Tocharian and Samoyed: on the question of Uralic substrate influence in Tocharian

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Etymological reference list 1: Tocharian

In the following numbered list, the words adduced and discussed in chapter 2 are given with references to the literature, and, where relevant, a short discussion. The main source of Tocharian B etymological information is Adams (2013), which contains references to the earlier literature. Especially Malzahn (2010) and Peyrot (2013) also provide a lot of information on verbs, which are cited according to the system of Peyrot (2013), rather than those employed by Malzahn and Adams. Tocharian A lacks a dedicated etymological dictionary. The Tocharian A forms are cited after the Dictionary and Thesaurus of Tocharian A by Carling and Pinault (DThTA).

The words are listed according to the Proto-Indo-European reconstruction, or the Proto-Indo-European root from which the Tocharian word is derived. As elsewhere in this dissertation, Proto-Indo-European accents are omitted because they cannot always be determined with certainty, and they are generally irrelevant for the topics under discussion. The alphabetical order is:

bʰ d dʰ e ē ǵ ǵʰ g gʰ gʷ gʷʰ h₁ h₂ h₃ i ḱ k kʷ l m n o ō p r s t u

Words do not start with the vowels **e*, **ē*, **o*, **ō*, or with the resonant **r*. Unlike some scholars, I do not write vowel colouring in the Proto-Indo-European reconstructions, so that, e.g., **h₂e* remains written as **h₂e* rather than becoming **h₂a*. I consider both the laryngeal colouring and syllabification of syllabic resonants to be post-Proto-Indo-European developments. In this list, the sign marking syllabic laryngeals **h̥₁*, **h̥₂*, **h̥₃* and syllabic resonants **l̥*, **m̥*, **n̥*, **r̥* and the sign for the glides **i̯* and **u̯* are omitted.

1. PIE **bʰeh₂ǵʰu-* > PT **poko*, obl.sg. **pokay* 'arm'
   TB *poko**, obl.sg. *pokai* | TA nom/obl.sg. *poke* (DThTA: 285b)
   Adams 2013: 434.

2. PIE **bʰreh₂tēr* > PT **protʸer* 'brother'
   TB *procer* | TA *pracar* (DThTA: 303b)
   Adams 2013: 454–455.

3. PIE *$b^hrǵ^h$-ro- > PT *pərk(ə)re 'long'
   TB *pärkare* /pərkə́re/ | TA *pärkär* (DThTA: 278a)
   Adams 2013: 399-400.

4. PIE *$deḱm$ > PT *śəkə 'ten'
   TB *śak* /śə́k/ | TA *śäk* (DThTA: 476a)
   Adams 2013: 674–675.

5. PIE *$demh_2$- > PT *t^səma- 'grow, increase'
   TB *tsəma-* | TA *tsämā-* DThTA: 555b)
   Adams 2013: 804; Malzahn 2010: 985–987; Peyrot 2013: 843.

6. PIE *der- 'split' > PT *t^sər- 'be separated, be apart; caus. separate'
   TB *tsəra-* | TA *tsärā-* 'separate' (DThTA: 556a)
   Adams 2013: 805; Malzahn 2010: 987–988; Peyrot 2013: 845.

7. PIE *$deuh_2$- > PT *t^səwa- 'attach oneself, stick to (itr.)'
   TB *t^səwa-* | TA *t^säwā-* 'fit; obey' (DThTA: 558b)
   Adams 2013: 808–809; Malzahn 2010: 996–998; Peyrot 2013: 846.

8. PIE *deuk- > PT *t^səwka- 'suck (out)'
   TB *tsəwka-* | TA *tsäwkā-* (DThTA: 558b)
   Adams 2013: 809; Malzahn 2001: 994–996; Peyrot 2013: 841.
   — The etymology *d^heug^h- 'produce (milk)', while not impossible, is semantically less fitting than a derivation from *deuk- 'pull (out)'; see Adams (2013: 809).

9. PIE *$dnǵ^hueh_2$ > PT *kəntwo 'tongue'
   TB *kantwo* /kə́ntwo/ | TA *käntu* (DThTA: 121a)
   Adams 2013: 147.
   — The dental and the velar were metathesised in Tocharian, with TB *kantwo* rather than **tankwo*, TA *käntu* rather than **tänku*.

10. PIE *doru-, *dreu- > PT *orə, pl. *arwa* 'wood'
    TB *or*, pl. *ārwa* | TA *or* (DThTA: 86b)
    Adams 2013: 127.

— The initial **d-* was lost by regular sound law in the oblique cases where it came into contact with the **r*, and it was subsequently removed in other forms by analogy. The singular TAB *or* shows *u*-umlaut of pre-PT **e* (PIE **o*) plural TB *ārwa* shows *a*-umlaut of pre-PT **e* (PIE **o*).

11. PIE **drem-* 'run' → ? **drem-wor* > PT *rəmer* 'quickly'
TB *ramer* | ? TA der. *ymār* (DThTA: 379b)
Adams 2013: 571–572; Pinault 2011: 168; Van Windekens 1976: 592; Winter 1962: 30.
— TB *ramer* could theoretically be from **drem-or* if this is simplified from **drem-wor*. Pinault (2011: 168) explains TA *ymār* as a local adverb formation from PT **rəmer* with prefixation of **yə*(*n*)- and pluralization in *-a*, yielding pre-TA **yrmārā* with umlaut; after regular apocope and dissimilation of the two *r*'s, this became TA *ymār*. In this way, TA *ymār* would not be a reflex of **h₁i-mōr*, as assumed by Van Windekens (1976: 592).

12. PIE **duei-* > PT **wəy-* 'be frightened'
TB *wəy-* | TA *wäyā-* (DThTA: 446a)
Adams 2013: 652; Malzahn 2010: 900–901; Peyrot 2013: 818.

13. PIE **dui-dḱmt* → ?**duih₁ḱmt* > PT **wʸikən* 'twenty (20)'
TB *ikäṃ* /yə́ykən/ | TA (analogical) *wiki* (DThTA: 443a)
Adams 2013: 66–67
— It is generally assumed that TB *ikäṃ*, TA *wiki* can be derived via pre-PT **wīkəmt* from a preform **duih₁kmt* with a development from PIE **ih₁* to pre-PT **ī* (Adams 2013: 66–67; Hackstein 2017: 1314), but the reconstruction of the**h₁* to the Proto-Indo-European level is uncertain. The development thus remains a tentative approximation that cannot strictly be used to show the development of true PIE **ih₁*. At the same time, there does not seem to be any other known way to get the TAB *i* than by assuming a development of **dui-dḱmt* via **duih₁kmt* at some stage.

14. PIE **dui-to-* > PT **wəte* 'second'
TB *wate* /wə́te/ | TA *wät* (DThTA: 433a)
Adams 2013: 625–626.

15. PIE **duoh₁, *duoi* > PT **wu, *wey* 'two (2)'
TB *wi* (m/f.) | TA *wu* (m.), *we* (f.) (DThTA: 446b)
Adams 2013: 651.

16. PIE **dʰegʷʰ-* > PT **tˢək-* 'burn (act. = tr.; mid. = intr.)'
TB *tsək-* | TA *tsäk-* (DThTA: 553b)
Adams 2013: 802; Malzahn 2010: 980–981; Peyrot 2013: 842.

17. PIE **dʰeigʰ-* 'form' > PT **tˢika-* 'form, shape'
TB *tsəyk-* | TA *tsāykā-* 'form tr.' (DThTA: 557b)
Adams 2013: 807; Malzahn 2010: 991–992; Peyrot 2013: 844.

18. PIE **dʰeih₂gʷ-* → *dʰih₂gʷ-* > PT **tˢaka-* 'pierce, bite'
TB *tsaka-* | TA *tsākā-* 'pierce' (DThTA: 552b)
Adams 2013: 800; LIV: 142; Malzahn 2010: 975–976; Peyrot 2013: 840.
— The laryngeal in this root is only reconstructed for the benefit on the Tocharian, and is not necessary for Latin *fīgō* 'drive in, insert; fasten' or Lithuanian *díegti* 'plant; sting', for which **dʰeigʷ-* would work too (De Vaan 2008: 219; Derksen 2015: 127). However, the other etymologies provided by Adams do not work phonologically for Tocharian: PIE **dē(n)ḱ-nh₂-* would have become ***śakna-*, **tēgʰ-nh₂-* should have become ***cakna-*, and the lengthened grades are difficult to account for, so that a connection with PIE **dʰeih₂gʷ-* remains the best option.

19. PIE ?**dʰengʰ-* > ? PT **tˢənk-* '(a)rise'
TB *tsənka-* | TA *tsänk-* (DThTA: 554b)
Adams 2013: 802–803; Malzahn 2010: 983–984; Peyrot 2013: 834.
— PT **tˢənk-* has also been connected with a PIE **dʰengʰ-* 'reach' (see Adams 2013: 802-803 with references). However, the supposed cognate Skt. *daghnóti* 'reach toward' is rather taken together with Gr. φθάνω 'anticipate, be ahead' from **dʰegʷʰh₂-* 'reach toward' in LIV (134-135), thus, crucially, without an internal nasal; see also Malzahn 2010: 983–984. Other supposed cognates OIr. *daingen* 'strong, firm', Russian (dial.) *djágnutь* 'get well, recover', *djáglyj* 'healthy, strong', and Latvian *dęñkts* 'strong, healthy, important' rather point to a root **dʰeng-* on account of the accentuation (Derksen 2008: 106), and do not fit with Tocharian semantically. The Proto-Indo-European antecedent of this Tocharian verb is thus very uncertain.

20. PIE *$d^{h}eub^{h}$- → *$d^{h}ub^{h}ro$- ‘deep’ > PT *$təpre$ ‘high’
TB *tapre* /təpre/ | TA *tpär* (DThTA: 221a)
Adams 2013: 296–297.
— This word is traditionally reconstructed as *$d^{h}ubro$-, but Kroonen (2011: 253) has shown that the root should be *$d^{h}eub^{h}$- on account of the Germanic evidence.

21. PIE *$d^{h}ugh_{2}tēr$ > PT *$təkat^{y}er$ ‘daughter’
TB *tkācer* /tkácer/ | TA *ckācar* (DThTA: 188b)
Adams 2013: 330–331.
— The initial *c*- of TA *ckācar* is the result of assimilation to the internal -*c*-.

22. PIE *$ǵenh_{1}$- ‘be born’ > PT *$kən$- ‘come about’
TB *kən*- | TA *kän*- (DThTA: 120a–121a)
Adams 2013: 169–170; Friis 2024: 373; Malzahn 2010: 568–570; Peyrot 2013: 731.
— Friis has adduced the optative TA *knitär* as an example where PIE **i* failed to palatalize the preceding consonant, potentially due to the intervening laryngeal: *gnh_{1}-ih_{1}- (Friis 2024: 373).

23. PIE *$ǵneh_{3}$- > *kna- ‘know’
TB *nana*- ‘appear : erscheinen’ | TA *knā*- (DThTA: 158a)
Adams 2013: 3; Malzahn 2010: 610–611, 678–679, Peyrot 2013: 440–442, 762.
— PT *kna- could in principle reflect either the *e*-grade of the root *$ǵneh_{3}$-, in which it would be one of the few examples of *eh_{3} in Tocharian – and all examples are uncertain in some way – or it could reflect the zero-grade *$ǵnh_{3}$- with the much more commonly attested vocalization of laryngeals to PT **a*. The latter option seems more likely, although the former cannot be entirely excluded (see Peyrot 2013: 440–442 for a more detailed discussion).

24. PIE *$ǵomb^{h}o$- > PT *$keme$ ‘tooth’
TB *keme* | TA *kam* (DThTA: 95a)
Adams 2013: 208.

25. PIE $g^{(h)}ul$- > PT *$k^{w}əla$- ‘fail, weaken, recede’
TB *$k^{w}əla$*- | TA *$k^{w}älā$*- (DThTA: 144a)
Adams 2013: 256; Kim 1999: 153.

— The most probable of the proposed cognates are to be found in Baltic, e.g., Lith. *gulĩti* 'lie down', *guléti* 'lie, be ill' (see Adams 2013: 256, Kim 1999: 153; though the Tocharian connection is not mentioned by Derksen 2015: 193).

26. PIE *$*g^{w}eh_{3}$-u-* > PT **kew* 'cow'
TB *ke_{u}* | TA *ko* (DThTA: 151a)
Adams 2013: 201–202; Lubotsky 1990: 133-134; Beekes 2010: 232–233; Nielsen Whitehead 2018.

— The precise Proto-Indo-European reconstruction is debated. If we depart from *$*g^{w}eh_{3}$-u-*, one might theoretically expect *$*eh_{3}$* to yield a long vowel like pre-PT *$*\bar{o}$*, but the *e* in TB *ke_{u}* clearly reflects a pre-PT short **o*. The particular development of *$*h_{3}$* in combination with **e* in *$*g^{w}eh_{3}$-u-* is mirrored in TB *kaw-* 'kill' from PIE *$*keh_{2}u$-* 'hew, strike', with laryngeal colouring of the *$*eh_{2}$* to *$*ah_{2}$* but no further lengthening to *$*\bar{a}$*. The traditional reconstruction is *$*g^{w}ou$-*, but this foregoes the attractive connection with the verb *$*g^{w}eh_{3}$-* 'feed, tend', clashes with the short *a* in Rigvedic forms like dat.sg. *gáve* where lengthening of **o* to ***$\bar{a}$* should have occurred in accordance with Brugmann's Law, and leaving the accent of Greek βοῦς unexplained (Lubotsky 1990: 133–134; Beekes 2010: 232–233). Nielsen Whitehead reconstructs an original hysterodynamic paradigm with a nom.sg. *$*g^{w}h_{3}$-ēu(-s)*, acc.sg. *$*g^{w}h_{3}$-eu-m* and a consistent initial cluster *$*g^{w}h_{3}$-* (Nielsen Whitehead 2018). If such a cluster underwent delabialization and the laryngeal blocked palatalization (see 2.4.2), a reconstructed *$*g^{w}h_{3}$-ēu(-s)* might regularly have become TB *ke_{u}*. With a change from *$*h_{3}e$* via **o* to PT **e*, *$*g^{w}h_{3}$-eu-m* might also provide the basis for TB *ke_{u}*. There are thus many ways to interpret the development of 'cow' in Tocharian depending on the specific reconstruction taken as a point of departure, each involving theoretically possible or even plausible changes that are not directly paralleled elsewhere in Tocharian.

27. PIE *$*g^{w}enh_{2}$-* > PT *$*k^{y}$ənа* 'wife'
TB *śana* /śə́na/ | TA *śäṃ* (DThTA: 466b)
Adams 2013: 676–677.

28. PIE *$g^{w}ih_{3}u$- > PT *$k^{y}aw$- ‘live’
TB *śaw-*, *śay-* | TA *śāw-* (DThTA: 466a)
Adams 2013: 683–684; Malzahn 2010: 916–119; Peyrot 2013: 825.

29. PIE *$g^{w}m$-*sk*- > PT *k^{w}*əmnəsk*- ‘come’ (present stem)
TB *kənməsk*- | TA *k^{w}ämnäs*- (DThTA: 122a)
Adams 2013: 170–171; Malzahn 2010: 571–572; Peyrot 2013: 732.

30. PIE $g^{w}reh_{2}$- → *$g^{w}rh_{2}$-*mr*- > PT **kramər* ‘heaviness’, der.adj. *kramərtˢtˢe* ‘heavy’
TB *krāmär* /krámər/, der.adj. *kramartstse** /kramártˢtˢe/ | TA der.adj. *krāmärts* (DThTA: 161a)
Adams 2013: 230–231; Kroonen 2013: 312; Ringe 1996: 8.
— The precise derivation of this word from the root PIE *$g^{w}reh_{2}$- ‘be heavy’ is unclear, as there is no exactly corresponding formation elsewhere in Indo-European. The reconstruction with a zero-grade, *$g^{w}rh_{2}mr$-, is attractive because we know that a vocalized laryngeal became PT **a*. An An *o*-grade as in the reconstruction *$g^{w}roh_{2}$-*mr*- (Ringe 1996: 8) would be unexpected, and the development of **oH* in Tocharian is quite unclear (see subsection 2.4.5).

31. PIE *$g^{w}rh_{2}$-*uon*- > PT **kərwen^{y}e* ‘rock, stone’
TB *kärweñe**, pl. *kärweñi* /kərwéñi/ | TA *kärwaṃ** (DThTA: 125b)
Adams 2013: 176; Ringe *apud* Kim 1999: 151 fn. 26.
— The lack of an initial labiovelar in Tocharian A may be due to a dissimilation with the following *-w-* (Ringe *apud* Kim 1999: 151 fn. 26). The laryngeal was not vocalized in this position, see also 2.3.1.

32. PIE *$g^{wh}en$- ‘hit’ → *$g^{wh}n$-*sk*- > PT **kəsk*(*a*)- ‘scatter, strike apart’
TB *kəsk*(*a*)- ‘scatter’ | TA *käskā*- (DThTA: 134a)
Adams 2013: 189; LIV: 218–219; Malzahn 2010: 596; Peyrot 2013: 739.

33. PIE $h_{1}eg^{wh}$- → ±*$h_{1}e$-$h_{1}g^{wh}$- > PT **yok*- ‘drink’
TB *yok*- | TA *yok*- (DThTA: 373a)
Adams 2013: 551–552; Kim 2000: 153-155; Kloekhorst 2008: 236–237; Malzahn 2010: 810–811; Peyrot 2013: 801.
— Kim instead reconstructs a paradigm *$h_{1}ēh_{2}g^{wh}$- : *$h_{1}eh_{2}g^{wh}$- > PT **yek^{w}*- : **ok^{w}*-, from which **yok*- resulted by a crossing of the two forms, dismissing the possibility of secondary rounding from **e* to **o* due to *k^{w} as required by the

reconstruction *$h_1eh_1g^{wh}$- (Kim 2000: 153-155). The Anatolian cognate can be better understood departing from *h_1eg^{wh}- : *h_1g^{wh}-, however, with no place for the *h_2 added by Kim (see Kloekhorst 2008: 236–237), so that a reduplicated reconstruction of *$h_1eh_1g^{wh}$- for Tocharian and subsequent rounding from *yek^w- to PT *yok- seems preferable to me.

34. PIE *h_1ei- → imp. *h_1id^hi > PT imp. *$pəṣə$ 'go!' (*p- marks the imperative)
TB *paṣ* /páṣ/ | TA *piṣ*
Jasanoff 1987: 106–112.
— The TA vowel *i* does not correspond to TB *a* /á/, and would have to be analogical on the basis of the corresponding verb root *y*- 'go'.

35. PIE *$h_1ek\acute{u}o$- > PT *$yək^we$ 'horse'
TB *yakwe* /yákwe/ | TA *yuk* (DThTA: 370b)
Adams 2013: 528–529.

36. PIE *h_1esh_2-*r* > PT *$yəsar$ 'blood'
TB *yasar* /yásar/ | TA *ysār* (DThTA: 382b)
Adams 2013: 525; Beekes 2010: 366; Kloekhorst 2008: 256-260.
— Adams derives this from a "collective" *$h_1esh_2ōr$, but PT *$yəsar$ matches the "non-collective" *$h_1ésh_2r$ quite exactly, and it is the latter that has direct correspondences in other Indo-European languages, such as Hitt. *ēšḫar*, Gr. ἔαρ, etc. (Kloekhorst 2008: 256-260; Beekes 2010: 366)

37. PIE *h_1i-*tr*- → ?*$h_1itōr$ > PT *$yətar$ 'path, road, way'
TB der. *ytārye* /ytárye/ | TA *ytār* (DThTA: 376a)
Adams 2013: 559; Kortlandt 1988b: 84–85.
— The precise reconstruction of the suffix is difficult, since non-Tocharian cognates like Latin *iter* show a zero-grade. Such a reconstruction will not work for Tocharian: *h_1itr should yield **$yətər$ with a /ə/ rather than /a/ in the second syllable. This /a/ needs to be accounted for in some way. Adams reconstructs a collective *$h_1itōr$, which is dubious due to the lack of other evidence for this formation. Kortlandt (1988b: 84–85) takes the *-*ar* as analogous after PT *$yəsar$ 'blood' (TB *yasar*, TA *ysār*), replacing expected **$yətər$. The reason for this analogy is rather unclear, however, as there is no other connection between the two words, aside from a superficial similarity.

38. PIE **h₁leng^{wh}-* > PT **lənk-* 'hang, dangle'
TB *ləṅk-* | TA *läṅk-* (DThTA: 399b)
Adams 2013: 598 (**leng-*); Malzahn 2010: 839–841; Peyrot 2013: 476, 808.

39. PIE **h₁leng^{wh}-* ?→ **h₁long^{wh}o-* > PT **lenke* 'valley, cleft'
TB *leṅke*
Adams 2013: 608.
— Might be derived from the verb for 'to hang' with semantics similar to German *Hang* 'slope, hill', *Abhang* 'slope'. Chams Bernard (p.c., 28-03-2024) instead suggests a loanword from Old Steppe Iranian **lænækæ*, as reflected in Ossetic Iron *lænk* and Digoron *læncæ* 'ravine', although this word itself does not have an etymology.

40. PIE **h₁leng^{wh}-* → **h₁lng$^{(w)h}$u-* → ** h₁lng$^{(w)h}$u-tio* > PT **lənk^{w}tse* 'easy, light (not heavy)'
TB *laṅk$_{u}$tse* /lə́nk^{w}tse/
Adams 2013: 590–591.
— To be derived from a *u*-stem **h₁l̥ng$^{(w)h}$u-* also seen in Gr. ἐλαχύς 'small' and Skt. *laghú-* 'light', *raghú-* 'swift' rather than directly from the root **h₁leng^{wh}-*. This accounts for the labiovelar reflex.

41. PIE **h₁neḱ-* → **h₁nḱ-* > PT **enk-* 'seize, take'
TB *eṅk-* | TA *eṃtsa-* (DThTA: 70a)
Adams 2013: 81–82; Malzahn 2010: 538–539; Peyrot 2013: 725.

42. PIE **h₁reg^{w}-* → **h₁rg^{w}-mō-* or **h₁rg$^{(w)}$-u-mō-* > PT **orkəmo* 'dark; darkness'
TB *orkamo* /orkə́mo/ | TA *orkäm* (DThTA: 86b)
Adams 2013: 128.
— The derivation of PT **orkəmo* via **h₁rg$^{(w)}$-u-mō-* rather than directly from **h₁rg^{w}-mō-* was suggested to me by Professor Lubotsky (p.c., 15-10-2024). It would account for the vowel TAB *o* with *u*-umlaut instead of by *o*-umlaut caused by PIE **ō*, which has no good parallels. See the discussion at the end of 2.5.3.

43. PIE **h₁reg^{w}-* → **h₁rg^{w}-ont-* > PT **erkent* 'black'
TB m.obl.sg. *erkent* | TA m.obl.sg. *arkant* (DThTA: 15b)
Adams 2013: 101.

44. PIE *h_1rud^h-ro- > PT *rətre 'red'
TB *ratre* /rə́tre/ | TA *rtär* (DThTA: 394b)
Adams 2013: 570–571.

45. PIE *$h_2eǵ$- > PT *ak- 'lead, guide, drive'
TB *ak-* | TA *āk-* (DThTA: 23a)
Adams 2013: 38–39; Malzahn 2010: 519–520; Peyrot 2013: 720.

46. PIE *$h_2eḱu$- > PT der. *$ak^wətˢe$ 'sharp'
TB *akwatse* /ak^{w}ə́tˢe/
Adams 2013: 5; Pinault 2008: 445.

47. PIE *h_2enh_1- → *h_2enh_1-ske/o- > PT *anask- 'inhale'
TB *anask-*
Adams 2013: 12–13; Malzahn 2010: 524; Peyrot 2013: 721.

48. PIE *h_2enh_1- 'breathe' > *ana- > der. *ana-elme* > PT *ånålme- 'living being'
TB *onolme*
Adams 2013: 121; Peyrot 2010: 72.

49. PIE *$h_2erǵ$- → *$h_2erǵu$- > PT *ark^wi 'white'
TB *ārkwi* | TA *ārki* (DTHTA: 43b)
Adams 2013: 52–53.

50. PIE *h_2nt-b^hoh_1 > PT *antpu- 'both'
TA f. *āmpuk* (DThTA: 39a)
Hilmarsson 1989b: 56-58; Ringe 1996: 89
— The feminine gender of TA *āmpuk* is unexpected with its derivation from PIE *$h_2(e)ntb^hoh_1$, see Hilmarsson (1989b: 56-58). The masculine form is TA *āmpi*. Cf. TB *antapi* /antəpəy/ ~ *āntpi* /ántpəy/

51. PIE *h_2og-eh_2-, or *h_2eug- → ?*h_2ugeh_2 > PT *oko 'fruit; result, effect'
TB *oko*
Adams 2013: 115; Del Tomba 202: 190.
— TA *oko* 'id.' is borrowed from Tocharian B (DThTA: 78b). The derivation from the root PIE *h_2eug- 'grow' to *h_2ugeh_2- is proposed by Del Tomba (2020: 190),

while *h_2ogeh_2 has parallels in Lith. *úoga* 'berry', OCS *agoda* 'fruit', etc., and more distantly Goth. *akran* 'fruit', Eng. *acorn*, etc. (see Adams 2013: 115). Both PIE *h_2ogeh_2 and ?*h_2ugeh_2 would likely give the same result in Tocharian, as we find both *o*-umlaut of pre-PT **e* (from PIE **o*) and of **u*, cf. quasi-PIE **someh$_2$m* > TB *somo* 'one:F.OBL.SG' and PIE **uksōn* > TB *okso* 'ox'.

52. PIE *$h_2$ster- > PT der. **ścərəye* 'star'
TB *ścirye* | TA *śre**, nom.pl. *śreñ* (DThTA: 482b)
Adams 2013: 701.

53. PIE *$h_2$ueh$_1$nto- > PT **w^{y}ente* 'wind'
TB *yente* | TA *want* (DThTA: 423b)
Adams 2013: 546.

54. PIE *$h_3$emso- > PT **anse* 'shoulder'
TB *āntse* /ánt^{s}e/ | TA *es* (DThTA: 74a)
Adams 2013: 46; Beekes 2010: 1679–1680; Kloekhorst 2008: 178.
— Initial *h_2 could be reconstructed as one way to account for the Tocharian **a-* (Kloekhorst 2008: 178), but that would require an unexpected *o*-grade in Greek ὦμος. *h_3 would cause a development to **o* from the *e*-grade *$h_3$emso-, and is therefore reconstructed by Beekes (2010: 1679–1680). The development of initial *h_3e- in Tocharian is uncertain due to a lack of reliable examples, and thus could in principle be assumed to be *a-* just like *h_2e-; cf. *$h_3$ewis* 'sheep' for the same issue. However, laryngeal colouring of PIE **e* to pre-PT **o* does seem to be found in PIE *g^weh_3u- to TB *ke$_u$* 'cow' (q.v.) and in *$h_3$eros- to TB *ere* 'form, appearance' (q.v.), if this does not reflect *$h_3$oro- instead, so that it difficult to decide either way. Adams assumes **Hōmso-*, with the very uncertain development from **ō* to **a* (see subsection 2.4.5). Both the precise reconstruction and the phonological development of this word are too uncertain to use it in further argumentations.

55. PIE *$h_3$er- 'rise up' → *$h_3$er- or *$h_3$or- > PT **er-* 'evoke, cause'
TB *er-* | TA *ar-* (DThTA: 14a)
Adams 2013: 98–99 (**h$_1$or-*); Kloekhorst 2008: 200; Malzahn 2010: 541–542; Peyrot: 2013: 726.

— Tocharian has a causative meaning of the Indo-European root. The ablaut grade from which PT **er-* is derived is unclear, as this could in principle reflect either **$h_3$er-* or **$h_3$or-*. Adams argues that the Hittite cognate precludes a reconstruction of **h_3*, and thus reconstructs **$h_1$or-* instead, but see Kloekhorst (2008: 200) in favour of **h_3*.

56. PIE **$h_3$er-* → **$h_3$er-os-* or **$h_3$or-o-* > PT **ere* 'form, appearance'
TB *ere*
Adams 2013: 99; Del Tomba 2020: 84.

— The *s*-stem PIE **$h_3$eros-* derived from the verb **$h_3$er-* is paralleled in Greek ὄρος 'mountain' and Hittite *ḫaršar*, *ḫaršn-* 'head; person; front; beginning'. For Tocharian, a thematic **$h_3$oro-* from the same root would phonologically have the same outcome. If initial **h_3e-* is taken to become TB *a-*, as appears to be the case in TB *āntse* /ánt^{s}e/ from **$h_3$emso-* (q.v.) and TB *ā$_u$w* 'ewe' from **$h_3$eui-* (q.v.), the reconstruction **$h_3$eros-* would not be possible for TB *ere* and thus **$h_3$oro-* should be preferred. The validity of the change **h_3e-* to TB *a-* remains uncertain, however. The thematic inflection of TB *ere* with an obl.pl. *ereṃ* can be secondary and does not provide conclusive proof for a reconstruction **$h_3$oro-* over **$h_3$eros-* (Del Tomba 2020: 84). The reconstruction **$h_3$eros-* has better parallels in the other Indo-European languages.

57. PIE **$h_3$eui-* 'sheep' > PT **awə*, pl. *awəyə* 'ewe'
TB *ā$_u$w* /áw/, pl. *awi* /awə́y/
Adams 2013: 38; Beekes 2010: 1061; De Vaan 2008: 437–438; Kloekhorst 2008: 338; Lubotsky 1990: 130.

— Alternatively reconstructed with initial **h_2-* specifically to account for the Tocharian **a-* (e.g., Adams 2013: 38). The argument that Lycian **χawa-* 'sheep' would also require **h_2* has been addressed and rejected by Kloekhorst (2008: 338). Initial **h_3* would accord well with the reflexes in the other Indo-European languages, especially the initial *h-* of Armenian *hoviw* 'shepherd' from **$h_3$eui-peh$_2$-* (Lubotsky 1990: 130). The general assumption is that **h_3e-* yields Tocharian **o-* rather than **a-*, but there are only very few possible examples of that development, and none seem to be completely reliable. The *e*-grade expected in an *i*-stem would not yield the *o*-vocalism of Latin *ovis* 'sheep', Greek ὄϊς 'sheep' with **h_2* instead of **h_3* (see De Vaan 2008: 437–438, Beekes

2010: 1061), and an *o*-grade could not regularly yield Hitt. *ḫāu̯i-* 'sheep' (*$*h_3o$* > Hitt. /ʔā/; see Kloekhorst 2008: 75), Skt. *ávi-* (with Brugmann's law, *$*h_3oui$-* should have regularly become Skt. ***ā́vi-*; see Lubotsky 1990: 130). A reconstruction *$*h_3eui$-* thus best accounts for all reflexes except the Tocharian one, where it would require the assumption that *$*h_3e$-* became PT **a-*. On this same issue, see the discussion under PIE *$*h_3emso$-* 'shoulder' above.

58. PIE *$*h_3ok^w$-s-* > PT **ek* 'eye'
TB *ek** | TA *ak* (DThTA: 1b)
Adams 2013: 78–79.

59. PIE *$*ḱleu$-* → *$*ḱleu-mō$-* > PT *$*kl^yomo$* 'noble'
TB *kłyomo* | TA *klyom* (DThTA: 171a)
Adams 2013: 250.

60. PIE *$*ḱmtom$* (*$*h₁ḱmtom$/*$*dḱmtom$*)> PT **kənte* 'hundred (100)'
TB *kante* /kə́nte/ | TA *känt* (DThTA: 121a)
Adams 2013: 146–147.

61. PIE *$*ḱuō$*, acc. *$ḱuonm$* > PT *$*k^{(w)}u$*, obl. *$*k^wenə$* 'dog'
TB *ku, kweṃ* | TA *ku*, obl. *koṃ* (DTHTA: 136b)
Adams 2013: 190.

62. PIE *$*kedh_2$-*, prs. *$*kdnh_2$-/*$*kndh_2$-* > PT **kəta-*, prs. **kənta-* 'strew'
TB *kəta-, kənta* (>> *kətna-*) | TA *kätā-, känā-* (DThTA: 119a)
Adams 2013: 166–167; Malzahn 2010: 564–565; Peyrot 2013: 730.

63. PIE *$*keh_2u$-* 'strike' > PT **kaw-* 'kill'
TB *kaw-* | TA *kāw-*
Adams 2013: 222; Malzahn 2010: 606-607; Peyrot 2013: 728.

64. PIE **kʷekʷlo-* 'wheel; circle' > PT **kʷəkʷ(ə)le* 'cart, wagon, chariot'
TB *kokale* | TA *kukäl* (DThTA: 137a)
Adams 2013: 214.

65. PIE **kʷel-* 'turn' → **kʷolo-* > PT **kele* 'navel'
TB *kele*
Adams 2013: 211.

66. PIE **kʷetuores* > PT **kʸətwerə* 'four (4)'
TB *śtwer* | TA *śtwar* (DThTA: 478b)
Adams 2013: 703.

67. PIE **kʷi-so* > PT **kʷəse* 'who'
TB *kᵤse* | TA *kus* (DThTA: 146a)
Adams 2013: 199–201.

68. PIE **kʷo-* → ±**kʷo-tos* > PT **kete* 'whose, to whom, for whom'
TB *kete*
Adams 2013: 203-204.

69. PIE **kʷreih₂-* → **kʷrih₂-wor* > PT **kʷəryår* 'commerce, trade'
TB *karyor* /kə́ryor/ | TA *kuryar* (DThTA: 143a)
Adams 2013: 153.
— See the discussion in subsection 2.3.3.2.

70. PIE **kʷrih₂-*, prs. **kʷrinh₂-* > PT **kərya-*, prs. **kərna-* 'buy'
TB *kərya-*, prs. *kərna-*
Adams 2013: 174–175; Malzahn 2010: 577; Peyrot 2013: 734.

71. PIE **leuk-* > PT der. **ləkʷtse* 'bright, light'
TB *lakᵤtse* /lə́kʷtˢe/
Adams 2013: 589.

72. PIE **leuk-* → **leuk-o(s)-* > PT **lʸuke* 'shine, splendour'
TB *lyuke*
Adams 2013: 616.

73. PIE **limn-* > PT **lʸəmə* 'lake'
TB *lyam* /ĺəm/ | TA *lyäm* (DThTA: 410b)
Adams 2013: 614.

74. PIE ? **lug-lo-* > PT **ləkle* 'pain, sorrow'
TB *lakle* /ləkle/
Adams 2013: 589–590.
— There is no exact corresponding formation in other Indo-European languages, but Gr. λευγαλέος 'wretched, unhappy' and λυγρός 'id.' are close. If assimilation of **r* to **l* in Tocharian is assumed, a PIE **lugró-* could potentially have yielded both TB *lakle* and Gr. λυγρός (cf. Adams 2013: 589–590), but this assimilation in Tocharian would be without parallels and thus uncertain.

75. PIE **luHs*, pl. **luHs-h₂* > PT obl.sg. *luwa*, pl. **lwasa* 'animal'
TB *luwo*, obl.sg. *luwa*, pl. *lwāsa* | TA *lu*
Del Tomba 2019: 131–133; differently Adams 2013: 606–607.
— Del Tomba (2020: 131–133) has argued that the nominative singular *luwo* is an analogical creation replacing expected nom.-obl.sg. *luwa* on the basis of the names of other animals that show nom.sg. *-o* ~ obl.sg. *-a*. The meaning 'louse' found in the Germanic **lūs* and Celtic **luwā* probably developed from the meaning 'animal' of the Tocharian. Cf. Irish *míol* 'animal, insect, creature; louse' from Old Irish *míl* 'id.' next to Scottish Gaelic *mial* 'louse'. In Scottish Gaelic the archaic meaning 'animal' is preserved only in certain cases such as the name of a sea monster, *mial-mhòr a' chuain* lit. 'great *mial* of the sea', where *mial* is not a 'louse'.

76. PIE **medʰ-u-* > PT **mʸətə* 'honey'
TB *mit*
Adams 2013: 494.

77. PIE **meh₁n-s-* → *meh₁n-ē(n)-* > PT **mʸenʸe* 'moon, month'
TB *meñe* | TA *mañ* (DThTA: 329b)
Adams 2013: 503.

78. PIE *-*mh₁no-* > PT *-*mane* present participle suffix
TB *-mane* | TA *-māṃ*
Klingenschmitt 1975.

79. PIE **neḱ-* → *neḱu-*, gen.sg. *nḱuos* > PT **enkʷe* 'man'
TB *eṅkwe* | TA *oṅk* (DThTA: 80a)
Adams 2013: 82–83.

80. PIE **neud-* → **nud-sk-* > PT **nətk-* 'hold off, push away'
TB *nətka-* | TA *nätk-*
Malzahn 2010: 682–683; Adams 2013: 356–357; Peyrot 2013: 764.

81. PIE **-nti* > PT **-nʸtʸə* prs.act.3pl. verbal ending
TA *-ñc*
Malzahn 2010: 35–36; Peyrot 2013: 415
— Both Malzahn (2010: 35–36) and Peyrot (2013: 415) with ample further references.

82. PIE **nokʷt-* → **nokʷt-u-* > PT **noktə* 'night'
TA adv. *nokte* 'last evening', adv. *noktiṃ* 'in the evening' (DThTA: 257a, 257b)
Pinault 1990: 184–190; Pinault 2008: 424.

83. PIE **nokʷt-* → **nokʷt-eu-io-* > PT **nektʸəwʸe* 'at night, last night'
TB *nekciye* /nekcíye/ | TA *nakcu* (DThTA: 239a)
Adams 2013: 363; Pinault 1990: 184–190; Pinault 2008: 424.

84. PIE **oḱtō* > PT *oktə* 'eight : acht (8)', der. **oktukə* 'eight (80)'
TB *okt* | TA *okät*, *oktuk* (DThTA: 77a, 79b)
Adams 2013: 115-116; Ringe 1996: 89.
— The base numeral TB *okt* lost the expected final *-u* under the influence of *ṣukt* 'seven' or its ancestor PT **sʸəptə* (TA *ṣpät*), but it remained in the Tocharian A decad *oktuk* 'eighty' (Ringe 1996: 89).

85. PIE **peh₂-nt-* → **peh₂-nt-es* > PT m.pl. **ponʸtʸə* (**pånʸtʸə*) 'all'
TB *poñc* | TA *poñś* (DThTA: 286b)
Adams 2013: 432–433.

86. PIE **peh₂-nt-* → **peh₂-nt-ih₂* > PT **pontˢa-* (?**påntˢa*) 'all'
TA f.obl.sg. *pontsāṃ* (DThTA: 286b)
Pinault 2008: 524.
— The feminine displays the development of PIE **-ntih₂*, which this word is meant to illustrate in the main text. The TA *o* can probably only result from PIE **eh₂* as in *poke* from **bʰeh₂ǵʰu-* 'arm' above.

87. PIE **pekʷ-* > PT **pək-* 'cook, ripen (act. = tr.; mid. = intr.)'
TB *pək-* | TA *päk-* (DThTA: 275a)
Adams 2013: 393–394; Malzahn 2010: 700–701; Peyrot 2013: 770.

88. PIE **pekʷ-* → **pekʷ-l* > PT **pʸəkʷəl*, pl. *pʸəkʷəla* 'year'
TB *pikul*, pl. *pikwala* | TA *pᵤkäl* (~*pkul*), pl. *puklā* (DThTA: 288b)
Adams 2013: 410–411; Pinault 2008: 446.

89. PIE **preK-* → **prK-ske/o-* → pre-PT **proskeh₂* > PT **prosko* (?**pråskå*) 'fear'
TB *prosko*, der. *proskiye* | TA der. *praski* (DThTA: 308a)
Adams 2013: 455.

90. PIE **penkʷto-* > PT **pʸənkte* 'fifth'
TB *piṅkte* | TA *pänt* (DTHTA: 277a)
Adams 2013: 411.

91. PIE **ph₂tēr* > PT **pacer* 'father'
TB *pācer* /pácer/ | TA *pācar* (DThTA: 268a)
Adams 2013: 390.

92. PIE **plh₁-no-* 'full' > PT der. **pəllewə* 'full moon'
TB *pälleᵤ** /pəllέw/, obl.sg. *pällent* /pəllént/
Adams 2013: 406.
— The laryngeal was evidently lost, see also 2.3.1.

93. PIE **prHuo-* > PT **pərwe* 'first'
TB *parwe* /pə́rwe | TA der. *pärwat* 'first, oldest' (DThTA: 279a)
Adams 2013: 383–384.

94. PIE **puh₂-r* > PT **pəwar* 'fire'
TB *puwar* /pə́war/ | TA *por*
Adams 2013: 421–422; Winter 1965a: 192–193.

95. PIE **seh₂i-* > PT **soy-* (?**såy-*) 'be sated'
TB *soy-*, prt.ptc. *sosoyu* | ? → TA prt.ptc. *sasyu* with *säy*(*n*)- in 96.
Adams 2013: 770–771; Malzahn 2010: 955; Peyrot 2013: 833 fn. 949, 835.

96. PIE **seh₂i-* → **sh₂i-nu-* > PT **səyn-* 'satiate'
TB *səyn-* | TA *säy*(*n*)-, prt.ptc. *sasyu* (DThTA: 522a–b)
Adams 2013: 757; Friis 2024: 372–373; Hackstein 1995: 299–300; Malzahn 2010: 945–956; Peyrot 2013: 833.
— The lack of palatalization may be due to the laryngeal blocking it in the sequence **sh₂i*, but it could also have been removed due to analogy with the related verb PT **soy-* 'be sated' (see Friis 2024: 372–373.).

97. PIE **sem-* → f. **someh₂-* > PT **somo* (?**såmå*) 'one (1), some' (f.obl.sg.)'
TB *somo* | TA *ṣom* (DThTA: 511b)
Adams 2013: 721–722; Hilmarsson 1986: 33; Pinault 2008: 437–438.

98. PIE **septm* > PT **sʸəptə* 'seven (7)'
TB *ṣukt* | TA *ṣpät* (DThTA: 501b)
Adams 2013: 720.
— The consonant cluster in Tocharian B was influenced by *okt* 'eight' (Adams 2013: 720).

99. PIE **skHi-eh₂* > PT **skəyo* 'shadow'
TB *skiyo* /skə́yo/
Adams 2013: 773; Beekes 2010: 1351; Del Tomba 2020: 144–146; Ringe 1996: 18–19.
— The development of the word for 'shadow' in Tocharian is very difficult. See the discussions by Ringe (1996: 18–19) and Del Tomba (2020: 144–146), and cf. subsection 2.4.2.

100. PIE **sneh₁-ru*, pl. **sneh₁-ur-h₂* 'sinew' > PT **sʸnʸorə*, pl. *sʸnawra* 'sinew'
TB *ṣñor*, pl. *ṣnaura*
Adams 2013: 729; Del Tomba 2020: 87–88.

— The nominative is from pre-PIE **sneh₁-ur* with metathesis of final *-ru-* (Del Tomba 2020: 87-88). The original order **-ur-* is preserved in the plural *ṣnaura* (ibid.).

101. PIE **sokʷo-* 'sap' > ? PT **sekʷe* 'pus'
TB *sekwe* | TA *saku**, ins.sg. *sakuyo* (DThTA: 506a)
Adams 2013: 764; Beekes 2010: 1093.
— The etymological connection with Gr. ὀπός 'plant juice' (secondary loss of expected initial *h-*, see Beekes 2010: 1093), Lith. *sokaĩ* (m.pl.) 'resin', OCS *sokъ* 'sap, juice of fruits', Alb. *gjak* 'blood', though semantically not quite exact, nevertheless seems reasonable.

102. PIE **solh₂uo-* > PT **selwe* 'whole', der. **solme* 'completely'
TB der. *solme* | TA *salu* (DThTA: 511a)
Hilmarsson 1986: 32; Adams 2013: 771
— TA *salu* clearly has not undergone *u*-umlaut of **e* (PIE **o*), apparently because the word was **selwe* at the time, with a consonantal **-w-* rather than umlauting **-u* (cf. TA *maku* from **mekwa*, TB *mekwa* 'nails'). TB *solme* did undergo *u*-umlaut, presumably from a derivation that looked like **selu-me-* at the time, whence **solume* to **soləme* and eventually PT **solme* with syncope, and ultimately TB *solme* without further changes.

103. PIE **spend-* > PT **spənta-* 'trust'
TB *spənta-* | TA *späntā-* (DThTA: 543a)
Adams 2013: 785–786; Malzahn 2010: 967–968; Peyrot 2013: 838.

104. PIE **splend-* > PT **planta-* 'be pleased'
TB *planta-* | TA *plantā-* (DThTA 315a)
Adams 2013: 459; Malzahn 2010: 741–742; Peyrot 2013: 781.

105. PIE **stembʰH-* > PT **stəma-* 'stand' (sbj./prt. stem, suppletive with prs. *kəĺ-*)
TB *stəma-* | TA *ṣtämā-* (DThTA: 131a)
Adams 2013: 184–186; LIV: 595; Kroonen 2013: 473; Peyrot 2013: 547.
— Adams prefers a connection with **stem-* (or rather, **stemH-*, cf. Kroonen 2013: 473), as found in Germanic (e.g., ON *stemma* 'stem, stop, dam up') and Baltic (e.g., Lith. *stùmti* 'shove, push'), but the preterite TB *ścama* /ścə́ma/

corresponds closely to Ved. *ástambhīt*, from **(h₁e-)stemb^{h}H-t*, so that this connection is to be preferred (see Peyrot 2013: 547, LIV: 595).

106. PIE **sueh₂d-* → **suh₂d-ro-* > **sware* 'sweet'
TB *swāre* /swáre/ | TA *swār* (DThTA: 547b)
Adams 2013: 795–796.

107. PIE **suid-ie-* > PT **səya-* 'sweat'
TB *səya-* | TA *syā* (DThTA)
Adams 2013: 756; Malzahn 2010: 947; Peyrot 2013: 832.

108. PIE **teh₂-ns* > PT **tons* (?**tåns*)
TB (arch.) *toṃ* | TA *tos-äṃ*
Del Tomba 2018: 347; 2020: 216–220

109. PIE **tek^{w}-* → **tek^{w}os-* > PT **t^{y}ake* 'river'
TB *cake* /cə́ke/
Adams 2013: 267.

110. PIE **temp-* > PT **t^{y}əmp-* 'be able to'
TB *cəmp-* | TA *cämp-* (DThTA: 184a)
Adams 2013: 272–273.
— The semantic connection with PIE **temp-* 'stretch' is not entirely compelling, but possible; cf. German *reichen* 'reach; suffice, be enough' from an earlier meaning 'stretch' as more obvious in Dutch *reiken* 'reach, extend, stretch out'. From 'suffice, be enough', a development along the lines of 'I am enough (for ...)' to 'I am able to do (...)' can be assumed.

111. PIE **-ti* > ? PT **-s^{y}ə* prs.3sg. verbal ending
TA -(*ä*)*ṣ*
Jasanoff 1987: 110–111; Malzahn 2010: 32-33; differently Peyrot 2013: 413, differently again Pinault 2008: 620.

112. PIE **-ti* > ? PT **-s^{y}ə*
TA -(*ä*)*ṣ* (ablative ending)
Jasanoff 1987: 109–110.

113. PIE **tuHom* > PT **təwe* 'you (sg.)'
TB *tuwe* /tə́we/ ~ *twe* | TA *tu* (DThTA: 216b)
Adams 2013: 319–320.

114. PIE **ueǵʰ-no-* > PT **wʸəkne* 'way, manner'
TB *yakne* | TA *wkäṃ* (DTHTA: 448b)
Adams 2013: 518.

115. PIE **ueh₂st-u-* > PT **wostə* (?**wåstə*) 'house'
TB *ost* | TA *waṣt*
Adams 2013: 134; Beekes 2010: 158.
— A zero-grade **uh₂st-* (generalized in Greek ἄστυ; Beekes 2010: 158) should have yielded PT ***wastə*, whence TB ***wāst* /wást/ and TA ***wāṣt*, since there is no known *u*-umlaut of **a* (from **h₂* or **h₂e*) to **o*. Tocharian must thus reflect the full-grade **ueh₂st-*. The vocalism of TA *waṣt* cannot be explained as the result of *a*-umlaut in the plural **wostwa* (*pace* Adams 2013: 134), since all other certain cases of *a*-umlaut affect **e* rather than **o*.

116. PIE **ueiḱ-os-* > PT **wʸike* 'place'
TB *ike*, pl. *ykenta*
Adams 2013: 67.

117. PIE **uelh₂-* → **ulh₂-ntih₂* > PT **lantˢa* 'queen'
TB *lāntsa* | TA *lānts* (DThTA: 397a)
Adams 2013: 594.

118. PIE **uelh₂-* → **ulh₂-ōnts*, gen. *ulh₂-ntos* > PT **wəlo*, gen. *lante* 'king'
TB *walo* /wə́lo/, gen. *lānte* /lánte/ | TA *wäl*, gen. *lānt* (DThTA: 439b)
Adams 2013: 631; Lubotsky 1994.

119. PIE **uerǵ-* → **uerǵ-unt-ōn* > PT **wʸərkʷənto* 'wheel'
TB *yerkwanto**, obl. *yerkwantai* | TA *wärkänt* (DThTA: 436a)
Adams 2013: 547–548; Kim 1999: 168.
— The *ye-* of Tocharian B does not match the *wä-* of Tocharian A and may be secondary, perhaps analogous to the *ye-* of *yerter* 'wheelrim felloe' (Kim 1999: 168; Adams 2013: 547–548).

120. PIE **ues-r* 'spring' → ? **uesōr-* > der. PT **wʸəsare* 'wheat; grain'
TB *ysāre* | TA *wsār* (DThTA: 456b)
Adams 2013: 567–568; Peyrot 2018b: 251–252.

121. PIE **uid-uon-* > PT **wəwe* 'learnèd, skillful'
TB *uwe*
Adams 2013: 76–77.

122. PIE **uih₁ro-* 'man' > PT **wʸire* 'young, juvenile'
TA *wir* (DThTA: 446a)
Friis 2024: 22-24; Hackstein 2017: 1314.
— The semantic match between Tocharian *wir* and the other Indo-European forms is inexact, since elsewhere it means 'man, hero' rather than 'young, juvenile'. For a discussion, see Friis (2024: 22–24).

123. PIE **uiso-* > PT **wəse* 'poison'
TB *wase* /wə́se/ | TA *wäs* (DThTA: 442b)
Adams 2013: 634.

124. PIE **uksōn-* > PT **okso* 'ox'
TB *okso* | TA *opäs**, pl. *opsi* (DThTA: 83b)
Adams 2013: 117.

125. PIE **ulkʷo-* > PT **wəlkʷe* 'wolf(?)'
TB *walkwe**, pl. *walkwi*
Adams 2013: 632.
— The meaning of the Tocharian is not quite certain. PK NS 30 a2: /// *ma ywārcä walkwi ramtä wīyäskeṃ m(ñ)cu(ṣkeṃ)* /// 'amid ... they frighten the princes like *walkwi*' with *walkwi* plausibly meaning 'wolves' (Adams 2013: 632). The preservation of the labiovelar next to PIE **o* is rare, but potentially paralleled in PIE **sokʷos* > PT **sekʷe*, q.v.

126. PIE **uod-r* → *ud-r-*, der.adj. *ud-r-io-* > PT **wər* 'water', der.adj. *wərəye* 'dew; watery'
TB *war* /wə́r/, der.adj. *wriye** | TA *wär*, der.adj. *wri* (DThTA: 435a)
Adams 2013: 627–628, 672.

127. PIE **uōkʷs, uokʷ-* > PT **wek* 'voice'

TB *wek* | TA *wak* (DThTA: 422a)

Adams 2013: 660; Beekes 2010: 1138.

— The Proto-Indo-European paradigm was nom.sg. **uōkʷs*, elsewhere *uokʷ-*: Sanskrit nom.sg. *vā́k*, acc.sg. *vā́cam*, Latin nom.sg. *vōx*, acc.sg. *vōcem* with a long vowel next to Greek acc.sg. ὄπα with a short vowel; the Greek nominative is not attested (see Beekes 2010: 1138 for details). The long vowel in Sanskrit *vā́cam* can derive from members of the paradigm with the shape **uokʷV* and the change from **o* to **ā* in open syllables (Brugmann's Law), so that it can be derived from an alternating paradigm **uōkʷs, uokʷ-* regularly. The long vowel in Latin *vōcem* can be due to analogy with the nominative. The vowel **e* in PT **wek* must derive from the PIE short **o*, meaning that the vocalism of **uokʷ-*, as found in the Greek acc.sg. ὄπα, was generalized in Tocharian (Adams 2013: 660).

Etymological reference list 2: Samoyed

Below follows a numbered list of the Samoyed etymologies cited in chapter 3, with references to various Samoyed dictionaries, wordlists, and articles in which the etymologies are proposed or discussed. Translations of the Samoyed words are provided in English and Russian for the Proto-Samoyed head words, to aid in the retrieval of these words in current and any future dictionaries of Samoyed languages that use Russian as the matrix language.

- **Proto-Uralic** reconstructions are based on Janhunen (1981), Uralisches Etymologisches Wörterbuch (UEW), Sammallahti (1988), and various other sources which are cited for specific entries.
- **Proto-Samoyed** forms are generally reconstructed on the basis of Samojedischer Wortschatz (SW) by Janhunen (1977) or Matorische Sprache (MS) by Helimski (1997), which differ only in some details, with the updated interpretation of the development of PU **ä* and **e* as per Helimski (2005). If I deviate from their reconstruction or other reconstructions in the literature, the note will explain why. Some words in the individual Samoyed languages that are not found in more recent dictionaries are cited according to SW, whereby the abbreviations for authors of the original sources are kept; relevant here are only (C) for Castrén, (L) for Lehtisalo, (M) for Mikola and (T) for Tereščenko (see SW for the exact references).
- **Nganasan** forms are generally cited after the Nganasan-Russian dictionary of Kosterkina, Momde and Ždanova (2004) with a transliteration from the Cyrillic to the Roman alphabet. The abbreviation "NgSl." is here used to refer to this dictionary. Whenever another source has a relevant Nganasan word missing from this dictionary, that source is cited instead.
- **Tundra Enets** forms are provided on the basis of Helimski's unpublished Tundra Enets dictionary, here abbreviated as "EnSl.".
- **Forest Enets** forms are taken from Olesya Khanina and Andrey Shluinsky's unpublished Forest Enets wordlist, here abbreviated as "EnWl.".
- **Tundra Nenets** is cited based on the dictionary of Tereščenko (1965), abbreviated as "T65" with the phonological transcription of Salminen (1998).
- **Forest Nenets** is phonologized similarly to Tundra Nenets after the rules of Salminen's system (Salminen 2007), and as a direct transcription from Cyrillic of

the relevant entries in the Forest Nenets-Russian dictionary by Barmič & Vello (2002), here abbreviated "NeSl.", in parentheses. The entries in Barmič & Vello are in some ways phonologically underdifferentiated when there are no minimal pairs, so that some information would be lost if only those entries are copied. For example, <a> may represent /a/ or /ă/.

- **Selkup** is cited after Alatalo's Sölkupisches Wörterbuch (SkW; 2004), which provides "Common Selkup" headwords on the basis of the attested variation of the different dialects. Asterisks are employed to mark roots or stems that only exist in derivations, but other "Common Selkup" forms are given without asterisks as in the dictionary. Underlined segments indicate uncertainty. The number cited along with these forms refers not to the page number, but to the entry number in the dictionary.
- **Kamas** words are taken over from Kamassz Szótár (KSz) by Tamás Janurik (2021). As with Selkup, the associated numbers correspond to the entries, not to the pages.
- **Mator** is provided on the basis of Matorische Sprache (MS) by Helimski (1997). Helimski made a phonological and morphological analysis of all attested Mator material and provided Proto-Samoyed reconstructions where appropriate. I refer to the entry numbers of the Samoyed words in Helimski's wordlist, rather than to the page numbers.

The order in which the words are presented in the alphabetical order below. Of these, the consonants **γ*, **δ*, **ŋ* and **r* only occur word-internally, never word-initially:

a ä ć č γ δ δ́ e ę i į j k l m n ń ŋ o p r s t u ü w

Some words show a discrepancy between Finno-Ugric **u* and Samoyed **o* (see subsection 3.6.3). They are here reconstructed with **o* in Proto-Uralic, but the reconstructions with **u* are provided as well for ease of interpretation. Whenever the entry with **u* would have been placed differently in the relative order of the list, an unnumbered entry with a reference is provided. The general phonological developments from Proto-Uralic to Samoyed are discussed in chapter 3, with further references to the relevant literature), and will not be repeated here unless they are in some detail directly relevant for a specific entry.

1. PU **aćkal* > PS **asVl-* ‘step : шагать’

   Sk. *āsəl-* (SkW 230) | Km. *azə?-* (KSz 0077)

   Aikio 2002: 40–41; 2006a: 30; UEW: 19; Zhivlov 2023: 158.

   — The quality of the second-syllable vowel strictly speaking cannot be seen from either Selkup or Kamas, the only Samoyed languages with a reflex of this word. Expected to be PS **asə̂l-* with a **ə̂* rather than **å*/*a* on the basis of the development of the first-syllable PU **a* to PS **a* rather than **å* (cf. 3.7.2).

2. PU **aŋa-* ‘open’ > PS der. **ńaŋə̂-* ‘take off (clothes) : снять (одежду)’

   NeT der. *nyaəcy°* ‘id.’ (T65) | NeF *nyaŋăqsy°* (NeSl. *njaŋa’š*) | Sk. adj. *ńaŋə* ‘naked : nackt’ (SkW 1675)

   Aikio 2002: 50, 2020: 20–21; SW: 106; UEW: 11.

   — The initial PS **ń* is a secondary prothetic nasal. This **ń-* would arise secondarily before word-initial vowels in Nenets, but not in Selkup, which thus suggests that it has to be reconstructed. However, the vowel in Selkup is also irregular, seeing as Sk. *a* normally reflects PS **ə̂* rather than PS **a*, which is expected to become Sk. *ā*. The same meaning as in Samoyed is found in Mansi and Khanty (see Aikio 2020: 20).

3. PU **aŋi* > PS **aŋ* ‘mouth : рот’

   Ng. *ŋaŋ* (NgSl.) | EnT *e?* (EnSl.) | NeT *nyah* (T65) | NeF *nya°ŋ syĭ* lit. ‘opening of the mouth’ (*nya°ŋ* from gen.sg. **aŋə̂n*) (NeSl. *njaŋ ši*) | Sk. *āŋ* (SkW 215) | Km. *aŋ* (KSz 0049) | Mt. *äŋ* (MS 76)

   SW: 20 (**äŋ*); UEW: 11.

4. PU **aŋti* > PS **aŋtə̂* ‘blade : лезвие’

   Ng. *ŋaťə* (NgSl.) | EnT *edo* (EnSl.) | NeT *nyant°* (T65) | NeF der. e.g. *nyantułampyosy°* ‘sharpen a knife : точить нож’ (NeSl. *njantułampjoš*) | Sk. *āŋtə* (SkW 217) | Km. *aŋ* (KSz 0050) | Mt. *ändä* (MS 74)

   SW: 20–21 (**äŋtə̂*); UEW: 12–13.

5. PU **äjmä* > PS **äjmä* ‘needle : игла’

   Ng. *ńejmï* (NgSl.) | EnT *ee* (EnSl.) | EnF *nɛɛ* (EnWl.) | NeT *nyíbya* (T65) | Km. *ńimi* (KSz 0753) | Mt. *ime* (? *īme*) (MS 342)

   Sammallahti 1988: 536; SW: 22 (**ejmä* ~ **nejmä*); UEW: 22.

— With a prothetic initial nasal in most Samoyed languages, entirely regular in Nganasan and Tundra Nenets, but not in Kamas and Forest Enets. Tundra Enets and Mator show the expected original vowel-initial form.

6. PU **ćaδa-* > PS **sårå-* 'rain : идти (о дожде)', der.n. **sårö* (?**såråw*) 'rain : дождь'
Ng. *soruďa*, der.n. *sor″a* (NgSl.) | EnT *sara-*, der.n. *sare* (EnSl.) | EnF der.n. *sare* 'rain' | NeT der.n. *saryo* (T65) | NeF *xałasy*°, der.adj. *xałyoj*° (NeSl. *xāłaš*, *xałjoj*) | Sk. *suârə̲-* (SkW 2677a.) | Km. der. *surno* 'rain : Regen : дождь' (KSz 0985) | Mt. der.n. *sörüh* (? *sirüh* ~ *sürüh*) (MS 908)
SW: 135–136; Sammallahti 1988: 540.

7. PU **ćala-* > PS **ćålâ-* 'flash : блестеть'
Ng. der. noun *solə* 'brightness : блеск' (NgSl.) | NeT der. *sal°wə*(*sy°*) (T65) | Mt. *salə-*, der. *saləmər-* (MS 842, 843)
Aikio 2002: 27–29; 2006a: 30.
— The change from PU **a-a* to PS **å-â* in this word is unusual and quite unique: expected would be PS **ćålä-* (cf. PU **kala* > PS **kålä* 'fish') or PS **ćalâ-* (as in PU **kama* > PS **kamâ* 'scale').

8. PU **ćaŋka-* > PS **såŋkV-* 'stick into : воткнуть', noun *såŋkâ* 'penis : пенис'
EnT noun *sago* (EnSl.) | EnF noun *sago* (EnWl.) | NeT noun *saŋk°* (L) | Sk. *suâŋkə̲-* (SkW 2625)
Aikio 2006a: 24.

9. PU **ćäjćimä*/*ćäććimä* > PS **säjt³wə* 'seven : семь (7)'
Ng. *śajbə* (NgSl.) | EnT *seʔo* (EnSl.) | EnF *sɛʔo* (EnWl.) | NeT *syíqw°* (T65) | NeF *syeqw°* (NeSl. *še″w*) | Sk. *sēlću* (SkW 2741) | Km. *sejʔbü* (KSz 0951) | Mt. *kejʔbə* ~ ?*kejʔbü* (MS 451)
Aikio 2020: 109–111; 2022a: 25; SW: 139.
— The development from PU **m* to PS **w* is irregular.

10. PU **ćęrki* > PS **sęr* 'ice; white; salt : лёд; белый; соль'
Ng. *sir* (NgSl.) | EnT *siʔ* (EnSl.) | EnF *siʔ* (EnWl.) | NeT *ser* (T65) | NeF *xĕł* (NeSl. *xeł*) | Sk. *sęrə* (SkW 2697) | Km. der.? *sĭri* (KSz 0968) | Mt. der. *sęrę̆t* (MS 874)
Aikio 2020: 126; SW 138.

— The consonant-final forms of the northern Samoyed languages should be taken as the regular reflex, indicating PS **sęr*. The Selkup reflex also derives from this, as it should have become ***sīrə* rather than *sęrə* if derived from a PS **sęrâ* (see Helimski 2007 on the sound laws involved).

11. PU **ćilmä* > PS **säjmä* 'eye : глаз'
Ng. *śejmï* (NgSl.) | EnT *sei* (EnSl.) | EnF *sej* (EnWl.) | NeT *sæw*° (T65) | NeF *xäm*° (NeSl. *xëm*) | Sk. *saji* (SkW 2562) | Km. *sima* (KSz 0957) | Mt. *sīme* (MS 886)
Sammallahti 1988: 540; SW: 132; UEW: 479.

12. PU **ćoδ´a* > PS **såjå-* 'wage war : вести войну'
Ng. der. *souru* 'warrior : воин' (NgSl.) | NeT der. *sayu*° 'enemy army : войско противника', *sayuw*° 'army : войско' (T65)
Aikio 2002: 27; 2015: 61.

13. PU **ćoji-* > PS **soj-* 'be heard, be audible : быть слышным, слышаться'
EnT der. *sôδoru* 'loud sound : сильный шум' (EnSl.) | EnF *sɔ-* (EnWl.) | NeT *sosy*° (T65) | NeF *xosy*° (NeSl. *xoš*)
Aikio 2020: 132; UEW: 482–283.

14. PU **ćojma* > PS **såjmå* 'sound'
Ng. *sojmü* (Aikio 2015a: 16 fn. 5) | Sk. *sūmə* (SkW 2483)
Aikio 2015: 16 fn. 5; 2020: 133

15. PU **ćoma* > PS **somå* 'good : хороший'
Ng. der. *sumugu* 'success : удача' (NgSl.) | EnT der. *sojδa* (EnSl.) | EnF der. *sɔjza* (EnWl.) | NeT *səwa* (T65) | NeF *xoma* (NeSl. *xoma*) | Sk. *soma* (Skw 2469)
Aikio 2020: 135; Salminen 2023: 380–385; SW: 132–133 (**sâmå*).
— Tundra Nenets and Forest Enets seem to reflect PS **sâmå*, but Nganasan, Forest Nenets and Selkup can only reflect PS **somå*, which is in line with other Uralic cognates (see Aikio 2020: 135, Salminen 2023: 380–385).

16. PU **ćowi* (**ćuwi*) > PS **soj* (or **soə̑j*?) 'throat : горло'
EnT *sôô* (EnSl.) | EnF *so* (EnWl.) | NeT *syo* (T65) | NeF *syŏ* (NeSl. *šo*) | Sk. *sōl'* (SkW 2568) | Km. *soj* (KSz 0974) | Mt. *soj* ?*sōj* (MS 897)
Aikio 2020: 145; Sammallahti 1988: 540 (**śoxi*; SW: 142).
— Theoretically, a reconstruction PS **soə̑j* would also be possible. This might even be implied by the long vowel reflexes in Tundra Enets *sôô*, Selkup *sōl'* and potentially Mator *soj* ?*sōj* (thus given in MS, attested as ⟨soóschto⟩, analysable as /sosto/ or /sōsto/ with poss.3sg. *-to* and a regular development from *-j-* to *-s-* before the *-t-*). Nenets, Forest Enets, Selkup and Kamas would not show a clear reflex of a vowel sequence, and there is no Nganasan cognate to either confirm or disprove it. The Finno-Ugric languages reflect a preform **ćuwi* rather than **ćowi*.

— PU **ćuwi* 'throat' → see **ćowi*.

17. PU **ćüδ́i* > PS **sijə* 'coal : уголь'
EnT in compound *tuuśio* (EnSl.) | Sk. *sīćə*/*śīćə* (SkW 2556) | Km. der.? *si?* (KSz 0956) | Mt. *ki* (? *kī*, ? *kiji*) (MS 479)
Sammallahti 1988: 540; SW: 140; UEW: 477.

18. PU **ćülki-kći-* > PS **siəsə-* 'spit : плевать', der. noun *siəsö* (?**siəsəw*) 'foam : пена'
EnT *śiosi* (EnSl.) | Sk. *süəsə̲-* (SkW 2659) | Km. *suzə-*, der. noun *suzu* (KSz 0986)
Aikio 2020: 148; Sammallahti 1988: 549 (**śülki-*/*śüδ́ki-*); UEW: 479–480.

19. PU **ćüńćä* > PS **sünsə* 'breast : грудь'
Ng. *śinsə* (NgSl.) | EnT *śuḋo* (EnSl.) | EnF *šuzu* (EnWl.) | ? cf. NeT *syunc°* 'youngest, dearest child : последный, младший ребёнок' | Mt. *künžü* (MS 595)
Aikio 2020: 149–150; Sammallahti 1988: 540; SW: 144; UEW: 480.
— The retention of PU **ü* as PS **ü* rather than **i* is surprising, as is the reduction of the second-syllable PU **-ä* to PS **-ə*, but the comparison otherwise seems too close to ignore (and cf. the development of PU **peksä-* 'soften a hide', where **-ä* was reduced as well and even lost); see also the discussion by Aikio (2020: 149–150)

20. PU **čaŋa-* > PS **cåŋå-* ‘rub, wear out (tr.) : натереть’ intr. **cåŋo-* (?**cåŋåw-*) ‘wear out (intr.) : износиться’
NeT *taŋa*(*sy*°), intr. *taŋo*(*sy*°) (T65) | NeF der.tr. *taŋałasy*°, der.intr. *taŋałăsy*° (NeSl. *taŋałaš*, *taŋałăš*) | Km. *taŋo-* (KSz 1150)
Aikio 2002: 11–12; SW 151.

21. PU **čečä* > PS **cecä* ‘uncle (mother’s younger brother) : дядя (младший брат матери)
Ng. der. *tïtïďa* (NgSl.) | NeT *tyidya* (T65) | Sk. **čičä* (SkW)
Sammallahti 1988: 536; SW: 33 (**cicä*).

22. PU **čočki* (**čučki*) > ? PS **cocə̂* ‘pole : шест’
Sk. *čōčə* (SkW 1060)
Aikio 2013: 163–164.
— The vowel **o* instead of **u* is unexpected, but the correspondence with PSaa. **ćoskę* ‘block of wood’, MdE *čočko* ‘log’ is otherwise regular (Aikio 2013: 163–164).

23. PU **δ´ęmi* > PS **jęm* ‘bird cherry : черёмуха обыкновенная’
Sk. *ćęmə*, *ćį̄mə-* | Km. *lem* (KSz 0533)
Aikio 2012: 228; Sammallahti (1988: 536 (**ďɨxmɨ*); UEW: 65–66.
— The vowel-final base *ćęmə* as given by SkW is secondary: PS ***jęmə̂* would have become ***ćį̄mə*, as in the genitive *ćį̄mən* from **jęmə̂n* (cf. Helimski 2007 on the relevant sound developments).

24. PU **δ´ümä* > PS **jimä* ‘glue : клей’
Ng. *ďïmi* (NgSl.) | EnT *ďee* (EnSl.) | EnF *ďïi* (EnWl.) | NeT *yibya* (T65) | NeF *jĭmya* (NeSl. *djimja*) | Sk. *ćįmə* (SkW 1469) | Km. *nĭme* (KSz 0695) | Mt. **ńime*, *nime* (MS 755)
Sammallahti 1988: 537; SW: 45; UEW: 66.

25. PU **elä-* > PS **elä-* ‘live : жить’
Ng. *ńilïďi* (NgSl.) | EnT *ire-* (EnSl.) | EnF *ďiri-* (EnWl.) | NeT *yilye*(*sy*°) (T65) | NeF *jĭłyesy*° (NeSl. *djiłješ*) | Sk. **ilə-* (SkW 344) | Km. der. *ťili* ‘lively : lebendig : живой’ (KSz 1371) | Mt. *ilə-* (MS 340)
Sammallahti 1988: 536 (**ilä-*); SW: 27 (**ilä-* ~ **jilä-*); UEW: 73.

— Forest Enets, Nenets and Kamas reflect a pre-form with a secondary initial palatal glide **j-*, thus seemingly reflecting PS **jelä-*. On account of other Uralic cognates without the initial **j-* and the lack of **j-* in the Nganasan and Selkup reflexes **elä-* is proper Proto-Samoyed form as well, with later prothesis of **j-* in Enets, Nenets and Kamas; see Sammallahti (1988: 536) and Zhivlov (2023: 167) rather than the alternating Proto-Samoyed reconstructions by SW and Aikio (2020: 43).

26. PU **ɐćiw-* > PS **ɐso-* (?**ɐsə̂w-*) 'camp : встать чумом'
EnT *usu-* (EnSl.) | EnF *usu-* (EnWl.) | NeT *ŋeso-* (T65)
Aikio 2012: 241; UEW: 18–19.

27. PU **ɐδi* 'year' > PS der. **ɐrö* 'autumn : осень'
NeT *ŋeryo* (T65) | Sk. *ɐra* (SkW 277) | Km. *ere* (KSz 0210) | Mt. *örö*(*h*) (MS 819)
Aikio 2012: 233–234; Sammallahti 1988: 552 (Proto-Finno-Permic **ooti*); SW 22 (**ɐrə̂jə̂j* ?**ɐrö*); UEW: 335–336 (**oδe*).

28. PU **ɐkta-* > PS **ɟtå-* 'hang up : повесить', der.intr. **ɟtö-* (?**ɟtåw-*) 'hang : висеть'
Ng. *ŋitiďi* (NgSl.) | EnT *iδa-* (EnSl.) | EnF *iδa-* (EnWl.) | NeT *ŋida*(*sy*°), *ŋidyo*(*sy*°) (T65) | NeF der.intr. *ŋĭtyosy*° (NeSl. *ŋïčoš*) | Sk. **ɟt*(*t*)*ə-*, itr. *ɟt*(*t*)*i-* (SkW 92) | Km. *edə-* (intr. *edü-*?) (KSz 199) | Mt. *idə-* (MS 335 **ɟta-*)
Aikio 2020: 51 (**ɟtå-*; **ɟtö-*); SW: 25–26 (**ɟtɜ-*; ?**ɟtå-*); Sammallahti 1988: 536.

29. PU **ɐla* > PS **ɟl*(*ə̂*) 'under; space underneath : вниз, под'
Ng. *ŋilə* (NgSl.) | EnT *iro-* (EnSl.) | EnF *iro-* (EnWl.) | NeT *ŋilə-* (T65) | NeF *ŋĭťă-* (NeSl. *ŋïťa-*) | Sk. **ɟl-* 'under : unter', *ɟlə* 'underside : das Untere' (SkW 322) | Km. *jil* (KSz 0259)
Sammallahti 1988: 536; SW: 24; UEW: 6.

30. PU **ɐna-ɐppi* > PS **ɟnə̂pə̂* 'father-in-law : тесть'
Ng. (C) *˜inaba* (/ŋinəbə/) (SW) | EnT *inobo* (EnSl.) | NeT *ŋinəb*° (T65) | NeF (L) *ŋɟnnap* (/ŋĭnăp°/) (SW) | Km. *ömbə* (KSz 0784)
Sammallahti 1988: 536; SW: 24–25; UEW: 9.

31. PU **ęńa* > PS **i̯ńə̂* ‘tame : ручной’
NeT *ŋiy°* (T65) | Sk. **ī̮ńə* (Aikio 2020)
Aikio 2020: 55; Sammallahti 1988: 536; SW: 25.

32. PU **ępti* > PS **ęptə̂* ‘hair (of the head) : волосы’
Ng. *ŋabtə* (NgSl.) | EnT *ito* (EnSl.) | EnF *itu* (EnWl.) | NeT *ŋebt°* (T65) | NeF *ŋept°* (NeSl. *ŋept*) | Sk. *ōptə* (SkW 24) | Km. *eʔbdə* (KSz 197) | Mt. *ębtę* (MS 246)
Sammallahti 1988: 536; SW: 21; UEW: 14–15.

33. PU **imi-* > PS **əm-mä*(-) ‘suckle; breast : быть грудным; женская грудь’
NeT verb *ŋəmya*(*sy°*), noun *ŋəmya* (T65)
Aikio 2020: 59–60; UEW 82–83; Sammallahti 1988: 536.

34. PU **ipsä-* > PS **äptä-* ‘smell (v.) : пахнуть’
NeT *ŋəbtye*(*sy°*) (T65)
Aikio 2020: 60–61; Sammallahti 1988: 536; SW 16; UEW: 83–84 (**ipз* ~ **ipз-zз* ~ **ipз-śз*).

35. PU **ipsi* > PS **äptä* ‘smell (n.) : запах’
Ng. (C) *˜obta* /ŋobtə/ (SW) | EnT irreg. *opto* (expected ***oto*) (EnSl.) | EnF *ɔtu* (EnWl.) | NeT *ŋəbt°* (T65) | Sk. *aptə* (SkW 20)
Aikio 2020: 60–61; Sammallahti 1988: 536; SW: 16; UEW: 83–84 (**ipз* ~ **ipз-zз* ~ **ipз-śз*).

— The development from the initial PU **i* to PS **ä* is not phonologically regular, but can be understood as the result of analogy with the verb PU **iptä-*, where it is expected (see Aikio 2020: 60–61).

36. PU **itä-* ‘appear’ > ? PS **ə̂tə̂-* ‘see : видеть’, der.refl. **äti-* ~ **ə̂tu-* ‘be visible : быть видным’, ? der.trsl. ±**ätäjm-* ‘become visible, appear : явиться, появиться’
Ng. *ŋətəďa*, der.refl. *ŋəðüśa*, der.trsl. *ŋətumsi̯*, der.n. *ŋəðu* ‘physical appearance; colour : внешний вид; цвет’ | EnT der.refl. *oδi-*, der.trsl. *oδim-* (EnSl.) | EnF der.refl. *ozi-* (EnWl.) | NeT der.refl. *ŋədyə*(*sy°*) ‘be visible : быть видным’, der.trsl. *ŋədyimcy°* (T65) | Sk. *atə̱-*, der.refl. *atu-*, der.trsl. *atom-* (SkW 66) | Km. *ĭdə-* (KSz 0243) | Mt. ?*adə-*, der.trsl. *adəm-* (MS 7, 8)
Helimski *apud* Aikio 2002: 49; Aikio 2020: 65; SW: 16; UEW: 85.

— The reconstruction of the base verb is quite difficult. Ng. *ŋətəďa* 'meet; find; check; attempt; encounter : увидеться; найти; проверить; попробовать; встретить' and *ŋəðüśa* 'see, watch, observe : видеть, следить, наблюдать' are both back vocalic while only *ŋətumsi̯* 'appear; be born : появиться, показаться; родиться' is front vocalic, as would be expected from (a derivative of) front-vocalic PU **itä-*. Ng. *ŋəðüśa* would be expected from a PS **ât̮u-*, while NeT *ŋədyə-* 'be visible : быть видным' seems to require **äti-*. The meaning 'see' rather than 'appear', presumed as the base **ât̮ə-* in SW, is not found in the Uralic cognates, and the phonological derivation of this back vocalic form from front vocalic PU **itä-* is unclear to me.

37. PU **jasi* > PS **jat* 'early winter : ранняя весна'
Sk. *ćāt*(*ə̲*) (SkW 1475)
Aikio 2015: 52.
— Presumably, the final vowel is given in SkW in parentheses as a possibility because the dialects in which this word is attested would not have preserved it either way; this makes the reconstruction of the Proto-Samoyed word as a consonant stem uncertain, even though it is expected based on the regular change from Proto-Uralic words of the type **CVCi* to PS **CVC*.

38. PU **jäwji* > PS **jüjə* 'lichen (on trees) : ягель'
Ng. *ďïə* (NgSl.) | NeT *yuy*° (Aikio 2006)
Aikio 2006a: 12–14; UEW: 96.

39. PU **jɐ̯γi-* > PS ders. **ɐ̯r-*, **ɐ̯kə̂l-* 'drink : выпить'
EnT *ixoro-* (EnSl.) | EnF *ixuru-* (EnWl.) | NeT *ŋercy*°, *ŋexəlcy*° (T65) | NeF *ŋełsy*° (NeSl. *ŋełьš*) | Sk. *ɐ̄r-* (SkW 276) | Mt. *ɐ̯r-* (MS 249)
Aikio 2002: 38–40; SW: 21–22.

40. PU **joŋsi* > PS **j̮ŋtə̂* 'bow : лук'
Ng. *ďïntə* (NgSl.) | EnT *ido* (EnSl.) | EnF *idu* (EnWl.) | NeT *ŋin*° (T65) | NeF *ŋĭn*° (NeSl. *ŋïn*) | Sk. **j̮ntə* (SkW) | Km. *jinə* (KmSz.) | Mt. *mindi* (analogical **w-*, which was consequently assimilated to *m-*; see MS 678 for details)
Sammallahti 1988: 537; SW: 25 (**j̮ntə̂*).
— Nganasan *ďïntə* alone seems to have preserved the initial PU **j-*, a potential archaism of this language, since there do not seem to be any examples where an initial PS **j̮* developed a secondary **j-* in Nganasan. The initial *j-* in Kamas

jinə is not original, as it should otherwise have become a ***t́*- (cf. PU **juka* > PS **jə̂kå* > Km. *t́aga* 'river' and PU **e̮la* > PS **i̯l*(*ə̂*) > Km. *jil* 'below').

41. PU **juka* > PS **jə̂kå* 'river : река'
EnT *d́axa* (EnSl.) | EnF *d́ɔxa* (EnWl.) | NeT *yəxa* (T65) | NeF *jăxa* (NeSl. *djăxă*) | Sk. *ćaqə* 'hole filled with water' (SkW 1530??) | Km. *t́aga* (KmSz.) | Mt. *čaga* (MS 169)
Janhunen 1981: 223; Sammallahti 1988: 537; SW: 35.

42. PU **jupta*- > PS **jə̂ptə̂*- 'say, tell : говорить, рассказывать'
Ng. der. *d́ebtəðasa* (NgSl.) | Sk. *ćaptə̠*-, der. *ćaptä* 'tale : Märchen' (SkW 1443, 1444)
Helimski *apud* Aikio 2002: 48; SW: 35.

43. PU **juri*- > PS **jür*- 'get lost : теряться'
EnT *d́́uro*- (EnSl.) | EnF der. *d́urota*- 'forget' (EnWl.) NeT *yurə*(*sy*°) 'forget' | NeF der. *juɫipyosy*° (NeSl. *djuɫïpjoš*) | Sk. der.? *üru*- (SkW 285) | Km. *t́ür*- (KSz 1413)
Aikio 2002: 46–48.
— The final *-*i* should have been lost, so that the final -*ə̂* of the northern Samoyed forms is likely to be secondarily introduced by analogy. Kamas *t́ür*- then reflects the expected outcome.

44. PU **kaća*- > PS der. **kåso* 'gift : подарок'
EnT *kasu* (EnSl.) | NeT *xaso* (T65) | NeF (L) *kāssū* (/kasu/) (SW) | Sk. *qosə* (SkW 2190)
Sammallahti 1988: 538; SW: 61 (**kåsə̂j*); UEW: 111.

45. PU **kaδ́a*- > PS **kåjä*- 'leave : оставить', itr. **kåjo*- (?**kåjäw*-) 'stay : остаться'
Ng. tr. *koid́a*, itr. *kousa* (NgSl.) | EnT tr. *kae*-, itr. *kai*- (EnSl.) | EnF tr. *kaji*- ~ *kaja*-, itr. *kaji*- ~ *kaja*- (EnWl.) | NeT tr. *xaye*(*sy*°), itr. *xayo*(*sy*°) (T65) | NeF tr. *kajesy*°, itr. *kajosy*° (NeSl. *kadješ*, *kadjoš*) | Sk. *quə̂ćə*-, itr. *quə̂ći*- (SkW 2057) | Km. itr. *kojo*- (KSz 0405) | Mt. *kojo*- (MS 531)
Sammallahti 1988: 538; SW: 58; UEW: 115–116.

46. PU **kaja* > PS **kåjå* 'sun : солнце'
Ng. *kou* (NgSl.) | EnT *kaja* (EnSl.) | EnF *kaja* (EnWl.) | NeT der. *xayera*(*sy*°) 'become sunny', *xayer*°*q* 'sun' (T65) | Sk. *quə̂ćə* 'heat : Hitze' (SkW 2054) | Km. *kuja* (KSz 0474) | Mt. *kaja* (MS 389)
Sammallahti 1988: 538; SW: 58.

47. PU **kaji* > PS **kåə̂* ‘slender object : тонкий предмет’
Sk. *qū* (Aikio 2013)
Aikio 2013: 166–167.

48. PU **kajši-*, noun **kajšo* > PS **kåjtə̂*(-) ‘be sick, sickness, der. noun **kåjto* ‘sickness’
Ng. *koťə*, *koťəďa* (NgSl.) | EnF *kaťe* (SB) | NeT *xædo* (T65) | Sk. **qūtə-* (SkW 1970)
Aikio 2014a: 3–5; SW: 58–59.

49. PU **kajwa* > PS **kajwå* ‘spade : лопата’
Ng. *kajbu* (NgSl.) | EnT *sea* (EnSl.) | EnF *sɛɛ* (EnWl.) | NeT *syíwa* (T65) | NeF *syewa* (NeSl. *šewa*) | Km. *ko* (KSz 0395)
Aikio 2002: 41–42; SW: 63.

50. PU **kala* > PS **kålä* ‘fish : рыба’
Ng. *kolï* (NgSl.) | EnT *kare* (EnSl.) | EnF *kare* (EnWl.) | NeT *xalya* (T65) | NeF *kałya* (NeSl. *kāłja*) | Sk. *quə̂lə* (SkW 2362) | Km. *kola* (KSz 0407) | Mt. *kälä* (MS 461)
Sammallahti 1988: 538; SW: 59; UEW 119.

51. PU **kali-* > PS **kåə̂-* ‘die : умереть’, der.caus. **kå-tå-* ‘kill : убить’
Ng. *kuoďa*, der.caus. *kotuďa* (NgSl.) | EnT *kaa-*, der.caus. *kaδa-* (EnSl.) | EnF *ka-*, der.caus. *kaza-* (EnWl.) | NeT *xasy*°, der.caus. *xada*(*sy*°) (T65) | NeF *kasy*°, der.caus. *katasy*° (NeSl. *kāš*, *katāš*) | Sk. *qū-*, der.caus. *quə̂t-* (SkW 1759, 1901) | Km. *kü-*, *kut-* (KSz 0504, 0501) | Mt. *kā-*, der.caus. *kadə-* (MS 367, 374)
Aikio 2015: 52; Sammallahti 538 (**kåxli-*); SW: 56–57; UEW: 173.
— The causative **kåtå-* appears to be made on the basis of **kåə̂-* after the intervocalic **-l-* had disappeared, so that **kå-* could be taken as the new “consonant stem” from which to derive a causative. I think that this is paralleled in the derivative PS **ńånsə̂-* ‘lick’ next to underived PS **ńåə̂-* ‘lick’ from PU **ńali-* (entry 116 below). Selkup and Kamas both analogically removed the final vowel of PS **kåtå-* and reflect **kåt-* instead.

52. PU **kama* > PS **kamə̂* ‘scale : чешуя’
NeT *syaw*° (T65) | NeF *syam*° (NeSl. *šam*) | Sk. *kām~kāmə* (SkW 1822)
Aikio 2015: 55; SW 63; UEW: 121–122.

53. PU **kani-* > PS **kån-* 'go : уйти', der.caus. **kåntå-* 'carry : увести'
Ng. der. *konïďa,* tr. *kontuďa* (NgSl.) | EnT der. *kane-*, tr. *kada-* (EnSl.) | EnF der. *kańe-*, *kada-* (EnWl.) | NeT tr. *xana*(*sy*°) | NeF tr. *kanasy*° (NeSl. *kanāš*) | Sk. *quân-* (SkW 2002) | Km. *kan-* (KSz 0306) | Mt. tr. *kandə-* (MS 415)
Janhunen 1981: 231; Sammallahti 1988: 538; SW: 59–60; UEW 124.
— Only the causative **kåntå-* is found in the other branches of Uralic, so that PS **kån-* represents a valuable archaism of the Samoyed branch. The vowel reflex PS **å* is phonologically unexpected in underived **kån-*, but regular in **kåntå-*.

54. PU **kari* > PS **kar* 'skin, surface, bark : кожа, поверхность, корочка'
NeT *syar* | NeF *syał* (NeSl. *šał*)
Aikio 2012: 233.

55. PU **käli* > PS **käj* (~ ?**kää-*) 'tongue : язык'
Ng. der. *śiəďə* (NgSl.) | ? EnT der. *siʔoro* (EnSl.) | ? EnF der. *šiʔɔru* (EnWl.) | NeF *syĕ* (NeSl. *še*) | Sk. *śē* (SkW 2420) | Km. der. *šekə* (KSz 1050) | Mt. *kEj* (? *kāj*, ? *kēj*, ? *kij*; MS 450 **keəj*)
Aikio 2012: 228; Sammallahti 1988: 538; SW 66.
— The precise Proto-Samoyed reconstruction is difficult, cf. Aikio (2012: 228). There may have been a paradigmatic alternation between **käj* and **kää* that was resolved in different ways in the different Samoyed languages (cf. PU **woli-* > PS **åj-* ~ **åå-* 'be' in entry 198 below). Nganasan *śiəďə* could reflect **kää*, with a derivational suffix **-jə*, while Mator should go back to **käj* or **kää-j*. Forest Nenets *syĕ* and Selkup *śē* can reflect PS **käj* (cf. the vowel development of PS **säjswä* 'seven' to NeF *syeqw*°, Sk. *sēľću*), but it is unclear how **ää* would have developed in Selkup: expected would be **ē* or perhaps **ī*. Nganasan could perhaps also reflect a derivation in **-jə* from **käj*, via **käj-ə-jə* with loss of **-j-* between the first and second syllable.

56. PU **käri-* > PS **kär-* 'dress, put on (clothes) : надеть'
Ng. *śerəďi* (NgSl.) | EnT *seri-* (EnSl.) | EnF *sɛro-* (EnWl.) | NeT *syerə*(*sy*°) (T65) | NeF *syełăsy*° (NeSl. *šełaš*) | Sk. *śēr-* (SkW 2701) | Km. *šer-* (KSz 1054) | Mt. *ker-* (MS 470)
Aikio 2002: 18–20; SW 68.
— The northern Samoyed languages have a vowel stem, which is probably secondary as a result of analogy, since the consonant stem reflected in Selkup, Kamas and Mator is phonologically expected (cf. section 3.3).

57. PU **kätki-* > PS **kätə-* 'wrap up : привязать'
Ng. *śetəďi* 'load : погрузить' (NgSl.) | NeT *syedə*(*sy*°) (T65) | Mt. *kEdə-* (MS 447)
Aikio 2002: 20; 2006a: 29.

58. PU **käwδi* > (in derivations) PS **kürə* 'band (for tightening) : лента'
Ng. der. *kirəməsï* 'tighten : затянуть' (NgSl.) | EnT *śurobo-* 'tighten (with a strap) : стянуть (шнурком)' (EnSl.) | NeT *syur*°*q* 'waistband for trousers : объём пояса' (T65)
Aikio 2006: 19–20.

59. PU **keti* > PS **ket* 'shape, appearance; figure : образ, изображение' (also a pronoun stem)
Ng. *sï?* (NgSl.) | EnT *śi?* (EnSl.) | EnF *ši?-* (pronoun stem) (EnWl.) | NeT *syiq* (T65) | Sk. *śi-* (pronoun stem) (SkW 2428)
Aikio 2006a: 17–19.

60. PU **kęčči-* > PS **kęcə̂-* 'bad smell, stench : вонь'
SkTaz *qętį*, SkKet *qęči-* (Aikio 2014: 6)
Aikio 2014a: 6.

61. PU **koćki-* > PS **kåsə̂-* 'be dry, dry out (itr.) : высохнуть'
Ng. *kosəďa* (NgSl.) | EnT *kaso-* (EnSl.) | EnF *kasu-* (EnWl.) | NeT *xasə*(*sy*°) (T65) | NeF *kasăsy*° (NeSl. *kasaš*) | Sk. **kūsə* 'shallow' (SkW 2202) | Km. *ko?-* (**kås-*; KSz 0397)
Sammallahti 1988: 537; SW: 60–61.

62. PU **koδ´ka* > PS **kåjkə̂* 'spirit, god; idol : идол, шайтан'
Ng. *kojkə* (NgSl.) | EnT *kaxa* (EnSl.) | EnF *kixu* (EnWl.) | NeT *xæx*° (T65) | NeF *käx*° (NeSl. *këxë*) | Sk. der.? *qāka* (SkW 2097)
Aikio 2002: 13–15 ; SW: 51.
— Selkup has an unexpected *ā* rather than *ū̆*, as if from PS **kakə̂*. Perhaps it was affected by the second-syllable vowel *-a*, which looks to be a derivational suffix (expected would be *-ə*).

63. PU **kojra* > PS **korå* 'male, male reindeer : бык, пороз (самец оленя)'
Ng. *kuru* (NgSl.) | EnT *kôra* (EnSl.) | EnF (!) *kɔra* (EnWl.) | NeT *xora* (T65) | NeF *koła* (NeSl. *koła*) | Sk. *qorə* (SkW 2259) | Km. *kora* (KSz 0430)

SW: 74; UEW: 168–169; Zhivlov 2023: 162.

— The vowel development from PU **kojra* to PS **korå* rather than **kårå* is unusual, see subsection 3.6.3.

64. PU **koki-* > PS **ko-* 'see, find : найти'
EnT *ku-* (EnSl.) | EnF *ko-* (EnWl.) | NeT *xosy°* (T65) | NeF *kosy°* (NeSl. *kōš*) | Sk. *qo-* (SkW 1749) | Km. *ku-* (KSz 0459) | Mt. *ko-* (MS 513)
SW: 72; UEW: 171.

65. PU **kompa* > PS **kåmpå* 'wave : волна'
Ng. *koŋhu* (NgSl.) | EnT *kaba* (EnSl.) | EnF *kaba* (EnWl.) | NeT *xampa* | NeF *kampa* (NeSl. *kampa*) | Sk. *qōmpə* (SkW 1851)
Sammallahti 1988: 537; SW: 59; UEW: 203.

66. PU **konta* > PS **kåntâ*(-) 'hunt, kill; sacrificial animal'
Ng. *kontə* (NgSl.) | EnT *kado* (EnSl.) | EnF der. *kadta-* 'kill hunting : убить на охоте' | NeT *xan°* (T65) | NeF *kan°* (NeSl. *kān*) | Mt. *kandəgat* 'pugnacious, eager to fight : raufsüchtig, rauflustig' (MS 416)
Aikio 2006a: 15–17.

67. PU **kopa* > PS **kopå* 'skin : кожа, кора'
Ng. *kuhu* (NgSl.) | EnT *kôba* (EnSl.) | EnF *koba* (EnWl.) | NeT *xoba* (T65) | NeF *kopa* (NeSl. *kōpa*) | Sk. **qopə* (SkW 1794) | Km. *kuba* (KSz 0463) | Mt. *koha*, *koho* (MS 520)
Sammallahti 1988: 537; SW: 73; UEW: 180–181.

— The vowel development from PU **kopa* to PS **kopå* rather than ***kåpå* is unusual, see subsection 3.6.3.

68. PU **korpi-* 'blaze' > PS **kårpâ* 'northern lights : северное сияние', der. *kårpâr-* 'blaze'
EnT *kabo* (EnSl.) | EnF *kabu* (EnWl.) | NeT *xarp°*, der. *xarpərcy°* (T65)
Aikio 2002: 15–16.

— A loan etymology for this Samoyed word has also been suggested, from Proto-Tungusic **garpa-* 'radiate light, shine', **garpa* 'ray, beam' (Helimski *apud* Aikio 2006a: 29). The similarities may also be accidental.

69. PU **kosi-* (**kusi-*) > PS **kot*(-) ‘cough : кашель, кашлять’, der.augm. *kotâjr-* ‘cough : кашлять’

Ng. *kuʔ*, der.v. *kutəδuśa* (NgSl.) | EnT *kuʔ*, der. *kuδur-* (EnSl.) | NeT *xoq* (T65) | NeF *kot°* (NeSl. *kot*) | Sk. **qot*, verb **qotə-*, der. **qotar-* (SkW 1915) | Km. *kuʔ-* (KSz 0462) | Mt. der. *kodor-* (MS 517)

Sammallahti 1988: 537; SW: 74; UEW: 223.

— The Finno-Ugric languages reflect a preform **kusi-* rather than **kosi-*.

70. PU **koska* > PS **kåtå* ‘grandmother : бабушка’

Ng. *kotu* (NgSl.) | EnT *kaδaʔ* ‘mother’s sister’ (EnSl.) | EnF *kaza* (EnWl.) | NeT *xada* (T65) | NeF *kata* (NeSl. *kāta*) | ? Sk. **kotə̲* ‘old’ (SkW 1918) | Mt. **kada* → Tuvan *kada* ‘aunt, grandmother, mother-in-law’ (MS 378)

Sammallahti 1988: 537; SW: 62.

71. PU **kuδa* > PS **kârâ* ‘morning’

Sk. *qarə* (SkW 2217) | Km. der. *karəlʹɛn* ‘in the morning : morgen : утром’

Aikio 2002: 42–43 (PU **kuδi*, PS **kâr*); 2022: 27 (PU **kuda*); UEW: 193.

— Aikio first reconstructed PU **kuδi* (2002), but more recently **kuδa* (2022a: 27), which fits better with the Samoyed vowel developments.

72. PU **kuji-* > ? PS **kijčV-* ‘lie : лежать’

Sk. der. *kučal-* ‘lie down : sich legen’ (SkW 1943) | Mt. *kistə-* (MS 504)

UEW: 197; Zhivlov 2023: 164.

— Zhivlov reconstructs PS **kijtV-*, but, to my knowledge, a development from **-jt-* to Sk *-č-* would be unparalleled; cf. the development in PS **såjtâ-* ‘sew’ > Sk. *sït-* (SW 134–135). The vowel correspondence between Selkup and Mator does not seem to be regular either, so that this etymology should be treated with great caution.

73. PU **kulki-* > ? PS **kəj-* ‘go : пойти’

NeT *xœsy°* (aor. *xəya*) | NeF *käsy°* (aor. *kǎja*; NeSl. *këš*, aor. *kadja*) | Mt. *kaj-* (MS 384)

Aikio 2002: 26; SW: 51.

— The connection of **kəj-* with PU **kulki-* is posited by Aikio (2002: 26). This reflex of PU **kulki-* competes with the following entry. In principle, we could imagine a paradigmatic split where **kulki-* regularly becomes pre-PS **kujâ-*, whence the vowel stem in forms like the connegative **kujâ-k* develops into PS **kuâ-* while the consonant stem in forms like the aorist develops via **kuj-ŋå*

into PS **kâjŋå* (> NeT *xəya*). A stem **kâj-* could have been extracted from the latter. However, as far as I can tell, it is technically unclear whether PS **kəj-* was originally front vocalic or back vocalic.

74. PU **kulki-* > ? PS **kuâ-* 'float downstream : поплыть (по течению)'
NeT der. *xúqla*(*sy*°), der. *xúw*° 'driftwood' (T65) | Sk. der. *qūrə-* (SkW 2284)
SW: 76; UEW: 198; Zhivlov 2023: 164.
— This Samoyed reflex of PU **kulki-* competes with the preceding entry, q.v.

75. PU **kuma-* > PS **kâmâ-* 'fall : повалиться, развалиться'
Ng. *kəməďa* (NgSl. кэмэдя II) | EnT der. *kooxa* 'fallen tree' | NeT *xəwəsy*° (T65) | NeF *kămăsy*° (NeSl. *kamaš*) | Sk. **qam-* (SkW 1823) | Mt. der. *kamaga* 'fallen tree' (MS 405)
Sammallahti 1988: 537; SW: 52.

76. PU **kuńa-* > PS **kâńâ-* 'be closed, close (the eyes) : закрыть глаза'
Ng. der. *kəńədusa* (Keheinen 2023: 80) | EnT *końi-* (EnSl.) | NeT *xəyəsy*° (T65) | Sk. *qāńə-* (SkW 2074) | Km. *kaj-* | Mt. **kańə-*, *kajə-* (MS 420)
Sammallahti 1988: 537; SW: 53–54.
— The vowel of Sk. *qāńə-* is irregular; expected would be ***a*. The retention of **-ń-* in Nganasan, rather than a development to **-j-*, is also unexpected, and I have no explanation for it.

77. PU **kuńći* > PS **kunsâ* 'urine : моча'
Ng. (M) *kunsə* (SW) | Sk. *küśə*, verb *küśə-* ~ *kǖśə-* (SkW 2212) | Km. *künzə* (KSz 0512) | Mt. *kunžʒ* (MS 596)
Sammallahti 1988: 537; SW: 77; UEW: 210.

78. PU **kupsa-* > PS **kâptå-* 'extinguish, put out : тушить, погасить', itr.der. ±**kâptö-* (?**kâptåw-*) 'go out, die away : погаснуть'
Ng. tr. *kəbtuďa*, itr. *kəbtᵘasa* (NgSl.) | EnT tr. *kota-*, itr. *koti-* (EnSl.) | EnF *kɔta* (EnWl.) | NeT tr. *xəbta*(*sy*°), itr. *xəbtyo*(*sy*°) (T65) | NeF tr. *kăptasy*°, itr. *kăptyosy*° (NeSl. *kăptăš*, *kapčoš*) | Sk. tr. *qaptə-*, itr. *qapti-* (SkW 1789) | Km. *kuʔbdə-*, itr.der. *kuʔbdō-* (KSz 0465) | Mt. tr. *kaptə-* (MS 372)
Janhunen 1981: 223; Sammallahti 1988: 537; SW: 54.

79. PU **kura* > PS **kârå* 'bend, curve : изгиб, извилина'
Ng. *kəru* 'манера, привычка : manner, habit, custom' (NgSl.) | EnT *kora* (EnSl.) | NeT *xəra* (T65) | Sk. der. **qaru* (SkW 2225) | Km. *kara-* (KSz 0318)
Aikio 2006: 14–15; SW: 55; UEW: 220.

80. PU **kura* > ? der. PS **kâru* (?**kârâw*) 'knife : нож'
EnT *koru* | EnF *kɔru* (EnWl.) | NeT *xər°* (T65) | NeF *kăt°* (NeSl. *kaŧ*) | Mt. *kuru*(*h*) (MS 611)
Sammallahti 1988: 537; SW: 54.

81. PU **kurki* (**kẹ̈rki*) > PS **kârö* (?**kârâw*) 'crane : журавль'
EnT *kori* (*xario* borrowed from NeT; EnSl.) | NeT *xəryo* (T65) | NeF *kăqłyu* (unexpected *-qł-*; NeSl. *ka"ľju*) | Sk. *qara* (SkW 2223) | Km. *kuro*, *kuruʔjo* (KSz 0498) | Mt. *körüh* ~ *köröh* (MS 557 **kərö*)
SW: 54 (**kârâ*, ? **kârâjâj*)
— This is in origin an onomatopoeia of the sound that cranes make in flight, a trill with a rather abrupt start, so ±"*ʔrrr*". Correspondences and formations may be irregular and partially independent; cf. also Ng. *kokərï* 'crane' (NgSl.).

— PU **kusi-* 'cough' → see **kosi-*.

82. PU **kuwakka* > PS **kuâkå-nå* 'long ago : давно, раньше'
Ng. *kuogunu* (NgSl.)
Aikio 2012: 244.

83. PU ±**kuwi* > PS **kįj* 'moon, month : луна, месяц'
Ng. der. *kiťəδəə* (NgSl.) | Km. *ki* (KSz 0379) | Mt. *kistit* ~ *kistiʔn* (MS 507)
Sammallahti 1988: 537 (**kɨxi*); SW: 69; UEW: 211–212.
— The medial consonant is difficult to reconstruct in this Proto-Uralic word. PS **kįj* could theoretically reflect a derivative in **-j* rather than a change from **-w-* to **-j*. Cf. PU **ćowi* > PS **soj* (curiously enough, these two words are structurally very similar). The Samoyed vowel **į* differs from the vowel **u* reflected in the other Uralic languages.

84. PU **külki* > ? PS ?**käj* 'side : сторона', der. **käjwə* 'id.'

Ng. *kəi* (NgSl.) | EnT *koo* (EnSl.) | EnF *ke* (EnWl.) | NeT der. *xæw°* (T65) | NeF der. *käw°* (NeSl. *këw*) | Sk. der.? *qə̄* (SkW 1768)

Salminen 2023: 377–380; SW: 57–58.

— This etymology is proposed by Salmine 2023: 377–380. The development from PU **ü* to PS **ə* is unexpected, but may be paralleled in PU **küńil* 'tear' > PS **käńəli*. Ng. *kəi* instead of ***kəj* probably does not directly reflect PS **käj*, but rather seems to be a derivative like ?**käjə-j*. A derived body part 'rib : ребро' is also shared widely in Samoyed with the same derivational suffix **-tə(jə)*: Ng. *kəiðəə*, EnT *kooδi*, EnF *kiuze*, NeT *xæw°di°*, NeF *käw°ti°*, Sk. *qə̄tə*, Km. *kot*, Mt. *kajbədV*.

85. PU **künti* > PS **küntə* 'smoke, vapour : дым, пар'

Ng. *kintə* (NgSl.) | EnT *śudo* (EnSl.) | EnF *šudu* (EnWl.) | NeT *syun°*, der. *syinyo* 'fog : Nebel : туман' (T65) | NeF der. *syŭnyu* 'fog : Nebel : туман' (NeSl. *šunju*) | ? Sk. *s'ümtə* (SkW 2487) | Km. *šüńü* (KSz 1098) | Mt. *kündü* (MS 593)

Sammallahti 1988: 537; SW: 79 (**küntə̂*); UEW: 158 (**kintɜ*, **küntɜ*).

— The preservation of PU **ü* as PS **ü* in this word is unexpected, cf. 3.6.1.

86. PU **küńil* > PS ±**käńəlį* 'tear : слеза'

Ng. *kəəlï* poss.3sg. *-tï* (NgSl.) | EnT *koori* (EnSl.) | EnF *kɔjilu* (EnWl.) | NeT *xəyəl°* (T65) | Sk. **qańi* (SkW 2072) | Km. *kajəl* (KSz 0285) | Mt. *kań(ə)li*, *kaj(ə)li* (MS 421 **kəńəli*)

Sammallahti 1988: 537; SW: 53.

— The reconstruction of this word in Proto-Uralic is difficult, but the Proto-Samoyed form should be front vocalic PS **käńəl-* on account of the front vowel harmony of the Nganasan reflex, making the reconstruction PU **kuńili* (Janhunen 1981: 255, Sammallahti 1988: 537) difficult (see Salminen 2023: 379). Selkup is missing the **-l* for some unexplained reason (cf. SW).

87. PU **lapta* > PS **jåptå* 'thin : тонкий'

Ng. der. *ďobtəgəə* (seemingly **jåptə̂*; NgSl.) | EnT *ďata* (EnSl.) | EnF *ďata* (EnWl.) | NeT *yabta* (T65) | NeF *japta* (NeSl. *djāpta*) | Sk. **ćōptə* (SkW 1450) | Mt. der. *čabtəmbuj* (MS 163)

SW: 38; UEW: 238; Zhivlov 2014: 125.

88. PU **läćä-* > PS **jäsä-* 'cover the tent : покрыть чум'
EnT *ćese-* (EnSl.) | NeT *yesye*(*sy*°) (T65) | Sk. *ćęsə̯-* (SkW 1578)
Helimski *apud* Aikio 2002: 49.

89. PU **lämi* > PS **jämVjə* 'broth : суп'
Ng. *ďeməə* 'porridge made of blood, meat, flour and water' (Aikio 2012: 231) | NeT *yewey*° 'soup, broth'
Aikio 2012: 231.
— Ng. *ďeməə* suggests PS **jäməjə* while NeT *yewey*° suggests PS **jämäjə*.

90. PU **lämpi* > PS der.? **jämpV* 'clothes : одежды'
Ng. der.? *ďeŋhʲa* | EnT der. *ćebiδe?* | NeT der. *yimpit*°*q* | Sk. der. *ćęmpət-* (SkW 1472)
Aikio 2002: 13; SW: 42–43.

91. PU **läsi-* > PS **jät*(*ə̈*)- 'by, near, for : к, на, о'
Ng. *ďatə-*, lat. *ďatəŋ* (NgSl.) | EnT lat. *ćeδo?* (EnSl.) | EnF *ďez* (EnWl.) | NeT *yeq*, lat. *yed*°*h* (T65) | Sk. *ćātə* (SkW 1477)
Helimski *apud* Aikio 2002: 48; SW: 44.
— Sk. *ćātə* as if from **jatə* instead; PS **jätə* should have become Sk. ***ćītə*, while PS **jät* should have become Sk. ***ćet*.

92. PU ?**lewi-* > ? PS **jeə̈-* or **jew-* 'shoot : стрелять'
Sk. *ćə̄-* (SkW 1434)
Aikio 2002: 53; Salminen 2023: 392.
— NeT *yenyer-* 'id.' is connected to the Selkup verb by Alatalo (SkW), but not mentioned by Salminen (2023: 392); the connection is indeed phonologically difficult, as PU/PS **e* does not become Nenets *e*, but rather *i*. The Proto-Uralic reconstruction is given by Zhivlov as **lexi-*rather than **lewi-*, which would only be reconcilable with the Selkup verb if this developed from a vowel sequence PS **jeə̈-*. A vowel sequence is found as a reflex of PU **Vγi* only once in PU **suγi-* 'row' (entry 157 below), and once potentially as the result of PU **Vwi* in PS **tiə̈* from PU **siwi* 'year ring' (entry 155 below). As far as I can see, in the word for 'shoot', the nature of the medial consonant cannot be reliably established as either PU **-γ-* or **-w-* based on the other Uralic cognates. However, even PU **lewi-* would perhaps be expected to develop to PS **ji-*, whence Sk. ***ći-*, as in the derivatives from PU **sewi-* 'eat', PS **ti-* (entry 151 below), this etymology

remains very uncertain. If PS **eə̈* develops in Selkup like PS **iə̈*, Sk. *ӱ* would be the regular reflex of a hypothetical PS **jeə̈-*.

93. PU **lę̑δi-* > PS **lę̑r-* 'be frightened : испугаться', der. **lę̑rö-* (?**lę̑rə̑w-*)
NeT der. *leryo*(*sy*°) | NeF *ťiťyosy*° (NeSl. *ťiťjoš*) | Sk. der. *lę̑ri-* (SkW 2895), ? *nį̑r*(*a̲k*)*ka̲-* 'fürchten' not the same acc. to SkW (1411) | ? Km. *nere-* (KSz 0687) | Mt. *nę̑r-* (?) (MS 747)
Aikio 2014b: 85–86; SW: 83.
— NeT *leryo-*, NeF *ťiťyo-* and Sk. *lę̑ri-* clearly belong together, but it is unclear to me whether the *n*-initial forms in Selkup, Kamas and Mator really belong here, or if they can be the result of an irregular change from **l-* to *n-*.

94. PU **lę̑mpi* > PS **lį̑mpə̑* 'swamp : болот', **lį̑mpå-* 'be swampy : быть болотистым', **lį̑mpə̑-* 'sink into a swamp : повалиться в болото'
Ng. *ľüŋhə* 'boggy place' (Aikio 2014b: 86) | EnT *lubo* (EnSl.) | EnF *lubu* | NeT *limpa*(*sy*°), *limpə*(*sy*°), der. *limpəd*° 'swamp : болото' (T65) | NeF der. *ťĭmpăt*° 'swamp, bog : болото, топь' (NeSl. *ľimpat*) | Sk. der.? *lį̑mpä* ~ *lį̑mpi* (SkW 2803)
Aikio 2014c: 86; SW: 83; UEW: 235 (**lampe*).

95. PU **lę̑nti* > PS **lį̑ntə̑* 'plain, valley : равнина, долина'
Ng. *ľintə* (NgSl.)
Aikio 2014b: 86; Sammallahti 1988: 552 (Proto-Finno-Permic); UEW: 235–236.

96. PU **lę̑pći* > PS **lę̑psə̑* ~ *ję̑psə̑* 'cradle : люлька'
Ng. *labsə* (NgSl.) | EnT *ĺiťo* (EnSl.) | EnF *l'ičʉ* (EnWl.) | NeT *yebc*° (T65) | Sk. *ćopsə* (SkW 1452) | Km. *ťepsə* | Mt. *čə̄psę* ~ *sə̄bsę* (MS 205 **ĺę̑*(*ə*)*psə*)
Aikio 2002: 48; SW: 41 (**ję̑psə̑*, ?**ję̑ə̑psə̑* ~ **lę̑ə̑psə̑*); UEW: 260.
— The vacillation of initial **l-* or **j-* in this word is unique and therefore puzzling. Salminen (2023: 384) argues for a reconstruction PS **ĺę̑psə̑* (so, too, Helimski MS), with an initial palatal **ĺ* reconstructed up to the Proto-Uralic stage (cf. also UEW). Since the Proto-Uralic phoneme **ĺ* would be quite unique to this word, alternative explanations should also be considered, such as an assimilation in palatality to the originally palatal PS **s* from PU **ć*, which could have taken place within early Samoyed; i.e., (pre-)PS **lę̑pśə̑* > **ĺę̑pśə̑* vel sim. The resulting PS **ĺę̑psə̑* could have developed with **ĺ* to **j* in all branches except for Nganasan and Enets, as posited by Salminen and Helimski.

97. PU **lẹ̆wi* > PS **lẹ̆* ‘bone : кость’

Ng. der.? (**lẹ̆-jə̂*) *laa* ‘ring : кольцо’, der. (**lẹ̆-tə̂jə̂*) *latəə* ‘bone : кость’ (Kaheinen 2023: 167; NgSl.) | EnT der. *ĺiδi* (EnSl.) | EnF der. *lizi* (EnWl.) | NeT *lí*, *le-* (T65) | NeF *łĭ*, *łe-* (NeSl. *lĭ̈*, *le-*) | Sk. *lị̄*, *lẹ̆-* (SkW 2761) | Km. *le* (KSz 0529) | Mt. *lE* (? *lẹ̆*) (MS 618)

Sammallahti 1988: 538 (**lɨxɨ*); SW: 82; UEW: 254–255 (**luwe*); Zhivlov 2023: 161 (**lẹ̆wi*)

— Nenets and Selkup show a shared distribution of long **ị̆* in the nominative singular and **ẹ̆* in the other cases, but it is unclear how this might best be explained. Perhaps a reconstruction such as nom.sg. **lẹ̆w* > **lị̄* next to acc.sg. **lẹ̆*(*w*)*m* = **lẹ̆m* could be attempted, but there are no direct parallels.

98. PU **lomi* (**lumi*) > PS **jom*(-) ‘snow (v. and n.) : снег, идти (о снеге)’

Ng. *ďum* (NgSl.) | NeT der. *yomcyah* (T65) | Sk. **ćom-* (SkW 1459)

Sammallahti 1988: 538; SW: 46.

— The Finno-Ugric languages reflect a preform **lumi* rather than **lomi*.

99. PU ?**luča* > PS **jə̂cə̂* ‘block of wood : доска’

Ng. *ďetə* (Aikio 2006: 29) | EnT *ďoδo* (EnSl.) | EnF *ďɔzu* (EnWl.) | NeT *yəd°* (T65) | NeF (L) *j̊ȁt̀* (*jăt°*) (SW) | Sk. *ćačə* (SkW 1474)

Aikio 2002: 12–13; 2006a: 29; SW: 36 (**jə̂t¹ə̂*).

— A reconstruction PU **luča* is needed to unite Fi. *luta* ‘tool for removing birch bark’ with the Samoyed words, but requires Saami forms like SaaN *lohti* ‘wedge’ to be borrowed from Proto-Finnic, since *lohti* could only reflect PU **luta* (Aikio 2006: 29).

— PU **lumi* ‘snow’ → see PU **lomi*.

100. PU **lupsa* > PS **jə̂ptå* ‘dew : роса’

Ng. der. *ďebtua* (NgSl.) | EnT *ďota* (EnSl.) | NeT *yəbta* (T65) | NeF *jăpta* (NeSl. *djăpta*) | Sk. der. *ćaptu* (SkW) | Km. *ťeʔbda* (KSz 1338) | Mt. чипталъ (-лъ unclear; MS 208)

Janhunen 1981: 223; Sammallahti 1988: 538; SW: 35–36; UEW: 261.

101. PU **meni-* > PS **men-* ‘go : идти, ехать’

Ng. *mïnsï* (NgSl.) | EnT der. *midir-* ‘carry : нести’ (EnSl.) | EnF der. *midir* ‘carry : нести’ | NeT *myincy°* (T65) | NeF *myĭnsy°* (NeSl. *minьś*) | Km. *mĭn-* (KSz 0592)

Sammallahti 1988: 538; SW: 94; UEW: 272.

102. PU **meγi-* > PS **mi-* 'give, sell : дать, продать'
Ng. der. *miśi* (NgSl.) | EnT der. *mis-* (EnSl.) | EnF der. *mis-* | NeT der. *myicy°* (T65) | NeF *myĭqsy°* (NeSl. *mi'š*) | Sk. *mi-* (SkW 735) | Km. *mĭ-* (KSz 0588) | Mt. *mi-* (MS 667)
Aikio 2012: 248; Sammallahti 1988: 538; SW: 94; UEW: 275 (**miγe-*).

103. PU **mẹ̑ksa* > PS **mi̯tâ* 'liver : печень'
Ng. *mitə* (NgSl.) | EnT *muδo* (EnSl.) | EnF *muzu* (EnWl.) | NeT *mid°* (T65) | NeF *mĭt°* (NeSl. *mït*) | Sk. *mī̯tə* (SkW 757) | Km. *mĭt* (KSz 0604)
Sammallahti 1988: 538; SW: 93–94; UEW: 264 (**maksa*).

104. PU **minä* > PS **mən* 1sg. personal pronoun 'I : я'
Ng. der.? *mənə* (NgSl.) | EnT der. *moʹdi* (EnSl.) | EnF *modʹi* der. (EnWl.) | NeT der. *məny°* | NeF der. *mănу°* (NeSl. *manь*) | Sk. *man* (SkW 771) | Km. *man* (KSz 0550) | Mt. *mən* (Ms 627)
Janhunen 2013: 214; SW: 86.

105. PU **moćki-* > PS **måsâ-* 'wash, smear : вымыть, смазать'
EnT *masu-* (EnSl.) | EnF *masu-* ~ *məsu* (EnWl.) | NeT *masə*(*sy°*) (T65) | NeF *masăsy°* (NeSl. *masaš*) | Sk. *mūsə-* / *müsə-* (SkW 860) | Km. *buzə-* (KSz 0170) | Mt. *masə-* (MS 642)
Sammallahti 1988: 538; SW: 89; UEW: 289 (**muśke-*, **mośke-*).

106. PU **muδ´a* > PS **mâjå* 'earth, land, terrain : земля, страна, край'
Ng. *mou* (NgSl.) | Sk. *maćə* 'Wald(rücken)' (SkW 799) | Km. *mĭja* 'mountain' | Mt. *bijä* 'mountain : Berg' (MS 124)
Aikio 2002: 22–23; SW: 85.

107. PU **muja-* > PS **mâjâ-* 'become happy : обрадоваться'
NeT *məyə*(*sy°*) (T65) | NeF *măjăsy°* (NeSl. *mădjăš*)
Aikio 2002: 22.

108. PU **muka* > PS **mâkå* 'back : спина'
Ng. *məku* (NgSl.) | EnT *maxa* (EnSl.) | EnF *maxa* (EnWl.) | NeT *məxa* (T65) | NeF *măxa* (NeSl. *maxa*) | Sk. *moqə*, der. *moqal*/*moqol* 'id.' (SkW 818) | Km. der. *begəl* (KSz 0120) | Mt. *baga* (MS 90)
Janhunen 1981: 223; Sammallahti 1988: 538; SW: 85.

109. PU **muna* > PS **mânå* 'egg : яйцо'
Ng. *mənu* (NgSl.) | EnT *mona* (EnSl.) | EnF *mɔna* (EnWl.) | Sk. *manə* 'penis' (SkW 772) | Km. der. *munoj* (KSz 0626)
Janhunen 1981: 223; Sammallahti 1988: 538; SW: 86; UEW: 285–286.
— For the semantics of the Selkup word, cf. the Finnish cognate *muna* 'egg; penis, testes'.

110. PU **mura* > ? der. PS **mârVŋkå* 'cloudberry : морошка'
Ng. *murïŋga* (NgSl.) | EnT *moraga* (EnSl.) | EnF *mɔroga* | NeT der. *məraŋka* | NeF *măłaŋka* (NeSl. *małaŋka*)
Janhunen 1981: 223-224; Sammallahti 1988: 538; UEW: 287.
— The vowels of Nganasan *murïŋga* do not regularly correspond to Enets and Nenets forms; expected would be Ng. ***məruŋga*, cf. PS **mânå* 'egg' > Ng. *mənu*.

111. PU ±**nataw* > PS **nåto* (?**nåtåw*) 'brother-in-law : деверь'
NeT *nado* (T65) | Km. *nado* (KSz 0644)
Sammallahti 1988: 539 (**nåtiw*); SW: 98 (**nåt¹ə̂* ? **nåt¹ə̂j*); UEW: 299–300.

112. PU **nimi* > PS **nim* 'name : имя'
Ng. *ńim* (NgSl.) | EnT *ńi?* (EnSl.) | EnF *ńi?* (EnWl.) | NeT *nyum* (T65) | NeF *nyŭm* (NeF *nim*) | Sk. *nim* ~ *ńim* (SkW 1349) | Km. *nim* (KSz 0691) | Mt. *Nim* ~ *nüm* (MS 756)
Sammallahti 1988: 538; SW: 102; UEW: 305 (**nime*).

113. PU **nokki* > PS der. **nåku* 'neck : затылок'
Sk. *nuku* (SkW 1385)
UEW: 328–329; Zhivlov 2016: 299.

114. PU **nusi-* > PS **nât-* 'scrape : выскоблить'
EnT (analogical) *nos-* (EnSl.) | EnF (analogical) *nɔs-* (EnWl.) | NeT *nəcy°* (T65) | Sk. **nat-* (SkW 1351) | Km. *nă?-* (KSz 0676)
Sammallahti 1988: 538; SW 97; UEW: 309.
— The reduction of PU **u* to PS **ə̂* before PU **-i* rather than before **-a* seems irregular here, but it may have been extracted and generalized from common forms like the verbal noun PU **nusma* > PS **nâtmå* and the aorist stem, quasi-PU **nusŋa-* > PS **nâtŋå-* (NeT *nəqŋa-*, etc.).

115. PU **nüδi* > PS **nir* 'handle : рукоятка'
Ng. *ńir* (NgSl.) | EnT *ńi?* (EnSl.) | EnF *ńi?* (EnWl.) | NeT *nyir* (T65) | NeF *nyił* (NeSl. *nił*) | Sk. *nir* (SkW 1417) | Km. der. *ńirže* (KSz 0754)
Sammallahti 1988: 538; SW: 102–103; UEW: 304 (**niδe*, **nüδe*).

116. PU **ńali-* > PS **ńåâ-* 'lick : лизать', der. **ńå-nsâ-* 'id.'
Ng. der. *ńonsəďa* (NgSl.) | EnT *naǵo-* (EnSl.) | EnF *naso-* ~ *nazo-* (EnWl.) | NeT *nyancə*(*sy*°) | NeF *nyansăsy*° (NeSl. *njansăš*) | Sk. *ńū-* (SkW 1627) | Km. *nü-* (KSz 0723)
Sammallahti 1988: 539 (**ńåxli-*); SW: 105; UEW: 321.
— Nganasan *ńonsə-* has to be derived from a stem *ńå-*, while the other cognates, especially Selkup and Kamas, suggest the more expected reconstruction PS **ńåâ-*. It would be preferable to derive the Nganasan, Enets and Nenets forms from the same ancestral form, however, so that the absence of the vowel sequence needs to be accounted for. I find it probable that **ńå-nsâ-* was simply based on a new "consonant stem" of the root **ńåâ* after disappearance of the **-l-*, cf. PS **kå-tå-* 'kill' rather than ***kåâ-tå-* as the causative of PS **kåâ-* 'die' (see the entry of PU **kali-* 'die'). At least the vowels of underived Sk. *ńū-* and Km. *nü-* are entirely parallel to those of PS **kåâ-* from PU **kali-* 'die'.

117. PU **ńęli* > PS ±**ńęj* 'arrow : стрела'
NeT compound *tu*°*nyi* 'rifle, shotgun : ружьё, винтовка' | Sk. *ńęj̲ə̲* (SkW 1663) | Km. *ńie* 'arrow : Pfeil', *ńa* 'bullet : Kugel' (KSz 0734) | Mt. *ńej*, *nej* (MS 729)
Aikio 2012: 228; Sammallahti 1988: 539 (**ńɨxli-*); SW: 108.

118. PU **ńęri* > PS **ńęr* 'cartilage : хрящ'
Ng. *nir* | EnT *ni?* (EnSl.) | EnF *ni?* (EnWl.) | NeT *nyer* (T65) | NeF der. *nyelăqku* (NeSl. *njelaqku*) | Sk. *ńi̯r* (SkW 1707)
Aikio 2006: 20–21; SW: 108; UEW: 324.

119. PU **ńimi-* > PS **ńim-* 'suck : сосать', n.der. *ńimsä* 'breast, milk : молоко'
Ng. der. *ńimibtiśi* (NgSl.) | EnF der. *nuutagu-* (EnSl.) | NeT der. *nyimnye*(*sy*°) (T65) | NeF der. *nyimnyapyosy*° (NeSl. *nimnjapjoš*) | Sk. *ńim-*, n.der. *ńipsə* (SkW 1638) | Km. der. *ńimer-* (KSz 0752) | Mt. der. **ńümnə-*, *nümnə-* (MS 786)
Aikio 2002: 23–25; SW: 110.

120. PU **ńoγi-* (**ńuγi-*) > PS **ńo-* (or **ńoə̑-*?) ‘pursue : преследовать’
NeT der. *nyoda*(*sy*°) (T65) | NeT *nyotasy*° (NeSl.) | Sk. *ńō-*, der. *ńōtə̲-* (SkW 1625) | Mt. **ńodə-*, *nodə* (MS 766)
Sammallahti 1988: 539 (**ńoxɨ-*); SW: 111; UEW: 323–324 (**ńoŋδa-*, **ńowδa-*).
— None of the attested Samoyed descendants reliably show a difference between **o* and **oə̑*, so that there is no way to be absolutely sure which should be reconstructed. Most words of the structure PU **CVγi* end up as PS **CV*, but PU **suγi-* does seem to have become PS **tuə̑-* rather than **tu-* (q.v.). The Finno-Ugric languages may reflect a preform **ńuγi-* rather than **ńoγi-*.

121. PU **ńoma* > PS **ńåmå* ‘hare : заяц’
Ng. *ńomu* (NgSl.) | EnT *naba* (EnSl.) | EnF *n’aba* (EnWl.) | NeT *nyawa* (T65) | Sk. (der.?) *ńoma* (SkW 1633)
Sammallahti 1988: 539; SW: 106.
— Selkup (Tym) *ńoma* should probably be a derivation, since PS **-å* usually becomes *-ə* in Selkup. The Finno-Ugric languages reflect a derived **ńoma-la* ‘hare’ instead of the underived PS **ńåmå*. An etymological connection with the verb PU **ńoγi-* ‘pursue’ (Janhunen 1981: 242) is possible if the Samoyed **o* vowel of **ńo-* ‘pursue’ is more archaic than the **u* of FU **ńuγi-* (against this connection, see Zhivlov 2023: 162, who reconstructs a development of PU **ńuγi-* to PS **ńo-* rather than of PU **ńoγi-* to PS **ńo-*, FU **ńuγi-*; cf. the discussion in subsection 3.6.3). The etymologized reconstruction PU “**ńoγma*” is not expected to develop differently from **ńoma*.

122. PU **oδ´a* > PS **åjå* ‘meat, body : мясо, тело’
EnT *aja* (EnSl.) | EnF *aja* (EnWl.) | NeT *ŋaya* (T65) | NeF *ŋaja* (NeSl. *ŋadja*) | Sk. *uə̑ćə* (SkW 162) | Km. *uja* (KmSz.) | Mt. der. *ojobtu* (MS 799)
Aikio 2006: 11–12; SW: 17.

123. PU **ojwa* > PS **åjwå* ‘head : голова’
Ng. *ŋojbu* (NgSl.) | EnT der. *aburi* (EnSl.) | EnF *εba* (EnWl.) | NeT *ŋœwa* (T65) | NeF *ŋăwa* (NeSl. *ŋajwa*) | Mt. *ajba* (MtSpr.)
Sammallahti 1988: 536; SW: 17; UEW: 336–337.

124. PU **pala-* > PS **pålä-* ‘swallow’
NeT *palye-* | Sk. *pōlə-* (SkW 693)
Sammallahti 1988: 540; SW: 116; UEW: 350.

125. PU **pata* > PS der.v. **patə̂-* ‘put something in a pot, in water : положить на котёл, в воду’, der. ?**patü-* ‘id.’

Ng. *h^{u}atiďa* ‘dip, plunge (pfv.) : окунуть’, *h^{u}atətəsa* ‘id. (ipfv.)’ (NgSl.) | EnT *peδi-* (EnSl.) | NeT *pyadə*(*sy*°), intr. *pyadə*(*sy*°) ‘be put in the water : быть опущенным в воду’ (T65) | NeF *pyatăsy*° (NeSl. *pjātăš*) | Sk. *pōt-* (SkW 431) | Km. *padə-* ‘insert; feed : hineinstecken, füttern : воткнуть; кормить’ (KSz 0798)

Aikio 2015: 55; Sammallahti 1998: 548 (FU); SW: 118; UEW 358 (FU).

— The Uralic connection is with the noun PU **pata* ‘pot’, found in a number of Finno-Ugric languages, but the use of the Samoyed verb also seems to be more general than simply inserting things into pots specifically. Sk. *pōt-* is also used for laying nets in the water, and the next entry in SkW 432 *pōti* ‘ice hole for a drawnet : Wuhne für das Zugnetz’ seems to be a likely derivative on the basis of this semantic link. Loss of the more general meaning found in Samoyed could in principle be a shared innovation in the Finno-Ugric languages relevant for the phylogeny. As for the formal reconstruction in Samoyed, Ng. *h^{u}ati-*, EnT *peδi-*, NeT *pyadə-*, NeF *pyată-* might all reflect PS **patü-*, but the Nenets forms may also go back to PS **patə̂-*, **patu-* or **patį̆-*. Sk. *pōt-* rather seems to derive from a form **pat-*, with the frequent analogical removal of final schwa (and a development from **a* to *ō* rather than to ***ā* due to the initial *p-*). Km. *padə-* can certainly derive from PS **patə̂-*, which is also necessary for derived Ng. *h^{u}atətə-*, and which forms the basis for a secondary consonant stem in Sk. *pōt-* as well.

126. PU **pawi* > PS **pa* ‘tree : дерево’

Ng. der. (**pa-jə̂*) *h^{u}aa* (NgSl.) | EnT *pe* (EnSl.) | EnF *pɛ* (EnWl.)| NeT *pya* (T65) | NeF *pyă* (NeSl. *pja*) | Sk. *pō* (SkW) | Km. *pa* (KmSz.) | *hä* (MS 267)

Sammallahti 1988: 539; SW: 117 (**pä*); UEW: 410–411.

127. PU **päli* > PS **pää* (~ **päj* ?) ‘edge, outside : остриё’

Ng. der.? *h^{i}ai* (NgSl.) | EnT *pio* (EnSl.) | EnF *pe* (EnWl.) | NeT *pyí* | NeF der. *pyinyaŋ* ‘out : наружу’ (NeSl. *pīnjaŋ*) | Sk. *pō* | MS loc. *hegen* (MS 276)

Aikio 2012: 239; Janhunen 1981: 241; SW: 124 (**piə̂*).

— Ng. *h^{i}ai* could reflect PS **päj*, or perhaps a schwa-final form like **päjə* or derivative **päjə-j*, while the other Samoyed languages can go back to PS **pää* (especially EnT *pio* and NeF *pyinyaŋ* rather than ***pyenyaŋ* point to this reconstruction in favour of **päj*). Selkup *pō* could probably reflect PS **päj* with

rounding from expected ***pē* due to the initial labial consonant, but it is unclear if PS **pää* would not develop in the same way in this language.

128. PU **pälkä* > ? PS ±**peä* 'thumb : большой палец'
Ng. der. *hïaďə* (NgSl.) | EnT der. *piiťu* (EnSl.) | NeT der. *pyíkcya* (T65) | Km. der. *pidə* (KSz 0840) | ? Mt. der. *hegəbti* (MS 275)
Aikio 2020: 95; SW: 123.
— The Proto-Samoyed reconstruction is difficult, and the precise connection and relation with PU **pälkä* is not at all straightforward.

129. PU ?**pä/iŋi* > PS **päŋ* 'hollow hand : ладонь'
Ng. *hʲaŋ* | EnT *peo* (EnSl.) | NeT *pyeh* (T65) | NeF *pyěŋ* (NeSl. *pjeŋ*) | Sk. *pīŋ* (SkW 597) | Km. *pĭŋ* (KSz 0853) | Mt. *höŋ* (MS 309)
Janhunen 1981: 257–258; Sammallahti 1988: 539.
— Sk. *pīŋ* is due to pre-schwa lengthening of **ä* to Proto-Selkup **ī*, see Helimski (2007: 129); EnT *peo* similarly reflects a schwa-final variant or case form (ibid.). The vowel correspondence with the cognate Finnish *pivo* 'hand, palm' (and other Finnic forms) is not regular.

130. PU **peɣi-* > PS **pi-* 'cook, ripen (by cooking) : свариться', der.caus. PS **pirä-* 'cook (tr.) : сварить'
Ng. der.caus. *hiriďi* (NgSl.) | EnT *pi-*, der.caus. *pire-* | EnF *pi-*, der.caus. *piri-* (EnWl.) | NeT *pyisy°*, der.caus. *pyirye*(*sy°*) (T65) | NeF *pyĭsy°*, der.caus. *pyĭťyesy°* (NeSl. *piš*, *piťjēš*) | Sk. der.caus. *pirə̲-* (SkW 680) | Km. *pü-*, der.caus. *pürə-* (KSz 0875)
Sammallahti 1988: 539; SW: 123–124; UEW: 368.

131. PU **peksä-* > PS **pet-* 'hit, soften a hide : размять шкуру'
Ng. *hït-* (Aikio 2015: 14) | NeT der. *pyidyelcy°*, *pyidyercy°* (T65) | Sk. *pit-*, *pitə-* (SkW 462) | Km. *püʔ-* (KSz 0877)
Aikio 2002: 54 fn. 8; 2014a: 14; SW: 126; UEW: 368–369.
— The reduction of PU **-ä* to **-ə* or ∅ in Samoyed is very infrequent and not properly described or understood.

132. PU **peli-* > PS **pej-* 'be afraid : испугаться'
Ng. der. *hïïmsï*, der. *hiľïʔśi* 'fear : бояться' (NgSl.) | EnT der. *piiro-*, *piis-* (EnSl.) | EnF der. *pizi-* 'frighten : испугать' | NeT der. *pyílcy°*, der. *pyínə*(*sy°*) (T65) | NeF *pyinăsy°* (NeSl. *pinăš*) | Sk. *pī-* (SkW 393b.) | Km. der. *pim-* (KSz 0844) | Mt. der. *himər-* (? *hīmər-*) (MS 300)
Sammallahti 1988: 539; SW: 125; UEW: 370.

133. PU **pe̮ni-* > PS **pe̮n-* 'put : положить'
Ng. *hᵘansa* (NgSl.) | EnT *pun-* (EnSl.) | EnF *pun-* (EnWl.) | NeT *pency°* (T65) | NeF *pensy°* (NeSl. *penьš*) | Sk. *pe̮n-* (SkW 491) | Km. *pen-* (KSz 0829) | Mt. *he̮n-* (MS 288)
Sammallahti 1988: 539; SW: 118; UEW: 353–354 (**pane-*).

134. PU **piδi* > PS der. **pirä* 'height : высота'
Ng. *hirə* (NgSl.) | EnT *piro* (EnSl.) | EnF postp. *piro* (EnWl.) | NeT *pyir°* (T65) | NeF der. *pyĭłăt°* (NeSl. *piłat*) | Sk. postp. *pīr*, *pīrə* (SkW 677)
Sammallahti 1988: 539; SW: 125.

135. PU **piδkä* > PS **pirkä* 'high : высокий'
EnT *piďe* (EnSl.) | EnF *pise~pize* (EnWl.) | NeT *pyircya* (T65) | NeF *pyĭłsya* (NeSl. *piłьša*) | Sk. *pirkə* (SkW 977) | Km. *pĭrže* (KSz 0855) | Mt. *hirge* (MS 305)
SW: 125.

136. PU ?**pijri* 'circle, around' > ? PS **pijr* 'inner bark of birch : камбиальный слой берёзы'
NeT *pyír*
Salminen 2023: 388–390.

137. PU **piksi* > PS **pütə̈* 'net string, cord : нитка'
NeT *pyud°* (L 390 *ṕūδᵆ*) | Sk. *pǖtə* (SkW 458)
Sammallahti 1988: 539; UEW: 380.

— With an irregular development from **i* to **ü*, possibly due to the initial **p-*; this is also seen with **wi* to *(*w*)*ü* in PU ±**wijitti* > PS **wüə̈t* 'ten (10)' and PU **wiγi-* > PS **ü-* 'drag' (s.vv.), but I know of no further examples of **pi* to **pü*; rather, the other, reliable example of PU **pi* yield PS **pi* in Samoyed derivatives from the root **piδi* 'long'. Not in SW; Selkup cognate absent in UEW, SkW gives the connection with Nenets.

138. PU **ponči* > PS **pâncə̂* 'hem, lower edge : нижний край'
Ng. der. *hontəə* | EnT *padi* (EnSl.) | EnF *pade* (EnWl.) | NeT *pan°* (T65) | NeF *pan°* (NeSl. *pan*) | Sk. der. *pōnčar* (SkW 486) | Km. *pandar* (KSz 0804) | Mt. ? *handa* (MS 258)
Aikio 2006a: 23–24; SW: 116.

139. PU **pori-* (**puri-*) > PS **por-* 'eat : съесть', der.vn. **porså* 'fish meal : варка'
Ng. der.vn. *hursu* (NgSl.) | EnT der.vn. *podá* (EnSl.) | NeT der.vn. *porca* (T65) | Sk. der.vn. *porsə* (SkW 647, derived there from Even *норочō* instead) | Mt. *hor-* (MS 316)
Sammallahti 1988: 539; SW: 127–128; UEW: 405–406 (**pure-*).
— PS **porså* is a derivative of the same type as PS **âmså* 'food' from **âm-* 'eat' (SW 15), and it has a wide distribution from Nganasan to Selkup. The underived verb in Mator **hor-* confirms the Proto-Samoyed reflex of the verb PU **pori-*. The Finno-Ugric languages reflect a preform **puri-* rather than **pori-*.

140. PU **poski* > PS **påtə̂* 'cheek : щека'
Ng. der. *xotuə* (NgSl.) | En. (C) der.? *fáru*, irreg.? *faede* ~ *paede* (SW) | NeT der. *padu* (T65) | Sk. der. *pūtəl* | Km. der. *puʔma* (KSz 0869) | Mt. der. *hoʔlo* (MS 306)
Sammallahti 1988: 539; SW: 117; UEW: 396.

141. PU **pučki* > PS **pucə̂* 'core : сердцевина'
Ng. der. *hütəðə* 'torso, body, figure : туловище, тело, фигура' (NgSl.) | EnT der. *puδodo* 'torso, body : туловище, тело' (EnSl.) | EnF der. *puzuj* 'spinal cord' (EnWl.) | NeT *pud°* 'that which gives balance, steadiness', *pyah pud°* 'core of a tree : сердцевина дерева' | Sk. *pūčə* (SkW 442) | Km. *püt* (KSz 0898) | Mt. *hudu-* 'self' : selbst, sich selbst' (MS 321)
Aikio 2014a: 11–15; Sammallahti 1988: 539; SW: 129–130.

142. PU **puδ´a-* > PS **pâjä-* 'chop wood : нарубить двор'
Ng. *hoiďi*, der. *hoiʔśi* (NgSl.) | EnT der. *petur-* (EnSl.) | EnF der. *pɛturu-* (EnWl.) | NeT der. *pæ°cy°* (T65) | NeF der. *pǎjǎqsy°* (NeSl. *padja'š*) | Sk. der. *paćal-* (SkW 499) | Mt. der. *häjäl-* (MS 277)
Aikio 2006a: 22–23; SW: 112; UEW: 389–390 (**poδ´ɜ-*).

143. PU ?**pujɨ* > PS **puə̑* ‘the backside : сзади, назад’
Ng. *huə*, adv. (loc.) *huənu* (NgSl.) | EnT der.adv. (lat.) *puoʔ* (EnSl.) | EnF adv. (loc.) *pɔna*, der.adj. *pɔnuj* (EnWl.) | NeT adv. (loc.) *púna*, (abl.) *púd°* (T65) | NeF adv. (loc.) *puna*, (abl.) *put°* (NeSl. *puna*, *put*) | Sk. adv. *pūn* (SkW 379) | Km. der. *puʔmo* (KSz 0873) | Mt. adv. (loc.) *huna* (? *hūna*) (MS 325)
Aikio 2012: 247; SW: 129 (**puə̑*, ? **puwə̑*); UEW: 401.

144. PU **puna-* > PS **pə̑n-* ‘braid, weave : заплести’
Ng. *honsa* (NgSl.) | EnF der. *pɔguru-* (EnWl.) | NeT der. *pəŋkəlcy°* | NeF der. *pă̈ŋkă̈lsy°* (NeSl. *paŋkałьš*) | Sk. *pan-* / *pač-* (SkW 473) | Km. *pün-* (KSz 0888)
Sammallahti 1988: 539; SW: 133; UEW: 402–403.
— The final **-a* is unexpectedly lost in Samoyed, most likely because it is of the type that became PS **-ə̑*, which could be eliminated by analogy (see subsection 3.7.1).

145. PU **pura* > der. PS **pə̑råjŋ* ‘drill : сверло’
EnT der. *poĺiďu* (?) ‘awl : шило’ (EnSl.) | EnF *pɔľiďu* (EnWl.) | NeT *pəreh* | NeT *pă̈łiŋ* (NeSl. *paɬüŋ*) | Sk. *paräŋ* / *pariŋ* ‘icepick : Eishaue’ (SkW 629) | Km. *paraŋ* (KSz 0808)
Sammallahti 1988: 539; SW: 114; UEW: 405.

— PU **puri-* ‘bite’ → see **pori-*.

146. PU **purki* > PS **pur-* (in derivations) ‘smoke : дым’
NeT der. *pur°q* (T65) | ? Sk. der. *purqə* (SkW 661)
Aikio 2002: 25–27; SW: 131.
— The Selkup might be a loan from Khanty instead, KhE *pŏrkį* ‘id.’ (see SkW, Aikio 2006: 30).

147. PU **puwa-* > PS **puə̑-* ‘blow : дуть’
Ng. der. *hüarsa*, der. *hüoləsa*, der. *hüoltəsa*, etc. (NgSl.) | EnT der. *puaro-*, ? der. *pueso-* (EnSl.) | EnF ? der. *pɔsa~pesa-* (EnWl.) | NeT der. *púcy°*, der. *púqlyo*(*sy°*), ? der. *posə*(*sy°*) (T65) | NeF ? der. *pusipyosy°* (NeSl. *pusïpyoš*) | Sk. *pū-*, der. *pūl-* ‘swell : schwellen’ (SkW 381, 700) | Km. der. *püʔ-* (KSz 0877) | Mt. der. *hal-* (MS 255)
Aikio 2012: 244; SW: 128–129; UEW: 411.

148. PU **sala-* > PS **tålä-* ‘steal : украсть’, der.augm. *tåleŋr-* (?**tåläjr-*) ‘steal (ipfv.) : воровать, красть’
Ng. *tolïďa*, der.augm. *tolarsa* (NgSl.) | EnT *tare-*, der.augm. *tarir-* (EnSl.) | EnF *tari-* (EnWl.) | NeT *talye*(*sy*°), der.augm. *taler-* (T65) | NeF *tałyesy*° (NeSl. *tałješ*) | Sk. *tuâlə-*, der.augm. *tuâlir-* (Sk 1306) | Km. *tol'er-* (KSz 1232) | Mt. *tälər-* (MS 975)
Sammallahti 1988: 540; SW: 150–151; UEW: 430–431.

149. PU **sarka* > PS **tårkå* ‘fork, bifurcation, branch : отросток, ветв, ответвление’
EnT *taga* (EnSl.) | NeT *tarka* (T65) | NeF *tałka* (NeSl. *tałka*)
Sammallahti 1988: 540; SW: 152.

150. PU **säji* > PS **täj* (~ **täə* ?) ‘pus : гной’, der.v. ‘rot : сгнить’
Ng. *ťüm-* | EnT *ćüm-* (EnSl.) | NeT *tyím-* | Sk. *tē*, verb *tē-* (SkW 950) | Km. verb *te?-* (KSz 1291) | Mt. *ti* (?) (MS 1007)
Sammallahti 1988: 540 (**sexji*); SW: 161 (**ti* ~ **te*).
— Cf. PU **käli* > PS **käj* (~ **käə* ?) ‘tongue’. The Mator reflex “*ki*” ‘tongue’ next to “*gei*” and “*káschtä*” ±|käj-tä| ‘his/her tongue’ (MS 1007) may point to a parallel reconstruction of these two words. The vowel reflex of Selkup *tē* is also identical with that of *śē* ‘tongue’. Ng. *ťüm-*, EnT *ćüm-* and NeT *tyím* probably reflect **täjm-* rather than **täəm-*, but **täəjm-* might also be a possibility.

151. PU **sewi-* ‘eat’ > der. PS **timä* ‘tooth : зуб’
Ng. *ťimi* | EnT *ćü* (EnSl.) | EnF *čü* (EnWl.) | NeT *tyibya* (T65) | NeF *tyĭm*° (NeSl. *čim*) | Sk. *timə* (SkW 1037) | Km. *time* (KSz 1198) | Mt. *time* (MS 1091)
Aikio: 2002: 34–36.
— This etymology is called into question by Salminen (2023: 394), since, according to him, only PU **seɣi-* should yield PS **ti-*, while PU **sewi-* should become PS ***tew-*. However, other instances of **Vwi* normally behave very much like sequences of **Vɣi* in Samoyed as well (cf. subsection 3.4.3) so that a development from PU **sewi-* to PS **ti-* seems plausible enough (as in PU **meɣi-* > PS **mi-* ‘give, sell’). The reflexes within Samoyed are furthermore regular, with the exception of the second-syllable vowel of Forest Nenets *tyĭm*° rather than expected ***tyĭmya*. There, we can assume the same analogical development as took place in PU **ćilmä* ‘eye’ > PS **səjmä* >> NeF *xäm*°, NeT *sæw*° rather than expected NeF ***xămya*, NeT ***sæbya*, only this time Tundra Nenets *tyibya* did not undergo the same change (not NeT ***tyiw*° to regularly correspond to NeF *tyĭm*°).

152. PU **sewi-* ‘eat’ > der. PS **titü* (?**titäw*) ‘bait : приманка’
Ng. *ťütü* (Aikio 2021: 173) | EnF *čiδi* (Aikio 2021: 173) | Sk. *tütu* (SkW 1089)
Aikio 2021: 173.
— This recently proposed etymology by Aikio strengthens the derivation of PS **timä* from PU **sewi-*, since it corroborates the reflex **ti-* of this root.

153. PU **sęksa* > der. PS **tįtåjŋ* ‘Siberian pine : кедр’ (Pinus sibirica)
EnT *tiδii* ‘log without branches : чистое бревно без сучьев’ (EnSl.) | NeT *tideh* (T65) | NeF *tĭtiŋ* (NeSl. *tĭtī̆ŋ*) | Sk. *tįtəŋ* (SkW 1075) | Km. *tedəŋ* (KSz 1180) | Mt. *tidEŋ* ~ *tüdEŋ* (MS 1012 **tįteŋ*)
Sammallahti 1988: 540; SW: 160; UEW: 445–446.

154. PU **sęni* > PS **cęn* ‘sinew : жила’
Ng. *taŋ* (NgSl.) | EnT *tiʔ* (EnSl.) | EnF *tiʔ* (EnWl.) | NeT *teh* (T65) | NeF *tĕŋ* (NeSl. *teŋ*) | Sk. **čęn, čī̆nə-* (SkW: 1122) | Km. *ten* (KmSz.) | Mt. *tęn* (MtSpr: 1004)
Aikio 2012: 231; Sammallahti 1988: 548 (PFU); SW: 32–33.
— The development from PU **s-* to Sk. *č-* is irregular; expected would be ***t-* (cf. Aikio 2012: 231). It is technically impossible to tell for certain if the irregularity occurred in Selkup or in earlier Samoyed, since PS **t* and **c* merge in all other Samoyed languages. However, in all other cases of Selkup *č*, this is reconstructed for Proto-Samoyed, so that the internal logic of the reconstruction demands PS **cęn* rather than PS **tęn* in the absence of good arguments in favour of the latter reconstruction.

155. PU **si*/*äwi* > PS **tiə* ‘year ring (of tree) : годичное кольцо на дереве’
Ng. (C) *tĭ̂* (SW) | EnT *ťii* (EnSl.) | NeT *tyí* | NeF *tyĭ* (NeSl. *čĭ*) | Sk. *tū̆* ‘fibre (in tree) : Faser (im Baum)’ (SkW 952)
Aikio 2012: 244; Sammallahti 1988: 540 (**süxi*).
— The Proto-Uralic reconstruction is made uncertain due to SaaS *sïeve* ‘line, streak’ indicating *säwi* rather than *siwi*, but for the **i* of Samoyed PS **tiə*, PU **siwi* seems to work quite well (see Aikio 2012: 244). A vowel sequence like **iə* resulting from PU **Vwi* is unusual, however, as **Vwi* normally yields a simple vowel **V* (cf. subsection 3.4.3).

156. PU **soski-* > PS der. **tåtu-* (?**tåtâw-*) ‘chew : жевать’
Sk. *tutu̲-* (SkW 1068) | Km. *tudo-* (KSz 1256)
Sammallahti 1988: 540; Zhivlov 2016: 299

— The word family PS **tât³wå-* 'chew' to Ng. *tubuďa* (NgSl.), EnT *tôʔa-* (EnSl.), NeT *təqwa*(*sy*°), Mt. *toʔbə-* (MS 1039) looks superficially similar, and is hesitantly compared by Helimski (MS), but proper reconciliation with the Selkup and Kamas forms from PS **tåtu-* is difficult. The vowels and the internal consonants do not match.

157. PU **suγi-* > PS **tuə̂-* 'row : грести'

Ng. der.instr. *tuobsa* (NgSl.) | Sk. *tū-* (SkW 941) | Km. der. *tuʔ-* (KSz 1254)

Sammallahti 1988: 540; SW: 166; UEW: 449–450.

— The vowel sequence is necessary for the Nganasan instrument noun, which should have been ***tubsa* if derived from a stem **tu-*; Sk. *tū-* also accords better with a vowel sequence than with a simple vowel, cf. PS **ju-* 'melt : Schmelzen' > Sk. *ću-* 'id' (SkW 1427).

158. PU **suδ´a* > PS **tə̂jå* 'finger : палец'

Mt. *taja* (MS 941)

Janhunen 1981: 224; Sammallahti 1988: 540 (**suwδ´å*); UEW: 449.

— The hypothetical connection with SaaN *čuvdi*, etc., requires a PU **ćuwδ´a*, while the Ugric cognates and Samoyed (Mator) require initial **s-* and do not show any **-w-* (see although the latter may in principle have been lost regularly, there are no parallels to confirm or disprove such a loss).

159. PU **suksi* > PS **tutə̂* 'ski : лыжа'

Ng. *tutə* (NgSl.) | EnT *tuδo* (EnSl.)

Sammallahti 1988: 540; UEW: 450.

— Sk. *tāt-* 'gehen, Ski laufen' (SkW 1043) is connected by UEW, but this would rather have to go back to a pre-form **tat-* and cannot regularly be derived from PS **tutə̂*.

160. PU **suŋi* > PS **tə̂ŋ* 'summer : лето'

Ng. *təŋə* (NgSl.) | EnT *too* (EnSl.) | EnF *tɔɔ* (EnWl.) | NeT *təh* (T65) | NeF *tăŋ* (NeSl. *taŋ*) | Sk. *taŋə* (SkW 1211) | Km. *taŋa* (KSz 1146) | Mt. der.adv. *taŋan* (? *taŋən*) (MS 962)

Sammallahti 1988: 540; SW: 148; UEW: 454.

— Nenets does not have a final **-ə̂* in this word, as expected due to apocope; in the other branches, a **-ə̂* was probably analogically introduced to the base word from forms like the adverbial **tə̂ŋə̂n*, adjectival **tə̂ŋə̂jə̂*, or other such derivations. Enets *toʔ* (from **tə̂ŋ*) seems to be attested in older material (see SW).

161. PU **süli* > PS **tij* ‘fathom : сажень’, der. **tijmä* ‘id.’
Ng. (C) *t'ĭmi* (SW) | EnT *ćiee* (EnSl.) | EnF *čibi* (M 305) | NeT *tyíbya* (T65) | NeF *tyimya* (NeSl. *čimja*) | Sk. *tī* (SkW 962) | Mt. *timE* (? *tīmE*) (MS 1020)
Sammallahti 1988: 540; SW: 163; UEW: 444.

162. PU **šelki-* > PS **tej-* (or **teə-* ?) ‘fly (pfv.) : полететь, улететь’, der.ipfv. **tej-r-* ‘fly (ipfv.) : летать, лететь’
Ng. (der.?) *təuď'i*, der.ipfv. *təirśi* (NeSl.) | EnT *ćio-*, der.ipfv. *ćiir-* (EnSl.) EnF *či-*, der.ipfv. *čir-* (EnWl.) | NeT *tyísy°*, der.ipfv. *tyírcy°* (T65) | NeF *tyisy°*, der.ipfv. *tyiłsy°* (NeSl. *čiš*, *čiłьš*) | Sk. *tī-* (SkW 965) | Mt. *ti-* (? *tī-*) (MS 1009)
Aikio 2002: 26; Sammallahti 1988: 550 (PFU); SW: 161–162 (**ti-* ? **tij-*).
— PS **tej-* (in the older reconstruction, **tij-*) is normally given as the Proto-Samoyed stem, but EnT *ćio-* may instead point to **teə-*; this is expected to become NeT *tyí-*, NeF *tyi-* in the same way as **tej-*, and the other languages are not entirely clear either. The vowels in the Nganasan forms are difficult to understand. While *təirśi* ‘fly (ipfv.)’ may reflect PS **tej-r-* (or **teə-jr-*?), the second-syllable vowel of the perfective *təuď'i* ‘fly (pfv.)’ is unaccounted for; cf. Kaheinen (2023: 172–173). Since *təuď'i* is disyllabic, it might match EnT *ćio-*, but it is unclear how exactly.

163. PU **šęra-* > PS **tįrå-* ‘dry out (intr.) : высохнуть’
EnT *tira-* (EnSl.) | EnF *tira-* (EnWl.) | NeT *tira(sy°)* | NeF *tĭłasy°* (NeSl. *tĭ̆łaš*) | Sk. *tįr̲ə̲-* ? (SkW 1299, meaning not entirely certain) | Mt. der.adj. *tiri*, der.caus. *t(i)ribtə-* (MS 1028, 1029)
SW: 160; UEW: 502; Zhivlov 2023: 160.

164. PU **taka-* > PS **takə̂-* adv., postp. ‘the back : задняя часть’
Ng. lat. *tagə*, loc. *takənu*, abl. *takəðə* (NgSl.) | EnT loc. *taxane*, abl. *taxaδ* (EnSl.) | EnF *taxa* (EnWl.) | NeT lat. *tyax°h*, loc. *tyax°na*, abl. *tyaxəd°* (T65) | Sk. *tāk-* (SkW 1155) | Km. *tak-* (KSz 1121)
SW: 154; UEW: 506–506.
— The expected form is PS **takə̂* with the final vowel, so the consonant-final especially seen in Selkup is probably analogical.

165. PU **talwa-* > PS **tåjwå-* 'reach : добраться'
Ng. *tojbusa* (NgSl.) | EnT *taa-* (EnSl.) | EnF *tɔɔ-* (EnWl.) | NeT *tæwə*(*sy*°) (T65) | NeF *tăwăsy*° (NeSl. *tëwaš*) | Km. *tu-* (KSz 1253) | Mt. *tajbə-* (MS 942)
Aikio 2002: 29–30; SW: 146.

166. PU ?**täγδi* or **täwδi* > PS **tärə* 'contents; full : содержимое; полный'
Ng. *ťerə* (NgSl.) | EnT *tero* (EnSl.) | EnF *tɛro* (EnWl.) | NeT *tyer*° (T65) | NeF *tyeł*° (NeSl. *čeł*) | Sk. *tīr* (SkW 1295)
Aikio 2002: 31–34; Sammallahti 1988: 550–551 (FU); SW: 158 (**terə̂* ~ **tirə̂*); UEW: 518; Zhivlov 2023: 167.
— Salminen (2023: 392) argues for a Proto-Samoyed reconstruction with retained **-w-* to account for the Selkup long vowel reflex *ī*, but Helimski has shown that PS **tärə* (SW notation **terə*) regularly yields Proto-Selkup **tīrə* (Helimski 2007: 129). Aikio's reconstruction PU **täwδi* (Aikio 2002: 31–24) would show a different vowel development from PU **käwδi* 'rope' > PS **kürə* and also PU **jäwji* 'lichen' > PS **jüjə*, so that Zhivlov's reconstruction as **täγδi*, with **γ* rather than **w* may be preferable (Zhivlov 2023: 167).

167. PU **täwiw* > PS ?**tä*/*ew* 'lung : лёгкое'
Ng. der. *ťeińďə* (NgSl.) | EnF der. *čiji* (EnWl.) | NeT der. *tyiwak*° (T65) | Sk. *tū̄* (SkW 956) | Km. *tu* (KSz 1252) | Mt. *tüh* (MS 1081)
Sammallahti 1988: 541; SW: 164.
— The vowel is difficult to reconstruct. Ng. *ťeińďə* should probably reflect PS **ä* rather than **e*, since **e* normally becomes Ng. *ï* or *i*, but **e* fits better with the *i* in Enets and Nenets. The other reflexes are more ambiguous, with rounding effects of the **w* having changed the vowel quality.

168. PU **tinä* > PS **tän* 'you (2sg.) : ты'
Ng. der.? *tənə* (NgSl.) | EnT der. *toďi* (EnSl.) | Sk. *tan* (SkW 1100) | Km. *tan* (KSz 1136) | Mt. *tən* (MS 928)
Janhunen 2013: 214; SW: 147.

169. PU **toγi-* > PS **tå-* (~ **tə̂-*) 'bring, give : давать', der. **tə̂tå-* 'id.'
Ng. imp. (T) *tə?* (SW), der. *tətuďa*, imp. *təðu?* (NgSl.) | EnT *ta-*, der. *teδa-* (and *toδa-*) (EnSl.) | EnF *taa-*, der. *tɔza-* (EnWl.) | NeT *tasy*°, fut. *tətə-* (T65) | NeF *tasy*° (NeSl. *tāš*) | Sk. der. *tat-* (SkW 1042) | ? Km. *det-* | Mt. ? *ta-* (MS 930)

Sammallahti 1988: 550; SW: 145; UEW: 529–530.

— Strikingly, the reflex PS **tå-* from PU **toγi-* is different from PS **ńo-* 'pursue' from PU **ńoγi-*. PU **o* normally becomes PS **å* in stems of the type **CoCa* or **CoCCi*, not in the type **CoCi* as here. To understand this, we could potentially consider forms like the aorist stem PS **tå-ŋå-* (NeT *ta*°) or the imperfective participle PS **tå-ntå* (NeT *tana*), which can be derived regularly from the consonant stem as in **toγ-ŋå* and **toγ-ntå* with disappearance of the **γ* and a shift from PU **o* to PS **å*. The reflex **tə̂-* in the derivative **tə̂tå-* has a wide distribution in Samoyed as well, but there is no known parallel for the development from PU **o* to PS **ə̂*. If there was a variant PU **tuγi-*, the **ə̂* in PS **tə̂tå-* could be explained as an effect of a following suffixal **-å* in **tə̂tå-*, as argued by Peyrot (2019b: 193), but then the vowel difference between a hypothetical **tuγ-tå-* on the one hand and **toγ-ntå* (etc.) on the other would still need to be accounted for. The other evidence supports **toγi-* (e.g., SaaN *duohkat* 'sell' rather than ***duhkat*), so that Peyrot's explanation for the vocalism of the derivative **tətå-* cannot be confirmed.

170. PU **toli-* (**tuli*) > PS **toj-* ~ *tu-* 'come : прийти, приехать'

Ng. *tujśa*, cneg. *tuʔ* (NgSl.) | EnT *tə̂-*, cneg. *tuʔ* (EnSl.) | EnF *to-* (EnWl.) | NeT *tosy*°, cneg. *tuq* (T65) | NeF *tosy*°, cneg. *tŭq* (NeSl. *toš*, *tu"*) | Sk. *tɨ̄-* (SkW 958) | Km. *šo-* (KSz 1070) | Mt. *toj* (MS 1047)

Sammallahti 1988: 540; SW: 164; UEW: 535.

— The connegative/imperative form of Tundra Enets and both Tundra and Forest Nenets seems to reflect PS **tu-k*, with a different vowel than the one found in the normal stem **toj-* (Nganasan *tuʔ* is ambiguous and can reflect either PS **tuk* or **tok*). To my knowledge, this vowel discrepancy is not explained, and there seems to be no productive way to obtain it within Samoyed. The Finno-Ugric languages reflect a preform **tuli-* rather than **toli-*. If departing from PU **tuli-k* in the connegative/imperative, PS **tuə̂k* should be expected, whence NeT ***túq*, NeF ***tuq* with a long vowel and Ng. ***tuoʔ* with a vowel sequence. Thus, I see no regular way to derive PS **tu-k*.

171. PU **tolwa* > PS **tajwå* 'nail, wedge : гвоздь'

EnT *tea* (EnSl.) | NeT *tyíwa* | NeF *tyewa* (L ± *ťśťèββaə̂* SW) | Mt. *täjbä* (MS 975)

Aikio 2002: 54 fn. 8; SW: 154.

172. PU **tora-* > PS der. **tåro-* 'wrestle : бороться'
Ng. der. *torasa*, der. *torarsa* (NgSl.) | EnT der. *tarur-* (EnSl.) | EnF *tarur-* (EnWl.) | NeT der. *tarocy°* (T65) | Mt. *toro-* (MS 1064)
Samallahti 1988: 540; SW: 152; UEW: 531.

173. PU **totki* > PS der. **tåtu* 'crucian carp : карась'
Sk. *tutu* (SkW 1066)
UEW: 532; Zhivlov 2016: 299.

174. PU **towi* (**tuwi*) > PS **to* 'lake : озеро'
Ng. der. *turku* | EnT *tu* ? (EnSl.) | EnF *to* (EnWl.) | NeT *to* (T65) | NeF *tŏ* (NeSl. *to*) | Sk. *tō~tū*, *to-* (SkW 936) | Km. *tu* (KSz 1251) | Mt. *toh* (MS 1043)
Gusev 2008; Sammallahti 1988: 540 (**toxɨ*); SW: 164; UEW: 533.
— The Finno-Ugric languages reflect a preform **tuwi* rather than **towi*.

175. PU **tuli* > PS **tuj* 'fire : огонь'
Ng. *tuj* (NgSl.) | EnT *tu* (EnSl.) | EnF *tu* (EnWl.) | NeT *tu* (T65) | NeF *tŭ* (NeSl. *tu*) | Sk. *tū* (SkW 954) | Km. *šü* (KSz 1088) | Mt. *tuj* (MS 1085)
Sammallahti 1988: 540; SW: 166; UEW: 535.

— PU **tuli-* 'come' → see **toli-*.

176. PU **tulka* > ? PS **tuå* 'feather, wing : перо, крыло'
Ng. *ťüo* (NgSl.) | EnT *tua* (EnSl.) | EnF *tɔ* (EnWl.) | NeT *to* (T65) | NeF *tŏ* (NeSl. *to*) | Sk. *tū* (SkW 940) | Mt. *tua*, *tuga* (? *toga*) (MS 1070)
Aikio 2012: 229; Sammallahti 1988: 540; SW: 166; Zhivlov 2023: 164.

177. PU **tumti-* > PS **tumtə̂-* 'know, recognize : узнать'
Ng. *tumtəďa* (NgSl.) | EnT *tudo-* (EnSl.) | EnF *tudu-* (EnWl.) | NeT *tumtə*(*sy°*) (T65) | Km. *tĭmnə-* (KSz 1207) | Mt. *tumdə-* (MS 1091)
Sammallahti 1988: 541; SW: 167; UEW: 536.

178. PU **tunta-* > PS **tə̂ntå* 'teach: учить', der. *tə̂ntö-* (?**tə̂ntåw-*) 'learn : учиться'
EnF *tadda-* (M 2433) | NeT der. *tənara*(*sy°*) 'punish, teach : наказать, проучить', der. *tənyo*(*sy°*) 'calm down : угомониться' (T65) | Sk. **tan*(*t*)*ə̲-* (SkW 1105)
Aikio 2002: 44–45; SW: 147.

— PU **tɯwi* 'lake' → see **towi*.

179. PU **tütki-* > PS **titə-* 'open : открыть'
Sk. *tītə-* (SkW 1096) | Km. *šiʔdə-* (KSz 1060)
Aikio 2006a: 26.

180. PU **uji-* (?**owji-*) > PS **uə̂-* 'swim : плыть'
NeT der. *ŋoxolcy°* (T65) | NeF *ŋusy°* (Salminen 2012: 349), der. *ŋuxułsy°* (L *ŋūxur'ś*) | Sk. *ū-*, der. *ūqəl-* (SkW 4) | Mt. *u-* (? *ū-*) (MS 1108)
Aikio 2020: 82 (PU ?**owji-*; PS **uə̂-*); Salminen (2012: 349–350; PS **uj-*); Sammallahti 1988: 536 (PU **uxi-*, PS **u-*); SW: 29.
— As Aikio (2020) points out, Salminen's (2012) reconstruction as PS **uj-* does not accord with the Selkup vowel, which should have become Sk. ***ūː*; PS **uə̂* regularly yields NeT *ú* and Sk. *ū*, rendering PS **uə̂* the more fitting reconstruction.

181. PU **ukti* > PS **utə̂* 'way, track, footprint : путь, след'
Ng. *ŋutə* (NgSl.) | EnT der. *uδi* (EnSl.) | EnF *uʔ* (EnWl.) | NeT *ŋuq* (T65) | NeF *ŋut°* (NeSl. *ŋut*)
Aikio 2012: 230; 2020: 86; SW: 30 (**uə̂t*); UEW: 546 (**utka*).
— Ng. *ŋutə* and NeF *ŋut°* point to PS **utə̂* while EnF *uʔ* and NeT *ŋuq* point to PS **ut*; PS **utə̂* is the expected form on account of the Proto-Uralic cluster **-kt-*, after which PU **-i* is normally preserved (cf. section 3.3).

182. PU **ulki* > PS **uj* 'pole : шест'
Ng. *ŋüj* (NgSl.) | EnT *ŋu* (EnSl.) | EnF der. *ŋuzu* (EnWl.) | NeT *ŋu* (T65) | NeF *ŋŭ* (NeSl. *ŋu*) | Sk. *ūˑ* (SkW 8)
Aikio 2002: 26; Sammallahti 1988: 536; SW: 29–30; UEW: 543.

183. PU **üli* > PS **i-* 'on; space above, top : на; вершина'
Ng. *ńi* (NgSl.) | EnT *ńiʔ* (EnSl.) | EnF *n'i* (EnWl.) | NeT e.g., lat. *nyih*, abl. *nyid°* | NeF e.g., loc. *nyĭnya*, abl. *nyĭt°* (NeSl. *ninja*, *nĭt*) | Sk. *i-* (SkW 10) | Km. *ni* (KSz 0690) | ? Mt. ?der. "нем-" ? *ńim-*, *nim-* 'raise : hochnehmen, heben' (MS 734)
Sammallahti 1988: 536; SW: 26.
— With the initial nasal in all Samoyed languages except Selkup seems to be taken over from the genitive **-n* (SW 26). The reduction to PS **i* rather than

more expected **ij* or **iə* is probably because this is a postposition, a function word, which are susceptible to phonological reductions.

184. PU ?**ülkä* > ? PS **ij* 'son : сын'
? NeT der. *nyícy*° 'calve : отелиться' | Sk. *ī* (SkW 13)
Aikio: 2020: 95.
— The phonological development from PU **ülkä* (PSaa. **ęlkē* 'son', Fi. *ylkä* 'bridegroom') to PS **ij* would require a development as though it were **ülki*, like in **ulki* 'pole' to PS **uj*. This could be paralleled in **pälkä* (q.v.) but remains poorly understood (see Aikio 2020: 95).

185. PU **üwä* > PS **(n/j)iə* 'belt : пояс'
Ng. der. *ŋiəďə* | EnT *niojo* (EnSl.) | EnF *n'eju* (EnWl.) | NeT *nyí* (T65) | NeF *nyǐ* (NeSl. *ni*) | Sk. *ćī̆* (SkW 1433) | Km. *t'i* (KSz 1361) | Mt. *Ni* (MS 750)
Aikio 2012: 230; Sammallahti 1988: 536 (?**üxji*); SW: 102; UEW: 90 (**jäje*).
— Ng. *ŋiəďə* should derive from **iə* rather than from **niə* or **jiə*. The initial **n-* (in Enets and Mator) and **j-* (in Selkup and Kamas) are both prothetic elements. In Nenets the initial nasal would be automatic in any case.

186. PU **wajŋi* > PS **wajŋ* 'breath; soul : дыхание, душа'
Ng. der. *baťüʔ*, der. *baťəďa* 'breathe : дышать' (NgSl.) | EnT ? *beu*, der. *beduʔo* (EnSl.) | EnF *beduʔ* (EnWl.) | NeT der. *yínt°q* (T65) | NeF der. *wyent°* (NeSl. *wjent*) | Sk. *kuâj(i)* (SkW 2078) | Km. *majə* (KSz 541) | Mt. der. *möjüh* (? *mojuh*) (MS 684)
Sammallahti 1988: 541; SW: 173; UEW: 552–553.

187. PU **wala* > PS **wålä* 'song : песня'
Ng. *bəlï* (NgSl.) | EnT *bare* (EnSl.) | EnF *bare* (EnWl.) | ? NeT der.? *wal°q*
Aikio 2006: 26–27; UEW: 812.

188. ? PU **wali-* > PS **wåâ-* 'speak, promise : говорить, обещать', der.n. *wåâtå* 'word : слово'
Ng. *buoďa*, der.n. *buodu* (NgSl.) | EnT *baa-* (EnSl.) | EnF der.n. *baza* (EnWl.) | NeT *wasy°*, der.n. *wada* (T65) | NeF der.n. *wata* (NeSl. *wāta*) | Mt. der.n. *bāda* (MS 89)
SW: 171.
— A hypothetical Proto-Uralic verb corresponding to the noun PU **wala* > PS **wålä* 'song' with the same stem-final vowel alternation between **-i* and **-a* in verbs and nouns as discussed briefly by Aikio (2002: 54 fn. 10). The

reconstruction to PU **wali-* is based on this likely relationship to the noun **wala* 'song', which is found in other Uralic languages as well. The phonological development would be entirely parallel to that of PU **kali-* > PS **kåâ-* 'die'. Not the same word as PU **wali-* 'carve', which is unknown from Samoyed.

189. PU ±**wančaw* > PS **vånco* (**våncåw*) 'root : корень'
Ng. *bəntu* (NgSl.) | EnT *badu* (EnSl.) | EnF *badu* (EnWl.) | NeT *wano* (T65) | NeF *wanu* (NeSl. *wanu*) | Sk. *končə* (SkW 2023) | Km. *mona* (KSz 0614) | Mt. *mondo*(*h*) (MS 689)
Sammallahti 1988: 541 (**vånčå*); SW: 171 (**vånc3* ? **våncâj*); UEW: 548–549.

190. PU **wara* > PS **vårå* 'mountain, ridge : гора, скала'
Ng. *bəru* (NgSl.) | Sk. *kūrə* (SkW 2288) | ? Km. *bor* (KSz 0146)
Aikio 2006a: 27–28; Sammallahti 1988: 551 (PFU).

191. PU **watka-* > ? PS **våt-* 'debark (a tree) : обдирать'
NeT *wacy*°, der. *watə*(*sy*°) (T65)
Aikio 2015b: 56; UEW: 561.

— The combination of loss of the final vowel and the development of the first-syllable vowel is aberrant: expected would be PS ***vatâ-* (NeT ***yadə*(*sy*°)), secondarily **vat-* (NeT ***yacy*°) or PS ***våtå-* (NeT ***wada*(*sy*°)), based on the behaviour of other, structurally similar words. A reconstruction PU **wotka-* would be better for Nenets, as this could yield PS **våt*(*â*) and thus NeT *wacy*° similar to PU **woča* to PS **våc*(*â*), NeT *waq* 'enclosure', but this does not work for the other Uralic cognates like MdE *vatka-* 'debark'. Other possible reconstructions based on the Nenets form are PS **våk-*/**vås-*/**våc-*, which, combined with the unexpected vocalism, makes the Uralic etymology less than compelling, despite the good semantic match and general phonological similarity.

192. PU **weɣi-* > ? PS **i-* 'take : брать'
Sk. *ī-* (SkW 14) | Km. *ī-* (KSz 0229)
Aikio 2013: 171.

— The initial **w-* was apparently unstable, and disappeared in a few cases, cf. PU **woli-* 'be' > PS **åâ-*, **åj-* and PU **woδ´i* 'new' > PS **oj-*. This is similar to the disappearance of the other glide **j-* in PU **jɛ̨ki-* 'drink' to PS **ɛ̨-* and in PU **joŋsi* 'bow' everywhere except in Nganasan.

193. PU **weti* > PS **wet* 'water : вода'
Ng. *bi?* (NgSl.) | EnT *bu?* (EnSl.) | EnF *bu?* (EnWl.) | NeT *yiq* (T65) | NeF *wyǐq* (NeSl. *wi"*) | Sk. *üt, ūtə-* (SkW 107) | Km. *bü* (KSz 0172) | Mt. *bü* (MS 143)
Sammallahti 1988: 541; SW: 176; UEW: 570.

194. PU ±?**wijit(t)i* > PS **wüät* 'ten : десять (10)'
Ng. *büi?* (NgSl.) | EnT *biu?* (EnSl.) | EnF *biu?* ~ *bi?* (EnWl.) | NeT *yúq* (T65) | NeF *juq* (NeSl. *dju"*) | Sk. *kōt* (SkW 1965) | Km. *ńe?n* (KSz 0187) | Mt. *čūt~čū?n* (MS 245)
Aikio 2012: 241–242; Sammallahti 1988: 541; SW: 177; UEW: 577.
— In NeF ***wyuq* would be expected rather than *juq*. The exact Proto-Uralic reconstruction is unclear, cf. Aikio (2012: 241–242).

195. PU **wiγi-* > ? PS **ü-* 'drag : тащить', der. *ükəl-* 'id.'
NeT der. *nyuxəlye(sy°)* (T65) | Sk. *ū-*, der. *ūqəl-* (SkW 9)
Helimski *apud* Aikio 2002: 49; SW: 30–31.

196. PU **woča* > PS **wåc(ə̂)* 'enclosure : загон'
Ng. (T) *bə?* (SW) | EnT *ba?* (EnSl.) | NeT *waq* (T65) | NeF *wat°* (NeSl. *wat*) | Sk. der. *kuə̂čʊ* 'fishing weir; tributary : Damm, Wehr; Zufluß' (SkW 1903)
Aikio 2015b: 62; Sammallahti 1988: 541; SW: 171; UEW: 577–578.
— Cf. also Sk. *quə̂ččə* 'town : Stadt' (SkW 1912), which is given as the Selkup reflex by UEW. However, the initial *q-* is at least unexpected (normally PS **w-* to Sk. *k-* with possible assimilation to a following *-q-*, of which this word has none), and so is the geminate *-čč-*. The second-syllable vowel is clearly lost in Nganasan, Tundra Enets and Tundra Nenets, perhaps due to analogical removal from expected PS **wåcə̂*. Forest Nenets *wat°* could reflect this expected pre-form, but it may also have (re-)obtained a second-syllable schwa secondarily as the result of an analogical change in the opposite direction.

197. PU **woδ´i* (or **wuδ´i*) > PS **oj-* 'new : новый'
SkTaz der.adv. *oćiŋ* 'again, anew' (Zhivlov 2023: 166)
Sammallahti 1988: 551; UEW: 587; Zhivlov 2023: 166.
— The Finno-Ugric language reflect a preform **wuδ´i* rather than **woδ´i*. The initial **w-* was apparently unstable, and disappeared in a few cases, cf. PU **woli-* 'be' > PS **åə̂-*, **åj-* and PU **weγi-* 'take' > PS **i-*. This is similar to the

disappearance of the other glide **j-* in PU **jęki-* 'drink' to PS **ę-* and in PU **joŋsi* 'bow' everywhere except in Nganasan.

198. PU **woli-* 'be' > PS **åə̂-* ~ **åj-* (?**aj*) 'be : быть'

Ng. (**åə̂-*) imp.2sg. *ŋuo?* | EnT *a-* (EnSl.) | EnF (**åj-*) *ɛ-*, (**åə̂-*) *ŋa-* (EnWl.) | NeT (**åj-*) *ŋæsy°*, (**åə̂-*) *ŋa-* (T65) | NeF *ŋäsy°* (NeSl. *ŋëš*) | Sk. (?**aj-*) **ē-* (SkW) | ? Km. (?**aj*) *i-* (KmSz.) | Mt. (?**aj-*) *äj-* (MS 59)

Janhunen 2020: 134–135; SW: 16–17; UEW: 580.

— The initial **w-* was lost irregularly. This verb shows an alternation between reflexes of PS **åə̂* and **åj* in Nenets and in Forest Enets (the two sequences regularly merge in Tundra Enets); cf. Janhunen (2020: 134–135). I think that PS **åə̂* represents the original vowel stem of **woli-*, while PS **åj-* reflects the consonant stem **wol-*, used before suffixes longer than a single consonant. The southern Samoyed languages seem to reflect a vowel **a* rather than **å*, an issue that is found in various words and still requires a proper explanation. Kamas *i-* is put here as well in SW, but this may rather reflect PS **(j)i-* 'be', as in Ng. *iśa* (suppletive with imp.2sg. *ŋuo?*), NeT *yib°q* 'if it is' (see Janhunen 2020).

199. PU **wolka* > PS **wajk* 'shoulder : плечо', der. *wajkkə̂* 'neck : шея'

Ng. der. *bakəðəə* (NgSl.) | EnT der. *beko* (EnSl.) | EnF der. *bɛko* (EnWl.) | NeT der. *yík°* (T65) | NeF der. *wyeqk°* (NeSl. *wje"k*) | Sk. *quə̂q* 'shoulder' (SkW 2106) | Km. der. *bajkə* (0091) | Mt. der. *bäjkä* (?) K ~ *böjkö* (? *büjkü*) M (MS 107)

Sammallahti 1988: 551 (PFU); SW 173; UEW: 581.

— The loss of PU **-a* may have occurred via a reduction to **-ə̂*, cf., e.g., PU **woča* 'enclosure' > PS **wåc*. The development of PU **-lk-* to PS **-jk-* seems to be unique to this word, cf. PU **ulki*, PU **ülkä*, PU **šelki-*, PU **tolka*, where the cluster develops like **-j-*. A hypothetical PU **wolkka* cannot account for this, since such a reconstruction is incompatible with cognates such as SaaN *oalgi* (rather than ***oalki*) and Fi. *olka* (rather than ***olkka*).

200. PU **woŋki* > PS **wåŋkə̂* 'hole, cave : яма'

Ng. *baŋkə* 'dugout : землянка' (NgSl.) | EnT *bago* (EnSl.) | EnF *bago* (EnWl.) | NeT *waŋk°* (T65) | NeF *wāŋk°* (NeSl. *waŋk*)

Sammallahti 1988: 551; SW: 171–172; UEW: 583; Zhivlov 2023: 163.

— PU **wuδ´i* 'new' → see **woδ´i*.

201. PU *(*w*)*uwa* > PS **wuə̑* ‘current : течение’
Ng. *buo* (NgSl.)
Aikio 2012: 244.
— The Saami cognates such as SaaN *avvit* ‘flow’ do not show the initial **w*- reflected in the Nganasan *b*-, meaning that it was either irregularly lost in Saami or irregularly added in Samoyed/Nganasan.

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DThTA = Carling & Pinault 2023.

EnSl. = Евгений Хелимский. Энецкий словарь. [Eugene Helimski. Enets dictionary.] Manuscript.

EnWl. = Olesya Khanina & Andrey Shluinsky. Forest Enets wordlist. Manuscript.

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KSz = Janurik 2021.

LIV = Rix & Kümmel 2001.

MS = Helimski 1997.

NeSl. = Barmič & Vello 2002.

NgSl. = Kosterkina, Momde & Ždanova 2001.

SkW = Alatalo 2004.

SW = Janhunen 1977.

SWTF I = Waldschmidt & Bechert. 1973.

T65 = Tereščenko 1965.

UEW = Rédei 1988–1991.

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