

# The development of non-trivial clusters with a nasal (*\*šN, \*čN, \*rN*) in Mari



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# Introductory remarks

- An overview of the history of Mari medial consonants in [Savelyev 2023]
- Of specific interest are Mari reflexes of non-trivial consonant clusters with  $*N$  ( $= *n$  or  $*ń$ ) as the second element.
- “Non-trivial” = at different stages of Mari linguistic history there existed a tendency toward elimination of such clusters.
- For ancestral stages of Mari, the actually reconstructable clusters of this type are  $*šN$ ,  $*čN$ ,  $*rN$ <sup>1</sup>.
- The aims of this talk are:
  - to explain the Mari reflexes of  $*šN$ ,  $*čN$ ,  $*rN$ ;
  - to date the sound changes wherever possible;
  - to present some new etymologies (cf. fragments of the new Proto-Mari reconstruction in [Savelyev 2022; Savelyev 2023; Напольских, Савельев 2023]).

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<sup>1</sup> I will not discuss “trivial” clusters with a glide as the first element ( $*wn$ ,  $*jn$ ), which were not prohibited in Proto-Mari.

# External evidence for dating sound changes in Mari

- Old Chuvash loanwords into Common Mari dialect continuum (13-15<sup>th</sup> centuries AD)
  - 1700+ borrowed stems (excluding borrowed derivatives!).
- Volga Bulghar loanwords into Proto-Mari (10-13<sup>th</sup> centuries AD)
  - At least a dozen of reliable borrowings: CM \**ćôwlkâm* ‘omentum’, \**ôwâžâ* ‘male’, \**βûjrâś* ‘prince’, \**βûjβâr* ‘tax gatherer’, \**βûjr* ‘awl’, \**βulδâr-ćan*, \**βulδâr-ćâ* ‘quail’, \**βγδ-əl-* ‘to wrap’, \**käβä* ‘sky’, \**käk* ‘bluish’, \**koryâ* ‘feed, fodder’, \**jeŋ* ‘person’. Cf. also \**βinēr* ‘linen’ (an even earlier loan from Bulghar based on \**ń*, cf. PTK \**bEńr*).
- Meryan comparanda (pre-8<sup>th</sup> century AD)
  - Growing consensus on the close relationship between the Mari and Meryan languages [Матвеев 2001; 2015a; 2015b; Смирнов 2015; Напольских 2016; Напольских, Савельев 2023].
  - Archaeological ties between the Mari and the Merya in the 1<sup>st</sup> millennium AD ([Никитина 1999], etc.).

# The timeline of Mari linguistic (pre)history

*Proto-Uralic (PU)*

*<substrate loans in “West Uralic”  
(WU)>*

*pre-Proto-Mari (pre-PM)*

*intermediate stages between PU and PM, incl. Proto-Mari-Meryan (cf. Meryan comparanda)*

*proto-Mari (PM)*

*(cf. loanwords from pre-Mongol period Volga Bulghar)*

*Common Mari (CM) dialect  
continuum*

*(cf. loanwords from post-Mongol period Old Chuvash)*

*diverged Mari varieties, incl. Meadow  
Mari (M), the Eastern dialect (E), Hill  
Mari (H), Northwestern Mari (NW)*



1.\*šN

**Rule 1.1:** WU \*šn > pre-PM \*St > PM, CM \*št after an initial \*š-, otherwise \*st

WU \*čäšnä ‘woodpecker’ > pre-PM \*śISt<sub>3</sub> > PM, CM \*šîštə ‘id.’;

WU \*šVšnA ‘leather (strap)’<sup>1</sup> > pre-PM \*šŸSt<sub>3</sub> > PM, CM \*šŸštə ‘tanned leather; strap’;

PU \*üwä ‘belt’ + WU \*šVšna ‘leather (strap)’ > pre-PM \*Ÿw<sub>3</sub>=šŸSt<sub>3</sub> > PM \*Ÿ[wə]=šŸštə (with a contraction of a sequence with a glide in the first part of a compound<sup>2</sup>) > CM \*[Ÿš]Ÿštə ‘belt’ (with a regular haplology<sup>3</sup>);

WU \*päšnä ‘lime-tree’ > pre-PM \*pISt<sub>3</sub> > PM, CM \*pîstə ‘id.’.

Cf. [Fi. \*vehnä < WU \*wešnä] ~ \*wejšnä ‘spelt’ > pre-PM \*wiJStə > PM \*βijstə > CM \*βîstə ‘id.’ – both vowel and consonant reflexes point to a highly palatalized context ⇒ \*j in the ancestral form.

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<sup>1</sup> Cf. [Jakob 2024: 87–88]. || <sup>2</sup> Cf. \*pûw ‘wood’ + \*tîj ‘louse’ > \*pυdij ‘tick’ (~ Tat. *urman* ‘forest’ + *bət* ‘louse’ > *urman bət-ə* ‘tick’). || <sup>3</sup> Cf. [UEW 575]. Aikio’s [UED: 98] objections against the haplology hypothesis (“an ad hoc speculation”) are not justified. Cf. other instances of haplology in Mari: CM \*jɔŋâž-âšt- [grind-INTENS] > \*jɔŋâšt- ‘to grind’, CM \*kyč-âncâ- [scratch-INTENS] > \*kyncâ- ‘to dig’, CM \*mɔn-âncâ- [egg-VBLZ] > \*mɔncâ- ‘to lay eggs’, etc.

# Reflexes of \*šn in Mari varieties: a generalization<sup>1</sup>

Ancestral forms	Meadow	Eastern	Hill	Northwestern
*čäšnä ‘woodpecker’ > PM, CM *šišťa	št	št	št	št
*šVšnA ‘leather (strap)’ > PM, CM *šyštə	št	št (~ st)	št	št
*ürwä ‘belt’ + *šVšnA ‘leather (strap)’ > PM *γ[wə]=šyštə > CM *[γš]yštə	št	št	št	št
Cf. ?*čestV vel sim <sup>2</sup> ‘wax’ > PM, CM *šištə	št	št	št	št
*päšnä ‘lime-tree’ > PM, CM *pîštə	st (~ št)	št (~ st)	st	št (~ st)
Cf. *täštä ‘star’ > PM, CM *tîštə ‘sign’	st (~ št)	št	št	št
*wejšnä ‘spelt’ > PM *βijštə > CM *βîštə	st (~ st)	št ~ st	št (~ st)	št
Cf. a borrowing from OCh. *pīšə ‘flexible’ + a reflex of PU *tulka ‘feather’ > CM *pîš-təl ‘feather’	st (~ st ~ št)	št ~ st	-	št (~ st)

<sup>1</sup> Based on [TschWb, MNySz, CMЯ, CTЯ, CCЗНМЯ]. || <sup>2</sup> Jakob 2024: 87–88.

# Meryan comparanda: the term for ‘lime-tree’<sup>1</sup>

Stem	Variants in toponymy	Toponyms
<i>*pestV ~ *pistV</i>	пестV	Песта, a river (Kostroma)
		Пестуш, a river (Vladimir)
		Пестенька-1, a river (Kostroma)
		Пестенька-2, a swamp (Kostroma)
		Пестенька-3, a village (Kostroma)
		Пестовка, a river (Kostroma)
	пистV	Пистома, a river (Kostroma)
		Пистяки, a village (Vladimir)
		Пистега, a river (Kostroma)
	пиздV (a folk-etymological reinterpretation)	Пиздома, a river (Yaroslavl)

The shape of the Meryan word suggests that *\*šn* developed into a cluster of two obstruents as early as in (pre-)Proto-Mari-Meryan.

<sup>1</sup> Based on [Матвеев 2015a].



# Secondary \*šN in Common Mari

At morpheme boundaries (\*š(V)-final stems or suffixes + \*(V)n-initial suffixes) in inherited or borrowed vocabulary:

M *lišně*, H, NW *lišnə* ‘near, next to sth’ < CM, PM \**lišnə* < pre-PM \**lišə-n*<sub>3</sub> [LOC] < PU \**läši-nA*;

H *jišnə*- ‘to ache (of bones or joints)’ < CM \**jišnə*- ← OCh. \**jiš-ən*- (cf. Ch. *jâž-âx*-, *jâš-ka*- ‘id.’).

2.  $*rN$

## Rule 2.1: pre-PM *\*rN* > PM *\*rtN*

Ir > U (dial.) *\*ser(a)ńa* ‘gold’<sup>1</sup> > pre-PM *\*šyrńɜ* > PM *\*šyrtná* > CM *\*šûrtńa* ‘id.’;

[Fi. *\*sarni* ‘ash-tree’ ← a substrate source] → pre-PM *\*šerńa* ~ *\*šärńa* > PM, CM *\*šertńa* ~ *\*šärtńa* ‘берба = a kind of willow’.

The same development took place in CM *\*mûrtńa* ‘roe’. Despite the apparently irregular vocalic correspondences, the word can hardly be separated from PMs *\*márnä* ‘id.’<sup>2</sup> (> ? PKh *\*mārən*). The Mari word goes back to PM *\*myjrtńa* < pre-PM *\*myjrńa* (< ? an earlier *\*mer[HV]na*<sup>3</sup>).

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<sup>1</sup> Holopainen 2019, 232: PU *\*syr(a)ńa* ‘gold, metal’. The Mari reflex is interpreted as a reflex of another variant of the term for ‘gold’ (*\*serńä*; p. 234), but in my version of Mari historical phonology CM *\*šûrtńa* can only go back to *\*ser(a)ńa* [= *\*syr(a)ńa*]. || Cf. [UEW 295; Живлов 2006: 144]. || <sup>3</sup> The Mari word has been connected to *\*mûrə* ‘berry’ < PU *\*merja* in the Uralistic literature (cf. [Metsäranta 2023: 177–178]). If correct, then a shared derivative *\*merja-na* in Mansi and Mari? For a secondary *\*ā* before *\*j* in Mansi, cf., e.g., PU *\*nojta* > PMs *\*nājt* ‘shaman’ (M. Zhivlov, p.c.).

# Meryan comparanda: the term for ‘willow’<sup>1</sup>

Stem	Variants in toponymy	Toponyms
*šärnV	шарнV	Шарна, a river (Yaroslavl)
		Шарна, a village (Yaroslavl) – near the village of <i>Ивушка</i> (!)
		Шарниха, a village (Kostroma) – near the village of <i>Вербуха</i> (!)
		Шарная, a river (Kostroma)
		Шарновка, a river (Kostroma)
		Шарново, a village (Kostroma)
	шернV	Шерна, a river (Moscow)
	?шорнV (may be unrelated)	Шорна = Шорнега = Шорнога, a river (Vladimir)

The Meryan form suggests that the epenthetic development of \*rN into \*rtN took place after the split of Proto-Mari-Meryan.

<sup>1</sup> Based on [Матвеев 2015a].

# \*RN in Mari vocabulary of Old Chuvash origin

- The sound change was no longer active in the post-Mongol period, based on the following loan etymologies:

OCh. \**ärńä* ‘week’ (> Ch. *erńe*, dial. *arńa*) → CM \**ärńä* ‘id.’;

OCh. \**pǝrńa* ‘finger’ (> Ch. *porńe*, dial. *porńa*) → CM \**pǝrńa* ‘id.’;

Cf. also CM \**Särnə-* ‘to remember’, \**Särn-ältə-* ‘to commemorate (the deceased)’ ← ? a reflex of Common Turkic \**sarn-a-* ‘to sing (a sad song)’; see [turcet #1867].

- Occasional exceptions should probably be explained by etymological nativization<sup>1</sup>:

OCh. \**torńa* ‘crane’ (> Ch. *tǝ<sup>o</sup>rna*, dial. *tǝ<sup>o</sup>rńa*, *tǝ<sup>o</sup>rńe*) → CM \**torńa* > M *turńa*, NW *tǝ<sup>o</sup>rńa*, H *tǝrńa* along with (dial.) *tǝrtńa* ‘id.’.

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<sup>1</sup> Cf. [Aikio 2007].

# Dating of $*rN > *rtN$ and Volga Bulghar loanwords in Mari

- Considering the limits of dating for the sound change (the breakup of Proto-Mari-Meryan in the second half of the 1<sup>st</sup> millennium AD  $\leftrightarrow$  mass borrowing from Old Chuvash in the post-Mongol period), it can approximately be dated to the Volga Bulghar era (10–13<sup>th</sup> centuries).
- Indeed, there is at least one reliable case of VB  $*rN \rightarrow$  PM  $*rN > *rTN$ :

PTk  $*\epsilon\delta\eta r >$  VB  $*VrNVr$  ‘saddle’ (cf. OCh.  $*\epsilon j n \ddot{a} r >$  Ch.  $j \ddot{a} n \ddot{a} r$ )  $\rightarrow$  PM  $*[ \ddot{o} ] r \acute{n} V r > * \ddot{o} r t \acute{n} V r$  ‘id.’. – The word is obviously borrowed from a VB variety where PTK  $*\delta > r$ , including /  $*\_ (C) V r$  (while in Chuvash,  $*\delta > r$  but  $*\delta > j / *\_ (C) V r$ ). The Chuvash development (with a metathesis) is reflected in M  $\ddot{o} r \hat{a} n \acute{c} a k$  ‘седёлка (an element of horse harness)’, cf. Ch.  $j \ddot{a} n \ddot{a} r - \acute{z} \acute{a} k$  ‘id.’.

- Cf. also M  $a \gamma u r t \acute{n} \ddot{o}$ , E  $a \beta \hat{a} r t \acute{n} \acute{e}$ ,  $a \gamma \ddot{u} r t \acute{n} \ddot{o}$ , H, NW  $\ddot{a} r t \acute{n} \acute{a}$  ‘воробы (a tool used in weaving)’  $<$  PM  $* \ddot{a} w \acute{a} r t \acute{n} \acute{a} < * \ddot{a} w \acute{a} r \acute{n} \acute{a} \leftarrow$  Late VB / Early OCh.  $* \ddot{a} w \acute{a} r - n V$  (cf. PTK  $* e g i r - >$  VB, OCh.  $* \ddot{a} w \acute{a} r - >$  Ch.  $a v \hat{a} r -$  ‘to wrap round’)  $\rightarrow$  Tat.  $\ddot{a} w \acute{a} r n \acute{a}$  ‘воробы’. Based on the simultaneous (?) borrowing into Tatar, the word may have entered Mari after the Mongol invasion, but  $* r t \acute{n}$  suggests that the contact preceded mass borrowing from Old Chuvash into Common Mari.

# Possible counterexamples

Based on the examples below, it seems that  $*rN > *rtN$  did not happen in a back-vocalic environment<sup>1</sup>. However, such a restriction can hardly be justified in terms of phonetic typology, and all the possible exceptions turn out to be problematic.

1. CM  $*Sû(wâ)rnâ$  ‘cereal, grain’ – the word has no widely accepted etymology<sup>2</sup>, but its shape strongly reminds of OCh.  $*svwâr-$  > Ch.  $sâ°vâ°r-$  ‘to winnow’. If Mari borrowed a nominal derivative such as OCh.  $*svwâr-nâ$  (PTCP.PERF) ‘what has been winnowed’ (for the use of  $-n\Theta$  as a derivational suffix, cf. Ch.  $xâ°rt-nâ$  ‘подсека = a piece of land cleared of wood for cultivation’ <  $xâ°rt-$  ‘to clear wood’), the borrowing must have taken place after  $*rN > *rtN$ . The Malmyž form  $\check{s}urno$  seems to contradict the Chuvash etymology (one would expect  $s-$  as a reflex of an ancestral  $*s-$ ), but note other instances of an unexpected Malmyž  $\check{s}-$  in similar contexts:  $\check{s}u-$  ‘to row’ < CM  $*Sûw-$  < PU  $*suxi-$ ,  $\check{s}u-$  ‘to arrive’ < CM  $*Sôw-$  < PU  $*saxi-$ .

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<sup>1</sup> Cf. the same conclusion in [Metsäranta 2023: 178]. || <sup>2</sup> Cf. a rather speculative Indo-Iranian etymology in [Metsäranta 2020: 203].

# Possible counterexamples

2. CM *\*pvrńa* ‘кузовок (a k. of basket)’ – an Eastern European Wanderwort (~ Ru. *бурня*, Zyr. *burńa*, Udm. *bərńo*, Fi. *purnu*, Ch. *pə<sup>o</sup>rme*, *pə<sup>o</sup>rńe*; see [АНИКИН, РЭС 5: 182]), likely of substrate origin. The word may have entered Mari after *\*rN > \*rtN*.

3. M, H, NW *kurnâž* ‘kite; raven’ – in view of the inter-dialectal correspondence *-n- ~ -m-* (cf. M dial., H dial. *kurmâž*), the word should probably be reconstructed as CM *\*kûrŋâž* (*\*rŋ ≠ \*rN* as *\*N = \*n, \*ń*).

4. CM *\*kôrnâ* ‘furrow, line; road’ – a derivative of CM *\*kɔrâ-* ‘to draw, to furrow’. The ancestral form may still have been *\*kɔrâ-nâ* at the time of *\*rN > \*rtN*.



3. \*čN

pre-PM, PM, CM \**peč-kə*- [REFL] > M *peč-k-alt-*, H *peč-kə-*, *peč-k-ält-*, NW *pec-k-ält-*, *pic-k-ält-* ‘to bud’

vs.

pre-PM \**peč-ńV* > Early PM \**perńV* or \**petńV?* > \**pertńV* > M *pertně*, (dial.) *pertné*, Γ *pärtńä* ‘bud’.

# Interpretation 1: pre-PM \*čN > \*rN? > \*rtN

- As a typological parallel, cf. \*č > r / \*n\_ in the history of Hungarian:

PU \*künci ‘nail’ > Hu. *köröm* ‘id.’;

PU \*ponči ‘tail’ > Hu. *far* ‘buttocks, ass’ [Aikio 2018: 79–83].

- Cf. also a non-trivial Hill Mari development (a distant assimilation \*-čCVn- > \*-rCVn-?) in the following case:

PU \*pečka- ‘to twist (a thread)’<sup>1</sup> > pre-PM \*pock(V)- > PM, CM \*pock-ânc(â)- [INTENS] ‘id.’ > M *počkińća-*, (!) H *parkânz-*, NW *packânc-*. – The H reflex reminds of Ch. *parga* ‘tough, stiff; thick’ as in *parga vâ°rân* ‘thick rope’, but the connection is semantically uncertain and phonetically problematic. The true continuation of the Ch. etymon in Mari is H *parya* ‘hasty, restless (of a horse)’ (this meaning is attested in Chuvash, too). Eventually, H *parkânz-* ‘to twist (a thread)’ cannot be separated from the M and NW forms with the same semantics.

- If pre-PM \*čN > \*rN, then the intermediate \*perńV ‘bud’ would regularly yield \*pertńV, see Rule 2.1.

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<sup>1</sup> UEW 346: PU \*pačk3- (\*pačk3-). Aikio, 2018, a [comment](#) in J. Pystynen’s blog: PU \*pečka- (> Mari).

## Interpretation 2: pre-PM \*čN > \*tN? > \*rtN

- The Tušnal variety of Hill Mari (TH) documented by Ramstedt (1902) shows  $T, \check{c} > rt / \_n, l$ ; see Beke (1911: 80–81). Cf.:

CM \*βɔδ-nâ ‘in the evening’ > TH βartnâ, Ru. видно ‘apparently’ > TH βirtnə, Ru. досадно ‘what a shame!’ > TH tosartna, CM \*jätlǎ- ‘to scold’ > TH järtlǎ-, CM \*kûwatlâ ‘strong’ > TH kuartlâ, etc.;

CM \*kɔč[k]-nem [DES.NPST.1SG] ‘I want to eat’ > TH kartnem, CM \*pɔč-nem [DES.NPST.1SG] ‘I want to open’ > TH partnem, etc.

- Occasionally, the \*čN > (\*tN?) > rtN change is attested in other sources on Hill Mari, cf. mârtnâ documented along with mâčnâ < CM \*mυč-nâ [LOC] ‘on the end of sth’ in [СГЯ].

## Interpretation 2: pre-PM $*čN > *tN? > *rtN$

- In the following case,  $*tn > rtn$  has a much wider, almost pan-Mari distribution:

OCh.  $*bytnək$  ( $>$  Ch.  $pə^{\circ}tnə^{\circ}k$ ) / VK  $*bytnək$  ( $>$  Tat., Bash.  $bötnök$ ) ‘mint’  $\rightarrow$  CM  $*pyrtńək > *pyrtńək >$  M  $pürtńâk$ , H  $pürtńək, pærtńək$  ‘id.’. – Occasional variants such as M (dial.)  $pütńək$ , E  $pütńə^{\circ}k$  may represent a later, nearly unadapted borrowing from Tatar.

- Note the identical context  $p-rtn$  in CM  $*pertńV$  ‘bud’ and  $*pyrtńək$  ‘mint’.

$\Rightarrow$  CM  $*tN$  (in borrowed vocabulary or from an earlier  $*čn$ )  $> *rtN / p_?$

# Secondary \*čN in Common Mari

At morpheme boundaries (\*č(V)-final stems + \*(V)n-initial inflectional affixes):

M *počna*, H *pačna*, NW *pacna* ‘(we) opened’ < CM \**pɔč-na* [open-PST.1PL] < PU \**panča-*;

H *máčnâ*, NW *mâ°c-nõ* ‘on the end of sth’ < CM, PM \**mɔčnâ* < pre-PM \**mɔčɰ-nɰ* [LOC] < PU \**muča-nA*, etc.

# Multiple sources of *\*rtN* in Common Mari

## Ancestral cluster

## Examples

*\*rN*

CM *\*mûrtńa* ‘roe’, *\*šertńa* ~ *\*šärtńa* ‘willow’

*\*čN*

CM *\*pertńV* ‘bud’

*\*tN*

CM *\*pyrtńak* ‘mint’

*\*rTVN*

OCh. *\*syrdan-* ‘to touch’ (> Ch. *sə°rdə°n-*) → CM *\*syrtńa-* > M *šürtńa-*, H *šatńa-* (but *šartńak* ‘obstacle, hindrance’), NW *šə°rtńa-* ‘to stumble, trip over’

? CM *\*kyrtńa* ‘iron’ (if its IIr etymology is correct<sup>1</sup>)

<sup>1</sup> Holopainen 2019, 121–122: Md E *kšne*, *kšni*, M *kšni* ‘iron’, Ma *kürtńö*, *kərtńi* < ? *\*kürtńV* ← PII *\*kṛti-* > OI *kṛti-* ‘dagger, knife’, PII *\*kártana-* > OI *kártana-* ‘a cut’.



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# Abbreviations

## *Languages and language groups*

Bash. – Bashkir

Ch. – Chuvash

CM – Common Mari

E – Eastern dialect of Mari

Fi. – Finnish / \*Finnic

H – Hill Mari

Hu. – Hungarian

Iir – Indo-Iranian languages

M – Meadow Mari

NW – Northwestern Mari

OCh. – Old Chuvash

PKh. – Proto-Khanty

(pre-)PM – (pre-)Proto-Mari

PMs – Proto-Mansi

PTk – Proto-Turkic

PU – Proto-Uralic

Ru. – Russian

Tat. – Tatar

TH – Tušnal variety of Hill Mari

U – Uralic languages

Udm – Udmurt

VB – Volga Bulghar

VK – Volga Kypchak

WU – “West Uralic”

Zyr. – Komi Zyrian

## *Glosses*

DES – desiderative

INTENS – intensive

LOC – locative

NPST – non-past tense

PERF – perfective

PL – plural

PST – past tense

PTCP – participle

REFL – reflexive

SG – singular

VBLZ – verbalizer

1 – first person

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