, 12 burn, 19 drink, 22 earth, 26 fat, 32 full, 34 good, 35 green, 46 leaf, 47 lie, 48 liver, 49 long, 50 louse, 55 mountain, 59 new, 64 person, 67 road, 70 sand, 80 star, 83 swim, 85/2 that, 93 warm, 98/2 who, 100 yellow; Σ 30; $\sigma = 60/90 = 66.66\%$.

Selkup-Mator: 1 all, 3 bark, 6 bird, 7 bite, 8 black, 11 breast, 19 drink, 24 egg, 26 fat, 31 foot, 32 full, 34 good, 35 green, 38 head, 46 leaf, 47 lie, 48 liver, 50 louse, 52 many, 54 moon, 58 neck, 59 new, 64 person, 67 road, 70 sand, 82 sun, 93 warm, 98/2 who, 100 yellow; Σ 30.5; $\sigma = 60.5/89 = 67.98\%$.

Kamas-Mator: 3 bark, 7 bite, 11 breast, 12 burn, 19 drink, 32 full, 34 good, 38 head, 44 knee, 45 know, 46 leaf, 47 lie, 48 liver, 50 louse, 53 meat, 58 neck, 59 new, 66 red, 72 see, 83 swim, 92 walk, 96/2 what; Σ 21.5; $\sigma = 63.5/85 = 74.71\%$.

Note: The fraction $n/2$ is used for partial cognates, e.g. if a word in language A corresponds to a component of a compound in language B, or in the case of pronominal stems agreeing in the initial consonants but differing in the root vowels.

Samoyedic vs. Finno-Ugric

I. Samoyedic vs. Finnic

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
Finnish	27/94 = .2872	25.5/93 = .2742	32.5/93 = .3495	26/93 = .2796	31.5/89 = .3539	25/86 = .2907	30.57
Karelian	23/92 = .2500	24/91 = .2637	28/92 = .3043	25/91 = .2747	26/87 = .2988	23/84 = .2738	27.77
Veps	24.5/93 = .2634	25/92 = .2717	28/93 = .3011	24.5/92 = .2663	28/88 = .3181	22.5/85 = .2647	28.08
Estonian	24.5/93 = .2634	26/92 = .2826	29.5/92 = .3206	25.5/92 = .2772	27.5/88 = .3125	23.5/85 = .2764	28.87
Livonian	24.5/93 = .2634	23/92 = .2500	27.5/92 = .2989	24.5/92 = .2663	25.5/88 = .2897	23/85 = .2706	27.31
Votic	25.5/92 = .2772	26/91 = .2857	29.5/92 = .3206	26/91 = .2857	26/88 = .2954	23.5/84 = .2798	29.09
Ø [%]	160.46 /6 = 26.74	162.79 /6 = 27.12	189.50 /6 = 31.58	164.98 /6 = 27.50	186.84 /6 = 31.14	165.60 /6 = 27.60	1030.17 /36 = 28.62

II. Samoyedic vs. Saamic

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
South	21/89 = .2360	20/88 = .2273	22.5/88 = .2557	17.5/88 = .1989	20/84 = .2380	18.5/81 = .2284	23.07
Lule	21/89 = .2360	19/88 = .2159	22.5/88 = .2557	17.5/88 = .1989	20/84 = .2380	19.5/81 = .2407	23.09
North	20/91 = .2198	19/90 = .2111	22.5/90 = .2500	16.5/90 = .1833	19/85 = .2235	19.5/83 = .2349	22.04
Inari	20/91 = .2198	18/90 = .2000	21.5/90 = .2389	17/90 = .1889	20/85 = .2352	18.5/83 = .2229	21.76
Skolt	22/88 = .2500	20/87 = .2299	23.5/87 = .2701	18/87 = .2069	21/82 = .2560	20.5/80 = .2563	24.49
Kildin	21/88 = .2386	19/87 = .2184	21.5/87 = .2471	17/87 = .1954	21/83 = .2530	19.5/80 = .2438	23.27
Ø [%]	140.02 /6 = 23.34	130.26 /6 = 21.71	151.75 /6 = 25.29	117.23 /6 = 19.54	144.37 /6 = 24.06	142.70 /6 = 23.78	826.83 /36 = 22.95

III. Samoyedic vs. Mordvin

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
Erzya	20.5/98 = .2092	20.5/96 = .2135	23.5/96 = .2448	23.5/96 = .2448	19/90 = .2111	20.5/89 = .2303	22.52
Mokša	20/98 = .2041	20.5/96 = .2135	22.5/96 = .2344	23.5/96 = .2448	19/91 = .2111	20.5/89 = .2303	22.26
Ø [%]	20.67	21.35	23.96	24.48	21.11	23.03	22.39

IV. Samoyedic vs. Mari

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
Mari	25.5/95.5 = .2578	24.5/93.5 = .2620	23.5/93.5 = .2513	24/93.5 = .2567	23/88.5 = .2598	23.5/86.5 = .2717	26.12
Ø [%]	25.78	26.20	25.13	25.67	25.98	27.17	26.12

V. Samoyedic vs. Permic

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
Udmurt	25/97 = .2578	23/95 = .2316	26.5/95 = .2789	23.5/95 = .2474	25/89 = .2808	24.5/88 = .2784	26.26
Zyryan	26/98 = .2693	23/96 = .2396	25.5/96 = .2656	24/96 = .2500	25/96 = .2604	24.5/90 = .2722	26.12
Permiac	25/95 = .2632	23/93 = .2473	24.5/93 = .2634	21.5/93 = .2312	24/89 = .2696	22.5/88 = .2557	25.46
Ø [%]	79.03/3 = 26.34	71.85/3 = 23.95	80.79/3 = 26.93	72.86/3 = 24.29	81.08/3 = 27.02	80.63/3 = 26.88	155.70 /6 = 25.95

VI. Samoyedic vs. Ugric

	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	Ø [%]
Hungarian	19.5/95 = .2053	17.5/93 = .1882	21/93 = .2258	20/93 = .2151	22/88 = .2500	20.5/89 = .2356	22.00
Mansi N.	23.5/99 = .2374	21/98 = .2143	25/98 = .2551	23.5/98 = .2398	22.5/92 = .2445	24/91 = .2637	24.24
Mansi E.	23/100 = .2300	20.5/98 = .2092	24/98 = .2449	24/98 = .2449	22/92 = .2391	22.5/91 = .2473	23.59
Khanty S.	25/99 = .2525	21/97 = .2165	25/97 = .2577	26.5/97 = .2732	23.5/92 = .2554	25/90 = .2778	25.55
Khanty E.	23/99 = .2323	21/97 = .2165	24/97 = .2474	26/97 = .2680	23.5/92 = .2554	24/90 = .2667	24.76
Ø [%]	115.75/5 = 23.15	104.47/5 = 20.89	123.09/5 = 24.62	124.10/5 = 24.82	124.44/5 = 24.88	129.11/5 = 25.82	720.96 /30 = 24.03

ØØ [%] (28.62 + 22.95 + 22.39 + 26.12 + 25.95 + 24.03)/6 = 150.06/6 = 25.01%

* Note: The lexical data of Mordvin and Mansi were collected at the end of the 19th century by Heikki Paasonen and Bernát Munkácsi, respectively, so the calculated dating of disintegration should be postponed *c.* one century in the past. Similarly, the lexical data of Mator are from the 18th century, while the main source of all other Samoyedic wordlists are vocabularies collected by M. A. Castrén in the 1840s, supplemented and sometimes verified by lexicons published in the 20th century. With respect to this fact, the time estimation of the Samoyedic dispersion should be shifted to the 3rd century BCE. The question is how much, if lexemes are collected from both older and younger sources in order to obtain a maximal completeness. Finally, the beginning of disintegration of the Uralic protolanguage should be shifted to *c.* 3400 BCE.

Wordlists with etymological comments

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
1a. all	<i>tuku'</i>	<i>tuku'</i>					* <i>tüt</i> ₃ ~ * <i>tük</i> - (J 168)
1aa.	<i>tübea</i> ^{Knd.} , cf. <i>tjuki-peäj</i>					<i>tupuj</i> ^{Mt}	* <i>tükpüj</i> (H 1069)
1b.	<i>ηokxa</i> _{RNS}						cf. <i>ηokava</i> majority
1c.	<i>mal'</i> _{RNS}						cf. <i>mal</i> end
1d.		<i>kurhari</i> _M					cf. <i>kuraha</i> wie _{Pr}
1e.			<i>bansa</i>		(<i>buašša</i> _D heil, ganz)		U * <i>weńć3</i> (R 568)
1f.				<i>mûn-den</i> _{B,Tas}			
1g.				<i>sielan</i> ^{OO,Č}			
1h.				<i>wes</i> ^{MO,K,NP}			< Ru <i>veš</i>
1i.					<i>bar = bār</i> _D		< Tat <i>bār</i> id., whole
2a. ashes	<i>tuija</i>						cf. * <i>tuj</i> fire (J 166)
2ab.	<i>tunzibea</i> <i>tu' šibja</i>	<i>tu še</i> ^B <i>tūsio</i> ^{Ch} (M 205, 227)	(<i>sími</i> coal)	<i>šiu</i> ^O , <i>síwa</i> ^{NP} <i>šime</i> _{Tas,B}	<i>šüňö</i> <i>šymy</i>	<i>gíma</i> ^{Kg}	* <i>kimä</i> (J 70) = * <i>kime</i> (H 487)
2c.			<i>jua</i> (+ sand)				* <i>jãâ</i> (J 36–37) = #22
2cc.		<i>jára</i>					* <i>jãârã</i> (J 37) - #70

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
2d.	(<i>tab</i> sand)	(<i>tóbo</i> clay = <i>tobö</i> _{Te} sand)				<i>tā</i> ^{Mt} (<i>taha</i> ^{Kg} dirt)	* <i>t₁əpə</i> (J 148; H 937)
2e.				<i>pūs</i> ^{1u} ^{MK/} DA			
2f.				<i>k²uānə</i> ^{MK/} DA			
2g.				<i>kōra</i> ^{Tu/} DA			cf. #70: sand
2h.				<i>kāntə</i> ^{Tu/} DA			< Ket <i>xənti</i>
2i.					<i>k¹i¹mē</i> _D		cf. Tk <i>kōmür</i> id.
3a. bark	<i>pea hōba</i>			<i>pōt kōba</i> - N,K			* <i>kopā</i> (J 73) - #75 < U * <i>kopa</i> (R 180) = * <i>kopā</i> (S ₁ 537)
3b.	<i>seabt/t</i>						
3c.	<i>pir</i>				<i>pere</i> _{Klaproth}		< U * <i>perə</i> (R 374) = * <i>peri</i> (S ₁ 539)
3d.		<i>sésa</i> ^{Ch} <i>θeθa</i> ^{B/} _{Cl}	<i>kasu</i>	<i>kās</i> ^{NR,B,Tas}	<i>kaza</i> = <i>k'aza</i> _D		* <i>kāsā</i> (J 65) < U * <i>ko(n)ékə</i> (R 179)
3e.						<i>tebena</i>	* <i>təj</i> birch bark (J 145–46) = * <i>tej</i> (H 969) < U * <i>tojə</i> (R 528) = * <i>tu/oj</i> (S ₁ 540)
4a. belly	<i>ńanko</i> _{RNS} (<i>ńân</i> Lab- magen)			<i>nan</i> ₃ ^N <i>nân</i> ₃ ^{B,Tas}	<i>nāna</i>	<i>aeħnde</i> ^{Mt} <i>ēnde</i> ^{Tg}	* <i>āncā</i> (J 20) = *(<i>n</i>) <i>āncə</i> (H 73)
4b.	<i>my</i> ^ʔ = <i>my</i> ^ʔ (<i>n</i>) _{RNS}	<i>munori</i> ^{Ch} <i>munedi</i> ^B	<i>minadā</i>				* <i>mjn</i> - (JN 175)
4c.		(<i>fediko</i> Fischma- gen)		<i>pärg</i> ^{N,B} <i>perge</i> ^{Tas}		<i>hergə</i> ^{Kg} <i>hərgem</i> ^{Tg}	* <i>perkā</i> (J 122; H 284; R 378–79: U * <i>pijra</i>)
4d.		<i>suse</i> ^B <i>sude</i> ^{Ch} (+ Inne- res)					cf. 11b U * <i>šínčä</i> (R 480)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
4e.	<i>tʃw</i> _{NRS}		<i>čajba</i> _{NRN} (<i>tajbajəra</i> stomach)	(<i>čát</i> ^{Tas} content of stomach)	<i>šuijə</i> _D		< U *čowja / *čojwa (R 40)
4f.				<i>kəm-čə</i> ^{Tym} / _{DA}			
4g.				<i>simm-əl</i> ^{Tym} / _{DA}			< Ru. život
5a. big	<i>ŋa/ār(ka)</i>	<i>aŋikeo</i> ^B <i>atikidu</i> ^{Ch}		<i>warg</i> ^N , <i>warga</i> ^{K,OO,C} , <i>wuerg</i> ^{Tas} ,	<i>urgo =</i> <i>uryo</i> _D	<i>orga</i> ^{Mt} <i>argō</i> ^{Tg}	* <i>ārka</i> : * <i>ārā</i> greatness (J 19; H 816)
5b.			<i>anie</i>				< U * <i>enā</i> (R 74–75) : FU * <i>e/inā</i> (S, 541)
5c.			<i>məŋəðə</i> _{NRN}				
6a. bird	<i>tʃrta</i> <i>sārmik</i> flying animal	<i>sāma</i> _{Pallas} (= <i>sāme</i> wolf)		<i>tilderes</i> <i>-surēm</i> ^{B,Tas} , <i>telžer-</i> <i>hūrup</i> ^N flying animal		(<i>sarma</i> ^{Kg} Terao Bonasia)	* <i>sārmā</i> (J 136; H 853) < U * <i>šurme</i> (R 490–91)
6b.			<i>dāmady-</i> <i>tyjrie</i> _{Sim}				(X 132)
6c.			<i>təibəə</i> _{NRN}				cf. <i>təjbu</i> tail
6d.					<i>kuś</i>		< Sag <i>kus</i> < Tk * <i>kuś</i> (Rä 305)
6e.						<i>morenā</i> ^{Kg}	(H 692)
6f.						<i>tčindžja-</i> <i>xa</i> ^{Mt} <i>sinschá-</i> <i>ku</i> ^{Tg,Kg}	* <i>si₁nsä₁kkə</i> (H 889; J 141) < U <i>č[i]</i> <i>ŋčə(-kə)</i> (R 48)
7a. bite	<i>seakalŋəu</i>	<i>sektu</i> ^B <i>sektuŋə</i> ^{Ch}	<i>sakələ-</i> <i>sa</i> _{NRN}	<i>sāžam</i> ^{B,Tas} <i>seačam</i> ^{OO} <i>hāžap</i> ^N			* <i>sāc-</i> (J 136)
7b.					<i>thalbelim</i>		
7c.					<i>lāilem</i> _D		
7d.					<i>tʃudölām</i> _D		* <i>tət₃wa-</i> chew (H 1039)
7e.						<i>balija-</i> <i>mə</i> ^{Mt}	* <i>mālə</i> - break (J 86; H 97) < U * <i>molə</i> (R 278)

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
8a. black	<i>paridie</i>	<i>forededde^B</i> <i>fofered-</i> <i>de^{Ch}</i>					cf. 12a
8b.		<i>loggedded-</i> <i>de^{Ch}</i>					
8c.		<i>toggoéd-</i> <i>de^{Ch}</i> (+ blue)					
8d.			<i>feanka</i> = <i>henka_{NRN}</i>				
8e.			<i>tusaj-</i> <i>kuo_{NRN}</i>				
8f.				<i>sâga^C</i> <i>seâga^{B,Tas}</i> = <i>sâq(i)^{Tas/E}</i>	<i>sâgar</i> = <i>sâ(γâ)r_D</i>		< Tn: Ew <i>saha</i> grey, <i>sakarîn</i> black (DA 2618; TMS II, 56)
8g.				<i>tâtâ-</i> <i>ru^{UK/DA}</i>			
8h.						<i>küntühâ^{Mt}</i>	* <i>küntâ</i> smoke = #78b (J 79; H 592, 593) < U * <i>küntâ</i> (R 158) or * <i>süntâ</i> < U * <i>śântâ</i> (H 592)
9a. blood	<i>hêm,</i> <i>xeam</i>	<i>kî^{Ch},</i> <i>kî^B</i>	<i>kam</i>	<i>kêm^{B,Tas}</i> <i>kam^K,</i> <i>kap^N</i>	<i>khem</i> = <i>k'əm/kâm_D</i>	<i>kemô^{Mt}</i>	* <i>ke(â)m</i> (J 65) * <i>kēm</i> (H 477)
9b.	<i>veja_{RNS}</i>	<i>buija^B</i> (M 45)					* <i>wejà</i> < Tn * <i>böjô-kse</i> (AX 109)
9c.			<i>dêməə_{NRN}</i>				
10a. bone	<i>ly, le'</i>	<i>liri^{Ch},</i> <i>lidi^B</i>	<i>latâ</i>	<i>ly^B,</i> <i>lä^{OO},</i> <i>li^N</i>	<i>le</i>	<i>le^{Mt}</i>	* <i>lê</i> (J 82; H 618) < U * <i>luwe</i> (R 254–55) = * <i>lîxi</i> (S ₁ 538)
11a. breast	<i>leambara</i>			(<i>lâmbâr-</i> <i>la_D</i> , lower ribs)			* <i>lêmpârâ</i> (J 82)
11b.	(<i>śünz_{NRN}</i> youngest child)	<i>śudo^{Ch}</i> <i>śuso^B</i>	<i>sinśa</i>			<i>künd-</i> <i>schu^{Mt}</i> <i>kûn-</i> <i>schum^{Tg}</i>	* <i>sünsâ</i> (J 144; H 595) < U * <i>śinčâ</i> (R 480) = * <i>śünsi/ä</i> (S ₁ 540); cf. #4d

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
11c.		<i>ui^B, ú^{Ch}</i>					: <i>úŋarə^B, úŋarə^{Ch}</i> saugen (M 230)
11d.			<i>ńimínj</i>				* <i>ńimmä</i> milk : * <i>ńim</i> - suck (J 110–11) < U * <i>ime</i> (R 82–83) = * <i>imi</i> - (S ₁ 536)
11e.				<i>ky^{J^B}, kyle^{NP}</i>			11f?
11f.					<i>khüjü = k'ui_{2D}</i>		11e?
11g.					<i>nui_{2D}</i>		
12a. burn tr.	<i>parádm</i>	<i>porə^{SK}/_M, porəj^B/_{Te} (fořarəbo^{Ch} foradabo^B braten)</i>		<i>porruə^{NP}, porua-ŋ^{Č.OO}</i>	(<i>pəřə</i> -bake {or better to <i>pü</i> -ripen })	<i>korom-namə^{Mt}</i> (= x-)	* <i>pəřä</i> - (J 114; cf. M 95) < U * <i>pvrz</i> (R 415)
12b.	(<i>lejo</i> flame)	<i>loirebo^{Ch}, loireo^B = leidede_x</i>	<i>lojúdi_x = ləŋudī_{NRN}</i>				* <i>lejŋə/ä-</i> (JN 173)
12c.				<i>čāp(p)-i_{qo}^{Tas/E}</i>			
12d.					<i>neñilām</i>		
12e.					<i>amölām_D</i>		
13a. claw finger-nail	<i>hada</i>	<i>kora^{Ch}, koda^B</i>	<i>katu</i>	<i>kate^{Tas}, kad^N, kačə^{Č.OO}</i>	<i>kata</i> <i>kāda_D</i> < Tat, Soy <i>qadaq</i> Nagel	<i>kada-mə^{Mt}, xada-da^{Kg}</i>	* <i>kətā</i> (J 55; H 377; R 157) < U * <i>künče</i> (R 157): FU * <i>künci</i> (S ₁ 544)
13b.				<i>kūä- läš^{Ty/DA}</i> claw			< Ket <i>qələš</i>
14a. cloud	<i>t̥ir, t̥ir</i>	<i>t̥ioh^{Ch}, t̥ior̥^B</i>	<i>t̥iru</i>	<i>t̥itte^{B,Tas}, t̥it^{N,B,Tas}</i>	<i>t̥i_{Adelung} = čī_D</i>	<i>t̥i^{Mt}, d̥i^{Kg}</i>	* <i>t̥iə</i> (J 162; H 1008)
14b.				<i>nut mar-k̥j^{Tas/E}</i> bush of sky			

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
15a. cold	<i>řiti, řici</i> = <i>řećda</i> _{RNS}	<i>teři(re)</i> ^{Ch} <i>teřide</i> ^B	<i>řasiti</i>	<i>täředal</i> ^N <i>tassundi-</i> MO,K	<i>řiřiti</i> <i>řiřigä</i>	<i>tüuchtä</i> ^{Mt} <i>dekte</i> ^{Tg}	* <i>teř</i> _S <i>sätä/ä</i> (J 159) * <i>te(w)t</i> _S <i>site</i> (H 1089)
15b.	<i>japada</i> _{RNS}						cf. <i>japä(š)</i> be cold
15c.	<i>řerm</i> _{RNS}						* <i>řermä</i> north (J 22)
15d.				<i>kâil, kae</i> ^N <i>kânel</i> ^{B,Tas} = <i>qantipił</i> Tas/ E			cf. * <i>kântä-</i> friieren (J 53; H 265) < U * <i>konta</i> (R 176–77)
15e.				<i>časiqil</i> Tas/ E			cf. <i>čäsı</i> sea
16a. come	<i>türjadm</i> <i>tôdm</i>	<i>toaro</i> ^{Ch} <i>toado</i> ^B	<i>tû'am</i>	<i>tôak</i> ^N , <i>tûaŋ</i> ^{MO}	<i>řolam</i>	(<i>delym-</i>) <i>doi</i> ^{Kg} come (here)	* <i>toj-/tuj-</i> (J 164) < U * <i>tule</i> (R 535) = * <i>tolı-</i> (S _ı 540)
16b.	<i>haje(ad)m</i>						
16c.					<i>kandagam</i>		* <i>kântä-</i> : * <i>kân-</i> (J 59) < U * <i>kanta</i> (R 124) = * <i>kâni</i> carry (S _ı 538)
16d.					<i>řonagam</i>		
16e.					<i>molâm</i> _D		
17a. die	<i>hâdm</i>	<i>kâro</i> ^{Ch} <i>kâdo</i> ^B	<i>kû'am</i>	<i>kuak</i> ^N <i>kunaŋ</i> ^{B,Tas}	<i>khüläm</i>	<i>chaäsigä-</i> <i>ani</i> ^{Kg} <i>ki-myndži</i> <i>-gulja-</i> <i>mč</i> ^{Mt}	* <i>kâš-</i> (J 56–57; H 367) < U * <i>köla</i> (R 173) = * <i>kâxlı-</i> (S _ı 538)
17b.				<i>üre</i> ^{Ty/DA}	<i>örerläm</i>		< Tk: Kyzyl <i>ölär-</i> (Jo 252)
18a. dog	<i>wueno</i>	<i>bü,</i> g. <i>buno</i> ^{Ch} <i>bunneke</i> ^B	<i>bâŋ</i>	<i>kanak</i> ^{B,Tas} <i>kännäŋ</i> ^{MP}	<i>men</i>	<i>bön</i> ^{Mt,Kg} <i>bun</i> ^{Tg}	* <i>wen</i> (J 173; H 117)
18b.	<i>jandu/o</i> d. with short hair & standing ears						cf. Tn * <i>jan-</i> <i>daku</i> raccoon dog, wolverine

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
19a. drink	<i>jidernjâdm</i>	<i>biribo</i> ^{Ch} <i>bidibo</i> ^B	<i>bede'am</i>	<i>ütam</i> ^B <i>üternaj</i> ^{Tas}	<i>bitlâm</i>		* <i>witâ-</i> ~ * <i>witâj-</i> : * <i>wit</i> water (J 176)
19b.	<i>jâbiedm</i>						
19c.	<i>ņerpâ(ś)</i> RNS	<i>ihruš</i> ^K / _M		<i>îra</i> ^{Kel} / _D		<i>örsu</i> ^{Mt,Kg,Tg} <i>urnjamv</i> ^{Mt}	* <i>er-</i> (J 21–22; H 249) < U * <i>ürz</i> (R 85)
20a. dry	<i>hâsui</i>	<i>kasua</i> ^{Ch} <i>kasue</i> ^B	<i>košya</i>	(<i>kuuska</i> ^K seicht)	(<i>kôlam</i> = <i>ko'</i> _D to dry up {if it be- longs here})		* <i>kâs(â)-</i> vb. (J 60–61) < U * <i>koškî-</i> (S ₁ 537)
20b.	<i>tyrabej</i> _{RNS}			<i>tj̄rəwəl</i> ^{Ty} / _{DA}		(<i>tyry</i> ^{Mt} hard)	cf. <i>tyra(ć)</i> to dry < * <i>tj̄râ</i> id. (J 160; H 1028) < U * <i>šorwa</i> (R 502)
20c.				<i>čëgamba-</i> _{Tas,B} <i>tekjipi</i> ^{Tas} / _E			
20d.					<i>kumaŋ</i>		
20e.					<i>ararbi</i> _D (+ mager)		< Tk: cf. Chag <i>aruk</i> mager (Rä 22)
20f.						<i>kálu</i> ^{Mt} <i>kalex</i> ^{Tg}	< Chag <i>qaq-</i> <i>liq</i> dryness or Ket <i>kuolenj</i> (H 462)
21a. ear	<i>hâ</i>	<i>kû</i> ^{Ch} , <i>kô</i> ^B	<i>kou</i>	<i>kô</i> ^N , <i>kû</i> ^B = <i>kô</i> , <i>qo</i> ^{Tas} / _E	<i>ku</i> = <i>k'û</i> _D	<i>gu(k)</i> ^{Mt} <i>ku-kda</i> ^{Mt}	* <i>kâw</i> (J 62; H 569) < U * <i>kâwî</i> (JJ 253) = * <i>kâwi</i> (S ₁ 538)
21b.				<i>üñjulsan</i> = <i>üñkijlsa-</i> <i>t</i> ^{Tas} / _E			cf. <i>üñkijti-</i> listen <i>üñtjçi-qo</i> hear
22a. earth	<i>ja, jea</i>	<i>dâ</i> ^B , <i>jâ</i> ^{Ch}	(<i>jua</i> sand, ashes)	<i>čû</i> ^N , <i>tû</i> ^{K,MO}	<i>tû</i> = <i>dû</i> _D	<i>dsha/</i> <i>tčja</i> ^{Mt} <i>dscha</i> ^{Tg}	* <i>jàâ</i> (J 36–37; H 160)
22b.			<i>mou</i> <i>mamaru</i>	(<i>mači</i> forest, tundra)	(<i>mija</i> mountain)	(<i>bija</i> ^{Mt} moun- tain)	* <i>mâjâ</i> (J 85); cf. #55g; A ₁ 22–23: U * <i>muđâ</i>

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
23a. eat	<i>ɲamau</i>	<i>omabo</i> ^{Ch} <i>oma</i> ^{B/Te}	<i>ɲamuʼama</i>	<i>amnak</i> ^K <i>amarna-</i> <i>ɲ</i> ^{Tas,B}	<i>amɲam</i>	<i>amlamɔ</i> ^{Kb}	* <i>əm-</i> (J 15; H 807)
23b.					<i>ʔēldʰlem</i> _D (+ <i>satt</i> werden)		< Sag <i>čeldä</i> be pregnant
23c.						<i>hörgu-</i> <i>ma</i> ^{Mt}	* <i>por-</i> (J 127; H 316) < U * <i>pure-</i> (R 405–06)
24a. egg		<i>mona</i>	<i>mánu</i>		<i>müniü</i> ^ʹ = <i>munoj</i> _D	<i>munj</i> ^{Kb}	* <i>məná</i> (J 86) < U * <i>muna</i> (R 285) = * <i>muná</i> (S ₁ 538)
24b.	<i>sárau</i> = <i>sar'ńu</i> _{RNS}						
24c.				<i>ńabi</i> ^N , <i>ńapi</i> ^K			= <i>nāp-i</i> duckling (DA 1630)
24d.				<i>kegai</i> ^{MO}			< Tk: Tatar <i>kükəj</i> (DA 2123)
24e.				<i>ěän</i> ^B , <i>eŋ</i> ^{Tas}			cf. Ket <i>εʔj</i> , pl. <i>ēŋ</i> id.
24f.						<i>schlur</i> ^{Mt,Tg} <i>schilur</i> ^{Kg}	< Kott <i>šulei</i> egg (H 883)
25a. eye	<i>saeu</i> , <i>haem</i> ^{Knd}	<i>sei</i>	<i>šaime</i>	<i>sai</i> ^{Tas,B,K} , <i>hai</i> ^N , <i>saiji</i> ^{NP}	<i>sima</i>	<i>schime</i> ^{Mt} <i>schí-</i> <i>medä</i> ^{Tg}	* <i>səjmä</i> (J 132; H 886) < U * <i>šilmä</i> (R 479; S ₁ 540)
26a. fat n.	<i>jur</i>	<i>ju</i> ^B , g. <i>juro</i> ^ʹ	<i>jiŋ</i> = <i>dir</i> _{NRN}	<i>iŋ</i> , <i>öŋ</i> ^{N,B,Tas}	<i>dir</i> _D	<i>džjuro</i> ^{Mt}	* <i>jiŋ</i> (J 50; H 239) < Tk * <i>iŋ</i> ^ʹ (AX 72)
26b.		<i>júʹ/jó</i> ^{Ch} , g. <i>júsoʹ/júso</i> ^B		<i>čos</i> ^{Tas/E}			* <i>jojs</i> (J 46)
26c.		(<i>séla</i> dissolved fat)		(<i>siileng</i> adj.)	<i>sil</i> = <i>šin</i> _D	<i>sylb</i> ^{Kb}	* <i>selô</i> ~ * <i>silô</i> (J 140) < U * <i>šilä</i> (R 478)
26d.	<i>tut</i> ^{Njalina/Le} (+ Talg)	(<i>tudute</i> ^B <i>turute</i> ^{Ch} adj.)	<i>čü</i> ^{NRN} (<i>tü?</i> Renntier- talg)			<i>tun</i> ^{Mt,Tg} <i>tuti</i> ^{Kg}	* <i>t₁ujt₁</i> (J 166) = * <i>t₁ut₁</i> (H 1106) < U * <i>sytɜ</i> (R 453)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
27a. feather	<i>tu, to</i>	(<i>tua</i> wing)	<i>túe</i> _{Miller} (<i>tú(a)</i> wing)	<i>tu</i> ^N , <i>tú</i> ^{B,Tas}		<i>tu</i> ^{Mt} <i>tóga</i> ^{Kg}	* <i>tuǝj</i> (J 166) or * <i>tua</i> (H 1070) < U * <i>tulka</i> (R 535) = * <i>tuxli-</i> (S ₁ 540)
27b.		<i>tábu</i> ^{Ch}					(M 209)
27c.	(<i>tar</i> hair)	(<i>tó</i> ^{Ch} , g. <i>tóro'</i>)	<i>tar'</i> (+hair)	<i>tar</i> _{Pr}	<i>ther</i> (+hair) = <i>t'ǝr</i> _D	(<i>terr</i> ^{Tg} hair)	* <i>tǝr</i> (J 149: hair) < Mo <i>tar</i> , see #36b
27d.			<i>dǝftuǝn-</i> <i>sa</i> _{KS}				
28a. fire	<i>tu</i>	<i>tú</i> ^{Ch} , <i>tu</i> ^B	<i>tui</i>	<i>tü</i> ^N , <i>tü</i> ^{OO,Č}	<i>šü</i> = <i>šur</i> _D	<i>tui</i> ^{Mt} , <i>tui</i> ^{Kg}	* <i>tuj</i> (J 166) < U * <i>tule</i> (R 535) = * <i>tuli</i> (S ₁ 540)
29a. fish	<i>hálea</i>	<i>kaře</i> ^{Ch} , <i>kare</i> ^B	<i>kole</i>	<i>kuel</i> ^{N,B} <i>kuele</i> ^{Tas,NP}	<i>kola</i>	<i>challä</i> ^{Mt} <i>kale</i> ^{Kg}	* <i>kälä</i> (J 59) < U * <i>kala</i> (R 119) = * <i>kälä</i> (S ₁ 538)
30a. fly v.	<i>t/tǝrǝadm</i>	<i>tǝrǝro</i> ^{Ch} <i>tǝrǝdo</i> ^B	<i>taérim</i>	<i>tǝmbak</i> ^N <i>tǝmban-</i> _{K,Tas,B} <i>tǝlǝžerna-</i> <i>ǝ</i> ^{B,Tas}		<i>dijam</i> _o ^{Mt}	* <i>ti(j)-</i> (J 161; H 1009; DA 965)
30b.				<i>wašejak</i> ^N <i>wašeǝǝna-</i> <i>ǝ</i> ^{Tas} = <i>wǝšiqo-</i> _{Tas/E} (+ au- fheben, aufste- hen)			
30c.					<i>nergüläm</i>		
31a. foot	<i>ǝae</i>	<i>ǝá</i> ^{Ch} , <i>ǝó</i> ^B	<i>ǝoai</i>		<i>ǝǝǝü, ǝǝǝü</i> = <i>ǝǝǝu, ǝǝǝu</i> _D	pl. <i>áschta</i> ^{Mt} cf. <i>hoi</i> ^{Mt} knee < * <i>hoǝ-ǝj</i>	* <i>á(ǝ)j</i> (J 17; H 9, 315)
31b.	(<i>toba</i> _{NRN} hoof)			<i>tob</i> ^N , <i>tope</i> ^{Tas} = <i>topǝ</i> _i ^{Tas/E}			* <i>topä</i> (J 166)
31c.					<i>ǝǝǝ</i> _D		< Buryat <i>ula</i> Sohle

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
32a. full	<i>pânta</i> , <i>pâny</i> ^{Kan}	<i>faddi'a</i> , <i>faddite</i> ^B					
32b.			<i>mintu-</i> <i>tia</i> = <i>mün-</i> <i>tütüo</i> _{NRN}				
32c.			<i>derəgəə-</i> NRN				
32d.			<i>dülsjo</i> _{NRN}				
32e.				<i>tir</i> (<i>mbi-</i> <i>dai</i>) ^{NP} <i>tirmbedi-</i> K,C,OO = <i>tirj</i> ^{Tas/E}			* <i>tirê</i> ~ * <i>terê</i> (J 158) cf. FU * <i>täwde</i> full (R 518; A ₁ 31)
32f.				<i>sêrbadie</i> ^K <i>sierbadi</i> ^C			
32g.					<i>albei</i>		
32h.						* <i>mool-</i> <i>dže</i> ^{Mt}	(H 687: <i>ama-mooldže</i> empty : <i>ama-</i> <i>non-</i>)
33a. give	<i>mi'idm</i>	<i>mi'ebo</i> ^{Ch} <i>mi'a</i> ^{B/Gl}	<i>miji'ema</i>	<i>meap</i> ^N <i>migam</i> ^{OO} <i>mit'am</i> ^{Tas}	<i>miläm</i>	<i>mijamö</i> ^{Mt}	* <i>mi-</i> (J 94; H 305) < U * <i>miyə</i> (R 275) = * <i>mexi-</i> (S ₁ 538)
33b.	<i>taś</i> _{RNS}	<i>terabo</i> ^{Ch} <i>tedabo</i> ^B	<i>tada'ama</i>	(<i>tāda</i> ^N carry, bring)	<i>d/teθ'lem</i> _D		* <i>tā-</i> (J 145; H 930) < U * <i>toye</i> (R 529) : FU * <i>toxi-</i> bring (S ₁ 550)
34a. good	<i>sa(u)wa</i>	<i>sowa</i> , <i>soera</i> ^{Ch} <i>soeda</i> ^B		<i>hwa</i> ^N , <i>suo</i> ^{OO} <i>soma</i> ^{B,Tas}			* <i>sāmā</i> (J 132); cf. Fi <i>soma</i> pretty, cute, sweet < U * <i>šoma</i> (AX 127–28)
34b.		<i>fohadde</i>					
34c.			<i>ərakəra</i> _{NRN}				
34d.			<i>ñeimi</i> _{NRN}				
34e.			<i>ñana</i> " <i>sa-</i> <i>nədura</i> _{NRN}				
34f.			<i>ñāgā</i>				< Tn * <i>ñāKa</i> well (AX 145)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
34g.					<i>taxšē</i> = <i>iaxšā</i> _D		< Tat <i>jaqšy</i> , <i>jaxšy</i>
34h.					<i>kuβās</i> (+ nice)		< Tk: Brb <i>kuas</i> char- ming, Sag <i>kōs</i> nice (Rä 295; Jo 214)
34i.					<i>neʹdā</i> _D (+ hard, strong)		
34j.						<i>inī</i> ^{Mt}	* <i>enaj</i> (J 23; H 346)
35a. green	<i>jilibear</i> ^{Knd}						cf. <i>jile(s)</i> to live < *(j)ilä- (J 27; H 253) < U * <i>elä</i> - (R 73)
35b.		<i>poðera-</i> <i>ha</i> ^{Ch} / _X : <i>fódeʹ</i> gall		<i>pate</i> ^{B,Tas} <i>pačel</i> ^{C,OO}			cf. * <i>pātä</i> gall (J 115; H 273) < U * <i>piša</i> (R 384); see also #100
35c.			<i>ñotərə-</i> <i>ku</i> _{NRN}				cf. <i>ñotə</i> grass < * <i>ñácə</i> < U * <i>ñáčə</i> (R 311)
35d.				<i>norälʹ</i> (+ blue)			DA 1407
35e.					<i>segi</i>		D: yellow; cf. Soy, Sag <i>sigän</i> grass
35f.					<i>kʹukʹ</i> , <i>kʹəkʹ</i> _D (+ blue)		< Tat <i>kök</i> id.
35g.						<i>déngöhö</i> ^{Kg}	* <i>t̪ ðŋkə</i> blue (H 989)
36a. hair	<i>üöbta</i> , <i>ëäbt</i> = <i>nebt</i> _{RNS}	<i>ito</i>	<i>ñáhta</i>	<i>opt</i> ^N , <i>opte</i> ^{Tas}	<i>äbde</i> = <i>ǝʹBDi</i> _D	<i>ípte</i> ^{Mt} <i>öbde</i> ^{Tg}	* <i>eptä</i> (J 21; H 246) < U * <i>apte</i> (R 14–15) = * <i>ipti</i> (S, 536)
36b.	<i>tar</i>	<i>to</i> ^B , <i>tō</i> ^{Ch} , g. <i>to</i> ^o	<i>tarʹ</i> (+fea- ther)	(<i>tar</i> ^{Tas} / _E +feather, wool)	<i>ther</i> = <i>tʹär</i> _D (+feather)	<i>terr</i> ^{Tg, Mt}	* <i>tār</i> (J 149; H 991), < Mo <i>tar</i> (tip of) hair (R 886 rejects relation to Ug * <i>säy(ə)rs</i> or Mari <i>šar</i> ; cf. #27

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
36c.				<i>tuja^K, tuija^{NP}</i>			
36d.				<i>kāž</i>			
37e.				<i>neyar^{Ty/DA}</i>			
37a. hand	<i>ɲuda</i>	<i>ura^{Ch}, uda^B</i>	<i>juṭu</i>	<i>ud^N, ul^{B,Tas}</i>	<i>uda</i>	<i>uda-mṓ^{Mt} uda-da^{Kg}</i>	* <i>utā</i> (J 30) = * <i>uta</i> (H 1109)
38a. head	<i>ɲaewa</i>	<i>abuŕi^{Ch} eba^B</i>	<i>ɲaiwua ɲaewua</i>			<i>áiba^{Mt} aiba-da^{Kg}</i>	* <i>ájwā</i> (J 17) = * <i>ájwa</i> (H 12) < U * <i>ojwa</i> (R 336) = * <i>ojwā</i> (S ₁ 536)
38b.		<i>(orí^{Ch}, ori^B top, height)</i>		<i>ol^K, ul^B</i>	<i>ulu</i>		* <i>olā</i> (J 29) cf. FU * <i>alka</i> end, beginning (R 6–7)
39a. hear	<i>jindile- adm</i>	<i>uḍediro^{Ch} juseredo^B</i>	<i>jindi'ema</i>	<i>ündežap^N ünde- tam^{B,Tas} = üntj- čiqo^{Tas/F}</i>	<i>nünülām</i>	<i>njumda- mṓ^{Mt}</i>	* <i>jüntā</i> - (J 49) = * <i>jünti</i> - (H 787)
39b.	<i>namdâu</i>	<i>nodado^B</i>					
40a. heart	<i>seai, siei</i>	<i>seo^{Ch}, seijo^B</i>	<i>sa, soa</i>	<i>sīd^{Ty/D}</i>	<i>sī = sī_D</i>	<i>kei-mṓ^{Mt} kéi-m^{Tg}</i>	* <i>sejā</i> (J 139; H 455) < U * <i>šüädä(-mz)</i> (R 477) : FU * <i>šüdāmi</i> / * <i>šedmi</i> / (S ₁ 549)
40b.		<i>tājda^{K/PU}</i>					(M 212)
41a. horn	<i>ńâmd</i>	<i>eddo^{Ch} naddo^B</i>	<i>ɲamta</i>	<i>âmd^N, âmde^{B,Tas}</i>	<i>amnu</i>	<i>amde^{Mt}</i>	* <i>ämtā</i> (J 20; H 66) < U * <i>aɲtɜ</i> /* <i>oɲtɜ</i> (R 12–13)
41b.					<i>mukur_D</i>		< Tat <i>mügüz</i> , Chuv <i>mâiraga</i>
42a. I	<i>mań</i>	<i>modĩ</i>	<i>mannaj</i>	<i>man/t</i>	<i>man</i>	<i>manṓ^{Mt}</i>	* <i>mân</i> (J 86; H 627) < U * <i>mun</i> (R 294)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
43a. kill	<i>hâdau</i>	<i>karabo</i> ^{Ch} <i>kadabo</i> ^B	<i>kuada</i> 'a- <i>ma</i>	<i>kuatpam</i> ^N <i>kuetpam</i> - B,Tas = <i>qet</i> - <i>qo</i> ^{Tas/E}	<i>kutlīm</i>	<i>kadžam</i> ^{Mt}	* <i>kât(â)</i> - < * <i>kââ-tâ</i> = caus. of * <i>kââ</i> die (J 57; H 367) < U * <i>kola</i> - (R 173)
44a. knee	<i>pûly, pûle</i>	<i>fuase</i> ^{Ch} <i>fosê</i> ^B	<i>fuagai</i>	<i>pulsai</i> ^K <i>pûla</i> <i>saiji</i> ^{NP} <i>pûle</i> ^{B,Tas}		<i>hulu</i> ^{Mt} <i>hulu-da</i> ^{Tg} (written in cyrillic with z-)	* <i>puâj</i> - + * <i>sâjmâ</i> eye or + * <i>lê</i> bone (J 130; H 323) < U * <i>polwe</i> (R 393) = * <i>po/uxli</i> (S, 539)
44b.					<i>sini</i> = <i>s̄ini, s̄eni</i> . _D	(<i>schünä</i> penis; H 920)	cf. Ugr * <i>śänč</i> ₃ id. (R 471)
44c.						<i>usjundy</i> ^{Kg} (<i>yzýnō</i> ^{Mt} shoulder)	* <i>esâjn</i> ₂ limb, joint (J 22) = * <i>esoń/n</i> ₂ (H 250); R 95 rejects any connec- tion with FU * <i>jāsne</i> id.
45a. know	<i>t̄ênêu</i>	<i>teníbo</i> ^{Ch} <i>tenneo</i> ^B	<i>t̄anneje</i> - <i>ama</i>	<i>t̄onemam</i> ^B <i>tene</i> - <i>mam</i> ^{Tas}	(<i>the</i> - <i>nömäm</i> think)	<i>tenym-ga</i> - <i>mō</i> ^{Mt}	* <i>tenä(mä)</i> - (J 157; H 981)
45b.					<i>thümnäm</i> = <i>t̄ännem</i> . _D	(<i>tumdu</i> - <i>džugura</i> - <i>mō</i> bemerke)	* <i>t̄,umt̄,â</i> - (J 167) < U * <i>tumte</i> - (R 536) = * <i>tumt̄i</i> - (S, 541)
46a. leaf	<i>wuebba</i>	<i>déve</i> . _p		<i>čâb</i> ^N , <i>tâb</i> ^{B,Tas}	<i>t̄awa</i> = <i>t̄/daba</i> . _D		* <i>jâpâ</i> (J 41); cf. Yen * <i>jâpe</i> id. (St 200; Jo 116)
46b.	(<i>ɣamḍē</i> '. _{Le} grass)	<i>oddi</i> ?, g. - <i>ro</i> ^{Ch} , - <i>do</i> ^B	(<i>ɣamti</i> ?' willow leaf)				* <i>amt̄et</i> < Tn * <i>xabda-nsa</i> (AX 100–01)
46c.			<i>hora</i> - <i>ḍaj</i> . _{NRN}				
46d.				(<i>laamb</i> ^{Tas} Fussblatt)		<i>nambe</i> - <i>da</i> ^{Mt} <i>némija</i> ^{Tg}	* <i>lämpä</i> ~ * <i>lempä</i> (J 82; H 736)

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
47a. lie	wânajû	banu- ga ^B /Cl	bəniüsa _{NRN}				(cf. M 37)
47b.	juseda(š) RNS						
47c.		barotea- ro ^{Ch} badofido ^B					
47d.			kulśâten- dem				
47e.			ŋgjündej- sy _X				
47f.			tońd'ajči- sĵ _{NRN}				
47g.				eppak ^N ippaj ^{B,Tas}	i'bum		cf. DA 35
47h.				ćaci- mpi ^{-Ty/DA}			ćáčə- put (DA 1481)
47i.						kyštamə ^{Mt}	*kuj- ~ *kĵj- (H 504), cf. FU *kujɜ (R 197: *kojɜ)
48a. liver	muid = myd _{RNS}	muro ^{Ch} mudo ^B	mita, g. mida	myd ^N mĵte ^{Tas}	mit = mĵt _D		*mĵtə (J 93) < U *maksä (R 264) = *mĵksä (S, 538)
48b.						ondarə ^{Mt}	(H 808: < IE?); cf. FU *omte(rə), e.g. Ma oän- tər stomach (R 338)
49a. long	jâmb	jabu ^{Ch} ďäbu ^B / _{Te}		čumb ^N tumbe ^{B,Tas}	numu = numo _D	nanbu ^{Mt} (njâmbu ^{Kg} high)	*jâmpə (J 37) = *jampu (H 716)
49b.	põndej _{RNS}						cf. pon' adv.
49c.			kunta			(kundu- gu ^{Mt} far)	*kuntə (J 77–78; H 590)
49d.				sarĵčə ^{Ket/DA}			*səĵčä high (J 133)
49d.			bəďätuo _{NRN}				

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
50a. louse	<i>pand(i')e</i> <i>panže,-sie</i>					<i>chýndz-</i> <i>schi</i> ^{Kg} <i>indži</i> ^{Mt}	* <i>pəns</i> ₃ (H 304)
50b.		<i>addu</i> ^{Ch}	<i>ηomtun</i>	<i>unž</i> ^N , <i>undze</i> ^K <i>unže</i> ^{B,Tas}	<i>ünü</i> = <i>u:nur</i> _D		* <i>āncā</i> ~ * <i>āmcā</i> (J 18) < U * <i>omča</i> (R 338)
51a. man	<i>hásawa</i>	<i>kāsa</i> ^{Ch} <i>kāsa</i> ^{B/Pu}	<i>kuajumu</i>		<i>-kuza</i> (<i>k'uza</i> _D) Mensch)	(<i>kasa</i> , <i>kaza</i> ^{Mt}) Mensch)	* <i>kā-sā</i> *Sterblicher (J 61; H 438)
51b.			(<i>tybyjkja-</i> <i>ku</i> boy)	<i>teb</i> ^N , <i>tippa</i> ^K	<i>thibi</i> = <i>r'ibi</i> _D (+ husband)	(<i>tihim</i> ^{Mt}) maritus) (<i>tigeči</i> ^{Tg}) boy, son = * <i>tih</i> + <i>eči</i>)	* <i>tipā</i> (J 163; H 1014)
51c.				<i>qup</i> , <i>qum</i> ^{Tas/E} (+ Men- sch)			U * <i>koj(e)m</i> ₃ (R 168) : FU * <i>koji</i> male (S ₁ 543)
51d.					<i>bwi(:)že</i> _D (+ husband)		
52a. many	<i>ηōka</i>	<i>ōka</i> ^{Ch} <i>okka</i> ^{B/Te}	<i>ηōka</i>	? <i>koč</i> ^N , <i>koč</i> ^{Tas} (DA 2060)	<i>īgō</i> = <i>i'ka</i> , <i>i'gō</i> _D	<i>ujko</i> ^{Mt}	* <i>o(āj)təkā</i> (J 29) = * <i>ojt</i> ₃ <i>ka</i> (H 1117)
52b.				<i>kon(n)-</i> <i>əη</i> ^{KM/DA}			cf. J 75?
52c.				<i>iri</i> ^{Tas/E} (+ long)			
53a. meat	<i>ηamsa</i>	<i>udā</i> ^{Ch} , <i>osa</i> ^B	<i>ηamsau</i>	<i>apsi</i> _{Pr}		<i>amsa</i> ^{Mt,Kg} <i>apsa</i> ^{Tg}	* <i>āmsā</i> : * <i>ām-</i> eat (J 15; H 36)
53b.	(<i>ηaija</i> body; skin)	(<i>aija</i> body <i>ajā</i> ^{B/Te} + skin)		<i>wac</i> ^N , <i>wuet</i> ^{Tas}	<i>uja</i>	(<i>oiuptu</i> ^{Mt}) humidus)	* <i>ājā</i> (J 17; H 799) < U * <i>oδā</i> raw (A ₂ 11)
54a. moon			<i>kičedəə</i> _X (<i>kitadā</i> month)		<i>khi</i> = <i>kij</i> _p = <i>k'i</i> _D	<i>kištiti</i> ^{Mt}	* <i>kij</i> (J 69; H 507) < U * <i>kuņe</i> (R 211–12) = * <i>kixi</i> (S ₁ 537)
54b.	<i>jiri, jiry</i>	<i>irio</i> ^{Ch} <i>jirie</i> ^B		<i>äre</i> ^N , <i>ire</i> ^K <i>ireā</i> ^{Tas}			* <i>(j)ir</i> ₃ (J 28) cf. * <i>(j)ir</i> ₃ - grandfather

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
54c.					<i>urrâβâβâ_D</i>		<i>urraba</i> , <i>uryaba</i> grandfather; bear
55a. mountain	<i>xoj_{RNS}</i> (= <i>hôi</i> hill)	<i>kuô_X</i>	<i>koaja</i>	<i>kê^N</i> , <i>kî^B</i> = <i>qe</i> , <i>qe</i> , <i>kê^{Tas}</i> / _E			* <i>k[oə]jə</i> (AX 105–07; X 130) < Ewk * <i>hōj</i> tundra or Yen * <i>qaʹj</i> mountain (St 212); R 115: U * <i>kaδ'a</i>
55b.	<i>teal</i>						
55c.	<i>sea</i> , <i>ša</i>						cf. Ykg <i>šäu</i> (R 163–64 separated it from FU * <i>kiwi</i> stone)
55d.		<i>lōgar^X</i> / _{FU}					(M 135)
55e.			<i>bəru_{NRN}</i>	(<i>kūrə</i> mountain ridge)	<i>bōr_D</i>		* <i>wārə</i> < U * <i>wara</i> (A ₂ 27) : FU * <i>wārə</i> (S ₁ 551)
55f.			<i>dīkə_{NRN}</i>				
55g.			(<i>mou</i> earth)	(<i>mači^{Tas}</i> / _E forest, tundra)	<i>mija</i> = <i>miĵa</i> , <i>maĵa_D</i>	<i>bija^{Mt}</i> <i>biä^{Kg}</i>	* <i>mĵâ</i> (J 85; H 124); cf. #22b; A ₁ 22–23: U * <i>muδ'a</i>
55h.				<i>tā^Ĉ</i> , <i>taŋ^{O-}</i> _{O,MO}			Tk * <i>tay</i> (DA 1212)
55i.					<i>kawaʹ</i> = <i>kābāʹ</i> , <i>k'āmāʹ_D</i>	(<i>kabak^{Kg}</i> eyebrow)	< Tk: Soy <i>kabak</i> , Bsk <i>kabak</i> hill (Jo 155)
55j.					<i>k'ōrum_D</i>		< MTK <i>qorum</i> rock (Jo 196)
56a. mouth	<i>naʹ</i> , <i>narj^{Knd}</i>	<i>ê^{Ch}</i> , <i>na^B</i>	<i>ŋâŋ</i>	<i>âk^N</i> , <i>âŋ^{B,Tas}</i>	<i>aŋ</i>	<i>ag-ma^{Mt}</i> <i>eng-de^{Tg}</i>	* <i>âŋ</i> (J 20; H 76) < U * <i>aŋe</i> (R 11–12) : FU * <i>âŋi</i> (S ₁ 542)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
57a. name	<i>ńim, ńum</i> <i>ńem</i> ^{Knd}	<i>ńi</i> ^{Ch} , <i>ńu</i> ^B	<i>ńim</i>	<i>ńem</i> ^{Č,OO} <i>nim</i> ^{B,Tas}	<i>nim</i>	<i>numme-</i> <i>-de</i> ^{Mt}	* <i>nim</i> ~ * <i>nim</i> (J 102; H 756) < U * <i>nime</i> (R 305) = * <i>nimi</i> (S ₁ 538)
58a. neck	<i>jik, jik</i>	<i>bekođi</i> ^{Ch} / _X <i>beko</i> ^B / _{Pu}	<i>bakəðə</i> _M	(<i>kuaga</i> ^{K,NP} = <i>qeŋ</i> ^{Tas} / _E shoulder)	(<i>bai</i> ^Γ <i>ə</i> _D Nacken)	<i>buikö</i> ^{Mt} <i>bÿikÿdi</i> ^{Kg}	* <i>wäjkkə</i> (J 173)
58b.	<i>šo'</i> (+ Kehle)	(<i>sú, só</i> ^{Ch} <i>so</i> ^B Kehle)		<i>suo</i> ^{B,Tas} <i>soi</i> ^K (+ Kehle)	<i>soj</i> _D (<i>soi</i> Kehle)		* <i>soj-</i> ~ * <i>söj-</i> (J 142) < U * <i>śuwe</i> (R 492–93) = * <i>soxi</i> (S ₁ 540: mouth)
58c.				<i>awai</i> ^{MO,Č} <i>awoi</i> ^K			
58d.				<i>tāšan</i> ^{Tas} / _E			cf. <i>tas</i> back
58e.				<i>teti</i> ^{Tas} / _E			
59a. new	<i>jedaei</i>						
59b.		<i>nabe</i> ^{Ch} / _X <i>nabə</i> ^B / _{Te}				<i>njárha</i> ^{Kg} <i>nara</i> ^{Mt}	* <i>ńarpə</i> (H 724; XE 118)
59c.		<i>mēju</i> ^B / _{Te}	<i>mindjád-</i> <i>ja</i> _{KS} = <i>meńda-</i> <i>də</i> _{NRN}				
59d.		<i>suami</i> ^{Ch} / _{La} (M 202)		<i>sänd</i> ^{MO} <i>šänd</i> ^{B,Tas} = <i>šen-</i> <i>tij</i> ^{Tas} / _E			
59e.			<i>bej-</i> <i>bi</i> ^{NRN} <i>ia</i> _{NRN}				
59f.					<i>the'bde</i> = <i>t'ə</i> ^b <i>D</i> ³ _D		
60a. night	<i>pi</i>	<i>fi</i> ^{Ch} , <i>fi</i> ^B	<i>fiŋ</i> = <i>hi</i> _{NRN} <i>hinti</i> _{Te}	<i>pi</i> ^{N,B} , <i>pe</i> ^M	<i>phi, phy</i> = <i>p'i</i> _D	<i>hijndja</i> ^{Mt} <i>hinde</i> ^{Tg}	* <i>pi</i> (J 123; H 290) * <i>pintə</i> (H 303); cf. U * <i>pilmə</i> dark (R 382–83)
61a. nose	<i>puijea</i> = <i>pyja</i> _{RNS}	<i>fuija</i> ^{Ch} <i>puija</i> ^B		<i>poč</i> ^N , <i>pöt</i> ^{MO}	<i>phijä</i> = <i>p'uije</i> _D	<i>hiä</i> ^{Mt}	* <i>pijā</i> ~ * <i>pujā</i> (J 122; H 297)
61b.			<i>ŋunka</i> = <i>ŋünka</i> _{NRN}				

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
61c.				<i>ynžel</i> ^{B,Tas} = <i>įntäl</i> ^{Tas/E}			
61d.				<i>ukĭ</i> ^{Tas/E}			* <i>ukâ</i> (J 30; H 1113)
62a. not	<i>niś</i>	<i>isi</i> <i>ńise</i>	<i>ńe'</i>	<i>jkā</i> ^{Tas/E}	<i>em</i> = <i>em</i> _D ich nicht <i>ē</i> , <i>ēĭ</i> _D no(t)	<i>igam</i>	* <i>i-</i> ~ * <i>e-</i> (J 26; H 331) < U * <i>e</i> ~ * <i>ä</i> (R 68-70)
62b.		<i>šĕ</i> ^K / _{Pr} nicht (cf. M 205)		<i>aha</i> <i>ašša</i> ^{ĕĕ,Tas/E}			< Tn: Ewk <i>āčča</i> no (AX 153)
62c.					<i>nā</i> (<i>γā</i>) is not		(X 130-31); cf. Permic- Ugric * <i>nɜ</i> (R 301)
63a. one	<i>ńobpoi</i>	<i>ńō</i> ^{Ch} , <i>ńō</i> ^B / _{Pr}	<i>ńo'ai'</i>	? <i>okkĭr</i>	<i>o'b</i>	<i>op</i> ^{Mt,Kg,Tg}	* <i>o(â)p-</i> (J 28; H 794)
63b.						<i>ĕilek</i> ^{Mt}	* <i>ĕj-</i> (H 798)
64a. person	<i>ńenete</i>	<i>ennete</i> ^{Ch} <i>enete</i> ^B / _{Pr}	<i>ńanasanj</i>				R 627-28 rejects any connection with FMd * <i>inše</i> ; NSm „man“ is derived from * <i>enä</i> real (J 23; H 96).
64b.	<i>ńüb</i> / <i>wert</i> ^{Knd} <i>xibja(ri)</i> _{RNS}						cf. <i>xibja</i> who, <i>xibjari</i> _{NRS} whoever
64c.				<i>kum</i> ^{MO,OO,K} <i>kume</i> ^{NP} , <i>kop</i> ^N			U * <i>koj(e)mɜ</i> (R 168)
64d.					<i>kuza</i> = <i>k'uzā</i> _D	<i>kasa</i> ^{Mt}	* <i>kāâ-sâ</i> (J 61; H 438) = #51a; cf. 17a
65a. rain n.	<i>sāřu/o</i>	<i>sāře</i> ^{Ch} <i>sare</i> ^B	<i>soruanj</i>	<i>sāro</i> ^K , <i>soro</i> ^{MO,Ć}	<i>surnu</i> = <i>surno</i> _D	<i>sirru</i> ^{Mt}	* <i>sārâ-jâ(-j)</i> : * <i>sārâ-</i> vb. (J 135-36; H 908: * <i>sarö</i>) < U * <i>šādâ-</i> (S ₁ 540)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
66a. red	<i>nâra</i>	<i>naggorad-</i> <i>de</i> ^{Ch} <i>naredad-</i> <i>de</i> ^B		<i>nârg</i> ^N <i>nârg</i> ^B		<i>narmyn-</i> <i>dy</i> ^{Mt}	* <i>nâr-</i> (<i>kâ</i>) (J 107) * <i>nârmə/a-</i> (H 744)
66b.			<i>jabakua</i> = <i>dabaku-</i> <i>ɔ</i> _{NRN}				< Tn * <i>dewuk-</i> ochre (AX 144)
66c.					<i>khümü</i> = <i>kĕmu</i> _D		cf. 9a: * <i>ke(â)</i> <i>m</i> blood (J 65)
67a. road	<i>ŋu'</i>	<i>ur</i> ^{Ch} , <i>u'</i> ^B , g. <i>udo'</i>	<i>ŋoajâ</i> = <i>ŋutə</i>	<i>watt(e)</i> ^N <i>wuette</i> ^{Tas}			* <i>uât</i> (J 30) < U * <i>utka</i> (R 546) or * <i>uket(tɜ)</i> (S 27) = * <i>ukti</i> (S ₁ 536)
67b.	(<i>neda</i> Winter- weg)				<i>âde</i> = <i>aĭde</i> , <i>a'ɫa</i> _D	<i>ide</i> ^{Mt} <i>öde</i> ^{Tg}	* <i>etâ</i> (J 24; H 247)
67c.	<i>sehaery</i> _{RNS} (: <i>šehe</i> _{Te} hard snow)	<i>seha</i> ^{Ch} / _X <i>sehare</i> ^B / _{Te}					* <i>sekârâjâ</i> (S 37–38) < U * <i>ćäke(-rɜ)</i> (R 31)
67d.	(<i>sârpä</i> _{Te} path)		<i>sərəə</i> / <i>səďəə</i> <i>saruə</i> _{NRN}	(<i>sarpĭ</i> ^{Tas} / _E path)			* <i>sârpä</i> (J 134)
67e.						* <i>tanhó-</i> <i>to</i> ^{Kg}	cf. Ewen <i>höt</i> id. < * <i>pokto</i> (H 957)
68a. root	<i>wána/u</i>	<i>baddu</i> ^{Ch} <i>badu</i> ^B / _{Te}	<i>bântu</i>	<i>kon</i> ^{B,Tas} <i>kon</i> ^{MO} = <i>konti</i> ^{Tas}	<i>muna</i> = <i>mona</i> _D	<i>mond</i> ^{T-} _{g,Mt}	* <i>wâncɜ-</i> ~ * <i>wâncâj</i> (J 171; H 689) < U * <i>wanĕɜ</i> (R 548–49) = * <i>wâncâ</i> (S ₁ 541)
68b.			<i>tóxi</i> _{KS}				(X 130)
68c.				<i>ćâjə</i> ^{Ty} / _{DA}			
68d.				<i>korə</i> ^{KE} / _{DA}			: <i>korə</i> deep < * <i>gorä</i> (J 47)
68e.						<i>ćčlega-</i> <i>de</i> ^{Mt}	< Tk: Khak <i>čilege</i> , Kb <i>jelägi</i> (H 199)

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
69a. round	<i>šureña</i>						
69b.			<i>mandaj-ku</i> _{NRN}				
69c.				<i>pürui</i> ^{NP} <i>pöru</i> ^{OO}			< U * <i>pirä/e</i> (R 384)
69d.				<i>pungola-</i> _{Tas/E}			
69e.					<i>thuluka</i> = <i>ʔulukʔv</i> _D		< Yak <i>tula</i> Umkreis (Jo 328–29)
69f.					<i>tolta</i>		cf. Kalm <i>doldü</i> id. (Jo 328–29)
69g.					<i>dərəŋgo</i> _D		Jo 115 derived it from Mo <i>dügürey</i> full, but semantics does not cor- respond
69h.						<i>tengə</i> ^{Mt}	< Tk: Kzk <i>teŋ</i> Ballen (H 988)
69i.						<i>tocorəñ</i> ^{Kg}	< Buryat <i>tüxerən</i> id. (H 1050)
70a. sand			<i>düo</i> _{NRN} = <i>jua</i> (+ ashes)				* <i>jāš</i> (J 36–37; H 160) = #22a
70aa.	<i>(jara</i> _{Te} sandy)	<i>jāra</i> ^{Ch} (+ ashes)	<i>(juoru</i> _{Pop} ochre)	<i>türe</i> _{Tas,Kar} <i>čurʔ</i> _{Tas/E}	<i>(durn</i> _D gravel)	<i>(džjara</i> ^{Mt} arm of river)	* <i>jāšrā</i> (J 37; H 183)
70b.	<i>tab</i>	<i>tobö</i> ^{B/Te} <i>top</i> ^{K/Pu} (<i>tóbo</i> ^B clay)				<i>(tā</i> ^{Mt} ashes) <i>(taha</i> ^{Kg} dirt)	* <i>ʔəpə</i> (J 148; H 937); = #2d
70c.				<i>kōra</i> _{Tas/E}			cf. #2
70d.					<i>phürä</i> = <i>pʔure</i> _D	<i>húra</i> ^{Mt,Tg}	* <i>puəra</i> (H 330)
71a. say	<i>wadieu</i>	<i>(baðe</i> ^{B/M} <i>bābo</i> ^{Ch} speak, tell)	<i>buatum,</i> prt. <i>buajum</i>				* <i>wāš-</i> (J 170–71)
71b.	<i>heatau</i>	<i>ketu</i> ^{X/M}		<i>ketam</i> ^{B,Tas} = <i>keṭi-qo</i> _{Tas/E}			* <i>keṭ(ə)</i> - (J 66)
71c.	<i>mādm</i> <i>manz</i> _{RNS}	<i>mad</i> ^{B/Te} <i>man</i> ⁿ <i>monā</i> ^{Ch/1a}	<i>(ku-munsa</i> what to say)	<i>(mom- pa</i> _{Tas/E} man sagt)	<i>malem</i> _D		* <i>mā(n)</i> - (J 88) < U * <i>monə</i> (R 290)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
71d.		<i>eitabo</i> ^{Ch} <i>naitabo</i> ^B					
71e.			<i>ŋamita</i> ² <i>a-</i> <i>ma</i>				
71f.				<i>tāraŋ</i> ^{MO,K}			
71g.				<i>tom-qo-</i> _{Tas / E}			
71h.					<i>nörbeläm</i> = <i>nēr̄b^hlēm</i> _D		
72a. see	<i>ŋodarŋau</i> cf. <i>ŋadi</i> visible	(<i>ori</i> ^{Ch} <i>odi</i> ^B be visible)	<i>ŋadi</i> ² <i>ema</i>	<i>atə</i> ^{-Ty/} _{DA} (<i>atu</i> ^{-Ty/} _{DA} = <i>adak</i> ^N <i>ataŋ</i> ^{B,Tas} be visible)		(<i>adymgə</i> ^{Mt} it seems)	* <i>ät̄ə</i> - (J 16; H 7, 8) < U * <i>attə</i> ʒ or * <i>ottə</i> ʒ (R 20)
72b.	<i>mana</i> ² <i>au</i>	<i>modjāz</i> ^{K/} _M <i>modēb</i> ^{B/} _{Te}		<i>mannam-</i> <i>bap</i> ^N <i>mannem-</i> <i>bam</i> ^{Tas}	<i>mandōlam</i> = <i>mān-</i> <i>dālom</i> _D		* <i>māncə</i> - (J 86); cf. Tn * <i>munsi-</i> id. (AX 98)
72c.	<i>sirŋādm</i> <i>xijŋj̄r</i> _{Le}	<i>sōŋaro</i> ^{Ch} <i>soŋiŋado</i> ^B	<i>səŋj̄rśa</i> _M	(<i>saŋa</i> <i>qo</i> _{Pr} try)		<i>sché-</i> <i>nemende-</i> <i>m</i> ^{Mt}	* <i>səŋə</i> - (J 133; H 875)
72d.	(<i>hou</i> find)	(<i>koabo</i> ^{Ch} <i>kuabo</i> ^B find)		<i>qo-qo</i> ^{Tas/} _E = <i>koŋam</i> ^{Tas}	<i>kułom</i> _D	(<i>kojam</i> ^{Mt} I find)	* <i>ko-</i> to find (J 72; H 513) < U * <i>koke-</i> (R 171)
72de.	(<i>kōndēm</i> _{Le} try)	<i>koddabo</i> ^{Ch} <i>kuddabo</i> ^B		<i>konder-</i> <i>nam</i> ^{Tas} <i>kondör-</i> <i>nam</i> ^Č		<i>kondo-</i> <i>rgom</i> ^{Mt}	* <i>kont</i> ₁ <i>ə</i> - : * <i>ko-</i> (J 72; H 546)
72f.				<i>sulal-</i> <i>čə</i> ^{-KU/} _{DA}			
73a. seed	<i>sibjako</i> _{NRS}						cf. <i>sibjä</i> dust
73b.				<i>mum-</i> <i>moł</i> ^{Tu/} _{DA}			
73c.				<i>sem</i> <i>-jān</i> _{South / G}			< Ru <i>semja</i> (G 177)
74a. sit	<i>ŋāmđydm</i>	<i>adduaro</i> ^{Ch} <i>adido</i> ^B	<i>ŋom-</i> <i>tūtum</i>	<i>āmdaŋ</i> ^{B,-} _{K,MO} <i>āmtaŋ</i> ^{Tas} = <i>āmtj-qo-</i> _{Tas / E}	<i>annam</i>	<i>ondoŋ</i> ^{Mt} <i>āndai</i> ^{TG}	* <i>āmtə</i> - ~ * <i>āmtə</i> - (J 17–18; H 31) < U * <i>amə</i> - (R 8)
74b.				<i>luogaŋ</i> ^{Č,OO}			

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
75a. skin	<i>hôba</i> (+ bark)	<i>koba</i> ^{B/Te} / <i>kôba</i> ^{Ch/X}	<i>kufu</i> , g. <i>kubu</i>	<i>kob</i> ^N , <i>kôba</i> ^C <i>kop</i> ^{B,Tas}	<i>kuba</i> , <i>kuwa</i>	<i>kô</i> ^{Mt} <i>kogo-to</i> ^{Kg}	* <i>kopâ</i> (J 73–74; H 520) < U * <i>kopa</i> (R 180–81) = * <i>kopâ</i> (S, 537: bark)
75b.	<i>šar</i> _{Ter}			<i>qora</i> ^{Tas/E}			* <i>kâr</i> ~ * <i>kor</i> - (J 64–65); cf. FU * <i>kere</i> & * <i>kôre</i> (R 148–49; 184) = FU * <i>keri/ä</i> bark (S, 543)
75c.	<i>të·ŋk</i> _{Le}			(<i>tšij</i> ^I _D made skin)			* <i>ceŋkâ</i> (J 33)
75d.	<i>ŋaja</i> _{RNS} (human s.)						* <i>âjâ</i> (J 17; H 799); = #53b
76a. sleep	<i>hônym</i>	<i>koddua-</i> <i>ro</i> ^{Ch} <i>koddua-</i> <i>do</i> ^B	<i>kundua-</i> <i>tum</i>	<i>kondak</i> ^N <i>kondaŋ-</i> _{K,B,Tas}	<i>kunollam</i> <i>kunöläm</i> _D	<i>xonda-</i> <i>-štam</i> ^{Mt} <i>chonda</i> ^{Tg}	* <i>kontâ</i> - (J 73; H 543)
77a. small	<i>ñüdea</i>	<i>urea</i> ^{Ch} <i>judea</i> ^B		(<i>yčë</i> ^N young, child)			* <i>ücä</i> (J 31; H 1134); cf. FU * <i>ücä</i> (R 78)
77b.	<i>ñ/ŋôloko</i>						
77c.	<i>ñuocko</i>						
77d.	<i>manor</i> [»] _{NBS}						
77e.		<i>ibljaju</i> ^{B/M} / <i>ubulaj-</i> <i>ku</i> ^{B/Pr} / <i>ubljaju</i> ^{K/M} / <i>ûlaigu</i> ^{Ch}	<i>äljaku</i> _{NRN}				(cf. M 101)
77f.			<i>sielaku</i>				
77g.				<i>ñúño</i> ^K			* <i>ñuə(j)</i> child (J 111; DA 1626)
77h.				<i>keba</i> ^N , <i>kipa</i> ^{B,Tas}			
77i.			<i>tanəlikü</i> _{NRN}	<i>tâna-</i> <i>ka</i> ^{C,OO,K}			cf. * <i>tänə-</i> wenig (J 154)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
77j.					<i>bok't^m</i> , <i>βopt²_D</i> (+ low, short)		
77k.					<i>idř'e_D</i>		
77l.					<i>üdügä</i> = <i>uduga_D</i>	<i>udžju^{-Mt}</i> <i>mbuj</i>	< Mo <i>üčü-</i> <i>-ken</i> (H 1134)
78a. smoke n.	<i>jáke</i> <i>jáki</i> _{Adelung}	<i>jáki^{Ch}</i> <i>đaka^B/Te</i>	(<i>kində</i> <i>djakágə_{Te}</i> smell of smoke)	? <i>kačka^N</i> ? <i>kacko-</i> K,Č,OO			* <i>jäckə</i> - (J 39)
78b.	<i>šun</i> (+ steam)	<i>šuddo^{Ch}</i> <i>šudu^K/M</i> <i>šudru^B/Gl</i>	<i>kinta</i>	<i>sümde^{NP}</i>	<i>schunjú</i> Adelung	<i>kjundu^{Mt}</i> <i>kundo^{Tg}</i>	* <i>küntə</i> (J 79; H 593) < U * <i>küntə</i> < (R 158) = * <i>künti</i> (S, 537)
78c.	(<i>pur</i> 'fire against mosqui- tos)			<i>purga^{B,Tas}</i> = <i>purqi^{Tas}/E</i> (cf. DA 661)			* <i>pur-</i> (J 131) < U * <i>purki</i> (A, 25) or lw. from Kh <i>pörki</i> ?
78d.				<i>ķām</i> <i>-də^{KM}/DA</i>			* <i>kämtə</i> soot (J 64)
78e.					<i>ber</i> = <i>ber</i> , <i>bor</i> , <i>bär_D</i>		cf. Tat. Tobol <i>byr</i> soot (Jo 90, 96)
78f.					<i>k'ānnu_D</i>		
79a. stand	<i>núdm</i>	<i>nóaro^{Ch}</i> <i>nóado^B</i>	<i>nandetm</i>	<i>nəŋak^N</i> <i>nəŋaŋ^{K,-}</i> MO,OO <i>leŋaŋ^C</i>	<i>nugam</i> = <i>nulām</i> , <i>nōlām_D</i>	<i>nemyn-</i> <i>-damə^{Mt}</i>	* <i>nu-</i> ~ * <i>ŋj-</i> (J 104; H 735)
79b.	(<i>tōřřě</i> stellen)			<i>tottj-qo-</i> Tas/ E <i>če/očči-</i> -Ty/ DA			cf. DA 1064, 1084
80a. star	<i>numgý</i>						cf. * <i>num sky</i> , <i>god</i> (J 104; H 782) < U * <i>nu-mə</i> (R 308)
80b.		<i>foreseo^{Ch}</i> <i>fadeser^B</i>	<i>fatajea</i> = <i>hotadiə-</i> NRN				

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
80c.				<i>keška^N</i> <i>kueška^{B,Tas}</i> <i>kesaŋ-</i> <i>ka^{K,C,NP}</i>	<i>khinzi-</i> <i>gäi =</i> <i>k'ĩndžigej_D</i>	<i>kindži-</i> <i>kej^{Mt}</i>	* <i>kĩns3-</i> (<i>kājā</i>) (J 263; H 489) < U * <i>kuńć3</i> (R 210) = * <i>kunśā</i> (S ₁ 537)
81a. stone	<i>pae</i>	<i>fū^{Ch}</i> , <i>fu^B</i>	<i>fala</i>	<i>pö^N</i> , <i>pü^{K,OO}</i> , <i>pü^{B,Tas}</i>	<i>phi = p'ĩ_D</i>	<i>hilä^{Mt}</i>	* <i>pāj</i> (J 112; H 298) < U * <i>pije</i> (R 378)
82a. sun	<i>hājer</i> , <i>haijer</i>	<i>kaija^{Ch}</i> <i>kaja^{B/Te}</i> <i>kāja^{K/Pu}</i> <i>kājer^{K/Pu}</i>	<i>kou</i>	(<i>qečĩ^{Tas/E}</i> heat)	<i>kuja =</i> <i>k'uija_D</i>	<i>kajja^{Mt}</i> <i>xaja^{Tg}</i>	* <i>kājā</i> (J 58; H 389) < U * <i>koje</i> (R167) = * <i>kājā</i> (S ₁ 538)
82b.	(<i>jālea</i> day, light)	(<i>jeře^{Ch}</i> <i>jere^B</i> day)	(<i>jale</i> day)	<i>čel^N</i> , <i>těl^{B,Tas}</i> (+ day)	(<i>tala</i> day = <i>d/tānā_D</i>)		* <i>jälä</i> (J 40) < U * <i>jelä</i> (R 96–97)
83a. swim	<i>ŋū-š_{Le}</i>			<i>urnak^N</i> <i>urnaj^{K,O-}</i> O,B,Tas		* <i>u-</i> or * <i>ū-^{Kg}</i> <i>tscha-</i> <i>gand-</i> <i>uūsugur-</i> <i>jana</i> I swim in a river	* <i>u-</i> (J 29; H 1108) < U * <i>uje-</i> ~ * <i>oje-</i> (R 542) = * <i>uxi-</i> (S ₁ 536)
83b.	<i>oūlim</i> , <i>ōlym</i>						
83c.	<i>hūlydm</i>						
83d.	<i>hattadm</i>						
83e.	<i>šam-</i> <i>beadm</i>			<i>kām-</i> <i>pər-^{KM/DA}</i>			cf. DA 1835
83f.		<i>be'ero^{Ch}</i> <i>be'io^B</i>					
83g.		<i>beheŋedo^B</i> <i>beheŋero^{Ch}</i>					
83h.	<i>řāmpaš_{Le}</i>		<i>jambi'em</i> = <i>dām-</i> <i>bišĩ_{NRN}</i>	(<i>lāmpi-</i> <i>lā^{Tas/E}</i> Schwim- mer am Netz)			* <i>lāmpā</i> (J 82)
83i.			<i>hođirsj_{NRN}</i>	<i>kurak^N</i> <i>kürem-</i> <i>bay^{Tas}</i>			
83j.			<i>kudūsā_{NRN}</i>				

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
83k.				<i>pänžan</i> ^B <i>päntetan</i> ^{Tas}	<i>pha</i> ^{(?)lam} = <i>p' ə'läm</i> _D		
83l.						<i>tadelb-</i> <i>nam</i> ^{Mt}	(M 934)
84a. tail	<i>tæ(u)wa</i>		<i>təjbu</i> _M	<i>talž</i> ^N , <i>talđu</i> ^K	<i>thima</i> = <i>tšima</i> _D	<i>dajba</i> ^{Mt}	* <i>t,əjwä</i> (J 150; H 943) < U * <i>sejpä</i> (R 438)
84b.	<i>saña'</i>	(<i>sóddaki</i> tail of birds)	(<i>santu'</i> tail of birds)				
84c.	<i>panco</i>						cf. Sm * <i>pāncā</i> lower edge (J 116) < U * <i>pončī</i> tail (R 394–95, 735; S ₁ 547 ; A ₂ 23)
		<i>batu'o</i> ^{Ch} <i>batu'o</i> ^{B/Te}	<i>batu'a</i>				
84d.				<i>mäčä</i> ^B <i>mätä</i> ^{Tas}			< U * <i>māncz</i> ~ * <i>mäcz</i> (R 268)
84e.					<i>kæten</i> _D (+ Arsch)		< Tat. <i>kötän</i> id.
85a. that	<i>taky</i>			(<i>tę</i> ^{Tas/ E} he)			* <i>tā-</i> (J 150)
85aa.	<i>tänij</i> _{Te}	(<i>tonea</i> es gibt)	<i>tanie</i>				* <i>tā-nä-</i> (J 144) < U * <i>ta</i> + * <i>nä</i> (R 505, 300)
85aaa. .	(<i>tiky</i> _{Te} der dort)	<i>tike</i> _{Te}		(<i>tī</i> ^{Tas/ E} now) <i>tina</i> ^{Tas/ E} (+ this)	<i>dā</i> _D (+ he)	<i>tin</i> ^{Mt} (<i>ty</i> ^{Mt} he)	* <i>ti(-)</i> (J 160; H 1006, 1022) < U * <i>tä/ *te/ *ti</i> (R 513–14)
85b. = 86c.	<i>nēr</i> _{Le}						* <i>nɛ(-)</i> (J 105) < U * <i>nä / *ne/ *-</i> <i>ni</i> (R 301)
85c.		<i>sedeo</i>					cf. <i>sgd</i> ^{B/Te} who?
85d.		<i>ine</i> ^{B/Pr}			(<i>id</i> _D this)	(<i>idichaiim</i> ^{Mt} vorgestern)	* <i>i-</i> (J 26; H 336)

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gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
86a. this			<i>takâ</i>		<i>šō</i>		*tâ- ~ *te- (J 152) < U *tâ/ *te/*ti (R 513–14)
86aa.	(<i>ta</i> _{Le} then)	<i>tohonô</i>	(<i>tandaj</i> dorthin)	<i>to</i> = <i>ta</i> ^{Tas/E}	<i>da</i>	(<i>dana</i> ^{Mt} there)	*tâ- (J 144; H 954) < U *ta (R 505)
86aaa.	<i>tuky</i> = <i>tuku</i> _{RNS}				<i>dü</i>		*tü- (J 167; H 1075 rejects to add Mt <i>tugokə</i> soviel)
86b.		dat. <i>eo'</i> der. <i>eke/</i> <i>o</i> ^{Ch} <i>ekke</i> ^{B/Te} <i>ekē</i> ^{K/M}	<i>ɲamanɲ</i>	(<i>ompä</i> ^{Tas/E} now)			*äm- (J 19) < U *e (R 67); H 644 rejects to add Mt <i>mákaia</i> today : Hu <i>ma</i> id.
86c.	(<i>nēr</i> _{Le} that)			<i>na</i>			*nɛ(-) (J 105) < U *no (R 306)
86d.					<i>īd</i> _D		= #85d
87a. thou		<i>tođ</i> ^{Ch} (*tân-tä)	<i>tannanɲ</i>	<i>tan/t</i>	<i>than</i> = <i>t'an</i> , <i>t'an</i> _D	<i>tanə</i> ^{Mt}	*tân (J 147) < U *tun (JJ 232; R 539)
87b.	<i>pudar</i> = <i>pydär</i> _{NRS}					(<i>xudu</i> - self)	from <i>puda</i> he (GS 342); cf. <i>pyd</i> _{NRS} self; body < *pucâ (J 129–30; H 321)
87c.		<i>ū</i> ^{B/Te} <i>ū</i> ^{K/M} , <i>ū</i> ^{K/ɣu}					(M 230) cf. Ket <i>ū</i> thou
88a. ton- gue	<i>ńâmi</i> Obd. <i>ńâmū</i> = <i>ńamju</i> _{RNS}						R 314: <i>ńâ?</i> mouth + *mū? Inne- res; not from *ńâlmä
88b.	<i>šē</i> _{Le}	<i>sioŕo</i> ^{Ch} <i>sioŕo</i> ^B	<i>sieja</i>	<i>se</i> ^N , <i>še</i> ^{Tas} , <i>šī</i> ^B	<i>šikä</i> = <i>šəkə</i> _D	<i>ki, kis-</i> <i>chtä</i> ^{Mt} <i>gei</i> ^{Kg}	*kešj (J 66; H 450) < U *kēle (R 144) = *käxli (S, 538)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
89a. tooth	<i>tíbea</i> , <i>tíwie</i>	<i>tí</i> , g. <i>tío</i> ^{Ch} <i>tí^B</i> / _{Te}	<i>tími</i>	<i>tím</i> ^{B,Tas} , <i>tiu</i> ^K <i>teu</i> ^{MO} , <i>čeu</i> ^C	<i>thimä</i> = <i>t'imε</i> _D	<i>tyme</i> ^{Mt} <i>dimi-da</i> ^{Kg}	* <i>timä</i> (J 163; H 1019) < U * <i>sew(i)-mä</i> : * <i>sewi-</i> eat (A ₁ 34–35; R 440; S ₁ 548)
90a. tree	<i>pea</i>	<i>fě^{Ch}</i> , <i>fě^B</i>	<i>fä</i>	<i>po</i> ^N , <i>pü</i> ^{B,Tas}	<i>pha</i>	<i>häh</i> ^{Mt}	* <i>pä</i> (J 117; H 267) < U * <i>puwe</i> (R 410) = * <i>pu/o/äxi/i</i> (S ₁ 539)
91a. two	<i>side</i>	<i>sire</i> ^{Ch} , <i>side</i> ^B	<i>siti</i> = <i>šiti</i> ^{Mt}	<i>site</i> , <i>šite</i>	<i>šide</i>	<i>kiddä</i> ^{Mt}	* <i>kitä</i> (J 71; H 481) < U * <i>kakta</i> /*- <i>käktä</i> (R 118–19) = * <i>kektä</i> (S ₁ 537)
92a. walk	<i>jädam</i>	<i>jararo</i> ^{Ch} <i>jadado</i> ^B = <i>đodürsa</i> _{NRN}	<i>joturum</i>	<i>kuttarna-</i> <i>ŋ</i> ^{Kar} <i>kuttar-</i> <i>-qo</i> ^{Tas} / _E		<i>dschäda</i> ^{Mt} <i>dscha-</i> <i>dim</i> ^{Tg}	* <i>jätä</i> -(j-r-) (J 38–39; H 164, 166) < U * <i>juta-</i> (R 106)
92b.	<i>hajeadm</i>					<i>gajty-</i> <i>gamə</i> ^{Mt}	* <i>käj-</i> (J 51; H 384; var.: * <i>kañ-</i> , * <i>kaj-</i>)
92c.		(<i>kañi</i> ^B / _{Te} (weg) gehen)	<i>konjdi</i>	<i>qen-qo-</i> _{Tas} / _E	<i>kanda-</i> <i>gamə</i> ^{Kb}	(<i>gan</i> ^{Kg} уйди!)	* <i>kä(ä)n-</i> (J 59; H 413); cf. U * <i>kanta</i> carry (R 124; S 24)
92d.	<i>minž</i> _{RNS}		<i>méndem</i> = <i>mĩnsi</i> _{NRN}		<i>miŋäm</i> = <i>məŋgem</i> _D		* <i>min-</i> (J 94; H 627 excudes Mt <i>myngaemə</i> I leave) < U * <i>mene</i> (R 272) = * <i>meni-</i> (S ₁ 538)
92e.		<i>muosiro</i> ^{Ch}					
92f.			<i>čüüda</i> _{NRN}				
92g.			<i>heđitšij-</i> _{NRN}				
92h.				<i>palduan</i> ^K <i>palduwa-</i> <i>ŋ</i> ^{NP}			

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92i.				<i>werkka-</i> <i>ŋ^{č.oo}</i>			
92j.				<i>iččir-<i>qo</i></i>			
92k.				<i>qaltir-</i> <i>kaltirj-<i>qo</i></i>			
92l.				<i>qoš-<i>qo</i></i>			
92m.					<i>bā'd'lām_D</i> (+ bring)		
92n.					<i>k^(s)āllām_D</i> , <i>χāllām_D</i>		< U * <i>kulke-</i> (R 198)
92o.					<i>mīlēm_D</i>		
92p.					<i>šōnuγam</i> , <i>šōnam-</i> <i>nam_D</i>		
92q.					<i>t'ō(n)nīm</i> , <i>t'ōnu'lām_D</i>		
93a. warm	<i>jibi, jīpi,</i> <i>juba, jyba</i>	<i>juba</i> <i>dūba^{Ch}/_X</i> <i>dūba^{Sb}/_{VS}</i> <i>dūba^K/_{Pu}</i>			(<i>dū_D</i> melt {of ice})	<i>tschúha^T-</i> _{g.Mt}	* <i>ju(ə)-pā</i> : * <i>ju(ə)-</i> become warm, weak (J 47–48; H 231)
93b.			<i>hejbi_{NRN}</i> (<i>fea-</i> <i>bem'am</i> sich er- wärmen)	<i>pō^N,</i> <i>pū^{K,B,Tas}</i>			* <i>pejwā</i> (J 120); cf. FU * <i>pājwā</i> fire (R 360; S 34)
93c.			<i>nūnaŋ</i>				
93d.			<i>fekutea =</i> <i>hékutaku_X</i>				< Tn * <i>peku</i> (AX 146–47)
			<i>h/kolšuo_{KS}</i>				
93e.					<i>eju = εju,</i> <i>ēju_D</i>		
93f.	(<i>jieppā_{Le}</i> be hot)	(<i>jeŋ^B,</i> <i>éŋ^{Ch}</i> be hot)		(<i>čāp(p)</i> <i>ĵ-<i>qo^{Tas}/_E</i></i> burn)	<i>t'(š)ib^uge_E,</i> <i>džibwge_D</i>	<i>džobuka^{Mt}</i>	* <i>jet.pā-</i> (J 44–45; H 219; cf. AX 97: Tn * <i>jeppu-</i> id.)
94a. water	<i>ji, wi^{Knd}</i>	<i>bi^{Ch},</i> <i>bi^B</i>	<i>bē[?]</i>	<i>üt, öt^{N,B,Tas}</i>	<i>bü = bu_D</i>	<i>bu^{Mt,Tg,Kg}</i>	* <i>wit</i> (J 176; H 143) < U * <i>wete</i> (R 570) = * <i>weti</i> (S, 541)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
95a. we			<i>mêŋ</i>	<i>mê, mi</i>	<i>mi</i> ^ʔ	<i>mendä</i>	* <i>me</i> -(N/-t) (J 91; H 655) < U * <i>me</i> / * <i>mä</i> (-N) (cf. R 294-95)
95ab.	<i>maña</i> ^ʔ	<i>modi</i> ^ʔ <i>modina</i> - ^{B/} _{Pr} <i>modina</i> - ^{Ch/} _{Su}					* <i>mân-tä</i> -(t) (J 86)
96a. what	<i>ŋamgy</i>	<i>awuo</i> <i>abbua</i> ^{B/} _{Pr} <i>obu</i> ^{B/} _{Te}			<i>ümbi</i> = <i>ŋbi, əmbi</i> _D cf. <i>šombi</i> _D	(<i>amgan</i> - ^{Kg} why)	* <i>əm</i> - (J 15; H 34)
96b.	(<i>mĭ</i> _{Le} etwas zu essen)	<i>mĭ</i> ^{Ch}	<i>mâ</i>	(<i>mĭ</i> thing)	(<i>mo</i> _D weshalb)	<i>ma</i> - ^{Kg}	* <i>mĕ</i> (J 91; H 633) < U * <i>mɜ</i> (R 296)
96c.		<i>kaiġu</i> (GS 360)		<i>kai</i> = <i>qai</i> ^{Tas/} _F			< Tn * <i>xai</i> (AX 156)
96d.					<i>də</i> _D		cf. <i>də, dʰ</i> der, er?
97a. white	<i>sear</i>	<i>sĭroi</i> ^{Ch}	<i>sera</i> ^ʔ _a	<i>ser</i> ^{Tas} = <i>serĭ</i> ^{Tas/} _E	<i>siri</i> = <i>səri, sĭrɛ</i> _D		* <i>ser</i> (-): * <i>serice</i> (J 138; H 874) < U * <i>šarɜ</i> (R 464)
97b.		<i>jogudad</i> - <i>de</i> ^B	<i>dĕkagá</i> _{Pallas}	<i>čag</i> ^{MO} , <i>täg</i> ^C <i>čäk</i> ^{Tas}			* <i>jekɜ</i> (J 42)
97c.					<i>d/tārək</i> _D		< Tat, Alt <i>jaryq</i>
97d.					<i>ōi</i> _D		< Tat <i>oi</i> weissblau (Pferdefarbe) (Jo 243)
97e.						<i>kir</i> ^{Mt}	< Tk * <i>qyr</i> grey (H 494)
98a. who	<i>śa</i>	<i>sio, sie</i> ^{Ch} <i>śea</i> ^{B/} _{Te}	<i>sele</i>				* <i>ki</i> -/* <i>kj</i> - (J 69) < U * <i>ke</i> /* <i>ki</i> (R 140)
98aa.	<i>hübea</i> ^{Tundra} = <i>xibja</i> _{RNS} = <i>kĭmĭ</i> ^v _{Forest}				<i>šimdi</i> = <i>šind</i> ^D	<i>kymə</i> ^{Mt}	* <i>ki</i> -/* <i>kj</i> - <i>mä</i> (J 69; H 486) < U * <i>ke</i> /* <i>ki</i> (R 140)
98ab.	<i>ku</i> ^ʔ <i>kkĭ</i> _{Le}	(<i>hōke</i> which = <i>koke</i> _{So})	(<i>kua</i> which)	<i>kut, kud</i>	(<i>g/kidĭ</i> which ; cf. <i>gĭi</i> _D which of two)	(<i>kulgu</i> ^{Mt} which)	* <i>ku</i> - (J 75; H 563, 576) < U * <i>ku</i> -/* <i>ko</i> - (R 191)

gloss	Nenets	Enets	Nganasan	Selkup	Kamas	Mator	etymology
99a. wo- man	<i>ne</i> _{RNS}	<i>ne</i> ^{Ch} <i>ne</i> ^{B/Pr} <i>ne</i> ^{K/Pu}	<i>nê</i> = <i>nĭ</i> _M	<i>neä</i> ^{OO,Č} = <i>ne</i> ^{Tas/E}	<i>ne</i> , <i>nĕ</i> , <i>nĕ</i> _D	(<i>ne</i> ^{Mt} Weibs Person <i>ne</i> ^{Kg} uxor)	* <i>ne</i> (J 100; H 727) < U * <i>niñä</i> (R 305– 06) ≠ U * <i>näxi</i> (S, 539)
				<i>ema</i> ^{MO} <i>ima</i> ^{B,Tas} = <i>ima</i> ^{Tas/E}		(<i>eme</i> ^{Tg} <i>imang</i> ^{Mt} mother)	* <i>emä</i> mother (J 23; H 64) < U * <i>emä</i> (R 74; S, 536)
100a. yellow	<i>tâsihaei</i> = <i>tasej</i> _{RNS}	<i>taserad-</i> <i>de</i> ^{Ch}	<i>tođakuo</i> _{NRN} (<i>tosərü-</i> <i>tüo</i> _{NRN} gelblich)				
100b.		<i>takuda-</i> <i>de</i> ^{Ch/X}					(X 130)
100c.				<i>pati</i> ^{Tas/E}			cf. <i>patj</i> bile, gall < * <i>pätä</i> (J 115)
100d.					<i>segi</i> _D		Soy, Sag <i>sigän</i> grass
100e.						<i>táinaha</i> ^{Mt} <i>tánjaha</i> ^{Kg}	(H 945)
100f.					<i>dězi</i> _D (+ of copper)		cf. <i>dēs</i> cop- per, bronze (Jo 121)
100g.					<i>sār</i> _D (+ grau- lich)	<i>saryx</i>	< Tk: Khak <i>saryy</i> yellow, Tat <i>saryg</i> (H 851)

Note 1: The main source of Nenets, Enets, Nganasan, Selkup and Kamas is Castrén 1855; for Mator it is Helimski 1997 (= H). The additional sources are: Nenets – Le, NRS, RNS; Enets – M, X; Nganasan – KS, NRN, Xelimskij 1994; Selkup – DA, E, G; Kamas – D.

Note 2: Forms in parentheses differ in semantics and for this reason are not calculated as cognates. The underlined forms are loanwords.

Abbreviations of languages: Alt Altai, Brb Baraba, Bsk Bashkir, Chag Chagatai, Ewk Ewenki, F Finnic, Fi Finnish, FU Finno-Ugric, Hu Hungarian, Kalm Kalmyk, Kb Koibal, Kg Karagas, Khak Khakas, Km Kamas, Kzk Kazakh, Ma Mansi, Md Mordvin, Mo Mongolian, Mt Mator, N North, Ru Russian, Sag Sagai, Sm Samoyedic, Soy Soyot, Tat Tatar, Tg Taigi, Tk Turkic, Tn Tungusic, U Uralic, Yak Yakut, Yen Yeniseic, Ykg Yukaghir.

Abbreviations of dialects (written in the upper index):

Nenets: KnD Kondin, ObD Obdorsk.

Enets: B Baicha, Ch Khantaika, K Karasino.

Selkup: B Baicha, Č Čaja, K Keť, Kar Karasin, MK Middle Keť, MO Middle Ob, N Narym, NP Nats Pumpokolsk, OO Upper Ob, Tu Tundra, UK Upper Keť.

Abbreviations of authors (written in the lower index):

Gl Gluxij, La Labanauskas, Le Lehtisalo, Pop Popov, Pr Prokofjev, Pu Pusztay, So Sorokina, Su Susekov, Te Tereščenko, VS Volodin + Sorokina, X Xelimskij. These authors are usually cited according to Janhunen 1977 (J), Mikola 1995 (M) or Xelimskij 1982 (X).

Conclusion

The most important result of the present contribution is a dating of the disintegration of Samoyedic to the 3rd–2nd century BCE, i.e. between the disintegrations of its neighbours, Ob-Ugric around 400 BCE and Turkic around 100 BCE. Applying the cladistic strategy based on average values of percentages expressing mutual relations, two primarily parallel branches of the Samoyedic dialect continuum may be determined: North Samoyedic vs. South Samoyedic, consisting of Selkup and Sayan Samoyedic. With regard to the thin interval of 1.4% between the disintegration of Common Samoyedic and separation of Selkup from Kamas and Mator, it is possible to consider the alternative trichotomic model: North Samoyedic, Selkup and Sayan Samoyedic. Relatively low scores of Nganasan with all other languages (with exception of Enets) probably indicate an influence of a pre-Samoyedic substratum of the Taimyr Peninsula. On the other hand, the possibility that the Sayan Samoyedic branch was secondarily “formed” thanks to the geographical neighbourhood of Kamas (and Koibal) and Mator (and Taigi and Karagas) is not excluded. In this case, Helimski’s (1982 = X) idea of four coordinate branches would be confirmed.

Concerning the Samoyedic–Finno-Ugric relations, their disintegration dated to 3400 BCE is in agreement with *communis opinio* (see the discussion in Blažek 2012: 30–32). The most remarkable result is that the order of lexical proximity of individual Finno-Ugric branches to Samoyedic does not correspond with the geographical distance – on the basis of the core lexicon, the closest relative of Samoyedic is Finnic (every Finnic language shares with Samoyedic, on average, a higher score than all other branches):

1. Finnic: 28.62%
2. Mari: 26.12%
3. Permic: 25.95%
4. Ugric: 24.03 %
5. Saamic: 22.95 %
6. Mordvinian: 22.39 %

This result does not confirm the idea of an Eastern Uralic superbranch consisting of Ugric and Samoyedic (Häkkinen 2007, 2009; Parpola 2012: 288), at least in a genealogical sense. On the other hand, an areal explanation operating with a West Siberian *Sprachbund* consisting of Ugric, Samoyedic and probably also the Yeniseic language Pumpokol, all characterized by the isogloss **s > *t*, was already formulated by Helimski in 1982 (X 124). The specific Finnic–Samoyedic relations represent an open question. As working hypotheses, the following scenarios may be offered: (i) Primary neighbourhood in the Uralic dialect continuum. (ii) Independently shared archaisms in the northwest and northeast peripheries of the Uralic dialect continuum. (iii) Substratum common to both Samoyedic and Finnic. (iv) Finnic-like substratum in Samoyedic (with regard to high scores of the Nganasan core lexicon with all Finno-Ugric branches, the hypothetical pre-Samoyedic substratum in Nganasan could be of Uralic origin too). (v) Samoyedic-like substratum in Finnic (and not Saamic, where it did not become evident in the core lexicon). Only future research can solve this challenge.

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Notes

1. Already Janhunen (1983, 119) identified in Samoyedic **sejptâ* '7' a loan from Common Tocharian **ṣaptâ* id. (Ringe 1996: 67). It is possible to add North Samoyedic **menüjâ* 'full moon' (Xelims kij 1978: 126; 1984: 117; 2000: 400) < Common Tocharian **m'eñä-* 'moon' (Ringe 1996: 108–109), and Sayan Samoyedic **peŋ-* 'to write, impress' (XE 119; H 329) < Tocharian AB (present stem) *pirik-* 'to write, paint, delineate' (Adams 2013: 410); cf. also Napoľskikh 2001: 373, 371.
2. Cf. Samoyedic **num* 'sky, god' (< Ob-Ugric **numä* 'up, on top' R 308); **kalmä* 'dead body, grave' (continuants of U **kalma* have been lost in the Ugric branch – see R 119–120; Janhunen 1998: 477 assumes their existence).
3. Janhunen (1998: 477) quotes Samoyedic **juntâ* 'horse' and **jür* '100' as examples of proto-Bolgar loanwords. It is possible to add another numeral, Samoyedic **te(j)ttâ* '4' (J 159), resembling Volga-Bolgar **tüüt*, Chuvash *tävattä*, derived from proto-Turkic protoform **dört* '4' (Blažek 1996–97: 6–7; 1997: 37; 1999: 93,105). But in the proto-Samoyedic language there is no witness to the cluster *-rt- (cf. S 46–47). This means that **te(j)ttâ* may be a direct adaptation of proto-Turkic **dört*. On the other hand, -r- is also missing outside the Bolgar-Chuvash branch, e.g. in Uighur dial. *töt*, Lobnor *dö(j)t/töt*, Salar *döt*, *dot* id. (Sevortjan 1980: 284–86).

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