

Studies in Uralic vocalism II: Reflexes of Proto-Uralic **a* in Samoyed, Mansi and Permic¹

The paper presents a set of rules that explain the complementary distribution of the reflexes of alleged Proto-Uralic vowels **i* and **ä* in Proto-Samoyed, Proto-Mansi and Proto-Permic. Our aim is to show that the reconstruction of one vowel **a* instead of these two phonemes is sufficient for the explanation of all the reflexes in the languages under consideration.

Keywords: Uralic languages, Finno-Ugric languages, Samoyed languages, Mansi language, Komi language, Udmurt language, comparative phonology, linguistic reconstruction, Proto-Uralic vocalism.

Most present day works dealing with historical phonology and etymology of Uralic languages accept that in the first syllable of some Proto-Uralic lexical stems there must have been a high unrounded back vowel. This phoneme, usually marked as **i* and sometimes as **i̯*, is absent in most early variants of the Proto-Uralic reconstruction as well as in the reconstruction system tentatively used in UEW, but is present in works by Juha Janhunen, Pekka Sammallahti and their followers [Sammallahti 1979; Janhunen 1981; Sammallahti 1988; Aikio 2002; Aikio 2006]. A version of Finno-Ugric historical phonology giving the same vowel the status of a proto-language phoneme was suggested already by Wolfgang Steinitz [Steinitz 1944].

The reason why the vowel system of Proto-Uralic was enlarged by **i* is that Balto-Finnic **a* of the first syllable together with its counterparts in Mordvinic, Saami and Mari has a variety of correspondences in other Uralic languages, in particular in Samoyed.

As demonstrated in [Janhunen 1981], Proto-Samoyed counterparts of the West Uralic **a* include, besides **ä*, also **i* and **e*. Considering this fact, Janhunen suggests that Samoyed **ä*, corresponding to Finno-Permic **a*, goes back to Proto-Uralic **ä* and Samoyed **i* (as well as **e*), as a counterpart of Finno-Permic **a*, reflects Proto-Uralic **i*. Thus the original system distinguishing **ä* and **i* would have been preserved in Samoyed, while in Finno-Permic the two phonemes in question would have merged in **a* (although some traces of Proto-Uralic **i* would have remained in Ugric) [Janhunen 1981: 227–229, 233–234, 236–237].

In works by Pekka Sammallahti, particularly in his fundamental article, dedicated to the historical phonology of Uralic languages, evidence for Proto-Uralic **i* (**i̯* in Sammallahti's notation) is found, besides Samoyed and Ugric, also in Permic. According to Sammallahti (as can be inferred from [Sammallahti 1988], although the phonetic rules assumed by the author are not given an explicit wording), the development of Proto-Finno-Ugric **ä*, **i*, **oo* (< PU **äx*) and **ii* (< PU **ix*) in Ugric and Permic can be formulated as follows.

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In Hungarian, PFU *i and *ii in PFU *i*-stems yield *i* or *í*, whereas PFU *â and *oo in this type of stems yield *a* or *á*. In PFU *â*-stems both *i and *â yield *a* or *á* (after a labial PFU *â yields *o* or *a* in both *i*- and *â*-stems) [Sammallahti 1988: 500–501, 513–515].

In Ob-Ugric languages PFU *i and *ii are always reflected as Proto-Mansi *ii, Proto-Khanty *aa. PFU *â in *â-stems yields Proto-Mansi *uu, Proto-Khanty *aa, while PFU *â and *oo in *i*-stems yield Proto-Mansi *aa, Proto-Khanty *oo (after a labial PFU *â gives Proto-Mansi *uu or *u, Proto-Khanty *uu in both *i*- and *â*-stems) [Sammallahti 1988: 500–507].

In Proto-Permic PFU *i yields *ÿ (PP *u in our reconstruction², see [Zhivlov 2010]), and PFU *â yields *u (PP *ö in our reconstruction) irrespective of the second-syllable vowels. PFU *ii and *oo merge and yield PP *ü (*j in our reconstruction) or *i (*e in our reconstruction), but PP *wu (*wö in our reconstruction) in the initial position [Sammallahti 1988: 522–531].

Thus, the distinction of PFU *i and *â is best of all preserved in Proto-Mansi and Proto-Permic. In the present article we will try to show that precisely in these languages, as well as in Proto-Samoyed, the reflexes of alleged *i and *â are in complementary distribution.

Before we proceed to the examination of the relevant evidence, a few preliminary remarks are in order.

Following Meri Lehtinen's ideas [Lehtinen 1967], we do not reconstruct Proto-Uralic long vowels (or combinations of vowel + *x that have replaced long vowels in Janhunen's and Sammallahti's reconstruction). Proto-Balto-Finnic *ō is, in our view, the result of regular lengthening of *a in Balto-Finnic *e*-stems before intervocalic *r, *l, *m, *n and *δ. The only clear exception to this rule is PU *pani- 'to put', reflected as *pane- in Balto-Finnic. This verb, however, has irregular vowel reflexes in Permic and Ob-Ugric as well and so can hardly be used as evidence for the opposition 'shortness vs. length'. As for the alleged correspondence between Balto-Finnic long vowels and Proto-Samoyed vowel sequences with *a [Janhunen 1981: 240], it does occur in several reliable etymologies³: PBF *kēli ~ PS *kääj 'tongue', PBF *pēli ~ PS *pea(j) or *pia(j) 'edge, side', PBF *kūsi ~ PS *kâat 'spruce' and PBF *kōle- ~ PS *kâa- 'to die'. Only the first two of these examples can be regarded as certain, since the reflexes of the word for 'spruce' in daughter languages, especially Ob-Ugric (Proto-Mansi *kaytɜ, Proto-Khanty *kal), point rather to PU *kowsi (cf. PU *täwδi > Proto-Mansi *tāyl, Proto-Khanty *täl), while in the verb 'to die' PS *a may in fact reflect PU *l [Janhunen 2007: 219]. It is not excluded that one of the sources of Samoyed postvocalic *a is a process similar to, but independent from, Balto-Finnic lengthening.

We concur with Janhunen and Sammallahti in reconstructing PU high vowel in non-initial syllables instead of the traditional *e. The fact that in Saami and Mordvinic *e of the first syllable merges with *i if the following syllable contains the vowel in question, whereas in Mordvinic *o of the first syllable merges with *u in the same position, tells us that Balto-Finnic *e in non-initial syllables must be the result of secondary development.

In a number of words, where Janhunen and Sammallahti reconstruct PU / PFU *i or *â, evidence of West Uralic languages (Balto-Finnic, Saami and Mordvinic) points rather to *u or *o. The following etymologies can be mentioned (reconstructions are given according to [Sammallahti 1988]): PU *jĩnsi 'bow' (cf. Finnish *jousi*), PU *kixi 'moon' (cf. Finnish *kuu*, Erzya and Moksha *kov*), PU *kâxli- 'to die' (cf. Erzya *kulo-*, Moksha *kulâ-*), PU *kâxsi 'spruce' (cf. Erzya and Moksha *kuz*), PU *lixī 'bone' (cf. Finnish *luu*, Erzya and Moksha *lovaža*), PU *ñâxli- 'lick' (cf. North Saami *njoallut*, Erzia and Moksha *nola-*), PFU *âñi 'mouth' (cf. Erzya *oñkśt*, Moksha

² In the present article we will use the version of Proto-Permic reconstruction suggested in [Zhivlov 2010].

³ We omit cases where internal Samoyed evidence does not allow an unequivocal reconstruction of sequences with *a.

ovâst), PFU **niri* ‘marsh’ (cf. Finnish *noro*). Such words are not examined in the remainder of the present article.

Janhunen and Sammallahti, as well as many other scholars, systematically distinguish intermediate levels of reconstruction between Proto-Uralic and lower-level protolanguages, namely Proto-Finno-Ugric and Proto-Finno-Permic. However, from the viewpoint of phonological reconstruction it is actually quite difficult to point out significant differences between Proto-Uralic, Proto-Finno-Ugric and Proto-Finno-Permic. Concerning consonantism, no differences come into question at all, and at least some of the vocalic distinctions, postulated in [Sammallahti 1988], are, in fact, mere fiction. In this paper we do not intend to join the discussion on internal Uralic taxonomy and, therefore, do not make any arguments for or against any particular variant of subgrouping for Uralic languages. In dealing with reconstructed protoforms, we will tentatively proceed from only one high level of reconstruction, identifying it as Proto-Uralic. Nevertheless, below we do note protoforms as PU, PFU or PFP. These notes do not actually refer to different levels of reconstruction. Identifying a word in this way, we only indicate how widely it is distributed in Uralic languages. On the other hand, Proto-Samoyed, Proto-Mansi, Proto-Permic, Proto-Komi, and Proto-Udmurt, as well as other low-level protolanguages, are regarded by us as absolutely real idioms with their own phonological and morphological features.

Below we demonstrate a set of rules systematizing the reflexation of Proto-Uralic **a* (corresponding to both **â* and **j* in Janhunen’s and Sammallahti’s reconstruction) in Samoyed, Mansi and Permic.

Samoyed

In Proto-Samoyed⁴, reflexation of PU **a* depends on stem type, i. e. on second syllable vowels as well as consonant surrounding. It is important to note that, while rules based on consonant surrounding sometimes have to do with the etymological nature of Proto-Samoyed consonants, i. e. with their Proto-Uralic sources, rules that concern stem type do not refer to Proto-Uralic stem-final vowels, but only to Proto-Samoyed ones.

First, we will consider a somewhat rare PS reflex of PU **a*. In some specific positions, PU **a* yields PS **a* (**ä* in Janhunen’s system). This happens if **a* is followed by a cluster beginning with a PU palatal or palatalized consonant or is surrounded by two stops or affricates.

1) PU **a* > PS **a* before clusters beginning with a PU palatal or palatalized consonant:

PU **aška*⁵ ‘to step’, **aškli* ‘step’ > PS **asəl-* (only PSIk **āsəl-*) [UEW: 19 (**aške*(~*l*), **ačke*(~*l*)); Sammallahti 1988: 542 (**āski/āli*); Aikio 2002: 40–41 (PU **aškili-*); SIkWB: 38];

PU **kajwa-* ‘to dig, to throw’, **kajwa* ‘spade’ > PS **kajwâ* ‘spade’ [UEW: 170–171 (**kojwa-*); Sammallahti 1988: 552 (PFP **ka/ojwa-*); SW: 63 (PS **käjwâ*); Aikio 2002: 41–42 (PU **kajwa-*)];

PU **wajni* ‘breath’ > PS **wajŋ-* [UEW: 552–553 (**wajŋe*); Sammallahti 1988: 541 (PU **wājŋi-*); SW: 173 (PS **wäjŋ-*)].

⁴ For Proto-Samoyed we use Juha Janhunen’s reconstruction [SW] with modifications by E. Helimski [Helimskij 1978; Helimski 2005].

⁵ Reflexes of this root in Mansi and Permic indicate that it was an *a*-stem. The vowel *e* of the second syllable in the Finnish derived noun *askel* ‘step’ is apparently part of the suffix. Whether the noun in question should be reconstructed as **aškili* on the PU level is not clear.

Apparently, this group is to be enlarged by a non-trivial case with a unique PU cluster, the first element of which seems to have been a palatalized *ń:

PU *ańti ‘horn’ > PS *amtə [UEW: 12–13 (*ańt3 / *ońt3); SW: 20 (PS *ämtə)].

Here we reconstruct the medial nasal as *ń in the light of two circumstances. First, its reflexes are generally different from those of the nasal also followed by *t in PU *ońt3 ‘sting, lance’, where we definitely deal with a velar: *ońt3 > Proto-Mansi *awtā, Proto-Khanty *ańt3-, PS *ańtə, but *ańti > Proto-Mansi *yńt3, Proto-Khanty *āńət and PS *amtə. Second and most important, the Mansi reflex is simply *ń. Note that we have no other examples of PU words with a cluster like that in the word ‘horn’.

2) PU *a > PS *a between two stops or affricates:

PU *čaća- ‘to be born, to grow’ > PS *cac3 (only PSIk *čāči) [UEW: 52 (*čāč3- ~ *čāč3-); Sammallahti 1988: 552 (PFP *čččV-), 554 (PFP *šššV-); SIkWb: 154–155];

PU *čaća- (~ *č-) ‘to move’ > PS *cac3- (only PSIk *čāčə-) [UEW: 53 (*čāč3- ~ *čāč3-); SIkWb: 155];

PU *pata- ‘to pot’, *pata ‘pot’⁶ > PS *patə- [UEW: 358 (*pata); Sammallahti 1988: 548 (PFU *pātā); SW: 118 (PS *pāt- ~ *pāt3-)];

PU *taka ‘behind’ > PS *takə [UEW: 506–507 (*taka); SW: 154 (PS *tāk(-) ~ *tākə-)].

The remaining cases of Samoyed reflexation of PU *a can be divided into two groups. In the first group the Samoyed reflexes depend on the quality of the syllable onset, in the second — on the vowels of the second syllable.

Let us look at the first group. Reflexation of PU *a depends on the syllable onset in the following cases: a) in word-initial position PU *a yields *i or *e⁷, b) in the position after *k-, PU *a yields PS *ā, c) in the position after PS dentals (except *t- < PU *s-) PU *a also yields PS *ā.

Let us list the respective cases.

3) PU *a > PS *i/*e in word-initial position:

PU *akta- ‘to hang’ > PS *itā- (tr.), *itō- (intr.) [UEW: 5–6 (*akta-); Sammallahti 1988: 536 (PU *iktā-); SW: 25–26 (PS *it3-)];

PU *ala ‘under’ > PS *ilə [UEW: 6 (*ala); Sammallahti 1988: 536 (PU *ilā); SW: 24 (PS *ilā)];

PU *ana, also in compound *ana-appi⁸ ‘mother-in-law’ > PS *inəpə [UEW: 9–10 (*an3(-pp3)); Sammallahti 1988: 536 (PU *inā-); SW: 24–25 (PS *ināpā)];

PU *ańi ‘tame’ > PS *ińə [UEW: 340 (*oń3); Sammallahti 1988: 536 (PU *ińi); SW: 25 (PS *ińā)];

⁶ Comparison of PFU *pata with PS *patə- is mentioned in [Napol’skih 1997: 124] and [Aikio 2002: 50].

⁷ As noted by Janhunen, the general rule for the distribution of *i and *e in Samoyed words going back to Proto-Uralic is that *i appears in an open syllable and *e in a closed one [Janhunen 1981: 233–234, 236]. Indeed, in all of the words containing *e, it occurs in a closed syllable (*eptə ‘hair’, *pen- ‘put’, *je(ə)m ‘bird-cherry’, *ńe(ə)j ‘arrow’, *ńer ‘cartilage’, *jepə ‘cradle’, *cən ‘sinew’), and in the words where *a > *i, the first syllable is open. The only exception is *límpə ‘marsh’.

⁸ Janhunen reconstructs this word as PU *inā + *ppi > *ināppi, suggesting that *āj yielded o in the Finnish cognate *anoppi* [Janhunen 1982: 227–228]. This reconstruction cannot explain why we see o and not oi in Finnish. We suggest another line of development: *ana + *ppi > *anappi > *anāppi > *anōppi (see above on the lengthening of *a to *ō in Balto-Finnic) > *anoppi* (*ō was shortened because of the general ban on long vowels in non-initial syllables in Proto-Balto-Finnic).

PU **apti* ‘hair’ > PS **eptā* [UEW: 14–15 (**apte*); Sammallahti 1988: 536 (PU **ipti*); SW: 21 (PS **eptā*)].

4) PU **a* > PS **ā* in position after **k-*:

PU **kaḍa-* ‘to leave’ > PS **kājā-* (tr.), **kājo-* (intr.) [UEW: 115–116 (**kaḍa-*); Sammallahti 1988: 537–538 (PU **kād’ā-*); SW: 58 (PS **kājā-* (tr.) ~ **kājā-* (intr.))];

PU **kaja* ‘sun’ > PS **kājā* [Sammallahti 1988: 538 (PU **kājā*); SW: 58 (PS **kājā*)];

PU **kala* ‘fish’ > PS **kālā* [UEW: 119 (**kala*); Sammallahti 1988: 538 (PU **kālā*); SW: 59 (PS **kālā*)];

PU **kani-* ‘to go’, **kanta-* ‘to carry’ > PS **kān-* [UEW: 124 (**kanta*); Sammallahti 1988: (PU **kāni-*); SW: 59 (PS **kān-*)];

PU **kari* ‘bark’ > PS **kār* ~ **kar*⁹ [UEW: 184–185 (**kore* / **kōre*); SW: 64–65 (PS **kār*)];

PU **kaśa-* ‘to present’ > PS **kāso* [UEW: 111 (**kaś*); Sammallahti 1988: 538 (PU **kāsī-*); SW: 61 (PS **kāsā*)].

5) PU **a* > PS **ā* in position after PS dentals (except **t-* < PU **s-*):

PU **nataw* ‘sibling / (younger) relative of spouse’ > PS **nāto* [UEW: 299–300 (**nat*); Sammallahti 1988: 539 (PU **nātiw*); SW: 98–99 (PS **nātā-*)];

PU **śada-* ‘to rain’ > PS **sārā-* ‘to rain’, **sārō* ‘rain’ [Sammallahti 1988: 540 (PU **śādā-*); SW: 135–136 (PS **sārā-* ~ **sārā-*)];

PU **śala-* ‘to flash, lighten’ > PS **sālā-* [UEW: 459 (**śala*); Sammallahti 1988: 549 (PFU **śilā-*); SW: 135 (PS **sālā-*); Aikio 2002: 27–29 (PU **śala-*)];

PU **śaŋka-* ‘to sting, stick’ > PS **sāŋk3-* ‘id.’, **sāŋkə* ‘penis’ [Aikio 2006: 24 (PU **śaŋka-*)].

PU **talja* ‘skin’ > PS **tājā*¹⁰ [UEW: 508–509 (**talja*); SW: 150 (PS **tājā*)];

PU **tanti-* ‘ground; to tread’ > PS **tāntā-* [SW: 151 (PS **tāntā-*); Rédei 1998];

PU **taśa* ‘even, exact’ > PS **tāsā* (only Nenets *tās*) [UEW: 513 (**tasa*)].

The fact that PS **t-* < PU **s-* does not behave like the other Proto-Samoyed dentals¹¹ can be explained if we suppose that at some stage, intermediate between Proto-Uralic and Proto-Samoyed, this phoneme had another place of articulation, e. g. interdental or lateral. Development *s* > *t* is found in several branches of Uralic (Samoyed, Mansi and Southern Khanty), but the only branch where we can observe intermediate stages of this development is Khanty. PU **s* yields Proto-Khanty voiceless lateral **l* that later develops into *t* in Southern Khanty, but is preserved as a lateral in other dialects. The situation that we assume for Pre-Proto-Samoyed is analogous to that of Surgut dialect of Khanty, where PU **t*, **ś*, and **n* are reflected as dentals *t*, *s*, and *n*, but PU **s* yields lateral fricative *l*.

In all the remaining cases, the quality of Samoyed reflexes of PU **a* depends on the vocalism of the second syllable. The rules can be formulated as follows: a) PU **a* yields **i* or **e*¹² in stems whose second syllable contains **ə* or **e* and in stems ending in a consonant, b) PU **a* yields PS **ā* in stems containing PS **ā*, **ä* or **o* in the second syllable.

Below we list the respective cases.

⁹ The comparison with Samoyed was suggested by E. Helimski in [Helimski s.a.], see also [Aikio 2002: 50].

¹⁰ PS **ə* in the first syllable of this word may reflect PU **l* in the position between PS **ā* and a consonant (this rule was suggested by J. Janhunen [Janhunen 2007: 219], although he did not mention PS **tājā*).

¹¹ Note that PS **c* is a retroflex affricate, not a dental one.

¹² See above on the distribution between **i* and **e*.

6) PU *a > PS *j/*ɟ in stems whose second syllable contains PS *ə or *ɛ and in stems ending in a consonant:

- PU **šami* ‘bird-cherry’ > PS **je(ə)m* [UEW: 65–66 (**šeme* / **šōme*); Sammallahti 1988: 536–537 (PU **d’ixmi*)];
- PU **lampi* ‘marsh’ > PS **lɪmpə*¹³ (underived stem is preserved in Tundra & Forest Enets *lubo* ‘clay’, Nganasan *lūŋhə* ‘marshy place’, see [Helimski s.a.]) [UEW: 235 (**lampe*); SW: 83–84 (PS **lɪmpā*- ‘sumpfig sein’ ~ **lɪmpâ*- ‘(in den Sumpf) sinken’)];
- PU **lapsi* ‘cradle’ > PS **jepsə* ~ **lepsə* [UEW: 260 (**lapć3* / **lapś3*); SW: 41 (PS **jepsâ* ~ **leâpsâ*)];
- PU **maksa* ‘liver’ > PS **miṭə* [UEW: 264 (**maksa*); Sammallahti 1988: 538 (PU **miksâ*); SW: 93–94 (PS **miṭâ*)];
- PU **nali* ‘arrow’ > PS **ne(ə)j* [UEW: 317 (**nele* / **nōle*); Sammallahti 1988: 539 (PU **nixli*); SW: 108–109 (PS **ne¹j*)];
- PU **nari*¹⁴ ‘cartilage’ > PS **ner* [UEW: 317 (**nerk3* / **nōrk3*); Sammallahti 1988: 546 (PFU **nirki*); SW: 108 (PS **ner*)];
- PU **pani*- ‘to put’ > PS **pen-* [UEW: 353–354 (**pane-*); Sammallahti 1988: 539 (PU **pini-*); SW: 118 (PS **pen-*)];
- PU **saksa* ‘cedar’ > PS **tɪteŋ* [UEW: 445–446 (**soks3* / **saks3* / **sęks3*); Sammallahti 1988: 540 (PU **siksî*); SW: 160 (PS **tɪtâjâŋ*)];
- PU **sani* ‘vein, sinew’ > PS **ceŋ*¹⁵ [UEW: 441 (**seŋe* / **sōne*); Sammallahti 1988: 548 (PFU **siini*); SW: 32–33 (PS **ceŋ*)].

7) PU *a > PS *å in stems containing PS *å, *ä or *o in the second syllable:

- PU **čanja-* ‘to strike, beat, rub’ > PS **cåŋå-* (tr.), **cåŋo-* (intr.) [UEW: 53–54 (**čañ3-*); SW: 151 (PS **t¹åŋå-* (tr.) ~ **t¹åŋâ-* (intr.))]; Aikio 2002: 11–12 (PU **čanja-*)];
- PU **lapta* ‘flat, thin’ > PS **jåptå* ~ **japtå* [UEW: 238 (**lapta*); SW: 38 (PS **jåptå* ~ **japtå*)];
- PU **pala-* ‘to bite’, **pala* ‘piece’ > PS **pålä-* [UEW: 350 (**pala*); Sammallahti 1988: 540 (PU **pålä-*); SW: 116 (PS **pålä-*)];
- PU **sala-* ‘to steal’ > PS **tålä-* [UEW: 430–431 (**sala*); Sammallahti 1988: 540 (PU **sålä-*); SW: 150–151 (PS **tålä-*)];
- PU **sarka* ‘branch, fork’ > PS **tårkå* [Sammallahti 1988: 540 (PU **sårkå*); SW: 152 (PS **tårkå* ~ **tålk3-*)];
- PU **wala* ‘word’ > PS **wålä* [UEW: 812 (**wala*); Aikio 2006: 26–27 (PU **wala*)];
- PU **wanča* ‘root’ > PS **wåncə* [UEW: 548–549 (**wač3* ~ **wanč3*); Sammallahti 1988: 541 (PU **wåncå*); SW: 171 (PS **wånc3(-)*)];
- PU **wara* ‘hill, ridge’ > PS **wårå* [Sammallahti 1988: 551 (PFU **wårå*); Aikio 2006: 27–28 (PU **wara*)].

It seems possible to add to this group also the following case:

- PU **nača* ‘moss; a kind of grass’ > PS **nåcå* [UEW: 311 (**nač3*); SW: 105 (PS **nåc* ~ **nåcâ* ~ **nåcå*)].

¹³ PU *l was apparently regularly preserved in front of *j and *ɟ in Samoyed.

¹⁴ Despite UEW, this word should be reconstructed without *-k-, as indicated by Moksha *nar* ‘cartilage’ (PU *-rk- would have been preserved in Moksha as -rg-). Curiously enough, the Moksha word is absent in all etymological sources.

¹⁵ The consonantal correspondence here is admittedly irregular. Nevertheless, the comparison with Samoyed can be accepted much in the same way as, e.g., comparison of PIE **k₁rd-* ‘heart’ with Old Indic *h₁rd-* ‘id.’ (with equally irregular consonant correspondences) is accepted in modern Indo-European linguistics.

The Nenets and Enets forms (Tundra Nenets *náda* ‘reindeer moss’, Tundra & Forest Enets *naða* ‘id.’) clearly point to PS **náca* or **nátá*, and the Selkup form (PSlk **núčə* ‘grass’ [SlkWb: 237]) may have also had an original *á*-stem. The Nganasan form (*notə* ‘grass’) reflects **náca*, but it may still be a result of a secondary (derivational?) process. On the other hand, we may be dealing here with reflexes of two different PS words: **náca* (or **nátá*) ‘reindeer moss’ and **núca* ‘grass’. In this case, only the former word (if it, indeed, contained PS **c* rather than **t*) can be included in the Uralic comparison.

Besides this, there are two cases for which we cannot determine the quality of the Proto-Samoyed vowel of the second syllable.

PU **wanča-* ‘to walk slowly’ > PS **wānc3-* [UEW: 557 (**wanča-*); Sammallahti 1988: 551 (PFU **wāncā-*); Aikio 2002: 36–38 (PU **wanča-*)];

PU **wasa-* ‘left’ > PS **wāt3-* [UEW: 559 (**wasa-*); Sammallahti 1988: 541 (PU **wāsā-*); SW: 172–173 (PS **wāt3-*)].

In addition to the groups considered above, let us mention a separate case where the reflexion of first-syllable **a* may be due to a specific word structure:

PU **jajari* ‘cross-grained wood’ > PS **jár* [UEW: 90 (**jar3*); SW: 38 (PS **jár*)].

Here the long *aa* in the Finnish reflex *jaarun* ‘cross-grained wood’ points to a deleted consonant that may be tentatively identified as **γ* (cf. PFU **maya* ‘earth, land’ > Finnish *maa*).

It seems possible to conclude that all the material which has, up till now, served as Samoyed evidence for Proto-Uralic **i*, i. e. the cases where West Uralic **a* has non-low Samoyed counterparts such as **ĩ* and **e*, can be interpreted in terms of secondary Samoyed processes caused by specific phonological positions. Some of the postulated rules may seem unusual from the typological point of view. Nevertheless, we think that such rules can be accepted as valid if they are confirmed by a sufficient number of examples and there are no counterexamples to speak of.

As noted above, Mansi and Permic have also been regarded as distinguishing between Proto-Uralic **á* (which stands for Proto-Uralic **a* in the modern variant of phonological reconstruction) and **i* [Sammallahti 1988]. Sammallahti assumes that in Proto-Mansi, **á* yields **uu* (= **ū* in the notation that we use in the present article) in **á*-stems and **aa* (= **ā*) in *i*-stems (after a labial in both types of stems **á* yields **uu* (= **ū*) or **u*), while **i* always yields **iĩ* (= **ĩ*). In Proto-Permic, on the other hand, **á* yields **u* (**ó* in our reconstruction), while **i* yields **ũ* (**u* in our reconstruction) irrespective of the type of stem (i. e. second-syllable vowel). If this really were so, we could observe the following regular types of correspondences between Mansi and Permic:

- 1) PMs **ū* ~ PP **ó* (PFU **á* in *á*-stems);
- 2) PMs **ā* ~ PP **ó* (PFU **á* in *i*-stems);
- 3) PMs **ū* or **u* ~ PP **ó* (PFU **á* after a labial);
- 4) PMs **ĩ* ~ PP **u* (PFU **i*).

In actual fact, we also find Mansi **ū* (and **u*) corresponding to Permic **u* and Mansi **ĩ* corresponding to Permic **ó*. Cf. the evidence: PMs **ńjká3m* ~ PP **ńókím* ‘gills’; PMs **šĩt3* ~ PP **só* ‘hundred’; PMs **kūlap* ~ PP **kul-* ‘net’; PMs **kūn-* ~ PP **kund-* ‘to dig’; PMs **ńūnš-* ~ PP **ńuž-* ‘to stretch’; PMs **pūnš-* ~ PP **puž-* ‘to open’; PMs **unš-* ~ PP **vuž-* ‘to walk slowly’.

Meanwhile, it turns out that at least in those cases where West Uralic languages show evidence for first syllable **a*, the appearance of **ū* or **ĩ* in Mansi, as well as that of **ó* or **u* in

Permic, is determined by historical phonological contexts. In all respective words, the Proto-Uralic source of the first syllable vowels would be *a. Like in Samoyed, the actual vowel changes depend both on consonant surrounding and on second syllable vowels, which are mostly stem-final. But, unlike in Samoyed, here it is the Proto-Uralic stem types that are relevant, which makes the picture somewhat different.

Mansi

1) PU *a > PMs *ī in *i*-stems:

- PU *ańti ‘horn’ > PMs *īńt3 [UEW: 12–13 (*ańt3 / *ońt3); Honti 1982: 128];
 PU *apti ‘hair’ > PMs *īt3 [UEW: 14–15 (*apte); Sammallahti 1988: 536 (PU *ipti, PFU *ipti); Honti 1982: 128];
 PFU *cači ‘wild duck’ > PMs *šīš [UEW: 58 (*čeč3 ~ *čenč3); Honti 1982: 132];
 PU *đami ‘bird-cherry’ > PMs *īim3 ‘bird-cherry’ [UEW: 65–66 (*đeme / *đome); Sammallahti 1988: 536–537 (PU *d’ixmi, PFU *d’iimi); Honti 1982: 140];
 PFU *kanti ‘tree stump’ > PMs *kīntā [UEW: 123 (*kanta); Sammallahti 1988: 543 (PFU *kintā); Honti 1982: 153];
 PFU *ńakćimi ‘gills’ > PMs *ńīkć3m [UEW: 311–312 (*ńańkće); Sammallahti 1988: 546 (PFU *ńikćimi); Honti 1982: 169];
 PU *ńali ‘arrow’ > PMs *ńīl3 [UEW: 317 (*ńele / *ńole); Sammallahti 1988: 539 (PU *ńixli, PFU *ńiili); Honti 1982: 171];
 PU *ńari ‘cartilage’ > PMs *ńīrəγ [UEW: 317 (*ńerk3 / *ńork3); Sammallahti 1988: 546 (PFU *ńirki); Honti 1982: 172];
 PFU *paši ‘mitten’ > PMs *pīšγā [UEW: 376 (*peš3); Sammallahti 1988: 547 (PFU *piiši); Honti 1982: 179];
 PU *sani ‘vein, sinew’ > PMs *tīn3 [UEW: 441 (*sene / *sone); Sammallahti 1988: 548 (PFU *siini); Honti 1982: 137];
 PFU *śami ‘fish scales’ > PMs *śīm3 [UEW: 476 (*śeme / *śome); Sammallahti 1988: 549 (PFU *śiimi); Honti 1982: 184].

In the word *ańti ‘horn’, we reconstruct an *i*-stem (rather than an unknown stem-final vowel, despite UEW), because the development PU *a > PMs *ī, if not after *ś- or before a velar, happens only in *i*-stems (whereas in *a*-stems PU *a > PMs *ū, see below). The same can be said of PFU *kanti ‘tree stump’. We suggest that the latter word should be compared only to Finnish *kanto* ‘tree stump’, and not to Finnish *kanta* ‘foundation’ (reflexes of this etymon in all other language groups refer only to a kind of stump, fallen tree or post, not to ‘foundation’).

In PU *a*-stems the reflexation of *a depends on surrounding consonants: a) an unmarked reflex is PMs *ū, but we also have b) PMs *u after PU *w-, c) PMs *ī before a velar and d) PMs *ī after PU *ś-.

2) PU *a > PMs *ū in *a*-stems:

- PFU *aja- ‘to drive’ > PMs *ūjt- [UEW: 4–5 (*aja-); Sammallahti 1988: 542 (PFU *ājā-)];
 PFU *ama- ‘to scoop’ > PMs *ūm- [UEW: 7–8 (*ama-); Honti 1982: 126];
 PU *aśka- ‘to step’, *aśk3li ‘step’ > PMs *ūš-, *ūšəl [UEW: 19 (*aśke(-l3), *aśke(-l3)); Sammallahti 1988: 542 (PFU *aśki/āli)];
 PU *čača- (~ *ć-) ‘to move’ > PMs *šūš- [UEW: 53 (*čanč3- ~ *čač3-); Honti 1982: 181];

- PU **kaḏa-* ‘to leave’ > PMs **kūl-* [UEW: 115–116 (**kaḏa-*); Sammallahti 1988: 537–538 (PU, PFU **kād’ā-*); Honti 1982: 146];
- PU **kala* ‘fish’ > PMs **kūl* [UEW: 119 (**kala*); Sammallahti 1988: 538 (PU, PFU **kālā-*); Honti 1982: 148];
- PFU **kala-* ‘net’ > PMs **kūləp* [UEW: 120 (**kalə-*); Sammallahti 1988: 545 (PFU **kālāw-*); Honti 1982: 149–150];
- PFU **kala-* ‘to stay overnight’ > PMs **kūl-* [UEW: 120–121 (**kalə-*); Sammallahti 1988: 545 (PFU **kālā-*); Honti 1982: 148];
- PFU **kana-* ‘to dig’ > PMs **kūn-* [UEW: 125 (**kanə-*); Sammallahti 1988: 545 (PFU **kânā-*); Honti 1982: 152];
- PU **kanta-* ‘to carry’ > PMs **kūnt-* [UEW: 124 (**kanta-*); Sammallahti 1988: 538 (PU **kâni-*, PFU **kântā-*); Honti 1982: 153];
- PFU **ňanča-* ‘to stretch’ > PMs **ňūnš-* [UEW: 323 (**ňončə / *ňočə*); Sammallahti 1988: 546 (PFU **ňâncâ-*); Honti 1982: 172];
- PU **pala* ‘piece’ > PMs **pūl* [UEW: 350 (**pala*); Sammallahti 1988: 540 (PU, PFU **pâlā-*); Honti 1982: 176];
- PFU **panča-* ‘to open’ > PMs **pūnš-* [UEW: 352 (**panče- / *pače-*); Sammallahti 1988: 548 (PFU **pâncâ-*); Honti 1982: 177];
- PU **pata* ‘pot’ > PMs **pūt* [UEW: 358 (**pata*); Sammallahti 1988: 548 (PFU **pâtā-*); Honti 1982: 180];
- PU **sala-* ‘to steal’ > PMs **tūləm-* [UEW: 430–431 (**sala*); Sammallahti 1988: 540 (PU, PFU **sâlā-*); Honti 1982: 137];
- PFU **saŋča-* ‘to stand’ > PMs **tūňc-* [UEW: 431–432 (**saŋča-*); Sammallahti 1988: 549 (PFU **sâňšâ-*); Honti 1982: 138].

3) PU **a* > PMs **u* in *a*-stems after **w*¹⁶:

- PFU **waja-* ‘to sink’ > PMs **uj-* [UEW: 551 (**waja-*); Sammallahti 1988: 551 (PFU **wâjâ-*); Honti 1982: 192];
- PU **wanča-* ‘to walk slowly’ > PMs **unš-* [UEW: 557 (**wanča-*); Sammallahti 1988: 551 (PFU **wâncâ-*); Honti 1982: 194];
- PU **wara* ‘hill, ridge’ > PMs **ur* [Sammallahti 1988: 551 (PFU **wârâ-*); Honti 1982: 196].

4) PU **a* > PMs **ĭ* in *a*-stems before a velar¹⁷:

- PFU **aŋa-* ‘to open’ > PMs **ĭŋok-* [UEW: 11 (**aŋa-*); Sammallahti 1988: 542 (PFU **iŋâ-*); Honti 1982: 127–128];
- PU **čaŋa-* ‘to strike, beat, rub’ > PMs **šĭŋok-* [UEW: 53–54 (**čaŋə-*); Honti 1982: 133];
- PFU **maya* ‘earth, land’ > PMs **mĭ* (**mĭŋ-*) [UEW: 263–264 (**maye*); Sammallahti 1988: 546 (PFU **mixi*); Honti 1982: 202];
- PU **maksa* ‘liver’ > PMs **mĭjət* (< **mĭŋət*) [UEW: 264 (**maksa*); Sammallahti 1988: 538 (PU, PFU **miksâ*); Honti 1982: 163];
- PFU **palya* ‘village’ > PMs **pĭwəl* (< **pĭŋəl*) [UEW: 351 (**palyə*); Sammallahti 1988: 548 (PFU **pâlŋwâ*); Honti 1982: 175];

¹⁶ But not before a velar, see below on PMs **wĭŋəl-* < PFU **walka-*.

¹⁷ The following velar becomes labialized if the word does not begin with a labial. The only exception is the word for ‘village’.

- PFU *paŋka ‘mushroom’ > PMs *p̄iŋk₃ [UEW: 355–356 (*paŋka); Sammallahti 1988: 547 (PFU *piŋkā); Honti 1982: 178];
- PU *saksa ‘cedar’ > PMs *t̄īt (< *t̄īγət or *t̄īγ₀ət) [UEW: 445–446 (*soks₃ / *saks₃ / *s̄eks₃); Sammallahti 1988: 540 (PU *siks̄i, PFU *siksi); Honti 1982: 136];
- PFU *walka- ‘to descend’ > PMs *w̄īγəl- [UEW: 554 (*walka-); Sammallahti 1988: 551 (PFU *wīlkā-); Honti 1982: 193].

5) PU *a > PMs *ī in a-stems after *ś-¹⁸:

- PU *śala- ‘to flash, lighten’ > PMs *śīl- [UEW: 459 (*śala); Sammallahti 1988: 549 (PFU *śilā-); Honti 1982: 184];
- PFU *śalka ‘pole’ > PMs *śīylā [UEW: 460–461 (*śalk₃); Sammallahti 1988: 549 (PFU *śilkā); Honti 1982: 183];
- PFU *śata ‘hundred’ > PMs *śīt₃ [UEW: 467 (*śata); Sammallahti 1988: 549 (PFU *śātā); Honti 1982: 186].

6) PU word-initial *a > PMs *ā in stems with more than two syllables:

- PU *ana-appi ‘mother-in-law’ > PMs *ānəp [UEW: 9–10 (*an₃(-pp₃)); Sammallahti 1988: 536 (PU, PFU *inā); Honti 1982: 127];
- PFU *asira ‘lord’ > PMs *ātər [UEW: 18 (*asr₃); Sammallahti 1988: 542 (PFU *āsirā)].

Cases of irregular reflexation of PU *a:

- PU *ala ‘under’ > PMs *jal- [UEW: 6 (*ala); Sammallahti 1988: 536 (PU, PFU *ilā); Honti 1982: 199];
- PFU *ańcara ‘tusk, fang’ > PMs *āńcər [UEW: 340 (*ońca-r₃); Sammallahti 1988: 541 (PFU *inśārā)];
- PU *pani- ‘to put’ > PMs *pīnā- [UEW: 353–354 (*pane-); Sammallahti 1988: 539 (PU *pini-, PFU *pini-); Honti 1982: 177].

Permic

1) PU *a > PP *j in i-stems:

- PFU *cači ‘wild duck’ > PP *cǝž > PK *cǝž ~ -ǝ-, PUd *cǝž [UEW: 58 (*čęč₃ ~ čęńč₃); KESK: 310];
- PU *đami ‘bird-cherry’ > PP *lǝm > PK *lǝm (*lǝmj-), PUd *lǝm [UEW: 65–66 (*đeme / *đōme); Sammallahti 1988: 536–537 (PU *d’ixmi, PFU *d’iimi, PFP *d’oomi); KESK: 164–165];
- PU *ńali ‘arrow’ > PP *ńǝl > PK *ńǝl (*ńǝlj-), PUd *ńǝl [UEW: 317 (*ńełe / *ńōle); Sammallahti 1988: 539 (PU *ńixli, PFU *ńiili, PFP *ńooli); KESK: 197];
- PFU *paši ‘mitten’ > PP *pǝž > PK *kǝ-pǝš¹⁹, PUd *pǝž [UEW: 376 (*peš₃); Sammallahti 1988: 547 (PFU *piiši, PFP *pooši); KESK: 121];
- PU *sani ‘vein, sinew’ > PP *sǝn > PK *sǝn ~ -ǝ-, PUd *sǝn [UEW: 441 (*seŋe / *sōne); Sammallahti 1988: 548 (PFU *siini, PFP *sooni); KESK: 263];
- PFU *śami ‘fish scales’ > PP *śǝm > PK *śǝm, PUd *śǝm [UEW: 476 (*śeme / *śōme); Sammallahti 1988: 549 (PFU *śiimi, PFP *śoomi); KESK: 270].

¹⁸ This rule was suggested by Ante Aikio [Aikio 2002: 28–29].

¹⁹ Komi has *ū instead of expected *ǝ, because the latter vowel was not allowed in non-first syllables.

There is also one PP stem with **i* in the second syllable, where PU **a* > PP **ó* (not **j*):

PFU **asira* ‘lord’ > PP **ózir* > PK **q̄zür*, PUd **uzir* [UEW: 18 (**as̄er̄s*); Sammallahti 1988: 542 (PFU **ásir̄á*, PFP **asira*); KESK: 203].

Note that here, unlike cases in which PFU **a* > PP **j*, the vowel change happens in word-initial position and, besides, the word has a trisyllabic structure where **i* of the second syllable is not a stem-final vowel.

2) PU **a* > PP **u* in *a*-stems before non-palatalized consonants:

PU **ala* ‘under’ > PP **ul* > PK **ul*, PUd **ul* [UEW: 6 (**ala*); Sammallahti 1988: 536 (PU, PFU **il̄á*, PFP **ēla*); KESK: 295];

PFU **amta* ‘to give’ > PP **ud-* > PK **ud-*, PUd **ud-* [UEW: 8 (**amta-*); Sammallahti 1988: 541 (PFU **imt̄á-*, PFP **ēmta-*); KESK: 295–296];

PU **čáča-* ‘to be born, to grow’ > PP **čuž-* > PK **čuž-*, PUd **čiži* [UEW: 52 (**čáč̄s- ~ *č̄anč̄s-*); Sammallahti 1988: 552 (PFP **č̄č̄V-*), 554 (PFP **š̄č̄V-*); KESK: 312];

PFU **kala-* ‘net’ > PP **kul-* > PK **kulóm* [UEW: 120 (**kal̄s*); Sammallahti 1988: 545 (PFU **kāl̄áw*, PFP **kalama*); KESK: 145];

PFU **kana-* ‘to dig’ > PP **kun-* > PK **kund-* [UEW: 125 (**kan̄s-*); Sammallahti 1988: 545 (PFU **kân̄á-*, PFP **kana-*); KESK: 146];

PFP **karwa* ‘bitter, sharp’ > PP **kur-* > PK **kurit*, PUd **kurit* [UEW: 128–129 (**karwa*); KESK: 147];

PFP **lamta*²⁰ ‘low, lowland’ > PP **lud* > PK **lud*, PUd **lud* [UEW: 235–236 (**lamte*); Sammallahti 1988: 552 (PFP **l̄enti*); KESK: 163];

PFU **maya* ‘earth, land’ > PP **mu* > PK **mu*, PUd **mu* [UEW: 263–264 (**maye*); Sammallahti 1988: 546 (PFU **m̄ixi*, PFP **m̄ēxi*); KESK: 177];

PU **maks̄a* ‘liver’ > PP **mus* > PK **mus* (**musk-*), PUd **mus* [UEW: 264 (**maks̄a*); Sammallahti 1988: 538 (PU, PFU **m̄iks̄á*, PFP **m̄ēks̄a*); KESK: 179];

PFP **marta* ‘sterile’ > PP **mur̄j* > PK **mur*, PUd **mur̄j ~ -ú-* [UEW: 699 (**marta*); KESK: 178];

PFU **ńanča-* ‘to stretch’ > PP **ńuž-* > PK **ńuž-*, PUd **ńuž-* [UEW: 323 (**ńonč̄s / *ńoč̄s*); Sammallahti 1988: 546 (PFU **ń̄anč̄á-*, PFP **ń̄anča-*); KESK: 200];

PFU **panča-* ‘to open’ > PP **puž-* > PK **puž-*, PUd **puž-* [UEW: 352 (**panč̄e- / *pač̄e-*); Sammallahti 1988: 548 (PFU **p̄anč̄á*, PFP **panca-*); KESK: 231];

PFP **para* ‘good’ > PP **bur* > PK **bur*, PUd **bur* [UEW: 724 (**para*); Sammallahti 1988: 553 (PFP **p̄era*); KESK: 42];

PU **saks̄a* ‘cedar’ > PP **sus* > PK **sus*, PUd **sus̄j ~ -ú-* [UEW: 445–446 (**soks̄s / *saks̄s / *s̄eks̄s*); Sammallahti 1988: 540 (PU **s̄iks̄i*, PFU **s̄iksi*, PFP **s̄ēks̄i*); KESK: 267];

PFU **salka-* ‘to stand’ > PP **sul-* > PK **sul-*, PUd **s̄j-* [UEW: 431 (**salk̄s-*); Sammallahti 1988: 553 (PFP **s̄ēlk̄V-*); KESK: 265];

PFU **śalka* ‘pole’ > PP **śul* ‘sledge runner’²¹ > PK **śul*, PUd **śul* [UEW: 460–461 (**śalk̄s*); Sammallahti 1988: 549 (PFU **ś̄ilk̄á*); KESK 273];

PFP **tanta-* ‘to hinder, to be obstinate’ > PP **dud-* > PK **dud-* [KESK: 97];

²⁰ We reconstruct **a* in the second syllable of this word because of Saami data (North Saami *luovdit* ‘to lie down flat’). The *e*-stem in Finnish *lansi* ‘low, lowland’ can be explained as resulting from a well-known but poorly understood process of secondary transfer of some PU *a*-stems into the class of Balto-Finnic *e*-stems, cf. cases like PFP **komta* ‘lid’ > North Saami *goavdi*, Finnish *kansi*, PFU **sorwa* ‘horn’ > North Saami *čoarvi*, Finnish *sarvi* etc.

²¹ We suggest this etymology instead of the traditional comparison of PFU **śalka* with PK **žal* ‘lath’.

- PFU **tarna* ‘grass’ > PP **turiŋ* > PK **turìn*, PUd **turiŋ* [UEW: 792 (**tarna*); Sammallahti 1988: 554 (PFU **tërna*); KESK: 287];
- PU **wanča* ‘root’ > PP **vuži* > PK **vuž* (**vužj-*), PUd **viži* [UEW: 548–549 (**wačs* ~ **wančs*); Sammallahti 1988: 541 (PU, PFU **wāncā*, PFP **vanča*); KESK: 69–70];
- PU **wanča-* ‘to walk slowly’ > PP **vuž-* > PK **vuž-*, PUd **viž-* [UEW: 557 (**wanča-*); Sammallahti 1988: 551 (PFU **wāncā-*, PFP **vanča-*); KESK: 69];
- PFU **wanġka* ‘handle (of vessels)’ > PP **vugi* > PK **vug* (**vugj-*), PUd **vugi* ~ -*ü-* [UEW: 814 (**wanġka*); Sammallahti 1988: 554 (PFU **vëġka*); KESK: 69];
- PFU **warka-* ‘to sew’ > PP **vur-* > PK **vur-*, PUd **vur-* [UEW: 584–585 (**work3-*); Sammallahti 1988: 551 (PFU **wirkā-*, PFP **vërka-*); KESK: 70].

3) PU *a > PP *wò-, -ò- in *a*-stems before palatalized consonants and *-rj-:

- PFU **aja-* ‘to drive’ > PP **wòj-* ~ -*o-* > PK **wøj-* ~ -*o-*, PUd **új-* [UEW: 4–5 (**aja-*); Sammallahti 1988: 542 (PFU **ájā-*, PFP **aja-*); KESK: 61];
- PFU **ańcara* ‘tusk, fang’ > PP **wòž3r* ~ -*o-* > PK **wøj3r* ~ -*o-*, PUd **wažer* [UEW: 340 (**ońca-r3*); Sammallahti 1988: 541 (PFU **inšárā*, PFP **ěnsara*); KESK: 60];
- PU **aška-* ‘to step’, **ašk3li* ‘step’ > PP **wòčk3l* > PK **wøjškól*, PUd **üčkil* [UEW: 19 (**aške(-l3)*, **ačke(-l3)*); Sammallahti 1988: 542 (PFU **áški/áli*, PFP **aškili*); KESK: 64];
- PU **kađa-* ‘to leave’ > PP **kòl-* > PK **kòl-*, PUd **kil-* [UEW: 115–116 (**kađa-*); Sammallahti 1988: 537–538 (PU, PFU **kád’ā-*, PFP **kad’a-*); KESK: 131];
- PU **kajwa-* ‘to dig, to throw’ > PP **kòj-* > PK **køj-*, PUd **kúj-* [UEW: 170–171 (**kojwa-*); Sammallahti 1988: 552 (PFU **ka/ojwa-*); KESK: 128];
- PU **kaša-* ‘to present’ > PP **kòž-* > PK **køjžin*, PUd **küžim* [UEW: 111 (**kač3*); Sammallahti 1988: 538 (PU **káší-*, PFU **káši*, PFP **kaši-*); KESK: 127–128];
- PFU **šarja* ‘lath, pole’ > PP **sòrj* > PK **šor* (**šorj-*), PUd **šurj* [UEW: 770–771 (**šarja*); Sammallahti 1988: 553 (PFU **šarja*); KESK: 253].

Despite Sammallahti and [Janhunen 1981: 231], the final vowel in PFU/PU **kača-* ‘to present’ is to be reconstructed as *-*a* rather than *-*j* (or, according to our reconstruction system, *-*i*). We can make this conclusion on the basis of Permic **kòž-*, because **a* > PP **ò* in *a*-stems and not in *i*-stems (in an *i*-stem, **a* of the first syllable would have changed into **ó* — see above the group 1).

4) PU *a > PP *ò before clusters beginning with *-k-:

- PU **akta-* ‘to hang’ > PP **òkt-* > PK **òkt-* [UEW: 5–6 (**akta-*); Sammallahti 1988: 536 (PU, PFU **iktā-*, PFP **ekta-*); KESK: 204];
- PFU **ńakćimi* ‘gills’ > PP **ńókćim* ~ -*o-* > PK **ńòkćim* ~ -*o-* [UEW: 311–312 (**ńanġkće*); Sammallahti 1988: 546 (PFU **ńikćimi*, PFP **ńëkćimi*); KESK: 189].

5) PU *a > PP *wò-, -ò- before a deleted dental:

- PFU **ađi* ‘year’ > PP **wò* > PK **wò*, PUd **wa* [UEW: 335–336 (**ođe* / **òđe*); Sammallahti 1988: 552 (PFU **ooti*); KESK: 59];
- PFU **šata* ‘hundred’ > PP **šó* > PK **šò*, PUd **šu* [UEW: 467 (**šata*); Sammallahti 1988: 549 (PFU **šâtā*, PFP **šata*); KESK: 252].

It is interesting that before a deleted dental or a cluster beginning with *-*k-*, **ò* appears even in *i*-stems, where PU **a* is otherwise regularly reflected as **ó* (cf. above the group 1): PFU **ađi* ‘year’ > PP **wò*, **ńakćimi* ‘gills’ > PP **ńókćim*.

Cases of irregular reflexation of PU *a²²:

- PFU *kala- ‘to stay overnight’ > PP *käl- > PUd *kól- [UEW: 120–121 (*kal3-); Sammallahti 1988: 545 (PFU *kälå-, PFP *kala-); KESK: 61];
- PU *pani- ‘to put’ > PP *pän- > PK *pón- ~ -õ-, PUd *pon- [UEW: 353–354 (*pane-); Sammallahti 1988: 539 (PU *pini-, PFU *pini-, PFP *pëni-); KESK: 228];
- PFP *saća- ‘to reach’ > PP *suž- > PK *suž-, PUd *süž- [UEW: 748 (*sac3-); Sammallahti 1988: 553 (PFP *šëci-); KESK: 265];
- PFU *saŋća- ‘to stand’ > PP *šiž- > PK *šiž- [UEW: 431–432 (*saŋća-); Sammallahti 1988: 549 (PFU *šânšå-); KESK: 254];
- PFP *šarña ‘incantation; speech’ > PP *šorñ- > PK *šorñi [UEW: 463–464 (*šarna); Sammallahti 1988: 553 (PFP *šarña); KESK: 253–254];
- PFP *taŋka ‘tassel, fringe’ > PP *tüg > PK *tug (*tugj-), PUd *tüg [UEW: 791 (*taŋka); KESK: 285];
- PFU *waja- ‘to sink’ > PP *vej- > PK *võj-, PUd *vij- [UEW: 551 (*waja-); Sammallahti 1988: 551 (PFU *wâjå-, PFP *vaja-); KESK: 66].

Investigation of the relevant material brings us to the conclusion that the vocalic distribution, which Janhunen and Sammallahti interpreted as reflexes of PU *i and *å, is, in fact, completely dependent on phonological environment of the respective vowels in Samoyed, Mansi and Permic. The vowels in question thus seem to reflect only one Proto-Uralic phoneme, which, in the light of phonetic and typological considerations, should be reasonably reconstructed as *a. Thus, at least these particular three branches offer no evidence for the reconstruction of a non-low unrounded back vowel in Proto-Uralic.

Abbreviations

PBF — Proto-Balto-Finnic; PFP — Proto-Finno-Permic; PFU — Proto-Finno-Ugric; PIE — Proto-Indo-European; PK — Proto-Komi; PMs — Proto-Mansi; PP — Proto-Permic; PS — Proto-Samoyed; PSlk — Proto-Selkup; PU — Proto-Uralic; PUd — Proto-Udmurt

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²² One more apparent exception from the rules postulated above, the word for ‘salt’ (Finnish *suola*, Erzia and Moksha *sal*, PP *sól > PK *sól, PUd *silal), was, in our view, independently borrowed from Indo-European languages into Balto-Finnic, Mordvinic, and Permic.

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В статье предлагаются правила дополнительного распределения между рефлексами гипотетических прауральских гласных **i* и **ä* в прасамодийском, прамансийском и прапермском языках. Цель авторов — показать, что реконструкции одной гласной **a* вместо **i* и **ä* достаточно, чтобы объяснить все рефлексы в рассматриваемых языках.

Ключевые слова: уральские языки, финно-угорские языки, самодийские языки, мансийский язык, коми язык, удмуртский язык, историческая фонетика, лингвистическая реконструкция, прауральский вокализм.