Mary historical phonology and the areal factor in linguistic reconstruction

Alexander Savelyev (Institute of Linguistics, RAS)

Nostratic Seminar, 24.11.2022

0. Introduction

State of the art

- The importance of Mari evidence for the Chuvash linguistic history
- Chuvash-Mari contacts (mostly in the post-Mongol invasion period). Significant progress was made in a number of fundamental works over the 20th century (Räsänen 1920; Fedotov 1990), but many aspects remain poorly understood.
- It is impossible to establish the Chuvash–Mari "correspondences" (rules for the sound substitutions in Chuvash loans into Mari) based on the current state of research – especially for vowels.
- The history of Chuvash vocalism is well researched and described in much detail, mainly in the works by O. A. Mudrak (1993, 1994, 2002, 2006).
- To what extent is that true for the history of Mari vocalism?

Reconstruction of Proto-Mari first-syllable vocalism

- The works by E. Itkonen (1954), G. Bereczki (1994);
- A critical evaluation of these works and a new reconstruction in (Aikio 2014).

i	ü		u
ĭ	ŭ		ŭ
e			o
ä		a	å

- Aikio's paper is rightfully seen as a big step forward in Proto-Mari reconstruction (criticism of resorting to "sporadic" changes; search for specific contexts in which certain phonological changes took place).
- Yet, both internal Mari issues and external (genealogical + areal) considerations call for a radical re-interpretation of the Proto-Mari vowel system (and beyond).

Issues in Mari historical phonology

- a large number of Mari lexemes lack an etymology (and are still involved as etymological material in the Proto-Mari reconstruction)
- a large number of non-trivial correspondences between the Mari varieties that have not been discussed in the previous literature
- “unconditioned” split developments from Proto-Uralic to Proto-Mari
- (!) the historical phonology of Mari is not correlated with those of other languages of the Volga-Kama Sprachbund (first of all, Chuvash and the Volga Kypchak languages).

Solution

- The problem cannot be solved from a Uralic perspective alone: the number of inherited lexemes in Mari is very limited (ca. 300–350?). Given the objective complexity of Mari historical phonology, it is impossible to provide a valid reconstruction solely based on the native vocabulary (cf. ca. 900 inherited lexemes underlying the study of Chuvash historical phonology in Mudrak 1993). At the same time, the number of **old** Turkic loans in Mari exceeds 2000.
- Further progress in the Proto-Mari reconstruction requires:
  - an analysis of Turkic lexemes borrowed into Late Proto-Mari;
  - mutual correlation and synchronization of Mari & Volga Turkic historical phonologies.

Primary objectives

- compiling an etymological dataset based on the Большой марийско-русский словарь (1990-2005) and other lexicographic sources
- focus on internal analysis (incl. morphophonology, derivational patterns, obscure compounds, etc.)

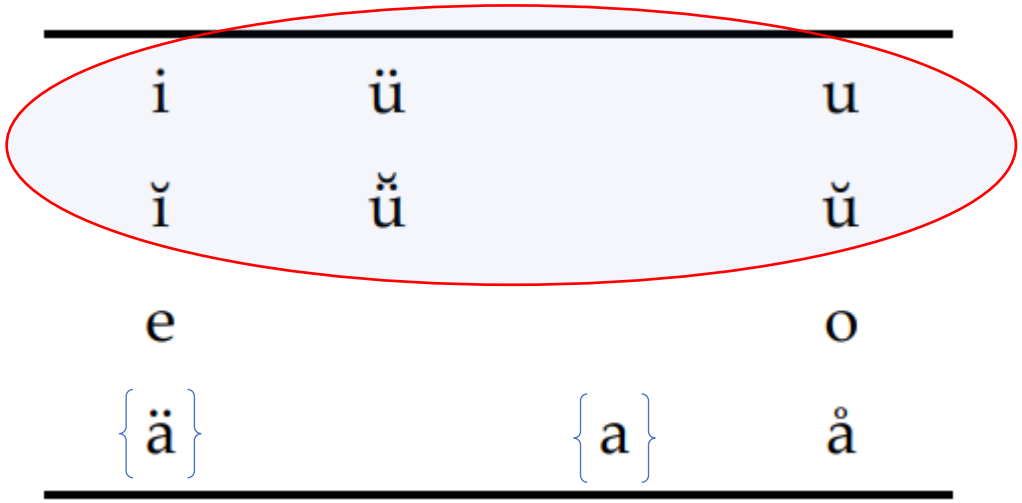
Caveats and conventions

- a Turkological background
- the up-to-date PU reconstructions taken from overviews by A. Aikio and. M. A. Zhivlov
- both Mari and Volga Turkic data presented in UPA (wherever possible)
- terminology: Volga Bulghar : Old Chuvash; pre-Proto-Mari: (Late) Proto-Mari : Common Mari; East Mari (incl. Meadow Mari) : West Mari (incl. Hill Mari).

1. A reconstruction of Proto-Mari first-syllable vowel system

The Proto-Mari close “reduced” and “full” vowels

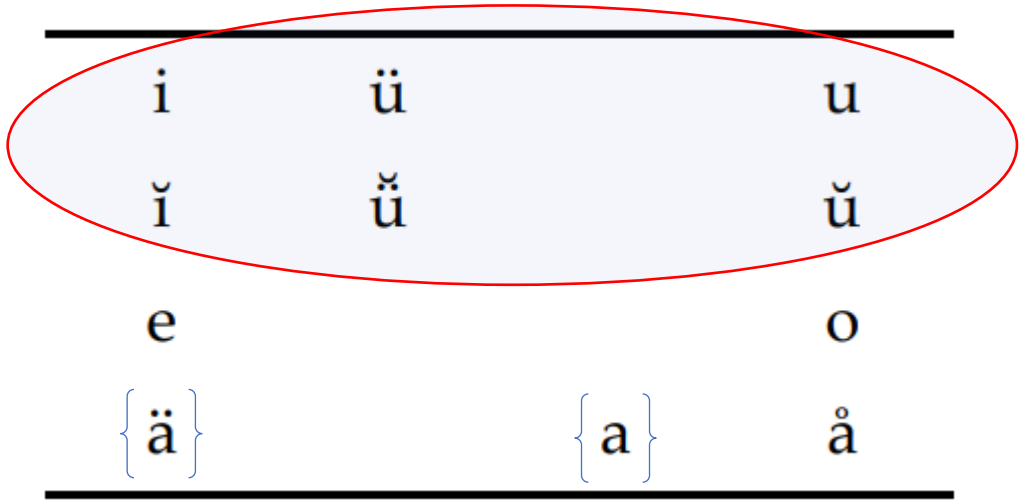
PM *ĭ	>	MM i (-ə̑- in certain contexts)
		HM ə
PM *i	>	MM i
		HM i
PM *ŭ	>	MM ü
		HM ə (NW ə̊)
PM *ü	>	MM ü
		HM ü
PM *ŭ	>	MM u
		HM ə̑ (NW ə̑°)
PM *u	>	MM u
		HM u



- Itkonen 1954: the contrast “full vs. reduced” reconstructed back to PM
- Bereczki 1994: reduced vowels as a result of secondary “sporadic changes” + an attempt at discussing the Mari contrast together with very similar oppositions found in Chuvash & Tatar

The Proto-Mari close “reduced” and “full” vowels

PM *ĭ	>	MM i (-ə̑- in certain contexts)
		HM ə
PM *i	>	MM i
		HM i
PM *ŭ	>	MM ü
		HM ə (NW ə̊)
PM *ü	>	MM ü
		HM ü
PM *ŭ	>	MM u
		HM ə̑ (NW ə̑°)
PM *u	>	MM u
		HM u



- Aikio 2014: support for Itkonen’s viewpoint + following observations:

The original distinctive factor between Proto-Mari *i, *ü, *u and *ĭ, *ŭ, *ŭ was not necessarily full vs. reduced articulation. It is likely that the opposition became phonetically restructured as such under the influence of Turkic languages. The original distinctive factor could also have been length or height, or a combination of these features.

1) PMari *ĭ and *ŭ are reflexes of PU close and mid front vowels (*i, *ü and *e), whereas PMari *i and *ü are reflexes of PU *ä and *į. There appears to be one minor conditioned exception: PU *jä- and *ńä- can be reflected as PMari *jĭ-.
2) PMari *ŭ is the reflex of PU *u, whereas PMari *u occurs as the reflex of PU *o. There is a conditioned exception: PMari *ŭ can also reflect PU *o when adjacent to a labial consonant (*p, *m or *w).

The Mari close vowels from an areal perspective

- The Mari vowel system is synchronically very similar to those of Volga Turkic languages (cf. esp. Hill Mari & Chuvash, esp. Northern Chuvash varieties). From a historical viewpoint, this should be seen as a result of convergence of the corresponding (originally dissimilar?) vowel systems. Shared phonological isoglosses must be *unidirectional*.
- This is not the case if we look at the current Mari reconstruction against the background of Volga Turkic.

The Mari close vowels from an areal perspective

Current Mari reconstruction			*Chuvash (& Volga Kypchak)*		
*Ĭ, Ŭ	>	**MM** I, U **HM** Ə **(NW** Ĭ, Ŭ**)**	*I, U	>	Ĭ, Ŭ ~ Ə
*I, U	>	MM I, U HM I, U (NW I, U)	*Ij, Uw	>	I, U

Cf.:

Ch. śə̑°rda ‘eye of a needle’ < PTk *jūrtu vs. śûrə̑, dial. śə̑°vrə̑ ‘young of an animal’ < PTk *jabrï.

The Mari close vowels from an areal perspective

A revised Mari reconstruction?			*Chuvash (& Volga Kypchak)*		
*I, U	>	**MM** I, U **HM** Ə **(NW** Ĭ, Ŭ**)**	*I, U	>	Ĭ, Ŭ ~ Ə

(at least, in some cases)

*Ij (+ *Iw?), *Uw >		**MM** I, U **HM** I, U (**NW** I, U)	*Ij, Uw	>	I, U

A new interpretation: “lax” vs. “tense” close vowels

- Cf. the contrast between lax and tense vowels in the history of Chuvash (Mudrak 1993, SIGTJa 2002) and partly in the contemporary Chuvash (the opposition between the “plain” u (~ Upper Chuvash o) and the tense ụ (= û) emerging from old sequences with a glide.
- Notation: *ɪ, *ʏ, *ʊ for “lax” Proto-Mari close vowels; *î, *ü̂, û for “tense” Proto-Mari close vowels.

Lax vs. tense close vowels in PM: evidence from Tk loanwords

Old Chuvash:

MM šulə̑k, HM šulə̑k < PM *sû̑wlə̑k ‘health’ <= OCh. *sɨwlə̑x > Ch. sɨvlə̑x, dial.NW sû̑lə̑x ‘id.’;

MM šuarə̑-, HM šuarə̑- < PM *šû̑warə̑- ‘to heat (tr.)’ <= OCh. *šuwar- > Ch.. šə̑ᵒvar- ‘id.’;

NB: the Mari forms cannot be explained based on the modern Chuvash phonology (one would expect HM šə̑βarə̑-).

MM šülə-, HM šülə- < PM *sû̑wlə- ‘to breathe’ <= OCh. *süwĺä- > Ch. dial. süĺä- ‘id.’ (cf. Standard Ch. sɨwla-);

MM iɣ-ə̑lt-, HM iɣ-əlt- < PM *î̑jɣ-əlt- ‘to mock’ <= OCh. *ijk- > Ch. jək- ‘id.’ (with an expected metathesis).

Lax vs. tense close vowels in PM: evidence from Tk loanwords

Volga Kypchak:

MM kurćak < PM *kûw(ə̂)rćak ʻdollʼ <= VK *quwə̂rćaq > Tat. qurćaq ʻid.ʼ.

Cf. Kazakh, KKalp., Nogh. quwɨršaq with a retained *-uw- sequence. PTk *Kogur- (turcet #482).

MM (dial.) purlŏ, HM purlə̂ < PM *pûwr(ə̂)lə̂ ʻbay (horse)ʼ <= VK *buwrə̂lə̂ > Tat. burlə̂ ʻroan, bay-roanʼ (technically, can be a Chuvashism as well: pə̂°və̂°rlə, dial. pûrlə̂);

MM pura, HM pura < PM *pûwra ʻlog-houseʼ <= VK *buwra > Tat. bura ʻid.ʼ (can be a Chuvashism as well: Ch. pûra, (!) dial. pə̂°vra);

MM kiš, HM kiš < PM *kî̂jəš (regularly from **kûjəš) ʻresin, (pine) pitchʼ <= VK *küjəš ʻcudʼ > Tat. küš-ä- ʻto chewʼ (< +küjš-ä-), (!) Bash. kŏ̆jŏ̆š ʻcudʼ;

Cf. an example in БМРС: *кишым пураш* ʻжевать смолуʼ.

Close vowels before inherited PM *w, *j (re-interpreted by analogy)

PU *k, *x, *w, *n, *ń, *ŋ, *δ, *δ́, *j > intermediate *w, *j > zero, not vice versa!

*I > *i̭:
*šij̭ ‘catfish’ (< PU *ćeki), *čij̭ə- ‘to dress’ (< PU *čäkä-), *tij̭ ‘louse’ (< PU *täji), *pij̭ ‘dog’ (< PU *peni), *mij̭ə- ‘to come’ (< PU *meni-), *lij̭- ‘to become’ (< *lV̈wi-), *kij̭žə- ‘to freeze’ (< PU *käncV-), *i̭j ‘year’ (< PU *jekä), *i̭j ‘ice’ (< *jäŋi), *i̭j- ‘to swim’ (< PU *uji-), *kij̭ə ‘moth’ (< PU *käjä), *wij̭ ‘strength’ (< PU *wäki), *wi̭j ‘straight’ (< PU *weni-), *čij̭čə ‘tannin’ (< PU *čijči), *ji̭wr(ə) ‘lake’.

*Y > *ü: *šüw ‘coal’ (< PU *ćüδi), *šüw ‘neck’ (< **ćewä < PU *ćepä), *süw ‘pus’ (< PU *sexji), *tüjəž ‘pregnant (of animals)’ (< PU *tejniši), *püj ‘tooth’ (< PU *piŋi), *lüwə- ‘to shoot’ (< PU *lewi-), *küj- ‘to cook (intr.)’ (< PU *keji-), *küw ‘stone’ (< PU *kiwi)

*ʊ > *u: *šuwar ‘mortar’ (< U dial. *šuwar), *uw ‘new’ (< PU *wuδi), *šuw- ‘to row’ (< PU *suxi-), *puwə- ‘to blow’ (< PU *puwa-), *puw ‘wood’ (< **puwi < PU *pawi), *luw ‘bone’ (< **luwi < PU *lɐwi), *luw ‘ten’ (< PU luka), *kuwδ ‘six’ (< *kuwVti), *šuwn ‘clay’ (< PU *ćuwini), *šuw ‘eye (of a needle)’ (< PU *ćuwi).

Other sources of PM * *î, *ü, û

*ʏ > *ü̂, *ʊ > *û before a (pre-)PM consonant cluster with a velar / labial as the first element (most obviously *ks, *kš + less commonly other combinations):

*ûks-ə̂nć- ʻto vomitʼ (< PU *oksi-), *ûks ʻbranchʼ (< PU *oksa), *šûks ʻwormʼ (< PU *soksi), *pûkš ʻnutʼ (< U dial. *päkši), *mûkš ʻbeeʼ (< U dial. *mekši), *jûkšə- ʻto get colderʼ (< PU *jäkši-), *kûkšə̂ ʻdryʼ (PU *koksa), *jûkćə ʻswanʼ (< ? **jüŋkići or the like), *müŋ-gə ʻhomeʼ (< PU *müŋä-), *ûps ʻsmellʼ (< PU *ipsi).

*ɪ > *î before PU *š:
*šîštə ʻwoodpeckerʼ (< ? U *ćäšnä), *pîštə (< U *päšnä), *lîš- ʻnearʼ (< PU *läši), *wîštə ʻspeltʼ (< U *wešnä).

- old developments (no Turkic loanwords involved)
- most likely, the tense vowels *î, *ü̂, *û were introduced into the pre-PM vowel system as a result of these changes

Other sources of PM * *î, *ü, û

One more late development: **wʊ- > *wû- in closed syllables (inherited vocabulary + Alanisms + Chuvashisms):

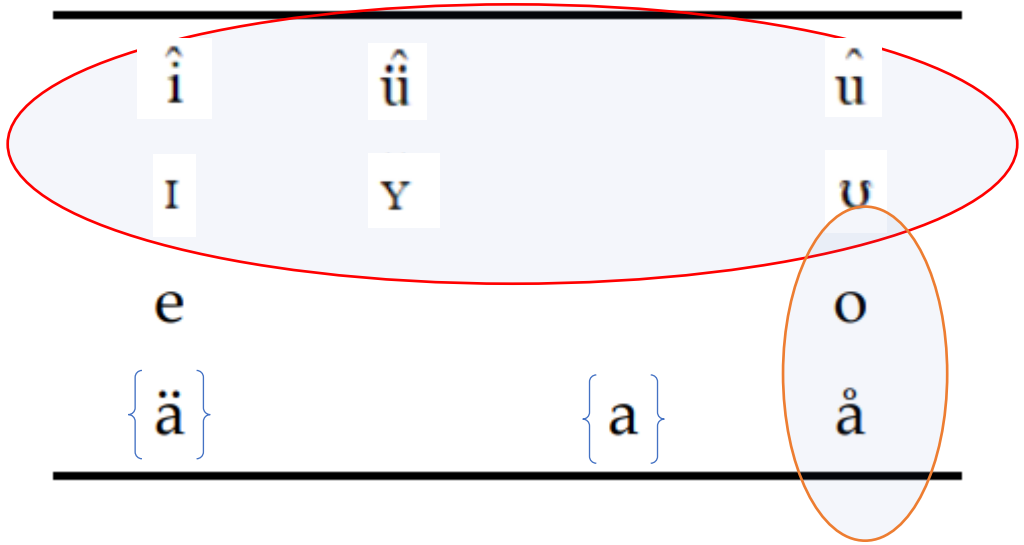
PU *ojwa > pre-PM *ʊwjʌ (regular development, see below) > *wʊj (with a metathesis) > PM *wûj ‘head’.
Oss. wyrd | urdæ ‘ремизки, нитченки (a part of loom)’ > pre-PM *wʊrt > PM *wûrt ‘id.’.
(!) Pre-PM *wʊrt (= *βʊrt) => OCh *pʊrt > Ch. *pə̂°rt ‘пришва в ткацком станке (a part of loom)’.
? Oss. wyrdyg | urdug ‘vertical, upright’ > pre-PM *wʊrdə̂ > PM *wûrδə̂ ‘stalk, stem’.
The alternative etymology (< PU *warti) is problematic.
PTk *qurćə > Bu. *χōrćə (a regular development) > OCh. *xowrś̂ə̂ > pre-PM *(x)ʊwrś̂ə̂ > *wʊrś̂ə̂ (with the same metathesis as in wûj ‘head’) > PM *wûrś̂ə̂ ‘steel’.

Cf. the development into PM *wʊ- in open syllables:
PU *wosa ‘ware’ > pre-PM wʊza > PM *(w)ʊza-lə̂- ‘to sell’;
PTk *urulć- ‘to wage war’ > Bu. *wuruć- (Mudrak 1993: 138) > OCh. wʊrə̂ś- > Ch. *və̂rś- ‘id.’, but the OCh. syllable structure retained in pre-PM *wʊrə̂śə̂- > PM *wʊrś̂ə̂- ‘id.’;
PTk *urug-lukə ‘seed’ > OCh. *wʊrə̂lə̂xə̂ > Ch. və̂°rlə̂°x, (!) və̂°rə̂°lə̂°x ‘id.’; the OCh. syllable structure retained in pre-PM *wʊrə̂lə̂k > PM *wʊrlə̂k.

A re-interpretation of PM *å vs.*o

PM *å > MM o, HM a

PM *o > MM o, HM o



Actually, the factors that define the choice between *å and *o are <u>largely identical</u> to those defining the choice between lax and tense close vowels.

rather *ɔ vs. *ô

Pre-PM *ɔ > PM *ô before *w in borrowed vocabulary

{Note:
PM *ô > MM o, HM o before a consonant;
PM *ô > MM u, HM o before a vowel or in the auslaut.}

Evidence from Old Chuvash:

MM sotŏ, HM sotə̂ ‘light’ < PM *śôwtə̂ < pre-PM *śɔwtə̂ <= OCh. *śɔwtə̂ (Ch. *śụdə̂ ‘id.’) < PTk *jabtɨ;
MM solə̂k < PM *śôwlə̂k ‘headscarf’ < pre-PM *śɔwlə̂k <= OCh. *śɔwlə̂x (Ch. śûlə̂x, śûlə̂k ‘id.’) < PTk *jag-lukə;
MM uzŏ, HM ozə̂ < PM *ôwə̂źə ‘male’ < pre-PM *ɔwə̂źə <= VBu. *ɔwŭćə̂ ~ CTk *abuć-qa ‘husband; oldman’;
MM ulak, HM olak < PM *ôwə̂lak ‘secluded place’ < pre-PM *ɔwə̂lak <= OCh. *ɔwə̂lax (Ch. ûllax, secondarily olax ‘id.’) < PTk *aɣɨlaq.

In non-first syllables, Tk. *-aw > pre-PM *-ɔw > PM *-ôw (and no restriction for MM -o#); *-ɔ-ô- > *-ô-ô-:

PM *(x)ôrôw < *xɔrôw ‘rebuff’ <= OCh. *xɔraw ‘id.’;
PM *pôxrôw < *pɔxrôw ‘corn-cockle’ < OCh. *pɔxraw ‘id.’
PM *pôstôw < *pɔstôw ‘cloth’ < OCh. *pɔstaw ‘id.’

Pre-PM *ɔ > PM *ô before *w in inherited vocabulary

MM omŏ, HM om < PM *ôwmə̂ ‘sleep’ < pre-PM *ɔwmʌ < PU *aδ-ma;

MM koδ(ə̂)-, HM koδ(ə̂)- < PM *kốw-δ- ‘to stay’, *kốw-δə̂- ‘to leave’ < PU *kaδ́a- ‘to leave’;

For the suffix in *kốw-δ-, cf. PU *luki- > PM *lû́w-δ- ‘to count’.

MM ju, HM jo < PM *jốw ‘magic, spell’ < pre-PM *jɔwʌ < PU *jaδa- ‘to do magic’;

MM šu-, HM šo- < PM *šốw- ‘to arrive’ < pre-PM *šɔw- < PU *saxi- ‘to arrive’;

MM šue, HM šoe < PM *šốwe ‘a k. of duck’ < pre-PM *šɔwV < PM *ć́oδ́ka;

MM kož, HM kož < PM *kốwz ‘spruce’ < pre-PM *kɔwsə̂ < PU koxsi;

MM lu (*but* loš ‘in half’), HM lo < PM *lốw ‘interval, gap’ < pre-PM *lɔwʌ < U dial. *lowa.

Also PM *kốw- < pre-PM *kʊw- (a fully regular development):

MM kuə̂-, HM koə̂- < PM *kốwə̂- ‘to row’ < pre-PM *kʊwjʌ- < PU *kajwa-;

E dial. kowə̂, HM koe < PM *kốwβə̂ ‘wave’ < pre-PM *kʊwbʌ < PU *kompa;

MM kon, HM kon ‘lye’ < PM *kốwn ‘lye’ < pre-PM *kʊwnə̂ < PU *kuwni;

MM kol-, HM kol- < PM *kốwl- ‘to hear’ < pre-PM *kʊwlə̂- < PU *kuwli-;

MM kuɣu, HM koɣo < PM *kốwɣốw ‘big’ < pre-PM *kʊw=kʊw (REDP) < PU *kuwa ‘long’;

MM kuə̂-, HM koə̂- < PM *kốwə̂- ‘to weave’ < pre-PM *kʊwʌ- < PU *kuδa-.

Other sources of PM *ô

pre-PM *ɔ (< PU *a, *o + *ę under certain conditions) > PM *ô before consonant clusters with a velar / labial as the first element (such as *kt, *ks, *kš, *ŋg, *ŋl, *md, *mb, *pp, *pt):

PM *kôktə̂ 'two' < pre-PM *kɔktʌ < PU *kakta;
PM *pôktə̂- 'to drive' < pre-PM *pɔktʌ- < PU *pak-ta- (caus.);
PM *tôktə̂ 'a k. of duck' < pre-PM *tɔktə̂ < PU *tękti;
PM *môks 'liver' < pre-PM *mɔksʌ < PU *męksa;
PM *lôkš-ə̂nć- 'to adze' < pre-PM *lɔkš < *lɔkć- < PU *lękći-;
PM *pôŋgə̂ 'mushroom' < pre-PM *pɔŋgʌ < PU *pęŋka;
PM *ôŋgə̂ 'loop' < pre-PM *ɔŋgʌ < PU *oŋki;
PM *kôŋla 'armpit' < pre-PM *kɔŋlʌ (with an early *ŋl) < PU *kaŋa-i̯la;
PM *ôŋl-aks 'jaw' < pre-PM *ɔŋlə̂ (with an early *ŋl) < PU *aŋi-li̯wi;
PM *omdə̂- 'to collect (of milk in the breast)' < pre-PM *ɔmdʌ- < PU *a/ęmta-;
PM *kômdə̂ 'bask basket', *kômdə̂-s 'lid' < pre-PM *kɔmdə̂ < PU *kamti;
PM *lômbə̂ < pre-PM *lɔm=pə̂ < PU *ő́ęmi=pa/uwi lit. 'birdcherry-tree';
PM *ôβə̂ 'father-in-law' < pre-PM *ɔppə̂ < PU ęppi;
PM *ôptə̂- 'to bark' < pre-PM *ɔptʌ- < PU *apta-;
PM *ôptə̂- 'to put', *ôptə̂š ~ *ôktə̂š 'trap, noose' < PU *ękta-.

Other sources of PM *ô

Before pre-PM *l < PU *l:

PM *kôl ‘fish’, *kôlə- ‘to fish’ (> *kôlə́ə́ ‘fisher’) < pre-PM *kɔl, *kɔlə́- < PU *kala, *kala-;

PM *kôlə́- ‘to die’ < pre-PM *kɔlə́- < PU *kali-;

PM *tôl- ‘to come’ < pre-PM *tɔl- < PU *talwa- ‘to bring’;

Note PU *lw > pre-PM *l (a very early development, cf. *tel ‘winter’, *nelə ‘heavy’).

PM *šôlə́ ‘elm tree’ < pre-PM *šɔl < U dial. *ćalV;

PM *šôlə́ ‘gut’ < pre-PM *ćɔlə́ < PU *ćali;

PM *sôl- ‘to steal’ < pre-PM *sɔlʌ- < PU *sala-.

The rule does not seem to apply in pre-PM consonant clusters with *l as the first element: PU *salka- ‘to stand’> pre-PM & PM *Sɔlɣə́-.

Other sources of PM *ô

Before early pre-PM *š < PU *š:

PM *šôž ‘barley’ < pre-PM *šɔžə̂ (with an assimilation) < PU *čaši;

PM *tôšt- ‘to dare’ < pre-PM *tɔšt- < PU *tošti-;

PM *tôš ‘back side of an axe’ < pre-PM *tɔš(k) < PU *taškV.

Cf. pre-PM *ɪ > *î in the same position (see above).

In pre-PM *p-ŋ:

PM *pôŋ-ə̂ž ‘bosom’ < pre-PM *pɔŋ-ə̂žə̂ < PU *poŋi’;

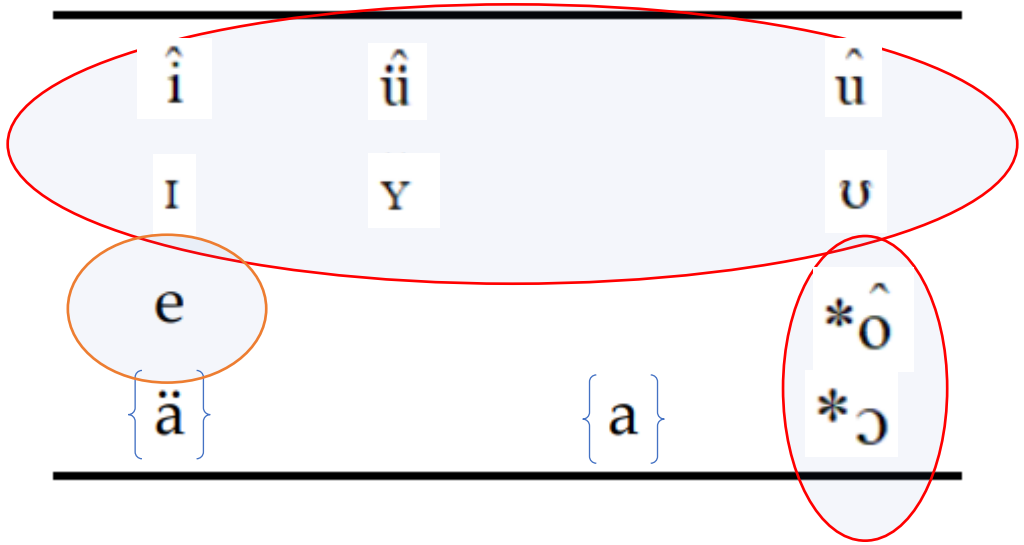
PM *pôŋə̂ž- ‘to be awake’ < pre-PM *pɔŋə̂ž- (no further etymology).

Cf. the development of *e in the same position (see below).

(+ some other contexts)

A new phoneme: PM tense *ê

PM *e > MM e, HM e



PM *ê > MM e, HM i

Largely the same conditioning factors and the same outcome (the HM reflex of the tense vowel is one degree higher than the reflex of the equivalent lax vowel).

Pre-PM *e > PM *ę̂ before *j in Chuvash loans

PM *ć́ę̂jk ‘boundary’ < pre-PM *ć́ejk(ə) <= OCh. *ć́ęjkə < PTk *ć́ę̄kə ~ *ć́ējkə ‘id.’;
PM *ę̂jr ‘morning’ < pre-PM *ejr <= OCh. *ęjr < PTk *ę̄r ~ *ējr ‘early; morning’;
PM *ę̂jrək ‘will, freedom’ < pre-PM *ejrək <= OCh. *ęjrək < PTk *ę̄rk (a variant reconstructed in SIGTJa 2006: 201 alongside PTk *ę̆rk);
PM *wę̂jm ‘brain’ < pre-PM *wejm(ə) <= VBu. *bęjmə < PTk *be/ęjŋi ‘brain’.

VBu. > Ch. mim-ä, dial. vim-ä (with a diminutive suffix). NOTE: pre-PM *ej/w > PM *ę̂j/w in a pre-consonant position only; otherwise pre-PM *ej/w > PM *îj/w (cf. cases such as PM *wîj ‘strength’, *pîj ‘dog’, etc.). Therefore, PU *wäδimi would rather yield MM wim, HM wim < PM *wî(j/w)m. Also note the semantic difference (U ‘marrow’ vs. Mari ‘brain’ = Tk. ‘brain’).

Pre-PM *e > PM *ę̂ in older vocabulary

Before pre-PM *w, *j:

PM *lę̂wβə- ‘to melt’, *lę̂wβə ‘warm’ < pre-PM *lewbə-, *lewbə < PU *lämpi-, *lämpi;

Cf. a diffirent development in the minimal pairs PM *leβ-eδ- ‘to cover’ < PU *läpi- and PM *lep ‘top of the head’ < PU *läppi.

PM *wę̂wŋə ‘son-in-law’ < pre-PM *weŋwə < PU *wäŋiw;

For the metathesis *-ŋVw (> *ŋwV) > *-wŋV, cf. the development in PU *nataw etc. (see below).

PM *mę̂jž ‘sheep wool’ < pre-PM *mejžə < **mäjšä < U dial. < PIr. *maiša- ‘ram’;

Cf. a note by S. Holopainen (2019: 142): "The Mari word is probably also a late loan in any case, as it does not show any trace of the diphtong *ai".

PM *tę̂jr ‘sled’ < pre-PM *tejrə < **täjrä ≈ U dial. *tärjä ‘lathwork in a sled’ (at least Fi. tärjä).

A reflex of PM *jɔl=tę̂jr lit. ‘foot-sled’ > Ch. jəldər ‘ski’.

Other contexts:

- at least in *p-ŋ-, cf. PM *pę̂ŋgəδə ‘hard, firm’ and the same tendency in the history of *ô.

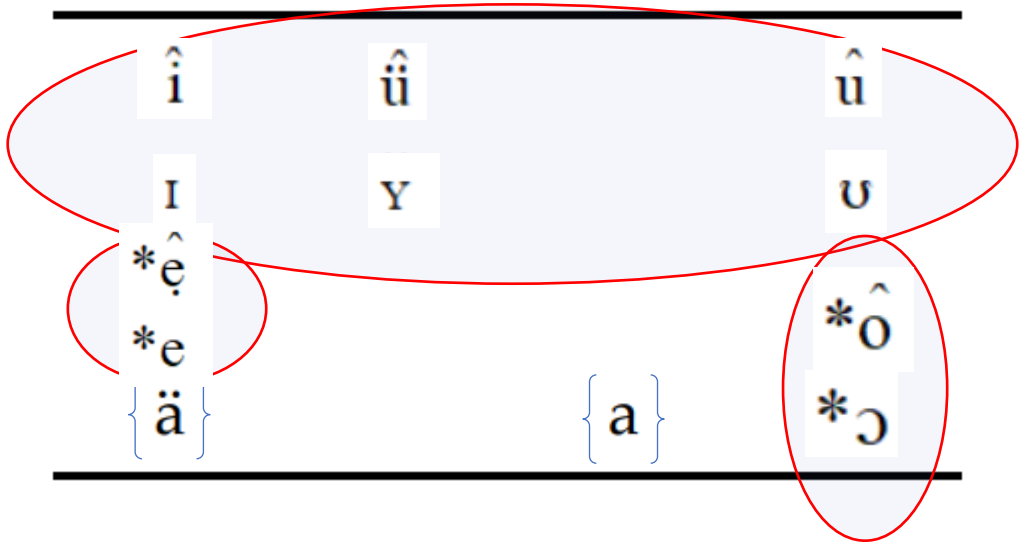
Additional support for *ệ based on external (Chuvash) evidence

Ch. ɨ < OCh. *î̇ => PM *ệ after *ś-, *j- and word-initially;
otherwise PM *û.

PTk *jāṛ ‘steep bank’ > OCh. *ś̂i̇r > Ch. śɨr, PM śệr;
PTk *jaṛ̃- ‘to write’ > OCh. *ś̂i̇r- > Ch. *śɨr-, PM *śệrə-;
PTk *jaṛlokə ‘order, announcement’ > OCh. *ś̂i̇rlaxъ > Ch. śɨrlax ‘pardon’, śɨrlax- ‘to pardon’,
PM *śệrlaxə- ‘id.’;
PTk *ēɬə ‘companion’ > Bu. *ẹjšə > OCh. *jî̇š > Ch. jɨš ‘family’, PM *jệš ‘id.’.
PTk *aṛɨg ‘clean’ > OChv. *î̇rə̂ > Chv. ɨrə̂, PM *ệrə ‘id.’;
PTk *aḷ- > OChv. *î̇l- > Chv. ⁺ɨl- (secondary > il-) ‘to take’, borrowed into late pre-PM as *ệl +
verbal *-Al-, then regularly pre-PM *ệläl- > PM *näl- ‘id.’.

Cf.:
PTk *taḷku > OCh. *tî̇lə̂ > Ch. tɨlə̂ ‘flax brake’, PM *tûlə̂ ‘id.’;
PTk *ā́c- ‘to be hungry’ > OCh. *wî̇ś- > Ch. vɨś-, PM wûśə̂- ‘id.’.

Summary of the Proto-Mari first-syllable vowel system



Summary of the Proto-Mari first-syllable vowel system

î	û̂	{i̵}	û
I	Y		ʊ
ę̂			
e	{ö}		ô
{ä}			ɔ
		{a}	

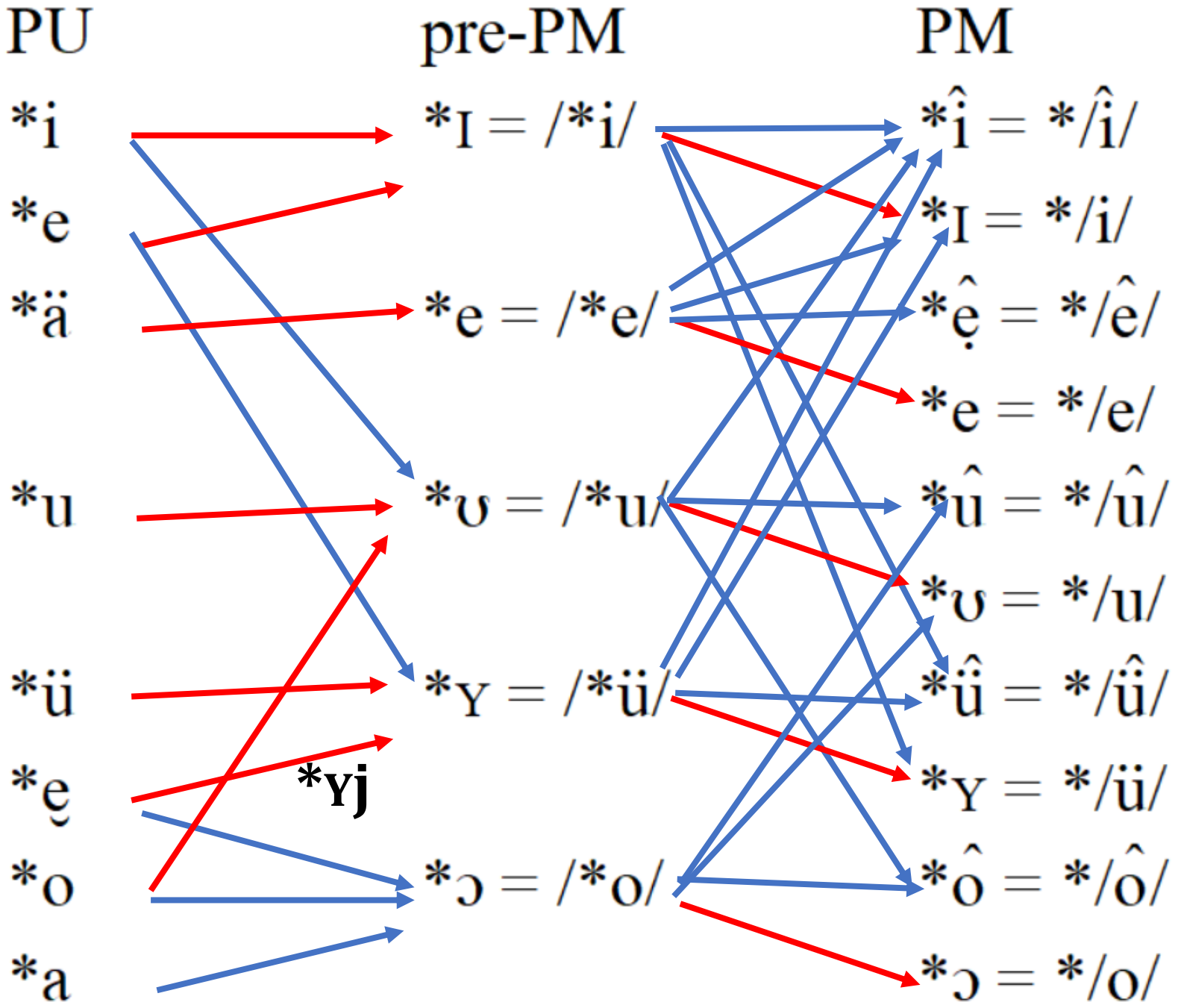
Further development in East Mari: the merger of lax and tense vowels.

In West Mari: convergence with Chuvash (especially archaic varieties spoken in Northern Chuvashia).

A phonemic representation of the native Mari vowel system

*/i/, */î/	*/ü/, /*ü̂/	*/u/, */û/
*/e/, */ê/		*/o/, */ô/

PU > pre-PM > PM



New findings in Mari etymology I: Mari morphophonology and Uralic etymology

PM *kɔndə̂ ‘to bring’ < PU *kan-ta-, PM *kɔšt- ‘to walk’ < +kɔj-ъšt- (iter.) < PU *kani- (cf. PM *šɔktə̂- ‘to sound’ < *šɔj-ə̂ktə̂- (caus.) < PU *ćoji-);
PM *kɔj- ‘to appear, be seen’ < PU *kaja-, PM *kɔńćə̂- ‘to appear in a dream; to seem’ < +kɔj-ə̂ńćə̂- (intens.);
PM *kɔ́la ‘mouse’ < *kɔjə̂la < *kɔj-ə̂l- ‘to come into sb’s view often / to move fast= мелькать’ < ? *kɔj- ‘to appear, be seen’ / *kɔj- ‘to go’ (cf. MM koštam ‘мелькать’ < +kɔj-ə̂št-);
PM *kə̂w-δə̂- ‘to leave (tr.)’, *kə̂w-ə̂ltə̂- ‘to throw’ < PU *kaδ́a-;
PM *kʊδal- ‘to run, gallop (of animals); to go (of transport)’ < *kʊl-δ-al- (intens. inch.) < PU *kulki- ‘to move’.
PM *pî̮jštə- ‘to put’ < *pɤj-əštə- < *pɤjńi- < PU *pe̮ni-;
PM *pʊδî̮j ‘tick, mite’ < *pû̮w-tî̮j lit. ‘tree louse’ ≈ Turk.

New findings in Mari etymology II: non-trivial OCh and VK loans

MM iksa, dial. iŋsa (!), HM iksä < PM *îjŋsä ‘bay; channel’ <= OCh. *ijŋsä ‘back of the head; neck’ (Ch. jənzä, ənzä < PTk *ejŋsä, Дыбо 2013: 401).

Cf. Ch. pɨr ‘throat > bay’; other terms for ‘bay’ in Mari: wüδ-loɣar (‘throat’), wüδ-türβõ (‘lip’), wüδ=jol (‘leg’).

PM *äɣə- ‘to rob’ < OCh. *äkä- ~ CTk. *ēke- ‘to be insolent, quarrel’ (turcet #750);

PM *käβä ‘womb’ < OCh. *käpä ~ CTk. *gēp- ‘to swell (of a belly, etc.)’ (turcet #1479);

PM *(ɔ)malə̂- ‘to sleep’ < OCh. *ʌm-a-la- ‘to doze, sleep’ ~ CTk. *ạm- ‘to be quiet’;

PM *ɪš-tə- ‘to do, make’ < VKypch. *ɨš ‘work’;

PM *kɪləntə ‘navel’ < OCh. *kül-ən-tə ‘the one being tied’ (turcet #1642);

PM *mʊktə̂ ‘to ride a horse’ < OCh. *mʊk-ə̂t(ə̂)-, caus. from *mʊk- ~ CTk. *böŋk- ‘to gallop (of a horse)’;

PM *nar-aŋ- ‘to mould’ < *ʊnar < OCh. *ʊŋar ~ CTk. *öŋe͠r ‘mold’ (turcet #1164);

PM *pû̂w-ə̂št- ‘to kill’ < OCh. *puw- ‘to choke’;

PM *pɪδ-äl- (inch.) ‘to protect, intercede’ < OCh. *pIt- ~ CTk *büt- ‘to intervene, intercede’.

New findings in Mari etymology III: Volga Bulghar loans

PM *wûjwə̂r ‘tax-gatherer’ < VBu. *bujə̂r-ə̂w < PTk. *bujur-uɣ ‘herald’;
PM *wûjrъ́s ‘prince’ < VBu. *bujə̂r-ə̂ś;
PM *wûjr ‘awl’ < VBu. *bɨ̂jr ‘id.’
PM *wûrɣъ ‘stalk, stem’ < VBu. *burxŭ;
PM *wʏδ-əl- (iter.) ‘to wrap’ < VBu. *büt- ‘id.’;
PM *wIɳər ‘linen’ < Bu. *bẹ́ńŕ ‘id.’;
PM *jệŋ ‘person’ < Bu. *ʒ́ɨ̂ŋ ‘id.’;
PM *jʊδ ‘night’ < Bu. *ʒ́uδ ‘id.’ (?);
PM *käβä ‘sky’ < Bu. *χap- ‘to cover’;
PM *kệrə ‘truth’ < Bu. *kẹrə ~ CTk. *kẹr-tü, *kẹr-ček ‘id.’ (turcset #471);
PM *ć̂olkə̂m ‘caul, omentum’ < VBu. *čɔw-lə̂x-ə̂m (poss.1sg.?);
PM *äź̂ər ‘vise, pliers’ < VBu. *äć-ər < *äć- ‘to press’ ~ CTk *ēć- ‘to submit’ (turcet #763).

Кугу тау! / Тавтапуç!