ESUKA – JEFUL 2024, 15–2: 141–168

DIACHRONIC DERIVATION: MARI ETYMOLOGIES

Niklas Metsäranta
University of Helsinki, FI
niklas.metsaranta@helsinki.fi

Abstract: This article discusses the etymology of four Mari words: Proto-Mari **čükte-* 'light, set fire to', **poδəla-* 'spoon, slurp', **pükte-* 'brood (eggs)', and **püəž-* 'sweat'. After examining the words structurally, an argument is put forth that the words represent historical derivatives. This analysis is the key to unlocking their phonological development, which then allows us to find suitable cognates elsewhere in Uralic. It is concluded that Proto-Mari **čükte-* 'light, set fire to' has a cognate in Saami, e.g. SaaN *cahkat* 'smolder', while **poδəla-* 'spoon, slurp' belongs to the well-established cognate set Proto-Uralic **pala-* 'eat up'. Proto-Mari **pükte-* 'brood (eggs)' is proposed as a cognate of Saami **pivę-* 'stay warm, withstand cold'. It is tentatively suggested in the article that **püəž-* 'sweat' belongs etymologically together with Proto-Mari **pükte-* 'brood' and Proto-Saami **pivę-* 'stay warm, withstand cold'. Whether these represent a separate Proto-Uralic etymon **pejwə-* 'stay warm' or whether they belong together with PU **päjwä* 'sun, heat, warm(th)' is also explored. These findings, despite some of the uncertainties involved in their specific interpretation, highlight the importance of taking historical derivation into account in etymology.

Keywords: Mari, Uralic languages, etymology, historical derivation, historical phonology, comparative method

DOI: https://doi.org/10.12697/jeful.2024.15.2.06

1. Introduction

Uralic etymology has concentrated on the reconstruction of stems; suffixal elements found in different cognates are usually considered secondary and mostly irrelevant for the phonological reconstruction (Grünthal 1995: 87). As a result, the treatment of derivation often seems like an afterthought. A large number of Uralic cognate sets contain at least some lexicalized derivations, which are usually recognized and the suffixal elements they contain are listed or otherwise flagged, but what often remains missing in the treatment is any discussion about their

chronology. Traditional works discussing Uralic diachronic derivation (Györke 1935; Lehtisalo 1936) do not fare any better regarding chronology as they are mostly content to compare different synchronic forms. They also often list as examples words of varying etymological origin that are poorly integrated into relevant Uralic lexicon. For example, it is doubtful that Fi *hupelo* 'senile, dazed', MariH *šimälyə* 'blackish', and Komi *bẹ̑bẹ̑l* 'a bit dumb' (Györke 1935: 35) are analogous in terms of chronology even if they did contain the same historical suffix, given that some of the words that the suffixes are attached to clearly cannot be dated back even to their relevant branch ancestors. An attempt to better distinguish synchronic and diachronic derivational processes should at least be attempted instead of the matter simply being ignored. Thus, the study of historical derivation in Uralic languages needs better chronological evaluation of the etymological material.

There are cognate sets that can be readily analyzed as reflecting Proto-Uralic derivations, e.g. PU **aδma* 'sleep, dream (N)' ← **aδə-* 'sleep (V)', PU **ćojma* 'sound, noise (N)' ← **ćojə-* 'sound (V)' (Aikio 2020: 6, 133), but the assumption has generally been that cognates reflect underived Proto-Uralic stems. Prioritizing stems in reconstruction has meant that words reflecting petrified historical derivations have gone underdetected, especially in Uralic languages where there has been a strong tendency for the Proto-Uralic canonical word forms to undergo erosion, e.g. Permic (Metsäranta 2023a: 172–173). In this article four Mari words, namely Proto-Mari **čükte-* 'light, set fire to', **poδəla-* 'spoon, slurp', **pükte-* 'brood (eggs)', and **püəž-* 'sweat', are etymologically examined and analyzed as petrified derivatives. Recognizing the words as petrified derivatives and examining them in this context is not only helpful but necessary for correctly interpreting their phonological development. The article demonstrates that derivation and historical phonology do not exist on two separate planes, but rather they need to be studied together, as one is often the key to unlocking the other.

2. Etymologies

2.1. Mari **čükte-* ‘light, set fire to’

Proto-Mari **čükte-* ‘light, set fire to’ has a wide distribution across the Mari dialects: E (Ob Okr) *çükte-*, E (Oka) *ćükte-*, E C (Ok Ms $Mm_{1,2}$) Vo *ć̆ükte-*, Up NW *cükte-*, W *čükte-* ‘(eine Lampe, eine Kerze) anzünden’ (Moisio & Saarinen 2008: 113–114). The Mari verb has no etymology, but formally the word can easily be analyzed as a derivative, segmented as either **čü-kte-* or **čük-te-* as both *-kte-* and *-te-* are known causative-forming suffixes in Mari (Alhoniemi 2010: 163–165). The Mari verb has clear comparanda in Saami where PS **cẹkẹ-* ‘smolder, glow’ has a wide distribution across the Saami languages, being absent only from Ter Saami, e.g. SaaS *tsïhkedh*, L *tsahkat*, N *cahkat*, An *coohâđ*, Sk *cõõkkâd* (Lehtiranta 2001: 16–17). The causatives formed on this stem, SaaL *tsahkkidit*, N *cahkkehit* (< PS **cẹkẹ-jẹ-htē-*, with both an inchoative **-jẹ-* and causative **-htē-*) (Sammallahti 1998: 233), notably mean ‘light, kindle (fire); set fire to’. The Proto-Saami verb can reflect Proto-Uralic **čükə-*, **čekə-*, or **čikə-* and has been hesitantly connected to PU **küčə-* ‘smolder’ (> Fi *kyteä*, KhV *kŏč-*, MsT *küš-*) (Sammallahti 1988: 545). This comparison relies on the irregular metathesis of the initial and word-internal consonant in Saami.

The semantic side of connecting the Mari and Saami verbs is unproblematic, but the phonological side of things requires closer scrutiny. Proto-Mari full **ü* is usually found as a reflex of PU **ẹ*, e.g. PU **mẹrja* ‘berry’ > PMa **mür* ‘strawberry’, PU **śẹta* ‘100’ > PMa **šüδə*, and PMa **jükte-* ‘give to drink’ ← PMa **jüä-* < PU **jẹxə-* ‘drink’. There are a few cases where PMa **ü* is presumably a reflex of an earlier **ä*, e.g. Fi *jäähtyä* ‘get cold’, MdE *ekše* ‘cool, shady, shade’, M *(j)äšä* ‘cool’, Mari E NW *jükše-*, W *ükše-* ‘get cold’ (< PMa **jükše-*), KhV *jöγli* ‘cold; coldness’, Trj *jə̆γʌi* < PU **jäkšə*(-) and Fi *pähkinä* ‘nut’ (< **päškinä*), MdE *pešťe*, *pešče* ‘nut’ (< **päštə*), Mari E W *pükš* ‘nut’ (< PMa **pükš*) (< ? **päkšə*), Udm *paš-pu* (Aikio 2014b: 155), but at least the latter one, instead of being an inherited Proto-Uralic item, is thought to have been borrowed from an unknown substrate language and shows considerable variation, at least in its consonantal structure (Aikio 2015: 44–47). In a single case, PMa **ü* is thought to reflect PU **e*, cf. PU **mekšə* ‘bee’ > PMa **mükš* but here the full vowel PMa **ü* is usually deemed irregular

(Aikio 2014b: 155, 157), perhaps influenced by PMa **mü* ‘honey’. On the surface, PMa **čükte-* would thus seem to reflect either PU **čäktä-* or **čękta-*. Both options are incompatible with PS **cękę-*, however.

Considering that the Mari word is a derivative, there is a way to reconcile the vowel correspondence between the Saami and Mari verbs. The reflexes of PU **e*, **i*, and **ü* are fairly difficult to tell apart based on Mari evidence alone, because all of them frequently develop into Proto-Mari **ĭ*, e.g. PU **ćilmä* ‘eye’ > PMa **šĭn-ća*, PU **pitä-* ‘hold, cling to’ > PMa **pĭće-*, PU **elä-* ‘live’ > PMa **ĭle-*, PU **pesä* ‘nest’ > PMa **pĭzakš*, PU **külmä* ‘cold’ > PMa **kĭlmə*, and PU **sükəśə* ‘autumn’ > PMa **šĭžə* (Aikio 2014b: 154). Besides developing into PMa **ĭ*, both PU **e* and **ü* also commonly merge as PMa **ŭ̆* under unknown conditions, examples of this development include the following (Aikio 2014b: 154–155 unless otherwise indicated):

PU **e* > PMa **ŭ̆*

- **čečä* ‘parent’s younger brother’ > **čŭ̆čə* > E (Ob$_2$ Oka) *čüčö*, C (Mm$_1$ Mmu) *čŭ̆ćü*, Vo *čŭ̆ćü*, Up *cŭ̆cü*, NW *cəcə*, W *čəčə* ‘mother’s brother’ (for the semantic reconstruction of PU **čečä* see Metsäranta, Milanova & Honkola 2025)
- **kerə* ‘bast, bark’ > **kŭ̆r* > E C *kür*, Vo NW *kŭ̆r*, W *kər* ‘bast’
- **pečkä-* ‘cut off, shear’ > **pŭ̆čkä-* > E (Ob Ok) *püčka-*, C (Ms Mm$_{1,2}$ Mmu) *püćka-*, Vo *pŭ̆ška-*, Up *pŭ̆cka-*, NW *pŭ̆ckä-*, W *pəčkä-* ‘cut off (with a shear or knife, not with an axe), saw off, chop off’ (Aikio 2009: 269)
  - Aikio reconstructs PU **pečkä-* on the basis of SaaS *bietskedh*, N *beaskidit*, Sk *peä'cǩ̆keed* ‘cut off (hair), shear’ (< PS **peackē*(*tē-*)), the Mari verb, and also NenT *ṕidə-* ‘shear, cut (hair etc.)’, SlkTaz *pütį-* ‘shear’. This cognate set along with MdE *pečke-*, M *pečkə-* ‘cut, cut off; slaughter, kill’ has also been hesitantly proposed by the *Uralisches etymologisches Wörterbuch* (Rédei 1986–1991: 367: s.v. **pečkä-* (**päčkä-*)). The Mari and Mordvin verbs have in the etymological literature alternatively been connected with Fi *pytky*, Vote *püttšü* ‘piece, slice’ (< **pičkɛ*) (Rédei 1986–1991: 730; Itkonen & Kulonen 1992–2000: 452). *Suomen sanojen alkuperä* (Itkonen & Kulonen 1992–2000) is unsure about the connection of Fi *pytky* with the Mari and Mordvin

items, noting that the Finnic words are part of a descriptive group of words with a similar structure and meaning, e.g. Fi *pitkä*, *pätkä*, *pötky*. The Finnic and Mordvin words cannot be derived from PU **pečkä-*, but both could regularly reflect PU **pečkə*(-) (the Mari *A*-stem rather points to a second syllable **ə*-stem, but this is not a hard-and-fast rule). In Finnic, the first syllable **ü* can be explained through assimilation, i.e. PU **pečkə-w* > MPF **peckü* > LPF **pückü* > Fi *pytky*, cf. PU **lelə-w* 'hard wood' > MPF **lelü* > LPF *lülü* > Fi *lyly* 'compression wood', PU **sentə-w-* 'be born' > MPF **sentü-* > LPF **süntü-* > Fi *syntyä* 'be born' (Aikio 2021: 170). Alongside PMd **pečkə-* 'cut off', there is the homophonic PMd **pečkə-* 'run over, across, go over; move over, across' (Kahla 1990–1996: 1581), which is probably etymologically the same verb – for the semantics cf. Mari (Ok) *kornəm püćkeš* '(er) geht quer über den Weg' ("schneidet den Weg") (Moisio & Saarinen 2008: 569). It seems likely that both the set reflecting **pečkä-* (Saami, ?Mari, Samoyed) and **pečkə*(*-w*) (Finnic, ?Mari, Mordvin) belong to the same group of words as there are similar cases of verb–noun pairs in Proto-Uralic, e.g. PU **ipsä-* 'smell (V) ~ **ipsə* 'smell (N)' (Aikio 2020: 21).[1]

- **pečä* 'pine' > **pŭ̈nčə* > E (Ob$_1$ Oka) *pünḍžö*, C (Mm$_{1,2}$) *püńďžə̑*, Vo *pŭ̈ńďžǫ̈*, Up *pündzŏ*, NW *pŭ̈n(d)zŭ̈* 'pine'

1 It would also be tempting to add PP **pɔč*(*k-*) > KomiZ *poč*(*k-*), dial. V S Peč L *poč*(*k-*), I U *poč* 'pole, stake; fencepost' (Uotila 1942: 214), J *poč*, Udm *puč* 'fencepost' to the list of cognates that reflect PU **pečkä-*. The Permic word has been previously connected with Fi *piha* 'yard' and MariM *peče*, H *pičə* 'fence, enclosure' (Itkonen & Kulonen 1992–2000: 350). The reconstruction of the words as **pičča* (Sammallahti 1988: 553) is untenable from the point of view of both Permic and Mari. In Mari, one would expect a disharmonic root **pičča* to yield ***pŭčə* (Aikio 2014b: 156). PU **i-a* regularly yields PP **e* not **ɔ*. A reconstruction with a geminate **čč* also does not account for the *k*-stem in Permic. Secondary *k*-stems do exist, but they are rare. Some secondary *k*-stems such as Komi *us*(*k-*) 'mustache' (← Ru *усы*) probably arose through analogy, in this particular case through analogy with Komi *toš*(*k-*) 'beard'. The vocalism of the Permic word clearly points to PU **e-ä*, thus the comparison with PU **pečkä-* is phonologically preferable. The semantics are less clear, but perhaps the word originally just meant something akin to 'cut-off piece (of wood)', cf. Mari derivatives of the verb (W) *pəčkək* 'clipping, cutting; stump, block', PMa **pŭ̈čkəš* > E *püçkə̑š*, C *püćkəš*, Up *pŭ̈ckŭ̈š* 'cut-off piece; block, chunk, stump'. It might very well be that the cognate set supposedly reflecting **pičča* is erroneous.

- **pejrə* ‘circle, enclosed (area)’ > **pŭr-δe-* > E C NW *pürδe-*, Vo *pŭrδe-*, W *pərδe-* ‘cover, cloak (e.g. with clothing), envelop, wrap (e.g. with a blanket)’ (Metsäranta 2020: 114–115)
- **terä* ‘edge, blade’ > **tŭr* > E C *tür*, Vo NW *tŭr*, L *tər* ‘edge, rim; shore, riverbank’
- **werə* ‘blood’ > **wŭr* > E C *wür*, Vo Up NW *wŭr*, W *wər* ‘blood’
- **wetə* ‘water’ > **wŭt* > E C *wüt*, Vo Up NW *wŭt*, W *wət* ‘water’

PU **ü* > PMa **ŭ*

- **ćülkə* ‘spit’ > **šŭwəl* > E (Ob_1 Oka Mmu) *šüwül*, C (Ms $Mm_{1,3}$) *šüwəl*, Vo Up NW *šŭwŭl*, W *šəwəl* ‘spit, drool’
- **künčä-* ‘dig’ > **kŭnče-* > E (Oka Okr) *künʒže-*, C (Ms Mm_1 Mmu) *küńʒ́že-*, Up *kündze-*, NW *kŭndze-* ‘dig’
- **künčə* ‘nail’ > **kŭč* > E (Ob Okr Oka) *küç*, C (Ms $Mm_{1,2}$) *küć*, Vo *kŭć*, Up *küc*, NW *kŭc*, W *kəč* ‘nail’
- **küsä* ‘thick’ > **kŭzyə* > E (Ob Oka Okr) *küžyö*, E (M MM) *küźyö*, E (UP USj) *küźyâ*, C (Ms $Mm_{1,3}$) *küžyü*, Vo *küžyӧ*, NW *kŭžyŭ*, W *kəžyə* ‘thick, overweight’
- **sülə* ‘fathom’ > **sŭl(ə)* > E (Ob_1) *šülö*, E (MalK) *śül’ŏ*, C ($Mm_{2,4}$) *šülâ*, Vo *šülӧ*, NW *šülŭ*, W *šəl* ‘fathom’
- **süskä-* > **šŭškä-* > E C *šüška-*, Vo Up *štŭška-*, NW *šŭškä-*, W *šəškä-* ‘stuff, plug, fill; churn butter’
- **tüŋə* ‘base (of a tree)’ > **tŭŋ* > E C *tüŋ*, Vo NW *tŭŋ*, W *təŋg* ‘end of a stalk; base (of a tree)’
- **wülə* ‘over-’ > **wŭl-* > C (Mmu) *wül-*, Up *wŭl-*, NW *wŭl-*, *wəl-*, W *wəl-* ‘over-’

Based on the examples above, if PMa **čükte-* directly reflected a consonant-stem derivation PU **čük-tä-* or **ček-tä-*, then one would expect to find the form ***čŭkte-* in Proto-Mari.

Due to a phonotactic restriction, reduced vowels do not occur in monosyllabic CV-stems or before another vowel separated by a hiatus (the only example of the hiatus restriction with decent comparanda outside Mari that is not a derivative, to my knowledge, is PU **tejnəš* ‘pregnant (of animals)’ > PMa **tüəž* > E C NW W *tüž*, E ($Ob_{1,2}$) *tüjtŭž*, E (Oka) *tüüž* ~ Fi *tiine* (< PF **tiineh*) (Aikio 2014a: 90–91, 2014b: 130)). These two developments are probably tied together. In general,

CV-stems and positions before a hiatus in a Proto-Mari sequence **Və* show the same dual development we observe with PU **e* and **ü* but without the reduction, i.e. PU **e* yields both PMa **ü* or **i* (cf. PMa **ŭ̈* or **ĭ* elsewhere). There are no secure examples of PU **ü* yielding **i* in Proto-Mari CV-stems (or before another vowel separated by a hiatus), but this is probably due more to lack of examples than a real restriction. The few known examples show the development of PU **ü* to PMa **ü* in CV-stems.

PU **e* (in Proto-Mari CV-stems)

- **ćepä* 'neck' > **šü* > E ($Ob_{1,2}$ Oka) *šüj*, E (Okr) C (Mmu Ms Mm) Vo Up NW W *šü* 'neck' (Aikio 2020: 120–121)
- **kejə-* 'cook' (intr.) > **kü-ä-* > E (Ob_1 Oka Ok) *küješ*$_3$, E C (Okr Ms Mm) *küa-*, Vo Up NW W *küeš*$_3$ 'ripen, become done; become baked, fried, cooked' (Rédei 1986–1991: 143–144)
- **lexə-* (or **lewV-*, **lejV-*) 'be born, give birth' > **li-ä-* > E (Ob_1 Oka) *lija-*, C Vo Up *lia-*, NW W *liä-* 'be, become; give birth (of animals), calve, lamb, foal' (Aikio 2014c: 22–23)
- **menə-* 'go' > **mi-e-* > E ($Ob_{1,2}$ Oka Ok) *mije-*, C Vo W *mie-* 'come, arrive, go' (Rédei 1986–1991: 272)
- **penə* 'dog' > **pi* > E (Ob Ok) *pij*, C Up NW W *pi* 'dog' (Rédei 1986–1991: 371)
- **wenə-* 'stretch' (intr.) > **wi-e-* > C Up *wia*$_3$, NW W *wiä*$_3$ 'straighten; find the way, become ready' (Metsäranta 2020: 119–120)

PU **ü* (in Proto-Mari CV-stems)

- **ćüδ́ə* 'coal' > **šü* > E ($Ob_{1,2}$ Ok) *šüj*, E (Okr) C Vo Up NW W *šü* 'coal' (Aikio 2020: 146–147)
- **lüwä-* 'shoot, throw'[2] > **lüe-* > E ($Ob_{1,2}$ Oka) *lüje-*, E (Ok) *l'üje-*, E (Okr) C Vo Up NW W *lüe-* 'shoot' (Rédei 1986–1991: 247)

There are no CV-stems with non-high front vowels, that is, all Proto-Mari front-vocalic CV-stems are either **Ci* or **Cü*, and in addition to **e* and **ü* also PU **ä* – the reflexes of which can generally be told apart

2 The reconstruction PU **lüwä-* instead of PU **lewə-* is based on Pystynen (2022).

from PU **e* and **ü* – can yield both PMa **Ci* and **Cü*, e.g. PU **wäkə* 'strength' > PMa **wi* > E M *wij*, NW W *wi* 'strength, power', PU **säjə* 'pus' > PMa **sü* > E M *šüj*, E (Ok) *śüj*, NW W *šü* 'pus (in wound, eye)' in CV-stems. What is important for explaining the vowel development of PMa **čükte-* is that derivations formed from CV-stems never show vowel reduction and match the full vowel of the stem they are derived from. Consider the following examples (Mari dialectal material from Moisio & Saarinen 2008):

- PMa **kü-ä-* 'ripen, become done; become baked, fried, cooked' → **kü-kte-* > E ($Ob_{1,2}$ Ok) *küjŭkte-*, E (Okr) C (Ms $Mm_{1,2,3}$ Mmu) Vo Up W *kükte-* 'bake, fry, cook'
- PMa **lü-e-* 'shoot' → PMa **lü-lä-* > E (Ok) *ľüjŭľa-*, E (Okr) *lüľa-*, C (Ms) Vo Up *lüla-*, W *lülä-* 'shoot (freq.); beat wool'
- PMa **mi-e-* 'come, arrive, go' → **mi-älä-* > E (Ob_1) *mijala-*, E (Okr) C (Ms Mm_1) *miala-*, W *miälä-* 'come (for a short while)'
- PMa **šü* 'neck' → **šü-äks/š* > C ($Mm_{1,2}$) *šüaš*, Up *šüʲaš*, NW *šüäkš*, W *šüääš* 'necklace, -band'
- PMa **šü* 'coal' → **šü-äŋä-* > E (Ob_1) *šüjäŋeš*$_3$, E (Ok) *šüjaŋeš*$_3$, C *šüaŋeš*$_3$, NW *šüäŋeš*$_3$, W *šüäŋgeš*$_3$ 'char'
- PMa **wi-e-* 'straighten; find the way, become ready' → **wi-kte-* > E (Ob_1 Ok) C Vo Up NW W *wikte-* 'stretch out'

The examples above are derivations that were either formed after the reduction took place in Proto-Mari, or alternatively the full vowel in the derivations is to be explained as analogical. It is also possible that in cases where the word-internal consonant or consonant cluster was to disappear and a vowel sequence **Və* accompanied by a hiatus was to form instead, the hiatus could have prevented the first-syllable vowel from undergoing reduction. The lack of vowel reduction in PMa **čü-kte-* can thus be explained either as the word being a secondary derivative from a CV-stem PMa ***čü(-ä/e)-* that later disappeared, or as a vowel-stem derivative PU **čekə-ktä-* or **čükə-ktä-* yielding Pre-Proto-Mari **čüə-ktä-* where the vowel-sequence hiatus would have prevented the vowel from undergoing reduction. Either scenario is possible. However, unlike for PMa **tüəž* 'pregnant (of animals)', there is no direct evidence for a vowel sequence in the modern reflexes of PMa **čü-kte-*. Why **-üə-* would have been preserved in **tüəž* but not

in **čükte-* might have something to do with syllable weight or structure, i.e. the vowel sequence might remain before a single consonant (*-ž-*) but disappear (**Və > *V*) before a cluster (**-kt-*). The comparative evidence is too scarce to make any definite evaluations at this point.

A similar derivational explanation for the lack of vowel reduction can also be applied to PMa **pükte-* 'brood (eggs)' (see Section 2.3 below), which further confirms the veracity of this type of analysis. Other petrified causatives, i.e. verbs that lack a base word, in Proto-Mari are E C Up NW *pikte-*, Vo *pi̮kte-*, W *pükte-* 'strangle, hang, tie tightly' < PMa **pikte-* < **pujakta-* ← PU **puja-* 'thread, string' (Metsäranta 2024: 486–488) and E C Up *šokte-*, NW W *šåkte-* 'play (an instrument); be heard, be audible, ring' < PMa **šåkte-* < **ćojə-kta-* ← PU **ćojə-* 'sound' (Aikio 2020: 132–133). Both Mari **čükte-* and Saami **cẹ̑kẹ̑-* can be derived either from PU **čükə-* or **čekə-*. If the words have some etymological connection to PU **küčə-*, the form with metathesis **čükə-* needs to have existed already at the Proto-Uralic level.

2.2. Mari **poδəla-* 'spoon, slurp'

The Mari verb E C (Ob_1 Ob_2 Oka Okr Ms Mm_1 Mmu) *poδə̑la-*, E (Ok) *poδŭla-*, C (Mm_2) *poδla-*, Vo *poδĭla-*, Up *poδ^{ü}la-*, NW W *poδə̑la-* (Moisio & Saarinen 2008: 522–523) has a wide distribution across the Mari dialects and can easily be reconstructed as Proto-Mari **poδəla-*. The most widely attested meanings of the verb are 'mit dem Löffel essen = eat with a spoon' and 'schlürfen = slurp', in singular varieties also meanings 'einem Schluck nehmen = take a sip' and 'schluckweise trinken = gulp' are found.

Structurally, the Mari verb is clearly a derivative with the frequentative or momentative suffix *-l-* (Alhoniemi 2010: 163–164), e.g. PMa **pŭrəla-* 'bite (once)' ← **pŭra-* 'bite' (more examples below). This suffix can be reconstructed already back to the Proto-Uralic era (Aikio 2022: 20). The base verb for Proto-Mari **poδəla-* has apparently disappeared, but this situation is not unique to **poδəla-* as among the around twenty deverbal *l*-derivatives reconstructable for Proto-Mari, there are at least half a dozen verbs that lack a clear base word (here labeled in bold):

1. ***åškəla-* > E C Up *oškâla-*, NW *aškâla-* ‘stride, step, go’ (~ ***åškeδe/ä-* > E C Vo Up *oškeδe-*, NW W *aškeδe-*, W *aškeδä-* ‘step; take a walk, stroll’) (Moisio & Saarinen 2008: 474)**
2. **jürəlä-* > C Vo Up *jörla-*, NW W *jörᵊlä-* ‘topple, fall down (tree, person)’ (← **jüre-* ‘knock over, throw’) (Moisio & Saarinen 2008: 190)
3. **kirəlä-* > E C *kerla-*, Up *kerᵊla-*, NW W *kerəlä-*, W *kerlä-* (mom.) ‘stick, poke once, stick and pull back’ (← **kirä-* ‘stick in; thread (e.g. yarn in the eye of the needle)’) (Moisio & Saarinen 2008: 238–239)
4. ***kĭńəlä-* > E (Ok) *kińĭľa-*, E C *kâńə*/*ela-*, Vo *kĭ̑ńe/ĭ̑la-*, Up *kəńəla-*, NW W *kəńəlä-* ‘get up (from laying down), wake up’ (Moisio & Saarinen 2008: 321)**
5. **koδəla-* > E C Up NW W *koδâla-* ‘accompany, escort (especially the dead during remembrance festivities); leave here and there (Ob_1 Okr)’ (← **koδe-* ‘leave’) (Moisio & Saarinen 2008: 251)
6. **kŭ̆rəlä-* > E C *kürla-*, Up *kŭ̆rla-*, NW *kŭ̆rŭ̆lä-*, W *kərəlä-* (mom.) (← **kŭ̆rä-* ‘tear, tug; tear off; rip, tear up’) (Moisio & Saarinen 2008: 308–309)
7. **loktəla-* > E C Up NW W *loktâla-* ‘ruin, spoil, damage’ (← **lokte-* ‘ruin, spoil through sorcery, hex’) (Moisio & Saarinen 2008: 341–342)
8. ***nüštəlä-* > E C *nöštâla-*, Vo *nöštĭ̑la-*, Up *nöštŭ̆la-*, NW W *nüštəlä-* ‘knead dough (by hand)’ (Moisio & Saarinen 2008: 424)**
9. ***poδəla-* ‘spoon, slurp’**
10. **pŭrəla-* > E C *purla-*, Vo Up *pŭrla-*, NW *pŏrŏla-*, W *pârâla-* (mom.) ‘bite (once)’ (← **pŭra-* ‘bite’) (Moisio & Saarinen 2008: 559)
11. **pürtəlä-* > E C *pörtəla-*, Up *pŏ̑rtŭ̆la-*, NW W *pörtəlä-* ‘turn around, turn back, go back’ (← **pürtä-* ‘turn’) (Moisio & Saarinen 2008: 540–541)
12. **pŭskəla-* > E C *püškâla-*, E (Ok) *püśkŭ̆ľa-*, Vo Up *pŭškŭla-*, NW *pŏškŏla-*, W *pâškâla-* ‘sting (insect); stick (with a needle), make a stitch’ (← **pŭska-* ‘sting (insect)’) (Moisio & Saarinen 2008: 575–576)[3]
13. **šŭpšəla-* > E C *šupšâla-*, Vo Up *šŭpšŭla-*, NW *šŏpšŏla-*, W *šâpšâla-* (mom.) ‘pull, draw (once)’ (← **šŭpša-* ‘pull, draw’) (Moisio & Saarinen 2008: 733–734)

3 The Proto-Mari reconstruction **pŭskəla-* follows Aikio (2014b: 156), but the Proto-Mari form has alternatively been reconstructed as PMa **pŭśkəla-* to account for the seemingly irregular fronting of **ŭ* to **ŭ̆* in most Meadow and Eastern Mari varieties (Culver 2022: 52–53).

14. **šŭškəlä-* > E C *šüškâla-*, Vo *šŭškɣ̆la-*, Up *šŭškŭ̆la-*, NW *šŭškŭ̆lä-*, W *šəškəlä-* (mom.) ‘slaughter, kill, stab to death (an animal)’ (← **šŭškä-* ‘stuff, plug, fill; churn butter’) (Moisio & Saarinen 2008: 752–753)
15. **toδəla-* > E C Up NW W *toδâla-*, Vo *toδɣ̆la-* (mom.) ‘break, break off’ (← **toδa-* ‘break; twine, weave’) (Moisio & Saarinen 2008: 798)
16. ***ŭδəla- > E C *uδâla-*, Up *uδŭla-*, *ŭδŭla-*, W *âδâla-* ‘pray’ (~ **ŭlt/δe-* > C *ulδe-* Up *ŭlte-*, NW *ŏlte-* ‘pray, ask’) (Moisio & Saarinen 2008: 862, 869)**
17. **wånčəla-* > E *wonḍẑâla-*, C *wońďẑâla-*, NW *wandzâla-*, W *wanzâla-* (freq.) ‘to cross here and there’ (← **wånče-* ‘to cross’) (Moisio & Saarinen 2008: 50)
18. ***wåštəla- > E C Up *woštâla-*, Vo *woštɣ̆la-*, NW W *waštâla-* ‘laugh’ (Moisio & Saarinen 2008: 53)**
19. ***wåžəla- > E C Up *wožâla-*, Vo *wožɣ̆la-*, W *ważâla-* ‘be ashamed’ (Moisio & Saarinen 2008: 55)**
20. ***wŭ̆δəlä- > E *wüδəla-*, Vo *wŭ̆δɣ̆la-*, Up *wŭ̆δŭ̆la-*, NW *wŭ̆δŭ̆lä-*, W *wəδəlä-* ‘envelop, wrap’ (Moisio & Saarinen 2008: 63)**[4]

In some cases, there is no base word but there are parallel derivations, e.g. **åškəla- ~ *åškeδe/ä-* and **ŭδəla- ~ *ŭlt/δe-*. Some of the listed verbs might only seemingly go back to Proto-Mari, but at least the lexicalized derivatives, e.g. **koδâla-* ‘accompany, escort (especially the dead during remembrance festivities)’, are likely to represent common Proto-Mari derivatives, otherwise their uniform emergence would be difficult to explain. Although **poδəla-* ‘spoon, slurp’ has no base word, analyzing the word as a derivative is unproblematic. To my knowledge at least, no etymology for the word has hitherto been proposed.

There is a phonologically regular cognate set reconstructed for Proto-Uralic, namely **pala-* ‘eat up’ > SaaN *buollit*, Fi *palaa*, MdE *paloms* ‘burn’, KhVVj *puḷi-* ‘gobble’, MsSo *pūl-* ‘eat’, Hu *fal* ‘devours, eats

4 The verb is listed as a derivative of PMa **wiδe-* > E C *wüδe-*, Vo Up NW W *wiδe-* ‘take (somewhere), lead’ in *Tscheremissisches Wörterbuch* (Moisio & Saarinen 2008: 63), but this is likely to be erroneous given the discrepancy in the first-syllable vowel and semantics. *Mari nyelvjárási szótár* (Beke 1997–2001: 235–236) has chosen to treat the words as two separate lexemes, which is probably the right solution. As it turns out, Mari **wŭ̆δəlä-* ‘envelop, wrap’ has a potential loan etymology that derives the verb from Volga Bulgar **büt-* ‘wrap’ (Savelyev 2022).

ravenously', NenT *paľe-*, SlkTaz *pōlį-* 'swallow' (Janhunen 1981: 222; Aikio 2015: 55).[5] The West Uralic meaning 'burn' derives from a metaphorical expression, e.g. "fire eats" (Janhunen 2015: 9–15); elsewhere in Uralic the verb refers to eating. It is probably already unproblematic to connect Mari 'spoon, slurp' with devouring and greedy eating, but the semantic connection is further solidified by the fact that the exact meanings 'spoon' and 'slurp' are found in Khanty and Mansi dialects as well: KhV *pulį-* 'slurp (e.g. hot soup), taste' (Steinitz 1966–1991: 1156), MsKndM *l̮ȯ̈m pūlam* 'I spoon cabbage soup' (Moisio 2013: 581). Noteworthy is also the Khanty derivative VVj *puļ̮ntə-* 'löffeln, schlürfen; kosten = spoon, slurp; taste' (Steinitz 1966–1991: 1156). Semantically, there is no issue in regarding the Mari verb part of this well-established cognate set.

The problem with connecting the Mari verb with the aforementioned cognate set that is that one would expect PU **pala-* to yield PMa ***polə-* → PMa ***poləla-*, not **poδəla-* (in terms of the vowel development, compare the well-known cases of PU **kala* 'fish' > PMa **kol* and PU **sala-* 'steal' > PMa **solə* 'thief'). There are several things that could explain this phonological discrepancy. First, the phonology could be explained with metathesis of **poləδa-* to **poδəla-* where **poləδa-* would represent a derivation similar to Khanty *puļ̮ntə-*, both frequentative derivations potentially reflecting PU **pala-ntə-*. Denasalization of PU **-ntə-* to PMa **-δ-* in Mari is a regular development (Metsäranta 2020: 54–78, 274).

Second, given that PMa **δ* and **l* share the alveolar place of articulation, we could be dealing with a case of dissimilation where the PMa sequence **l-l* changes to **δ-l* (or Pre-Proto-Mari **l-l* to **d-l*) as a result. Word-initially, there are examples of dissimilation of *l-l* to *n-l*, e.g. E *nölpö* ~ W *lülpə* 'alder, E *nölta-* ~ W *lültä-* 'rise', E *nele*, W *nelə* ~ NW *lelə*, *lel* 'heavy'. The phoneme *δ-* does not occur in word-initial position in Mari, but tying the word-initial *n*-dissimilation to

5 The Proto-Uralic **pala-* has a noun correlate in PU **pala* 'piece (of food)' > SaaT *pį̄ļļe*, Fi *pala*, MdE *pal* 'piece (of food)', KhVVj *puļ* 'bit, mouthful, food chewed for the baby', MsT *pōl*, So *pūl* 'piece, portion', Hu *falat* 'mouthful, bit, bite' (Aikio 2015: 55). Mari (Ms) *pultâš* 'piece of food' sometimes connected with the aforementioned words (Rédei 1986–1991: 350) does not belong here. The form is clearly clipped from longer E (Ob2) *purâltâš*, NW *pŏrŏltŏš*, W *pârâltâš* 'piece of bread, bite' < PMa **pŭrəltəš* (> also Mmu *purtuš*) (Moisio & Saarinen 2008: 559) derived from **pŭra-* 'bite'.

word-internal *δ*-dissimilation is not possible since the former – judging by its sporadic distribution in Mari – must postdate Proto-Mari while the latter would have to be, given its uniformity, an earlier Proto-Mari or Pre-Proto-Mari development.

There are no *l*-derivatives attached to verbs with an *l* in their stem that could be considered to date back to Proto-Mari; the few examples that can be found are limited to single Mari varieties, e.g. E (Okr) *kolə̑la-* ← *kola-* 'hear' (Moisio & Saarinen 2008: 258), E (Okr) *tolə̑la-* ← *tola-* 'come' (Moisio & Saarinen 2008: 801). There are a few *Al*-derivatives that have a wide distribution across the Mari dialects, e.g. E (Ob_1) *ilala-*, C *ilala-*, NW W *ələlä-* 'live for a certain period' < PMa **ĭlälä-* (← PMa * *ĭle-* 'to live') (Moisio & Saarinen 2008: 156), E C *nulala-*, Vo *nŭlala-*, NW *nŏlaleš*$_3$, W *nə̑lala-* < PMa **nŭlala-* (mom.) 'to lick once' (← PMa **nŭla-* 'to lick') (Moisio & Saarinen 2008: 425). The suffix *-Al-* is still a productive derivational suffix, so despite their wide distribution these derivations could have been coined independently of each other, and even if they were considered common Proto-Mari derivations, the dissimilation of **l-l* to * *δ-l* could have taken place at an earlier stage of Proto-Mari. There is a potential parallel for the dissimilation in E C *uδə̑la-*, Up *uδŭla-*, *ŭδŭla-*, W *ə̑δə̑la-* 'pray' < PMa **ŭδəla-* (Moisio & Saarinen 2008: 862) (? < **ŭləla-*), formed together with C *ulδe-* Up *ŭlte-*, NW *ŏlte-* 'pray, ask' < PMa **ŭl-δ/te-* (Moisio & Saarinen 2008: 869) from an unattested verb stem PMa **ŭl-*.[6] There is no real counterevidence that would disallow pushing back the dissimilation to Pre-Proto-Mari either. The exact chronology of the dissimilation therefore remains uncertain. The scarcity of examples is simply due to the

6 Christopher Culver (personal communication) suggested that the Mari word has been borrowed from Volga Bulgarian **xŏlt-*. This word does not exist in Chuvash, but a deverbal derivative WOT **kol-du* 'begging' (← **kol-*) is presumably reflected in Hungarian *koldul-* 'beg' (Róna-Tas & Berta 2011: 553–556), which seems to confirm its existence in West Old Turkic. Given that *-δ/te-* is a well-known derivative suffix in Mari, I see no reason why the Mari verb could have not been borrowed from an underived verb form, cf. OT *kol-* 'ask for' (Clauson 1972: 616–617). Etymologies based on unattested words are often quite doubtful, but since Chuvash loanwords are ubiquitous in Mari, the loan etymology is not outside the realm of possibility. There is also PMa **ŭla-* 'be' (< PU **wolə-*), but this is surely just a coincidental homonym without an etymological connection.

fact that the dissimilation operated in a very restricted phonological environment and derivational context.[7]

In summary, dissimilation produced PMa **poδəla-* from **poləla-* or Pre-PMa **padalə-* from **palalə-* and when the base verb **polə-* or **pala-* dissappeared, analogy could not level the variation between **l* and **δ/*d*. It is not an uncommon occurrence in Mari that inherited Uralic verbs survived only as derivatives, e.g. E (Ob Oka Okr) *kə̑ç̣ala-*, E (Ok) *kiće̮ala-*, C (Ms $Mm_{1,2}$ Mmu) *kə̑će̮ala-*, Vo *kǯće̮ala-*, Up *kəcala-*, NW *kəcälä-*, W *kəčälä-* 'look for, search' < PMa **kǐč-älä-* < PU **kenčə-* 'look for, search' (Metsäranta 2020: 52–53). Even if the change from **l* to **δ/*d* were irregular, it would be hard to entirely dismiss the Mari word from the Proto-Uralic cognate set given how well it otherwise conforms both phonologically and semantically. As it turns out, PMa **poδəla-* 'spoon, slurp' is derivationally speaking and stem-wise analogous to Fi *palella-* 'feel cold' (~ Kar *palella* 'burn oneself a bit' < PF **paleļeļe-* ← **pala-* 'burn') although they clearly reflect parallel derivations based on the semantics.

7 It was suggested to me by Alexander Savelyev (personal communication) that PMa **δ-l* developed from earlier **lδ-l*. Examples of this change according to him are PMa **kŭδala-* 'hurry with a horse (either riding or with a wagon); run (four-legged animals)' < **kŭlδala-* ← PU **kulkə-* 'go, flow' and M *jə̑δal* 'bast shoe' ← **jål* 'foot'. I prefer my dissimilation explanation over this suggestion for three reasons. Firstly, I find the etymologies presented to support the development dubious. Rather than being a derivative of **kulkə-*, PMa **kŭδala-* can be compared to PKh **kuntā-* 'run away, flee' (< PU **kuntə-*) (Aikio 2018). Aikio's suggestion is more straightforward both in terms of phonology and derivation. M *jə̑δal* shows irregularities even between Mari dialects, cf. NW W *jə̑δal*, E *jondal*, and it cannot be regularly reconstructed for Proto-Mari. The word is structurally opaque, and a sufficient structural analysis has not been provided to confirm that we are indeed dealing with a derivative. If PU **kulkə-* has a reflex in Mari that would be either **kŭrγəža-* 'run (two-legged)' (requiring irregular **lk* > **rk*) (Metsäranta 2020: 110) or **kolte-* 'let loose, let go, set free; send' (the voicelessness of the suffix *-te-* might point to the form having emerged through syncope from earlier **kolə-kte-* < **kulkə-kta-*, cf. PMa **sülte-* ~ **sŭləkte-* (tr.) 'melt' ← **sŭle-* 'thaw' (Moisio & Saarinen 2008: 730), other examples involving PU **u* > PMa **o* are PU **kuwlə-* 'hear' > PMa **kola-* and PU **tulə-* 'come' > PMa **tola-*. Secondly, there are quite a few words with the sequence **lδ-l* that can be reconstructed for Proto-Mari, e.g. **jåδəlδala-* 'ask a little, (shortly) ask, pose a question', **kĭlδəlä-* (freq.) 'bind on multiple places', **mŭškəlδala-* (dim.) 'wash a little', **ŭlδala-* (dim.) 'bear, endure, be (a little)'. Thirdly, there are no parallel derivatives to PMa **poδəla-*, e.g. ***polδ/te-*, which would confirm the word having had **-lδ-* at some point.

2.3. Mari **pükte-* 'brood (eggs)'

Proto-Mari **pükte-* 'brood (eggs)' can be reconstructed based on E C Vo Up NW W *püktä*$_3$ '(Eier) brüten = brood (eggs)' (Beke 1997–2001: 2067–2068; Moisio & Saarinen 2008: 573). An Udmurt loan etymology has been proposed for the Mari verb (Rédei 1966: 95–96; Bereczki 1992: 124–125). According to the loan etymology Mari **pükte-* was borrowed from the Udmurt verb *puktį-* 'set, put, place'. As for the semantics, it should be noted that the Udmurt verb can be used in the context of setting a chicken to brood: Udm (K) *kurə̑k puktįnį* 'eine Henne brüten lassen' (*kurə̑k* 'chicken'). The Udmurt verb is derived from *pukį-* 'sit'. Mari E C Up NW *püken*, C (Mm$_{1,3}$) Vo *pökön*, W *pöken* 'chair, seat' borrowed from Udm *pukon* 'chair' (Bereczki 1992: 124) is also derived from Udm *pukį-*. While Udm *pukon* was claimed by Bereczki to be a present participle, according to Bartens (2000: 126) Udm *-on* is a derivational suffix. Nouns formed with this suffix refer to the instrument or the object of the action expressed by the verb and are often heavily lexicalized.

There is little doubt that the latter loan etymology is correct. Although lexicalized, *pukon* is still clearly analyzable from the point of view of Udmurt and the oscillation in the first-syllable and second-syllable vowels in Mari can probably be attributed to borrowing between Mari dialects. The Udmurt loan etymology for Mari **pükte-* is less convincing, however. The wide distribution could be explained by dialectal borrowing, but the phonology is suspiciously uniform for an Udmurt borrowing. The meaning 'brood' in Mari could be explained by the fact that the Udmurt verb means, among other things, 'set (a chicken) to brood', but otherwise the Mari verb has no apparent connection to the wide range of meanings and usage contexts found in Udmurt. There is no trace of curativity in Mari either, i.e. the verb is simply 'brood (eggs)', not 'set to brood' as in Udmurt. In sum, the Udmurt loan etymology is not entirely impossible, but it is doubtful.

No etymology has been proposed that would have taken derivation into account. Similarly to PMa **čükte-*, structurally PMa **pükte-* could in fact also be analyzed as a petrified causative. Following this approach, there are once again comparanda in Saami that look promising, cf. PS **pivę-* 'stay warm; withstand cold' > SaaS *bïjvedh* 'be warm, keep warm, not freeze', U *bïjvvat* 'keep warm, not freeze', N *bivvat*

‘keep warm (not feel the cold)’, An *pivâldiđ* ‘abate (weather in winter)’, Sk *piivvâd*, K *pi̯vvɐ^{ð}*, T *pi̯vvą^{d}* ‘withstand cold’ (Lehtiranta 2001: 102–103) → PS **piktē-* (or **piv-htē-*) > SaaS *biktedh* ‘warm’, U *biktttiet* ‘warm (of fire etc.)’, N *biktit* ‘warm (of clothes)’, An *pihteđ* ‘heat’ , Sk *pe'htted* ‘warm up’ (Lehtiranta 2001: 102–103). PS **i* reflects either earlier **ej* or **ij*, e.g. PU **ćejŋə* or **ćijŋə* ‘jewelry, ornament’ > PS **ćiŋę* > SaaN *čikŋa*, An *čiŋŋâ* ‘piece of jewelry; ornament, decoration’ (Aikio 2020: 118–119), PU **pejrə* ‘circle, enclosed (area)’ > PS **piręˇ* ‘round’ > SaaS *bïjre*, N *birra*, Sk *pirr*, etc. (Metsäranta 2018: 135–136), Pre-Proto-Saami **tijvo-* > PS **tivō-* > N *divvut* ‘put right, correct, repair, arrange, get ready; put, lay, set, place’ (~ LPF **ciivo-* > Fi *siivota* ‘clean’) (Sammallahti 1998: 238). Proto-Saami **pivę-* ‘stay warm; withstand cold’ could be reconstructed either as Pre-Proto-Saami **pejwə-* or **pijwə-*.

The Saami word has in older etymological literature been compared to Komi *pi̯m* ‘hot’, NenT *pī̯w* ‘dry, warm summer wind’, Ngan *feabeme?-* ‘warm up, heat up’, SlkTaz *pǖ*, Tym *pǒ* ‘warm’ and Kam *pelâ?-* ‘heat, warm (up)’, *phîde-* ‘warm’ < PU **päwe-* (Rédei 1986–1991: 366–367). One would expect PU **päwə-* to yield PS ***pievę-*. It has become apparent that the cognate set proposed in the *Uralisches etymologisches Wörterbuch* (Rédei 1986–1991) is erroneous and should be dissolved. The Komi word has been analyzed as a derivative of PU **päjə-* ‘cook, boil’ (Metsäranta 2023a: 193). The Nganasan word (Castrén) *feabeme?-*, (modern) *hejbi̯* ‘warmth, heat’ and the Selkup *pǖ* ‘warm’ < PSam **päjwä* reflect PU **päjwä* ‘sun, heat, warm(th)’ and belong together with Fi *päivä* ‘day’ and SaaN *beaivi* ‘day, sun’ (Janhunen 1977: 120; Aikio 2015: 63; Kaheinen 2023: 90). One would expect PSam **päjwä* to yield ***pī́wa* in Tundra Nenets. The lack of palatalization in Nenets *pī̯w* makes reconciling the form with any of the suggested cognates difficult and the word is unlikely to belong together with any of the words compared in the *Uralisches etymologisches Wörterbuch* (Rédei 1986–1991). The Kamas word forms are classified as unique to Kamas (Janurik 2021: 137). There are examples of PS **-jw-* yielding in Kamas a reflex by which it is lost completely, e.g. PSam **kajwå* ‘spade’ > Kam *kō* ‘spade, paddle’ (Janhunen 1977; Kaheinen 2023: 34), PSam **tåjwâ- ~ *tåjwå-* ‘reach, arrive’ > Kam *tu-ľäm* (Janhunen 1977: 146; Kaheinen 2023: 247), so the appurtenance of the Kamas word to PSam **päjwä* is perhaps possible, but due to the sparsity of Kamas

comparative material the phonology and structure of the forms remain difficult to interpret reliably.

A similar analysis that was proposed for PMa **čükte-* (see Section 2.1) can be applied to **pükte-*. The word is either a PMa derivative from a stem ***pü(-ä/e)-*, no longer found as an independent lexeme in Mari, or alternatively the form **pükte-* represents a PU vowel stem derivative where the disappearance of the cluster **-jw-* (e.g. PU **kajwa-* 'dig' > PMa **ko-e-* > E *kue-*, W *koe-* 'shovel (e.g. snow)') created a vowel sequence and the accompanied hiatus prevented vowel reduction from happening, i.e. PU **pejwə-ktä-* > Pre-Proto-Mari **püə-ktä-* > PMa **pükte-*. The semantic relationship between brooding and warming should be obvious enough. Thus, together the Mari and Saami words could regularly be derived from PU **pejwə-* 'stay warm'.

The similarity between **päjwä* 'sun, heat, warm(th)' and PU **pejwə-* 'stay warm' remains rather striking and a potential connection between the reconstructed words warrants some consideration. There are verb–noun pairs reconstructed for Proto-Uralic that differ in their stem vowel; there are cases where the verbs reflect a Uralic **ə*-stem and the nouns an **A*-stem, e.g. PU **lukə-* 'count' ~ **luka* 'ten' and **puńə-* 'twist' ~ (Finno-Saamic) **puńa* 'twist', **walə-* (only in Samoyed: PSam **wåə-* 'speak') ~ **wala* 'word, song' (Aikio 2020: 21; Zhivlov 2014: 129), as well as cases where the verbs reflect a Uralic **A*-stem and the nouns an **ə*-stem, e.g. PU **aŋa-* 'open' ~ **aŋə/*aŋa* 'opening, mouth', **ipsä-* 'smell' ~ **ipsə* 'smell', **künčä-* 'dig, claw' ~ **künčə* 'nail' (Aikio 2020: 21–22). Patrick O'Rourke (2023: 299–309) has recently drawn attention to a few word pairs that differ not only in their stem vowel, but potentially also in the height of the first-syllable vowel, with the **ə*-stem words showing a vowel reflex that is one degree higher than what is found in the corresponding **A*-stem. Most of O'Rourke's examples with height alternation involve noun–noun pairs, the two verb–noun pairs he cites are PU **kaja-* 'appear, come in sight' ~ **kojə* 'dawn' and **aŋa-* 'open' ~ **oŋə* 'opening, mouth'. Whether this height alternation should be attributed to some type of Proto-Uralic ablaut or correlative derivation as O'Rourke tentatively suggests is still an open question.

At least in the verb–noun pairs PU **kaja-* 'appear, come in sight' ~ **kojə* 'dawn' and **aŋa-* 'opening' ~ **oŋə* 'opening, mouth', it is unclear whether the difference in vowel height can be projected back to Proto-Uralic, because it is only individual branches that point to a potential

difference in vowel height. In the case of **kojə* ‘dawn’ > Fi *koi* ‘dawn’, Komi *kį̑-a* ‘red of dawn’, *as-ki*, dial. *as-kį*, Udm *as-kį̑* ‘tomorrow’, MsVS *kuì*, LL *kui* ‘dawn’ (for the addition of PP **askį* ‘tomorrow’ to the list of cognates, see Metsäranta 2023b: 272–275), it is PMs **kuj* that specifically points to PU **kojə* while PF **koi* and PP **kį* are undiagnostic with regard to PU **kajə* or **kojə*. Similarly, of the words considered cognate under **aŋə/*aŋa* ‘opening, mouth’ (Aikio 2020: 22–23), it is only the Permic reflexes, Komi *vom*, P *e̮m*, J *úm*, Udm *i̮m* ‘mouth’, that warrant reconstructing PU **oŋə* and they could perhaps instead be considered to belong together with SaaN L *vuoŋas* ‘muzzle’ and MdE *onkśť* (plural), M *ovəst*, *ojkst* (plural) ‘bit (in bridle)’, if the Uralic form **oŋəs* ‘muzzle; bit’ that the Saami and Mordvin words reflect (Aikio 2020: 76) is interpreted as a derivative (Zhivlov 2014: 140). There are no verb–noun pairs that would show differences in vowel height across the board in Uralic. At present, vowel height alternation has in my opinion not yet been satisfactorily established as a Proto-Uralic phenomenon.

Although on the surface it would seem that **päjwä* ‘sun, heat, warm(th)’ and PU **pejwə-* ‘stay warm’ also involve height alternation, this is by no means guaranteed. PU **pejwə-* could be etymologically unrelated to **päjwä* or alternatively the PU reconstruction of PS **pivę-* and PMa **pükte-* could perhaps be adjusted to PU **päjwə-* instead. Although PMa **ü* is not a common reflex of PU **ä*, there are a few examples of PU **ä* being reflected as PMa **ü*, e.g. Mari E NW *jükše-*, W *ükše-* ‘get cold’ < PMa **jükše-* < PU **jäkšə-* (Aikio 2014b: 155), Mari E C *šüj*, E (Ok) *śüj*, W *šü* ‘pus’ < PMa **sü* < PU **säjə* (Aikio 2012: 229) (the correspondences show some irregularities, but at least PS **sieję* > SaaN *siedja* ‘pus’ clearly points to PU **säjə*). For Saami, it is noteworthy that PS **peajvē* > SaaN *beaivi* ‘day; sun’ reflects Pre-Proto-Saami **pejwä* rather than **päjwä* due to the change from PU **ä-ä* to Pre-Proto-Saami **e-ä* that occurs at least in PU **jäŋkä* ‘bog’ > Pre-Proto-Saami **jeŋkä* > PS **jeaŋkē* > SaaN *jeaggi* ‘bog’ and PU **pälä* ‘side, half’ > Pre-Proto-Saami **pelä* > PS **pealē* > SaaN *bealli* as well (Aikio 2015: 63). This change has no apparent conditioning factor, but it only affected PU first-syllable **ä* before second-syllable open vowels (Korhonen 1981: 89), so it could not be used to explain the change from PU **päjwə-* to Pre-Proto-Saami **pejwə-*. Instead of looking for a purely phonological explanation, it could be that Pre-Proto-Saami **pejwə-* emerged through analogy with Pre-Proto-Saami **pejwä*, i.e.

Pre-Proto-Saami **päjwə-* ~ **pejwä* was leveled to **pejwə-* ~ **pejwä*. This is of course very difficult to prove with any degree of certainty.

Tinkering with the Proto-Uralic reconstruction could potentially rid us of the vowel height alternation and allow us to reconstruct a verb–noun pair **päjwə-* 'stay warm' ~ **päjwä* 'sun, heat, warm(th)'. If we opt to reconstruct PU **päjwə-* instead of **pejwə-*, there are some additional derivational comparanda that could belong together with the Saami and Mari words, e.g. Fi *peittää* 'cover' < PF **pei-ttä-* (< ? PU **päj(w)-ktä-* 'keep warm') and Komi *pi̮m* 'hot, warm' < PP **pi̮m* (< ? PU **päjwə-mä*). Komi *pi̮m* 'hot, warm' is considered a derivative of PU **päjə-* 'boil' in Metsäranta (2023: 193), but PU **päjə-* reconstructed in Metsäranta (2020: 154) might not even be a separate verb from PU **päjwə-*; at least many of the reflexes listed such as MdE *pije-* 'boil' might equally well reflect PU **päjwə-*. In any case, I no longer consider PU **päjwä* to be a derivative of **päjə-*, and other derivatives from **päjə-* mentioned in Metsäranta (2020: 154) could in fact better be analyzed as derivatives of either the verb **päjwə-* or the noun **päjwä*, e.g. Hu *fehér* (dial. *feér*, *feír*, *fejér*, *fehir*) 'white' < ? PU **päjwärä* 'sunny, bright'. The entire matter is, however, too complex to be resolved here and depends on whether the reconstruction **päjwə-* ends up being acceptable.

There is also another Mari word that I wish to discuss in connection with PU **pejwə-* (**päjwə-*) 'stay warm' and **päjwä* 'sun, heat, warm(th)'. The stem for 'sweat' in Mari is E (B BJ) *püjüž-*, E (Ob_2) *püiʲžŏ-*, E (Ši) *pəž-*, E (Ob_1 Oka Okr Ok) C Up NW W *püž-*, Vo *pŭž-* (Moisio & Saarinen 2008: 576; Beke 1997–2001: 2093; Veršinin 2011: 475). The stem appears either as a part of a compound, cf. E (B BJ) *püjüž-wüt*, E (Ob_2) *püiʲžŏ-wüt*, E (Ši) *pəž-wət*, E (Ob_1 Oka Okr Ok P B M MK) C (Ms Mm_1 Mmu) Up *püž-wüt*, Vo *pŭž-wŭt*, NW *püž-wŭt*, W *püž-wət* where the latter part is the word for 'water' or as a derivative, cf. E (Ob Oka) *püžältä-*, E (Ok) C (Ms Mmu) *püžalta-*, E (MK USj US) *pižalta-*, E (Ši) *pəžalta-*, C (Mm_1) *püžalδa-*, Vo *pŭžalta-*, Up *pŭžalta-*, NW W *püžältä-* 'sweat'.

The East Mari, Birsk, and Kaltasy forms, are deemed crucial for the reconstruction of a vowel sequence in PMa **tüəž* 'pregnant (of animals)' > E (Ob_1) *tüjüž*, E ($Ob_{1,2}$) *tüjŭž*, E (Oka) *tüüž*, E C NW W *tüž*, Vo *tŭž*, Up *tüžŏ* (Aikio 2014a: 90–91). In case of *püž-*, the situation is a bit more complicated as there are Birsk forms, cf. E (B BJ) *püjüž-*, E (Ob_2) *püiʲžŏ-*, that warrant reconstructing a vowel sequence alongside

Birsk and Kaltasy forms that speak against reconstructing such a vowel sequence, cf. E (Ob$_1$ Oka) *püž-*. There are a few Mari varieties, e.g. E (Ši) *pəž(-wət)* and Vo *pŭž-(wŭt)*, that point to Proto-Mari **pŭž-*, but this is the case for PMa **tüəž* as well with at least Vo *tŭž* pointing to a reduced vowel. Explaining the emergence of forms pointing to a vowel sequence as secondary is rather unlikely given how rare such cases are. Instead, the lack of a vowel sequence in certain forms can probably be attributed to dialectal borrowing. If we choose to treat the forms pointing to a vowel sequence as primary, the Proto-Mari word for 'sweat' can then be reconstructed as **püəž-wŭt*.

The Mari words have been compared to MdE M *pśi* 'hot, hotness' and Udm *pęś* 'hot, glowing', Komi *pęś* 'hot, sweaty, sweat' (Rédei 1986–1991: 738; Bereczki 2013: 212–213). The sources reconstruct the words as **pośз*. None of the compared Uralic words can regularly reflect such a form. The Permic forms point to an earlier consonant cluster, either **pś* or **kś*, and thus cannot have anything to do with the Mari or Mordvin words. Based on the Mari dialectal forms E (MK USj US) *pižalta-* 'sweat' Bereczki reconstructs PMa **pіž-* and suggests that both Mordvin and Mari underwent a common sound change **o* > **i _ś*. The idea of a common Mordvin–Mari sound change is unnecessary given that the Permic words do not belong here and there is no reason to think that the words reflect an earlier **o*. Positing instead an earlier **piśV-* would regularly yield PMa **pĭž-*, which is a satisfactory proto-form only for the Malmyž and Uržum forms cited by Bereczki. The verb forms show no direct evidence for the reconstruction of a Proto-Mari vowel sequence; the majority of forms reflect PMa **püžältä-* with some varieties (Ši, Vo, Up) pointing to PMa **pŭžältä-*. Reconstructing Pre-Proto-Mari **piśV-* because of E (MK USj US) *pižalta-* 'sweat' does little in the way of explaining the forms with a labial vowel, i.e. **püžältä-* or **pŭžältä-*, and even more crucially the vowel sequence in PMa **püəž-(wŭt)* that could have emerged only via the deletion of an earlier word-internal segment. Currently, we lack a clear explanation for why the noun seems to reflect a vowel sequence while the verb forms point to a single vowel, but even then Bereczki's reconstruction raises more questions than it solves. Bereczki's reconstruction also needlessly prioritizes the illabial forms that are clearly in the minority among dialectal forms. It is far easier to attribute the illabial Malmyž and Uržum forms to irregularity than it is to explain the labialization as secondary

elsewhere. There is therefore no real basis for assuming that PMa **püəž-* or **püžältä-/*pŭžältä-* reflect Pre-Proto-Mari **piśV-*.

Uncertainties aside, I would rather try connecting Proto-Mari **püəž-* to the aforementioned PU **pejwə-* (**päjwə-*) 'stay warm' or **päjwä* 'sun, heat, warm(th)' in some capacity. The Saami word for 'sweat', SaaS *bïevestahke*, *bïevesth*, N *bivastat*, An *pivâstâh*, Sk *piustõk* < PS **pivȩstȩk*, is derived from **pivȩ-* 'stay warm, withstand cold'. The form consists of PS **-stē-*, a deverbal suffix with a diminutive function (Korhonen 1981: 337) and PS **-ȩk*, a deverbal derivational suffix that describes the action, result and sometimes instrument expressed by the base verb, e.g. SaaN *geahččat* 'look, look at' → *geahčastit* (dim.) 'look quickly at, glance at' → *geahčastat* 'glance, look'; there are also cases where the **-tȩk* and **-stȩk* are treated as a single suffix and tagged onto a two-syllable verb, e.g. SaaN *čatnat* 'tie, bind' (< PS **čȩnȩ-*) → *čanastat* 'cord for tying something tightly, for tying a sack with' (< PS **čȩnȩ-stȩk*) (ibid.: 314). If nothing else, the Saami provides a noteworthy semantic parallel.

The problem with connecting PMa **püəž-* with PU **pejwə-* (**päjwə-*) or **päjwä* is that the phonological and structural analysis of the Mari word is marred with uncertainty. PMa **ü(ə)* reflecting PU **e* is more likely (see Section 2.1) but, as discussed earlier, there are also individual examples of the change PU **ä* > PMa **ü*, so PU **ä* cannot be ruled out. Also, Mari **-ž* can reflect several protoforms including at least **-śV*, **-šV*, and **-ńćV*. Structurally, the problem with connecting PMa **püəž-* with **pejwə-* (**päjwə-*) is that there are only singular parallel cases of deverbal *-(ə)ž* derivatives in Mari, e.g. PMa **pŭrγe-* > C *purγa*$_3$, W *purγa*$_3$ 'blow (of snow), whirl, swirl (of dust)' → PMa **pŭrγəž* > E C *purγâž*, Up *pŭrγuž* 'flurry of snow, snowstorm; snowdrift' (Moisio & Saarinen 2008: 561–562). This suffix might have comparanda in West Uralic *-(ə)š*, e.g. **wenə-* 'stretch' → ? **wenəš* 'boat' > Kar *veneh* ~ SaaN *fanas* ~ MdM *veńeš* (Sammallahti 1998: 241), but the comparative material consists of only a handful of examples and is thus unreliable. There is also the participle suffix PU **-śA* with unclear semantics that has been reconstructed for Proto-Uralic, e.g. PU **kalə-* 'die' → **kalə-śa* > e.g. MdE *kuloź* 'dead, deceased', NenT *χasa* 'late, deceased' (Aikio 2022: 19), so a participle PU **pejwə-śä* or **päjwä-śä* yielding PMa **püəž-* is thus also a theoretical possibility.

An alternative structural analysis for Mari **püəž-* can be provided if Mari *-ž* is thought to reflect PU **-ńć-*; for the phonological development, cf. PU **kuńćə* 'urine' > PMa **kŭž-* > C *kuž-wüt*, Vo *kŭž-wŭt*, Up *kŭž-wüt*, NW *kŏž-wŭt*, W *kə̂ž-wət* id. and PU **ońća* 'part, share' > PMa **užaš* > E C *užaš* id. The North Saami word *beaivváš* 'sun' reflects Proto-Saami **peajvāńćę*, a derivative formed with the Finno-Saamic diminutive suffix **-ńćə* (**-nśi*) (Sammallahti 1998: 230). A cognate of the suffix **-ńćə* is not usually thought to exist in Mari, but phonologically and structurally Mari **püəž-* could be interpreted as reflecting PU **päjwä-ńćə*. Semantically 'sweat' as a derivative of **päjwä* that, based on its Samoyed cognates, also meant 'heat, warm(th)' is plausible. Given the lack of comparative evidence, all the proposed phonological and structural analyses are far from certain, however.

Regarding the etymology of PMa **pükte-* 'brood' and **püəž-* 'sweat' the minimalist interpretation of the material is that they are cognate with PS **pivę-* 'stay warm; withstand cold' and ultimately reflect the PU stem **pejwə-* 'stay warm'. PMa **pükte-* is readily analyzed as a causative derivative while **püəž-* 'sweat' potentially reflects either the participle PU **pejwə-śä* or the deverbal derivative **pejwə-š(ə)*. The maximalist interpretation of the material is that instead of reflecting PU **pejwə-*, the reconstruction can be adjusted to PU **päjwə-* which, in turn, can be considered as the verbal pair to the noun traditionally reconstructed as PU **päjwä* 'sun, heat, warm(th)'. In this scenario, PMa **pükte-* 'brood' could still be analyzed as a deverbal causative while **püəž-* 'sweat' is more likely to have been derived from the noun PU **päjwä* 'sun, heat, warm(th)', e.g. PU **päjwä-ńćə* (this could, in fact, be true in either interpretation). The maximalist interpretation would also allow presenting comparanda for the Saami and Mari words reflecting **päjwə-* from Finnic, e.g. Fi *peittää* 'cover' and Permic, e.g. Komi *pi̮m* 'hot, warm' that fit the reconstruction with first-syllable PU **ä* but not the reconstruction with PU **e*.

3. Conclusion

This article demonstrates that structural analysis is necessary for detecting petrified derivatives and the chronology of their formation helps to explain the finer details of their phonological development. Lexicalized words are a great source of information for diachronic derivation, because by their very nature they reflect historical rather than synchronic processes. Analyzing words as derivatives also opens the possibility of providing an etymological explanation for many hitherto unetymologized words. This possibility and potential should, however, be approached carefully. Both the stem and the derivative suffix need to be identifiable. Not all cognates need to reflect the underived stem, but it is preferable that the stem exist underived in some branch. Secondly, the derivational process needs to make sense both structurally and semantically. Words cannot be analyzed willy-nilly, otherwise it becomes too easy to apply this methodology. In the case of the words analyzed here, at least PMa **čükte-* 'light, set fire to', **poδəla-* 'slurp, spoon', and **pükte-* 'brood (eggs)' easily cross this threshold. The etymological identity of PMa **püəž-* 'sweat' remains more equivocal as there are several options regarding its phonological and structural analysis.

Acknowledgments

This article is part of the project "Sana ja sen johdos – Uralilaisen kantakielen sananjohtojärjestelmä" funded by the Kone Foundation. I wish to thank two anonymous peer-reviewers as well as Christopher Culver and Alexander Savelyev for their remarks. I would also like to express my gratitude to Juha Kuokkala for taking the time to read my manuscript, and the participants of Etymologiatyöpaja at the University of Helsinki where some of the etymologies presented here were discussed during the spring sessions of 2024.

Abbreviations

Fi = Finnish
Hu = Hungarian
Kam = Kamas
Kar = Karelian
Kh = Khanty
  Trj = Tremjugan
  V = Vach
  Vj = Vasjugan
Komi
  I = Ižma
  J = Jazva
  L = Luza
  Peč = Pechora
  S = Sysola
  U = Udora
  V = Vyčegda
  Z = Zyrian
LPF = Late Proto-Finnic
Mari
  C = Central
    Mm_1 = Morki, Yrjö Wichmann
    Mm_2 = Morki, Volmari Porkka
    Mm_3 = Morki, T.E. Uotila
    Mmu = Mari Ušem
    Ms = Sernur
  E = East
    B = Vašinga (Birsk)
    BJ = Starajaš (Birsk)
    M = Starinoenger (Malmyž)
    MalK = Malyj Kiľmez
    MK = Karmankino (Malmyž)
    MM = Mamakovo (Malmyž)
    Ob = Birsk
    Ob_1 = Birsk, Yrjö Wichmann
    Ob_2 = Birsk, Martti Räsänen
    Ok = Bolšoj Kiľmez
    Oka = Kaltasy
    Okr = Krasnoufimsk
    Ši = Boľšaja Šija
    UP = Petrušin (Uržum)
    US = Nižnjaja Sjuksa (Uržum)
    USj = Sabu-jal (Uržum)
  H = Hill
  M = Meadow
  NW = Northwestern
  Up = Upša
  Vo = Volga
  W = West
Md = Mordvin
  E = Erzya
  M = Moksha
MPF = Middle Proto-Finnic
Ms = Mansi
  KndM = Middle Konda
  So = Sosva
  T = Tavda
NenT = Tundra Nenets
Ngan = Nganasan
PKh = Proto-Khanty
PMa = Proto-Mari
PP = Proto-Permic
PS = Proto-Saami
PSam = Proto-Samoyed
PU = Proto-Uralic
Saa = Saami
  An = Anar (Inari)
  L = Lule
  N = North
  S = South
  Sk = Skolt
  T = Ter
  U = Ume
Slk = Selkup
Udm = Udmurt
  K = Kazan

References

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2009. *The Saami loanwords in Finnish and Karelian*. Oulu: University of Oulu.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2012. On Finnic long vowels, Samoyed vowel sequences, and Proto-Uralic *x. In Tiina Hyytiäinen, Lotta Jalava, Janne Saarikivi & Erika Sandman (eds.), *Per Urales ad Orientem. Iter polyphonicum multilingue. Festskrift tillägnad Juha Janhunen på hans sextioårsdag den 12 februari 2012* (Mémoires de la Société Finno-Ougrienne 264), 227–250. Helsinki: Suomalais-Ugrilainen Seura.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2014a. Studies in Uralic Etymology III: Mari Etymologies. *Linguistica Uralica* 50(2). 81–93. https://doi.org/10.3176/lu.2014.2.01.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2014b. On the reconstruction of Proto-Mari vocalism. *Journal of Language Relationship / Voprosy jazykovogo rodstva* 11. 125–157. https://doi.org/10.31826/jlr-2014-110113.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2014c. The Uralic Yukaghir lexical correspondences: genetic inheritance, language contact or chance resemblance? *Finnisch-Ugrische Forschungen* 62. 7–76. https://doi.org/10.33339/fuf.86078.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2015. The Finnic 'secondary e-stems' and Proto-Uralic vocalism. *Journal de la Société Finno-Ougrienne* 95. 25–66. https://doi.org/10.33340/susa.82642.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2018. Comment on Juho Pystynen's blog post on 2018-04-09. https://protouralic.wordpress.com/2018/03/23/proto-uralic-e-in-mari/#comment-1274.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2020. *Uralic Etymological Dictionary*. Draft version of entries A–Ć. https://www.academia.edu/ 41659514/URALIC_ETYMOLOGICAL_DICTIONARY_draft_version_of_entries_A_%C4%86_.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2021. Studies in Uralic Etymology V: Permic Etymologies. *Linguistica Uralica* 57(3). 161–179. https://doi.org/10.3176/lu.2021.3.01.

Aikio, Ánte (Luobbal Sámmol Sámmol Ánte). 2022. Proto-Uralic. In Marianne Bakró-Nagy, Johanna Laakso & Elena Skribnik (eds.), *The Oxford Guide to the Uralic Languages*, 3–27. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780198767664.003.0001.

Alhoniemi, Alho. 2010. *Marin kielioppi*. 2nd edition. (Apuneuvoja suomalais-ugrilaisten kielten opintoja varten X). Helsinki: Suomalais-Ugrilainen Seura.

Bartens, Raija. 2000. *Permiläisten kielten rakenne ja kehitys* (Mémoires de la Société Finno-Ougrienne 238). Helsinki: Suomalais-Ugrilainen Seura.

Beke, Ödön. 1997–2001. *Mari nyelvjárási szótár* (*Tscheremissisches Dialektwörterbuch*) I–IX. Unter Mitarbeit von Zsófia M. Velenyák und József Erdődi. Neuredigiert von Gábor Bereczki. Bearbeitet von Margarita Kuznecova. Herausgegeben von János Pusztay (Bibliotheca Ceremissica Tomus IV). Szombathely.

Bereczki, Gábor. 1992. *Grundzüge der tscheremissischen Sprachgeschichte II* (Studia Uralo-Altaica 34). Szeged.

Bereczki, Gábor. 2013. *Etymologisches Wörterbuch des Tscheremissischen (Mari). Der einheimische Wortschatz*. Nach dem Tode des Verfassers herausgegeben von Klára Agyagási und Eberhard Winkler (Veröffentlichungen der Societas Uralo-Altaica Band 86). Wiesbaden: Harrassowitz Verlag im Kommission.

Clauson, Gerard. 1972. *An Etymological Dictionary of Pre-Thirteenth-Century Turkish*. Oxford: Clarendon Press.

Culver, Christopher. 2022. Some details of Mari historical phonology. *Finnisch-Ugrische Forschungen* 67. 49–74. https://doi.org/10.33339/fuf.110845.

Grünthal, Riho. 1995. Sananmuodostus ja johtimien merkitys eräiden marin sanojen etymologiassa. *Journal de la Société Finno-Ougrienne* 86. 87–102.

Györke, József. 1935. *Die Wortbildungslehre des Uralischen. (Primäre Bildungssuffixe)*. Tartu: O/Ü. J. G. Krüger Ant.-ges.

Itkonen, Erkki & Kulonen, Ulla-Maija (eds.). 1992–2000. *Suomen sanojen alkuperä: Etymologinen sanakirja* 1–3 (Suomalaisen Kirjallisuuden Seuran Toimituksia 556, Kotimaisten kielten tutkimuskeskuksen julkaisuja 62). Helsinki: Kotimaisten kielten tutkimuskeskus, Suomalaisen Kirjallisuuden Seura.

Janhunen, Juha. 1977. *Samojedischer Wortschatz. Gemeinsamojedische Etymologien* (Castrenianumin toimitteita 17). Helsinki.

Janhunen, Juha. 1981. Uralilaisen kantakielen sanastosta. *Journal de la Société Finno-Ougrienne* 77. 219–274.

Janhunen, Juha. 2015. Etymology and the role of intuition in historical linguistics. *Studia Etymologica Cracoviensia* 20. 9–15.

Janurik, Tamás. 2021. *Kamassz szótár*. Székesfehérvár: Budenz Alkotóház.

Kaheinen, Kaisla. 2023. *Etymologia ex silentio: Nganasanin äännehistoria ja kielikontaktit* (Dissertationes Universitatis Helsingiensis 111/2023). Helsinki: University of Helsinki. http://hdl.handle.net/10138/567682.

Kahla, Martti (ed.). 1990–1996. *H. Paasonens Mordwinisches Wörterbuch*. Zusammengestellt von Kaino Heikkilä. Unter Mitarbeit von Hans-Hermannn Bartens, Aleksandr Feoktistow und Grigori Jermuschkin. Bearbeitet und herausgegeben von Martti Kahla (Lexica Societatis Fenno-Ugricae XXIII). Helsinki: Suomalais-Ugrilainen Seura.

Korhonen, Mikko. 1981. *Johdatus lapin kielen historiaan*. Helsinki: Suomalaisen Kirjallisuuden Seura.

Lehtiranta, Juhani. 2001. *Yhteissaamelainen sanasto* (Mémoires de la Société Finno-Ougrienne 200). Helsinki: Suomalais-Ugrilainen Seura.

Lehtisalo, Toivo. 1936. *Über die primären ururalischen Ableitungssuffix* (Mémoires de la Société Finno-Ougrienne LXXII). Helsinki: Suomalais-Ugrilainen Seura.

Metsäranta, Niklas. 2018. Komin *tom* 'nuori'. In Santeri Junttila & Juha Kuokkala (eds.), *Petri Kallio rocks. Liber semisaecularis 7.2.2019*, 133–138. Helsinki: Kallion etymologiseura. https://doi.org/10.31885/978952944635.

Metsäranta, Niklas. 2020. *Periytyminen ja lainautuminen. Marin ja permiläisten kielten sanastontutkimusta*. Helsinki: University of Helsinki. http://hdl.handle.net/10138/321695.

Metsäranta, Niklas. 2023a. Permeating etymology – remarks on Permic etymology. *Journal de la Société Finno-Ougrienne* 99. 172–200. https://doi.org/10.33340/susa.122775.

Metsäranta, Niklas. 2023b. "Kotatäysi" ja muita hämärtyneitä permiläisiä yhdyssanoja. In Sampsa Holopainen, Jeongdo Kim & Niklas Metsäranta (eds.), *Elämä ja etymologia. Janne Saarikiven 50-vuotisjuhlakirja*, 271–287. Helsinki: Helsingin yliopisto. http://hdl.handle.net/10138/358405.

Metsäranta, Niklas. 2024. Marin sanojen *pikš* 'nuoli', *piktem* 'kuristan, tukahdutan' ja *piδam* 'sidon' etymologiasta. In Sofia Björklöf, Santra Jantunen, Santeri Junttila, Juha Kuokkala, Saarni Laitinen & Annika Pasanen (eds.), *Itämeren kieliapajilta Volgan verkoille. Pühendusteos Riho Grünthalile 22. mail 2024* (Mémoires de la Société Finno-Ougrienne 278), 478–495. Helsinki: Suomalais-Ugrilainen Seura. https://doi.org/10.33341/sus.965.1345.

Metsäranta, Niklas, Veronika Milanova & Terhi Honkola. 2025. *Areal-etymological approach to semantic reconstruction of Proto-Uralic kin terms*. Manuscript.

Moisio, Arto (ed.). 2013. *Wogulisches Wörterbuch*. Gesammelt und geordnet von Artturi Kannisto. Bearbeitet von Vuokko Eiras. Herausgegeben von Arto Moisio (Lexica Societatis Fenno-Ugricae XXXV, Kotimaisten kielten keskuksen julkaisuja 173). Helsinki: Société Finno-Ougrienne, Kotimaisten kielten keskus.

Moisio, Arto & Sirkka Saarinen (eds.). 2008. *Tscheremissisches Wörterbuch*. Aufgezeichnet von Volmari Porkka, Arvid Genetz, Yrjö Wichmann, Martti Räsänen, T. E. Uotila und Erkki Itkonen. (Lexica Societatis Fenno-Ugricae XXXII, Kotimaisten kielten tutkimuskeskuksen julkaisuja 151). Helsinki: Suomalais-Ugrilainen Seura, Kotimaisten kielten tutkimuskeskus.

O'Rourke, Patrick. 2023. Liivin *läul* 'löyly; henki' ja kantauralilainen korrelaatiojohto. In Sampsa Holopainen, Jeongdo Kim & Niklas Metsäranta (eds.), *Elämä ja etymologia. Janne Saarikiven 50-vuotisjuhlakirja*, 288–314. Helsinki: Helsingin yliopisto. http://hdl.handle.net/10138/358405.

Rédei, Károly. 1966. Szófejtések. *Nyelvtudományi Közlemények* 68. 94–96.

Rédei, Károly (ed.). 1986–1991. *Uralisches etymologisches Wörterbuch*. Band I–II: Unter Mitarbeit von Marianne Bakró-Nagy, Sándor Csúcs, István Erdélyi †, László Honti, Éva Korenchy †, Éva K. Sal und Edit Vértes, Band III: Register zusammengestellt von Attila Dobó und Éva Fancsaly. Wiesbaden: Harrassowitz.

Róna-Tas, András & Árpád Berta. 2011. *West Old Turkic: Turkic Loanwords in Hungarian.* Part 1&2. Wiesbaden: Harrassowitz Verlag.

Pystynen, Juho. 2022. Comment on *Yhteiskantasuomalainen sanasto* on 2022-11-26. https://sanat.csc.fi/wiki/Etymologiadata_talk:imsm:löö-.

Sammallahti, Pekka. 1988. Historical phonology of the Uralic languages with special reference to Samoyed, Ugric, and Permic. In Denis Sinor (ed.), *The Uralic languages: Description, history and foreign influences* (Handbuch der Orientalistik 8, Handbook of Uralic Studies 1), 478–554. Leiden, New York, København, Köln: E. J. Brill. https://doi.org/10.1163/9789004492493_021.

Sammallahti, Pekka. 1998. *The Saami languages*: *An introduction*. Kárášjohka: Davvi Girji.

Savelyev, Alexander. 2022. *Mari historical phonology and the areal factor in linguistic reconstruction*. Presentation. https://www.academia.edu/92083940/Mari_historical_phonology_and_the_areal_factor_in_linguistic_reconstruction.

Steinitz, Wolfgang. 1966–1991. *Dialektologisches und etymologisches Wörterbuch der ostjakischen Sprache*. Berlin: Akademie Verlag.

Uotila, T. E. (ed.). 1942. *Syrjänischer Wortschatz nebst Hauptzügen der Formenlehre*. Aufgezeichnet von Yrjö Wichmann. Bearbeitet und herausgegen von T. E. Uotila (Lexica Societatis Fenno-Ugricae VII). Helsinki: Suomalais-Ugrilainen Seura.

Veršinin, V. I. 2011. *Slovar' marijskij govorov Tatarstana i Udmurtii*. Joškar-Ola.

Zhivlov, Mikhail. Studies in Uralic vocalism III. *Journal of Language Relationship / Voprosy jazykovogo rodstva* 12. 113–148. https://doi.org/10.31826/jlr-2015-120109.

Kokkuvõte. Niklas Metsäranta: Ajalooline sõnatuletus: mari etümoloogiaid. Artiklis käsitletakse nelja mari sõna etümoloogiat: algmari **čükte*- ‘süütama’, **poδəla*- ‘lusikaga sööma, lürpima’, **pükte*- ‘hauduma (mune)’ ja **püəž*- ‘higi’. Nende sõnade struktuuri uurimus näitab, et nad esindavad ajaloolisi tuletisi. Struktuuriline analüüs on võti ka nende fonoloogilise arengu seletamiseks, mis seejärel võimaldab leida sobivaid vasteid mujalt uurali keeltest. Leitakse, et algmari sõnal **čükte*- ‘süütama’ on vaste saami keeltes, näiteks põhjasaami *cahkat* ‘küdema’, ja sõna **poδəla*- ‘lusikaga sööma, lürpima’ kuulub kokku sugulaskeelte sõnadega, mis peegeldavad uurali algkeele **pala*- ‘sööma, ahmima’. Algmari **pükte*- ‘hauduma (mune)’ vasteks pakutakse artiklis saami sõna **pivę*- ‘soojust hoidma, külma taluma’. Artiklis tehakse esialgne ettepanek, et mari **püəž*- ‘higi’ on etümoloogiliselt seotud algmari sõnaga **pükte*- ‘hauduma (mune)’ ja algsaami sõnaga **pivę*- ‘soojust hoidma, külma taluma’ sõnadega. Samuti kaalutakse, kas need sõnad esindavad eraldiolevat uraali algkeele sõna **pejwə*- ‘soojust hoidma’ või kas kõik kolm kuuluvad kokku uraali algkeele **päjwä* ‘päike, kuumus, soe, soojus’ sõnaga. Artikli tulemused, vaatamata mõningale ebakindlusele nende täpse tõlgenduse osas, rõhutavad sõnatuletuse ajalooga arvestamise tähtsust etümoloogias.

Märksõnad: mari keel, uurali keeled, etümoloogia, ajalooline tuletus, ajalooline fonoloogia, võrdlev keeleteadus