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The origin of Khanty retroflex nasal *

Proto-Khanty is traditionally reconstructed with a retroflex nasal phoneme **ṇ,* whose origin remains disputed. According to one theory, it is directly inherited from Proto-Uralic. The other theory holds that Proto-Uralic **n,* usually preserved as **n* in Khanty, sporadically yielded **ṇ.* We argue that Proto-Khanty **ṇ* results from a regularly conditioned sound change.

Keywords: Ugric languages, historical phonology, retroflex consonants, Proto-Uralic.

1. Introduction

Khanty is unique among branches of the Uralic family in that it has a retroflex nasal phoneme /ṇ/ (often called "cacuminal" in Uralistic literature), distinct from both alveolar /n/ and palatal(ized) /ń/. The Proto-Khanty opposition of alveolar vs. retroflex vs. palatal(ized) nasals is reconstructed on the basis of the following correspondences:

PKh	V	Vj.	Vart.	Likr.	Mj.	Trj.	J	Irt.	Ni.	Š	Kaz.	Sy.	O
*n	n	n	n	n	n	n	n	n	n	n	n	n	n
*ṇ	ṇ	ṇ	ṇ	ṇ	ṇ	ṇ	n	n	n	n	ṇ	ṇ	n
*ń	ń	ń	ń	ń	ń	ń	ń	ń	ń	ń	ń	ń	ń

Proto-Khanty also had a similar triple opposition in the lateral series: alveolar **l,* retroflex **ļ* and palatal(ized) **ľ.* Together with the retroflex affricate **ç̌* (usually transcribed as **č*), inherited from Proto-Uralic, **ṇ* and **ļ* form part of a tightly integrated consonant system of Proto-Khanty:

	labial	alveolar	retroflex	palatal(ized)	velar
stops	p	t			k
affricates			č	ć	
sibilant fricative		s			
lateral fricative		ʌ			
nasals	m	n	ṇ	ń	ŋ
lateral approximants		l	ļ	ľ	
trill		r			
glides	w			j	ɣ

Each of the five places of articulation could also be used to form homorganic clusters of nasals and stops (or affricates): **mp, *nt, *ṇč, *ńć, *ŋk* (Honti 1999: 105). Unlike most other clus-

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ters, these homorganic clusters could never be broken up by epenthetic schwa (Nikolaeva 2000). Proto-Khanty had a morphophonological rule whereby *ṇ plus *t yielded *ṇč (Honti 1999: 98). Also, proto-Khanty *t and *n, on the one hand, and *č and *ṇ, on the other, could not co-occur within the same stem (Helimski 2002).

The existence of a retroflex nasal in Proto-Khanty and the absence of anything similar in other Uralic languages raises the issue of the origin of this phoneme. There is one group of cases where this origin is immediately clear: Proto-Uralic *nč always yields Khanty *ṇč (note that *č is a retroflex affricate both in Khanty and Proto-Uralic), while Proto-Uralic *nt is regularly preserved as Khanty *nt. However, there are many instances of inherited words with Khanty *ṇ in other positions as well, so the question of its origin remains unsolved.

From the early 20th century, there were two principal answers to this question in the Uralistic literature. The first was formulated already by Kustaa Fredrik Karjalainen, who had discovered the triple opposition of coronal nasals during his fieldwork on Khanty. According to Karjalainen, this opposition goes back to at least Proto-Finno-Ugric (Karjalainen 1913–1918: 6). He shows that when Khanty has *ṇ and all other Finno-Ugric languages, including Mansi, have *n*, Hungarian has *ny*. Thus there are not two, but three series of regular correspondences:

Khanty	Hungarian	other Uralic
n	n	n
ṇ	ny	n
ń	ny	ń

Karjalainen also tried to find traces of original *ṇ in other Uralic branches, notably Permic, but in order to do this, he needed to assume that in certain cases original *ṇ yielded Khanty *n* for no apparent reason (Karjalainen 1913–1918: 28–30).

In his "Comparative Grammar of the Uralic Languages" (1960), Björn Collinder, following Karjalainen's theory, reconstructed both *n and *ṇ (*ñ in his notation) for Proto-Uralic. However, for some reason, he failed to mention that Hungarian has distinct reflexes of these consonants (Collinder 1960: 73, 133–134), thus losing the most powerful argument in favor of his reconstruction. Karjalainen's theory was also adopted by V. M. Illich-Svitych, who projected the reconstruction of the retroflex nasal back to Proto-Nostratic (Illich-Svitych 1967: 323; 1971: 150), and by E. Helimski (1985: 75). All the abovementioned scholars were following the Neogrammarian paradigm, prohibiting unmotivated splits in historical phonology.

The alternative theory of the origin of the retroflex nasal in Khanty stems from scholars working outside the Neogrammarian paradigm. Formulated already by Erkki Itkonen (1957), it was most succinctly summarized by László Honti:

> The cacuminals (*ṇ *ļ) are the result of a secondary development within pO: they originally occurred as allophonic variants when adjacent to the (non-distinctively) cacuminal affricate *č, then spread, beginning with affective and descriptive vocabulary, to other positions, where they became phonemic. (Honti 1998: 337)

The secondary origin of Khanty *ṇ was accepted by P. Sammallahti, although his wording is more cautious and does not necessarily suggest sporadic sound change:

> An additional change in the consonantal system was caused by the 'split-genesis' of retroflex /ļ/ and /ṇ/. At least /ṇ/ was originally a contextual variant of /n/ before /č/, but for /lč/ no reliable etymologies can be found. (Sammallahti 1988: 512)

So far, all scholars either projected the Khanty retroflex nasal back to Proto-Uralic, or were willing to accept an unconditioned phonemic split in the prehistory of Proto-Khanty. As far as we know, nobody has tried to explain the origin of Khanty **ṇ* in terms of a conditioned split of reflexes. Below, we will try to show that no sporadic sound changes need to be invoked in order to solve this problem.

2. Rules accounting for Proto-Khanty **ṇ*

The following rules can be postulated for the development of Proto-Khanty **ṇ* from Proto-Uralic **n*.

Rule 1: PU **nč* > PKh **ṇč*.

- We will not list any examples for this rule here, since it is self-evident and uncontroversial.

Rule 2: PU **kVnV* > PKh **kVṇ*

- PU **kana-* 'to dig' > PKh **kə̄ṇ-* > V Vj. VK Likr. Trj. *kə̭ṇ-*, Mj. J *kə̭n-*, DN Kam. KoP Kr. Ts. *χen-*, Fil. *χeń-*, Kaz. Sy. *χɔṇ-*, O *χan-* 'to dig; to scoop' (DEWOS: 508; UEW: 125, Sammallahti 1988: 545). Cf. PMs **kūn-* > TJ *kōn-*, KU *χūn-*, P *kūn-*, So. *χūn-* 'to scoop'; Hung *hány-* 'to throw'. The word is ultimately borrowed from Proto-Indo-Iranian **kʰan-* 'to dig'.
- PU **kunV* 'belly' > PKh **kuṇ* > V Vj. VK Vart, Likr. Trj. *kŏṇ*, Mj. J *kŏn*, DN-Sal. Fil. KoP Kr. Sog. Ts. Ni. Š O *χŏn*, Kaz. Sy. *χŏṇ* 'belly' (DEWOS: 509–510; UEW: 208).
- PU **ka/oni* 'on one's back' > PKh **kuṇ-čāγ* > V Vj. *kŏṇčaγ*, Trj. *kŏṇ'γi*, J *kŏnγi*, DN *χŏnča*, KoP *χŏnčȧ*, Kr. *χănča, -ȧ*, Ni. Š *χŏnša*, Kaz. Sy. *χŏṇša*, O *χŏnsȧ* 'on one's back' (DEWOS: 514; UEW: 179). Cf. PMs **kān-* > TJ TČ *kanāw*, KU *χonī*, P *kōnəγ*, So. *χɔ̄ni* 'on one's back'; Hung *hanyatt* 'on one's back'. One might think that in this word a trivial development **nč* > **ṇč* has taken place, but in reality what we are dealing with here is the Proto-Khanty morphophonological rule (already mentioned above), according to which, **ṇ* plus **t* on a morpheme boundary yields **ṇč*. The adverb **kuṇ-čāγ* 'on one's back' contains the adverbial suffix **-tāγ* found also in the following words:
  PU **kuma-* 'face down; to turn over' > PKh **kom-tāγ* > V Vj. *kǫmtaγ*, Trj. J *kămətγi*, DN *χŏmta*, DT *χămta*, KoP *χămtȧ*, *χŏmtȧ*, Kr. *χămta, -ȧ*, Ni. Š Kaz. *χŏmta*, O *χămtȧ* 'prone, facedown' (DEWOS: 502; UEW 201; Sammallahti 1988: 537);
  PU **perä* 'behind' > PKh **pir-tə̄γ* > V Vj. *pərtäγ*, Trj. J *pər'γi*, DN KoP Kr. *-pərtȧ*, Kaz. Sy. *părta*, O *părtȧ* 'backwards' (DEWOS: 1220; UEW 373; Sammallahti 1988: 553).
- PU **künä-* 'elbow' > PKh **küṇč-* > Ni. Š *kŭnš-ɔtəŋ*, Kaz. *kŭṇš-ɔ.ləŋ*, O *kuns-aləŋ* 'elbow'; PKh **küṇč-ŋə̄j* > V Vj. Likr. *kŏṇ'ŋi*, VK Vart. Mj. J *kŏnŋi*, Trj. *kŏn'ŋi*, DN Fil. Koš. *kŏšŋȧj*, Tš. *kŏšŋaj*, KoP Kr. Ts. *kŏŋnȧj* 'elbow' (DEWOS: 647; UEW: 158; Sammallahti 1988: 544). Cf. PMs **kün-* > KU *kₒänγəĺ*, So. *konl-ɔ̄wl* 'elbow'; Hung *könyök* 'elbow'. Although not everything in this etymology is clear (the Proto-Saamic reflex **kǭrńēlē* is especially hard to explain), at least the Mansi form shows the reflex of **-n-*. Khanty **č* may well result from the aforementioned morphophonological change **t* > **č*; but the identity and function of the suffix remain unknown.
- PUg **kəünək* 'light' (adj.) > PKh **käṇəγ* > Mj. *kə̆ṇəγ*, J *kə̆nəγ*, DN KoP Kr. Ts. Ni. Š *kenə*, Kaz. *kɛṇ*, Sy. *keṇ*, O *kon* 'light' (adj.) (DEWOS: 648; UEW: 862). Cf. PMs **kinγə̄* > KO *kiγnə*, LU *kinna* 'light' (adj.); Hung *könnyű* 'light' (adj.).

- PKh *kä̆ṇəɣ-[1] > Vj. kǫ̭ṇəɣ-, kǫ̭ṇəɣ-, Trj. kɔ̆̈nəɣ-, kɔ̆̈ṇəɣ-, J kö̆nəɣ-, KoP Kr. kənəj-, Kaz. kɛṇi-, Sy. keṇi- 'to growl (of bear, dog)' (DEWOS: 648; UEW: 856). Cf. PMs *kīnəɣ- > KM kenɣ-, So. kēnɣ- 'to growl (of bear)'. Comparison with Hung könyörög- 'to pray', accepted in UEW, seems improbable. The word can be onomatopoeic. Still, it shows the expected development of *n.
- PU *kaŋa-i̯la 'armpit' > PKh *kVṇəŋ > V kunəŋ-pətɜ, VT kuṇəŋ-pətə, Vj. kunəŋ-pətä, Trj. kunəŋ-pətɜ, J kunəŋ-pətə, DN χŏnəŋ-pət, DT KoP Kr. χănəŋ-pət, Ni. χuŋən-păt, Š χuŋən-ĭtpə, Mul. χuŋən-păti, Kaz. χǫŋəṇ-păti, χǫṇəŋ-păti, Sy. χŏṇəŋ-păt, O χŏnəm-păt 'armpit' (DEWOS: 515–516; UEW: 178; Sammallahti 1988: 543). Cf. PMs *kanəl > TJ TČ kalnā, KU χånəl, P kanəl, So. χanəl 'armpit'; Hung hón (dial. hóny, hany, hóln) 'armpit'. Here the Proto-Uralic form apparently had *-ŋ-, but forms in daughter languages suffered various assimilations and metatheses. At least the Khanty word goes back to something like *kanVŋV-. The Mansi word reflects *kanVlV, while the Hungarian form goes back to *kalnV.

Exceptions:

- PKh *kānəŋ > V Vj. kanəŋ, Trj. J kånəŋ, DN KoP Kr χonəŋ, Ni. Š Kaz. χɔnəŋ 'bank (of a river); edge (of a forest, shawl etc.)' (DEWOS: 514–515; UEW: 124–125). This word is compared in UEW to PMs *kant- > KU -χant, KM -kant 'near, close to', Hung (dial.) hany 'swamp' and Komi-Permyak (dial.) kan 'side'. These words are not especially close semantically or morphologically. The dubious nature of the comparison is recognized in UEW, where all parts of it are supplied with question marks. The most obvious connection of the Khanty word is with Proto-Selkup *k̮anə̣k 'bank (of a river)' (Alatalo 2004: 289). The Selkup word is thought to be a Khanty loan (UEW: 124–125), but the only reason for this is the supposed Finno-Ugric ancestry of the Khanty form. If the Finno-Ugric etymology is erroneous, the direction of the loan can be reversed. The Selkup word, in its turn, has been compared to similar words in Yeniseian languages: Kott hanaŋ 'shore' and Pumpokol kónnoŋ 'mountain' (Helimski 1982: 249). According to S. Starostin, "Pump. kónnoŋ (despite Helimski KC 249) should be distinguished from Kott. hanaŋ 'shore', which — as rightly pointed out by the author — is a Uralism (Selk. qaniŋ, Khant. χonəŋ 'shore')" (Starostin 2005). The Pumpokol form is compared by Starostin to Ket qaŋńeŋ — plural of qaʔj 'mountain (wooded)' < Proto-Yeniseian *qäʔj. It seems that the only reason to treat the Kott form as a Uralism is once again the supposed inherited nature of the Khanty word. If this premise is erroneous, we have two available options. One is to compare Pumpokol kónnoŋ 'mountain' with Kott hanaŋ 'shore' and abandon the idea of a connection between the former and the Ket plural. Then we can reconstruct Proto-Yeniseian *kanaŋ[2] (consonant correspondences are regular, Starostin 1982: 148, 160, 162; as for vowels, we would expect Pumpokol ⟨a⟩, but it is not quite clear to what extent we can rely on transcription of vowels in 18th century sources). Another option is to accept Starostin's etymology of the Pumpokol word and take the Kott word to be a loan from Pumpokol (Kott initial h- regularly goes back to *k-, Starostin 1982: 160). In both cases, the Selkup word can be considered a Yeniseian loan that was further transferred to Khanty. Either scenario seems preferable to accepting the traditional Uralic etymology of the Khanty word.
- PKh *ki̮n- > Trj. J kăn-, DN DT KoP Kr. Ni. Kaz. Sy. O χăn- 'to stick (to), adhere (to) (intr.); to touch, move'; PKh *kan-t- > V kont-, Vj. kǫ̭nt-, Trj. kŏnt-, Ni. χunt-, Kaz. χǫnt- 'to stick

[1] Here and below we do not provide PU/PUg reconstructions for exclusively Ob-Ugric words.

[2] Reconstructions *kənɔŋ, *kanɔŋ and *kənaŋ are also possible.

(to), to glue (tr.)' (DEWOS: 504–505). Cf. PMs **kan-* > TČ *kan-*, KU *χån-*, P *kan-*, So. *χan-* 'to touch; to hang (intr.); to stick (to) (intr.)'; PM **kan-t-* > KM *kånt-*, P *kant-* 'to hang (tr.)'. This is a genuine exception, but the root is exclusively Ob-Ugric. If (as we argue below in section 4) the shift **n* > **ṇ* has taken place in Proto-Ugric times, a word that was borrowed from an unknown source into Proto-Ob-Ugric need not be subject to this sound law.

Rule 3: PU **…kVn(V)* > PKh **…γVṇ*

- PU **ikin* > PKh **ə̄γəṇ* > V VK *äγəṇ*, Vart. Likr. Trj. *ȧγəṇ*, Mj. J *ȧγən*, DN Fil. KoP Kr. *ȧŋəṇ*, Ni. Š *aŋən*, Kaz. Sy. Pit. *aŋəṇ*, O *ȧŋən* 'chin; lower jaw' (DEWOS: 43–44; Sammallahti 1988: 541). Cf. PMs **īγən* > TČ *īn*, KU *iγən*, P *jēn*, So. *ēŋən* 'chin'; Hung *íny* 'gum; palate'.
- PKh **kiγəṇ* > V Vj. Trj. *kəγəṇ*, VT J *kəγən*, DN Kr. Ts. *kəŋən*, Ni. Š Mul. *kĭŋən*, Kaz. *kĭwəṇ*, Sy. *kĭjəṇ*, O *kijən* 'laces, strings (on clothes, shoes); button' (DEWOS: 605–606). Cf. PMs **kīγən* > TJ TČ *kīń*, KU *kiγən*, P *kīn*, So. *kēŋən* 'button; string on clothes'.
- PKh **ćoγəṇ* > V Vj. VK Vart. Likr. *ťə̆γəṇ*, Mj. *ťə̆γ₀əṇ*, J *ťə̆wn*, KoP *ťəŋən*, Kaz. *śŭŋən* 'fist; knuckles' (DEWOS: 1503–1504). Cf. PMs **ćaknī* > TČ *ćaχnē*, KU *śåχən*, P *śaχən*, So. *śaχni* 'fist'. In the last two cases a PU reconstruction is not possible, since the words are limited to Ob-Ugric. Nevertheless, the environment is the same as in the first case.

Rule 4: PU **nVkkV* (POU **nVkV*) > PKh **ṇVk*

- PU **nikkä-* 'to stick in, push' > PKh **ṇik-* > VK *nək-*, Likr. *ṇək-*, Trj. J *nək-* 'to push (smb) lightly'; PKh **ṇikəj-* > Kaz. *ṇăki-* 'to push, nudge' (DEWOS: 984; UEW: 304–305). Cf. PMs **näk-* > KM *nāk-* 'to push'.
- PKh **ṇēkī* > V *ṇiγ*, VT *niγ*, Vj. *ṇiki*, Trj. J *niki*, DN Kam. KoP Kr. Ts. *nekə*, Ni. *năk*, Kaz. *ṇɛki* 'trigger (of a trap), peg (for strings in a musical instrument), etc.' (DEWOS: 986). Cf. PMs **nə̄ŋk* > KM *nə̄χ*, P *naχ* (pl. *naŋkət*) 'pintle, pivot'. If the P plural form *naŋkət* was created by analogy with nouns that have the alternation *-χ / -ŋk-*, the PMs form can be reconstructed as **nə̄k*, which would agree better with PKh **ṇēk*.
- PKh **ṇɔ̄k-* > V *nɔγ-*, Vj. *ṇɔγ-* (*ṇɔka*), VK Vart *ṇoγ-*, Likr. *naγ₀-*, *ṇak₀-*, Mj. *ṇok*, *ṇok₀-*, Trj. *ṇok-*, J *nok-*, DN Fil. KoP Kr. Tš. *noχ-*, Ni. Š *nuχ-*, Kaz. *ṇǫχ-*, Sy. *ṇuχ-*, O *noχ-* 'to peck' (DEWOS: 987–988). Cf. PMs **nīk₀-* > TJ TČ *nə̄k-*, KU *nāχ-*, P *nēk₀-*, *nēk-*, So. *nāχ₀-* 'to peck'.
- PKh **ṇāk-* > Ni. *nɔχ-*, Kaz. Sy. *ṇɔχ-*, O *naχ-* 'to limp' (DEWOS: 988). Cf. PMs **nāk-* > KU *nōχ-*, P *nōk-*, So. *nɔ̄χ-* 'to limp'.
- PKh **ṇik* > Ni. *năk*, Kaz. *ṇăk* 'joint' (Ni.), 'spell (of weather)' (Kaz.) (DEWOS: 983–984). Cf. PMs **näk* > TJ TČ KU P *näχ*, So. *nak* 'joint'. Judging by its distribution in Khanty, the word can be a Mansi loan; but the correspondences are still regular and we list it here for the sake of completeness.

Rule 5: POU **…nVγ* > PKh **…ṇVγ*

Here, in the only example that has a Uralic etymology, final **-γ* is a suffix, added in (Ob-)Ugric times. So it makes little sense to formulate the input of the rule in terms of Proto-Uralic reconstruction.

- PU **śëni* 'tinder, bracket fungus' > PKh **sə̄ṇəγ* > V *-sänəγ*, V Vj. VK *-säṇəγ*, Trj. *sȧṇəγ*, J *sȧnəγ*, DN KoP Koš. Kr. Sog. Ts. *sȧnə*, KoP *sȧnək*, Fil. *śȧnə*, Ni. *sanə*, Kaz. Sy. *saṇ*, O *sȧn* 'bracket fungus' (DEWOS: 1345; UEW: 494–495; Sammallahti 1988: 548). Cf. PMs **šīnəγ* > TJ TČ *šīnəw*, KU *šēnī*, P *šēniγ*, So. *sēniγ* 'bracket fungus'.

- PKh **ǟṇəγ* > V Vj. *äṇəγ*, Likr. Mj. Trj. *ȧṇəγ*, J *ȧnəγ*, DN KoP Kr. *ȧnə*, Ni. Š *anə*, Kaz. Sy. Pit. *aṇ*, O *ȧn* ‘cup; plate’ (DEWOS: 114–115). Cf. PMs **ǟnī* > TJ TČ *ǟńī*, KU *ə̄nə*, P *ə̄na*, So. *āni* ‘cup, plate, vessel’.
- PKh **säṇəγ* > V Vj. VK *seṇəγ*, Likr. Mj. Trj. *sə̆ṇəγ*, J *sə̆nəγ*, DN KoP Kr. Ts. Ni. *senə*, Kaz. *sɛṇ*, Sy. *seṇ*, O *sen* ‘nit; crab louse’ (DEWOS: 1345–1346). Cf. PMs **šǟnəγ* > TJ TČ *šǟnəw*, KU *šə̄nī*, P *šə̄niγ*, So. *sāniγ* ‘nit’.

Rule 6: PU **mVnV* > PKh **mVṇ*

- PU **muna* ‘egg; testicle’ > PKh **maṇ* > V Vj. *mo̯ṇ*, Trj. *mŏn*, J *mŏn*, DN Fil. KoP Kr. *mun*, DT *măn*, Ni. *mun*, Kaz. *mo̯ṇ*, O *mon* ‘penis; testicle’ (DEWOS: 935; UEW 285–286; Sammallahti 1988: 538). Cf. PMs **man* > TJ *man*, KU *mån*, P *mon*, LO *mon* ‘testicle’; Hung (obs., dial.) *mony* ‘egg; testicle; penis’.
- PUg **minV-* ‘to tear; to dislocate’ > PKh **mäṇəm-* > Ni. Š O *menəm-*, Kaz. *mɛṇəm-* ‘to tear off’ (DEWOS: 935–936; UEW: 870–871). Cf. PMs **mänəmt-* > TJ *mänəmt-*, KU *mänəmt-*, P *mänəmt-*, So. *manəmt-* ‘to tear’; Hung (dial.) *ki-mënyül-* ‘to be dislocated (of joint)’, *ki-mënyít-* ‘to dislocate (of joint)’.

Exception:

- PU **meni-* ‘to go’ > PKh **min-* > V Vj. VK Sur. Irt. *mən-*, Ni. Š Kaz. Sy. *măn-*, O *mă̆n-* ‘to go’ (DEWOS: 931–932; UEW: 272; Sammallahti 1988: 538). Cf. PMs **min-* > TJ *mińi-*, KU P So. *min-* ‘to go’; Hung *mën-* ‘to go’. See section 3 below on the possible cause of this exception.

Forms with unexpected PKh **ṇ*[3]

- PU **enä* > PKh **äṇǟ* > V Vj. VK *eṇ₃*, Vart. Likr. Trj. *ă̆ṇ₃*, Mj. *ă̆ṇ₃*, *ă̆n₃*, J *ă̆nə*, DN KoP Kr. *enə* ‘thick; big’ (DEWOS: 109–110; UEW: 74–75; Sammallahti 1988: 541). Cf. PMs **jänəγ* > TJ *jinəw*, KU *jäni*, P *jäniγ*, So. *janiγ* ‘big’. Cf., however, another derivative from the same root: PKh **änəm-* > V Vj. VK *enəm-*, Likr. Mj. Trj. J *ă̆nəm-*, Irt. Ni. Š *enəm-*, Kaz. *ɛnəm-*, Sy. *enəm-*, (rarely) *eṇəm-* ‘to grow’. It is possible that the Mansi word with *-əγ* directly reflects the Proto-Ob-Ugric form, while in Khanty *-əγ* was secondarily replaced with another suffix. If so, both the presence of **ṇ* in the adjective and its absence in the verb can be explained by Rule 5.
- PUg **pʊn₃-* ‘to fart’ > PKh **pi̯ṇ* > DN *păn*, Kr. *păn-*, Ni. *pŏn*, Kaz. *pŏṇ*, O *păn* ‘a fart’; PKh **paṇəγ-* > V Vj *po̯ṇəγ-*, Trj. *pŏṇəγ-*, J *pŏnəγ-*, DN KoP Kr. *păna-*, Ni. *punij-*, Kaz. *po̯ṇi-* ‘to fart’ (DEWOS: 1169; UEW: 413). Cf. PMs **pɔnəγ* > TJ *ponχ*, KM *pånəγ*, P *ponəγ*, LO *ponəγ* ‘a fart’; Hung *fing* ‘to fart’. The verb has a regular **ṇ* (Rule 5), whereas the noun apparently acquired the retroflex nasal under the analogical influence of the verb.
- PU **niwa-* ‘to remove hair from skin’ > PKh **ṇaw-* > Kaz. Sy. *ṇɔw-*, O *naw-* ‘to remove hair from reindeer hide’ (DEWOS: 1024; UEW: 306; Sammallahti 1988: 546). A genuine exception.

3. The problem of secondary *ny* in Hungarian

Hungarian parallels to Khanty words listed above demonstrate the validity of the correspondence between Khanty *ṇ* and Hungarian *ny*, discovered already by Karjalainen (1913–1918:

[3] We list here only those words that have parallels in Mansi or other Uralic languages. Actually, many other Khanty words without external parallels also follow the rules formulated above.

24–25). Below we will separately list all reliable etymologies with Hungarian *ny* going back to PU **n*. These etymologies are not especially numerous, and it would be hard to formulate the conditions of the change, were it not for the fact that the same conditions are valid for the Khanty change **n* > **ṇ*. Rules 2, 3, 4 and 6, formulated above for Khanty, work for Hungarian as well. Rule 1 (PU **nč* > PKh **ṇč*) has no counterpart in Hungarian, since Hungarian has simplified all clusters of nasals and homorganic obstruents. The Hungarian reflex of PU **nč* is *r* (Aikio in press).

We do not have relevant examples for a possible Hungarian counterpart of Rule 5 (POU **…nVγ* > PKh **…ṇVγ*). The remaining rules have their counterparts in Hungarian.

Rule 2: PU **kVnV* > PKh **kVṇ,* Hung *h/kVny*.

- PU **kana-* 'to dig' > Hung *hány-* 'to throw' (UEW: 125, Sammallahti 1988: 545). Cf. PKh **kə̄ṇ-* 'to dig; to scoop', PMs **kūn-* 'to scoop'.
- PU **ka/oni* 'on one's back' > Hung *hanyatt* 'id.' (UEW: 179). Cf. PKh **kuṇ-čāγ* 'id.', PMs **kān-* 'id.'.
- PU **künä-* 'elbow' > Hung *könyök* 'id.' (UEW: 158; Sammallahti 1988: 544). Cf. PKh **küṇč-* 'id.', PMs **kün-* 'id.'.
- PUg **kəntəγ* 'light' (adj.) > Hung *könnyű* 'id.' (UEW: 862). Cf. PKh **käṇəγ* 'id.', PMs **kinγə̄* 'id.'.

Rule 3: PU **…kVn(V)* > PKh **…γVṇ,* Hung *…ny*. We have only one example for this rule in Hungarian, so it could hardly be formulated without the Khanty parallel.

- PU **ikin* 'gums' > Hung *íny* 'gum; palate' (UEW: 80–81; Sammallahti 1988: 541). Cf. PKh **ə̄γəṇ* 'chin; lower jaw', PMs **īγən* 'chin'.

Rule 4: PU **nVkkV* > PKh **ṇVk,* Hung *nyVk*. Here the Hungarian part of the rule can also be illustrated by one example only.

- PU **nokki* 'nape of the neck' > Hung *nyak* 'neck', PSelk **nuku* 'nape of the neck' (UEW: 328–329; Alatalo 2004, #1385). This etymology, rejected by Janhunen (1981) and Sammallahti (1988), can be rehabilitated if we compare it to two other cases with the same vowel correspondence:
  PU **soski-* 'to chew' > PSelk **tutu̲-* 'id.' (UEW: 448–449; Alatalo 2004, #1068);
  PU **totki* 'tench' > Hung *tat hal* 'id.', PSelk **tutu* 'crucian carp' (UEW: 532; Alatalo 2004, #1066).
  While the details of development, especially the origin of PSelk **u* in the second syllable, are not clear, the regularity of the correspondence is not in doubt.

Rule 6: PU **mVnV* > PKh **mVṇ,* Hung *mVny*.

- PU **muna* 'egg; testicle' > Hung (obs., dial.) *mony* 'egg; testicle; penis' (UEW 285–286; Sammallahti 1988: 538). Cf. PKh **maṇ* 'penis; testicle', PMs **man* 'testicle'.
- PUg **minV-* 'to tear; to dislocate' > Hung (dial.) *ki-mënyül-* 'to be dislocated (of joint)', *ki-mënyít-* 'to dislocate (of joint)' (UEW: 870–871). Cf. PKh **mäṇəm-* 'to tear off', PMs **mänəmt-* 'to tear'.

Exception:

- PU **meni-* 'to go' > Hung *mën-* 'id.' (UEW: 272; Sammallahti 1988: 538). Cf. PKh **min-* 'id.', PMs **min-* 'id.'. The exceptional behaviour of this verb may have something to do with its morphophonological peculiarity in Ugric. Helimski (1990: 64–66) has shown that Hungarian reflexes of Proto-Uralic verbs **meni-* 'to go' and **woli-* 'to be' build their present stems

with the same suffix *-ś- that forms present stems of Hungarian monosyllabic verbs of the shape CV-: *mëgy-* 'to go' < **men-ś-*, *vagy-* 'to be' < **wol-ś-*, *ëszˑ* 'to eat' < **se-ś-* < **sewi-ś-*, *vëszˑ* 'to take' < **we-ś-* < **weγi-ś-* etc. We can suppose that these two verbs became (or remained) monosyllabic already in common Ugric times. This can explain the exceptional preservation of **n:* the final consonant of a monosyllabic stem was protected from change by the immediately following initial consonants of affixes, after which the unchanged **n* was generalized to prevocalic position. It is especially important for the chronology of the change in question that this exception is common to Hungarian and Khanty.

One more rule can be tentatively formulated for Hungarian only (Khanty has **n* in the words in question):

Rule 7: pre-Hungarian **nVl/r* > Hung *nyVl/r*.

- PU **nüδi* 'handle' > Hung *nyél* (acc. *nyelet*) 'id.'. Cf. PKh **nül* 'id.', PMs **näl* 'id.' (DEWOS: 997–998; UEW: 304; Sammallahti 1988: 538).
- PUg **närk₃* 'saddle' > Hung *nyerëg* (acc. *nyerget*) 'id.'. Cf. PKh **nə̄γər* 'id.', PMs **nǟγrǟ* 'id.' (DEWOS: 996; UEW: 874). Judging by irregular vowel correspondences, the word for 'saddle', together with other horse-related terms, was borrowed separately by different Ugric languages in Common Ugric times from an unknown source. However, this does not explain the discrepancy in initial consonants. Since the position before *-r-* in this word is reminiscent of the position before *-l-* in *nyél,* and these are the only reliable etymologies where secondary *ny* in Hungarian corresponds to Khanty **n,* we prefer to postulate a separate rule for these cases.

The rule can be confirmed by one more etymology:

- PU **nara* or **nora* 'spring' > Hung *nyár* (acc. *nyarat*) 'summer', PS **nårå* 'snow crust; spring (season)' (see Janhunen 1977: 98 for Samoyed data; the comparison of Hungarian and Samoyed words was suggested by A. Dybo 2007: 170). Two etymologies of the Hungarian word are discussed in EWUng: 1) an inner-Hungarian semantic development *nyár* 'swamp' > *nyár* 'summer' and 2) borrowing from Proto-Turkic **jār²* 'spring, summer' (more precisely, from pre-Proto-Turkic **ńār²*). The first etymology involves an improbable semantic shift: parallel cases adduced in EWUng demonstrate developments like 'summer' > 'melted water', 'a place free from snow', not vice versa. Borrowing from pre-Proto-Turkic is also highly dubious, since no certain traces of such a layer of loanwords are known (see additional arguments against this etymology in Dybo 2007: 169–170). In the earliest layer of Hungarian loanwords from Turkic languages, Turkic **j-* is rendered by Hungarian *gy-* (Dybo 2007: 29–30).

4. Conclusion

We can see that Hungarian shares with Khanty Rules 2, 3, 4 and 6 together with a common exception from Rule 6 — the reflex of PU **meni-*. Moreover, despite the fact that most of the rules formulated above involve presence of a velar consonant, PU **nVkV* yields **nV(γ/w)* both in Khanty and Hungarian: PU **näki-* 'to see' > PKh **nə̈(w)-*, Hung *néz-*.

Of the three possible explanations — completely independent parallel development, diffusion of rules between closely related languages and common inheritance from an intermediate parent language — the first one can be definitely excluded. The rules formulated above are

typologically uncommon, and the existence of a common exception betrays a historical connection between Khanty and Hungarian developments. "Diffusionist" account remains a possibility, but were it true, we would expect more differences between Hungarian and Khanty rules (cf. subtle differences between effects of *RUKI*-rule in Indo-European languages). The remaining possibility involves a common intermediate node on the Uralic tree. As far as we know, no one has ever suggested a Uralic subgroup that would include Khanty and Hungarian, but exclude Mansi. The development of nasals is hardly sufficient for the postulation of such a subgroup. The only reasonable version of a "genetic" account would involve acceptance of the Ugric node. Then we could formulate Rules 2, 3, 4 and 6 as having taken place between the Proto-Uralic and Proto-Ugric stages. Under this account, Proto-Ugric **ṇ* that resulted from these rules became (marginally) phonemic as a result of analogical leveling (PKh **min-*, Hung *mën-* 'to go') and, perhaps, common borrowings from unknown languages (PKh **kiṇ-*, PMs **kan-* 'to stick'). Later, Proto-Ugric **ṇ* was preserved in Proto-Khanty, merged with **n* in Proto-Mansi (cf. the fate of **ṇ* in a number of Khanty varieties) and yielded *ny* in Hungarian.

Abbreviations for languages and dialects[4]

Hung — Hungarian	PMs — Proto-Mansi	PS — Proto-Samoyed	PU — Proto-Uralic
PKh — Proto-Khanty	POU — Proto-Ob-Ugric	PSelk — Proto-Selkup	PUg — Proto-Ugric

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[4] We use standard abbreviations for Khanty and Mansi varieties, see DEWOS for Khanty and Steinitz 1955 for Mansi.

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М. А. Живлов. Происхождение хантыйского ретрофлексного носового.

*Для прахантыйского традиционно восстанавливается ретрофлексный носовой согласный *ṇ, происхождение которого остаётся спорным. Согласно одной теории, он непосредственно унаследован из прауральского. По другой теории, прауральская фонема *n, обычно сохраняющаяся в хантыйском как *n, спорадически давала *ṇ. Мы приводим доводы в пользу того, что прахантыйский ретрофлексный носовой *ṇ является результатом регулярных позиционно обусловленных фонетических изменений.*

Ключевые слова: угорские языки, историческая фонология, ретрофлексные согласные, прауральский язык.