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Loanwords from unattested Nordic source forms in Saami[1]

Among the numerous loanwords Saami has adopted from Proto-Norse there are also cases where the loan original has not been retained in modern or historically attested Nordic languages. Such etymologies can nevertheless be established on the basis of surviving cognate forms in other Germanic languages. Seven previously proposed etymologies of this kind are scrutinized, including those for North Saami *duodji* 'handicraft' and *ráidalas* 'ladder'. Twelve new etymologies of the same type are argued for, among them explanations for the origin of North Saami *ámadadju* 'face', *iktit* 'reveal, disclose', and *ivdni* 'color'.

As is well-known, the Saami languages possess a large number of old loanwords from Proto-Norse, the ancestral form of the Nordic (North Germanic) languages. While Proto-Norse is not strictly speaking a solely reconstructed language, being rudimentarily attested in Elder Futhark inscriptions, most of what is known about the language is nevertheless based on reconstruction through the comparative method. As the period of extensive attestation of Norse began only several centuries after the Proto-Norse period, it is quite obvious that Proto-Norse differed considerably from even the earliest attested forms of Old Norse. This is most evident in the realm of phonology, but it must also be true in regard to the language's lexicon.

1. A draft version of this paper was open for public commenting and discussion on the academic social networking site Academia.edu on 25 February – 19 March 2019. I wish to thank the participants Stephen P. B. Durnford, Onno Hovers, Adam Hyllested, Anthony Jacob, Petri Kallio, Martin Joachim Kümmel, Daniel Nikolić, Peter S. Piispanen, Juho Pystynen, Johan Schalin, George Telezhko, Rémy Viredaz, and Mikhail Zhivlov for helpful comments and suggestions.

A productive avenue of loanword research is opened by the assumption that Proto-Norse had preserved lexical archaisms of Proto-Germanic ancestry, which later became lost in the Nordic languages prior to their attestation. Thus, it is conceivable that Saami has adopted some Nordic words which are not found in the attested Nordic languages at all, but which have been preserved in their more southern Germanic sister languages. Indeed, in earlier research a couple of such borrowings have been proposed. In this brief paper I will present some additional remarks on seven etymologies of this type that have been put forward by earlier research, as well as present twelve new etymological comparisons of the same type.

1. Previously known cases

1.1. SaaU *duöjjie*, SaaP SaaL *duodje* 'handicraft', SaaN *duodji* 'handicraft; finished product', SaaI *tyeji* 'handicraft; product; deed', SaaSk *tuâjj*, SaaK *tūjj*, SaaT *tjjje* '(manual) work; handicraft' (< PSaa *tuojē)
< PNo *tōja-

Qvigstad (1893: 139) explains this word as a loan from an unattested ONo **tói*, the assumed cognate of Goth *taui* (: GEN *tojis*) 'deed, act'. The etymology is indeed obvious, but there is no reason to postulate a specifically Old Norse source form; the Saami word is more likely to stem from an even older (Proto-)Norse form *tōja-. An early date of borrowing is suggested by attestation in the easternmost Kola Saami languages, and especially by the fact that no cognates of Goth *taui* are attested either in Norse or in West Germanic. As the word is a basic vocabulary item, it was thus probably lost already prior to extensive attestation of Norse and West Germanic as literary languages. It is certain, at any rate, that the Gothic *taui* is a lexical archaism: it reflects PrePGerm *dōw-jo- and shows a regular loss of *w after *ō in Proto-Germanic; *tō- < *dōw- represents the full grade of a root that is also found in PGerm *tauja- > Goth *taujan* 'do, make'; the latter form shows a different grade with a short vowel, which allowed the glide to be preserved (Kroonen 2013: 511, 520).

It can be noted that there is another derivative in Norse that contains the full-grade root *tō-, namely ONo Icel Far *tól* 'tool' (< PGerm *tōla, cognate with OEngl *tōl* 'tool' > Engl *tool*). According to Kroonen (2013: 520) it developed regularly from earlier *tōlla- < *tō-dla-, formed with the deverbal instrument noun suffix *-dla- (< *-d^{h}lo-). It has not been previously noticed that also *tōla- was borrowed into Saami: it must be the source of

SaaSk *tue'll*, SaaK *tūļļ*, SaaT *tu̯ļļe* 'plane (the tool)' (< PSaa *tuolē). The etymology presupposes a semantic narrowing from 'tool' to a particular basic tool ('plane'), but such an unremarkable shift of meaning hardly poses a problem. Moreover, this explanation is in any case more straightforward than the previously suggested comparison to SaaL *duollat* 'steady (of a boat); straight (of ski, tree, etc.)', SaaN *duollat* 'steady (of a boat or sledge)' (Itkonen 1958: 616). The Norse origin of the word is also corroborated by the fact that also several other Saami words for basic tools are Norse loans, e.g. SaaN *ákšu* 'ax', *niibi* 'knife', *fiilu* 'file', *lišša* 'scythe', *nábár* 'auger' (cf. ONo *øx* 'ax', *knífr* 'knife', OSw *fæl*, ONo (hapax) *fél* 'file', *lé* 'scythe', *nafarr* 'auger').

1.2. SaaU *fiärruot*, SaaP SaaL *fierrot*, SaaN *fierrut* 'stir (continuously or repeatedly)' (< PSaa *fierō-), SaaN *fir'ret* 'stir (momentarily)', SaaI *vierriđ*, SaaK *vīr.ṣed* 'stir' (< PSaa *fieręšę- ~ *vieręšę-)

< PNo *þvera-

Qvigstad (1893: 150) postulates an unattested ONo noun **þvera* corresponding to modern Icelandic *þvara* 'stick for stirring food in a cauldron'. In this form the etymology is obviously erroneous, as also in Old Norse the form of this noun was *þvara*, not **þvera*. Instead, the source form must have been an etymologically related verb with a different ablaut grade: PNo *þvera- 'stir'. It is not certain whether this verb has survived in Norse, but at least corresponding forms are found in West Germanic: OHGerm *dweran*, OEngl *þweran* 'stir'. Adam Hyllested points out in the Academia.edu discussion session that Danish *tvære* 'stir' could in principle continue the verb *þvera-, although this is uncertain as it could also be a denominal verb derived from the noun *þvara*. At any rate, a deverbal noun derived from this verb is preserved in Norse: ONo Icel *þyrill* 'beater, whisk' (~ OEngl *þwirel*, OHGerm *thwiril*) < *þwerila-z (Kroonen 2013: 555).

1.3. SaaN *fiidnu* 'stack of firewood' (< PSaa *fijnō), SaaL *svijnno* 'stack of firewood' (< PSaa *svijnō)

< PNo *fīnō-

SKES (s.v. *pino*) explains the Saami word as a loan from PNo *fīnō-. Corresponding forms are found in West Germanic: OEngl *fīn* 'heap, pile', *wudu-fīn* 'stack of firewood', OHGerm *witu-fīna* 'stack of firewood' (*wudu*, *witu* 'wood'). As regards SaaN *fiidnu*, the etymology is both phonologically

and semantically impeccable. SaaL *svijnno* does feature an unexpected initial cluster *sv-* instead of *f-*, but even this feature has a well-established parallel in SaaL *sváles* 'whale' < PSaa *svālēs, which is in turn from PNo *hʷalaz (> ONo *hvalr* 'whale'); cf. the expected initial *f-* in SaaS *faala*, SaaN *fális* 'whale' (< PSaa *fālēs). A word further worth noting in connection with this etymology is Fi *pino* 'stack', a separate borrowing from Germanic *fīnō- (LÄGLOS II s.v. *pino*); the Finnish word has also been further borrowed into Saami, cf. SaaI *pino* 'stack'.

1.4. SaaS *gealoe* 'throat (of a reindeer)' (< PSaa *kielō)
< PNo *kelōn-

Koivulehto (1992: 91–92) has explained the word as a loan from PNo *kelōn-, corresponding to attested forms in West Germanic: OHGerm *kela* (> Germ *Kehle*), Du *keel*, OEngl *ceole* 'throat'. To this completely straightforward etymology one only needs to add that the word might not be completely unattested in Nordic after all: Kroonen (2013: 184) notes that the Elfdalian bird name *grą̊-tjyölu* 'Eurasian siskin' could be etymologically interpreted as "firtree-throat", suggesting the existence of an unattested ONo noun **kjala* : OBL **kjǫlu* 'throat'. And in any case the Nordic languages retained a derivative based on *kelōn-, namely the noun *kelkan- > ONo *kjalki* 'jaw; sledge', Far *kjálki* 'cheekbone' (~ OHGerm *kelah* 'goiter'; Kroonen 2013: 184).

1.5. SaaS *raajreles* ~ *raajteres*, SaaU *rájddaris*, SaaP *rájdaris*, SaaL *ájdaris*, SaaN *ráidalas* ~ *ráidaras*, SaaI *raidlâs* ~ *raiđâlâs* 'ladder' (< PSaa *rājδe̮le̮s ~ *rājδe̮re̮s ~ *rājte̮re̮s).
< PNo *hlaidraz

These Saami words for 'ladder' show extensive phonological variation. The earliest form would seem to have been *lājδe̮re̮s ~ *lājte̮re̮s, which then became altered by assimilation (> *rājte̮re̮s) or metathesis (> *rājδe̮le̮s ~ *rājte̮le̮s). The loss of the initial consonant in the SaaL variant *ájdaris* is difficult to account for; perhaps it derives from the assimilated variant *rājte̮re̮s via a subsequent dissimilatory loss of the first *r. In any case, the oldest form must have been *lājδe̮re̮s ~ *lājte̮re̮s, as the word is clearly a Nordic loan: its source must have been PNo *hlaidraz 'ladder', a noun not preserved in Norse but found in West Germanic, cf. OHGerm *leitara* (> Germ *Leiter*), OEngl *hlǣder* 'ladder' (> Engl *ladder*). Qvigstad (1893: 254)

suggested that the Saami forms were borrowed from an unattested ONo **leiðar*. However, the expected ONo reflex would actually be **hleiðr*, and moreover, the Saami forms point to a Proto-Norse level of phonological development. Qvigstad also mentioned Estonian *redel* 'ladder' in this connection, but this is an etymologically unrelated word: it was borrowed from Baltic German *Reddel* ~ *Rettel* 'manger; ladder' (EES s.v. *redel*).

1.6. SaaN *ruohtti*, SaaI *ryetti* 'soot' (< PSaa *ruottē)
< PNo *hrōta-

Koivulehto (2003: 298) explained SaaN *ruohtti* 'soot' as a Germanic loan; the source form can be identified as PNo *hrōta-, the unattested cognate of OHGerm *ruoz* (> Germ *ruß*), OSax *hrōt* 'soot', MDu *roet* 'grease, soot' (> Du *roet* 'soot'). The origin of the Germanic word remains unknown (Kroonen 2013: 249), but the Saami form shows that it must have once occurred in Norse, too. The distribution of the word is limited to North and Inari Saami, but despite this the borrowing is probably quite old, considering that no trace of the word survives in Norse. The loan etymology is both phonologically and semantically completely transparent, and as such requires no further comment.

1.7. SaaL *sjtádtjo* 'frying pan; casting ladle (for lead)', SaaN *stážžu* 'crucible (for melting lead); iron ashtray under a stove' (< PSaa *stāńćō)
< PNo *stainjō-[2]

As originally proposed by Wiklund (1912: 30–32), the source of the Saami word must have been PNo *stainjō-, the unattested cognate of OHGerm *steina*, OEngl *stǣna* 'stone or earthenware pot' (> Engl dial. *stean*, *stean-pot* 'earthenware pot'). The word was derived from the noun *staina- 'stone', and thus it must have originally designated a 'stone pot'. The Saami word shows

2. In PNo reconstructions I have chosen not to indicate the effects of Sievers's Law, i.e. the vocalization of *-j- after so-called 'heavy syllables', a sound change or morphophonological process which many scholars assume to be of Proto-Germanic or even Proto-Indo-European ancestry. The reason for this is that the Saami languages possess several old Nordic or Germanic loanwords which appear to point to the absence of Sievers's Law in the donor language, one example being the word *stāńćō discussed here. However, the details of this issue call for a more thorough analysis that is beyond the scope of the present paper.

the substitution of the affricate *ć for PNo postconsonantal *j; this rule has many well-established parallels, e.g. SaaN *skálžu* 'seashell' (< PSaa *skālćō) < PNo *skaljō- (> ONo *skel*) and SaaN *ávža* 'bird-cherry' (< PSaa *āvćę) < PNo *hagja- (> ONo *hegg*). The phonological and phonetic motivation of this substitution pattern has, however, not been explained so far.

It should be noted that in South Saami there is a similar noun *haadtjoe* ~ *aadtjoe* 'casting ladle' (< *(h)āńćō ? < PSaa *ϑāńćō), but the correspondence of initial *h-* or ∅- to the cluster *st-* in Lule and North Saami is completely anomalous. It is not clear how this form should be explained, and one certainly cannot exclude the possibility that it is a word of different origin that has become somehow contaminated with the Norse borrowing *stāńćō. Wiklund (1912: 32) proposed that it is a borrowing from a Germanic parallel form *þainjō-, which in his view represents a case of archaic alteration between initial *st- and *t- (> *þ-). Because such a form is not attested anywhere in Germanic, this is an ad hoc speculation, however.

2. New etymologies

2.1. SaaS *aajtoe* 'large fire' (< PSaa *ājtō) < PNo *aida-

The loan original *aida- has no direct reflex in Nordic, but it is well attested in West Germanic: OEngl *ād* 'pyre', OFri *āde*, OHGerm *eit* 'fireplace, pyre' (< PGerm *aida-). Moreover, even Nordic preserves an obscured trace of this root: ONo *eldr* 'fire' (~ OEngl *ǣled* 'fire') goes back to PGerm *ailida-, a derivative of the verb *ailja- (> OEngl *ǣlan* 'set on fire; burn'), which in turn was derived from the noun *aila- (> OEngl *āl* 'fire'). PGerm *aila- goes back to earlier *aid-la-, and is thus ultimately a derivative of PGerm *aida- (Kroonen 2013: 11). Moreover, West Germanic *aida- is in any case of Proto-Indo-European origin because it is cognate with Sanskrit *édha-* 'firewood', Ancient Greek αἶθος 'firebrand', and Old Irish *áed* 'fire' (< PIE *h_2aid^ho-).

The loan etymology is both semantically and phonologically straightforward. Remarkably, there is a phonological feature pointing to quite early borrowing: PSaa *t as the substitute for PNo intervocalic *d. This suggests that the sound in the source form was still phonetically realized as a voiced stop and had not undergone spirantization (*d > [ð]). In most loanwords, PSaa *δ appears in place of PNo *d in intervocalic position: cf. for example SaaS *laajroe* 'way, distance' < *lājδō from PNo *laidō- (> ONo *leið* 'way, road,

course'), SaaS *raajroe* 'reindeer caravan' < *rājδō from PNo *raidō- (> ONo *reið* 'riding; vehicle'). Thus, if SaaS *aajtoe* 'large fire' had been borrowed from the same (Proto-)Norse language variety as *laajroe* and *raajroe*, we would instead expect it to have the form **aajroe* (< PSaa *ājδō). Instead, it seems to derive from an older, more archaic Norse variety with intervocalic voiced stops.

Apparently, only one other loanword showing PSaa *t in place of PNo intervocalic *d has been established by previous research: SaaN *ruohtu* 'primitive fence made of branches and the like' (< PSaa *ruotō). This word must have been borrowed either from PNo *trōdō- ~ *trōdōn- (> ONo *tróð* 'rafter', *tróða* 'pole, board', OSw *trōþ* 'fence' > Sw dial. *trod* 'fence, fence pole, rafter', *troda* 'pole, fishing rod'), as has been suggested by Qvigstad (1893: 277), or alternatively from PNo *rōdō- ~ *rōdōn- (> ONo *róða* 'pole, cross', Sw dial. *roð* 'fence pole'). Regardless of which etymology is the correct one, it must be concluded that in this loanword the Saami stop *t was substituted for PNo intervocalic *d. One should note that in this connection Qvigstad also lists other Saami forms, e.g. obsolete Lule Saami *ruodo*, *truodo* 'rod, stick' and North Saami (extinct West Sea Saami dialects) *truođđa* 'fishing rod', *truođđi*, *ruođđi* 'rafter', which cannot be directly etymologically related. Because their intervocalic consonants (SaaL *d*, SaaN *đđ*) point to an original spirant *δ, they must be separate, more recent borrowings from ONo *tróð*, *tróða*. Moreover, the variation in meaning and the occurrence of several phonological variants with different second-syllable vowels suggest that these forms represent at least three parallel borrowings.

One can also present another new etymology that displays the consonant correspondence Saami *t ~ PNo *d in intervocalic position. The origin of the following set of derivationally related Saami verbs has not been previously explained:

- SaaS *ruhtedh* 'take by force, rob', SaaSk *råå'tted*, SaaK *roḍḍeδ* 'tear at, yank, tug' (< PSaa *rotē-).
- SaaU *ruhttuot*, SaaL *råhtot*, SaaSk *rååttad*, SaaT *rottad* 'tear at, yank, tug' (< PSaa *rotō-).
- SaaU *rühttet*, SaaL *råhttit*, SaaN *rohttet*, SaaI *ruttiđ*, SaaSk *ro'ttjed*, SaaK *roḍḍ.jeδ*, SaaT *roʈʈid* 'yank, tug (once)' (< PSaa *rotɇjɇ-)[3].

3. In SaaK forms such as *roḍḍ.jeδ*, the dot (.) is used to indicate a historically lost vocalic nucleus of what can be synchronically described as a "degenerate syllable" consisting of a mere consonantal onset followed by an overshort vowel which

This set of verbs must ultimately stem from either PNo *rudja- (> ONo *ryðja* 'clear, empty; clear land (from trees)') or the etymologically related PNo *rudō-. The latter verb is not preserved in Norse, but cognates in West Germanic are well attested: MDu *roden* 'clear' (> Du *rooien* 'pull out, clear (land)'), MHGerm *roten* 'clear' (> Germ *aus-rotten* 'exterminate') (Kroonen 2013: 416). Germ *roden* 'clear (land of trees)' also belongs in this cognate set, but its *-d-* reveals that it was adopted from Low German varieties.

It is somewhat difficult to determine whether the exact source of borrowing was PNo *rudja- or *rudō-, or even both. In purely phonological terms, the former could have straightforwardly produced PSaa *roteje̮- 'yank, tug (once)', and the latter in turn PSaa *rotō- 'tear at, yank, tug (repeatedly)'. However, there is a fully regular derivational relationship between these two Saami verbs: verb pairs with the suffixes *-e̮je̮- for punctual aspect and *-ō- for iterative-continuative aspect are very frequent in the Saami languages, and the derivational pattern is even synchronically at least somewhat productive. Then again, there is also the PSaa variant *rotē- with no overt derivational suffix, and it could represent the historically primary form from which *roteje̮- and *rotō- were derived within Saami. In that case, the source of borrowing would have been PNo *rudō- rather than *rudja-.

2.2. SaaL *ámadadjo* 'appearance, character', SaaN *ámadadju* 'face' (< PSaa *āmę(n)tejō)

< PNo *hameþja-

This Saami word displays a very unusual phonological structure: a quadrisyllabic root that nevertheless contains no identifiable derivational suffix. As the word cannot be explained as an obscured compound either, this feature in itself suggests loan origin. A potential loan original is provided by PNo *hameþja-, which can be postulated on the basis of West Germanic forms: OHGerm *hemidi* 'shirt, garment' (> Germ *Hemd*), OSax *hemithi* 'shirt', OEngl *hemeþe* 'undergarment with short sleeves, shirt'.

There is a notable semantic difference between the Saami and Germanic forms. However, one can hypothesize that the loan original referred not only to 'shirt' but also to 'skin', 'appearance', or the like, because PGerm *hameþja- is a derivative of PGerm *hamaz > ONo *hamr* 'skin, slough,

does not appear to be an independent phonological segment (see Sammallahti 2012). Thus, the mentioned form has not two but three syllables (*roḍ-ḍ-jeδ*).

shape, form' (> Far *hamur* 'skin, slough; ghost, apparition', Icel *hamur* 'skin'), OHGerm *hamo* 'wrapping, garment', OEngl *hama* 'covering'. The word *hamaz has been borrowed into Finnic as *hamȩh (> Finnish *hame* 'skirt'). SaaN *hápmi* 'shape, figure' and *hápma* 'skin (of a skinned animal); disguise', in turn, are more recent borrowings from Norse.

The etymology is phonologically quite straightforward, except for a small glitch: the single nasal *-m-* in SaaL and SaaN represents the weak grade of consonant gradation, and it would thus seem to suggest the presence of an original cluster (*-nt-?) on the border of the second and third syllables. The form *āmȩtȩjō would predictably have yielded SaaL **ábmadadjo*, SaaN **ápmadadju*, whereas the reconstruction *āmȩntȩjō would account for the attested forms. Perhaps however the weak grade is a later irregular development. It is also possible that the form *āmȩntȩjō developed from earlier *āmȩtȩjō by influence of another phonologically close word with the same meaning: SaaS *ååredæjja*, SaaU *árruodahkka*, SaaL *árudidja* 'face' < PSaa *āruntȩjV ~ *ārōntȩkȩ. This word, too, has lacked an etymology so far, but it is obviously a borrowing from PNo *harunda/ō- > ONo *hǫrund* 'human flesh; skin, complexion' (see Kroonen 2013: 213). But whatever the background of the weak grade in SaaL *ámadadjo* and SaaN *ámadadju* is, the phonological discrepancy between the Saami and Norse forms is in any case so small that it can hardly be seen as a serious obstacle to the loan etymology, especially considering that the anomalous phonotactic structure of the Saami noun indicates that it must be a loanword. It is worth noting that Saami noun roots ending in *-ȩjō are generally Nordic borrowings; compare the following examples:

- SaaN *gáldu*, SaaI *käldee* 'spring (of water)' < *kāltȩjō from PNo *kaldjōn- (> ONo *kelda* 'spring').
- SaaN *hárdu*, SaaI *ärdee* 'shoulder' < *(h)ārtȩjō from PNo *hardjō- (> ONo *herðar* PL 'shoulders').
- SaaN *rádnu*, SaaI *rännee* 'animals tracks in snow' < *rānnȩjō from PNo *rannjōn- (> ONo *renna* 'running, course').
- SaaL *hilldo*, SaaN *hildu ~ ildu*, SaaI *ildee*, SaaSk *i'lddi* 'shelf' < *(h)iltȩjō from PNo *hilþjōn- (> Icel *hilla*, Far *hill* 'shelf'). Note also the variant with differing vocalism: PNo *hulþjōn- (> Sw *hylla*, Nw *hylle* 'shelf').
- SaaS *dytneje*, SaaP SaaL *diddno*, SaaN *didnu* 'flint' < *tinnȩjō from PNo *tinnjōn- (> ONo *tinna* 'flint'). Note that SaaI *tinno*, SaaSk *tenn*, SaaK *tį̄nn* 'flint' must be borrowings from North Saami: by regular phonological development, PSaa *tinnȩjō would have produced the non-existent forms SaaI **tinnee*, SaaSk **ti'nni*, SaaK **tį̄ŋ̄nej*.

- SaaS *raavnije*, SaaP SaaL *rávnno* (GEN *rávno*) 'rowan' < *rāvnẹjō (? ~ *rāvnō) from PNo *raunjō- (> ONo *reynir*). The SaaP and SaaL forms may have analogically acquired consonant gradation, which is characteristic of originally bisyllabic nouns. Alternatively, PNo *raunjō- may have been separately borrowed as bisyllabic *rāvnō into the predecessor of Pite and Lule Saami.

2.3. SaaL *buttas* 'decorative band sewn on the edge of a piece of clothing' (< PSaa *puntẹs)
< PNo *bundaz

The noun *puntẹs is only attested in Lule Saami, but it must originally have had a wider distribution, as it is the derivative base of a very widely attested verb: SaaS *budtedh*, SaaU *büddet*, SaaP SaaL *buddit*, SaaN *buddet*, SaaI *puddiđ* 'sew a decorative band on the edge of a piece of clothing', SaaSk *pu'ddjed*, SaaK *puǹḍ.jeδ* 'darn, repair by stitching' (< PSaa *puntẹjẹ-). The noun can be phonologically flawlessly explained as a loan from PNo *bundaz, the unattested cognate of MHGerm *bunt* 'ribbon, band, fetter' (> Germ *Bund* 'bond, alliance, association; waistband'), MSax *bunt* 'bond, alliance, agreement', Du *bond* 'society, union, alliance, league' (Kroonen 2013: 84). Also the semantic correspondence is completely straightforward: the general meaning 'ribbon, band' is found in Middle High German, and the Saami word refers to a specific type of ribbon or band used for decorative edging on clothes. The Germanic noun is also the derivational base of the diminutive *bundilō- > Germ *Bündel*, MDu *bundel*, OEngl *byndele* 'bundle' (note that Engl *bundle* does not continue OEngl *byndele*, but was instead borrowed from MDu *bundel*). Originally, PGerm *bundaz is a zero-grade derivative of the verb *binda- 'bind'.

2.4. SaaU *dualgguo*, SaaL *duolggo*, SaaN *duolgu* 'bribe' (< PSaa *tuolkō)
< West Norse *dolga- (< PNo *dulga-)

The Saami word has been compared to Fi *talkoot* (plurale tantum) 'volunteer group work, gathering for volunteer work', which is a Baltic loanword, cf. Lithuanian *talkà*, Latvian *talka* 'volunteer work, group of volunteer workers, feast organized for volunteer workers' (SSA s.v. *talkoo*). However, the assumed semantic development to 'bribe' in Saami appears rather far-fetched, and there is thus reason to look for another etymology.

Gothic **dulgs* (GEN *dulgis*) 'debt' (< *dulga-) comes formally and semantically close to the Saami word. Assuming that the word also once occurred in Norse, it would have regularly undergone the lowering of *u to *o and thus developed into *dolga- in the West Norse area. Such a form suits perfectly as the loan original of Saami *tuolkō. Indeed, we can find a parallel which must reflect this vowel lowering, as it shows the PSaa diphthong *uo in place of West Norse *o < *u: cf. for example SaaN *guolbi* 'earth floor' (< PSaa *kuolpē), which was borrowed from West Norse *golba- > ONo *golf* 'floor' (cf. Kroonen 2013: 194). As regards semantics, the development from 'debt' to 'bribe' is easy to understand and the two concepts are quite close: both involve a payment made in order to satisfy the requirements of another party.

It is not a problem for the etymology that attestations of the Germanic word are limited to Gothic. The word appears to be old in any case: it can be analyzed as a reflex of Pre-PGerm *$d^{h}\underset{\circ}{l}g^{h}$-o- and cognate with Slavic *dъlgъ (> Old Church Slavonic *dlъgъ*, Russian *долг*, Czech *dluh*, Bulgarian *dălg*, etc. 'debt'). The Slavic word has also been argued to be a Germanic loanword (Pronk-Tiethoff 2012: 142), but even if this is the case, Old Irish *dligid* 'owe, be entitled to' and *dliged* 'duty' are still left as cognates of the Gothic word (Derksen 2008: 129–130; Kroonen 2013: 108). There is also a formally identical word in Norse and West Germanic: ONo *dolg* 'enmity', OHGerm *tolg*, OEngl *dolg* 'wound' (< *dulga-). Due to the semantic difference this is probably of different origin, however: the Slavic cognates point to 'debt' as an archaic meaning, from which it is difficult to derive the concrete meaning of 'wound' (cf. de Vries 1977: 78–79; Kroonen 2013: 108).

2.5. SaaS *gaalve*, SaaU *gálvva*, SaaL *gálvva*, SaaN *gálva*, SaaI *kalvâ*, SaaSk *kalvv*, SaaK *kāl̄v* 'dead and dry tree which has lost its bark (mostly of deciduous trees)' (< PSaa *kālvę)

< PNo *kalwa-

The Saami noun can be derived from an unattested PNo adjective *kalwa-, which has cognates in West Germanic: OEngl *calo* 'bald' (> Engl *callow*), OHGerm *kalo* 'bald' (> Germ *kahl* 'bald; leafless'). The word is of Pre-Proto-Germanic origin and related to Old Church Slavonic *golъ* 'naked', *glava* 'head' and Lithuanian *galvà* 'head' (Kroonen 2013: 278). The basic meaning of the Germanic adjective is 'bald', but it is noteworthy that in several modern Germanic languages the word also has the secondary metaphorical meaning 'leafless'; this is true at least of German *kahl*,

Swedish *kal* (which was borrowed from Middle Saxon) and Dutch *kaal*. This bridges the semantic gap between the Saami and Germanic forms. Thus, the semantic development of the Saami word was motivated by a metaphoric expression: the lack of leaves (or, perhaps, the lack of bark) on a dead and dried deciduous tree was likened to 'baldness'.

2.6. SaaL *iktet*, SaaN *iktit*, SaaI *ihteđ* 'reveal (something secret), disclose' (< PSaa *iktē-)
< PNo *ihtja-

The Saami verb *iktē- has no known established etymology. In his dictionary, Nielsen (1979 s.v. *ikˈtet*) regards SaaN *iktit* a derivative of the verb *ihtit* 'appear, come in sight' (< PSaa *itē-). However, these two verbs do not stand in a regular relationship to one another: there is simply no morphological process in Saami by which *iktē- could have been derived from *itē-. Despite their similar meanings the two verbs show no real correspondence beyond their initial vowel *i, and hence they cannot have a true etymological connection.

A phonologically suitable Norse loan original for Saami *iktē- can be reconstructed: PNo *ihtja- is the predictable reflex of PGerm *jehtja-, attested in OHGerm *jihten* 'witness, confess, give a testimony, let decide', OFri *jechta* 'confess, convict'. The verb is derived from the noun *jehti- > OHGerm *jiht* 'confession; praise', OFri *jecht* 'confession' (EWbAhd 5: 292–294). Semantically the comparison is very close: the uniting factor is the reference to a speech act disclosing or revealing some kind of misdeed, either one's own ('confessing') or that performed by another ('witnessing'). There is no phonological obstacle to the etymology either, as long as it is assumed that the borrowing took place before the assimilation of *ht to *tt* in Norse. There are several other loans showing the same sound substitution PNo *ht > PSaa *kt:

- SaaS *rïekte* 'straight', SaaN *riekta* 'right, correct' < *riektę < PNo *rehti- (> ONo *réttr* 'straight, upright, right').
- SaaS *raaktse* 'trace (on a reindeer harness, for pulling a sled)' < *rākcę < *rāktęs < PNo *drahtu-z (> ONo *dráttr* 'pulling; hesitation').
- SaaU *suktta* 'cold (illness)' < *suktę < PNo *suhti- (> ONo *sótt* 'illness').
- SaaL *diktet* 'make watertight' < *tiktē-, SaaL *divtes* (PL *diktása*), SaaN *divttis* (PL *diktásat*) 'watertight' < *tiktēs : *tiktāsę- < PNo *þĩ̄htja- (*þinhtja-) (> ONo *þétta* 'make watertight'), *þĩ̄htu-z (*þinhtu-z) (> ONo *þéttr* 'watertight'). Due to semantic and chronological reasons,

it is unlikely that these Saami words derive from Sw *dikt* ADJ 'powerful, emphatic, skilled' (obsolete), *dikt* ADV 'tightly', which were borrowed from MSax *dicht*, cognate with ONo *þéttr*. Note furthermore that SaaN *deahtis* 'watertight, close, dense' (< *teattēs) is evidently a later loan from ONo *þéttr*, postdating the change *ht > *tt. These etymologies stem from Qvigstad (1893: 132–133), who however failed to notice that two separate borrowings of different ages are involved.

- SaaN *lavttis* (PL *laktásat*) 'loose, loosely fitting, slack, wide' < *lęktēs : *lęktāsę- < PNo *lī̄hta-z (*linhta-z) (> ONo *léttr* 'light (not heavy); easy, unencumbered; nimble, active'). This is a new etymology. The development of PSaa *ę from earlier *i has also occurred in some other early borrowings: e.g. SaaN *lađas* 'joint' < *lęδęs < PNo *liþu-z (> ONo *liðr* 'joint'); SaaN *mas'sit* 'lose (irretrievably)' < *męssē- < PNo *missja- (> ONo *missa* 'miss, lose'); SaaN *vahkku* 'week' < *vękkō < PNo *wikōn- (> ONo *vika* 'week'); SaaL *slahpa* 'rock ledge, inward sloping cliff' < *slępę < PNo *kliba- (> ONo *klif* 'cliff').
- SaaS *naaktse* 'the dark of night' < *nākcę < (?)*nāktę(-)s < PNo *naht-(s) (> ONo *nátt*, *nótt* 'night'). This is a new etymology. The form *nākcę with its cluster *kc = [k͡ts] was probably analogically extracted from a syncopated oblique stem (PSaa *nāktęs : *nākcę-, from earlier *nāktęs : *nāktęsę-). However, one cannot completely exclude the possibility that it was directly borrowed from a NOM.SG *naht-s prior to the loss of the final sibilant after a consonant stem in Norse (cf. Gothic NOM.SG *naht-s* 'night', with the sibilant retained).
- SaaS *dektier*, *daktere* 'married daughter' < *toktēr : *toktārę- < PNo *duhter- (> ONo *dóttir* 'daughter'). The Saami word has been previously considered cognate with Finnish *tytär* (GEN *tyttären*) 'daughter', which is of Baltic origin (cf. Lithuanian *duktẽ* 'daughter') (SSA s.v. *tytär*). However, the consonant correspondence between the Finnish and Saami words is irregular, so it is more probable that Saami has separately borrowed the word from Nordic.

2.7. SaaL *irás*, SaaN *iras*, *hiras*, SaaI SaaSk *iirâs*, SaaK *įras* 'timid, skittish (of animals)' (< PSaa *irę̄s)

< Early Norse ?*irriar (< PNo *irzjaz < *erzjaz)

The proto-form of the Saami adjective can be reconstructed as *irę̄s. The initial *h-* in the North Saami variant *hiras* must be a secondary hypercorrect

addition; the same phenomenon is attested in a couple of other words as well, e.g. SaaN *haksit* ~ SaaI *apseđ* 'smell' (< PSaa *ǥpsē- < PU *ipsä-) and SaaN *holga* ~ SaaI *ulgâ* 'beam for drying fishing nets on' (< PSaa *olkę < PU *ulki) (UEW: 83–84, 543).

The adjective *iręs has no known etymology, but it can be both formally and semantically straightforwardly compared to Pre-Old-Norse *irriar, the expected reflex of PGerm *erzjaz. The word is not attested in Norse, but it is found in other branches of Germanic: Goth *airzeis* 'deluded, misled, in error', OHGerm *irri* 'erring, ignorant' (> Germ *irre* 'mad, confused'), OSax *irri* 'furious', OEngl *eorre* 'angry, enraged, furious', OFri *īre* 'furious'. The Germanic word is of Indo-European origin and related to Latin *errō* 'I wander, rove; I go astray, get lost; I err' (Kroonen 2013: 119).

The phonological correspondence between PSaa *iręs and the Germanic word is unproblematic, as long as it is assumed that the word was borrowed after the development *z > *r in Norse. PGerm *erzjaz would first have yielded PNo *irzjaz by the regular change *e > *i /_C(C)j, but Saami *iręs can only have been borrowed from some even later development which can be approximately reconstructed as *irriar and which would have eventually yielded ONo **irr*, had the word survived in Norse. The substitution of Saami single *-r- for Norse geminate *-rr- is motivated by a phonotactic constraint, as geminate *-rr- seems not to have occurred in Saami at the time of borrowing. In the modern Saami languages one finds very few words that consistently point to an original geminate *-rr-, and they are mostly recent borrowings and expressive coinages that show a limited distribution. In some instances the origin of the word remains unknown, but even such cases show a narrow distribution and are thus unlikely to be of Proto-Saami origin (e.g. SaaS *vaarredh*, SaaU *várrat* 'run' < *vārrę-). As regards the substitution of the PSaa second-syllable vowel *-ę- for the Norse sequence *-ia- (< *-ja-), this is paralleled by SaaN *vuogas* 'comfortable, convenient' < *vuokęs from PNo *hōgjaz (> ONo *hægr* 'easy, convenient') and SaaN *vilddas* 'wild' < *viltęs < PNo *wilþjaz (> ONo *villr* 'wild, bewildered, perplexed').

Considering the correspondence between PSaa *iręs and PGerm *erzjaz, one might consider it problematic that the Saami sibilant *-s corresponds to the Germanic final *-z of the masculine form, but the correspondence of the medial consonants nevertheless presupposes borrowing after the Norse change *z > *r. This mismatch is only superficial, however. First, it is not clear that the assimilation *rz > *rr in Norse would have been

contemporaneous with the general phonological development *z > *r, as in some consonant clusters PGerm *z has become assimilated to the adjacent consonant before the general rhoticization *z > *r (e.g. PGerm *-zd- > ONo *-dd-*, PGerm *-zn- > ONo *-nn-*). Second, Saami word-final sibilants are in any event not a reliable criterion for dating borrowings to the Proto-Norse period. It is true that there are numerous Norse loan adjectives in Saami that show a word-final *-s corresponding to Germanic masculine forms in *-z: cf. for example SaaN *stuoris* 'big' (PNo *stōraz > ONo *stórr* 'big'), SaaN *ruonas* 'green (of vegetation)' (PNo *grōniz > ONo *grœnn*), SaaN *ráinnas* 'clean' (PNo *hrainiz > ONo *hreinn*), as well as SaaN *vuogas* 'comfortable, convenient' and *vilddas* 'wild' discussed above. However, the final sibilant also occurs in borrowed adjectives that, on account of their other phonological features, must have been adopted later than the change *z > *r. A clear example is provided by SaaN *eaimmaskas* 'stupid, foolish', which on account of its first-syllable vocalism was adopted from a post-umlaut Norse form, either from ONo *heimskr* 'stupid, foolish' or from its Pre-Old-Norse predecessor (?)*hɛiməskər, but certainly not from PNo *haimiskaz (which would instead have yielded SaaN **(h)áimmaskas*, or the like).

As a matter of fact, there seem to be no adjectives borrowed from Norse that display a final *-r in Saami corresponding to a Norse masculine ending *-r*. Hence, one must conclude that the Norse ending *-r* could still have been nativized as *-s in Saami even well after the change of PNo *z to *r, despite the fact that *r* was a completely normal phoneme in Saami, too. This nativization strategy seems to have been motivated by several factors. First, stems ending in *r were permitted in Proto-Saami, but they seem to have been relatively infrequent and all of them appear to have been nouns; no adjectives of such shape can be reconstructed. Second, the substitution of final *-s for Norse *-r* could have been motivated by the analogy of earlier borrowings, by way of "etymological nativization" (Aikio 2007). Third, the ending *-s is a highly frequent adjective suffix in Saami: it forms both deverbal and denominal adjectives (cf. for example SaaN *váibbas* 'tired' ← *váibat* 'get tired', *suttis* 'unfrozen, not frozen' ← *suddi* 'unfrozen spot, opening in ice'), and it also occurs as a secondary suffix marking the predicative form of some adjectives of Uralic origin (e.g. SaaN *njuoskkas* PRED 'wet' < PU *ńįčki; SaaN *ođas* PRED 'new' < PU *wuď̮i; SaaN *goikkis* PRED 'dry' < PU *kuśka-/*kośka-) (UEW: 223, 311, 587). The combination of these three factors made it natural to adopt adjectives borrowed from Norse in a form ending in *-s in Saami.

In semantic terms the etymology is completely straightforward. While none of the attested Germanic forms show exactly the same meaning as the Saami adjective, the correspondence is very close. In the Germanic cognates one can discern two main senses, the first of which is 'deluded ~ misled ~ erring ~ ignorant ~ confused' and the second 'mad ~ angry ~ enraged ~ furious'. Either of these could have easily given rise to 'timid, skittish'. Semantic parallels are provided by SaaN *cohcas* 'startled, frightened, bewildered; perplexed, confused' and MSax *arch* 'angry, evil', Sw *arg* 'angry' ~ ONo *argr* 'unmanly, cowardly; lewd', OEngl *earg* 'cowardly, timid' (< PGerm *arga-; the source of SaaN *árgi* and Finnish *arka* 'shy, timid').

2.8. SaaN *ivdni*, SaaI *ivne*, SaaSk *eu'nn*, SaaK *i̯ȳn̥*, SaaT *ji̯ȳn̥e* 'color' (< PSaa *ivnē)
    < PNo *ibnī- (< *ebnī-)

PNo *ibnī- is the expected cognate of OHGerm *ebanī* 'level, surface, similarity' (< PGerm *ebnī-). This form has in itself only a limited attestation in Germanic, but it is derived from the well-attested PGerm adjective *ebna- 'even, level'; cf. Goth *ibns* 'even, level, flat', ONo *jafn*, OEngl *efen* 'even, equal' (> Engl *even*), OHGerm *eban* 'even, equal, straight' (> Germ *eben* 'level').

In Saami one can postulate a semantic development 'surface' > 'appearance' > 'color'. This is well in line what is in general known of the development of words meaning 'color'. In his discussion of the etymology of Indo-European words for 'color', Buck (1949: 1050–1051) notes that "most of the words for 'color' reflect notions such as 'covering', 'surface, skin', 'countenance, look' or the 'hair' of animals". Examples of this semantic development from Indo-European and Uralic languages include:

- Ancient Greek χρόα 'skin, surface of the body, skin-color, color'.
- Ancient Greek χρῶμα 'color (of the skin), make-up, characteristic appearance' > Modern Greek χρώμα 'color (in general)'.
- Latin *color* 'color' < *'covering' (cf. the related verb *cēlāre* 'hide').
- Romanian *față* 'face, surface; color'.
- Sanskrit *varṇa-* 'covering, color' from *vr̥-* 'cover'.
- Hungarian *szín* 'color, appearance, complexion; (archaic:) (upper) surface'.
- Taz Selkup *ńūqi̮* 'surface, cover; tent cover; leather; color'.

2.9. SaaL *muosse* ‘taste; a bit of food to taste’, SaaN *muossi* ‘a bit of food to taste; rest, quiet’, SaaI *myesi* ‘rest, quiet’ (< PSaa *muosē)
< PNo *mōsa-

The Saami words display rather unusual polysemy. The connection between ‘a bit of food to taste’ and ‘rest, quiet’ is not obvious at first sight, but it is possible to postulate an original meaning ‘food’, which would then have developed to ‘a bit to taste’ on the one hand and to ‘nourishment’ > ‘rest’ (> ‘quiet’) on the other. This semantic reconstruction is further verified by the discovery of the following loan original: PNo *mōsa- ‘food’ can be reconstructed as the unattested Nordic cognate of OEngl OFri *mōs*, MDu *moes*, OHGerm *muos* ‘food’. The West Germanic words continue PGerm *mōsa- (< *mōssa- < Pre-PGerm *mōd-to-). This word stands in an obscured derivational relationship to another, more widely attested Germanic word for ‘food’: Goth *mats*, ONo *matr*, OHGerm *maz*, OEngl *mete* ‘food’ (> Engl *meat*) (< PGerm *mati- < Pre-PGerm *modi-) (Kroonen 2013: 358, 372). The formation must be very old, as the derivative has participated in the regular development of a Pre-Proto-Germanic morpheme-boundary cluster *-d-t- into *-ss-, which was subsequently degeminated into PGerm *-s- when preceded by a long vowel. This proves that the West Germanic word *mōsa- is an archaism that once existed also in the predecessor of the Nordic languages.

2.10. SaaS *plaahkoe* ‘low, flat terrain’ (< PSaa *plākkō)
< PNo *flaka-/*flakō-

The South Saami word is quite obviously a borrowing due to its initial consonant cluster *pl-*. I have earlier argued that the word is related to SaaL *láhko*, SaaN *láhku* ‘wide, flat basin up in the mountains’ (< PSaa *lākō) and a borrowing from PNo *flahu- > ONo *flǫ́* ‘rock ledge; gently sloping valley up in the mountains’ (Aikio 2012: 111). However, while the SaaL and SaaN words obviously derive from PNo *flahu-, their connection to SaaS *plaahkoe* (< *plākkō) remains problematic as the latter word contains an original geminate stop; the comparison could only be maintained by an ad hoc postulation of an irregular change *k > *kk. Because Saami geminate stops were regularly substituted for Proto-Norse unvoiced stops in intervocalic position, it is preferable to compare SaaS *plaahkoe* to OHGerm *flah* (> Germ *flach*) and MDu *vlac* (> Du *vlak*) ‘flat’ (< PGerm *flaka-). Considering that the Saami word has a rounded vowel in the second syllable, the

exact loan original could have been PNo *flakō-, the unattested cognate of OHGerm *flahha* 'surface; sole (of the foot)', OSax *flaka* 'sole (of the foot)'. However, as pointed out by Johan Schalin in the Academia.edu discussion session, the Nordic languages do have nouns reflecting the form *flaka-: cf. for example Swedish *flak* 'wide, level surface, esp. of a large stretch of open water', Icel *flak* 'plain'. As these forms suit very well as the loan original except for the minor issue of the second-syllable vowel, it is possible that the source of borrowing is attested in Norse after all.

2.11. SaaS *raavtedh* 'get strength, become effective (of bark liquor)', SaaN *rávdat* 'get color and taste by being warmed or boiled up (e.g. coffee, tea)' (< PSaa *rāvtę̄-)
< PNo *grautē-

The Saami verb can be straightforwardly compared to OHGerm *grōzēn* 'increase, grow thick, become stronger, swell', OEngl *greātian* 'become great or large', *ge-greātian* 'become thick or stout' (< *grautē-), a verb derived from the PGerm adjective *grauta- > OHGerm *grōz* (> Germ *groß* 'big'), OEngl *grēat* 'coarse, large, great' (> Engl *great*). The meaning 'grow thick, become stronger' comes very close to the meaning of the Saami verbs. Note also the etymologically related PNo *grautiz (> ONo *grautr* 'porridge'), which was the source of SaaS *kraavhtse*, SaaN (dialectal) *rákca* 'porridge' (< PSaa *(k)rāvccę̄ < *(k)rāvttę̄s). The word-initial consonant cluster *kr-* in South Saami indicates that this is a younger borrowing than the verb *raavtedh*.

2.12. SaaSk *raujjeed* (*rau'jjeed*?), SaaK *rāv̮j.ḍeδ*, SaaT *rajvaḍed* 'run, gallop (of draught reindeer)' (< PSaa *rāvję̄-tē-)[4]
< PNo *þragja-

The Saami verb is derived with the highly productive verb suffix *-tē- (< PU *-tA-) from a root *rāvję̄-, which must stem from PNo *þragja-, the unattested Norse counterpart of Goth *þragjan* and OEngl *þrægan* 'run'. The Germanic verb reflects Pre-PGerm *trog^{h}-eye-, an intensive formation of

4. As pointed out by an anonymous reviewer, the SaaSk form *rau'jjeed* given in the dictionary by Sammallahti & Mosnikoff (1991) is probably either a recent secondary development or an erroneous normativization, because the dialectal forms attested by Itkonen (1958: 425) point to the literary standard form *raujjeed* instead.

a verb root *treg^{h}- that is also attested in Ancient Greek τρέχω 'run'; while the occurrence of a plain and an aspirated stop in the same root violates Proto-Indo-European root structure and the verb is thus likely to be of non-Indo-European origin, the presence of a cognate in Greek still shows that it must predate Proto-Germanic (Kroonen 2013: 544). As regards the substitution of Saami *-vj- for the Norse cluster *-gj-, this is paralleled by SaaN *ávju* 'edge (of a blade)' < *āvjō < PNo *agjō- (> ONo *egg* 'edge').

Abbreviations

Du	Dutch	PGerm	Proto-Germanic
Engl	English	PNo	Proto-Norse
Far	Faroese	Pre-PGerm	Pre-Proto-Germanic
Germ	German	PSaa	Proto-Saami
Goth	Gothic	PU	Proto-Uralic
Icel	Icelandic	SaaI	Inari Saami
MDu	Middle Dutch	SaaK	Kildin Saami
MHGerm	Middle High German	SaaL	Lule Saami
MSax	Middle Saxon	SaaN	North Saami
Nw	Norwegian	SaaP	Pite Saami
OEngl	Old English	SaaS	South Saami
OHGerm	Old High German	SaaSk	Skolt Saami
ONo	Old Norse	SaaT	Ter Saami
OSax	Old Saxon	SaaU	Ume Saami
OSw	Old Swedish	Sw	Swedish

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Encoding definiteness on pronominal objects in Mordvinic

This article examines the morphosyntax of pronouns in object function and reveals the syntactic and morphological differences between nominal and pronominal objects in Mordvinic. The variation in case marking and declension type of nominal objects is affected by definiteness. Indefinite objects are in the basic declension nominative, whereas definite ones are in the definite or possessive declension genitive. Furthermore, definite objects may be indexed on the verb. In this paper, I analyze the morphosyntax of pronouns, in order to reveal the regularities between semantics and morphological marking and to provide a better understanding of definiteness. For this purpose, the finite forms of perception verbs were collected from the MokshEr corpus, which contains written texts in the literary languages, and native speakers were consulted on the results. Perception verbs were chosen for this study because they agree with the object in person and number more frequently than other semantic classes of verbs, thus providing good material for examining the correlation of definiteness with verbal conjugation. The paper shows how definiteness is displayed within the morphosyntax of pronouns and uncovers how verbal conjugation correlates with different pronominal objects.

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1. Introduction

In Mordvinic, definiteness influences the case marking of objects, and verbs can agree with definite objects in person and number. Therefore, definiteness plays an important role in transitive sentences. The present paper sets out to discover the correlation between identifiability and morphosyntactic marking in the light of the pronominal class. As Mordvinic has grammatical devices to mark that the noun is known to the participants of the discussion and has differential object marking, which is based on definiteness, it can provide a better understanding on the correlation of identifiability and grammatical marking. Pronouns are an especially good source for this, as they include both primarily identifiable (e.g. first- and second-person pronouns) and unidentifiable members (e.g. indefinite and interrogative pronouns).

Differential object marking and indexation have been the focus of many previous studies on transitivity in Mordvinic (see e.g. Alhoniemi 1991; 1994; Grünthal 2008). Grünthal (2008: 224) notes that the morphosyntactic behavior of pronouns shows considerable differences compared to nouns, e.g. definite nouns are typically in the definite declension in object function (*kudo-ńť* [house-DEF.GEN] 'the house'), whereas most pronouns are in the basic genitive (*śe-ń* [that-GEN] 'that'). The present paper offers a detailed description of the behavior of pronominal objects in Mordvinic to compensate for these gaps in the description of Mordvinic languages.

The material of the present study is restricted to the pronominal objects of perception verbs. Perception verbs agree with definite objects in person and number more frequently than other semantic classes of verbs (see e.g. Markov 1964: 71–74; Alhoniemi 1994: 147–148), thus I suppose that if the verb agrees with certain pronouns in person and number, the material contains such examples in most of the cases. Furthermore, perception verbs are used frequently, which makes analyzing pronominal objects in different contexts possible.

The structure of this article is as follows. In the next section I delve into the terminological issues regarding transitivity, definiteness and object marking. The section focuses on these issues from a cross-linguistic viewpoint and considers how the Mordvinic languages fit into the findings of typological studies. The source material and the methodology are introduced in Section 3. Section 4 discusses the different pronominal classes, their referential features and their morphosyntactic behavior in object function. Section 5 provides a conclusion for this paper.

2. Background

This section focuses on previous research on nominal declension, object marking, and verbal conjugation in Mordvinic. Before delving into the issue of object marking any further, some remarks are in order about transitivity. Transitivity can be considered from many different points of view. Typically, transitivity is understood semantically. In this view, prototypical transitive sentences include an acting agent and a passive patient, which undergoes an observable change of state. Nevertheless, for the purposes of this paper, the semantic definition is inadequate, as I focus on perception verbs, which do not encode semantically prototypical transitive events by any means. Perception verbs express an event with a perceiver agent and a non-influenced patient. Furthermore, the semantic understanding of transitivity is insufficient to separate different structures from each other. Therefore, the structural understanding of transitivity is also important for the present paper, as it allows for separating structures based on the morphological marking of the semantic roles. Combining the semantic and structural definition of transitivity is not something specific only to this paper, but it appears in typological works focusing on transitivity as well (see e.g. Kittilä 2002a).

Considering transitivity as an interaction of semantics and structure is a convenient starting point for examining perception verbs in Mordvinic. Even though perception verbs cannot be considered as transitive from the semantic viewpoint, they are attested in structures which are specific for highly transitive events. Such features include verbal agreement in person and number with definite objects (see Grünthal 2008).

Definiteness is often seen as a morphosyntactic category that grammaticalizes the pragmatic category of identifiability (see e.g. Lyons 1999). The Mordvinic languages have an affixal category that marks that the referent of the NP is identifiable for the speaker and the hearer: e.g. E *veĺe* 'village; a village' vs. *veĺe-ś* [village-DEF] 'the village'. Nevertheless, definiteness markers are not always present on nouns that have identifiable referents, such as proper names and pronouns. Therefore, I consider those expressions as definite ones, which have an identifiable referent. Personal, demonstrative, reflexive, relative and universal quantifying pronouns are inherently definite, as they are either used anaphorically, with reference to totality or their reference can be identified in discourse. It is common for these pronouns to be marked in the genitive case in object function. The

only exception seems to be plural personal pronouns in Moksha, which are syncretic in the nominative and genitive cases. Nevertheless, case marking alone is insufficient to determine which pronouns are to be considered as definites, since indefinite pronouns with human reference are also marked in object function.

Distinguishing referential features and nominal inflection is important. Morphological marking is referred to throughout this paper by mentioning the name of the appropriate declension type (basic, definite and possessive) and the case ending of the noun. Thus, the labels definite declension or definite genitive case refer to the morphological marking of the noun, whereas the labels definite NP or definite referent express that the referent of the NP can be identified in the context. As I described above, the morphological markers of definiteness are not always attached to identifiable NPs, of which pronouns are a good example.

The Mordvinic languages distinguish three declension types: the basic, the definite and the possessive. The declension types are shown in (1a–c). The basic declension is unmarked with respect to identifiability, as shown in (1a).

The definite declension, illustrated in (1b), marks that the referent is identifiable for the speaker and the hearer. Identifiability with the referent can be established based on the immediate situation, previous or common knowledge, uniqueness, and anaphoric reference (Tixonova 1972). Being a member of a known group is also considered as being identifiable in Mordvinic, even though the hearer may not know which member is referred to (see Kaškin 2018: 136–138 for Moksha).

The possessive declension, illustrated in (1c), marks the person and number of the possessor and the number of the possessed. There are considerable differences between the possessive declension paradigms of Erzya (E) and Moksha (M). Grammatical cases are often formally identical in Erzya. The genitive and the nominative cases can be distinguished from each other only if both possessor and possessed are in the singular, as in (1c) (see also Trosterud 2006: 301). In the Moksha possessive declension paradigm, no case syncretism occurs, nevertheless, the number of possessed is differentiated only with singular possessors.

(1) a. basic declension:

E	*veľe-ń*	M	*veľə-ń*
	village-GEN		village-GEN
	'of a village'		

b. definite declension:

E *veľe-ńť* village-DEF.GEN 'of the village'

M *veľə-ť́* village-DEF.GEN

c. possessive declension:

E *veľe-n-ze* village-GEN-POSS.3SG 'of her village'

M *veľə-n-c* village-GEN-POSS.3SG

Mordvinic also knows differential object marking, which is based on definiteness. Indefinite objects are expressed in the basic nominative,[1] as in (2a). Definite objects, on the other hand, are in the definite genitive case, as in (2b). The genitive and the accusative cases are identical in these languages. I refer to this case ending with the label "genitive case" following the tradition of previous literature. Objects in the possessive declension are also in the genitive, as in (2c) (Tixonova 1966: 241–243; Grünthal 2008: 222).

(2)[2]a. *rama-ń* buy-PST.1SG ***ľišme*** horse.NOM
'I bought a horse.'

b. *rama-j-ńä* buy-PST-1SG>3SG ***ľišmə-ť́*** horse-DEF.GEN
'I bought the horse.'

c. *rama-j-ńä* buy-PST-1SG>3SG ***ľišmə-n-c*** horse-GEN-POSS.3SG
'I bought his/her horse.' (M: Ekaterina Kirdjaškina, p.c.)

The definite and possessive declension types are not always overtly expressed on the object component, therefore the variation in case marking is the only obligatory feature of the object (Grünthal 2008: 224). Especially

1. The nominative case is unmarked in both Mordvinic languages. In the glossed examples, I show that the word is in the nominative only when it is relevant.
2. I cite examples from only one language (either Erzya or Moksha) to illustrate a phenomenon that is common to both languages. The abbreviation of the language from which the example is drawn is stated after the translation. In cases where there are considerable differences between the languages, I discuss them separately and cite examples from both.

proper names and pronouns are in the basic declension genitive as objects, as in (3). Furthermore, common nouns can be in the basic declension genitive on rare occasions, e.g. animal names in Erzya folktales. (Markov 1964: 79–81; Tixonova 1966: 242–243; Salamon 1989: 92.)

(3) *ńä-i-ńä* ***Maša-ń***
see-PST-1SG>3SG M.-GEN
'I saw Maša.' (M: Ekaterina Kirdjaškina, p.c.)

Examples (2) and (3) show that verbal inflection also varies in transitive clauses, and verbs can be either in the subjective or in the objective conjugation. In the subjective conjugation, verbs agree only with the subject, whereas in the objective conjugation they agree with both the subject and the object in person and number. Verbs can be in the objective conjugation only with objects that are in the genitive case. (See Bartens 1999: 175–176.)

The two verbal conjugation types encode aspectual oppositions. The objective conjugation usually encodes perfective aspect. The subjective conjugation encodes imperfective aspect with identifiable objects.[3] (See Koljadenkov 1954: 193.) Nevertheless, cognitive and perception verbs, e.g. E M *sodams* 'know', E *čarkoďems*, M *šarkəďəms* 'understand', E *ńejems*, M *ńäjəms* 'see', etc. can be in the objective conjugation even when they refer to unbounded events (Koljadenkov 1963: 438–439; Alhoniemi 1994: 147–148). Therefore, perception verbs differ from other semantic groups of verbs, as they are in the objective conjugation more frequently with identifiable objects.

Perception verbs describe an event with two participants: the experiencer and the stimulus. These verbs display different degrees of transitivity. Agentive perception verbs, such as the English *look* and *listen*, encode a consciously acting agent as subject. Non-agentive perception verbs, such as the English *see* and *hear*, have an experiencer agent as subject. Agentive perception verbs usually describe a situation where the stimulus is not completely perceived, whereas the object of non-agentive perception verbs describe a more complete perception of the stimulus. The different degree of transitivity of these verbs is often reflected in the structure in which they are captured. (Tsunoda 1985: 389.)

This is the case in Mordvinic as well. Agentive verbs, such as E *vanoms*, M *vanəms* 'look', are not always encoded in transitive constructions.

3. With objects in the nominative, aspectual oppositions are not encoded with verbal conjugation, as the subjective conjugation is the only option in this case.

Furthermore, they also have different aspectual features, which influences the choice of their conjugation type. Therefore, I focus only on non-agentive perception verbs in this paper. These verbs are E *ńejems*, M *ńäjəms* 'see', E M *mańams* 'hear; feel' and M *kuľəms* 'hear'. The verb *mańams* expresses all kinds of physical and psychological feelings, except for seeing. The Erzya literary language lacks the cognate of the Moksha *kuľəms* that only expresses hearing. These verbs are most frequently in the objective conjugation with definite objects. The use of the subjective conjugation is more frequent in Erzya than in Moksha. According to Bernhardt (forthcoming), the variation of conjugation types correlates with aspect. The subjective conjugation is used, when actual perception does not take place, or it describes repeating events or focuses on parts of a situation that are simultaneous with other actions. In Moksha, the subjective conjugation seems to have similar semantics with definite objects. It is used if the focus is on the repetition or the continuation of perception. The present paper discusses the variation of conjugation type only in those cases where it follows a different pattern compared to verbs with nominal objects.

3. Data and methodology

The data is collected from the MokshEr corpus provided by the Research Unit of Volgaic languages at the University of Turku. My findings from the corpus are complemented by native speakers, who provided examples and explained the interpretation of the different grammatical structures.

The MokshEr corpus includes literary texts in Erzya and Moksha from between 2002 and 2008 including both original texts and translations. The Erzya corpus consists of 2,784,587 tokens, while the Moksha one consists of 1,742,497 ones. The corpus does not contain morphological annotations.

I searched the corpus for all the finite forms in the indicative present and first past tense of the non-agentive perception verbs presented in Section 2, namely: E *ńejems*, M *ńäjəms* 'see', E M *mańams* 'hear; feel' and M *kuľəms* 'hear'. Only verbs with pronominal objects were included in the data. The pronouns that are considered here are personal pronouns (6), demonstrative pronouns (3), reflexive pronouns (1), reciprocal pronouns (1), interrogative pronouns (3), relative pronouns (3), indefinite pronouns (3) and universal quantifying pronouns (1). As the pronominal group is not homogenous, each pronominal category requires different research questions and the subsections in Section 4 consider their different aspects. I suppose that personal,

demonstrative, reflexive, relative and universal quantifying pronouns are in the genitive in object function, as their referents are identifiable in the context. Furthermore, it can be hypothesized that pronouns whose referents are not identifiable, are left without case marking in object function.

The data is presented in Table 1.[4] As the Erzya corpus is larger than the Moksha one, only the percentages can be compared between the two languages and not the occurrences. Apart from the occurrences in the table, it was necessary to search the corpus for some pronouns to establish a better view of its use. These separate searches are not included in the tables and are considered as additions.

Table 1: Perception verbs with pronominal objects in Erzya and Moksha

Verb	Conjugation	Erzya	Moksha
ńejems, *ńäjəms* 'see'	subjective	165 (37%)	123 (28%)
	objective	283 (63%)	312 (72%)
maŕams 'hear; feel'	subjective	186 (53%)	26 (10%)
	objective	167 (47%)	235 (90%)
kuľəms 'hear'	subjective	–	43 (34%)
	objective	–	84 (66%)

As Table 1 shows, these verbs occur in both conjugation types with pronominal objects. There are two reasons for the variation in conjugation types. First, the material includes indefinite, interrogative and reciprocal pronouns, with which the verb cannot be in the objective conjugation. Second, the variation of conjugation types also expresses aspectual oppositions. This seems to be more frequent in Erzya than in Moksha in the light of the present data: in Erzya, as many as 203 verbs are in the subjective conjugation with pronominal objects that can have a verb in the objective conjugation, whereas in Moksha only 8 verbs are.

Native speakers also helped me with the analysis of the material. I consulted Nina Agafonova and Aleksandr Danilčev with questions related to the Erzya material and Ekaterina Kirdjaškina and Oksana Belkina in relation to the Moksha material. All the informants are either staff or students at the

4. In Table 1 and in the tables in other sections as well, only material collected from the MokshEr corpus is presented. Examples provided by the informants and separate searches of the corpus are excluded from these tables, as they fail to provide information on the frequency of different categories.

Ogarëv Mordovia State University and have at least basic training in linguistics. The speakers provided examples of such constructions that occur rarely in the data. Furthermore, I also constructed minimal pairs, where I changed the declension type of nouns or the conjugation type of verbs and asked the informants about the grammaticality of the structure and its semantics.

4. The pronominal objects of perception verbs

This section discusses different kinds of pronouns and their correlation with verbal conjugation in the data. I reflect on the semantic (in)definiteness of these pronouns, their morphosyntax and the conjugation of verbs with them.

As the pronominal class is not homogeneous, slightly different questions arise in the analysis of different pronominal classes. The overall goal of this paper is to study the correlation of form and semantics. Section 4.1 focuses on the ways of expressing person with different conjugation types and the function of personal pronouns with verbs in the objective conjugation. This is followed by Section 4.2 which examines how definiteness is established in context and how it is reflected in the morphosyntactic marking of demonstratives. Reflexive and reciprocal pronouns are discussed in Sections 4.3 and 4.4, respectively. Reflexive and reciprocal constructions diverge from basic transitive sentences, thus these pronouns can provide answers to how transitivity influences morphosyntactic marking. Interrogative, relative and indefinite pronouns are examined in Sections 4.5, 4.6 and 4.7. These pronouns have the same roots, but they are nevertheless used in different functions. These sections discuss those cases where semantic (in)definiteness and grammatical marking do not cover each other. Universal quantifiers are discussed in Section 4.8. These pronouns are inherently definite, and their definiteness is based on the reference of totality.

4.1. Personal pronouns and other person indexes

Mordvinic has various means to encode object person: personal pronouns, emphatic personal pronouns, possessive suffixes on postpositions and with the objective conjugation. This section focuses on the use of personal pronouns in object function in the analyzed data. The ways of expressing object person depend, first of all, on the conjugation type of the verb. With verbs in the subjective conjugation, person must be expressed separately from the verb. In Section 4.1.1, I discuss the strategies for expressing object person with

verbs in the subjective conjugation. With verbs in the objective conjugation, personal pronouns are often used in an emphatic or contrastive meaning. In Section 4.1.2, I discuss how emphasis or contrast emerges in discourse and the differences between encoding discourse participants and third person.

Mordvinic has first-, second- and third-person pronouns in the singular and plural (Agafonova 2000: 125–126; Poljakov 2000: 103–104). Personal pronouns in object function behave like definite NPs: they are in the genitive case and the verb can stand in the objective conjugation with them.

Verbal conjugation may vary with reference to person as is shown in Tables 2 and 3. The subjective conjugation focuses on the continuation or the repetition of the event or it can be used in settings, where actual perception does not take place.

Table 2: Object person indexation in Erzya

Conjugation / Person	Subjective	Objective	
		Double marking	Single marking
1st	12	8 (11%)	62
2nd	1	6 (13%)	41
3rd	31	54 (30%)	135

Table 3: Object person indexation in Moksha

Conjugation / Person	Subjective	Objective	
		Double marking	Single marking
1st	–	4 (6%)	61
2nd	1	4 (9%)	40
3rd	1	38 (19%)	159

I refer to encoding person as argument indexing, as proposed by Haspelmath (2013). This term includes personal pronouns that behave like nouns and bound forms that are expressed on verbs or postpositions.

4.1.1. Indexing object person with verbs in the subjective conjugation

Verbs in the subjective conjugation include information only about the subject person, but not about the object person. Therefore, object person must be expressed separately from the verb. In these cases, object person

can be expressed either with a personal pronoun in the genitive as in (4) or with the inessive ending postposition E *ej-se*, M *e-sa*[5], as in (5).

(4) – – *ańćək* *śkamə-nza* ***soń*** *i* *ńäjə-n.*
only alone-POSS.3SG 3SG.GEN and see-PRS.1SG
'– – and I see only her.' (M: Moksha-2007_6_73-81: 126)

(5) – – *kuľ-i* ***e-sə-t*** *iľi* *af.*
hear-PRS.3SG PP-INE-POSS.2SG or NEG
'– – whether she can hear you or not.' (M: Lobanov: 991)

With the postposition, object person is usually indexed in the form of possessive suffixes, therefore using the personal pronoun is not necessary. In Erzya, the personal pronoun can be used as the dependent of the postposition in the genitive, and in this case the postposition appears without possessive suffixes: e.g. *toń ej-se* [2SG.GEN PP-INE] 'in you'. In Moksha, possessive suffixes are obligatory on the postposition even when the personal pronoun is present: *toń e-sə-t* [2SG.GEN PP-INE-POSS.2SG] 'in you'. (See Keresztes 1990: 62–63.) Erzya thus avoids double marking person with verbs in the subjective conjugation and chooses to express it either with the

5. The postposition, E *ej-/ez-*, M *e-/ez-* is semantically empty in modern Mordvinic and its only function is to carry the case suffix required by syntax. This postposition declines in case and the postpositional construction can be considered as part of the definite declension paradigm of these languages. (See Alhoniemi 1992: 33–34; Hamari 2016: 4–7). In Moksha, using the postpositional construction is the only option to express the definite declension in cases other than the nominative, genitive and dative. Erzya knows both synthetic constructions, where the definiteness marker follows the case suffix, and the postpositional constructions in the definite declension of the non-grammatical cases. Nevertheless, these constructions have different semantics. (See Alhoniemi (1992) for more details on the relationship of postpositional constructions and synthetic cases.) The postpositional construction with an inessive ending can occur in object function. The verb always stands in the subjective conjugation with it, and this construction expresses an imperfective aspect. (See Alhoniemi 1991: 29; Alhoniemi 1992: 35; Bartens 1999: 96.) Nouns precede this postposition and are in the genitive before it. Personal pronouns are not necessarily expressed separately from the postposition, and reference to person can be attached to it in the form of possessive suffixes. (See Agafonova 2000: 128; Lipatov & Davydov 1980: 256.) As the postposition acquires its meaning only through the local suffixes that follow it and it cannot be directly translated, I gloss it with the abbreviation PP.

personal pronoun in the genitive or with possessive suffixes attached to the postposition. In Moksha, the postposition always gets possessive suffixes.

4.1.2. Indexing object person with verbs in the objective conjugation

Verbs in the objective conjugation index object person and number. Therefore, using personal pronouns is optional in this case. In this section, I examine the use of personal pronouns with verbs in the objective conjugation.

Table 4 shows that both languages prefer single marking over double marking. Previous research on Mordvinic revealed that first- and second-person personal pronouns are used in different contexts than third-person ones. Double marking first and second person often feels emphatic or contrastive (Salamon 1989: 97; Kangastus 2012: 101). Third-person personal pronouns are used in contexts where the antecedent is located far behind in the preceding context (Kangastus 2012: 98–99). These remarks are studied here in more detail and illustrated with examples from the data.

Table 4: Object person indexation with verbs in the objective conjugation

	Erzya		Moksha	
Person	Double marking	Single marking	Double marking	Single marking
1st	8 (11%)	62	4 (6%)	61
2nd	6 (13%)	41	4 (9%)	40
3rd	54 (30%)	135	38 (19%)	159

As the table shows, double marking discourse participants is relatively rare, it occurs in about 10% of the cases. In the data, the reasons for double marking object person depend on the structure of the text: in narratives, the changes of information structure seem to account for using personal pronouns, whereas in dialogues, contrast is the primary reason for it.

In narratives, double marking first person is used in contexts where reference to person occurs several sentences prior to the personal pronoun. Previous reference may be either single or double marked, depending on the context. Often several different persons are introduced between the two references. In these contexts, object person often feels emphatic or highlighted. In Krifka's terms, highlighting frequently correlates with focus, which "indicates the presence of alternatives that are relevant for the

interpretation of the linguistic expressions" (Krifka 2008: 247). The reason for double marking first person in (6) seems to be the presence of other alternative referents in the context. In this example, other characters are introduced before the narration shifts back to first person.

A further precondition for double marking in (6) seems to be that first person is not present in the immediate context preceding the referent. Chafe (1987) correlates the activation state of referents in discourse with their form. According to him, referents that are present in the immediate situation, i.e. "active referents", are expressed with more attenuated forms than those that are not. An active referent can change into a semi-active state if it is not focused on for some time. In (6), the narrative shifts back to first-person viewpoint, therefore first person is reactivated in these contexts.

(6) *Ańśak, uľema, kort-ića-ť-ńe-ń val-ost*
only apparently speak-PTCP.PRS-PL-DEF-GEN word-POSS.3PL

pŕado-v-ś-ť, di Vaśiľ Ivanič ***moń*** *ńe-i-mim.*
end-PASS-PST-3PL and V. I. 1SG.GEN see-PST-3SG>1SG

'But it seems that the speakers ended their discussion and V. I. saw me.' (E: Syatko-2004_3_3-17: 591–592)

In the data, most first-person personal pronouns occur in contexts similar to (6). Based on the data it seems that the correlation of both focus and the activation state of the referent are behind the choice of double vs. single marking. This issue, nevertheless, should be examined in more detail. It seems that when only one condition is met, double marking does not necessarily occur. This is shown in (7), where first person is mentioned for the first time, but object person is indexed only on the verb. One possible explanation for not using the personal pronoun may be that there are no alternative participants that could be relevant for interpreting the referent, since there are exactly two participants introduced in the context. I omitted two sentences from the example that describe Mrs. Agaj.

(7) *Agaj baba s-i lavka jon-do.* [– –]
A. old.woman come-PRS.3SG shop direction-ABL

Ńe-i-mim *– aχolda-ś: – –*
see-PST-3SG>1SG wave-PST.3SG

'Mrs. Agaj comes from the direction of the shop. She saw me and waved: – –' (E: Syatko-2007_3_24-57: 483–485)

There are different reasons for double marking discourse participants in dialogues or letters that are addressed to another person. In these contexts, the personal pronoun often indicates contrast. In (8), person is topical, but it is contrasted with another topical referent. Contrastive topics also include focus, which indicates that there are alternatives for the interpretation of the reference (for contrastive topics see Krifka 2008: 267–268).

(8) *Ton* ***moń*** *ašəmaɟť* *ńäjə,* *a* *mon* – ***toń***.
2SG 1SG.GEN NEG.PST.2SG>1SG see.CNG and 1SG 2SG.GEN
'You did not see me, and I did not see you.'
(M: Moksha-2007_6_48-66: 403)

Third-person indexes are used anaphorically in the source material. Third-person reference is not restricted to human or animate reference (Lipatov & Davydov 1980: 253). Table 4 shows that third person is more frequently double marked than discourse participants. In Erzya, double marking is used in 30% of the cases, whereas in Moksha it is 19%. The contexts of double marking third person seem to be similar in the two languages.

Single marking most often has active and salient antecedents (see Kangastus 2012: 73–74 for a discussion on Erzya). The grammatical function of the antecedent does not play a role in the choice of third-person indexation. The antecedents of bound person indexes can have any syntactic function, subject, object, or other sentence constituents. In (9), the antecedent of the third-person reference serves as dependent in a postpositional construction. The topic continues with the same referent.

(9) *Jorda-f* *sumka-n-zə-n* *vaks-ka* *jota-ś* –
throw-PTCP.PST bag-PL-POSS.3SG-GEN beside-PROL go-PST.3SG
af=i *ńäjə-****źəń***.
NEG=even see-PST.3SG>3PL
'He went by his thrown bags and did not even see them.'
(M: Moksha-2007_6_48-66: 306)

The data of this study shows that distance from the antecedent does not play an important role in using third-person personal pronouns. Both single and double marking are common in contexts where the antecedent of the referent occurs in the previous clause or sentence, and the antecedent is active and salient. This is shown in (10). In this sentence, the antecedent of the personal pronoun is topical, as new information is linked to it.

(10) *Ańuta* *arśə-ś:* *vaga* *veńəpť-si*
A. think-PST.3SG here stretch-PRS.3SG>3SG
kuću-ńä-ks *laďa-f*
spoon-DIM-TRSL bring.together-PTCP.PST
kurməś-ka-n-c – *i* ***soń*** *ńäj-**saź**.*
hand-DIM-GEN-POSS.3SG and 3SG.GEN see-PRS.3PL>3
'Ańuta thought that she would stretch her hands bought together as a spoon and she would be seen.' (M: Moksha-2007_5_45-64: 64–65)

A probable reason for double marking third person might be the presence of other referents in the setting, such as the object in (10), Ańuta's hands. This referent is not topical, and therefore it does not pose as an alternative for interpreting the sentence. Nevertheless, double marking can facilitate reference tracking in contexts where there are other referents present.

Using first- and second-person personal pronouns with verbs in the objective conjugation is infrequent in the source material. These pronouns often feel emphatic or contrastive, as they are used when there are other salient referents present in the discourse. Double marking third person seems at first sight similar to double marking discourse participants: in both cases the presence of other possible referents influences the choice of encoding person. There is nonetheless a relevant difference between them. Discourse participants are double marked in contexts where the other referents are at the center of attention in the immediate situation. Double marking third person, on the other hand, occurs in contexts where the antecedent is active and salient. The other referents that are present in these contexts do not pose as alternatives for interpreting the linguistic expressions, as they are not topical.

4.2. Demonstrative pronouns

The Mordvinic languages have three sets of demonstratives: proximal E *ťe* M *ťä*, distal E *śe*, M *śä* and contrastive E M *tona* (Lipatov & Davydov 1980: 259–261). Demonstrative pronouns in the literary languages essentially refer to an antecedent or a proposition in the surrounding context. Therefore, they can be considered as definite expressions. This is reflected by their morphosyntactic behavior as well: demonstrative pronouns are in the genitive case in object function and the verb can stand in the objective conjugation with them. These pronouns are in the basic declension in

the singular and in the definite declension in the plural. This variation is shown in (11) and (12).

(11) *Ćora-ńä-ś* *ńäjə-źä* *ańćək* ***śä-ń***, *koda*
boy-DIM-DEF see-PST.3SG>3SG only that-GEN how
veĺks-əz-ənza *koma-ś* *pančfu* *rućä-ńa-sa*
above-ILL-POSS.3SG stoop-PST.3SG flowery scarf-DIM-INE
śťiŕ-ńä.
girl-DIM
'The boy saw only how a girl in a flowery scarf stooped over him.' (M: JT-2005_6_19: 18)

(12) *Kavto-ška-śad-t* *eskeĺks-eń* *juta-ź* *siń* *ńe-i-ź*
two-CPR-hundred-PL step-GEN go-GER 3PL see-PST-3PL>3
śe-ť-ńe-ń, *ki-ť* *śeź-i-ź* *kal-oń*
that-PL-DEF-GEN who-PL disturb-PST-3PL>3 fish-GEN
kuńďʹ-śe-ma-st.
catch-FREQ-NMLZ-POSS.3PL
'After going about 200 steps, they saw those who had disturbed them fishing.' (E: Syatko-2006_9_10-17: 90–91)

The variation of declension type results from the declension paradigms of the Mordvinic languages. In the plural declension paradigm, only the nominative case can be expressed in the basic declension, while other cases can only be expressed in the definite declension (Agafonova 2000: 133; Poljakov 2000: 108).

4.3. Reflexive pronouns

In Mordvinic, reflexive constructions are formed with the reflexive pronoun E *pŕa*, M *pŕä*, which is based on the common noun 'head' (Lipatov & Davydov 1980: 266; Agafonova 2000: 142; Toldova & Šalganova 2018: 638–641). Reflexive pronouns are anaphoric, and their antecedents appear within the same clause. Therefore, reflexive pronouns can be considered as definite expressions.

The Mordvinic reflexive pronouns usually agree with the subject in person and number and the verb can stand in the objective conjugation with them (Markov 1964: 82–83). Verbs agree with third-person singular objects in reflexive constructions.

Nevertheless, the marking of the pronoun varies, and in Erzya, the verb most frequently stands in the subjective conjugation with the reflexive pronoun. This section examines the morphosyntax of the reflexive pronoun in detail, with the aim of determining what lies behind the variation of verbal conjugation in Erzya and the variation of case marking in Moksha. Since the Erzya and Moksha reflexive constructions differ from each other, I discuss Erzya in Section 4.3.1 and Moksha in 4.3.2. These sections also reveal the differences between the two languages in the choice of verbal conjugation type: in Moksha, verbal conjugation correlates more tightly with object marking, whereas in Erzya, the two conjugation types capture aspectual oppositions and the choice of the conjugation type correlates with the situation described by the verb.

4.3.1. Erzya

In Erzya, the conjugation type of the verb varies in reflexive constructions and the choice of conjugation type depends on the construction. The two perception verbs behave in a different way. The verb *ńejems* 'see' in reflexive constructions expresses that perceivers see themselves, whereas *mańams* 'hear; feel' is used in a grammaticalized expression describing the state or frame of mind of the subject.

The verb *ńejems* is generally used in the objective conjugation with the reflexive pronoun, as in (13). In this sentence the subject perceives an image of herself in the mirror. The conjugation type of *ńejems* with the reflexive pronoun adheres to the same rules as with other definite objects. Rarely is *ńejems* found in the subjective conjugation, and in these cases, it captures an imperfective situation. In (14), the conjugation type of the verb expresses a habitual event.

(13) *Ńina* ***ńe-i-źe*** ***eś*** ***pŕa-n-zo*** *di*
Ń. see-PST-3SG>3SG own REFL-GEN-POSS.3SG and
śeŕgeď e-v-ś: – –
exclaim-PASS-PST.3SG
'Nina saw herself and cried out: – –' (E: Syatko-2006_11_40-42: 89)

(14) *On-sto-n=gak* ***eś*** ***pŕa-m*** ***ńej-an****, – –*
dream-ELA-POSS.1SG=even own REFL-POSS.1SG see-PRS.1SG
'I see myself in my dreams as well, – –' (E: Syatko-2004_6_3-32: 402–403)

On the contrary, *mařams* is most often in the subjective conjugation with the reflexive pronoun. The expression *mařams pŕa* denotes a state or a frame of mind, where the self is not perceived in the strict sense. This structure is different from other structures of perception verbs which describe an event where the experiencer perceives some stimulus. The variation of the conjugation type in the *mařams pŕa* construction is shown in (15).

(15) *Ivan* *Petrovič-eń* *ľezks-en-ze* *veľďe*
I. P.-GEN help-GEN-POSS.3SG with

mař-i-ja ***pŕa-m*** *śeďe* *vadŕasto,* *meźe-ś*
feel-PST-1SG>3SG REFL-POSS.1SG CPR well what-DEF

ľezda-ś *śťa-ms* *piľge* *lang-s.* – –
help-PST.3SG stand-INF foot on-ILL

Boľńića-sto-ńť *ľiś-i-ń* *di* ***mař-an***
hospital-ELA-DEF exit-PST-1SG and feel-PRS.1SG

pŕa-m *a* *beŕańste.*
REFL-POSS.1SG NEG bad

'With the help of Ivan Petrovič, I felt better, which helped me to stand on my feet. – – I came out of the hospital and I do not feel bad.' (E: EP-2007_30-avgust_2c: 18–21)

In (15), the verb is first in the objective conjugation, and then in the subjective conjugation. The objective conjugation implies that at the time the writer was in the hospital, he started to feel better. The subjective conjugation, on the contrary, expresses his overall feeling or state. In other words, the objective conjugation describes a state in a certain situation which holds only temporarily, while the subjective conjugation is used for describing ongoing, general states.

The variation of conjugation types captures aspectual oppositions in Mordvinic (see Section 2). The objective conjugation usually expresses a completed or perfective event (Koljadenkov 1954: 132). Perception verbs (along with other semantic categories, such as cognitive and emotional verbs) are most frequently in the objective conjugation with definite objects, even when they refer to a continuing state (Koljadenkov 1963: 438; Alhoniemi 1994: 147–148).

It seems that in Erzya, perception verbs that capture actual perception and the grammaticalized *mařams pŕa* construction belong to different situation types, and this is reflected in the choice of conjugation type as well. The *mařams pŕa* construction represents a stative state of affairs, where

the state continues unchanged as long as the situation holds (for stative situation types from a typological viewpoint, see Smith 1997: 32–35). In the *mańams pŕa* construction the temporariness of the state can be emphasized with the objective conjugation. Perception verbs in other constructions, on the other hand, can capture both states and achievements (Smith 1997: 56–57). In these cases, the objective conjugation captures that perception takes place and the subjective conjugation can be used to convey different semantics, e.g. the meaning of habituality. Probably a key difference between the two structures is that while perception verbs in their primary meaning describe the perception of a stimulus, which happens momentarily and may continue after the initial moment unchanged for a period of time, the *mańams pŕa* construction does not imply that a stimulus is perceived but rather expresses the state or feeling of the subject.

The reflexive pronoun can be considered as definite in Erzya and seems to adhere to the same rules as other definite objects: the pronoun is in the genitive in object function and the verb can stand in the objective conjugation with it.

4.3.2. Moksha

In Moksha, *pŕä* can be used either in the possessive declension or in its base form. The declension type of the reflexive pronoun correlates with the choice of verbal conjugation type: the verb is always in the objective conjugation if *pŕä* is in the possessive declension, whereas if it is in its base form, the verb can only be in the subjective conjugation (Toldova & Šalganova 2018: 644). In the source material, *pŕä* occurs only five times with *mańams* in the subjective conjugation. In all these cases the object is in its base form, as in (16).

(16) *Son* *anəkəngа* *veśala-ľ,* *a* *ťäńi* ***mańa-ś***
3SG already cheerful-PST2.3SG and now feel-PST.3SG
pŕä *śadə=nga* *lac.*
REFL CPR=even well
'He was already cheerful, and now he felt even better.'
(M: Moksha-2005_1-2_190-217: 548–549)

Toldova & Šalganova (2018: 646–647) argue that some speakers use *pŕä* in its base form in focus position. In *EMJa* (2018), focus is most probably understood in Lambrecht's (1994) terms: it contains new information about

the topic.[6] Toldova & Šalganova (ibid.) do not discuss the frequency of the undeclined reflexive pronoun or how systematically it correlates with information structure. In the examples given by Toldova & Šalganova (ibid.), the information status of the pronoun or the expression is not clear, as they do not provide its larger context.

In the data of this study, the undeclined reflexive pronoun seems to be used in constructions where it provides known information. It occurs in contexts where the state or the feelings of the person are discussed in the immediate vicinity of the reflexive structure, as in (16). Here, the state of the person is described first, i.e. he was already cheerful. In the second clause it is mentioned that he felt even better. In these terms, *śadəngа lac* is new information, whereas the fact that he felt some particular way is already known.

Comparing (16) with (17) reveals that *mańams pŕä* usually conveys new information about the subject. In (17), the object is in the possessive declension and the verb is in the objective conjugation. In the context of this sentence, Antoša's meeting a girl on the train is described. Antoša's state is described only in the very beginning of the story and mentioned again in (17), several paragraphs later.

(17) *Antoša-ť* *lang-sta* *valg-ś* *učəma-ń* *śembä*
A.-DEF.GEN on-ELA descend-PST.3SG waiting-GEN all

stalmə-ś, *son* *ťäńi* ***mańa-źä***
burden-DEF 3SG now feel-PST.3SG>3SG

pŕa-n-c *śada* *ćebäŕsta.*
REFL-GEN-POSS.3SG CPR well

'All the burden of waiting fell from Antoša, he felt better now.'
(M: Moksha-2007_8_68-73: 73–74)

My informants agreed that using the undeclined reflexive pronoun is better in the context of (16) than in (17). It seems that using the undeclined reflexive pronoun is more accepted in contexts where the reflexive construction

6. Toldova & Šalganova (2018) do not explain what they mean by "focus position" (Russian *фокусная позиция*). Lambrecht's work is referred to in other chapters of the book where information structure is discussed. The terminology of information structure is versatile, with authors using the same terms for describing different phenomena. This is illustrated in this paper as well: I argue in Section 4.1.2 that focus implies the presence of other alternatives in the discourse.

contains known information. Nevertheless, the probable influence of information structure on the morphosyntax of the reflexive pronoun should be studied further. Comprehensive conclusions cannot be drawn on this matter based on the material of this study, since the reflexive pronoun occurred in only a couple of examples in its bare form. Additionally, the undeclined form might not be equally frequent with all the verbs that can take reflexive pronouns.

It must be noted that when the pronoun is the topic of the sentence, i.e. when new information is provided or asked about it, it must be in the possessive declension, as in (18). In this structure the bare form of the pronoun cannot be accepted at all.

(18) ***Ŕä-ćə-ń*** *koda* ***maŕa-sak?***
REFL-POSS.2SG-GEN how feel-PRS.2SG>3SG
'How do you feel?' (M: Moksha-2005_12_99-107: 314)

The reflexive pronoun is rarely undeclined in Moksha, at least in the literary texts. Nevertheless, this construction is accepted in the literary language. The use of the undeclined form seems to depend on context. When the reflexive construction conveys known information, the pronoun can be undeclined (see 16); otherwise using it in the possessive declension is preferred (see 17). In topic function, the undeclined pronoun is not accepted at all.

4.4. Reciprocal pronouns

In reciprocal constructions, at least two participants that affect each other are conjoined. Mordvinic uses the reduplicated numeral 'one' as a reciprocal pronoun. This pronoun is also anaphoric, as it is coreferential with the subject. The pronoun is in the genitive in object function, but the verb cannot stand in the objective conjugation with it (Nina Agafonova, Oksana Belkina p.c., see also Xolodilova (2018: 106) for Moksha). According to previous typological research, reciprocal pronouns are to be considered as indefinites, due to their forms in various languages. In this section, I investigate this claim in more detail from the perspectives of the Mordvinic languages and differential object marking. The aim of this section is to discuss how the Mordvinic reciprocal construction fits into the findings of cross-linguistic research and to find the correlation between the reference of reciprocal pronoun and its morphosyntactic marking. The present

section complements the understanding of how definiteness and low transitivity correlates with morphosyntactic marking in Mordvinic.

The source material contains only a couple of examples of the reciprocal pronoun in Moksha. Therefore, the present section is primarily based on information provided by the informants. In Erzya, coreference with the subject may be marked with possessive suffixes: e.g. *vejke-st-vejke-st* [one-POSS.3PL-one-POSS.3PL] 'each other', but it is not obligatory, e.g. *vejke-vejke-ń* [one-one-GEN] 'each other' (Agafonova 2000: 131). In the latter case, the object is in the genitive of the basic declension. The Moksha reciprocal construction is not marked for person, as illustrated in (19).

(19) *Uĺəma, odu* ***ʃkä-ʃkä-ń*** *af ńäj-ťama.*
maybe again one-one-GEN NEG see-PRS.1PL
'Maybe we will never see each other again.' (M: JT-2005_7_14-18: 98)

According to Bhat (2004: 85–87), the reciprocal pronoun is anaphoric, but not definite. This anomaly results from the nature of reciprocal constructions, which combine two events. The involvement of the participants is the opposite in these events: e.g. (19) contains the event of me not seeing you again, where the first person is the perceiver and the second person is the perceived, and also the event of you not seeing me again, where the second person is the perceiver and the first person is the perceived. Bhat (ibid.) argues that coreference with the subject is only illusory and it is shown by the structure of the pronoun in various languages. Reciprocal pronouns tend to be based on indefinite expressions (such as the numeral one, which is the basis of the Mordvinic reciprocal pronoun as well). This probably explains also why languages mark coreference with the subject more often on the reflexive pronoun than on the reciprocal ones (see Dixon 2012: 154).

At first sight, Mordvinic seems to contradict the assumptions on the indefiniteness of the reciprocal pronoun, as the pronoun is in the genitive in object function. However, it will be shown later in this paper (Section 4.7) that indefinite pronouns with human referents are also in the genitive in object function, even though their referents cannot be identified. A more relevant argument for considering this pronoun as definite in Mordvinic seems to be that according to Bhat (ibid.), the pronoun refers to an indefinite individual from the group that the subject identifies. As noted by Kaškin (2018) and later on in this paper (Sections 4.5 and 4.7), reference to members of a known group is considered as definite in Mordvinic, and even indefinite pronouns that refer to an individual from two or more

known entities behave like definite expressions and are marked in object position accordingly. For this reason, I consider the reciprocal pronoun as anaphoric and definite in Mordvinic and explain the ungrammaticality of the objective conjugation in these structures with their displaying a lower degree of transitivity.

The participants of reciprocal constructions are active and affected at the same time. Therefore, reciprocals are considered to be describing a semantically lower degree of transitivity than basic transitive clauses, which may be reflected in the structures of reciprocals. (See Kittilä 2002a: 394–397.) According to Kittilä (2002b) reciprocals are closer to basic transitive sentences than reflexives, since in reciprocal constructions there are at least two participants present. Mordvinic contradicts the expectations, as the verb can be in the objective conjugation in reflexive constructions, but not in reciprocal ones. The objective conjugation is a marker of high transitivity in Mordvinic (see Grünthal 2008) and is used in constructions that are termed as basic transitive sentences by Kittilä (2002b). Nevertheless, according to Dixon (2012: 154), if reciprocals are expressed with pronouns, reflexives must also be expressed with pronouns; but the same is not true in the opposite direction. Therefore, there are languages where reciprocals are encoded in intransitive constructions, while reflexives are in transitive constructions. This might imply that reflexives display, contradicting Kittilä's (2002b) expectations, a higher degree of transitivity. This seems to be the case in Mordvinic as well since the verb can stand in the objective conjugation in reflexive constructions but not in reciprocal ones.

Reciprocals are the only type of pronominal objects that cannot stand with a verb in the objective conjugation either in Erzya or in Moksha, even though their referent is identifiable, and they get object marking. Therefore, reciprocal constructions diverge from other constructions with definite objects, which can be explained by reciprocal constructions describing a semantically lowly transitive event.

4.5. Interrogative pronouns

Interrogative pronouns are used primarily in questions and refer to an entity that is unknown to the speaker. From this respect, interrogative pronouns can be considered as indefinites from a cross-linguistic point of view, as they express lack of knowledge. (See Bhat 2004: 227–228.) Nevertheless, in Mordvinic, interrogative pronouns can be marked in object

position and the verb can stand in the objective conjugation with them. Therefore, it is important to investigate their semantics in greater detail and its correlation with their morphosyntactic structure.

Mordvinic has three sets of interrogative pronouns, E *meźe*, M *meźä* 'what' with non-human referents, E *ki*, *kije* M *ki*, *kijä* 'who' with human referents and E M *kona* 'which', which implies choice from a known group (Bartens 1999: 115–117). The pronoun *kona* does not occur in the material and therefore I discussed its usage with native speakers.

The non-human interrogative pronoun is left without case marking in object function and the verb always stands in the subjective conjugation with it (see also Xolodilova (2018: 106–107) for Moksha). Thus, the non-human interrogative pronoun behaves as expected.

The interrogative pronoun *ki* expresses the same type of indefiniteness as the non-human one, but it is in the basic genitive in object function. The case ending of this pronoun is the same as with the personal and demonstrative pronouns which have identifiable referents. According to native speakers, the verb can stand in both the subjective and the objective conjugation with the human interrogative pronoun, which is illustrated in (20). This example was elicited from native speakers, as the source material does not contain genuine questions with the human interrogative pronoun.

(20) ***Ki-ń*** ***ńäj-iť*** / ***ńäjə-ť*** *univeŕśiťet-sta,*
who-GEN see-PST.2SG>3SG see-PST.2SG university-ELA
məźarda *tosa* *uľə-ť?*
when there be-PST.2SG
'Who did you meet at the university when you were there?'
(M: Ekaterina Kirdjaškina, p.c.)

As the example shows, both conjugation types are possible. The choice of conjugation changes the interpretation of the sentence: the objective conjugation implies that the speaker knows that the listener met someone at the university, whereas the subjective conjugation has no such implications. Therefore, the change in verbal conjugation renders a more specific reading to the pronoun, without changing the declension type or case of the pronoun itself.[7]

7. In exclamatory and rhetorical sentences, where the speaker knows the referent of the pronoun, the human interrogative pronoun behaves like a definite NP and it allows verbal agreement. Once again, this reading is captured by the

The interrogative pronoun *kona* 'which' refers to someone or something from two or more known entities. This pronoun does not occur in the data. In Erzya and Moksha, nouns referring to members of a known group behave like definite NPs and can be in the definite declension (see Kaškin (2018: 136–138) for Moksha). Therefore, it is expected that this pronoun is in the genitive in object function and the verb can stand in the objective conjugation with it. According to native speakers, the pronoun is in the definite declension in Erzya, *kona-ńť* [which-DEF.GEN] 'which one' and it can be either in the basic or possessive genitive in Moksha, *kona-n-c* [which-GEN-POSS.3SG] or *kona-ń* [which-GEN] 'which one'. The use of this pronoun is illustrated in (21).

(21)[8] [*Išak kafta końćərtt uľšť Saranskäjsa*.]

Kona-n-c	*ton*	*van-iť?*
which-GEN-POSS.3SG	2SG	watch-PST.2SG>3SG

'[There were two concerts in Saransk yesterday.] Which one did you see?' (M: Ekaterina Kirdjaškina, p.c.)

The three interrogative pronouns display different morphosyntactic features in object function. The non-human interrogative pronoun, E *meźe*, M *meźä* 'what' is unmarked in object function and the verb always stands in the subjective conjugation with it. The human interrogative pronoun, *ki* 'who' gets object marking and the verb can stand in the objective conjugation with it. The objective conjugation is used in a restrictive meaning with this pronoun (see 20). The pronoun *kona* differs from the other two interrogative pronouns, as it refers to a member of a known group, thus its referent can be considered as definite. The pronoun *kona* behaves as a definite NP morphologically as well: it is in the genitive in object function and the verb can stand in the objective conjugation with it (see 21).

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conjugation type of the verb. This is shown in (i), where the speaker already knows the answer to his question.

(i) *Vaśńa=jak* ***ki-ń*** ***ńe-siź?*** *Čaŕkoďe-v-i,* *moń!*
first=and who-GEN see-PRS.3PL>3SG understand-PASS-PRS.3SG 1SG.GEN
'Who do they see first? Clearly, me!' (E: Syatko-2007_1_133-143: 369-370)

8. This example is an addition to the material. A different verb occurs in these sentences, since it was difficult to construct a context for this pronoun with the perception verbs described in Section 2.

4.6. Relative pronouns

Interrogative and relative pronouns are formally identical. All three interrogative pronouns, E *meźe*, M *meźä* 'what', E M *ki* 'who' and E M *kona* 'which' can be used as relative pronouns. In the data, *ki* does not occur in this function.

This section focuses on the morphosyntactic behavior of relative pronouns in object function. The morphosyntactic differences between *kona* and E *meźe*, M *meźä* imply that these pronouns have different functions. The pronoun *kona* behaves like a definite expression: it gets object marking and the verb most often stands in the objective conjugation with it. E *meźe*, M *meźä*, on the other hand, behaves like an indefinite NP in most of the cases, as it frequently lacks object marking and often occurs with the verb in the subjective conjugation. Nevertheless, the morphosyntactic marking on E *meźe*, M *meźä* varies. E *meźe*, M *meźä* can be used either in the nominative or the genitive case in object function. The marking on the pronoun correlates with verbal conjugation: the verb can stand in the objective conjugation with this pronoun only if it is in the genitive, whereas if the pronoun is in the nominative, the verb is in the subjective conjugation. In the Erzya material, *meźe* is found 31 times in the nominative as object, and 11 in the definite genitive. In Moksha, *meźä* is found 36 times in the nominative and 5 times in the definite genitive.

I explain the different morphosyntax of *kona* and E *meźe,* M *meźä* with the structure of the relative clause and the features of the head. The pronoun *kona* is used in externally headed relative clauses with reference to full NPs, whereas E *meźe*, M *meźä* is preferred with so-called light heads (demonstratives and quantifiers) and in headless constructions. In internally headed relative clauses, *kona* can occur only in adnominal function within a NP. As a pronoun, only E *meźe*, M *meźä* is used as an internal head.

The head of the pronoun *kona* can have any function in the main clause (Aralova & Brykina 2012: 525–526; Privizenceva 2018: 727–730). In object function, *kona* is usually in the basic genitive in the singular and in the definite genitive in the plural in both languages. The use of *kona* as a relative pronoun is illustrated in (22).

(22) – – *sərgəź-ś-ť* *pŕa-sə-nza* *śembä* *stalmə-ť-ńä,*
stir-PST-3PL head-INE-POSS.3SG all burden-PL-DEF
kona-ť-ńə-ń *ńäjə-źəń* *miŕďə-n-c* *maʀta.*
which-PL-DEF-GEN see-PST.3SG>3PL husband-GEN-POSS.3SG with
'– – all the burdens that she experienced with her husband stirred in her head.' (M: Moksha-2003_4_90-107: 98–100)

The choice between *kona* and E *meźe*, M *meźä* seems to depend on semantic rather than morphosyntactic factors. E *meźe*, M *meźä* is frequent in constructions with demonstratives and universal quantifiers as heads, i.e. in light-headed constructions according to Citko's (2004) terminology. The pronoun *kona* can occur in light-headed constructions if the referent of the head is individualized, as in (23). In this example, the pronoun refers to a human antecedent, which is mentioned in the preceding sentence. E *meźe*, M *meźä* is used more frequently with abstract heads, the meaning of which is established in the relative clause. This is illustrated in (24).

(23) *Pandočama-va-ńť* *eskeľa-ś-ť* *soldat-t.* *Śe-ť-ńe,*
hill.side-PROL-DEF pace-PST-3PL soldier-PL that-PL-DEF
kona-ť-ńe-ń *vokzal-sto* *ńe-i-ńźe.*
which-PL-DEF-GEN station-ELA see-PST-3SG>3PL
'Soldiers paced on the hillside. The ones whom he saw at the station.' (E: Syatko-2004_7_49-64: 628)

(24) *Mon* *χudožńik-an,* *śas* *ťejńä* *maštə-ma*
1SG artist-1SG therefore 1SG.DAT can-NMLZ
ńäjə-mə-nza *śä-ń,* ***meź-ť*** *af*
see-NMLZ-POSS.3SG that-GEN what-DEF.GEN NEG
ńäj-saź *lijä-ť-ńä.*
see-PRS.3PL>3SG other-PL-DEF
'I am an artist, therefore I have the skill of seeing what others cannot.' (M: Moksha-2005_3-4_190-197: 266)

Apart from light-headed constructions, E *meźe*, M *meźä* is frequently attested in headless relative clauses. Privizenceva (2018: 711) mentions that all three relative pronouns (*kona*, *meźe*, *kijä*) can occur in headless relative clauses in Moksha. I assume that the choice between these pronouns is influenced by similar semantic factors as in light-headed relative clauses: *kona* implies a more individualized meaning. The present study cannot

prove this assumption, since *kona* does not occur in headless relative clauses in the data. The use of E *meźe*, M *meźä* in headless relative clauses is shown in (25).

(25) *Śäľďä* *Feďka-ś* *azə-ndə-źä* *Vaśka-ťi,* ***meźä***
then F.-DEF tell-FREQ-PST.3SG>3SG V.-DEF.DAT what

kuľ-ś *šobdava.*
hear-PST.3SG morning
'Then Feďka told Vaśka what he had heard in the morning.'
(M: Moksha-2005_1-2_156-170: 311–312)

In internally headed relative clauses, only *meźä* and *kijä* are used as pronouns, whereas *kona* is used only in adnominal function (see Privizenceva (2018: 719–727) for Moksha). Pronouns in adnominal functions are not considered in the present paper. The source material contains only E *meźe*, M *meźä* in internally headed relative clauses.

Internally headed relative clauses do not necessarily have a corresponding element in the main clause, which is shown in (26). Corresponding pronouns can nonetheless appear. These elements are similar to light heads, as illustrated in (27) where the corresponding element is the universal quantifier.

(26) ***Meźä*** *ńäj-ś* *ki-ť* *kučka-sa,* *päk*
what see-PST.3SG road-DEF.GEN middle-INE very

iź *tu* *mäľ-əz-ənza.*
NEG.PST.3SG go.CNG mind-ILL-POSS.3SG
'What he saw in the middle of the road, he did not really like.'
(M: Moksha-2006_8_136-139: 37)

(27) ***Meźä*** *ńäj-ś,* ***meźä*** *kuľ-ś* *komanďirovka-sa*
what see-PST.3SG what hear-PST.3SG business.trip-INE

uľə-ńďə-mstə-nza, *śembə-ś* *aŕśə-ś*
be-FREQ-GER-POSS.3SG everything-DEF turn-PST.3SG

očerk-əńďi, *reportaž-əńďi,* *feľjeton-əńďi*
study-DAT report-DAT satirical.article-DAT

koźa *maťeŕial-ks.*
rich material-TRSL
'What he saw, what he heard while he was on business trips, everything turned out to be a rich material for studies, reports and satirical articles.' (M: Moksha-2006_12_81-87: 85–87)

Furthermore, E *meźe*, M *meźä* can refer to the whole preceding clause or to parts of the preceding clause, as in (28). In this sentence, it refers to the main clause.

(28) *Ťev-ən-c* *tijə-ńďə-źä* *päk* *lac,*
work-GEN-POSS.3SG do-FREQ-PST.3SG>3SG very well
meź-ť *kurəksta* *ńäjə-ź* *rajon-əń* *oćuńä-ť-ńä – –*
what-DEF.GEN soon see-PST.3PL>3 region-GEN elder-PL-DEF
'He did his job very well, which the village elders soon realized – –'
(M: Moksha-2006_5_15-18: 110)

After discussing the factors that influence choosing the relative pronouns, I examine in greater detail the morphosyntax of these pronouns and its correlation with the reference of the pronoun. The relative pronoun, *kona*, gets object marking (the choice between definite and basic declension depends on number marking), and the verb most often stands in the objective conjugation with it (see 22). The pronoun *kona*, therefore, behaves like definite NPs. This is expected, since *kona* is typically used anaphorically and it refers to a NP in the main clause.

The morphosyntax of the relative pronoun E *meźe*, M *meźä* is more complicated. This pronoun can be either in the basic nominative or in the definite genitive as an object. What exactly influences the choice of the declension type of the pronoun, cannot be determined based on the source material of this study. If the pronoun refers to the preceding clause, it is in the definite genitive in both languages. In light-headed and headless relative clauses, the case marking of the pronoun seems to be in free variation, nevertheless, the pronoun is most frequently in the basic nominative in these contexts. The reasons for this may be that light heads are vaguely defined, and thus their reference is not always identifiable.

4.7. Indefinite pronouns

Indefinite pronouns display an interesting behavior in Mordvinic: even though they refer to unidentifiable entities, those pronouns that refer to humans and to a member of a known group are in the genitive in object function and the verb can stand in the objective conjugation with them. Therefore, it is necessary to take a detailed look at their semantics to reveal the correlation between definiteness and differential object marking.

The Mordvinic indefinite pronouns are based on the interrogative pronouns. Indefinite pronouns are formed with indefiniteness markers preceding or following the interrogative, with the reduplication of the interrogative and on rare occasions, the basic form of the interrogative can be used as well. (See Bartens 1999: 117–118; Agafonova 2000: 141; Bikina 2018: 186.) Mordvinic does not have separate negative pronouns, but the additional particle gets a negative reading in negated sentences. In Erzya *-Cak*[9] (Hamari & Aasmäe 2015: 310–311), and in Moksha the particles *-Cək* and *-CA*[10] (Bikina 2018: 197–199) are used in negated sentences.

The different forms of indefinite pronouns are used in different contexts, depending on referential features (specific or non-specific), or on other factors (e.g. negation, indirect negation, irrealis mood, comparative constructions). The features of the Moksha indefinite pronouns are described in detail in Bikina (2018). The Erzya indefinite pronouns are formally similar to the Moksha ones, but their semantics and the possible differences between the languages have not been examined before. This section discusses the morphosyntactic features of indefinite pronouns in object function and their correlation with verbal conjugation.

The indefinite pronouns show the same human–non-human distinction as the interrogative ones, and they behave in a similar way as well. The inanimate indefinite pronoun is usually in the basic declension nominative in object function and the verb cannot stand in the objective conjugation with it. The only exception is when the indefinite pronoun refers to a member of a known group, in which case it is in the definite genitive and the verb agrees with it (Kaškin 2018: 138). Such structures are not attested in the data.

The human indefinite pronoun is in the basic genitive as object, i.e. it gets the same ending as pronouns which are used in a definite meaning, e.g. personal and demonstrative pronouns. This is illustrated in (29).

(29) ***Ńä-i-ńä*** *ťa-sta* ***koj-ki-ń***.
see-PST-1SG>3 there-ELA INDF-who-GEN
'I saw someone there.' (M: Moksha-2007_6_105-106: 43)

9. The initial consonant can either be *j* (after vowels), *g* (after voiced consonants) or *k* (after voiceless consonants) (Bartens 1999: 118).
10. In Moksha, vowels can be followed by *-vək* or *-gək*, vowels or voiced consonants by *-gä*/*-ga*, voiceless consonants by *-ka*/*-kä* (Bartens 1999: 118).

Example (29) shows that the verb can stand in the objective conjugation with the indefinite pronoun. In the Moksha data, there are two examples of this structure. Similar examples do not occur in the Erzya data, therefore I searched the Erzya corpus for indefinite pronouns to reveal whether the verb can stand in the objective conjugation with the indefinite pronoun. The corpus proved that similar structures are used in Erzya as well.

The variation of verbal conjugation captures the same semantics as in the case of interrogative pronouns: the objective conjugation expresses a more specific reading. In (29), the speaker is in the Institute of Cinematography in Moscow. The objective conjugation implies that it was not just someone the speaker saw, but specifically someone belonging to the Institute. The subjective conjugation does not imply a similar restrictive meaning. If the verb were in the subjective conjugation in (29), the construction would refer to anyone who happened to be at the Institute. Therefore, the objective conjugation expresses that the pronoun refers to a member of a group, whereas the marking on the pronoun is unchanged.

The pronoun *kona* 'which' can be used as an indefinite pronoun as well. It is only formally similar to the other indefinite pronouns, but not semantically. The pronoun *kona* is used in a definite meaning, as it always refers to members of a known group, and moreover *kona* is in the genitive in object function and the verb can stand in the objective conjugation with it. This is illustrated in (30).[11]

(30) *[Ruzoń morotńeďe baška końćertseńť gajgśť eŕźań, mokšoń morotkak.]*

Koj-kona-ť-ńe-ń	*kunsol-ića-ť-ńe*
INDF-which-PL-DEF-GEN	listen-PTCP.PRS-PL-DEF
mař-iź	*vaśeńće-ďe.*
hear-PST.3PL>3	first-ABL

[In addition to the Russian songs, Erzya and Moksha songs were played at the concert as well.] The audience heard some of them for the first time.' (E: EP-2006_1-ijuń_12a: 35–36)

Indefinite pronouns share both formal and morphosyntactic similarities with interrogative ones. The non-human indefinite pronoun is in the basic

11. Since the indefinite pronoun *kona* occurred only once in the source material, I searched the corpus for more examples with this pronoun to draw a more detailed conclusion on its use.

nominative in object function and the verb always stands in the subjective conjugation with it. The human indefinite and interrogative pronouns are marked in object function and the verb can be used in the objective conjugation with them. The pronoun *kona* behaves like a definite expression in Mordvinic, and this behavior results from its use: *kona* refers to a member of a known group. The morphosyntax of the pronoun correlates with its semantics: the pronoun is in the genitive in object function and the verb can stand in the objective conjugation with it.

4.8. Universal quantifying pronouns

The universal quantifying pronoun E *veśe*, *veśeme*, M *śembä* 'everything', refers to either absolute or contextual totality. Universal quantifiers can be considered as definite expressions since they convey the meaning of inclusiveness (Lyons 1999: 32–33). In this section, I discuss how the semantics of this pronoun correlates with its morphosyntax.

In Moksha, the pronoun *śembä* is in the definite genitive in object function, as illustrated in (31). In Erzya, on the other hand, the universal quantifying pronoun has two forms, either *veśe* or *veśeme*. In the literary language the form *veśeme* is used most frequently in object function, and it is in the definite declension genitive, similarly to Moksha *śembä*. In the data, there are two sentences where the form *veśe* is used in object function. This pronoun is indeclinable, as illustrated in (32). According to Nina Agafonova (p.c.), an expert on Erzya dialects, *veśe* is primarily used in the Southwestern dialects of Erzya, as these dialects lack the form *veśeme*. This form is nevertheless attested in the literary language as well.

(31) *Jaka-j* *viŕ-gä,* ***śembə-ť*** *ńäj-si, – –*
go-PRS.3SG forest-PROL all-DEF.GEN see-PRS.3SG>3SG
'She walks in the forest, sees everything, – –'
(M: Moksha-2007_9_98-115: 54-55)

(32) ***Veśe*** *maŕ-i-nk?*
all hear-PST-2PL>3
'Did you hear everything?' (E: Syatko-2004_4_32-69: 742)

The universal quantifying pronouns behave like definite NPs in both languages: they are marked in object function and the verb can stand in the objective conjugation with them. Only the Southwestern dialects of Erzya

seem to diverge from this pattern, where the pronoun is undeclined in object function. Nevertheless, the verb can stand in the objective conjugation with the undeclined pronoun as well.

5. Conclusions

This paper has examined the morphosyntactic behavior of the pronominal class in the light of their referential features. The pronominal class has inherently definite (e.g. personal and demonstrative pronouns) and indefinite (e.g. indefinite pronouns) members, thus they can provide a better understanding of differential object marking and indexation.

The correlation between the referential features of pronouns and their morphosyntactic behavior is less straightforward than in the case of nouns. Pronouns that are used anaphorically, discourse deictically or with reference to totality (personal, demonstrative, reflexive, reciprocal, relative and universal quantifying pronouns) are definite and are accordingly in the genitive in object function. Nevertheless, the verb cannot stand in the objective conjugation with the reciprocal pronouns. Moreover, human indefinite and interrogative pronouns are also in the genitive in object function, even though their referent is unidentifiable. Thus, genitive marking on the object component is a necessary feature for triggering the objective conjugation, but it alone does not determine whether the verb can stand in the objective conjugation or not. The results of the study are compiled in Table 5.

Table 5 shows the declension type and case marking of pronouns and whether the verb can stand in the objective conjugation with them. The present study reveals that not only definite objects are marked with the genitive case, but also indefinite objects with human referents. Therefore, animacy also influences differential object marking in Mordvinic, at least to some degree. Furthermore, this study also complements the understanding of the semantics of the objective conjugation. With the human interrogative and indefinite pronouns, the objective conjugation can be used in a restrictive sense, i.e. it expresses that the pronoun refers to a member of a known group, while the marking of the pronoun is unchanged. Therefore, with the variation of conjugation type a more specific reading can be encoded apart from aspectual oppositions.

Table 5: The morphosyntax of pronouns in object function

Pronouns		Declension type	Object marking	Objective conjugation[a]
Personal pronouns		basic	genitive	+
Demonstrative pronouns		basic (definite in plural)	genitive	+
Reflexive pronouns		possessive	genitive	+
Reciprocal pronouns		basic	genitive	–
Interrogative pronouns	*meźe*, *meźä*	basic	nominative	–
	ki	basic	genitive	+
	kona	basic	genitive	+
Relative pronouns	*meźe*, *meźä*	basic or definite	nominative or genitive	depends on the marking of the pronoun
	kona	basic or definite	genitive	+
Indefinite pronouns	*meźe*, *meźä*	basic	nominative	–
	ki	basic	genitive	+
	kona	basic	genitive	+
Universal quantifying pronouns		definite	genitive	+

a. + marks that objective conjugation is allowed, – marks that it is not allowed.

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Nonstandard abbreviations used in glosses

CNG	connegative
CPR	comparative
DAT	dative
DIM	diminutive
ELA	elative
FREQ	frequentative
GER	gerund
ILL	illative
INE	inessive
NEG	negation verb
POSS	possessive suffix
PP	postposition
PROL	prolative
PST	first past tense
PST2	second past tense
REFL	reflexive pronoun
TRSL	translative

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On the development of *i in Permic

The article revisits the development of Proto-Uralic close front *i in Proto-Permic. Two regular reflexes of *i have been posited in earlier literature: *i and *e. In a survey of preexisting etymological research, a third reflex *į is identified as also being similarly abundant, which motivates rehabilitating several etymological comparisons that have been rejected as irregular in recent critical works. Altogether 17 examples of PP *į continuing earlier *i are discussed in some detail. Typical phonological environments for the development of *į are further identified, and several open problems are shown to remain. Lastly some implications of the results for future research are suggested.

1. Introduction

The development of the Permic languages' vowel systems has remained one of the open questions of Uralic historical phonology. Even the reconstruction of the Proto-Permic [PP] vowel system remains a matter of debate. One view has however remained constant throughout: the close front vowels Udmurt *i*, Komi *i* are seen as the regular reflexes of Proto-Uralic [PU] *i. This position first appears already in the first major proposal regarding PU vocalism, namely the long-obsolete gradational study of Lehtisalo (1933: 38, 41). The more influential works of Steinitz (1944: 28–29, 125–127) (as Proto-Finno-Ugric reduced *ĕ or *ĭ) and Itkonen (1954: 315, 326) maintain the same, followed to the present day via e.g. Collinder (1960: 179), Sammallahti (1988: 525–527) (as PP reduced *ĭ) and Csúcs (2005: 76).

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Even here the actual data is not, however, quite as clear-cut as the remarkably consistent consensus would suggest. In particular, all previously mentioned works recognize either implicitly[1] or explicitly that in several etyma where cognates elsewhere in Uralic indicate PU *i, in Permic a close central vowel *į* appears instead. The typical treatment of such examples has been to propose conditional retraction in the environment of various "backing" consonants, most often *r and *š (Steinitz 1944: 127; Itkonen 1954: 303; Csúcs 2005: 79). Recently Normanskaja (2009: 3) has proposed the inverse of this view: according to her, PP *į̈ (in her notation: *ü) would actually be the default reflex of PU *i, while PP *i would only appear in a number of palatalizing environments, such as adjacent to palatal consonants, as well as in PP roots of the shape *CV when deriving from PU *CVCV. Unfortunately, she does not present a detailed defense of this idea, and only gives one clear example of the development of PU *i to PP *į̈, namely *šį̈r 'mouse' (ibid: 16). In the present study, a more modest version of this suggestion has nevertheless been taken up for investigation, with the aim of showing that the development PU *i > *į̈ can be treated as regular in a larger set of environments than has been previously recognized.

The Proto-Permic vowel reconstructions appearing in the present study are presented in Table 1. The main differences from some earlier PP reconstruction systems are as follows. Most researchers, starting with Itkonen (1954), have reconstructed four degrees of vowel height. Sammallahti (1988: 530–531) proposes interpreting the contrast between Itkonen's close and close-mid degrees as one between close reduced and close unreduced vowels, evidently following primarily the evidence of the Komi-Jazva variety. He does not, however, provide clear arguments to prioritize this evidence in particular, and in comparison with the attested reflexes in Udmurt and elsewhere in Komi, Itkonen's approach still appears preferable. The four-degree height contrast is clearly attested from the Upper Sysola dialect of Komi, which distinguishes three non-open back vowels /u o ɔ/, continuing Itkonen's *u *o̯ *o = Sammallahti's *ŭ *u *o.[2] A less disruptive adjustment of the mid-vowel system is proposed by Zhivlov (2010: 168–171), who

1. For Sammallahti (1988), cf. PFP *kiči > Ud *kyž* (p. 543); PFU *šiŋiri > Ud K *šyr* (p. 550).
2. The interpretation of Itkonen's *o̯ *o as *ȯ *o by Zhivlov (2010: 175) or the interpretation of Itkonen's *o as a phonologically open vowel by Csúcs (2005: 60) are issues left outside the present study.

provides partial arguments to consider the contrast between *e and *ɛ in Proto-Komi to be the result of a secondary split. This result is provisionally followed in the present study: Itkonen's PP *e̯ and *e = Sammallahti's PP *i and *e are not distinguished. In fact even Itkonen (1954: 311) already admitted that the pre-Permic sources of his *e̯ and *e appear to be broadly the same. For a fuller comparison of Proto-Permic reconstruction systems, see e.g. Zhivlov (2014: 123).

Table 1: Proto-Permic vowel reconstructions appearing in the present study

Udmurt	Komi, general	Komi-Jazva	this study	Zhivlov	Itkonen	Sammallahti
i̯	*i̯*	*ɵ*	*i̯	*i̯	*i̯	*ĭ̯
i	*i*	*i*	*i	*i	*i	*ĭ
e, *o*	*e*	*í*	*e	*e	*e̯	*i
e, *o*	*e*	*e*	*e	*e	*e	*e
u	*o*	*ú*	*o	*ȯ	*o̯	*u
u	*u*	*u*	*u	*u	*u	*ŭ

2. Etymological data

2.1. Proto-Permic *i̯

Below seventeen etymologies are compiled where a sound change *i > *i̯ can be reasonably assumed to have taken place in Permic, as well as one more hypothetical example. While some of the more scarcely distributed cases might be areal vocabulary more recent than Proto-Uralic, in all cases where no clear loan origin is known, the preforms are regardless given under the label of PU. Where relevant, Udmurt and Komi dialect forms are cited following Korhonen (1987) and Uotila (1942). Cognates from other Uralic branches are given only as reconstructions for the sake of brevity.[3]

3. As primary sources, Proto-Saamic reconstructions are generally from Lehtiranta (2001), Proto-Finnic from Kallio (forthcoming), and Proto-Samoyedic from Janhunen (1977). Other reconstructions are the author's own and they do not exactly adhere to any one particular source. Proto-Mordvinic mainly follows Paasonen (1903) in consonantism, Itkonen (1946) in vocalism; Proto-Mari

While no entirely new etymologies are advanced here, several of the comparisons have not been thoroughly treated in earlier literature, and I give most of them here with additional phonological and morphological discussion. Etymologies 2, 8, 9 and 10 include some newly adduced cognates or reanalyses of proposed cognates' etymologies, while etymology 5 includes a digression on several phonologically related etymologies. Discussion of the conditions that can be assumed for the sound change *i > *i̯ itself is however postponed to Section 3.

The primary source for the comparisons has been the UEW. Rather few of them appear in the more strictly vetted wordlist of Sammallahti (1988), but this alone should not be seen as a strong objection against the comparisons. As has been recently noted also by Metsäranta (2017: 214), Sammallahti does not state any explicit reasons behind the exact selection of his etymological material, and in particular, it is impossible to tell if any given comparison from earlier literature might be absent due to being seen as irregular or merely as an oversight.

1. **PU *i(n)čə- 'big/thick' > PP *i̯ǯ →** Komi *i̯ǯ-i̯d* 'big'
   Cognate: Mordvinic *ečkə 'thick' (UEW: 627)

As already per the UEW, this comparison can be interpreted as two parallel derivatives from an otherwise unattested root *i(n)čə. Written as pseudo-PU preforms, Komi suggests *i(n)č-ətä, Mordvinic *i(n)č-kä > *ičkä (though the actual chronology of suffixation does not seem to be reconstructible). An adjectival suffix *-kä, *-ka no longer occurs productively in Mordvinic, but it can be likely reconstructed for PU, cf. already Lehtisalo (1936: 340–343). Another possible fossilized example in Mordvinic is *noška* 'blunt'; see etymology 18. Instances of this derivational suffix have been identified in more recent research as well, all showing similar consonant-stem derivation as in the present example: Finnic *pitkä 'long', Samoyedic *pirkä 'tall' < *pid-kä (Janhunen 1981: 225); Saamic *ńālkē 'tasty' < *ńäl-kä (Aikio 2002: 53); Komi *suk* 'thick, dense' < *sak-ka (Metsäranta 2017: 223).

No clear decision can be made between reconstructing PU *nč and *č. The PP affricate *ǯ most regularly continues PU *nč, but a few examples

mainly follows Bereczki (1994) in consonantism, Aikio (2014a) in vocalism; Proto-Mansi and Proto-Khanty primarily follow Honti (1982), with some adjustments to the vocalism of the latter as first proposed by Tálos (1984).

clearly go back to *č as well, e.g. Udmurt *puǯej* 'reindeer', Komi *voǯ* 'weir' < PU *poča, *woča (Csúcs 2005: 130; UEW: 387, 577). In Mordvinic, the nasal would most likely have been lost in an early consonant-stem derivative.

2. **PU *iptä- 'rise (of water)' > PP *i̯t** → Komi *i̯tva* 'high water' (*va* 'water')
   Cognate: Khanty *ăpət- 'rise (of water), overflow, boil over' (UEW: 83)

Despite being reflected in only two branches, this comparison appears phonologically regular enough to be accepted. Semantics-wise the sense 'boil over' is a clear secondary metaphor in Khanty. Morphologically, Komi suggests PP *i̯t to have been an adjective 'high' or a noun 'highness (of water)', and the etymology would require this to have been formed from a former verb by conversion/zero-derivation. This appears plausible, since besides numerous examples known in Permic altogether (Laakso 1997), the phenomenon also appears more widely across Uralic, particularly in words describing weather and natural conditions: e.g. PP *te̮l 'wind' : *te̮li̯- 'blow (of wind)' ~ Finnic *tuuli : *tuule̮- id.; PP *si̯l 'thaw (n.)' : *si̯li̯- 'thaw (v.)' ~ Finnic *sula : *sula- id.; PP *zer 'rain (n.)' : *zeri̯- 'rain (v.)'; Mari *jür* 'rain (n.)' : *jüreš* 'rain (v.)'; Hungarian *es* (archaic) 'rain (n.)' : *es-* 'rain (v.)' (Laakso ibid.; Beke 1960: 370, 374–375).

Further support for the etymology can be found in the possibility of a morphological analysis: the word could be taken as a translative derivative with the original meaning 'rise, become high', from *ilə- 'up, over', reflected at least in Samoyedic *i- 'up, over, tip', probably also Mansi *älγā̄ 'upstream(wards)', *älā̄ 'cover', Khanty *ĕlä 'cover'. This postposition root, which shows no evidence of an initial *w- or a labial vowel, should probably be distinguished from western Uralic *wülä or *wülə > PP *vi̯l 'over, above', *contra* the traditional view (UEW: 573).[4] The Ob-Ugric forms show an *-l- not reflected in either *iptä- or in the Samoyedic postposition root. This could result from cluster simplification in the derived verb (*il-ptä- >

4. While these two postposition-forming roots or root variants have ended up in a largely complementary distribution across Uralic, it is plausible that they might have originally been distinct semantically, e.g. *wülɜ 'up, above' versus *ilə 'over, on top'. Traces of such a distinction could be sought e.g. in Finnic, where the postposition root *ül- indeed signifies specifically 'up, above', while postpositions for 'over, on top' have been instead derived from the noun *pää 'head, end' (Jalava & Grünthal 2020: 120).

*iptä-) and the typical vocalization of PU *-l(ə)- in Samoyedic, followed by irregular further simplification from *ij- to *i- (Janhunen 1981: 256). A trace of the earlier heavier consonant structure could be continued in Samoyedic *(j)ilə- 'lift'. Rather than assuming irregular preservation of *l, this may be analyzable as a derived factitive verb, deformed from earlier *ijlə- < *ij-rə- by loss or metathesis of *j (the former in Selkup *īlə-, the latter in all other reflexes such as Nganasan *d'ilə-*, Tundra Nenets *jilə-*) but reflecting still the Proto-Samoyedic morphophonological rule *r > *l / C_. A route of explanation such as an *l-suffix in the Ob-Ugric forms, added to either an exceptional monosyllabic root or to a root with a "weak" consonant that was lost in all reflexes (e.g. *ixə-, *ijə-) is not impossible either, but this appears more speculative.

Two further Permic word families that appear to be likely related in some fashion are PP *jį̄l 'top, point', *jį̄lį̄- 'increase in number; rise (of water)', which Rédei (2000: 135–136) connected to each other, but which have remained so far otherwise unetymologized. A binary comparison with Samoyedic *(j)ilə- could suggest instead a common proto-form *jülä- 'rise, raise', but separating these words entirely from the 'up, over, rise' etc. cluster discussed above seems undesirable, even though their word-initial *j- presents additional phonological difficulties. The segment seems unlikely to be original, especially since a word-initial sequence **ji- cannot be reliably reconstructed for PU; cf. e.g. proposed *(j)iša 'skin', the reflexes of which show several irregular correspondences, as most recently discussed by Holopainen (2019: 93–94). For the time being, however, I cannot propose any secondary source of this *j- either.

3. **Indo-Iranian *iśćā 'wish, desire' → PP *i̯š →** Komi *i̯šmi̯-* 'be excited, lively', *i̯štį-* 'desire, be charmed'
   ? Cognate or parallel loan: Finnic *iha 'cheerful, pleasant, etc.'
   (Saarikivi 2018: 322)

This old Komi–Finnic comparison was dismissed as irregular already by Itkonen (1956: 75), though without further argumentation. A loan etymology from Iranian has been proposed for the Finnic word as well (Koivulehto 2016b: 263–266), and more recently Saarikivi has proposed the possibility that the Permic root *i̯š, originally probably an adjective 'happy, excited' or a noun 'joy, excitement', would be also a separate loan from the same source. I have further developed this suggestion already earlier

(Pystynen 2019a: 45), proposing loaning from pre-Proto-Iranian as pre-Permic *išč3[5] (= most likely *išča or *išča̮), and further cluster simplification to *š, in parallel to the known development of PP stem-final *s, *ś from PU *sk, *śk (Csúcs 2005: 119–120).

In his recent review of the Indo-Iranian loanword stock of the Uralic languages, Holopainen (2019: 89–92) maintains that at least Finnic *iha, if from earlier *iša rather than *išša, could have been borrowed also from a variety of other Indo-Iranian reflexes of the two homophonous verb roots √Hayš- 'long for, desire'; 'drive, propel'. This is certainly credible, especially since a preform *iša is clearly continued at least in Moksha *ožəlgədəms ~ ežəlgədəms* 'be/become glad'. The Permic root still does not seem to be derivable from any unsuffixed Indo-Iranian form such as a root noun *Hiš, as this would be expected to have given instead pre-Permic **išV > **ižV > PP **i̯ž or **už. Some reflex of the Proto-Indo-Iranian derived stem *Hisćá- 'strive, search' (< Proto-Indo-European *$h_2$is-sḱé-; Rix 2001: 260) would therefore still seem like the better source for PP *i̯š. Holopainen (ibid.) points out also that *Hisćā may not have been the Proto-Iranian form but rather an earlier pre-Iranian one. This however does not appear to affect much the plausibility of the loan etymology itself, and it would only require the loan to have been adopted already from pre-Iranian rather than Proto-Iranian.

On the other hand, as the Permic root is not attested as an independent lexeme and is only continued as two derived stems in Komi, the possibility of more roundabout derivation could be considered as well. *i̯štį-* could be assumed to be the older of the two stems, continuing an early derivative *iš-tA-, while *i̯šmį-* could be assumed to be a later variant formed by suffix alternation, and thereby escaping voicing to **i̯žmį-.

In any case, the above uncertainties are mostly tangential to the topic of the present paper: the exact morphological history of the Komi verbs does not change the key point that they show the central vowel *į* while most likely deriving from some Indo-Iranian source with the front vowel *i.

5. Erroneously glossed as a verb 'wish'.

4. **PU *čijčə 'tannin' > PP *čį̈ž** > Udmurt *čįž* 'rosy, ruddy'
   Cognates: Saamic *cicę 'tannin', Mari *čičə 'tannin, dark color'
   (Aikio in preparation)

This etymology is argued in detail by Aikio (in preparation), who proposes word-initial *č- to have conditioned retraction from *i to *į̈.

5. **PU *kičə 'sickness' > PP *kį̈ž** > Udmurt *kįž* id., Komi *kįž* 'stillborn child'
   Cognate: Finnic *kitu- 'suffer, be sick' (UEW: 153)

A comparison accepted also by Sammallahti (1988: 543). Itkonen (1956: 70) on the other hand considered the comparison uncertain due to the vowel correspondence. No other formal or noteworthy semantic issues appear, though: the Finnic verb can be straightforwardly analyzed as a reflexive derivative in *-u- from earlier *kit3 < *kič3. A PU reconstruction with *-ə can be preferred on the grounds of the absence of the shift *i–ä > *e in Permic (treated below). Aikio (2014b: 4) additionally proposes that Khanty *kěči 'sickness' (in his transcription: *kičī), given in earlier sources as an additional cognate of PP *kį̈ž, is rather a loanword from Komi.[6]

A different etymology for PP *kį̈ž has also been recently suggested: Aikio (2014b: 3–4) derives the word from a newly advanced PU reconstruction *kajšV 'sickness'. While his proposed reflexes from Finnic, Mordvinic, Mansi and Samoyedic fit this reconstruction quite regularly, the inclusion of Permic hinges on proposing a new sound law PU *aj > PP *į̈. Aikio only alleges one other example of this development: *kaji 'hair/grass' > PP *kį̈ 'awn'. However, a number of counterexamples can also be found, showing instead the development PU *a > PP *o, which per Reshetnikov & Zhivlov (2011: 107) (in their reconstruction: PP *ȯ) would be regular before palatal and palatalized consonants. At least two clear examples and two less certain ones of PU *aj > PP *oj can be identified:

6. An analysis as a loanword is additionally supported by an irregular correspondence in final vocalism: Kazym *kăšĭ*, Obdorsk *kăsi* suggest Proto-Khanty final *-i or *-əγ, while Eastern Khanty *kəčɜ* would indicate final *-ä (cf. Honti 1988: 174). The word likely reached Eastern Khanty through the mediation of Southern Khanty *kəčə*.

- PU *aja- ‘drive’ > PP *wojį- > Udmurt *ujį-*, Komi *voj-* id. (UEW: 4)
- PU *kajwa- ‘dig/throw’ > PP *kojį- > Udmurt *kujal-* ‘throw away’, Komi *koj-* ‘pour, throw water (on the sauna stove)’ (Aikio 2002: 41–42)
- ? PU *śajmɜ ‘low ground’ > PP *śom > Udmurt *śum* ‘(swampy) lake’ (UEW: 457). In the absence of a definite Komi cognate, PP *śum < PU *śojma could be a possible reconstruction as well, however; the Ob-Ugric cognates do not allow for strong conclusions. For the Udmurt word, also an alternate etymology from PP *śon : *śonm- (whence Komi *śon* ‘valley, holloway’) < PU *śalmə ‘strait’ has been proposed (UEW: 775; Zhivlov 2014: 130), but this option is untenable due to a complete lack of evidence for either the expected nominative singular **śun or the expected inflected stem **śunm-, **śumm- (cf. already Metsäranta 2017: 232–233).
- ? PU *kajwa-w ‘digging; well’ > PP *kojį > Udmurt *kujį*, dial. *kʊ̀jį* ‘well’, cognate to Finnic *kaivo ‘digging; well’. This is a new comparison, as a derivative from the PU verb *kajwa-. Later parallel derivation is unlikely due to the base verb not retaining the meaning ‘dig’ in Permic. While the formal equivalence is exact, the comparison remains doubtful due to an alternate etymology as a loanword from Tatar *qoj*, *qojį* ‘well’ (Csúcs 1990: 227), which probably should be preferred due to the lesser geographic distance and time depth.

Moreover, also PP *kį̄ ‘awn’ has a known alternate etymology: it can be compared with Finnic *käpü ‘pine cone, net needle’ (SSA s.v. *käpy*), and their common preform can be reconstructed as PU *käpə(w). The comparison is semantically non-trivial, but the same can be said of Aikio’s etymology. The vowel correspondence *ä ~ *į̄ has been considered irregular by KESK (148), and the comparison does not appear in the UEW. However, Aikio himself (2012: 240) has already proposed that the development PU *ä–ə > PP *į would be regular in Permic before voiced consonants, e.g. *kälə > *kį̄l ‘tongue’. (Most examples have long been known in earlier research, though rather reconstructed with long *ee following the reflexes in Finnic.) As I have proposed earlier (Pystynen 2018: 90), the development *käpə(w) >> *kį̄ can be treated as a part of the same change, if raising of *ä to *į̄ is dated later than the lenition of *-p- to a voiced consonant, *β or *w. A close parallel is PP *tį̄ ‘lung’ < PU *täwə(w) (UEW: 519). A slightly different development from the previous examples can be found as well: PP *ki ‘hand’ < PU *kätə (UEW: 140) and *-vi* (continued only in

compounds)[7] < PU *wäkə 'power' (UEW: 563), which Aikio (ibid.) interprets as the regular development in stems where a medial consonant has been lost.

These forms can, however, also be explained by an initial general development to *i̯, followed by a more specific development consisting of a series of already partly known conditional sound changes.[8] As the first step, it can be assumed that after the loss of PU *-t-, *-k- (but, crucially, before the complete loss of the labial stop *-p-), a transitional glide *-j- was inserted after the close vowel *i̯. This was perhaps generalized to the nominative singular from inflected forms, where *j*-epenthesis is a widespread synchronic rule of hiatus resolution in modern Udmurt and sometimes described for Komi as well (Bartens 2000: 67–68), thus e.g. *ki* 'hand' : illative Udmurt *kije*, Komi *kiję*. Alternately, this epenthesis may have been earlier than the loss of PU word-final vowels, applying thus across the entire paradigm. Whichever the case, this stage would have then fed into the assimilation *ij̯ > *ij (Uotila 1933: 266–267; Itkonen 1954: 302–303; Metsäranta 2017: 229), followed lastly by *ij > *i* in the nominative singular and before consonant-initial suffixes. Both of these last two changes may in fact be post-Proto-Permic at least in unstressed syllables, as is suggested by the form *-vi̯j* in dialectal Udmurt and Komi (cf. Uotila 1933: 265).[9] The evidence of the forms *ki*, *-vi* therefore does not force abandoning the derivation of PP *ki̯ from earlier *käpə(w).

Altogether, the proposed Permic sound law *aj > *i̯ lacks strongly compelling support and is contradicted by other evidence. This appears to leave the comparison with Finnic *kitu- still the better etymology for PP *ki̯ž.

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7. The PP form is given as *vij in KESK (55) and Csúcs (2005: 395). The considerations here would however suggest PP *-vi̯j.
8. Also Normanskaja (2009: Footnote 5) already proposes that PU medial *-t- and *-k- triggered a "palatalizing" development to *i rather than *i̯, though she does not outline any mechanism. An entirely general development of PU *-t-, *-k- to pre-Permic *-j- cannot be assumed, however, as these consonants are regularly lost entirely by PP, while PU *-j- is typically retained (Csúcs 2005: 114–115, 144–145).
9. An intriguing but obscure piece of evidence additionally appears in the Udmurt dictionary of Munkácsi (1896: 169), who gives the word 'hand' as "*ki (i̯)*". It is however unclear if this is supposed to be read as indicating the existence of a variant *ki̯* or, perhaps, *kii̯*, or where such a variant might occur. The other major 19th-century lexical sources of Udmurt by Wiedemann or Wichmann do not record any such form(s).

6. **PU *kipə-ńз ‘spark’ > PP *kį̑ń** > Komi *kiń*, dial. *kį́ń* id.
   Cognates: Finnic *kipinä ~ *kiben ‘spark’, ? Saamic *kępę ‘surface layer’ (UEW: 665)

Central *į̑* is recorded from the Udora and Ižma dialects of Komi. A shift *į̑ > *i* before a palatal consonant can be presumed to have taken place in the other dialects (Itkonen 1954: 321–322). That this change has only taken place in individual Komi dialects suggests that an “insulating” medial consonant was present earlier, which is indeed reconstructible thanks to the Finnic and Saamic cognates. Hence: PU *kipəńз > pre-Permic *kį̑wən(з) > *kį̑əń or *kį̑wń > PP *kį̑ń.

7. **Finnic *kisko- ‘pull’ → PP *kį̑skį̑-** > Udmurt, Komi *kį̑skį̑-* id. (Saarikivi 2018: 319)

Häkkinen (2019: 36) has proposed that this recently advanced loan etymology would testify to earlier *į̑ in Finnic (likewise for the cases of PP *į̑š ‘excited’, *lį̑wa ‘sand’). However, as I have noted in an earlier response (Pystynen 2019a: 42–45), the vowel change could also have come about within Permic. Common inheritance can be ruled out already since cognates of the Finnic verb in Saamic and Mordvinic show that it goes back to original *-śk-, not *-sk- (UEW: 667); they also indicate an original front vowel *i. Moreover, Sammallahti (1988: 552) has adduced PP *keśį̑- ‘rip, tear’[10] as a clearly distinct inherited cognate of Finnic *kisko- (cf. below in Section 2.3). Note that Hungarian dialectal *kísál* ‘tear off, fight, etc.’ can likely be excluded from the set of cognates, for it is a derivative based on Old Hungarian *késa* ‘struggle’ (TESz s.v.), which shows divergent semantics and a non-native disharmonic vowel combination *é–a*.

8. **PU *lipə ‘? leaf, bough’ > PP *lį̑-s ‘conifer branch, needle’** > Udmurt, Komi *lį̑s* id.
   Cognate: Khanty *lă̈pəs ‘conifer branch, needle’ (cf. UEW: 691)

According to the UEW, this Permic–Khanty comparison should be rejected, since Khanty *-pəs cannot correspond to Permic *-s. The comparison

10. Mis-cited by Saarikivi as Udmurt *косны*, Komi *кӧсны*; no such verbs appear to exist.

can, however, be salvaged by proposing instead a different segmental alignment: PU word-medial single *-p- is regularly lost in Permic, but retained in Khanty. This allows a more truncated comparison of Permic *lį- with Khanty *lă̈p-, where the latter points to PU *i rather than *ü. The mismatched sibilants (Khanty *s presuming PU *ś) can be taken as two distinct noun-forming suffixes.[11]

UEW and also Sammallahti (1988: 552) give instead cognates from Mari, which show the labial vowel *ü*. They, too, come close to being derivable from a preform *lipə-ksə, since a development *iw > *ü(j) can be reconstructed in early Proto-Mari (Itkonen 1954: 223), cf. e.g. PU *kiwə 'stone' > Mari *kü(j), PU *śepä 'neck' > *śiw(3) > Mari *šü(j) 'throat' (UEW: 163, 473). Bereczki (1992: 120) however points out that the retention or palatalization of *s in the Eastern Mari dialect forms *lüś*, *lüjüś*, *lüjüs* would be irregular, and he proposes that the word is a recent borrowing from Udmurt.[12] This indeed seems preferable to an analysis as common inheritance. The dating of the loan may however require adjustment. Bereczki proposes explaining dialectal *-üjü-* as a development of earlier *ü, but this does not seem probable, since no such development of Proto-Mari *ü is found in any words with a clear Proto-Uralic etymology (cf. Aikio 2014a: 155). More likely this phenomenon reflects the original trisyllabic structure of the word, that is to say: the Mari words were not borrowed from contemporary Udmurt *lį̈s*, but rather from some earlier form of the word in Permic such as *lį̈əs. The substitution of Permic *s with non-retracted sibilants *ś*, *s* in Mari is not limited to recent loanwords: other examples in early Permic loanwords include *lüšte- ~ lüšte-* etc. ← PP *lį̈śtį̈- 'milk'; *tüś ~ tüjüś ~ tüjüs* etc. ← PP *tujį̈s 'cylindrical container made of birch bark' (Bereczki 1992: 101–102, 112).

The Permic, Khanty and more indirectly Mari words thus can be derived from a root *lipə(-), perhaps originally a noun meaning 'leaf' or 'bough'. While it does not seem to be continued anywhere as an independent word, derived reflexes can be tentatively suggested even in a fourth Uralic branch: Hungarian *levél* 'leaf' < PU *lipə-l3? The cognates proposed

11. The "thematic" inflectional stem *lį̈sk-* in Komi may appear to be unexpected, as the PP noun-forming suffix *-s < PU *-ksə normally forms plain consonant stems. This can however be analyzed as a morphophonological relict, preserved due to the word's contraction to a monosyllable in early Permic. A known precedent is *sos* : *sosk-* 'sleeve' < PU *soja-ksə (UEW: 445).
12. I thank Christopher Culver for drawing my attention to Bereczki's remarks.

in earlier literature (UEW: 259) seem untenable, or at minimum no better: the alleged cognates in Ob-Ugric show back vocalism, while Northern Finnic *lebeh 'amount of combed wool or raked hay' (for reflexes see SSA s.v. *leve*) is quite distant semantically. Open *e* = /ɛ/ appears at first to be unexpected also from PU *lipə-, as the usual reflex of PU *i is Old Hungarian *i* > modern Hungarian mid *ë* = /e/ (cf. Sammallahti 1988: 514–515). However, a known parallel is *šiŋərə > *egér* 'mouse'. The similar bisyllabic shape of these two words could point to a kind of A-umlaut in early Hungarian: *ĭ–ā̆ > *ä–ā̆ (> *e–é*)? The development of this second-syllable *ā̆, seemingly continuing PU *ə, will however have to be left as obscure for now.[13]

9. **Finnic *liiva 'sand' → PP *l̮iwa** > Udmurt *luo*, Komi *l̮ia*, dial. *l̮iva* id. (Saarikivi 2018: 319)

As in the case of PP *k̮isk̮i- 'pull' above, this loan etymology by Saarikivi does not force assuming earlier *i̯ in Finnic, and it may instead represent a development within Permic.

It appears to be possible to tentatively explain the seemingly irregular labial vowel /u/ (which in turn conditions *-a > *-o*; Csúcs 2005: 93) in Udmurt by reconstructing a medial *-w- in PP, later lost in both languages but coloring *i̯ to *u in Udmurt before this, paralleling the development *i̯j > *ij > /i/ in both Permic languages (discussed above under etymology 5). PP *w as distinct from *v has usually been reconstructed only word-initially (Csúcs 2005: 111–112), but positing this contrast also word-medially would likely allow accounting for the history of certain words that show a seemingly irregular epenthetic /v/ in a number of Komi dialects (cf. Uotila 1933: 252–258). In the present case, too, the segment appears to be still continued in Vyčegda Komi *l̮iva*. In the context of the loan etymology, the distribution extending to Udmurt suggests an early loan (Saarikivi 2018: 270), and PP *w could similarly point to early borrowing already before the sound change *w > *v in Finnic. Alternately, Proto-Finnic *v was likely more exactly the labiodental glide [ʋ] as still in the modern Finnic languages,

13. Further examples of the vowel combination *e–é* in Hungarian with a proposed native etymology include *fekély* 'ulcer', *vese* : *vesé-* 'kidney', compared with Mansi *päkā̆p-, *päkl- 'burst open', *wäćəγ 'penis' (UEW: 878, 899) which perhaps would be reconstructible as *pikk3, *wić3, but the divergent semantics do not allow basing any strong conclusions on these comparisons.

which could have motivated its being substituted in Proto-Permic with the labial-velar glide [w] rather than the labiodental fricative [v].

A further line of evidence for the reconstruction of *-w- in this particular word can be found in Kazym Khanty *ļŏwĭ* 'mud'. While in earlier research it was proposed that this represents a direct cognate of the Permic and Finnic words (UEW: 250), in light of the loan etymology from Finnic to Permic and the narrow distribution in Khanty, this should in turn be considered a relatively recent loan from Komi instead. The sound substitutions *l* → *ļ* and *i̯* → *ŏ* are both typical of late Komi loanwords in Northern Khanty (Toivonen 1956: 119, 138); the second-syllable substitution *a* → *ĭ* appears to be exceptional, however (ibid: 145). DEWOS (862) additionally proposes that Obdorsk Khanty *lăw-niŋ* 'ide (*Leuciscus idus*)' (*niŋ* 'wife') is a compound based on the same word, which seems plausible. The comparison would suggest a Proto-Northern Khanty form *ļăw(ĭ), though more likely the sound correspondences *ļ* ~ *l*, *ŏ* ~ *ă* result from parallel borrowing from Komi or from borrowing between the Northern Khanty varieties with etymological nativization.

10. **PU *mičɜ 'prop' > PP *mi̯ǯ** > Komi *mi̯ǯ* id., dial. *mi̯ǯ-* 'prop (v.)'
Cognates: Eastern Mansi *mās*, Khanty *mă̆č, Tundra Nenets *mădʹer* 'prop'
? Finnish *nyde*, Mordvinic *ńežə 'prop' (UEW: 274)

Similar to PP *i̯ǯ above, the voiced affricate in Permic could also be taken to suggest PU *-nč-, but this is incompatible with all other cognates. Original *i is indicated by Khanty and probably Nenets. As above in etymology 5, the absence of the shift *i–ä > *e in Permic would suggest that the stem-final vowel was *-ə. The proposed Finnish cognate would point instead to original *ü, and the proposed Mordvinic cognate would indicate stem-final *-ä. However, it is not clear if these are actually related to the other words for 'prop'; see below.

That Tundra Nenets *madʹēr* 'prop, supporting object' belongs to this cognate set was dismissed in the UEW due to the palatal medial consonant, but this in fact represents regular secondary palatalization triggered by the palatal stem vowel (cf. e.g. Mikola 2004: 39). Salminen (1998: 348) analyzes the word as a deverbal derivative (in his morphophonological notation: //MØTØ→yeR//) from a verb root √mătă-, not attested as an independent word but continued also in other derivatives, e.g. the verb *mădăr-* 'detain' (ibid: 337, //MØTØ-R//). The underlying root could be treated

as continuing Proto-Samoyedic *mətə- or *məčə-. As most of the Uralic cognates point to an original noun, this should probably be analyzed as a derived verb, projectable to the PU level in a shape such as *mič-tä-. This would even find an exact equivalent in Khanty *mǎč-tə- 'prop, propel with a pole' (DEWOS: 888). Note that the usually recognized reflex of PU *i in Samoyedic is *i, but also *ə has been attested in a number of cases, including *śilmä > *səjmä 'eye' (Janhunen 1981: 225); *imə- > *əm- 'suck', *ipsə, *ipsä- > *əptə(-) 'smell', *itä- > *ətə- 'appear' (Aikio 2002: 24); *minä > *mən 'I', *tinä > *tən 'thou' (Janhunen 2013: 214). Various different conditions for the change have been proposed, but as I have observed earlier (Pystynen 2014), a simpler analysis is likely possible: most examples seem to continue the PU vowel combination *i–ä, suggesting a sound law parallel to the well-known reduction of PU *u–a to Samoyedic *ə (Janhunen 1981: 223).

The forms in Finnish and Mordvinic with initial *n-*, *ń-* are more problematic. The UEW speculates that they may have come about by long-distance place-of-articulation assimilation with medial *-č-. This is however entirely ad hoc. A different explanation can be proposed at least for Finnish *nyde*, for which a lack of exact cognates elsewhere in Finnic already suggests a more recent origin. There also exists a variant form *nyte*, found additionally in Karelian (SSA s.v. *nyde*), which is transparently derivable from the verb seen in dialectal Finnish *nyttää* 'prop (v.)' (cf. SSA ibid.). At this point a more likely explanation would seem to be earlier origin from a different but phonetically quite similar word root, namely PU *nüdə 'handle' > Finnic *nüci : *nüte- > Finnish dial. *nysi*, *lysi* 'handle of scythe' (UEW: 304), with the verb as an applicative derivative *nüt-tä-, the nouns as diminutives in *-e* either directly from the root or from the verb.[14] The semantic relationship between 'handle of scythe' and 'prop', while not trivial, appears to be still straightforward: both are slender wooden beams appended in some fashion to a larger object.

For Mordvinic, an additional issue is that also the medial consonant fails to correspond: the typical reflex of PU *-č- is Proto-Mordvinic *-č-, while *-ž- has been assumed only occasionally (Keresztes 1987: 151). The closest phonetically cleanly comparable root is instead probably PU *nišə/*nüšə 'blunt' (see etymology 18), from which the sense 'prop' could

14. Even a third variant *nüttä 'prop' is continued in dialectal Finnish *nyttä* and Veps *ńüt* (Nikkilä 1997: 299), which is however difficult to connect morphologically with the others.

be perhaps derived through the intermediates 'blunt object' > 'doorstop'. According to MWB, in Erzya dialects *ńeže* shows also the meanings 'latch', 'door bolt' which are at least consistent with this hypothesis. Regardless, even in the absence of a clear alternate etymology, due to the highly irregular sound correspondences it seems probable that the resemblance of the Mordvinic words for 'prop' with the Komi, Mansi, Khanty and Nenets words is only accidental.

Lastly, it has been proposed in earlier literature that the Mansi and Khanty cognates would be instead loanwords from Komi, which also the UEW still maintains as a possibility. At least DEWOS (887–889) sides with common inheritance, and while no explicit reason has been given for this stance, the rather large number of derivatives formed from this root in Khanty would seem to suggest that it is indeed native. However, it is worth noting that if the Ob-Ugric words were nevertheless loans, and the Finnic and Mordvinic words unrelated (i.e. leaving only Komi and Tundra Nenets as direct reflexes of this etymon), even a back-vocalic PU reconstruction *mučɜ would be possible.

11. **PU *min(ɜ)- 'I' > PP *mi̯n-** > Udmurt *mi̯n-*
Cognates: Finnic *minä : *minu-, Mari *mə̑ńə̑, Khanty *mä(n), Samoyedic *mən
? Hungarian *én*, Mansi *ā̆m (UEW: 294)

12. **PU *tin(ɜ)- 'thou' > PP *ti̯n-** > Udmurt *ti̯n-*
Cognates: Finnic *cinä : *cinu-, Mari *tə̑ńə̑, Hungarian *të*, Samoyedic *tən (UEW: 539)

Two cases best discussed together. The Udmurt 1st and 2nd person singular pronouns display an alternation between stems *mon-*, *ton-* (in the nominative, accusative, instrumental, caritive, adverbial and approximative cases) and *mi̯n-*, *ti̯n-* (in the genitive, ablative and dative cases), while Komi only shows the stems *me(n)-*, *te(n)-* (Csúcs 2005: 223). No explanation for this alternation is known (Csúcs 2005: 231).

While the morphological aspects of the problem cannot be probed here in detail, from the viewpoint of historical phonology it appears that a preliminary explanation can be suggested. Hypothetically, Udmurt *mon-*, *ton-* as well as the Komi reflexes can be seen as continuing pre-Permic open-vowel stems *minä, *tinä > PP *men-, *ten- (cf. Section 2.3 below on

*A-umlaut of *i in Permic), while Udmurt *mi̯n-*, *ti̯n-* can be seen as continuing pre-Permic *min(ɜ)-, *tin(ɜ)-, ending in a non-open vowel not triggering *A-umlaut. Interestingly, this hypothesis allows for a connection between the Udmurt vowel alternation and another, also so far unexplained vowel alternation in the 1st and 2nd person singular pronouns in Finnic: *minä, *cinä in the nominative, *minu-, *cinu- in all other cases. A common origin as PU *min-ä : *min-ə(w)-, *tin-ä : *tin-ə(w)- could be therefore hypothesized, though the origin and morphological analysis of such an alternation remain unclear. Compare furthermore the proposal by de Smit (2014) that even the medial *-n- would have originated as an "individualizing" element *-n(V). Among his examples where a singulative function appears to be clear, Finnic *hän 's/he', *ken 'who', *jäsen 'limb' and *kämmen 'palm' could point to earlier *-n or *-nə, but clearly not to *-nA, and therefore it appears that also this hypothesis requires assuming a suffix *-ä of unclear function behind the Finnic nominatives.

13. **PU *miŋä- 'behind' > PP *mi̯** → Komi *mi̯-śt* 'later'
Cognates: Saamic *mę̯ŋē-, Finnic *möö-, Mordvinic *meŋ-, Mari *məŋke-, Hungarian *mögött*, Mansi *mänt- 'behind' (UEW: 276)

This postposition stem is often reconstructed as *müŋä- per Finnic, Permic and Hungarian. However, none of these appear to show decisive evidence. The Permic case is precisely the debate at hand. For Finnic, a shift (*-iŋä >) *-iwä > *-üwä can be reconstructed: labialization of *i to *ü before *wä appears to be regular, and it is seen also in at least *cüvä 'deep' < *tiwä (cf. UEW: 525) and the Indo-European loanword *jüvä < *jiwä < *jewä 'grain' (cf. UEW: 633; Aikio 2015a: 9; Holopainen 2019: 103–105). Subsequent monophthongization to *öö, itself long a known phenomenon (Itkonen 1949: 36–49) does not take place in either of these examples, but this appears to be only an accidental gap: it is still seen in the derived verb *cöö-kse- < *cüwä-kse- 'plunge' (< *'make go deep', or the like). The same duality is shown also by *höö-tä- 'benefit', *höö-n-tä- 'improve' ~ *hüvä 'good', both continuing earlier *šüwä (Koivulehto 2009: 83–84; Saarikivi 2020: 24).[15] This last-mentioned word might itself also be an example

15. The known doublets leave the exact conditioning of *UwA > *OO somewhat unclear, but they could suggest that contraction is regular at least in trisyllabic derivatives. This would largely apply also to the stem *möö-, which does not occur

of *-üwä < *-iwä: Koivulehto (2009: 85–87) proposes a loan etymology through earlier *šiwä < *čiwä ← Indo-Iranian *ćiwa- 'auspicious'. Holopainen (2019: 260–262) however finds this loan etymology dubious on the grounds that the traditionally assumed pre-Finnic word-initial sound change *č > *š (> *h) is not supported by substantial evidence, and that this scenario would require the Saamic cognate *sǫvē- 'heal' to be an early loanword from Finnic. On the other hand, Holopainen still accepts the similar loan etymology of Finnic *hukta < *šukta 'slash-and-burned clearing' from Iranian *cuxta- < *ćukta- 'burnt' (2019: 264–265), and it seems that the possibility should be kept open that Finnic *h- < *š- might somehow derive from Indo-Iranian *ć-.[16]

Turning to Hungarian, *mögött* shows also illabial forms such as *megett*, *mëgëtt*, *megöt* in early attestations (TESz. s.v.) and in the possibly related *meg* 'and'. I take this as the main line of evidence to favor PU *i rather than *ü. Modern *ö* could be accounted for as a dialectalism, based on varieties where a regular sound change *ë* > *ö* takes place either generally, or primarily in unstressed syllables but with subsequent assimilation *ë–ö* > *ö–ö* (Imre 1972: 314).

An additional indirect argument for the reconstruction of *i can furthermore be found in Mordvinic. While the default reflex of both PU *i and *ü is Proto-Mordvinic *e, an exceptional development is that before velar consonants, PU *ü gives *o instead, as first proposed by Steinitz (1944: 26) and supported also by Itkonen (1946: 300–301). The known clear examples are Moksha *pokəń* 'navel' < PU *pükkɜ (UEW: 380); Proto-Mordvinic *poŋə 'hazel hen', *sokś 'autumn' < PU *püŋə, *sükśə (UEW: 383, 443).[17] Although the very numerous derivatives in Mordvinic from the

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as such in Finnic, only in fossilized derivatives such as *möötä 'along', *mööstä- 'go back, retract', potentially going back already to earlier *müwä-tä, *müwä-stä-.

16. Perhaps the issue could be reconciled by assuming pre-Finnic or West Uralic *š- in these etymologies to not continue Proto-Iranian *c-, but later common Iranian or Scythian *s-. The substitution of Indo-European *s by pre-Finnic *š is by now well known in loanwords from Germanic (Koivulehto 2016a: 116–117). In both examples *ć > *s also occurs before a close vowel, which could have additionally played a role. Perhaps even a development *si- > Scythian *ši- with later reversion in Ossetic *si-* could be contemplated, as this would parallel the known development of Proto-Iranian *ti- > Scythian *či- > Ossetic *ci-* (Thordarson 1989: 434).

17. I have earlier proposed (Pystynen 2017) that one further example would display this development: Moksha *moknams* 'stutter, etc.' could be derived from PU *mükkä 'speaking unclearly' (Saarikivi 2007: 333). This etymology is however

base *meŋ- ‘behind’ (MWB: 1220–1227) do not seem to show any reflexes with retained *ŋ*, the velar nasal must still be reconstructed even for Proto-Mordvinic, on the basis of the evidence from the Erzya dialect form (Velikij Vrag, Isakly) *mev* ‘leftwards, eastwards’: compare *čeŋəŕ ‘mouse’ > Erzya (most dialects) *čejeŕ*, (VVr.) *čeveŕ* (MWB: 232).

14. **PU *pilkə- ‘bathe’ > PP *pi̯li̯-** → Udmurt *pi̯laśki̯-*, Komi *pi̯lś-* id.
Cognates: ? Hungarian *fürd-*, *fürészt-*, Mansi *päγl-, Khanty *pă̈γəl- id. (UEW: 380)

The reconstruction *pülkɜ- suggested in the UEW appears to be based on Permic, while the Mansi and Khanty cognates require instead an original illabial *i. The proposed Hungarian cognate is uncertain, as it presumes an irregular change *l > *r, and one may doubt altogether that it belongs here. The Uralic etymology is not even mentioned in TESz (s.v. *fürdik*), and the inclusion of Hungarian is considered questionable also in the UEW.

However, even if the Hungarian word were treated as cognate, the labial vowel does not require the reconstruction of PU *ü: it could be rather seen as the result of vocalization of an earlier *γ. A parallel for this development can be found in Old Hungarian *szül* ‘hedgehog’ (in modern Hungarian irregularly reshaped as *sün*): though its PU preform is usually reconstructed with a medial *-j- (e.g. UEW: 478; Sammallahti 1988: 549), the reconstruction *śixələ would be equally or more compatible with most reflexes. The Mansi reflex ‹soule›, attested only in an 18th-century wordlist from the extinct Southern Sosva dialect, would in particular seem to point to a Proto-Mansi form *säγlə (when taking account also the Uralic cognates; purely within Mansi also e.g. *sawlə could be suggested). From the same wordlist, compare e.g. ‹moule› ‘breast’ < Proto-Mansi *mə̄γlə, but ‹äte› ‘breath’ < Proto-Mansi *ätə ‘smell’ (Gulya 1960: 40–41, 35). The development in Hungarian, then, would be PU *śixələ > *sĭγəl(ə) > *sĭγl(ə) > *siü̯l > *sṻl > *szül* ‘hedgehog’; PU *pilkə- > *pĭγl- > *fĭγr- > *fiü̯r- > *fṻr- > *für-* ‘bathe’.

uncertain: Kim (2018: 193), adducing also Erzya *moknoms* ‘mutter’, proposes Finnish *mukista* ‘grumble’ as a cognate instead, which appears to be possible as well. He does not reject the connection with PU *mükkä either, however, but rather hypothesizes that vowel frontness variation in ideophones, well attested in Finnic, may have existed already in Proto-Uralic. I agree with his assessment that the question calls for further research.

15. **PU *riŋəšə 'threshing ground' > PP *rį̈ŋį̈š** > Udmurt *inšįr*, dial. *ińšįr*, *šį̈ŋį̈r*, Komi *rį̈ŋį̈š* id.
Cognate: Finnic *riihi id. (UEW: 745)

PP *į̈ has earlier been explained by Itkonen (1954: 303) and the UEW through the influence of an adjacent *r. A parallel preform *rüŋiši has been suggested by Aikio (2015b: 45) to account for *į̈ in Permic, but this appears to be unnecessary. All in all, the reconstruction is essentially based only on Finnic and Komi: the Udmurt forms can be connected to them only by assuming several irregular ad hoc sound developments.[18]

16. **PU *šelk3-/*šilk3- 'fly' > PP *šį̈lį̈-** → Komi *šįl-gį-* 'float'
Cognates: Mansi *tiɣl-, Khanty *łĕɣəl-, Samoyedic *ti²j- 'fly'
(UEW: 500)

The UEW suggests besides the form *šilk3- also a variant form *šülk3-, evidently only to explain the Permic reflex with *į̈. Mansi *i and Khanty *ĕ require instead the reconstruction of an original illabial vowel. An additional problem, however, is that normally this vowel correspondence points to PU *e rather than *i (cf. Sammallahti 1988: 504, 550). In any case, even if the Permic word reflects an early irregular sound change, *e > *i appears more probable than *e > *ü. Note that the Samoyedic reflex has been rejected in UEW without any argument, but continues to be supported e.g. by Aikio (2002: 56).

17. **PU *šiŋərə 'mouse' > PP *šį̈r** > Udmurt, Komi *šįr* id.
Cognates: Finnic *hiiri, Mordvinic *šeŋəŕ, Hungarian *egér*, Mansi *täŋkər, Khanty *łăŋkər id. (UEW: 500)

A long-known and widely accepted etymology, although the loss of *-ŋ- in Permic remains unexplained. No by-forms along the lines of **šüŋərə

18. As has already been noted by Wichmann (1898), at least a correspondence between Glazov *SįC-* ~ other dialects' *iCC-* has parallels, e.g. the word for 'cow': Glazov *sįkal* ~ elsewhere *skal*, *iskal*, *įskal*. I have recently proposed (Pystynen 2019b) that this may point to the Proto-Udmurt form *šį̈ŋį̈r, and that after the loss of the first-syllable vowel, a seemingly metathetic development to *nš* rather than **šn may be due to the influence of the noun *in*, dial. *ińˊ* 'place'.

have been proposed, likely since original unrounded *i can be easily reconstructed on the basis of Finnic, Hungarian and Khanty, more indirectly also Mordvinic (cf. the discussion above under PP *mi̯-).

A possible eighteenth example of PU *i > PP *i̯ could be the following:

18. **PU ? *nišə/*nüšə 'blunt' > PP ? *ni̯ž** > Udmurt *ni̯ž*, dial. *ni̯ʒ*, Komi *ni̯ž* id.
Cognates: Mordvinic *noška, Mari *nŭškə (UEW: 708)

No especially clear evidence to prefer a PU reconstruction with *i appears. As a weak argument, the unexpected back vowel /o/ appearing in the Mordvinic cognate could be accounted for by the regular shift *i–a > *u–a > *o–a (Itkonen 1946: 301). However, since *-ka appears to be a later suffix (cf. *i(n)čə > *eč-kə above in etymology 1), the following chronology remains a possibility as well: *nüšə > *nišə → *niš-ka > *nuška > *noška.

Even a potential Finnic cognate pointing instead to *ü could be suggested: dialectal Finnish (Satakunta) *nyhä* 'corner, protrusion' (SSA s.v.), which Donner (1888: 44–45) considered akin to the Permic and Mari words. The complete lack of cognates elsewhere in Finnic and the vague "descriptive" semantics, however, do not inspire trust in a direct Uralic inheritance, and probably this word would be better considered a late local variant of *nysä* 'stump, blunt object' and/or *ryhä* 'hump'.

The Udmurt dialect form *ni̯ʒ* (Malmyž, Jelabuga) would suggest a PP form *ni̯ʒ instead (deaffrication *ʒ > *ž* is regular elsewhere in Udmurt), but this is incompatible with the Mari and Mordvinic cognates and probably should be considered secondary.

2.2. Proto-Permic *i

To contrast with the evidence collected above, I briefly tabulate here also the known evidence showing different reflexes of PU *i. First, Table 2 collects evidence for retention of PU *i as PP *i. Since this reflex has been the consensus in all earlier research, I include here only relatively clear cases; comments have been kept to a minimum.

Table 2: Etymologies showing PU *i > PP *i

PU	gloss >	PP >	Udmurt	Komi	
*ipsə	'smell'	*is	–	*is*	(UEW: 83)
*kićnä- [a]	'sneeze'	*kiźnį-	*kiźnį-*	–	(UEW: 662)
*kiśkə-	'pour'	*kiśkį-	*kiśkį-* 'gush'	→ *kiśkal-* 'water'	(UEW: 667)
*kiwə	'stone'	*ki	*kö* 'millstone'	→ *izki* 'stone'	(UEW: 163)
*nimə	'name'	*ńim	*ńim*	*ńim*	(UEW: 305)
*(ń)imə-	'suck'	*ńimį-	–	→ *ńimal-*	(UEW: 82)
*nijənə	'lime bast'	*ńin	*ńiń*	*ńin*	(UEW: 707)
*ńirə-	'scrape'	*ńirį-	→ *nirjal-*	→ *niral-*	(UEW: 320)
*pilwə	'cloud'	*pil	→ *piľem*	*pil*	(UEW: 381)
*piŋə	'tooth'	*piń	*piń*	*piń*	(UEW: 382)
*rita	'trap'	*ri	–	*ri*	(UEW: 746)
*sitta	'feces'	*sit	*siť*	*sit*	(UEW: 444)
*siwə [b]	'year ring'	*si	*si*	*si*	(UEW: 443)
*śilmä	'eye'	*śin	*śin*	*śin*	(UEW: 479)
*śiŋə	'bend'	*śig [c]	*śig* 'attic'	→ *śigör* 'ceiling truss'	(UEW: 480)
*śišta [d]	'beeswax'	*śiś	*śuś* (irregular)	*śiś*	(UEW: 785)
*widɜ- [e]	'beat'	*vijį-	*vij-* 'kill'	*vi-* 'kill'	(UEW: 566)
*wiksə [f]	'connection'	*vis	*vis* 'space between'	*vis* 'connecting river'	(UEW: 823)
*wittə	'5'	*vit	*viť*	*vit*	(UEW: 577)

a. The UEW's reconstruction *kićnä-, besides clearly being more suitable for Permic, can be supported over *kišńä- in Sammallahti (1988: 552) also by Eastern Saami reflexes pointing to Proto-Saamic *-čn-, such as Skolt Saami *kâ'šnned*.
b. *-w- rather than *-j- can be reconstructed per the Saami and Mansi reflexes adduced by Aikio (2012: 244).
c. PP *g does not regularly continue PU *ŋ. Possibly a derivative *śiŋ-kä could be assumed.
d. An early loanword from Indo-Iranian *ćišta- (cf. Holopainen 2019: 249–250).
e. Reconstruction with *-d- rather than *-l- is due to Aikio (2013: 165) on the basis of Permic.
f. This reconstruction can be preferred over *wiskə (cf. Aikio 2015a: 2) on the basis of the "Meryan" substrate toponymic element *veks-*, which often denotes connecting rivers (Rahkonen 2013: 17–18).

2.3. Proto-Permic *e

A second common reflex of PU *i in Permic is also recognized in the literature: lowering to a mid vowel *e or *ẹ, first posited by Itkonen (1954: 306–311, 325) as an irregular development next to *r and *ž. Later an explanation based on a regular sound law was proposed by Sammallahti (1988: 525–526): lowering in open syllables when the 2nd syllable contained a PU open vowel *ä or *a (a type of *A-umlaut). This conditioning can be seen to be indeed quite regular: the only examples of the vowel combination *i–ä appearing in Table 2 are the closed-syllable proto-forms *kićnä- 'sneeze' and *śilmä 'eye'. The case of *rita > Komi *ri may constitute an exception due to the complete loss of the medial consonant.[19] Some cases in Table 3 still show a consonant cluster in PU, but in all such cases, this develops to a single consonant in PP. This allows the hypothesis that in these cases cluster simplification had taken place already before *A-umlaut.

The clearest etymologies showing PP *e from PU *i are collected in Table 3.

Additional etymologies possibly showing PP *e as a reflex of PU *i have been presented as well in the literature, but most of these must be considered unreliable or unclear. I discuss in the following a number of cases for the sake of example.

PP *eskį̄- 'believe' (> Udmurt *oskį̄-*, Komi *eskį̄-*) is cognate with Mansi *äγt- and Khanty *ăγəł- id. The PU form of the word group has been reconstructed in earlier research as *äski- (Sammallahti 1988: 543) or *esk3- (UEW: 76). Comparisons with Saamic *oskō-, Finnic *usko- 'believe' have also been occasionally presented, most recently by Saarikivi (2010: 255–256), who advances a PU reconstruction *iske-. However, this appears to be largely based on mistaking Eastern Saami reflexes such as Skolt *åskkad* as pointing to a Proto-Saamic form **ęskę̄-.[20] As also discussed by Saarikivi, the Saamic and Finnic words even have a competing etymology as loans from Germanic *wunskja- 'wish', and this appears to be a much more straightforward explanation than Saarikivi's somewhat speculative

19. Alternately, Aikio (2014a: Footnote 3) finds the entire etymology dubious.
20. The regular reflex of Proto-Saamic *ę–ę̄ in Skolt Saami is instead the mid back unrounded vowel *õ*, cf. e.g. PU *nimə > PS *nębę̄ > Skolt *nõmm* 'name', PU *pesə- > PS *pębę̄- > Skolt *põõssâd* 'wash' (Lehtiranta 2001 s.v.).

Table 3: Etymologies showing PU *i > PP *e

PU	gloss >	PP >	Udmurt	Komi	
*(j)iša	'skin'	*ež	–	*ež*	(UEW: 636)
*kirä-	'hit'	*kerʲ-	→ *koral-*	→ *keral-*	(UEW: 666)
*kiśka-	'rip, tear'	*keśʲ-	*keśʲ-*	*koś-* (irregular)	(Sammallahti 1988: 552)
*minä	'I'	*me(n)	*mon*	*me(n-)*	(UEW: 294)
*mińä	'dgt-in-law'	*meń	*ići-meń*	*moń* (irregular)	(UEW: 276)
*mixə-	'sell'	*med [a]	*med* 'loan'	*med* 'loan'	(UEW: 275)
*ńičkä- [b]	'rip'	*ńečʲ-	–	*ńeč-*	(UEW: 314)
*pinta	'surface'	*ped	*ped*	–	(UEW: 730)
*pišä	'profane'	*pež	*pož*	*pež*	(Saarikivi 2007: 327–331)
*śirä [c]	'way'	*śer	–	*śer*	(UEW: 475)
*tinä	'thou'	*te(n)	*ton*	*te(n-)*	(UEW: 539)
*wiša	'green'	*vež	*vož*	*vež*	(UEW: 823)

a. Derivative: *mixə-ntä > pre-Permic ? *mintä > *midä.
b. Reconstruction with *i is due to Sammallahti (1988: 546).
c. Sammallahti (1988: 549) reconstructs *i for Mari and Permic; this also seems to fit Hungarian *szër*.

alternate approach involving multiple irregular *O-umlauts – note that this conclusion is now shared also by Kuokkala (2018: 34).

Once the western Uralic words have been excluded from comparison, Permic *e by itself does not demand a PU preform with a close vowel *i. Examples deriving instead from PU *ä are also known in decent numbers, such as *berd 'wall', *jegʲr 'bog', *jem 'needle', *kelʲ- 'wade', *šerge-dʲ- 'reach' (Sammallahti 1988: 548, 543, 536, 545, 550 respectively). Khanty *ä̆ is even less probative, as this is the normal, regular reflex of both PU *i and *ä (Sammallahti 1988: 504; as Proto-Khanty *ee ~ *öö). In Mansi, *ä is the regular reflex of PU *i but not of *ä, and this would seem to still point towards a PU reconstruction *isk3-. However, a different solution can still be sought. Recently Aikio (2014b: 10) has demonstrated for Proto-Mansi an interesting minor sound law: before the consonant cluster *γt (< PU *ks, *sk), PU *o–ə yields a short vowel *a rather than the expected long vowel *ā. It seems plausible to assume that this shortening rule would apply also to the other long open vowel of Proto-Mansi, namely *ǟ, which regularly

continues PU *ä. At minimum there are no possible counterexamples: the Proto-Mansi lexical stock of known Ugric or Uralic origin, as covered by Honti (1982) and the UEW, does not contain any data pointing to a root structure **Cə̄ɣt-. The PU verb 'believe' would therefore appear to be at least plausibly reconstructible as *äsk3- as well, with Mansi *äɣt- continuing slightly earlier *ə̄ɣt-. Firmly siding with this option would however require identifying specific conditions for the development PU *ä > PP *e. I leave this question open to future research for now.

Komi *jen* : *jenm-* 'god' has been treated since Itkonen (1954: 309) as reflecting a development PU *i > PP *e. Already the PP reconstruction is unclear, however, since the Udmurt cognate *in* : *inm-* instead suggests PP *i (thus Csúcs 2005: 335). A sound change from PP *je to Udmurt *i* could perhaps be assumed, but this would remain uncertain due to a lack of parallels. The problem is further related to the general issue of the development of PU word-initial *jV- sequences in several other languages as well, in which context I will at a later time be publishing arguments to favor instead a PU reconstruction *jelmä.[21]

Komi *peš*, *peša* 'splint holder', *peš-* 'light, put out a splint' have no cognates in Udmurt, but they would reflect PP *peš(a), *pešɨ̯-. The word group is usually compared with Moksha *peš* 'splint holder', Erzya *peščuvto* 'pan handle' (*čuvto* 'wood'), Finnic *pihti 'tongs', Saamic *pe̮ste̮ id. While the etymological connection appears to be reasonable, the conventional reconstruction as *pište (UEW: 733) or *pišti (Sammallahti 1988: 553) can be doubted as too Finnocentric: for one, the development *št > *š* is not regular in either Mordvinic (contrast *täštä > *ťäšťə 'star', *wakštəra > *ukštər 'maple'; UEW: 793, 812) or Permic (cf. Csúcs 2005: 122, 125). Secondly, the word appears as an *i*-stem in Finnish (nom. pl. *pihdit*), Veps (nom. pl. *pihťid*) and Estonian (nom. pl. *pihit*), while an *e*-stem is found in a more limited area: in Votic (nom. pl. *pihed*), Ingrian (nom. pl. *pihet*), Karelian (nom. pl. *pihet*) and Ludian (nom. pl. *pīhťed*). Both facts suggest interpreting Finnic *pihti < *pišti as morphologically complex. If the *i*-stem is taken as primary, the word could be analyzed as a deverbal noun in *-i < *-j, built on an earlier verb *pihtä- < *pištä- '? hold with a tool, pinch'. While unattested in Finnic, a reflex of such a verb can be identified in Moksha *pəšťams*

21. For a number of observations on the topic, cf. already Aikio (2015a: 9).

'pinch (of a crab)', already mentioned in this etymological connection by Paasonen (1897: 24). This analysis would moreover point to interpreting Saamic *pęstę, whose final *-ę cannot regularly continue *-äj, as an early loanword from Finnic. The verb *pištä- can be in turn further analyzed as an instrumental or applicative derivative in *-tä- from a basic noun continued at minimum in Mordvinic. Additionally, in light of Erzya *pekš* 'splint holder' (MWB: 1575)[22], the earlier form of this word can be best reconstructed as *pikšə: the sound shift *kš > *š is regular and general in both Finnic and Permic, as well as regular in Moksha after a front vowel (Paasonen 1903: 12). In Komi, even an inflected stem *pešk-* has been marginally attested from the Ižma dialect (*bi-peš* : elative *bi-peškjś*; a compound with *bi* 'fire' as the first member), which could be original.

Since at least the Finnic cognates appear to actually be derivatives, the same can be asked of the variants within Komi. While these words still appear to be examples of PP *e < PU *i in a different context from the etymologies collected in Table 3, this must remain uncertain until the relationship of the different variants has been clarified. Potentially /e/ may have arisen in the word group first in a derived form such as *peša*, perhaps already from a pre-Permic *piš-a, and spread only secondarily to other members from there.

PP *vež 'branch, division' is reflected in Udmurt *vož* 'confluence, crossroads', as well as in several secondary formations in Komi, i.e. the second component in *tujvež* 'crossroads' (*tuj* 'road') and in *vežiń* 'crossed, against', *vežęn mun-* 'pass by one another'. The word has been compared with Finnish and Karelian *vita* 'slanted' starting from Setälä (1902: 222), followed hesitatingly by e.g. Itkonen (1954: 182), KESK (49) and the UEW (822), and given a reconstruction *wiča. The semantic difference has, however, been left undiscussed in earlier sources. The Finnic words would suggest an original sense 'slanted' with later development to 'lying across' > 'crossing' in Permic, while the sense 'confluence' in Udmurt suggests rather an original sense 'branching, (three-fold) branch point'. An alternate etymology

22. The obvious identity of the Erzya and Moksha words appears to have been lost from the research history following an unclear correction note by Paasonen (1903: X). MWB proposes an analysis of the word as a derivative from *pe 'head', which however seems unfeasible in light of the cognates elsewhere in Uralic.

has also been proposed. SKES (1593) compares the Permic word family instead with Finnic words for 'gap': Finnish *vaihe*, Estonian *vahe*, Votic *vahõ*, *vahi*, Livonian *va'it*. As has been noted by Viitso (1992: 168), the Estonian and Votic reflexes indicate a Proto-Finnic form *vaihe̮h,[23] likely from earlier *wajšəš. The correspondence Finnic *a ~ Permic *e could best be explained from a PU proto-form *wäjšä, showing the rather regular retraction and stem type shift *ä–ä > *a–e̮ in Finnic, recently discussed in detail by Aikio (2015b: 39–44). He does follow a suggestion by Kallio (2012: 168) that the change would have been blocked in PU roots of the shape *CäjCä, though he also points out that this was not the case in roots with simple medial *-j-, and I aim to argue at a later time that different explanations are possible also for the examples showing medial *-jC-.

It also seems to be possible to propose a more likely Permic relative of Northern Finnic *vita*: the semantically identical Komi word *vižada* 'slanted'. Even this comparison, however, seems unlikely to be due to inheritance, given several further irregularities. The morphology of the Komi form is obscure, perhaps resembling most an unattested Finnic adjective derivative **vite̮da. An Udmurt cognate *vožvi̮l* 'slanted' has also been proposed, but this does not show a regular vowel correspondence to Komi *i* (KESK: 55 supposes irregular development from PP *e), and this word is moreover transparently analyzable as a compound *vož* 'crossing' + *vi̮l* 'over'. Lastly, an irregular affricate appears in southern Karelian *vižа*, perhaps suggesting that the entire word group is of loan origin in Finnic.

3. Discussion

The etymologies presented above in Section 2.1, generally known in some form from earlier literature, demonstrate that there exists ample evidence for a retraction development PU *i > PP *i̮. Retention as PP *i, as more briefly covered in Section 2.2, does not appear to be substantially more common (though a more comprehensive survey could likely still add a small number of cases).

23. Eastern Finnish *vaje* 'knowledge, message' and Veps *vajeh* 'word' point instead to *vaje̮h, and given also the different meaning, these likely should be kept apart from *vaihe̮h 'gap'. Ludian *vajeh* 'joint, gap' and Karelian *vajehta-* 'trade' (with exact equivalents in Ludian and Veps) remain problematic, perhaps to be explained through dissimilation.

The hypothesis originally proposed by Itkonen (1954) that PP *i̯ develops in particular consonant environments seems to be defensible, but also to require substantial extension. Examination of the pre-Permic consonant environments in the etymologies in question shows the following distribution:

- Initial consonants: *k- (3), *m- (3), ∅ (3), *l- (2), *š- (2), *č- (1), *p- (1), *r- (1), *t- (1)
- Medial consonants: *-(n)č- (3), *-ŋ- (3), *-lk- (2), *-n- (2), *-p- (2), *-jč- (1), *-pt- (1), *-sk- (1), *-šč- (1), *-w- (2)

The evidence thus skews strongly towards the vicinity of peripheral (*m, *ŋ, *p, *k) and postalveolar (*č, *š) consonants. The only case in the data where neither of these appear is *tinä 'thou', where analogy from *minä 'I' can be suspected. Palatalized consonants, on the contrary, are entirely absent: it is clear that adjacent to palatals the only regular reflexes of PU *i are PP *i and *e.

A more detailed comparison with the etymologies in Section 2.2 and 2.3 shows that *i > *i̯ can be considered regular at least in the following environments:

1. After the postalveolar consonants *č, *š: PP *čiž 'ruddy', *šiliį- 'fly', *šir 'mouse'.
2. Between a non-palatal consonant and *č: PP *kiž 'disease', *miʒ 'prop', possibly *nč in PP *iʒ 'big'.
3. Between a non-palatal consonant and a pre-Permic peripheral consonant (possibly lost by Proto-Permic): PP *it 'high (of water)' (< *ipt-), *kiń 'spark' (< *kiwəń), *liwa 'sand', *lis 'conifer branch' (< *liwəs), *mi 'behind' (< *miŋ3), *riŋiš 'threshing ground'.

These generalizations cover 12 of the 17 etymologies collected in Section 2.1. They still require some caveats, most of which can be interpreted as demonstrating the relative chronology of the various sound changes involved. More specifically, several lines of evidence point to dating the retraction *i > *i̯ as fairly late within the relative chronology of Proto-Permic sound changes.

First, rule 1 cannot be extended to all positions adjacent to PU *š, despite PP *iš 'excitement' (and, possibly, *niž 'blunt'), since *A-umlaut

intervenes in pre-Permic words of the shape *(C)išA: PP *ež 'skin', *pež 'profane', *vež 'green'. It can be inferred that *A-umlaut is earlier than retraction. The opposite order is not probable, since *A-umlaut of an already retracted *į would most likely have given instead a central vowel such as **ę or **ȯ, not the front vowel *e. PP *įš < ? *iščä however still fails to show *A-umlaut, unlike these examples. The originally closed syllable probably cannot be taken as the conditioning factor, given PP *keśį- 'tear', *ńečį- 'rip' < *kiśka-, *ńičkä-, which do show *A-umlaut. Possibly the difference between these cases is instead due to the vicinity of palatal consonants in the latter two, or the loan origin of the former, but in the absence of further parallels this remains unclear. If the word has been borrowed from a source different from that of Finnic *iha, it may not even be necessary to assume a pre-Permic *A-stem, in which case no *A-umlaut should be expected either.

The operation of rule 1 in PP *čįž 'ruddy' < *čijčə probably also should not be taken to show that it operated even adjacent to palatal consonants. More likely PU *j had been lost (*jč > *č) or vocalized (*ij > *ī > *i) in this word already before *i > *į. However, at present no PU roots of a shape *ČiĆV (with *i between a postalveolar and a palatalized consonant) are known that would serve to test this hypothesis.

In apparent contrast to rule 3, PU word-medial *w and *x do not trigger *i > *į, as seen in PP *ki 'stone', *si 'year ring', *med 'loan' < PU *kiwə, *siwə, *mixə-ntä. This may be due to the lesser consonantal strength of these consonants compared to the plosives *p, *k and nasals *m, *ŋ; it can be hypothesized that original *-w- and *-x- had already been lost entirely by the onset of rule 3. In PP *ńim 'name', *piń 'tooth', rule 3 is almost surely blocked or reverted due to the (irregular?) palatalization of PU *n- and *-ŋ- to *ń, which therefore appears to be relatively early.

Two different exceptions to rule 3 are PP *is 'smell', *vis 'connecting river' < PU *ipsə, *wiksə. At least the latter example can be accounted for by the well-known metathesis rule *ks > PP *s(k-) (Csúcs 2005: 119, 123), which could be dated earlier than *i > *į. It is possible to moreover suggest a similar metathesis *ps > *sp as an intermediate stage in the development of the former. Alternately it could be suggested that the cluster reduction *ps > *s had been completed entirely at the time, but this seems less compelling in light of PP *įt 'high (of water)' < *iptä-, which suggests that at least the similar cluster reduction *pt > *t had not yet taken place by the time of *i > *į.

Several neutral positions between two non-palatal consonants remain to be considered. In principle, these could be used to discern directionality: i.e. whether the default, unconditional reflex of PU *i is PP *i̯, with conditional fronting to *i, or PP *i, with conditional retraction to *i̯. Unfortunately, the development of PU *i in the remaining cases seems to be still unclear. Leaving aside the obviously conditional cases with *A-umlaut to PP *e, the development *i > *i̯ appears in PP *ki̯ski̯- 'pull', *mi̯n- 'I', *pi̯l- 'fly', *ti̯n- 'thou', while *i > *i appears in PP *pil 'cloud', *sit 'feces', *vit 'five'. Neither group is large enough to be considered the definitive regular reflex. No additional phonetically reasonable conditioning environments can be identified either. The two examples showing *-in- > *-i̯n and the two examples showing *-itt- > *-it could both be individually suggested to be regular, but it is difficult to see why the dental nasal *n and the dental stop *t should condition different developments. The minimal pair *pi̯l- | *pil is particularly puzzling. A possibility could be to lean on the difference between the differing PU clusters *lk and *lw. Speculatively, e.g. if the development *lk > *l in Permic were assumed to have proceeded through an intermediate lenited and metathesized stage *γl, as can be reconstructed for Ob-Ugric, rule 3 could be invoked in *pi̯l- 'bathe'.[24] However, above all, reaching more secure conclusions about the development of PU *i in these environments would appear to require additional etymological data, perhaps discoverable by future research.

4. Conclusion

The recognition that Permic *i̯ can reflect also earlier *i provides two interesting follow-up questions for future research on Uralic historical phonology. Due to limits of time, a fuller exploration of these will be left for later studies, but the research hypotheses can already be outlined. The first is the reconstruction of PU *ü. In several cases above (PP *li̯s, *mi̯ǯ, *mi̯-, *pi̯li̯-, *ri̯ŋi̯š, *ši̯li̯-), PP *i̯ has been taken as grounds to suggest PU variant proto-forms with *i ~ *ü. If such forms do not provide evidence for PU *ü after all, it can be asked if the same may be the case elsewhere too: to what extent does Permic really reflect the PU contrast between *i and *ü? The second concerns the development of PU *ä. In recent years, several works

24. I thank an anonymous reviewer for pointing me towards this explanation, though the precise formulation is my own.

(Aikio 2012: 240; Metsäranta 2017: 229; Pystynen 2018: 89–90) have noted that the PU vowel combination *ä–ə can be reflected in Permic as both *i and *i̯, with various conditioning factors being proposed. It might be possible to clarify the situation further still by comparing this split with the similar split displayed by PU *i. The development quite likely involves at some stage a partial merger of the two vowels, followed by later splitting, cf. some partial discussion already under etymology 5 above.

Lessons can be drawn for the study of Uralic etymology as well. To reiterate, the majority of the etymologies that were newly defended above have been known to earlier research in some form for a long time, though they have mainly been met with skepticism. Only a few have reached widespread acceptance. Most of the rest, however, have not been, strictly speaking, refuted or superseded either: they have only been deemed not sufficiently regular for inclusion in more critical etymological overview sources. While skepticism is an understandable reaction towards underdeveloped etymology proposals, I hope to have shown that with attention, many of them can be also improved. The Permic words treated in the present study turn out to form a coherent phonological group that can be given a new overarching analysis, and a closer etymological look allows still defending them in detail. Further improvements to our knowledge of Uralic historical phonology will most likely come from elsewhere too, and any such new results should be likewise expected to allow also the rehabilitation of some etymological comparisons rejected according to earlier theories.

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The distribution of village names based on pre-Christian Finnic personal names in the northern Baltic Sea area

The article studies pre-Christian Finnic anthroponyms and their spread in the northern Baltic Sea area at the end of Middle Ages (c. AD 1520). This is done by analysing village names based on pre-Christian Finnic personal name elements. The primary research material consists of various editions of documents from the 15th and 16th centuries. The analysis demonstrates that village names based on pre-Christian Finnic anthroponyms are most densely located in Varsinais-Suomi, Häme, Northern and Eastern Estonia, Southern Karelia, the Karelian Isthmus and Eastern Ingria. The first four areas are home to significant Iron Age settlements. It seems that the use of the pre-Christian Finnic name elements under investigation originally started in these areas and spread eastwards.

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1. Introduction

This article presents an overview of the geographical distribution of pre-Christian Finnic personal names (anthroponyms) in the northern Baltic Sea area during the Middle Ages (c. 1100–1500). This is done by searching for village names based on pre-Christian Finnic personal name elements mainly in editions of 15th- and 16th-century documents. The result is compared to archaeological and linguistic information. Thus, this work is not only about the use of old pre-Christian Finnic personal names but also sheds light on the linguistic and cultural changes that took place in the Baltic Sea area during the Middle Ages (cf. Leibring 2016: 211–212).[1]

For a long time, onomastics have been a vital part of studies concerning Finno-Ugric languages and their history. As early as the 19th century, linguists interested in Finno-Ugric languages noticed that toponyms located in northeastern Europe were important sources for their studies (e.g. Sjögren 1861). Soon after, researchers understood the significance of personal names as well (e.g. Gottlund 1872; Forsman 1894). Thus, from the late 19th century onwards, researchers interested in the history of the Finno-Ugric languages have been dealing with names. Lately, researchers such as Pauli Rahkonen (2013) and Denis Kuzmin (2014a) have studied place names and revealed new details about the history of Finnic languages. Very much connected to this work are articles recently published by Saulo Kepsu (2015a) and Janne Saarikivi (2017), where they conduct research on toponyms based on pre-Christian Finnic personal names. In addition, an article written by the author (2019) focuses on the Finnish village names derived from pre-Christian Finnic personal names.

Thus, the value of names as a historical source is moderately well-known among scholars interested in the history of Finnic languages and tribes. Despite this, there are still many opportunities in the study of personal names that have not been fully exploited. For example, most of the above-mentioned studies concentrate on present-day nomenclature. Even though place names tend to survive for long periods, it is logical to assume that names used in old documents are better sources for describing the past than the contemporary names. Moreover, those few studies that focus on Finnic

1. An example of this is the influence of Western anthroponymic systems: in the 16th century, six out of the seven most popular first names were the same in Finland and Sweden (Kiviniemi 1982: 70).

personal names mentioned in old documents are often limited to certain geographical areas and lack a broader perspective on the developments of Finnic pre-Christian anthroponyms (e.g. Karlova 2014; Sobolev 2017).

Explicit mentions of personal names in old documents would be the best source material for studying the distribution of pre-Christian Finnic personal names. The problem is, however, that the northern part of the Baltic Sea area has been a relatively remote place, where written culture did not emerge until the Middle Ages. As a result, most of the preserved medieval documents concerning the northern Baltic Sea area are from the 15th and 16th centuries. To give an example, a major collection of Finnish medieval documents called *Finlands medeltidsurkunder* (FMU) contains slightly more than 6,700 edited documents, whereas *Svenskt Diplomatariums huvudkartotek över medeltidsbreven* (SDHK) has more than 40,000.[2]

Another problem is that the documents from the 15th and 16th centuries include only a few pre-Christian Finnic personal names. Persons mentioned in the documents usually have (Eastern and Western) Christian main names, such as *Anders*, *Fedko*, *Heinrich*, *Mikulka* or *Olof*. Areal, cultural and temporal differences in documentation are considerable as well. For example, taxation documents concerning the 16th-century Tammela parish in the province of Häme (Swedish *Tavastland*) have peasants with names in the form of a Christian name followed by a patronym (e.g. *Erik Persson* in Kaukjärvi village). In Tyrvää parish in the province of Satakunta, peasants are named differently, with the Christian name followed by various kinds of bynames (e.g. *Staffan Musta* 'black', *Clemet Äiänpoia* 'son of Äijä', *Jöns Koskenlaskia* 'white water rower'). Moreover, it is often difficult to distinguish whether a person's byname is a "given name" or an inherited one. For example, there was a farmer called *Morthen Tojuo* (~ *Toivo* 'hope') in Tyrvää parish in 1546 and, from 1585 onwards, *Per Frantsson*, later known as *Per Toiffuo*, owned the farm.[3] (SAYL.)

2. *Finlands medeltidsurkunder* ('Medieval sources of Finland') (published 1910–1935) includes different kinds of editions of medieval documents (from the 9th century to 1530) concerning Finland. *Svenskt Diplomatariums huvudkartotek över medeltidsbreven* ('The Main Catalogue of Diplomatarium Suecanum') is a digital register that contains editions of medieval documents related to Sweden (most of the Finnish documents are also included, since the western and southern parts of Finland belonged to Sweden during the Middle Ages.) (https://sok.riksarkivet.se/sdhk, retrieved 1 November 2018).
3. Translations are based on modern-day speech and made by the author unless noted otherwise.

Considering the above-mentioned difficulties, it is understandable that the spread of Finnic personal names cannot be studied solely based on anthroponyms mentioned in old documents. There are, however, other possibilities. Pre-Christian personal names can be found in epithets (e.g. *Kuningas*), patronyms (*Illonpoika*, *Toivalov*), surnames (*Kurki*), names of villages (*Hyvälempe-lä*) or names of homesteads (*Lempiä-lä*).[4] (Kiviniemi 1982: 36; Rintala 2008: 21–22.) Of the above-mentioned 'secondary sources', village names are the most adequate (cf. Kepsu 2015a). This is why this article focuses on medieval village names based on pre-Christian Finnic personal names (from now on, the expression *Finnic village names* is used as a synonym).

The structure of the article is as follows: First, a short overview of the history of the area under investigation is given in Section 1. The second section introduces background information on pre-Christian Finnic anthroponyms and village name systems in different medieval documents. The third section provides a description of the research materials and methods. The next section presents the results and the geographical spread of village names based on pre-Christian Finnic personal names. Finally, in the fifth section, conclusions are drawn from the results of the study and discussed.

1.1. Historical background and study area on a map

Most of the research results regarding the early history of Finnic tribes (c. AD 800–1400) are based on fragmentary written sources and scarce archaeological findings. Nevertheless, it is assumed that the area inhabited by Finnic tribes was remote and sparsely populated compared to the central areas of Europe (e.g. Venice or the Holy Roman Empire). In the beginning of the Viking Age (c. AD 800), the most influential powers in Northern Fennoscandia were Scandinavian groups coming from Denmark and Sweden. In addition to these, the influence of Slavic people was fast increasing. During the 12th, 13th and 14th centuries, these groups were expanding their influence and fighting each other in order to control lands and trade in Northern Fennoscandia. (CHS: 60–221; CHR: 45–210.)

4. *Kuningas* 'king', *Illonpoika* 'son of *Illo*', *Toivalov* 'son of *Toiva*' (*toivo* 'hope') and *Kurki* 'crane' (and a famous Finnish noble family). The village name *Hyvälempelä* consists of the personal name element *Hyvälempi* (*Hyvä* 'good, nice, kind' + *lempi* 'lovely, love, favourite') and a locational suffix (*-lA*).

By the end of the 15th century, the Teutonic Order controlled the present-day areas of Estonia and Latvia. The Danish king had been forced to sell the kingdom's territory in Northern Estonia. The Realm of Sweden controlled Western Finland and the southern coastal area all the way to the city of Vyborg on the Karelian Isthmus. The eastern parts of Fennoscandia and the eastern parts of the Gulf of Finland were ruled by the city-state of Novgorod. (CHS: 392–410; Raninen & Wessman 2015: 338–359.)

Map 1 displays the approximate regions covered by the materials used in this study. It is important to recall that during the Middle Ages, borders in the northern Baltic Sea area were not strict lines between nations but rather spheres of interest between the most powerful actors in the region. The borders were changing constantly during the Middle Ages, and especially in sparsely populated areas, the division between different powers remained unclear well into the early modern period (cf. Korpela 2002). The thick black dotted line represents the approximate outer borders of the late 15th-century Diocese of Åbo, which was the eastern part of the Realm of Sweden.[5] The northern parts of present-day Finland were still an area not permanently controlled by any government. The eastern parts of Finland were controlled by the Novgorod Republic. On the Karelian Isthmus and in Eastern Finland, the border is based on the Treaty of Nöteborg (1323), where the Realm of Sweden and Novgorod signed a peace treaty and, for the first time, established their border. Only this southern part of the border is indisputably described in the different versions of the treaty. The border remained an official division between Sweden and Novgorod until 1595.

At the end of the 15th century, the administration of Novgorod's so-called original lands was divided into five parts, each known as a *pjatina* 'fifth' (Ronimus 1906: 5). The thin dotted line depicts the borders of the fifths.[6] The names of these areas are also displayed on the map.[7] The western border of Novgorod, beginning from the south, stretched to the Pskov Republic, Livonia (or the Teutonic Order) and the Diocese of Åbo. One may notice that

5. The borders of Diocese of Åbo are based on the maps presented in the book *Atlas of the settlement in Finland in the 1560s* (SAK) (1973). This atlas depicts the locations of villages that were considered part of the Swedish taxation area in the 1560s.
6. The borders of Novgorod's territory are based on maps presented by K. A. Nevolin (1853).
7. These are Bežetskaja, Derevskaja, Obonežskaja, Šelonskaja and Vodskaja. The transliteration is according to ISO 9.

the lines between Novgorod and Sweden overlap with each other. This again emphasises how unclear the borderline really was between these two powers. It also depicts how Finnish settlers from the Diocese of Åbo had established new settlements in the disputed border area during the 16th century.

The black line depicts the current border of Estonia. During the Middle Ages, Estonia was part of Livonia, which also included the current area of Latvia. This approximately corresponds to the area conquered by the Teutonic Order during the crusades of the 13th century. Livonia was divided into many sub-regions governed by different ecclesial or secular powers (cf. Zetterberg 2007: 79–129).

Map 1: The study area (map drawn by the author). Base map: Stamen Toner Lite.

1.2. Pre-Christian Finnic anthroponyms

There are many studies presenting the topic of pre-Christian Finnic personal names from different perspectives, but Detlef-Eckhard Stoebke's dissertation (1964) remains the most comprehensive research conducted to this day.[8] For this reason, the following introduction is based on his work.

Stoebke (1964: 109–135) states that Finnic names were composed in three different ways: there were simplex names (e.g. *Lempo*, *Mieli*, *Iha*), simplex names with a suffix (*Lemmi-tty*, *Miela-kka*, *Iha-ttu*) or complex names (*Hyvä-lempi*, *Mieli-valta*, *Iha-lempi*). Semantically, names were probably originally descriptive and transparent. For example, the name *Hyvälempi* consists of two parts: *hyvä* 'gut' (English 'good') + *lempi* 'liebe' ('love, dear') (ibid. 136, 139). It is likely that attributes used in a name were often based on the hopes and wishes of the name givers. People could also be named based on their appearance or characteristics. The exact meaning of name elements was not always the primary principle of naming. Naming children after their predecessors is one example of this kind of custom.[9]

Many different name elements have been regarded as pre-Christian in previous studies. This work adheres to Stoebke's idea of pre-Christian Finnic personal names. He has used twofold criteria when asserting which name elements were used in old Finnic anthroponyms: the name element must be found in various areas inhabited by speakers of Finnic languages and it cannot be considered a borrowed name (Stoebke 1964: 82). The 22 name elements identified by Stoebke are: *Auva*, *Heimo*, *Hyvä*, *Iha*, *Ikä*, *Ilma*, *Jou(t)si*, *Kaikki*, *Kauk(k)a*, *Kirja*, *Kyllä*, *Lempi*, *Meeli*, *Neuvo*, *Päivä*, *Toivo*, *Un(n)i*, *Unta*, *Valta*, *Viha*, *Vihta* and *Vilja* (ibid. 83–108).

It must be noted that this is not a complete list of names. There are not enough sources to create an accurate depiction of a millennium-old

8. Altough Stoebke speaks of "Finnic personal names" ("ostseefinnischen Personennamen"), he has included Saami names as well. In contemporary linguistic research, Saami is not considered a Finnic language (Lehtinen 2007: 82).
9. Old tax accounts show that it was common to name children after their predecessors. For example, the following list presents householders of the homestead Knuutti in the village of Vataja in old Tyrvää (Swedish Tyrvis) parish: householder *Lars Jönsson* (1540), *Jöns Larsson* (1565) and *Lars Jönsson* (1569) (SAYL). The Saami people had similar customs in the 18th century: the first son was named after his father's father and the second one after his mother's father (Valtonen 2017: 306–307).

personal name system. Nevertheless, Stoebke's name elements lay a good foundation for this kind of study, and they are widely accepted by other researchers. For instance, Kepsu (2015a: 130) has 17 of Stoebke's chosen name elements in his list of 60 probable pre-Christian Finnic personal name elements used among the Finnic tribes.[10] Moreover, this study can indicate whether all of Stoebke's name elements are adequate. This being the case, the chosen name elements should be encountered in old village names.

1.3. The concept(s) of a village

The concept of a village differs depending on the institution that has overseen the documentation. The main fact is that a village was a taxation unit. In 16th-century Sweden, a village (Swedish *by*) meant a tax unit that included one or more homesteads. However, this system was not homogenous (see Seppälä 2009). In Ostrobothnia, for example, the same settlement could have been considered a village in secular documentation but not in ecclesial documentation, and vice versa (SAK: 16).

In medieval Livonia, the administration systems differed from region to region. The current area of Estonia was divided into many smaller areas controlled by the Church or the German nobility.[11] In the Livonian countryside, settlement patterns often remained similar to the way they were before the conquest of the Teutonic Order. The basic formation of settlements was a village that consisted of several homesteads (Šnē 2008: 92). Surviving medieval documents from the area of present-day Estonia imply that the village was a basic administrative concept (cf. Johansen 1938; LCD). Documentation was mainly produced in Latin and (Low) German, but later, Swedish was used as well. Between 1561 and 1721, parts of Estonia were under Swedish rule.

The documents preserved in the area of Novgorod were not compiled by the city-state itself. The Grand Duchy of Moscow had subjugated the

10. The name elements chosen by Kepsu (2015a: 130) are *Ahti*, *Aika*, *Aina*, *Ano*, *Arpa*, *Asi*, *Auva*, *Hala*, *Heimo*, *Himo*, *Hurtta*, *Hyry*, *Hyvä*, *Iha*, *Ikä*, *Ilma*, *Ilo*, *Kaipa*, *Kauko*, *Kilpa*, *Kirja*, *Kyllä*, *Leina*, *Lempi*, *Mieho*, *Mieli*, *Miero*, *Monta*, *Muoto*, *Neuvo*, *Niha*, *Nousia*, *Paha*, *Para*, *Parka*, *Pelko*, *Päivä*, *Raha*, *Rahko*, *Raukka*, *Saira*, *Salli*, *Satta*, *Sota*, *Suuri*, *Tapa*, *Tenho*, *Toivo*, *Tora*, *Unta*, *Urja*, *Uska*, *Utu*, *Vaino*, *Valta*, *Viha*, *Vihti*, *Vilja*, *Voipa* and *Vähä*.
11. The Kingdom of Denmark controlled the northern parts of Estonia all the way until 1346.

city-state and its belongings before the end of the 15th century (CHR: 211–239). The Muscovites ordered documentation after the conquest had been finalised (Ronimus 1906: 3–6). The documents were written in so-called Russian chancery language.[12] A typical village was commonly called a *derevnja* (*деревня*). The size of a village could vary. The smallest ones were the size of one homestead and the largest ones consisted of up to 69 homesteads (Ronimus 1906: 80). The expression *selo* (*село*) referred to a village (usually a larger one) with a church (Nevolin 1853: 98).

To summarise, it is fair to say that the definition of a village was not homogenous. However, there are also some similarities between different areas. First, most of the villages were originally homesteads (cf. Kepsu 2015a: 128). A homestead turned into a village when more fields were cleared or obtained and more homesteads were established. In addition, a single homestead could be counted as a village if the authorities had reason to do so, for example, if a settlement was far from the others.[13]

1.4. The concept(s) of village name

A village name is another concept that needs to be explained in more detail. Village names can be divided into two groups: names based on names of natural places and names based on personal names. The names of central, visible or important places in nature have been used to name villages because these places have been significant to the inhabitants (cf. Kepsu 2015a: 128). Village names based on nature names are regarded in the Finnish onomastic literature as older than those derived from personal names (cf. Ainiala et al. 2012: 92–93; Alanen 2004: 135).[14]

12. Chancery language was developed for the purposes of the Muscovite government and its need for bureaucratic documentation from the 15th century onwards (Worth & Flier 2012).
13. For instance, a homestead called *Kolkko* in the former Kyrö parish (nowadays Ikaalinen parish) was considered a village in ecclesial taxation, but in secular taxation it was a homestead belonging to the neighbouring village of Sikuri (SA: 103).
14. Kepsu (2018: 11) has presented a good summary on the theory of estimating the relative age of a village name. In addition, in Finland, the villages whose names are derived from nature names are often larger and more central than those whose names are based on personal names. Regional differences do, however, play a significant role in this matter.

Village names based on personal names, in turn, are generally derived from homestead names, which, again, were named after their founders. Thus, many homestead names include personal names (Kiviniemi 1990: 167). Consequently, some village names are supposedly based on pre-Christian personal names. (Kepsu 2015a: 128.)

It should be noted that a village name based on a pre-Christian personal name does not always mean that a person or persons with the same name would have lived there. So-called transferred names (see Brink 2016) could have affected the spread of the Finnic village names as well.[15] In other words, a name could be based on a settler's village or homestead of origin. Regardless of whether the name is transferred or not, the distribution of Finnic village names still shows a certain naming culture.

Another thing to bear in mind is that the geographical distribution of Finnic village names does not necessarily indicate migration of Finnic settlers but perhaps rather the spread of Finnic cultural influences. It is a well-known fact that personal names are borrowed from language to language more readily than other language elements (Ainiala et al. 2012: 136). The expansion of Christian personal names in Northern Europe during the early Middle Ages is a good example of this (ibid.).

It is noteworthy that within such a wide study area, one can find different ways of naming villages and other settlements. For example, in the western and southern areas of Finland, village names based on nature names are less popular than in the east and north (cf. Kepsu 1987: 65). This can be explained, at least partly, by the fact that the villages are usually older in many places in southern Finland, and the population density used to be higher as well (Kepsu 2018: 11; Raninen & Wessman 2015). The same phenomenon can be seen in the documents concerning the area of the Novgorod Republic. In the northern regions, village names based on nature names (e.g. lake names) are common, whereas in areas with a higher population density, names based on anthroponyms are more popular.[16] Naturally, this is also

15. Transferred names are names that are transferred from one place to another. It has been a fairly common phenomenon in Finnic areas that homesteads established by settlers are named after their home villages (Kepsu 2010: 48–49).
16. The truth is, however, more complicated. In the Onega fifth, for example, most of the village names used in the census books are derived from nature names, but military documents compiled in the beginning of the 18th century show that the names used by the locals differed from the official ones. Often, these local names were based on personal names. (Vitov 1962: 34.)

due to the fact that the landscape is different. For example, on the Karelian Isthmus, where sandy ridges and lakes are widely characteristic, the landscape is visibly different from the flat plateau of the Izhora uplands.[17]

Differences in livelihoods are another reason for heterogeneous village naming conventions. In the beginning of the Middle Ages, densely populated areas were located in terrain that was suitable for ancient cultivation technologies and were thus inhabited all year round. The ownership of land was an important concept in these regions, and personal names were used to name different possessions (e.g. *Vihattu-la*, a homestead owned or established by *Vihattu*). In contrast, lifestyles based on hunting, fishing or slash-and-burn cultivation, which existed in more remote and wooded areas in eastern and northern Finland, for example, required a more mobile lifestyle.[18] The possession of land was probably not that important or well-defined for people with this kind of lifestyle, as long as there was enough land for everybody (Korpela 2004: 233; Voionmaa 1969: 188). On the other hand, it is important to remember that this is only a simplified comparison. In reality, the concept of land ownership has varied in different places and at different times. Using Eastern Finland as an example, the court and taxation documents from the 16th-century province of Savo (Swedish *Savolax*) indicate how important land ownership had become despite the region still being sparsely populated (Pirinen 1982: 83–88, 331–333, 349–350). Nonetheless, in the northern parts of 16th-century Savo, most of the place names mentioned in the documents are based on nature names (Kepsu 2015b).

In addition to this, there is no certainty that a name mentioned in old documents was the one that local people actually used. For example, scribes in 16th-century Novgorod had a specific descriptive way of naming the smaller and less significant villages. These were often named after bigger villages, for example *Д. другая Копаница на Сисми* ('(village) second Kopanica at the River Sisti') (NPK III: 501), or after the names of the rivers, lakes, hills and other natural formations nearby, for example *Д. надъ*

17. For example, Knyazeva & Eydlina (2018) provide a good overview of the landscape in Northwest Russia.
18. In this case, a mobile lifestyle refers to a way of living where peasants and their families kept moving while looking for new slash-and-burn sites, hunting grounds and fishing waters. There were, however, significant differences in this kind of lifestyle depending on place and time. In the 16th century province of Savo, this could mean that a family had a permanent homestead in a village but during the summer they stayed closer to their possessions (Pirinen 1982: 63–64, 293).

озеромъ надъ Валгомонъ ('(village) upon Lake Valgomon') (NPK III: 929). It is unlikely that locals used these kinds of descriptive forms of their villages (Kepsu 2010: 11).

Names tend to change over time, but village names are usually preserved well (cf. Hausen 1924). As is often stated in onomastics, the more central and important a place is, the more likely the original name is to have survived for a long time (Ainiala et al. 2012: 21). This can be applied to village names as well. Furthermore, the establishment of written documents has affected the survival of names: the use of settlement names became more stabilised because they were recorded and used continuously for administrative purposes.

However, there are many regional differences when it comes to the preservation of names. The Middle Ages and the beginning of the early modern period were a rather peaceful and prosperous period in many regions in Finland, which means there were no dramatic changes in the lifestyle for centuries. On the other hand, many areas in Estonia and Ingria were stages for numerous battles and plunders during the 16th and 17th centuries. Consequently, many villages were destroyed and abandoned.

Moreover, the scribes who wrote the documents had an impact on how the village names were presented.[19] The customs for naming villages in medieval accounting differed depending on the time and place. King Gustav (Vasa) I of Sweden renewed many aspects of the taxation system during the first decades of the 16th century, which led to more comprehensive and accurate documentation (Seppälä 2009: 18).[20] Documents from the area of the Novgorod Republic were a product of a certain order coming from the Grand Prince of Moscow (Nevolin 1853: I–XII). The ruler wanted to know how much income the Grand Duchy of Moscow should acquire from the newly conquered area (ibid.). The officers appointed to this task probably did not visit all the villages they documented. Instead, local priests and trusted men were used as informants (Ronimus 1906: 6).

As stated earlier, the present-day area of Estonia was controlled by many different powers during the Middle Ages (cf. Zetterberg 2007: 76). This means that the documentation was not systematic. The documents that have survived are inconsistent, and especially in southern Estonia, the

19. In addition, the style of documentation prepared by the Church was somewhat different from secular documentation. The sources used in this study are mainly of the latter type.
20. Gustav I (Vasa) of Sweden ruled in 1523–1560.

oldest documents are comprehensive only from the 17th century onwards (Evar Saar, oral information 2 March 2018). In addition, due to the actions of local aristocrats and the Church, many villages were incorporated into lands owned by these two powers and, consequently, their names were lost (Zetterberg 2007: 129).

2. Research material

The research materials used for this study approximately cover the area presented in Map 1. Village names from the Diocese of Åbo have been collected from the book *Suomen asutus 1560-luvulla* ('The settlements in Finland in the 1560s') (SA), which includes all of the villages mentioned in the ecclesial and secular documents during the 1550s and 60s.[21] The source contains 7,798 settlements, but the number of names is approximately 8,000 because the names of some villages varied depending on the document.[22]

The sources concerning the area of the Novgorod Republic are edited versions of 15th- and 16th-century documents known as the Novgorod census books (Russian *переписные книги* or *писцовые книги*).[23] The third part of the book series *Novgorodskie pistsovye knigi* (NPK III) covers the southern and western parts of the Vodskaja *pjatina* ('fifth').[24] The northernmost part of the Vodskaja fifth is covered in books titled *Perepisnaja okladnaja kniga po novugorodu votskoj pjatiny* (POKV I–II).[25] The original

21. The province of Savo (part of the Diocese of Åbo) is a special case, because villages are only occasionally documented as taxation units in the 16th-century documents. Peasants are mostly divided into larger groups responsible for paying taxes (referred to in Finnish as *arviokunta*, *neljänneskunta* and *kymmenyskunta*). The 17th-century documents already include villages with names. Researchers have used these later names and compared them to the epithets that were used for peasants in 1561–62. By doing so, they have been able make a reliable supposition of which villages already existed in the 1560s (e.g. 1561: *Grels Auffuinen* > 1664: *Auffwila by*). (SAK: 14–15.)
22. This number also includes manors and seat farms because many of them were originally villages. For example, the crown had established a manor called *Mustiala* based on the village located in that place earlier (cf. Alanen 2004: 140–141).
23. These documents are also referred to as *scribe books*, *cadastres* or *land registers* in English.
24. Новгородские писцовые книги ('Scribe books of Novgorod').
25. Переписная окладная книга по Новугороду Вотьской пятины ('Census tax book of Novgorod's Vodskaja fifth').

documents from the Vodskaja fifth seem to be fairly well preserved, as only a few pages of the original document are missing. This applies to the documents of the Derevskaja fifth from 1495 (NPK I–II) as well. The original documents for the other administrative fifths have not been preserved as well. Thus, the research material consists of census books from various years. The book *Materialy po istoričeskoj geografii Novgorodskoj zemli: Šelonskaja pjatina po piscovym knigam 1498–1576 g.g.* (MIN) includes the areas of the Šelonskaja fifth.[26] *Piscovyje knigi Obonežskoj pjatiny* (PKOP) contains editions of documents concerning the Obonežskaja fifth.[27] The Bežetskaja fifth is covered in NPK VI, which contains information from the years 1501, 1545, 1551 and 1564. All of these areas can be seen on Map 1.

As mentioned in Section 1.3, the Novgorod census books were produced because the Grand Duchy of Moscow wanted to maintain records of its possessions in the area of Novgorod. The form of documentation in each of the books is almost identical. They contain information about the possessions of former and current landowners (e.g. nobles, authorities, Churches and monasteries).

It is difficult to give an estimation of how many villages are mentioned in the Russian sources listed above. POKV II, which covers a bit less than one fifth of the sources page-wise, contains approximately 3,800 village names. Thus, the overall number of Russian village names should be around 20,000. The problem is, however, that many of the villages are mentioned several times. For example, the taxable objects of one village could be shared by three different boyars, which means that the village is mentioned whenever the possessions of each man are presented.

Medieval and 16th-century documents relevant to the present-day area of Estonia have their origins in many different sources. It would have been too time consuming to go through all of the documents for this study. However, the handbook of Estonian place names *Eesti kohanimeraamat* ('Dictionary of Estonian place names') (KNR) covers a large portion of the villages mentioned in old documents. Thus, this study relies on the information presented in the handbook. KNR contains circa 4,500 village

26. Материалы по исторической географии Новгородской земли: Шелонская пятина по писцовым книгам 1498–1576 г.г. ('Materials of historical geography of Novgorod land: the Šelonskaja fifth according to census books 1498–1576').
27. Писцовые книги Обонежской пятины ('Scribe books of the Obonežskaja fifth').

names (Estonian *küla*). Out of these, those that are presumably derived from the 16th century or earlier are included. The dating is based on the information presented in the book itself.

It should be emphasised that the research material does not include original documents, but rather editions of them. Consequently, there is the possibility that the editors have transcribed some of the village names incorrectly. Furthermore, even the original documents may contain misleading information. Scribes have written the name as they have understood it or how it has been told to them. Misspellings, analogies or translations of names probably occurred often.[28] One must also remember that 16th-century scribes in Estonia, Finland or Russia did not have any common rules for writing.

3. Methodology

The aim of this study has been to find village names based on pre-Christian Finnic personal name elements and locate them on a map. The following section explains how this process was carried out and according to what principles. The names were mainly collected by studying the material page by page. The village names are readily listed in the source *Suomen asutus 1560-luvulla* (SA). In the case of KNR, names that have been considered village names were selected for the study. The Russian sources are more heterogeneous, but expressions such as *derevnja* (*деревня*), *selo* (*село*) and

28. Misspelling occurred partly because scribes were used to using certain letters and syllables while writing and those were not suitable for writing down Finnic words. For example, some Finnic diphthongs have been confusing for Russian scribes, such as in the case of names with the element *Kauko*: *Гавгуево* (*Gavguevo*) (POKV I: 358). Analogy, in turn, means that scribes adapted Finnic names or parts of them into names or words that were more familiar to them. This is difficult to recognise if other attestations of the name do not reveal the analogy. It is also difficult to know if the analogy has been created by a scribe or by the users of the name themselves (cf. Vitov 1962: 29–30). A good example of (folk) analogy is the name of the medieval parish *Kivennapa* (Swedish *Kivinebb*), which most likely derives from the old Swedish word *kiffuinebb* 'wooden fort' (Kepsu 2018: 203) but which has been probably mistaken by the locals for the Karelian words *kivi* 'stone' and *napa* 'navel, belly button'. The translation of names happened in some areas, but personal name elements were apparently not translated. Some possible cases occured in Ingria, such as *Долгино* (*долгий* 'long; tall') (POKV I: 170), which could be the same village as *Pitkälä* (*pitkä* 'long; tall'), a village that has references from the 17th century onwards (Kepsu 2010: 342).

their abbreviations make village names more easily recognisable. The Russian material has also been analysed by reading it through page by page, but due to the vast amount of data, the likelihood of missing some village names is high. To minimise this possibility, editions of documents were converted to editable text format. Then, the different kinds of letter combinations, which could originate from Finnic personal name elements, were used as search words in accordance with approximate string matching (also known as fuzzy string search).

From the sources mentioned above, only village names that are (highly probably) derived from the chosen pre-Christian Finnic name elements have been selected. The list of name elements included in the searches, which is based on Stoebke's research, is presented in Section 1.3. To reduce the probability of incorrect selections, many place name and personal name surveys are used when examining whether a name is based on a pre-Christian Finnic anthroponym. The main surveys concerning current area of Finland are the following: FSBN (*Finlandssvenska bebyggelsenamn* 'Finland Swedish settlement names'), SPNK (*Suomalainen paikannimikirja* 'Book of Finnish place names') and USNK (*Uusi suomalainen nimikirja* 'New book of Finnish names'). Saulo Kepsu's studies have been of great help when dealing with the village names in Northwest Russia. His publication *Kannaksen kylät* ('Villages of the Karelian Isthmus') (2018) and his manuscript *Inkerin pogostat: vanha nimistö ja asutus* ('*Pogosts* of Ingria: old nomenclature and settlement') (2010) address many of the village names relevant to this study. In addition, the following sources have been useful in examining the names located in Northwest Russia: publications of Kuzmin (e.g. 2014a–b), Matveev (e.g. 2015), Mullonen (e.g. 2008) and Saarikivi 2006. A further relevant source has been KNR, an etymological survey of Estonian place names.

One must remember, however, that there are no certain etymologies when speaking of names that are hundreds of years old. Many of the problems related to the quality of the sources were already discussed in Section 2. In addition, there are other peculiarities connected to the studied village names that must be considered when attempting to uncover the origins of names. First of all, many of the Finnic personal name elements derive from appellatives, which were or still are used in everyday speech. It is possible that on some occasions, the naming principle of a chosen village name is not based on a personal name, but rather a descriptive noun. For example, the name element *Kauko* derives from the word *kauka*, the basic meaning of which in Finnish is 'remote, far away' (SSA s.v. *kauka*). Earlier, *kauka*

also meant 'long' (SPNK s.v. *Kauklahti*). All of these meanings are common among Finnish toponyms (cf. Kiviniemi 1990). Thus, some of the names starting with *Kauk-* might be based on a descriptive word rather than a personal name. This is obvious, for example, in the case of the village name *Kaukjärvi* (SA: 132) (**Kauk(a)järvi*, *kauka* 'long' + *järvi* 'lake') where the element *kauka* describes the shape of the lake.[29] The village name *Kaukurla* (SA: 21) in Mynämäki parish could as well derive from descriptive noun, because it has been located next to a long bay.[30] On the other hand, those Finnic and Russian village names that are based on anthroponyms often have specific suffixes attached to them. For instance, the Finnic locational suffix *-lA* is frequently used in cases where a personal name is the naming principle (cf. Kepsu 1987; Rintala 2008: 22). Similarly, Russian possessive suffixes *-icy-/-iči-* and *-ov-/-ev-* are usually found in those village names that are based on anthroponyms (cf. Kepsu 2010: 33–34; Mullonen 2008: 185–186).

In addition, the southern and eastern regions of the study area in Northwest Russia are incompletely covered in the onomastic surveys and sources mentioned above. Further scrutiny is thus needed when analysing village names located in these areas. For example, there are toponyms in the Vologda region starting with the element *Iga-*, which is often thought to be derived from Finnic *Iha* (cf. Rintala 2008; Saarikivi 2017: 19). However, similar words are found, for instance, in the Mari language and thus, A. K. Matveev has thought that many of the *Ig-* names in the Vologda region are of Mari origin (2015: 166–167). Furthermore, it is problematic that there are many old Russian personal names resembling Finnic ones (cf. Superanskaja 2009). For instance, the above-mentioned *Iga* has been used as a form of the name *Igor* (which is itself derived from Old Norse name *Ingvar*) (ibid.).

In the case of village names located in the territory of Novgorod (or the Grand Duchy of Moscow), a list of contemporary Russian toponyms is used as comparative material in order to identify cases that need more research.[31] As an example, the geographical spread of the settlement names starting with *Vil-* in European Russia indicates that this name element is

29. The village of Kaukjärvi is located in southern Finland in the former province of Häme (Swedish *Tavastland*).
30. Mynämäki is located in Southwest Finland (Varsinais-Suomi).
31. The list is based on the names listed in a place name registry on the webpage Geoserver (http://www.geonames.org/), accessed 12 November 2018. The page contains approximately 360,000 place names.

popular in areas next to the border of Finland, near the city of Perm and on the western shores of the upper Volga. The names with the element *Vil-* near Finland probably derive from a Finnic personal name, but the same origin is improbable in the latter two areas.

The rule of thumb applied in this work is that the likelihood of names being of Finnic origin is high in those areas where there has presumably been a Finnic presence during the Middle Ages. Thus, the ethnic and linguistic history of Northwest Russia must be taken into consideration. Especially the studies of Rahkonen (2013) and Rjabinin (1997) have been important when solving the origins of Finnic-looking village names. For example, the village name *Vylygalovo* (MIN: 366) could be based on Finnic name element *Vilja*, but it is located around 200 kilometres southwest of the city of Novgorod, where signs of archaeological finds (Rjabinin 1997) and toponyms (Rahkonen 2013) that could be connected to Finnic tribes are limited. Thus, the name has not been chosen for this study. On the other hand, the village name *Igaevo* (MIN: 70) is included even if it is fairly far away from other Finnic village names, around 150 kilometres west of Novgorod. It is situated within the area that Rahkonen regards as having been inhabited by "Chuds" (2011: 248), and, in addition, a village called *Čudkovo* lies in the vicinity (MIN: 69).[32]

The villages are placed on the map in different ways. Most of the villages in Estonia and Finland are accurately situated according to the coordinates of the villages' current successors. The coordinates have been obtained from the National Land Survey of Finland and the Republic of Estonia Land Board (16 April 2018). Some of the villages no longer exist, but they can be placed on the map with good accuracy using leads from other sources. In Finland, for example, 16th-century taxation documents called *fogderäkenskaper* ('bailiff's accounts') present villages in geographical order. Villages located in the same area are also found in taxation documents near one another. Thus, the location of a place under investigation can be determined by figuring out the whereabouts of villages mentioned together with it in the taxation documents.

The villages in the Russian territory are placed on the map by hand. Villages situated in the areas that were part of the Kingdom of Sweden during the 17th and 18th centuries are easier to locate, because the old Swedish taxation documents and maps are well preserved (e.g. in the National

32. The meaning of the ethnonym *Chud* is still under discussion, but popular consensus is that it has been connected to the Finnic tribes living in Northwest Russia. See Grünthal 1997 for more details.

Archives of Finland). Kepsu's manuscript (2010) has been very useful in determining the locations of these villages. In addition, two experts on Finnic toponyms in Northwest Russia, Denis Kuzmin and Irma Mullonen, have been helpful in working with some more problematic names.

Sometimes Russian villages could not be accurately located even using all of the above-mentioned sources. The editions of Russian documents, however, often give hints as to the whereabouts of villages. For example, it is possible to identify the neighbouring village or a natural landmark near the village under study. As stated earlier, village names in these documents frequently have descriptive additions. For example, the phrase *Деревня на Галтеевъ жъ островъ Лембитово Сьдъне* ('Village Lembitovo settlement on Galteev island') (POKV I: 416) reveals that a village containing the Finnic personal name element *Lempi* is located on an island called *Galteev*. Some of the village locations have remained unresolved despite all efforts. These places are located in the centre of their 16th-century *pogost* or 17th-century Swedish parish.

Each village name is counted and placed on the map only once. It is not always simple to find out if a name mentioned in another village name refers to the same place or not. The Finnish (SA) and Estonian (KNR) sources are not problematic in this sense, because it is rather easy to notice if the same village name is mentioned several times. Russian sources, by contrast, are more difficult to comprehend, because one village name might be included in many other village names as well, e.g. *Деревня* ***Вилокала*** *жъ* ('village Vilokala also'), *Деревня Новое въ* ***Вилокалъ*** ('New village in Vilokala'), *Деревня Волосово в* ***Вилокалъ*** ('village Volosovo in Vilokala') and *Деревня* ***Вилокала*** *жъ на озеръ на Вилокалгъ* ('village Vilokala also at Lake Vilokala') (POKV II: 64–65).

As a rule of thumb, similarly written names or name elements in the same *volost* (part of a *pogost* 'parish') are considered one village name (as in the case of *Вилокала* ('Vilokala') above). Often the name phrase reveals the village location. There are, for example, two village names in Nikol'skij Ižorskij parish where the Finnic name element *Kauko* is found: *Деревня Гавгуево въ Ѳоминъ концъ* ('Village Gavguevo in Fomin (end)') (POKV I: 358) and *Деревня на Кавгулъ на Лисинъ* ('Village Kavgula in Lisino') (POKV I: 422). Here, the name element *Kauko* clearly refers to two different locations, as *Fomin* is one of the islands on which the city of Saint Petersburg was built (Kepsu 1995: 41), whereas *Lisino* is a village approximately 80 kilometres southwest of Saint Petersburg.

The next sections present the results of the study. Section 4 focuses on statistics and displays the collected names on a map, while Section 5 analyses the results in a broader historical and linguistic context.

4. Results

Altogether, there are 305 names collected from the sources mentioned in Section 2. More than half of the names (172) are from the area of the Diocese of Åbo. A total of 67 names come from Russian sources and the remainder (66) from Estonia. The high number of Finnish names is significant but, at least partly, it can be explained by the nature of the sources. As mentioned earlier, SA covers various kinds of documents from the 1560s, whereas sources like NPK usually contain information from only one specific tax survey. Nevertheless, there are almost three times more Finnic village names in the Diocese of Åbo compared to the two other areas. This kind of difference cannot be explained by the heterogeneity of the sources alone. It must therefore be concluded that the pre-Christian Finnic personal name elements searched for in this study were used more frequently to name villages in the Diocese of Åbo than in Estonia or Northwest Russia.

4.1. Collected names

All of the names collected for this study are presented in the Appendix. Each village name is counted only once, as explained in the previous section. Because of limited space, only the following information is given about each name: the name of the village, the present-day municipality or administrative region and the source. The first column shows the names collected in alphabetical order. The second column presents the sources. The abbreviations used for the sources are explained in the references.

Due to the diversity of the research material, the village names are presented in various forms in the Appendix. Names collected from *Suomen asutus 1560-luvulla* (SA) are presented in the same way as they are in the book. Estonian village names are written according to the official practices of the Estonian Land Board (https://geoportaal.maaamet.ee/, accessed 16 April 2018) if possible. Otherwise, the oldest known form of the name is used. Russian names are presented in the same form as in the sources but transliterated using Latin letters according to the ISO 9 standard. Due to the lack of space, only the names are presented, meaning that locative

descriptive additions, prepositions, postpositions and such are excluded. The nominative form of the name is presented whenever possible. Otherwise, the name is written as it is mentioned in the source. Names that have same form as in the original source material are written in italics. The letter *ě* (ѣ) is an old Cyrillic letter that in modern Russian writing has been replaced by the letter *e* (e) in most cases.

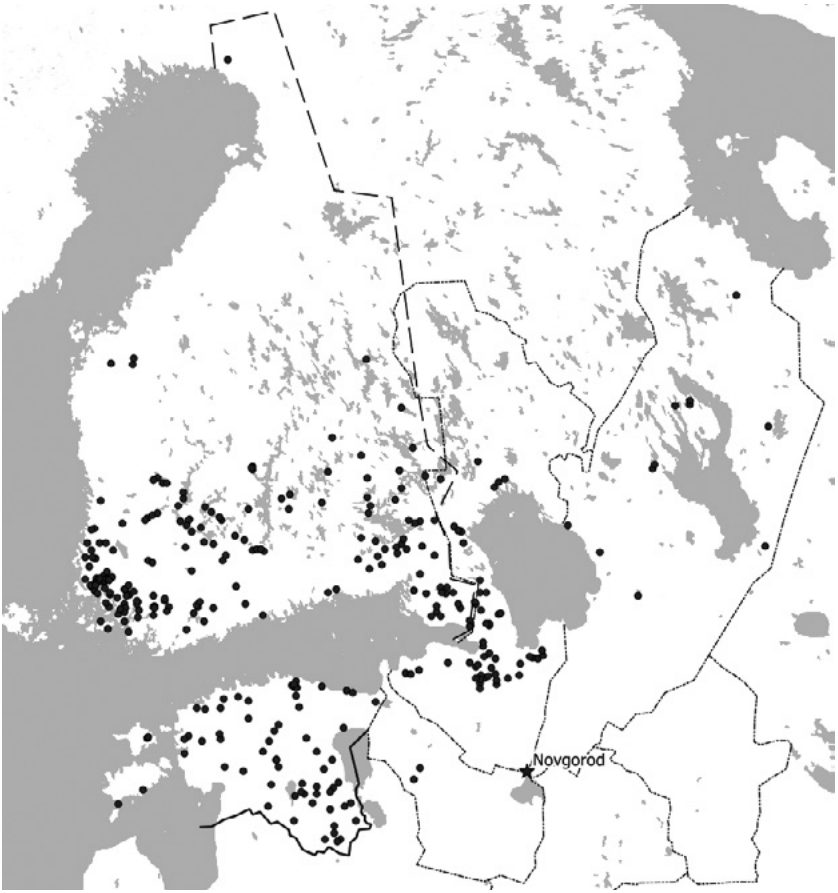
As already stated in Section 3, all of the village names identified in the study are placed on the map and given coordinates. In the Appendix, the second column shows the contemporary municipality or administrative region where the village is located. Information concerning Estonian and Finnish villages has been obtained from the Republic of Estonia Land Board and the National Land Survey of Finland (16 April 2018). Officially, the names of Estonian municipalities include the expressions *vald* (English *municipality* or *parish*) or *linn* (*city*) (e.g. *Raasiku vald*). To save space, only the place names are displayed in the Appendix. Russian villages are listed according to their administrative regions (Russian *район*). The map of the administrative divisions in Russia was obtained from https://gadm.org/index.html (accessed 16 April 2019).

As the Appendix shows, most of the pre-Christian Finnic personal name elements chosen by Stoebke (see Section 1.2) are found in the research material. The only name elements not referenced are *Joutsi* and *Kaikki*. This is in line with Kepsu's list of pre-Christian Finnic personal names, which does not include these elements (2015a: 130). The most frequently used name element is *Kauko*, with 43 occurrences.[33] In addition, the name elements *Lempi* (40), *Iha* (28), *Vilja* (24), *Toivo* (21) and *Kirja* (19) are common. In ten cases, the Finnic village names derive from pre-Christian complex names, for instance *Iha-lempiä-lä* (SA: 209). All but one of these instances occur in the Diocese of Åbo.

33. As stated in Section 2, some of the etymologies of chosen names are not completely certain, which means that the number occurrences of each name element is only an estimation. One must also note that a village name can consist of two different pre-Christian name elements, e.g. *Kauko* and *Lempi* in *Kaukolempiälä* (SA: 210). Both of these are included in the calculations.

4.2. The geographical spread of Finnic village names

The round dots on Map 2 present the geographical distribution of Finnic village names. The star illustrates the location of Novgorod. The process of determining the precise locations of villages has been explained in Section 3, while the borders presented in the map were described in Section 1.2.

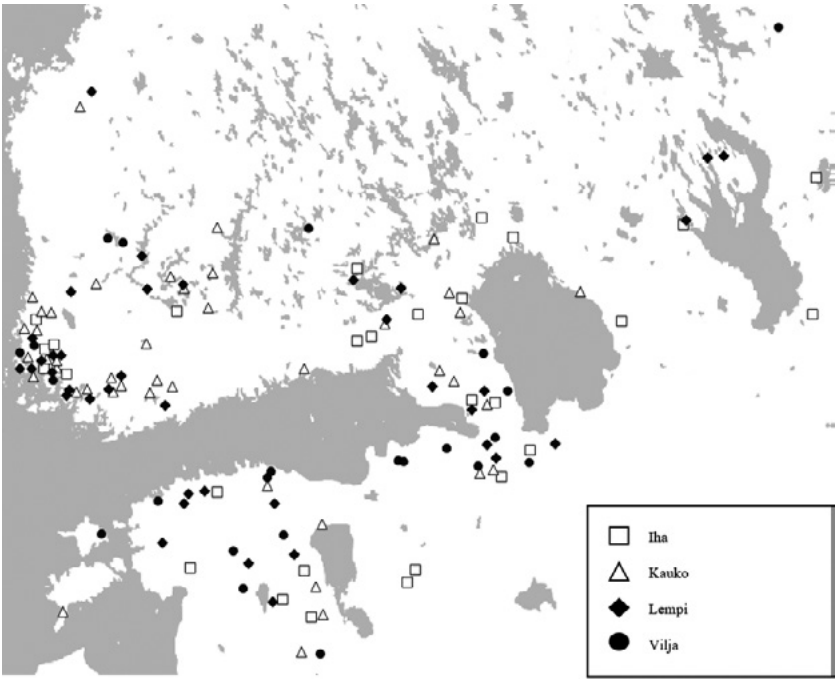


Map 2: The geographical distribution of village names based on pre-Christian Finnic personal name elements (map drawn by the author). Base map: Mapbox Basic Template.

Most of the names are located close to the Gulf of Finland. The name elements under investigation occur most densely in Southwestern Finland and in the eastern end of the Gulf of Finland near present-day Saint Petersburg. Furthermore, many names occur in the old province of Häme (Swedish *Tavastland*), especially around Lake Vanajavesi. In addition, there are many names near the present-day Finnish-Russian border south of Lake Saimaa. The names on the Karelian Isthmus can be seen as a continuum of the ones in Eastern Finland. There are also many occurrences of the names in Estonia, especially in the northern parts and in the southeastern part.

4.3. Areal differences in the spread of name elements

Map 3 shows where the four most used name elements (*Kauko*, *Lempi*, *Vilja* and *Iha*) are found. The high number of *Kauko* names in southern Finland is notable (Map 4 presents these). Otherwise, there are no



Map 3: The spread of the name elements *Kauko*, *Lempi*, *Vilja* and *Iha* (map drawn by the author). Base map: Mapbox Basic Template.

significant differences in the distribution of these name elements. This is not a surprise, as a consistent distribution throughout the area was one of Stoebke's criteria for deciding whether a name element is Finnic or not. Nevertheless, the number of different names is too low to draw any proper conclusions about the areal differences in name use.

Map 4: The spread of name element *Kauko* (map drawn by the author). Base map: Mapbox Basic Template.

5. Discussion

The aim of this article is not only to determine where Finnic village names were spread in the Middle Ages, but also to provide a broader overview of the historical development of Finnic anthroponyms and, simultaneously, to shed light on the history of Finnic tribes and languages. First, it is presumable that Map 2 shows areas that were populated by speakers of Finnic languages during the 15th and 16th centuries. The truth, however, is not that straightforward. Finnic people could have inhabited many other areas as well (cf. Frog & Saarikivi 2015). Conversely, Russian or Swedish speaking inhabitants could have occupied villages with Finnic names. Nonetheless, Map 2 introduces many interesting perspectives on both Finnic personal names and the history of their users. Next, the most intriguing observations are discussed (Section 5.1), the geographical distribution of Finnic village names is compared to archaeological data (Section 5.2) and an overall picture of the spread of the Finnic village names is given (Section 5.3).

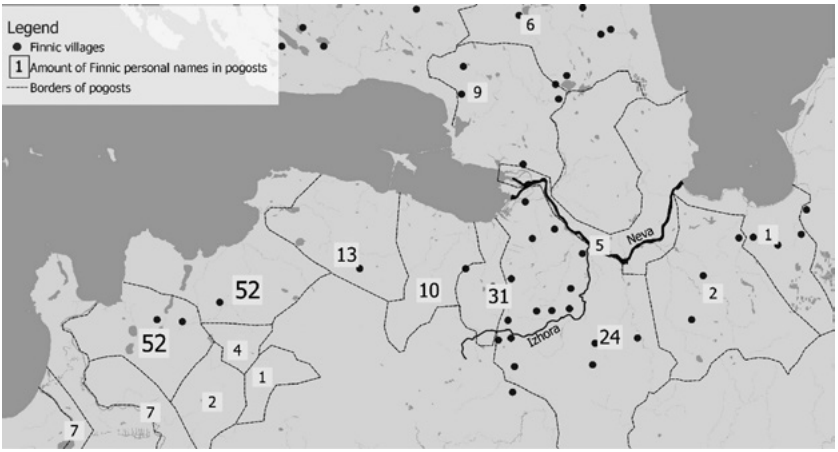
5.1. Remarks on the geographical distribution of the Finnic village names

Map 2 shows how Finnic village names are spread around the coastal areas of the Gulf of Finland. However, two areas have a surprisingly small number of village names based on pre-Christian Finnic personal names. First, the regions of Kymenlaakso (Swedish *Kymmenedalen*) and Uusimaa (Swedish *Nyland*) in southern Finland are visibly empty of these names. The reasons for this are presumably twofold. Traditionally, archaeologists have thought that the coastal areas of Kymenlaakso and Uusimaa were only sporadically inhabited in the later part of Iron Age (Raninen & Wessman 2015: 354). This would explain the lack of village names derived from pre-Christian Finnic personal name elements. However, lately more and more Iron Age finds have been made in both areas (Jäppinen 2014; Wessman 2016). Thus, it is difficult to say how sparsely inhabited these areas really were.

The spread of Swedish settlers to the area from the 13th century onwards is another explanation for the lack of Finnic village names. The Swedish-speaking population superseded the Finns and, accordingly, most of the settlement names mentioned in the 16th century are Swedish ones (cf. FSBN). It is still noteworthy that, in both areas, there is a significant number of old village names that are clearly of Finnish origin, but very few of these derive from pre-Christian Finnic personal name elements

(cf. FSBN; Kepsu 2005; Raunamaa 2017). This again implies that Finnic settlements in the regions of Kymenlaakso and Uusimaa were rather sparse and maybe also new.

Western Ingria, or the area of Votes, is another area that is surprisingly lacking in Finnic village names. Personal names and settlement names in the edition of the 16th-century census book (NPK III) indicate that this area has been populated by Finnic speakers. Especially the parishes bordering the Baltic Sea (Toldožskij v Čjude, Kargal′skij and Pokrovskij Djatelinskij) have many anthroponyms that are based on the studied Finnic personal name elements. However, only a few village names are derived from the same elements. Map 5 (below) presents the approximate borders of these parishes as they were in the 16th century, and the number of peasants with Finnic personal names in the research material (POKV I–II, NPK III, IV).[34] In addition, the locations of the Finnic village names are displayed on the map.



Map 5: *Pogosts* in Ingria and number of pre-Christian Finnic personal names mentioned in 16th-century documents. The chosen personal names are based on the same 22 pre-Christian Finnic name elements that are used in this study. Map drawn by the author. Base map: Mapbox Basic Template.

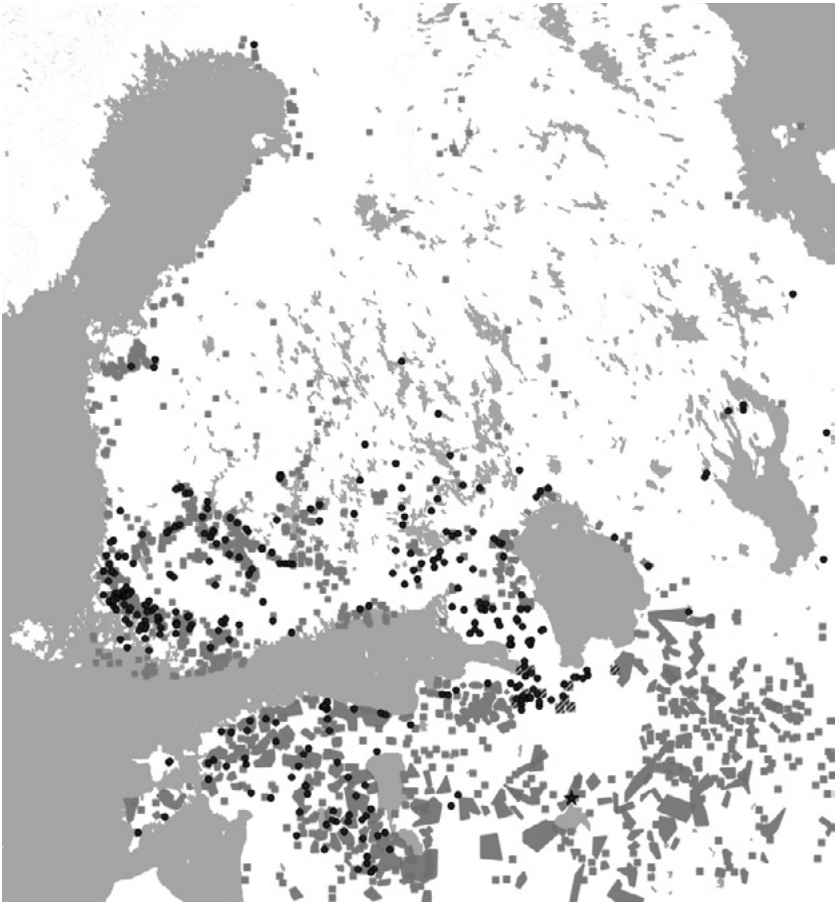
34. In addition to the parishes in the northern parts of Vodskaja *pjatina*, pre-Christian Finnic personal names were found near the city of Ivangorod in Šelonskaja *pjatina* (NPK IV). The northernmost areas of Šelonskaja *pjatina* would probably have more references to Finnic personal names, but this area is only sporadically presented in NPK IV.

The lack of Finnic village names can be explained in part by the naming conventions used by the scribes. For example, in Kargal′skij parish, most of the village names are descriptive and simple in structure, such as *Д. другая Копаница на Систи* ('(village) second Kopanica at the River Sisti') and *Д. третья Копаница на Систи* ('(village) third Kopanica at the River Sisti') (NPK III: 501–502). As mentioned earlier, the designated scribes did not necessarily visit all the villages but instead used local informants. Moreover, the above-mentioned parishes were border regions and located far from Novgorod. On the other hand, it is possible that the incongruity between the number of Finnic village names and Finnic personal names in Western Ingria is evidence of a rather late migration wave that probably came from the direction of Estonia, where pre-Christian personal names prevailed well until the 15th century (Roos 1976: 106). Moreover, the Estonian and Votic languages are closely related to one another (Kallio 2014: 62).

A third area that unexpectedly lacks Finnic village names is the region east and southeast of Lake Ladoga. It is an area that has had a strong Finnic population (Karelians, Ludes and Vepsians) all the way up to the 20th century (Frog & Saarikivi 2015). In addition, there are many other place names in the area that are of Finnic origin (Mullonen 2008). Especially interesting are those settlement names that include the suffix *-l*: e.g. *Hodrilskoe* (**Huotari-la*) and *Kurgilovskaja* (**Kurhi-la* / **Kurgi-la*) (Mullonen 2008: 185; PKOP). This suffix is derived from the Finnic locational suffix *-lA*, which is, as mentioned earlier, frequently used in cases where the name is based on an anthroponym. The census books of 1496 and 1563 indicate that Finnic personal name elements (e.g. *Koku-ev*, *Melgu-ev* and *Rahko-ev*) were used in the area, as were the suffixes *-oi*/*-ui*, which are considered Finnic (Mullonen 2008: 157–159; PKOP).

5.2. The spread of Finnic village names compared to archaeological data

This section presents a comparison between the spread of Finnic village names and archaeological sites in the area under investigation. The aim was to produce a map that, based on the archaeological data, demonstrates the settlement situation at the beginning of the second millennium. The result is presented in Map 6. Areas that were probably inhabited at the end of the Iron Age are marked in grey.



Map 6: Finnic village names (as dots) and archaeological sites (in grey) from the Late Iron Age (map drawn by the author). The oblique lines depict the so-called Finnic graves dated to the 12–14th centuries. The star shows the location of Novgorod. See the body text for more information about the map. Base map: Mapbox Basic Template.

It must be emphasised that the results of the study are only indicative. There are many problems when gathering archaeological data from such a large area. One of the biggest issues is that some regions are better studied than others are. Furthermore, ancient cultures differed in their customs. Some tribes buried their dead with metal weapons and ornaments in big graves made of stones that are still visible, whereas others might do it in such a way that no signs of graves have survived to this day. In addition, as

indicated in Section 5.1, new finds are continuously being made and, consequently, the picture of Late Iron Age settlement in the northern Baltic Sea area may change in the future.

The finds from Finland are based on the Ancient Relics Register (Muinaisjäännösrekisteri). Of these, only those Iron Age finds connected to permanent settlements (cemeteries and dwelling sites) are included.[35] There is no division between the different periods of the Iron Age (500 BC – AD 1150) in the register, which is problematic. Nonetheless, the result is in line with other depictions of Late Iron Age settlements (cf. Raninen & Wessman 2015: 299).

The map of the Late Iron Age dwelling sites in Estonia is based on Kriiska & Tvauri (2007: 173). The settlement situation in the ceded area of Karelia is depicted according to Uino (2003: 350). Again, only finds connected to permanent settlement have been included.

The depiction of the settlement situation in Northwest Russia is more problematic. There are no comprehensive sources presenting the Late Iron Age finds in this area. Thus, the result shown in Map 6 is a compilation of many separate studies, which partly overlap and partly contradict each other. In addition, the studies do not always cover the desired period. For example, one study might present graves dated to the seventh and eighth centuries, but it does not necessarily cover later periods. In cases like this, the assumption has been made that the settlement situation has remained unchanged until the Middle Ages.

The Late Iron Age cemetery finds near the city of Novgorod (c. 100–150 km radius) and in the Bežetskaja fifth are based on a study by Sedov (1982: 60) (for the locations of the different fifths, or *pjatinas*, see Map 1 above). The same study (1982: 167) is also the source of the finds in the area east of Lake Peipus, which covers most of the western parts of the Šelonskaja fifth. The finds in Ingria are based on work by Rjabinin (1997: 17, 19), as are the finds in areas southeast of Lake Ladoga (ibid. 90, 97). The settlement situation in the regions of Lake Onega and Lake Beloye is based on work by Makarov (1997: 82). Since the lower parts of the Neva Estuary and the nearby areas are surprisingly empty of archaeological sites dated to the Late Iron Age, Map 6 also depicts the spread of early medieval cemeteries (AD 1100–1400) in this region (Sorokin 2008: 90–91). These are marked with oblique lines.

35. Here, the expression "permanent settlement" denotes a homestead or village that was inhabited year-round and was used from one generation to another.

The comparison between the spread of Finnic village names and the settlement situation in the area under investigation reveals many interesting findings. First of all, it can be noted that these two often overlap. In other words, Finnic village names occur near the areas that were probably inhabited at the turn of the first millennium. This applies especially to the areas in Estonia and Western Finland.

However, the picture is slightly different in Northwest Russia, including Karelia. Especially interesting are the southern and western parts of the Karelian Isthmus and the areas near the River Neva. Many Finnic village names are found there. This is not surprising, because the area has been inhabited by Finnic speakers (cf. Uino 1991, 2003; Sorokin 2008). However, it is intriguing that there are not many signs of Late Iron Age settlements in the area.

Only a few Late Iron Age finds have been made in the western part of the Karelian Isthmus (Uino 2003: 487). It has been assumed that the area was inhabited primarily during the 13th century (ibid. 486; Kepsu 2018: 166, 516). At the basin of the River Neva, the oldest signs of Late Iron Age pagan cemeteries are from the 12th century, and these have been considered Finnic or Izhorian (Sorokin 2008: 88–91, 122–123). The easternmost long barrow cemeteries (*kurgans*) located on the Izhora Plateau, which have been associated with the Slavic expansion (Sedov 1995), are not far away from the Finnic villages found near the upper reaches of the River Izhora. The oldest long barrow cemeteries on the plateau are from the tenth century (Uino 1991: 22). In addition, the oldest cemeteries that are considered Votic or Izhorian in the coastal areas of Ingria are dated to the 12th century at the earliest (ibid. 21–32).

The lack of Iron Age cemeteries in the eastern parts of Gulf of Finland can be partly explained by the lack of research and the outdated sources. It still cannot be overlooked that this area seems to be less populated than and culturally different from the northern Karelian Isthmus or lower Volkhov area, for example. All in all, the geographical distribution of Finnic village names is connected to the development of the Finnic languages and tribes. With this in mind, the next section, which concentrates on explaining the spread of Finnic village names, also presents an attempt to describe the historical and linguistic developments that occurred in the Baltic Sea region during the latter half of the Iron Age (approximately 700–1200).

5.3. The development and spread of Finnic pre-Christian personal names in the light of archaeology and linguistics

As we are mostly speaking about the period at the turn of prehistoric and historic times, the number of written sources is limited. Despite this, there are some archaeological and linguistic assumptions that can serve as guidelines when attempting to describe the development and spread of Finnic tribes, languages and pre-Christian personal names.

First of all, it must be admitted that discerning the age of the pre-Christian Finnic personal name system with current sources is an impossible task. Only limited estimations can be made based on overall knowledge of pre-Christian anthroponymic systems and general assumptions about the history of the Finno-Ugric languages. Most modern linguists date the arrival of Finno-Ugric languages in the Baltic Sea area to centuries before our era. For example, Valter Lang (2018: 263) concludes that the arrival of Finno-Ugric languages should be placed in the Bronze Age (1700–500 BC). Accordingly, we could place these Bronze Age centuries as the *terminus post quem* for the pre-Christian Finnic anthroponyms. In addition, it should be noted that the Finnic personal name system has differed from those of other Finno-Ugric speakers, such as Mari and Mordvins (Nissilä 1965: 84). It seems that Finnic speakers adopted a new kind of personal name system after the divergence of their language.

Of the European pre-Christian personal name systems, one of the best known is the Ancient Roman one, which existed for many centuries from about 700 BC onwards. Various things changed in the naming culture during its existence, but many aspects also remained (Salway 1994). Regarding Finnic naming conventions, Old Germanic personal names are more suitable references, because their bearers (Scandinavians) were living near Finnic areas. Ernst Förstemann's survey of Old German (*Altdeutsche*) personal names contains mainly names from Central Europe and excludes Old Norse names (1856: VI).[36] The Scandinavian runic-text database (Scandinavian Runic-text Database), in turn, allows the user to search for personal names that are attested on runestones and are dated to the Old Norse

36. Förstemann has included names that are older than AD 1100 in his study. The names were collected among various Germanic tribes (Alemanni, Bavarians, Burgundians, Goths, Franks, Frisians, Langobardi, Saxons, Thuringii and Vandals).

era (about AD 900–1200). The comparison of these two sources indicates that the Scandinavian personal names were in various ways similar to the ones used by other Germanic speakers, but also in many ways different. For example, some Scandinavian name stems (such as *Birgiʀ*) seem to be missing from Förstemann's list of Old German names and vice-versa (e.g. *Amal-*). Nevertheless, it is safe to say that the pre-Christian Germanic personal name system remained fundamentally the same for centuries.

Both Ancient Roman and Germanic naming cultures, however, started to change substantially when Christianity gained its foothold (Ainiala et al. 2012: 149–152; Salway 1994: 124). Connected to this, Salway argues that most of the major transformations of Ancient Roman naming culture coincide with the most tremendous political and social changes (1994: 144). Salway's argument can also be applied to other naming cultures. In addition, this is in line with the common perception of the nature of personal names. It is known that personal names are closely connected to the culture around them (cf. Ainiala et al. 2012: 136–137) and, moreover, that they are more prone to change than other lexical elements (Peterson 1994: 159).

To sum up, there is no way to know how far back in history the use of pre-Christian Finnic personal names dates, but we can assume that the development of this naming system is connected to some major social and cultural changes that occurred in the northern Baltic Sea area during the prehistoric era. It is as very likely that the Finnic naming culture has gone through various changes since the predecessors of this language group arrived in the Baltic Sea area during the Bronze Age. Due to these problems, it is better to concentrate on questions of how the village names based on pre-Christian Finnic name elements had spread to the areas seen in Map 2 before the end of the 16th century and leave the origins of pre-Christian Finnic naming culture as a secondary topic.

Regarding the merge and spread of Finnic personal names, the midpoint of the first millennium AD is a sufficient period to start. At that time, Northern Europe was still in turmoil, but it was starting to recover from the effects of the Migration Period. The middle of the first millennium was also a time when Estonia and Western Finland were in close connection with the Scandinavians (Kriiska & Tvauri 2007: 160–187; Raninen & Wessman 2015: 263–269). In addition, there were contacts with the Baltic tribes (e.g. Kriiska & Tvauri 2007: 184; Raninen & Wessman 2015: 269–270). From the eighth century onwards, at the latest, the Scandinavians were influencing the eastern parts of the Gulf of Finland, as probably were the

Slavic tribes (CHR: 47–72; Kallio 2006).[37] It can be assumed that these connections with neighbouring cultures would have affected the language(s) spoken by Finnic people. Germanic loanwords borrowed into the Finnic languages or dialects spoken near the Gulf of Finland (Gulf of Finland Finnic) are a good example of this (cf. Schalin 2018: 67), as is the Christian vocabulary of Slavic origin that is widespread in Finnic languages (Kallio 2006: 156–157). Accordingly, the Finnic personal name system was probably influenced as well. Viljo Nissilä (1965: 87–88) has argued that that the two-part type of Finnic personal names (e.g. *Kauko-valta*) is of Germanic origin.

The second half of the first millennium was a period of growth in Estonia and Western Finland. Both areas were developing economically and culturally. Weapons, coin hoards, ornaments and other archaeological finds are a good example of this. Especially Northern Estonia can be seen as an innovative centre of the Gulf of Finland region during those centuries. In addition, the introduction of a new kind of plough made it possible to cultivate lands of heavy and clayey soil, and thus, new settlements could be established. Fortified hillforts serve as proof of social development, as workforce was needed for the construction and maintenance of these defences. (Kriiska & Tvauri 2007: 165–187; Raninen & Wessman 2015: 316.)

Considering the above, it is understandable that developing areas in Estonia and Western Finland started to spread their influence into the neighbouring areas. These impacts could also explain the distribution of Finnic village names. Northern Estonia had close connections, for example, with Western Ingria (Frog & Saarikivi 2015: 87; Stasjuk 2013), whereas archaeological finds in Karelia and Eastern Finland show influence from Western Finland, most likely from Varsinais-Suomi and Häme (Hiekkanen 2003: 486; Uino 2003: 349–353). Moreover, before the end of the 12th century, the Karelian ethnos was already archaeologically distinct. The northwest coast of Ladoga had become a centre from which the Karelian culture started to spread (Saksa et al. 2003: 385). At the beginning of the second millennium, Karelian influences, and probably their naming culture as well, were extending in many directions, for example towards Eastern Finland (Raninen & Wessman 2015: 358), to the eastern shores of the Gulf of Bothnia (Vahtola 1980: 315–391) and towards Northwest Karelia (Kuzmin 2014a: 76).

37. On the other hand, Kriiska & Tvauri (2007: 170) claim that there is no evidence of Slavic people in the area of Novgorod before the tenth century.

Ancient Karelian culture was also present in the western parts of the Karelian Isthmus and on the eastern shores of Lake Saimaa (Hiekkanen 2003: 485–486).

Karelian influence is evident in Ingria as well, but the level of this connection has been much debated by archaeologists and linguists (cf. Saksa et al. 2003: 447). Despite the lack of consensus, it seems obvious that, at least linguistically, the Karelians have had an effect on the Izhorian(s) (Frog & Saarikivi 2015: 89). The spread of Karelian culture and naming conventions from the 12th century onwards could also explain the presence of Finnic village names in the eastern parts of Ingria near the rivers Neva and Izhora, as seen in Map 2 and Map 5. This, in turn, is in line with the earlier observation that the earliest Late Iron Age (and pre-Christian) cemeteries found in these areas are dated to the 12th century (Sorokin 2008: 122–123). Thus, it could be assumed that the Finnic presence in the eastern parts of Ingria dates to the same century.

However, the truth is not that simple. It seems obvious that at least at some point during the Iron Age, Finno-Ugric people have inhabited Ingria. Many linguists believe that Finnic speakers or their predecessors have lived in or passed through the area during prehistorical times (e.g. Janhunen 2009: 210; Saarikivi & Grünthal 2005: 136). Similarly, Pauli Rahkonen (2013: 241) suggests that Ingria would have been Finnic territory during the Iron Age (AD 1–800). His suggestion is mainly based on his studies of hydronyms in Northwest Russia.

All things considered, Ingria and especially its eastern parts (the River Neva region) had very little Iron Age activity before the 12th century according to current archaeological data. This does not mean that the region was completely devoid of human presence. Although some areas are swampy and of poor quality for agriculture, the local soil mostly consists of sandy marl and silt, which should have been suitable for Late Iron Age cultivation (Peruskartasto: 9; Raninen & Wessman 2015: 265; Toikka-Karvonen 1990: 168).

The lack of Iron Age graves in Eastern Ingria can be explained by the local burial customs. It is possible that the dead were buried in such a way that no signs of the graves have survived in modern times (cf. Raninen & Wessman 2015: 309). In addition, Eastern Ingria was very much in the middle of Late Iron Age trading networks. As it is known, the rivers Neva and Volhov were important waterways for trade and transportation during the Iron Age. At least from the eighth century onwards, Scandinavians were

active in this region and had an impact on the establishment of important commercial and political centres, such as Staraja Ladoga and Novgorod (Frog & Saarikivi 2015: 72, 76, 78; Kriiska & Tvauri 2007: 168–169). However, the foreign presence did not have only positive effects. Scandinavian Vikings and other aggressive looters have been suggested as one of the reasons for the lack of Iron Age settlement in the coastal areas in Northern Estonia and Southern Finland (Huurre 1995: 158). Even if this reason is disputable, it is still something that could explain why so few Iron Age finds have been made in the River Neva region.

To conclude, it is difficult to know how and when Ingria and especially its eastern parts were inhabited during the Iron Age. Still, an interesting question is whether people that could be called Finnic inhabited the River Neva region before the 12th century. In the light of current knowledge, there are many archaeological sites dated to the Iron Age in neighbouring Finnic areas, such as Northeast Estonia or the western shores of Lake Ladoga. This seems to indicate that the presence of Finnic tribes is archaeologically visible. Accordingly, it can be claimed that those regions in Ingria where there are no archaeological sites dated to the Viking Age were at least culturally different from the neighbouring Finnic areas. This would support the idea that the eastern parts of Ingria underwent strong Finnic influence during the last decades of the Iron Age, which led to the emergence of so-called Finnic or Izhorian graves from the 12th century onwards (Sorokin 2008: 122–123).[38]

This line of thought is supported by Valter Lang's recent study, where he attempts to create a cohesive picture of the formation and development of the Finnic culture and language. Lang suggests that Ingria was not a part of the first wave of Finnic expansion, which emerged in coastal Estonia and Finland around the ninth century BC (2018: 215, 308–311). Based on archaeology and linguistics, he concludes that the emergence of Izhorian culture was the result of Karelian influences, which had started relatively late, probably during the 12th century (ibid. 256).[39] Presumably, these

38. That said, it is questionable whether the emergence of so-called Finnic or Izhorian graves can be described as strong on the basis of current archaeological data. There are six burial sites in Eastern Ingria that are considered Finnic ones (Sorokin 2008: 90–91).

39. A noteworthy remark is that according to archaeologist Olga Kon'kova (2008: 11–21), many of the old gravesites (dated to the 11th–17th centuries AD) in Western Ingria cannot be considered Votic or Slavic, and must therefore be of

contacts occurred near the rivers Neva and Izhora from which, according to Lang, the Izhorians also originate (ibid.). In addition, a good example of Karelian influence is the ethnonym *karielaizet* ('Karelians') that some Izhorians have used to refer to themselves (Frog & Saarikivi 2015: 89).[40]

Lang's study covers the origins of Vepsians as well. Traditionally, the area to the southeast of Lake Ladoga has been considered the place of origin of the Vepsians (Frog & Saarikivi 2015: 91; Kuzmin 2014b: 287). As seen on Map 2, this is also an area that is almost entirely lacking in Finnic village names. Many archaeologists and linguists have suggested that the emerge of a special kind of grave mounds (*sopkas*) at the end of the first millennium AD in the area southeast of Ladoga can be connected to the Vepsians (Frog & Saarikivi 2015: 91; Lang 2018: 257). However, Lang (2018: 257) claims that there are almost no signs of Finnic influence based on the ceramics in the "Vepsian" grave mounds. Furthermore, he suggests that those who buried their dead in grave mounds on the south-eastern coast of Ladoga were indigenous people who only later, as a result of Karelian influence, became linguistically and culturally Finnic. This development is supported by the local place names, of which many are non-Finnic or non-Slavic in origin (ibid.). There are, for example, hydronyms such as *Kalarjärv*, *Padarjärv* and *Syvärjärv* that contain the element *-ar-/-är-*, which probably derives from the generic part **järi* ('lake'). It seems that at some point in (pre)history, local name users no longer understood this and, accordingly, another generic part with the same meaning (*-järv*) was added (Rahkonen 2011: 219). The lack of Finnic village names in the area would be in line with the assumption that the Vepsian culture became

Izhorian origin. On the other hand, Kon'kova claims that many of the objects found in the graves are comparable to both Russian and Votic culture. In addition to that, there are no signs of Karelian funerary inventory (2008: 22–27). This is in line with the suggestion presented by linguists that there are some old substrate features in the Western Izhorian dialects that are not found in the eastern ones (Lang 2018: 257).

40. These chapters focus on the linguistic and cultural history of Eastern Ingria, but many of the issues discussed are also relevant to the western parts of the Karelian Isthmus, which is another area where many Finnic village names are located but only very few signs of Late Iron Age activity have been found (Uino 2003: 487). An interesting remark is that, according to some linguists (e.g. Leskinen 1991), the Karelian dialect spoken on the western Karelian Isthmus is closely related to Izhorian or has even developed from it. Nevertheless, this topic requires a more thorough review than what can be provided here.

Finnic only later, probably after the use of pre-Christian personal names was already in decline. At the very least, it means that the convention of naming villages after pre-Christian Finnic personal names did not spread among the Vepsians as it had spread to the western part of the Karelian Isthmus and Eastern Ingria.

6. Conclusions

The aim of this article was to study where the village names based on pre-Christian Finnic anthroponyms had spread by the end of the 16th century. The results shed light on many aspects of the usage of pre-Christian Finnic personal names. In addition, the spread of Finnic village names was compared to the results of archaeological and linguistic research in order to gain a better understanding of the development of the pre-Christian Finnic personal name system.

Despite the problems with the quality of different source materials, altogether 305 village names were collected based on the pre-Christian Finnic personal names. The most common pre-Christian name elements are *Kauko* (44 instances), *Lempi* (42), *Iha* (28), *Vilja* (24), *Toivo* (20) and *Kirja* (19). Due to the number of collected names, it was difficult to study regional differences in the usage of the names. Only the *Kauko* names have a distribution that could be considered a specific one. These names are mainly located in Western Finland (cf. Kepsu 2018: 35).

A wide range of conclusions can be drawn based on the geographical distribution of Finnic anthroponyms (Map 2). This map presents the areas where a certain Finnic naming convention had spread by the 16th century. The map is in line with other descriptions of the topic, for instance Kepsu (2015a) and Saarikivi (2017). Their studies include modern village names as well, and, accordingly, this explains why they have found more names in Northern Fennoscandia and Northern Russia.

Map 2 shows that the core areas of Finnic village names are in Estonia, Western Finland, Eastern Finland including the Karelian Isthmus and Eastern Ingria. These are all areas inhabited by Finnic tribes before the 14th century (cf. Frog & Saarikivi 2015). As Map 5 indicates, the Finnic village names occur in Estonia and Western Finland in areas that were densely inhabited before the end of the first millennium AD, whereas the two more eastern concentrations of names are located in areas that do not show signs of significant Late Iron Age settlements.

Eastern Ingria becomes archaeologically visible only from the 12th century onwards, when the use of so-called Finnic or Izhorian graves began (Sorokin 2008: 122–123). It is conceivable that Finnic village names were spreading to the area simultaneously. Nevertheless, this does not mean that Eastern Ingria could not have been inhabited by Finno-Ugric tribes earlier. Rather, it signifies that Eastern Ingria underwent remarkable influences from the neighbouring Finnic areas after the turn of the second millennium AD. It seems that the western parts of the Karelian Isthmus and Eastern Finland were similarly part of the late spread of Finnic culture. These impacts were probably caused by Karelians who were active in the eastern parts of Gulf of Finland from the Viking Age onwards (Lang 2018: 254–258; Saksa et al. 2003: 383–474; Uino 2003: 381–382). Karelian influence spread also towards the north and east. For example, in the area known as White Sea Karelia (Finnish *Vienan Karjala*), local folklore and place names demonstrate how strong these impacts have been (Kuzmin 2014a). Similarly, based on linguistics and onomastics, it is likely that the area inhabited by Vepsians in the southeast coast of Ladoga were influenced by the Karelians (Lang 2018: 257, 316). These two areas have, however, only a few Finnic village names compared to Eastern Ingria, Eastern Finland and the Karelian Isthmus.[41] Therefore, it can be concluded that the spread of Finnic culture among the predecessors of Vepsians and White Sea Karelians was at least somewhat different from what it was in the areas south and west of Ladoga.

All in all, it seems that the pre-Christian Finnic naming conventions originated in the western parts of Gulf of Finland, from which they spread eastwards. Estonia and Western Finland were areas that were developing quickly, both culturally and economically, during the second half of the first millennium. These were also the areas that had extensive contacts with the neighbouring tribes, for instance Scandinavians and Slavs. It is possible that these contacts influenced the personal name system used by Finnic people as well.

The cultural and economic upswing in Estonia and Western Finland made it possible for cultural and linguistic innovations, probably together

41. Most of the Vepsian territory and parts of White Sea Karelia are covered in the census book PKOP. The southern coast of the White Sea is covered in the census book compiled by Solovetsky Monastery (ASM), whose index of names was analysed in search of Finnic village names.

with settlers, to spread into new areas, especially to the east. This impact, however, did not spread rapidly throughout the northern Baltic Sea area but rather gradually from the central areas to the periphery. Western Finnic influence was one of the reasons why, at the turn of the second millennium, Karelian culture emerged on the western coast of Ladoga. Karelians were probably the ones who continued to spread Finnic pre-Christian personal name elements into the surrounding areas including Eastern Ingria and the western parts of the Karelian Isthmus.

It seems obvious that the usage of pre-Christian Finnic personal name elements began to decline after Christianity gained a permanent foothold. Foreign political actors, such as the Kingdom of Sweden, the Novgorod Republic and the Teutonic Order, accompanied the spread of Christianity into the area inhabited by Finnic people. These cultural, political and social changes must have influenced the naming conventions as well. Areal and temporal differences are naturally also significant, but from a broader perspective, it seems that the usage of pre-Christian Finnic personal name elements started to decline first in the western parts of Gulf of Finland area and later in the east. For example, only a few Finnic village names occur in the northern parts of Central Finland and Northern Savo, which were inhabited by Savonians mainly during the 16th and 17th centuries (Raunamaa 2019; SAK; Vahtola 2003: 55–57).[42] Apparently, the use of pre-Christian Finnic anthroponyms was already declining among the settlers.

This study sheds light on the history of pre-Christian Finnic personal names in many ways. Nevertheless, many questions still remain to be answered. For example, it would be intriguing to create a distribution map of all the pre-Christian Finnic personal names attested in old documents. Computational methods would facilitate this kind of research, especially now that many editions of old documents are being converted into digital formats. Similarly, it would be fruitful to broaden the area of this kind of study. Many interesting names could occur, for example, in old documents concerning areas of the Pskov Republic and the Lake Beloye region.

42. The Savonians are a Finnish tribe originating in Southern Savo. They inhabited many regions mainly in the eastern parts of Finland (Pirinen 1982).

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Appendix: List of village names[1]

Name	Location	Source
Auvainen	Turku	SA: 31
Auvainen	Kaarina	SA: 43
Auvainen	Loimaa	SA: 84
Auvainen	Eura	SA: 91
Auvaismäki	Turku	SA: 26
Auvere	Narva-Jõesuu	KNR s.v. *Auvere*
Auvi	Eurajoki	SA: 92
Auvila	Jämsä	SA: 152
Auvila	Juva	SA: 228
Auvila	Sulkava	SA: 232
Auvola	Masku	SA: 17
Auvola	Paimio	SA: 60
Avvala	Всеволжский	POKV1: 214
Gavguevo	Санкт-Петербург	POKV1: 358
Gjulelě	Санкт-Петербург	POKV1: 348
Gjuvila	Кировский	POKV1: 266
Haimre	Märjamaa	KNR s.v. *Haimre*
Heimala	Выборгский	SA: 205
Heimala	Выборгский	SA: 216
Heimola	Lohja	SA: 177
Heimos	Raasepori	SA: 161
Hjulböle	Pori	SA: 94
Hyökkälä	Tuusula	SA: 182
Hyövelä	Taivassalo	SA: 2
Hyvälempelä	Parainen	SA: 51
Hyväneula	Hollola	SA: 143
Hyvärilä	Lemi	SA: 204
Hyvärilä	Sulkava	SA: 232
Hyvättilä	Lappeenranta	SA: 203
Hyvättylä	Lieto	SA: 40
Hyvelä	Lohja	SA: 165

1. See Section 4.1 for details and explanations.

Name	Location	Source
Hyvikkälä	Janakkala	SA: 121
Hyvinkää	Hyvinkää	SA: 121
Ičjapovo	Кингисеппский	NPK III: 509
Igačino	Олонецкий	PKOP: 68
Igaevo	Струго-Красненский	MIN: 70
Igakšala	Сортавала	POKV2: 150
Igala	Лахденпохский	POKV2: 124
Igalkovo	Выборгский	POKV1: 229
Igandova	Тосненский	POKV1: 423
Igandovo	Кировский	POKV1: 439
Igaver	Are	KNR s.v. *Eavere*
Igavere	Raasiku	KNR s.v. *Igavere*[1]
Igavere	Tartu	KNR s.v. *Igavere*[2]
Igoe	Пудожский	PKOP: 173
Igojškoe	Прионежский	PKOP: 119
Igolino	Kitee	POKV2: 144
Igolkino	Всеволжский	PKOP: 207
Igolkino	Всеволжский	POKV1: 170
Igomel	Плюсский	MIN: 92
Ihaksela	Lappeenranta	SA: 205
Ihala	Puumala	SA: 220
Ihala	Raisio	SA: 32
Ihalainen	Lappeenranta	SA: 204
Ihalainen	Mynämäki	SA: 22
Ihalempiälä	Выборгский	SA: 209
Ihalempinen	Hattula	SA: 120
Ihamaru	Kõlleste	KNR s.v. *Ihamaru*
Ihamuotila	Turku	SA: 29
Ihanttula	Taivassalo	SA: 1
Ihaste	Tartu	KNR s.v. *Ihaste*
Ihode	Pyhäranta	SA: 12
Ihola	Выборгский	SA: 199
Ikaala	Urjala	SA: 128
Ikaalinen	Ikaalinen	SA: 103
Ikaaloinen	Janakkala	SA: 124

Name	Location	Source
Ikaevo	Санкт-Петербург	POKV1: 347
Ikätorola	Ruokolahti	SA: 210
Ikelä	Salo	SA: 61
Ikiälä	Выборгский	SA: 215
Ikoila	Mikkeli	SA: 220
Ikoinniemi	Savonlinna	SA: 231
Ikola	Выборгский	SA: 217
Ikola	Juva	SA: 229
Ilmari	Ylöjärvi	SA: 105
Ilmarinen	Lieto	SA: 40
Ilmarinen	Vehmaa	SA: 8
Ilmarinen	Loimaa	SA: 85
Ilmatoivola	Выборгский	SA: 213
Il'mia	Rautjärvi	POKV2: 24
Ilmola	Keminmaa	SA: 256
Ilmuevo	Приозерский	POKV1: 179
Kaugatoma	Saaremaa	KNR s.v. *Kaugatoma*
Kaugu	Rõuge	KNR s.v. *Kaugu*
Kaukela	Lohja	SA: 166
Kaukelmaa	Salo	SA: 64
Kaukila	Выборгский	SA: 215
Kaukka	Pyhäranta	SA: 10
Kaukkala	Pälkäne	SA: 147
Kaukkiala	Jämsä	SA: 152
Kauklainen	Rauma	SA: 13
Kaukoila	Vihti	SA: 174
Kaukoinen	Naantali	SA: 17
Kaukoinen	Masku	SA: 19
Kaukola	Kangasala	SA: 111
Kaukola	Laitila	SA: 12
Kaukola	Tammela	SA: 131
Kaukola	Rauma	SA: 14
Kaukola	Hämeenlinna	SA: 148
Kaukola	Padasjoki	SA: 149
Kaukola	Lohja	SA: 160

Name	Location	Source
Kaukola	Kotka	SA: 191
Kaukola	Seinäjoki	SA: 245
Kaukola	Vehmaa	SA: 3
Kaukola	Sauvo	SA: 48
Kaukola	Salo	SA: 62
Kaukola	Salo	SA: 65
Kaukola	Sastamala	SA: 98
Kaukolempi	Lappeenranta	SA: 203
Kaukolempiälä	Выборгский	SA: 210
Kaukonpieli	Eurajoki	SA: 92
Kauksi	Alutaguse	KNR s.v. *Kauksi*[1]
Kauksi	Põlva	KNR s.v. *Kauksi*[2]
Kaukurla	Mynämäki	SA: 21
Kauvainen	Mynämäki	SA: 24
Kauvonniemi	Savonlinna	SA: 225
Kavastu	Haljala	KNR s.v. *Kavastu*[1]
Kavastu	Luunja	KNR s.v. *Kavastu*[2]
Kavgala	Приозерский	POKV2: 21
Kavgalě	Всеволжский	POKV1: 201
Kavgovalda	Лахденпохский	POKV2: 123
Kavgovone	Питкярантский	PKOP: 71
Kavguevskoe	Гатчинский	POKV1: 381
Kavgulě	Тосненский	POKV1: 422
Kir'elě	Кировский	POKV1: 86
Kirila	Paide	KNR s.v. *Kirila*
Kirimäe	Lääne-Nigula	KNR s.v. *Kirimäe*
Kirisaare	Paide	KNR s.v. *Kirisaare*
Kiritu	Saaremaa	KNR s.v. *Kiritu*
Kirivalla	Kose	KNR s.v. *Kirivalla*
Kirivere	Põhja-Sakala	KNR s.v. *Kirivere*[1]
Kirivere	Jõgeva	KNR s.v. *Kirivere*[2]
Kirjais	Parainen	SA: 50
Kirjakkala	Salo	SA: 63
Kir'jakšino	Сортавала	POKV2: 157
Kirjala	Hartola	SA: 151

Name	Location	Source
Kirjala	Naantali	SA: 34
Kirjala	Parainen	SA: 52
Kirjamo	Lempäälä	SA: 113
Kirjavala	Выборгский	SA: 218
Kirjola	Salo	SA: 62
Kirumpää	Võru	KNR s.v. *Kirumpää*
Kjuljatikov	Санкт-Петербург	POKV1: 306
Kjullině	Санкт-Петербург	POKV1: 411
Kjulljujevo	Гатчинский	NPK III: 695
Koukkala	Parainen	SA: 51
Külitse	Kambja	KNR s.v. *Külitse*
Kyllelä	Paimio	SA: 58
Kylliälä	Выборгский	SA: 200
Kylliälä	Savitaipale	SA: 207
Kyllölä	Puumala	SA: 220
Læmestaekilæ	Saue	KNR s.v. *Pällu*[1]
Lämmis	Sauvo	SA: 44
Lehmja	Rae	KNR s.v. *Lehmja*[1]
Lehmja	Saue	KNR s.v. *Lehmja*[2]
Lembagalě	Всеволжский	POKV1: 145
Lembevere	Elva	KNR s.v. *Lembevere*
Lembievo	Санкт-Петербург	POKV1: 353
Lembina	Кировский	POKV1: 56
Lembitov	Кондопожский	PKOP: 127
Lembitovo	Санкт-Петербург	POKV1: 204
Lembitovo	Санкт-Петербург	POKV1: 416
Lemboče	Прионежский	PKOP: 115
Lemboj	Медвежьегорский	PKOP: 2
Lemmätsi	Rõuge	KNR s.v. *Lemmätsi*
Lemmettylä	Pälkäne	SA: 146
Lemmettylä	Mynämäki	SA: 21
Lemmetyinen	Taivassalo	SA: 3
Lemmikküla	Lääne-Nigula	KNR s.v. *Lemmikküla*
Lemmittylä	Uusikaupunki	SA: 11
Lemmküla	Tapa	KNR s.v. *Lemmküla*

Name	Location	Source
Lempälä	Turku	SA: 43
Lempans	Siuntio	SA: 171
Lempiälä	Выборгский	SA: 204
Lempiälä	Ruokolahti	SA: 210
Lempiälä	Выборгский	SA: 210
Lempiäniemi	Ylöjärvi	SA: 106
Lempilä	Salo	SA: 57
Lempilä	Salo	SA: 64
Lempiö	Vehmaa	SA: 6
Lempiskallio	Mynämäki	SA: 21
Lempoinen	Lempäälä	SA: 112
Lempoinen	Masku	SA: 19
Lempoinen	Taivassalo	SA: 22
Lempoinen	Kokemäki	SA: 91
Lempola	Seinäjoki	SA: 245
Lemuvere	Jõgeva	KNR s.v. *Lemuvere*
Lenekale	Приозерский	P2: 119
Meelaku	Rõuge	KNR s.v. *Meelaku*
Meeliku	Võru	KNR s.v. *Meeliku*
Meelva	Lääneranna	KNR s.v. *Meelva*[1]
Meelva	Lääne	KNR s.v. *Meelva*[2]
Melanculæ	Lääne-Harju	KNR s.v. *Padise*
Melitovo	Приозерский	POKV2: 115
Mellaes	Haljala	KNR s.v. *Kavastu*
Melliste	Kastre	KNR s.v. *Melliste*
Mielaanniemi	Sastamala	SA: 99
Mielis	Parainen	SA: 50
Mielisholm	Parainen	SA: 52
Mielismäki	Mynämäki	SA: 22
Miettula	Paimio	SA: 59
Miettylä	Laihia	SA: 246
Neuvoinen	Mynämäki	SA: 21
Neuvola	Выборгский	SA: 217
Neuvola	Pieksämäki	SA: 225
Neuvottoma	Hamina	SA: 191

Name	Location	Source
Nevas	Sipoo	SA: 181
Nõuni	Palupera	KNR s.v. *Nõuni*
Ontika	Toila	KNR s.v. *Ontika*
Päädeva	Märjamaa	KNR s.v. *Päädeva*
Pääväkese	Võru	KNR s.v. *Pääväkese*
Päivälä	Heinävesi	SA: 234
Päivilä	Savonlinna	SA: 230
Pjajala	Всеволжский	POKV1: 162
Toitino	Тосненский	POKV1: 425
Toivaala	Hämeenlinna	SA: 146
Toivakala	Приозерский	POKV1: 186
Toivala	Siilinjärvi	SA: 239
Toivalově	Санкт-Петербург	POKV1: 294
Toivarila	Lappeenranta	SA: 205
Toivekala	Санкт-Петербург	POKV1: 364
Toiviala	Ruokolahti	SA: 211
Toivila	Jämsä	SA: 152
Toivila	Salo	SA: 57
Toivola	Hollola	SA: 142
Toivola	Sysmä	SA: 150
Toivola	Выборгский	SA: 218
Toivola	Mäntyharju	SA: 223
Toivottula	Akaa	SA: 133
Tojvala	Санкт-Петербург	POKV1: 204
Tojvetove	Лодейнопольский	PKOP: 245
Tojvine	Медвежьегорский	PKOP: 151
Tojvoevo	Приозерский	POKV2: 105
Tojvokalě	Гатчинский	POKV1: 343
Tootula	Lieto	SA: 39
Unæs	Haljala	KNR s.v. *Kavastu*
Unaja	Rauma	SA: 13
Unaja	Sysmä	SA: 151
Unajala	Vesilahti	SA: 114
Unakvere	Põhja-Sakala	KNR s.v. *Unakvere*
Undama	Hiiumaa	KNR s.v. *Undama*

Name	Location	Source
Undijala	Сортавала	POKV2: 147
Undla	Kadrina	KNR s.v. *Undla*
Undva	Saaremaa	KNR s.v. *Undva*
Uneste	Haapsalu	KNR s.v. *Uneste*
Uniküla	Kastre	KNR s.v. *Uniküla*[2]
Uniküla	Valga	KNR s.v. *Uniküla*[3]
Unipiha	Nõo	KNR s.v. *Unipiha*
Univere	Karksi	KNR s.v. *Univere*
Unonen	Hämeenlinna	SA: 128
Untamala	Laitila	SA: 12
Untila	Hämeenkyrö	SA: 103
Untila	Hollola	SA: 142
Untola	Turku	SA: 26
Unukse	Viru-Nigula	KNR s.v. *Unukse*
Valaste	Toila	KNR s.v. *Valaste*
Valasti	Paide	KNR s.v. *Valasti*
Valdola	Лахденпохский	POKV2: 122
Vallainen	Mynämäki	SA: 21
Valto	Valkeakoski	SA: 129
Valtola	Lappeenranta	SA: 203
Valtola	Mynämäki	SA: 22
Valtola	Puumala	SA: 234
Vea	Jõgeva	KNR s.v. *Vea*
Vehendi	Elva	KNR s.v. *Vehendi*
Vichterica	Кировский	POKV1: 264
Vigorĕ	Санкт-Петербург	NPK III: 829
Vihainen	Vesilahti	SA: 113
Vihattu	Hollola	SA: 142
Vihattula	Sastamala	SA: 100
Vihavu	Puhja	KNR s.v. *Vihavu*
Vihola	Nokia	SA: 106
Vihola	Выборгский	SA: 214
Vihtiälä	Sastamala	SA: 102
Vihtiälä	Kangasala	SA: 109
Vihtola	Lappeenranta	SA: 205

Name	Location	Source
Vihula	Haljala	KNR
Vila	Haljala	KNR
Vilikině	Кингисеппский	NPK III: 916
Vilikino	Гатчинский	POKV1: 347
Vilita	Türi	KNR s.v. *Vilita*
Vilivalla	Hiiumaa	KNR s.v. *Vilivalla*[1]
Vilivalla	Lääne-Harju	KNR s.v. *Vilivalla*[2]
Viljainen	Naantali	SA: 35
Viljainen	Vehmaa	SA: 7
Viljakino	Всеволжский	POKV1: 194
Viljakinskoe	Ломоносовский	NPK III: 632
Viljakkala	Ylöjärvi	SA: 104
Viljakkala	Mikkeli	SA: 224
Viljala	Ikaalinen	SA: 103
Viljandi	Viljandi	KNR s.v. *Viljandi*
Viljatova	Сегежский	PKOP: 157
Viljattula	Lokalahti	SA: 7
Villa	Haanja	KNR s.v. *Villa*
Villakvere	Väike-Maarja	KNR s.v. *Villakvere*
Villandi	Haljala	KNR s.v. *Villandi*
Vilokala	Приозерский	POKV2: 64
Vilovaldina	Кировский	POKV1: 433
Viluevo	Санкт-Петербург	POKV1: 357
Vviluevo	Кингисеппский	NPK III: 929
Vygaleněvě	Санкт-Петербург	POKV1: 340
Vyljagi	Тосненский	NPK III: 369
Vytchotula	Волховский	POKV1: 274
Yläkirjola	Выборгский	SA: 199
Ytterölmos	Kemiönsaari	SA: 72

What happens in language loss?

Kehayov, Petar. 2017. *The fate of mood and modality in language death*. Berlin: Walter de Gruyter. 385 pp.

Loss of individual languages is occurring rapidly and around the world. There are numerous case-specific changes and local stories which strongly affect the current state of most languages belonging to the Finnic branch of the Uralic language family. This is the starting point of Petar Kehayov's fascinating work on language change, obsolescent communities and the language choices of minority-language speakers. The book is a thorough study of a theoretically motivated issue, namely how last speakers of individual languages and speech communities deal with morphologically complex features that carry specific grammatical functions.

Unlike many other linguistic studies, this book draws on exclusively its own data emphasizing its up-to-date nature. The data are freshly collected and two illustrative examples are attached to the published study. A questionnaire has been used as the primary method for more specific purposes, namely the analysis of changes in mood and modality. Compared to primary data drawn from colloquial speech, elicitation and translated clauses run certain risks, most notably the unexpected influence of the source language on the recipient language. However, this is exactly what the author is looking for. More importantly, his previous knowledge of the Finnic languages, and the various types of contacts they have had with other languages, is so comprehensive that the result is impressive. The treatment of individual aspects is careful and precise, and these aspects actually amount to much more than the title alone suggests.

The book is concise, with no superfluous elements included, and it consists of ten chapters. The theoretical foundations of the study are carefully introduced as both language death and mood and modality are conceptually clarified, separately in Chapters 2–3, and together in Chapter 4. Here, probabilistic hierarchies between categories are introduced; for instance, standard questions about

the relationship between mood and tense but also hierarchies between different modal categories, which have been less thoroughly analyzed in earlier studies. The author shows that, actually, this kind of unbalanced language-contact situation can reveal subtle shifts in modality. After introducing in Chapter 5 the languages on which the work focuses and the methods of inquiry in Chapter 6, the author finally devotes the biggest part, altogether 210 pages, to substantial questions in Chapters 7–9. This is a linguistic *tour de force* as Petar Kehayov treats the core categories in a multifaceted way. Mood and modality in language death in fact involve numerous other verbal categories starting with tense, person and number, and verbal semantics. Chapter 10 concludes the work.

The four severely endangered Finnic varieties in focus are Central Lude, Ingrian, Votic and Eastern Seto, the last a variety of South Estonian. All of these varieties are or used to be spoken in Russia until very recently and their speech communities have all undergone a rapid language shift over the 20th century. The author has personally worked with speakers of each of these Finnic varieties and observed how language contact with Russian has influenced the speech of individuals and what kind of structural and functional changes are manifested in more limited constructions. Given how closely related the four selected varieties are, one might assume that Russian influence in modal constructions is quite uniform. However, this is not the case, which emphasizes the importance of subtle language-specific characteristics. The author succeeds in pointing out fine-grained differences in morphological changes, the amalgamation of morphosyntactic patterns and even mechanisms of code-switching along the border zone of Finnic and Russian.

Petar Kehayov's book is a very welcome contribution to research on language endangerment, erosion of grammatical categories, and the ultimate loss of minority languages. Every detail is clearly explained, every conclusion is based on a profound understanding of all languages involved in the contact. It answers a number of detailed questions and outlines the big picture on the basis of a strong typological foundation. It opens a new perspective for research into both endangered Uralic languages and mechanisms of language contact at the final stage of language loss.

Riho Grünthal

Fresh views on the early history of Indo-European and its relation to Uralic

Kloekhorst, Alwin & Pronk, Tijmen (eds.). 2019. *The precursors of Proto-Indo-European: The Indo-Anatolian and Indo-Uralic hypotheses* (Leiden Studies in Indo-European 21). Leiden & Boston: Brill. viii + 235 pp.

Introduction

The volume at hand presents a series of articles on two hypotheses relevant for Indo-European linguistics: the much-discussed so-called Indo-Anatolian hypothesis (previously also known as "Indo-Hittite hypothesis"), which implies that the Anatolian branch of Indo-European consisting of Hittite, Luvian and other closely related languages was the first to branch off from Proto-Indo-European; and the Indo-Uralic hypothesis, which claims that the Uralic language family is related to the Indo-European family. Many of the articles discuss both hypotheses, albeit to varying extents, and there are a few articles that deal exclusively with the Indo-Anatolian hypothesis.

It is good to remark here that the Indo-Uralic hypothesis is in general much more widely accepted among Indo-Europeanists (see, for example, Beekes 2011: 31–33; Rasmussen 2005) than on the Uralic side, and that most of the scholars who have worked on the topic in recent years are Indo-Europeanists. This is also reflected in the authors of the book, who are mostly Indo-Europeanists and a few Uralicists also known for their work with Indo-European (Petri Kallio and Mikhail Zhivlov), although it must be noted that many contributing Indo-Europeanists have also worked with contacts or relations between Indo-European and Uralic at some point.

One of the editors, Alwin Kloekhorst, is one of the best-known scholars of the Anatolian languages and the author of the *Etymological dictionary of Hittite* (Kloekhorst 2008a). Kloekhorst has discussed aspects of the Indo-Anatolian hypothesis in several publications (such as Kloekhorst 2016, 2018) and has also done work on the Indo-Uralic hypothesis from an Anatolianist point of view (Kloekhorst 2008b).

Notes on the articles

The book opens with a short preface, followed by a detailed and

lengthy introduction ("Introduction: Reconstructing Proto-Indo-Anatolian and Proto-Indo-Uralic") by Kloekhorst and Tijmen Pronk familiarising the reader with the problems dealt with in the articles. The reader gets a good impression of the present situation of research on these aspects of Indo-European linguistics. The editors argue that since PIE did not "come out of nowhere", it is worthwhile to look for relatives to it. They have an optimistic view on Indo-Uralic, but possible further connections in the framework of the Nostratic hypothesis are mentioned only briefly. Kloekhorst and Pronk underline the need to first proceed with the internal reconstruction of Proto-Indo-European before external cognates can be found, and they stress the need to be aware of protophonetics, especially when it comes to the Indo-European "laryngeal" phonemes. Regardless of whether one is sceptical or optimistic about long-range comparison, these remarks made by the editors can be considered useful for anyone working with comparisons that involve several language families and reconstructed proto-languages.

The presentation of the Indo-Anatolian hypothesis is very informative, and one gets a good overall picture of it. The editors list the innovations (morphological, phonological, syntactic, and semantic innovations that concern both lexicon and morphology) that have occurred either in Proto-Anatolian or in the common predecessor of the other Indo-European languages. In total, 23 such innovations are listed, with semantic (8) and morphological (10) innovations being much more numerous than phonological (3) or syntactic (2). (It is good to mention here that Serangeli [2019: 7, footnote 3] criticises Kloekhorst and Pronk's listing of innovations and argues that the number of morphological innovations can be reduced: she notes that in the list of non-Anatolian Indo-European innovations, the thematisation of nouns could be treated as one innovation, but Kloekhorst and Pronk list all of the thematised nouns separately, which makes the number of innovations appear higher than it actually is.)

The editors also discuss the research history of the hypotheses, noting that for most of the 20th century the Indo-Anatolian hypothesis was neglected, but that in the recent decades it has become widely accepted in Indo-European studies. However, references to more sceptical opinions (such as Rieken 2009 and Adiego 2016) on the topic are also provided.

It should be noted here that the terminological questions related

to the Indo-Anatolian hypothesis are only briefly discussed, and in the articles that follow, the various stages of reconstruction (Proto-Indo-Anatolian, Proto-Indo-European in its classical sense and more shallow stages of reconstruction) are referred to using various names, which might be a bit puzzling to a reader who is not familiar with Indo-European linguistics. It would have been good to provide more discussion of the terminological questions, as the names of the various taxonomical entities can be somewhat confusing at times. A recent article by Thomas Olander (2019) deals with the terminology concerning Indo-Anatolian and other stages and nodes of Indo-European, and it can be warmly recommended as an accompanying piece of reading.

The introduction is followed by the article "The Proto-Indo-European suffix *-r revisited" by Steffan Heinrich Bauhaus, which discusses the history of the IE locative suffix *-*r*. The article offers interesting explanations of this suffix, which can be reconstructed to the Indo-European proto-language based on relictal forms in the IE languages. Bauhaus argues that *-*r* was originally a locative suffix, which was later reanalysed as an adverbial ending. It can be reconstructed to adverbs such as *k^{w}*or* (> Latin *cūr* 'why', Sanskrit *kár-hi* 'when'), and traces of this *-*r* also appear in nominal formations, such as Greek νύκτωρ 'at night', νύκτερος 'nightly' and Latin *nocturnus* 'nightly'.

Indo-Uralic aspects are also dealt with briefly at the end of the paper. The author mentions Komi *kor* 'when' and the Hungarian "dative" (usually called sublative in the Hungarian grammar) in *-ra*/*-re* as possible Uralic cognates of the IE locative. However, this is not very convincing, as the Hungarian case ending is probably originally a grammaticalised noun (MSzFE: 523; UEW: 883, s.v. **raŋ3*; Sárosi 2003: 171) and, in any case, it does not represent a continuation of any Proto-Uralic case ending, so it is very unlikely that the *-r-* element here has anything to do with the Indo-European locative *-*r*. The background of the element *-r* in Komi *kor* 'when' remains unknown to me (KESKJ gives no explanation for this element), but deriving the *-*r* in this isolated form from an Indo-Uralic locative suffix would certainly require more evidence.

The spatial relations in Uralic that the author refers to (the three series of local cases) are typical of only certain Uralic languages (such as Finnic, Permic or Hungarian) and not of the family as a whole, to say nothing of Proto-Uralic, which most certainly had a much

simpler spatial case system (Janhunen 1982: 30–31).

In the article "Pronouns and particles: Indo-Uralic heritage and convergence", Rasmus Bjørn offers an interesting review of the old problem of Indo-Uralic pronouns, which are often considered among the most promising pieces of evidence for the Indo-Uralic hypothesis. His article is a welcome and detailed account of the problems involved in the comparison of personal and demonstrative pronouns, but it does not solve the old problems connected to the vowel correspondences between the Indo-European and Uralic pronouns. It is notable that the reconstruction of the vocalism of the personal pronouns is uncertain even within Uralic; see Janhunen (1981: 232–233). For an attempted solution to this problem, see Honti (2012), who is not mentioned by Bjørn. One has to ask: if the vocalism of the PU pronouns cannot be properly reconstructed, how useful is it to compare them with their alleged IE cognates? Here, it would be wise to heed the words of the editors in the preface about the need to work out inner-IE or inner-U reconstructions before attempting a comparison between the two families.

There are also various smaller points of criticism that I would like to point out:

Surprisingly, the "wider affinities with Yukaghir" are mentioned in the article (p. 3). Comparisons with Yukaghir have frequently occurred in earlier works on Indo-Uralic (such as Hyllested 2009), but Aikio (2014: 41–43) has shown that these affinities can more probably be explained as loan relations than genetic affinities, and references to the genetic relationship of Yukaghir and Uralic could be left out of these speculations for now.

The part about the Proto-Uralic interrogative particle (reconstructed as **ku* by the author) also requires some remarks. When listing the functions of this particle in Finnic, or Balto-Fennic in the author's terminology, the author mentions "Saami *-gŏ*" (without specifying which Saami language is meant here) among the Finnic forms (p. 34). This gives a misleading picture of the taxonomy of Saami within Uralic.

Moreover, the idea (mentioned only hesitantly by the author) that the Kamassian particle *-go* could be borrowed from Tocharian (p. 37) seems very unlikely to me, as it is hard to fit it into the chronology of Samoyed and Tocharian linguistic history. The general uncertainness of Tocharian-Samoyed contacts in the light of modern research should be kept in mind (Kallio 2004) – although these contacts remain a

possibility, very little has actually been proved. One would also expect quite an intensive contact if an enclitic particle is borrowed, and it would be surprising to find this particle only in Kamassian.

In footnote 10 (p. 42), Bjørn refers to the "Uralic partitive *-*tV*", which possibly corresponds to Indo-European -*d* in inanimate pronouns such as **tod* 'this, that'. However, the case in question is the Proto-Uralic ablative (or, at least, this is the function generally reconstructed for that case), the partitive function having developed in Proto-Finnic or at an earlier Finno-Saami-Mordvin stage at best (this case ending is discussed further in Mikhail Zhivlov's article in the volume, p. 223).

The reconstruction of PU **t*, **s* in footnote 11 gives a misleading picture of Proto-Uralic phonology (p. 43). The table implies that PU **ś*, which yielded Samoyed **s*, should rather be reconstructed as **s*, which would have then been retained in Samoyed, whereas **s* (which yielded **t* in Samoyed) would have been an affricate **ts*. Whereas the reconstruction of **s* as **ts* would make the change **s* > **t* in Samoyed less odd typologically, there are various counter-arguments to that, one being the loanword evidence (**ś* is usually the substitute of **ć* in Indo-Iranian loanwords, whereas plain **s* is the substitute of Indo-Iranian and Indo-European **s*; Holopainen 2019: 51, 334–336). Also, the complicated developments of PU **ś* to **k* in Mator (Kümmel 2007: 98; Zhivlov 2018) are better explained if we reconstruct this phoneme as PU **ś* (or **ć*) and not **s*.

Dag Haug and Andrei Sideltsev discuss the problems of Indo-Anatolian syntactic reconstruction in their article "Indo-Anatolian syntax?", concluding that the Anatolian "bare interrogatives" such as Hittite *kuiš* 'who' and *kuit* 'what' cannot be derived from the same system as the corresponding pronouns in the "narrow PIE" system, which gives additional support to the early split of Anatolian from the proto-language.

Petri Kallio's article "Daniel Europaeus and Indo-Uralic" is one of the two research history-oriented papers in the volume, and it deals with the oft-forgotten contributions to the Indo-Uralic hypothesis by the Finnish scholar Daniel Europaeus. Kallio shows that Europaeus was indeed the first supporter of the idea that the Indo-European and Uralic languages were related, and even though he has been largely forgotten in recent works and had a questionable reputation in Finnish linguistic circles in his own time, the other early pioneers of the Indo-Uralic field (such as Holger Pedersen) gave credit to him.

In the other research history article in the volume, "Bojan Čop's Indo-Uralic hypothesis and its plausibility", Simona Klemenčič offers a detailed and interesting presentation of the Indo-Uralic *oeuvre* of the famous Slovenian Indo-Europeanist Bojan Čop. Although the article serves its purpose well in providing a good overall picture of Čop's ideas, it would have been even more useful if Čop's ideas would have been compared with more recent research results on Indo-European and Uralic, as especially many of Čop's Uralic reconstructions are outdated by now. Of course, the listing of Čop's work in this way makes it easier for other researchers to refer to his early ideas.

An especially interesting part in Klemenčič's paper is her comment on a Slovene etymological dictionary (Bezlaj 1977), which lists Uralic words such as Mordvin *paŋgo* 'mushroom' as cognates (!) to the Slovenian word *spûžva* 'Spongia officinalis'. This shows the extent to which the representations of the Indo-Uralic hypothesis can differ within historical linguistics.

Fredrik Kortlandt, a researcher with a well-known publication record in Indo-Uralic matters, deals with the reconstruction of Indo-Uralic phonology and morphology in his article "Indo-European *o*-grade presents and the Anatolian *ḫi*-conjugation", arguing, among other things, that the Indo-European vowel **o* emerged as a result of lowering of Proto-Indo-Uralic **u*. The article has relevance for Proto-Indo-European and the Indo-Anatolian hypothesis, but less so for the Uralic side. The author mentions Indo-Uralic aspects several times but does not present any actual data from Uralic languages or any Proto-Uralic reconstructions.

Guus Kroonen's article "The Proto-Indo-European *mediae*, Proto-Uralic nasals from a glottalic perspective" is an interesting account of the use of the Indo-European glottal theory in the reconstruction of Indo-Uralic phonology. Kroonen argues in favour of correspondences between Indo-European glottal stops (traditionally reconstructed as voiced) and Uralic nasals. However, the article is very short, and includes only rather few etymologies, most of which contain various problems, as the author himself notes. The article offers interesting prospects, but proving that these are correct would require much more evidence.

As already noted, most of the etymologies contain various problems, and the author himself states that some of the comparisons are uncertain. Regarding Uralic **äŋV-* 'burn' (in Kroonen's reconstruction, **äŋ-*), it can be said that the

distribution of the word is so narrow that its Proto-Uralic status is not certain. The comparison (p. 112) between PIE **ped-* 'step; fall' and Uralic **pane-* 'put' (that would be **pi̯ni-* in Aikio's 2015 reconstruction) is semantically dubious. The Uralic word for 'gill' can only be considered as a cognate of the IE word for 'language' if the nasal **ŋ* is reconstructed for Proto-Uralic, which seems unlikely, contra to UEW's reconstruction (the author himself admits that this is a problem). The suggested analysis of the word as a compound of **ńi̯ki* '??' and **ći̯mi* 'scale' is not convincing to me, since the first part of the compound remains obscure and the semantic motivation remains unclear. In any case, the comparison of the words for 'gill' and 'language' is semantically far from secure.

Some other lexical comparisons are more promising, such as the comparison of Uralic **jäŋi-* 'ice' and PIE **jeǵ-* id. (the same etymology is also listed in Martin Kümmel's article in the book). However, at the present state, the idea of an Indo-Uralic background for PIE stops and Uralic nasals remains highly tentative and inconclusive. Very little actual Uralic data is presented in Kroonen's article (for example, one reconstruction is "based on Mari" but the Mari form itself is not provided). Including the actual forms would have made the article easier to follow.

Kroonen also mentions the possibility that the words he compares may be loanwords. These particular cases that show the relationship between Indo-European stops and Uralic nasals can hardly be considered loanwords, at least that does not seem very convincing to me – such sound substitutions are not attested in any other loanword layers of Uralic, and similar problems with reconstructions and semantics concern possible loanwords as do assumed genetic cognates.

Martin Kümmel's contribution "Thoughts about Pre-Indo-European stop systems" deals with a topic that is similar to that of the previous article, but its scope is much larger and it discusses both the Indo-Uralic and Indo-Anatolian sound systems in depth, and it also presents many more etymological equations. This is arguably one of the most important studies in the volume from the point of view of Uralic linguistics, as Kümmel discusses both Indo-European and Uralic evidence for the reconstruction the Proto-Indo-Uralic and Proto-Indo-Anatolian stop systems.

Kümmel discusses a recent idea proposed by Kloekhorst (2016), who reconstructs a contrast of

length for the Proto-Anatolian stop system, instead of the traditional system of contrast of voice. Kümmel compares these possibilities to reconstruct the Indo-Anatolian background for this system and compares the developments in Anatolian and the non-Anatolian IE languages, basing his discussion on typological data (he also discusses the substitution of voiced and voiceless stops in Germanic and Slavic loanwords into Finnic and Saami as parallel evidence, as these also show the voiced stops becoming single voiceless stops and the voiceless stops being substituted by geminate stops). Kümmel concludes that it is more likely that Kloekhorst's Anatolian stop system developed from a system of voiced-voiceless contrast, rather than assuming that PIA had the system that can be reconstructed for Proto-Anatolian and that the non-Anatolian Indo-European system would have resulted from degemination.

Kümmel also provides an interesting list of Indo-European-Uralic cognates. Kümmel is clearly aware of the problem that the discrepancy between the Proto-Indo-European and Proto-Uralic stop systems presents, as PU had only one series of voiceless stops. He admits that "[a]ll of these potential equations must be considered quite tentative at our present state of knowledge", and many of the Indo-Uralic comparisons involve a similar semantic haziness, as is noted by Kroonen; some of the comparisons are the same as those made by Kroonen. Some reconstructions are uncertain: to mention the most problematic cases, the possible Uralic word for 'woman', **niŋä* in UEW's reconstruction, is an infamously difficult etymology (it is not at all certain that the words grouped under this entry in the UEW are real cognates), see Helimski (2005: 34), **ńiŋV* 'maggot' is considered uncertain even by UEW due to the uncertain vowel correspondences, and some other Uralic forms involve arbitrary segmentation of Uralic forms (in Kümmel's reconstruction, **ïm-ta-* 'feed', **saŋ-ća* 'stand', **jęŋ-si* 'bow'), even though these forms are opaque in the light of Proto-Uralic derivation rules. This means that even the more rigorously assembled lists of Indo-Uralic cognates contain many uncertain and problematic cases, and the lexical evidence in favour of Indo-Uralic is really far from conclusive.

The appendix to Kümmel's article contains an impressive list of possible cognates in the field of morphology, as well as a longer list of possible Indo-Uralic lexical cognates than the ones discussed in the main text. In the list of potential Indo-Uralic etymologies, those which

are commonly considered loans are marked separately. These include cases like PU **metə* ~ PIE **medu-* (or *med^{h}u* in a more traditional reconstruction) 'honey', which is almost universally considered a loan. Not all of the etymologies can be discussed here in detail, but some remarks can be made: For 'horn', the traditional more traditional reconstruction of **ćorwa* is still given, contrary to the new reconstruction (**śarwi* or **ćarwi*) by Aikio (2015; cf. also Zhivlov 2014). The complicated etymology of **juki-* 'drink' is also mentioned here; this is discussed in more detail by Michaël Peyrot in the same volume (see below).

It is good to note that Kloekhorst's Proto-Indo-Anatolian system of stops has also recently been discussed by Simon (2019). Kümmel does not criticise Kloekhorst's Proto-Anatolian reconstruction but according to Simon's critical observations, Kloekhorst's ideas should be rethought, as his arguments do not exclude contrast in voice, and evidence from Anatolian loanwords into neighbouring languages such as Ugaritic or Neo-Assyrian support the traditional interpretation. It will be interesting to see what further research brings to this discussion about Anatolian and Indo-Anatolian stops.

Even though Kümmel gives cautious support for the Indo-Anatolian hypothesis, he nevertheless admits that the Indo-Anatolian and Indo-Uralic hypotheses are quite different. In his view, Indo-Anatolian and non-Anatolian Indo-European are quite similar, and the chronological gap between the two stages cannot have been very long, whereas Proto-Indo-Anatolian and Proto-Indo-Uralic are quite different and the difference in time between the two proto-languages must have been significant.

In the article "The Anatolian 'ergative'", Milan Lopuhaä-Zwakenberg writes about the origin of the Anatolian suffix (Hittite sg. *-anza*, pl. *-anteš* and its cognates in other Anatolian languages) used as the case-form of neuter nouns in subject position. Lopuhaä-Zwakenberg concludes that the "Classical Indo-European" (post-Anatolian Indo-European) alignment system with **-om* as the suffix for neuter nouns in nominative is a common innovation. This gives further support for the Indo-Anatolian hypothesis, although the author claims that this innovation alone is not enough to prove the early separation of Anatolian.

Alexander Lubotsky's article "The Indo-European suffix **-ens-* and its Indo-Uralic origin" discusses an Indo-European suffix that has received only marginal attention in the field of Indo-European

linguistics. The possible Indo-Uralic background of the suffix *-*ens* is dealt with only very briefly in the end, although it would have been interesting and useful to see a more detailed discussion of its possible Uralic cognates; the simple reference to Collinder (1960) and Mikola (1988) without presenting any actual data is hardly enough for those readers who are not familiar with Uralic. It is, of course, legitimate to discuss only the Indo-European or Indo-Anatolian aspects of this problem, but the title of the article gives hope of a wider Indo-Uralic treatment.

Rosemarie Lühr's article "Headedness in Indo-Uralic" deals with questions of Indo-Uralic syntax and the concept of headedness in particular. The author must be given credit for tackling a very complicated problem. However, the article suffers from some methodological issues. The author uses Old Hungarian syntax to represent the most archaic state of affairs in Uralic syntax, but it is not at all obvious that this is the best representation of Uralic in this respect. Despite the relatively early attestation of Old Hungarian, it does not reflect the best possible example of Proto-Uralic syntax, and its value for Uralic reconstruction can in no way be compared to the value of Hittite or Vedic for the reconstruction of Proto-Indo-European syntax. The author's ideas about Proto-Indo-Uralic syntax would certainly require more data from the other Uralic languages. The author concludes that "convergent head directionality structures can be used as proof of a common proto-language for Uralic and Indo-European with Hittite as the main exponent of the Indo-European branch" but notes that "more evidence is needed". Lühr's article can be seen as an interesting account of possible Proto-Indo-Uralic syntactic features, but the issue is far from settled.

Michaël Peyrot's article "Indo-Uralic, Indo-Anatolian, Indo-Tocharian" lists evidence for both the Indo-Uralic and Indo-Anatolian hypotheses, as well as for Indo-Tocharian (the latter hypothesis, widespread but not universally accepted in IE studies, is that Tocharian was the next branch to split off after Anatolian). The article is a detailed account of the evidence for Indo-Anatolian and Indo-Tocharian, and it also gives an unacquainted reader a good overview of the topic. Peyrot provides many detailed remarks on some problematic Indo-Uralic cognates, too. On pages 191–195, he discusses the problems of the Uralic verb for 'drink' (**juke-* in UEW, recently reconstructed as **jiyi-* by Zhivlov 2014: 116–117) and its possible

Indo-European (Indo-Anatolian) cognate *h_1eg^{wh}- 'drink' (reflected by Hittite *eku*^{zi}- 'drink', Tocharian A & B *yok*- 'drink' and some derivatives in other Indo-European languages). This Indo-Uralic comparison has recently been argued for by Kassian et al. (2015), and it has been criticised by Kallio (2015: 370), especially due to discrepancies on the Uralic side: Kallio has argued that the reconstruction of the word-initial **j*- in the Uralic form makes the Indo-Uralic etymology unlikely.

Peyrot is more optimistic about the etymology and argues in favour of the more traditional Uralic reconstruction with **u*-vocalism. In this regard, a reference to Zhivlov (2014: 115–117) would have been in order, as he deals precisely with the reflexes of **i̯* in the words in question, arguing for specific West-Uralic changes suggesting that the labial vowels in Finnic and Saami are later innovations, and the Hungarian and Samoyed cognates more archaic, contrary to what Peyrot claims.

In his criticism of the new reconstructions of this verb, Peyrot is, in a way, correct in noting that it is difficult to assume a "change **i̯* > **u* in Finno-Ugric" – it is indeed so that there is no such change in the Finno-Ugric branch, but this is rather because no Finno-Ugric proto-language can be securely reconstructed, at least on a phonological level. As both Hungarian *i*- and Mari *jüa*- quite clearly point to **i̯*, it is obvious that no Finno-Ugric stage for this word can be reconstructed, and that the *u* reflexes in Western Uralic must be explained as later developments. The parallel cases showing similar vocalism in Proto-Finno-Ugric/Proto-Uralic can also, in most cases, be explained as something other than Finno-Ugric innovations, while some other cases, such as PU **joŋsi* ~ **jɨ̯ŋsi* 'bow', still pose problems that have not been solved by even the best specialists in Uralic historical phonology (see Zhivlov 2014: 139; Aikio 2015: 65).

Peyrot also discusses the interrogatives with **m*- in Indo-European with their possible relations to Uralic interrogatives. The Indo-European **m*- interrogatives include forms like Hittite *maši*- 'how many' and Tocharian A *mänt* 'how', and possibly Celtic forms like Old Irish *má* 'if'. Peyrot notes that these might reflect a Proto-Indo-European system that has been lost in most branches, and that the Indo-European forms with **m*- might be cognates with the well-attested Uralic interrogatives (such as Hungarian *mi*, Finnish *mi-kä*, etc.). To me, this looks like more promising and interesting proof of a possible relationship than the lexical cognates

discussed by Peyrot, and it will be interesting to see whether future research will shed more light on the history of these Indo-European interrogatives.

Michiel de Vaan ("Proto-Indo-European **sm* and **si* 'one'") discusses the history of the Indo-European numeral **sem-*, **sm-* 'one' and its relation to the Indo-European demonstrative pronouns. Some interesting Indo-Uralic ideas (such as the relationship of the Indo-European pronouns **so*, **to* to Uralic demonstrative pronouns like Finnish *se*, *tuo*) are presented in the latter part of the article, but these would certainly require further study. In general, de Vaan is very supportive of the Indo-Uralic hypothesis, basing his assumptions mostly on Fredrik Kortlandt's earlier ideas.

Mikhail Zhivlov's article "Indo-Uralic and the origin of Indo-European ablaut" is one of the most interesting and thought-provoking papers in the book. Zhivlov builds on an old idea of Bojan Čop (1975), which, he argues, has been largely neglected in the Indo-Europeanist literature. The main argument is that the different Indo-European ablaut classes correspond to the different stem types of Proto-Uralic (with the Indo-European root nouns displaying a mobile ablaut paradigm corresponding to Uralic **-a-*stems, and the Indo-European root nouns with an acrostatic paradigm corresponding to Uralic **i-*stems), and that it is possible to reconstruct Proto-Indo-Uralic predecessors for them (these Proto-Indo-Uralic stems are largely similar to the ones that can be reconstructed for Proto-Uralic). The situation in Proto-Indo-European would then have been produced through reductive developments, whereas in Proto-Uralic the Indo-Uralic stem types would have been largely retained.

Zhivlov (p. 221) argues that his hypothesis requires that PIE ablaut be studied separately from the accent system. He then offers various arguments for why this is so, mainly that there is no synchronic correspondence between accent and ablaut and it cannot be reconstructed for Proto-Indo-European, and that such a correspondence can only be assumed to have occurred at some Pre-PIE stage.

Zhivlov also presents a reconstruction of the Proto-Indo-Uralic case system (pp. 221–223). For Proto-Uralic ablative (p. 221), Zhivlov reconstructs "*tA instead of Janhunen's *ti". Zhivlov's arguments (Samoyed **ə* can reflect PU **a* in non-initial syllables) for this are promising, and this has relevance for Uralic studies in general. Regarding the Indo-European and Uralic accusative **-m*, which is often taken as evidence of the Indo-Uralic

genetic relationship, it is interesting to note that a non-accusative background for Indo-European *-*m* has recently been suggested: Pooth et al. (2019: 258) argue that Proto-Indo-European (= Proto-Indo-Anatolian) *-*m* was originally an allative marker of non-neuter nouns, and that the accusative function developed later. If we assume that the Indo-European and Uralic *-*m*-accusative markers are inherited from Proto-Indo-Uralic, we should then explain what the function of the ending was in Proto-Indo-Uralic, because, if we follow Pooth et al., it would not have been accusative, whereas Proto-Uralic *-*m* is universally considered to be the accusative ending. This casts doubt on the relationship of the Uralic and Indo-European *-*m*-accusatives, and it will be interesting to see what further research will say on this matter.

Dual *-*k* and Indo-European *h_1 have often been considered cognates, but Zhivlov notes that since the origin of **(V)ń* in the Samoyed and Ob-Ugric dual suffixes is uncertain, this question will not be discussed. I agree that this is a good approach – as noted earlier, if there is some phonological problem in the reconstruction of a grammatical marker in one of the languages being compared, it is futile to compare it with data from other language families.

Zhivlov also argues (p. 224) that the Proto-Indo-European vocalism can be explained through the following changes: any Proto-Indo-Uralic short vowel > PIE **e*, any long vowel > PIE **o*. While this may of course be correct, the chances of finding an Indo-Uralic cognate with these rules are quite high, with the Proto-Uralic system of eight vowels (which likewise do not include any long vowels). This is in disagreement with the ideas that Kortlandt suggests in the same volume about the origin of PIE **o*, which is a good example of two scholars of Indo-Uralic working with different rules of historical phonology. Similar remarks can be made about Zhivlov's idea of a pre-Indo-European change **t* > **s* in word-final position. The idea that **t* > **s* happened precisely in word-final position contradicts the more widespread idea that the change was **ti* > **si*, and that it also occurred in other environments, not only word-finally (for example, see de Vaan's article in the volume, p. 213, where the change **ti* > **si* is essential for the explanation of the phonological developments that have produced the Indo-European system of demonstrative pronouns with **s-* and **t-*).

Zhivlov's ideas also include points that are relevant not only for Indo-Uralic but also for Indo-Ana-

tolian. For example, on pp. 231–232, Zhivlov offers an interesting account of ablaut in the kinship terms with *-*ter*, arguing for root ablaut levelling in PIE after the separation of Anatolian.

In general, Zhivlov's account of the Indo-Uralic background of Indo-European ablaut is promising, but more lexical cognates could have been presented to support his ideas, and in the present form, the article is a bit hard to follow. As noted by author, the reconstruction of paradigms and not just individual morphemes or lexemes is definitely a good sign. But this kind of hypothesis should be backed up with sound correspondences; a comparison of stem types is simply not enough. It is difficult to understand how certain Uralic and Indo-European stem types correspond to one another if no lexical cognates are presented. Zhivlov argues that this is because not very many convincing Indo-Uralic cognates can be found, but Zhivlov's (2017) study on another Indo-Uralic topic provides more tentative lexical material; let us hope he returns to this topic in the future.

I must also remark that one can only arrive at these conclusions about the history of ablaut by simply assuming that the Proto-Indo-European phonological system can be derived from a system that was very similar to that of Proto-Uralic; however, there is no immediate need to do so, and it is not at all certain that Proto-Uralic would have retained the Proto-Indo-Uralic system of stem types so well. Theoretically, a number of different preceding systems could be proposed for Indo-European, and if enough reductive developments are assumed, it becomes very difficult to prove that the hypothetical pre-Indo-European reconstructions are correct.

Concluding remarks

To conclude, this volume contains many interesting studies, which are in general of high quality, and it can be recommended to any Indo-Europeanist or Uralicist who is interested in long-range comparison and the early relations of the two families. It is good that the material here is not mixed up with more distant Nostratic comparisons. The critical remarks presented above do not lessen the value of the book, but I hope they show that the Indo-Uralic hypothesis is still too shakily grounded to be accepted, and at least I remain unconvinced by it.

Regarding the Indo-Uralic hypothesis in general, a Caucasian superstrate is often mentioned (see Introduction, p. 10; Bjørn, p. 40; and Kortlandt, p. 102) as the reason PIE and PU are typologically so

divergent and as an explanation for why the PIE vowel system (reconstructed as a one-vowel-system by some) has become so radically simple. However, it seems that the idea of a Caucasian substrate is obscure and not well established and is used as a kind of *deus ex machina*. Even some supporters of the hypothesis (Matasović 2012: 306–307) admit that part of the evidence for a Caucasian superstrate depends on the viewpoints of PIE reconstruction, and in any case the idea of a superstrate is hindered by the lack or at least very small number of Caucasian loanwords (Matasović ibid.).

One general thing that should be noted is that in many articles, the Uralic data is neglected or receives too little attention, or it is dealt with in a misleading manner. More actual Uralic data from the attested languages would have enriched several of the articles, as in many cases only reconstructions are given. For future conferences and publications about the relationship of Indo-European and Uralic, more contributions from Uralicists would be desirable. Most of the contributions dealing with Indo-Uralic also approach the topic from an Indo-European point of view, and various problems and developments on the Indo-European side are explained through Indo-Uralic comparisons, but similar approaches to Uralic are not made. It is also troubling that very little data from the attested Uralic languages is presented in the articles, which mostly employ evidence from reconstructions, which is always tricky.

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A bridge too far – A Uralic perspective on Volga Bulgarian

Agyagási, Klára. 2019. *Chuvash historical phonetics: An areal linguistic study. With an appendix on the role of Proto-Mari in the history of Chuvash vocalism* (Turcologica 17). Wiesbaden: Harrassowitz. XII + 334 pp.

1. Introduction

Klára Agyagási's monograph is a multifaceted contribution to the historical phonology of the Chuvash language as well as to the ethnohistory of the Chuvash and neighbouring peoples of the Volga-Kama region. Agyagási is a specialist in Turkic and Slavic historical linguistics, working in the Slavic department of the University of Debrecen, and since the end of 1970s she has published widely on contacts between Turkic, Uralic and Slavic languages, and especially on the areal linguistics of the Volga-Kama area. She was also one of the co-editors of *Etymologisches Wörterbuch des Tscheremissischen (Mari)* (Bereczki et al. 2013). As is stated in the preface of *Chuvash historical phonetics*, the book is a culmination of many decades of research work.

The present monograph surveys the reconstructed development of the Chuvash sound system from Proto-Turkic to modern Chuvash, taking into account contacts between Chuvash and its neighbouring languages, Mari, Permic, Kipchak Turkic and Old Russian, mainly in the form of loanwords. Uralic data (such as Turkic loanwords in Hungarian, Permic and Mari) is discussed throughout the book. Due to its scope and abundant content, the book will certainly spark a great deal of discussion among Turkologists, Uralicists and other specialists in historical linguistics. In this review, we present a short overview of the book and then proceed to discuss some of its claims in further detail.

The book starts with a chapter entitled *The predecessors of Chuvash in the Volga region* (pp. 1–34), which presents the most important sources of Chuvash historical linguistics: the Proto-Turkic, Bulgar Turkic and Chuvash loanword layers in various Uralic languages (and vice versa) as well as in Slavic, Tocharian loans in Proto-Turkic, early loans in Middle Mongolian and later loans between Kipchak and Bulgar Turkic in the Volga region, along with possible substrate words. It also presents the relevant written sources, such as

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Volga Bulgar glosses and epitaphs, Khazar sources, and later, modern era written sources of Chuvash. This chapter also includes a discussion of methodology.

This first chapter is informative and gives the reader a good overview of the research situation in Chuvash and Turkic historical linguistics, but it would have been even more informative if examples from all of the loanword layers had been provided. Without any examples, it is difficult to assess the accuracy or relevance of the information at a glance. Especially regarding such important loanword layers as various Iranian loanwords into Turkic or loanwords into and from Mongolian, some examples would have been illustrative.

The second chapter is called *Oppositions in the Oguric consonant system* (pp. 35–91), and it discusses the history of sound changes leading from Proto-Turkic to Volga Bulgarian, listing the main developments that set the Oguric languages apart from the rest of the Turkic languages, such as rhotacism and lambdacism. The discussion also addresses Volga Bulgarian loanwords into Uralic, especially into Hungarian.

The third chapter, *Oppositions in the WOT/VB vowel system* (pp. 97–183), deals with the development of Volga Bulgar and Chuvash vocalism. Agyagási argues in favour of different Volga Bulgar dialects, backing up her claims with evidence from Volga Bulgar epitaphs and loanwords into Old Russian, Hungarian, Permic and Mari. Some of the views expressed in this chapter are explored in more detail below.

The discussion of vowel developments in the mediaeval and early modern period continues in the last main chapter of the book, *Changes in the Middle Chuvash period* (pp. 185–243). This is followed by a two-page summary listing the main findings of the monograph. The summary is rather short, and it largely repeats the conclusions made earlier in the book. For such a lengthy book with a great deal of details and data from different languages, a longer and more comprehensive summary of the results, or rather a chapter of conclusions, would have served the reader better.

In the end of the book, a lengthy *Appendix* (pp. 247–298) discusses the role of Mari evidence in the vowel history of Chuvash. The Appendix explores the various suggestions for Proto-Mari vowel reconstructions, loanwords and ethnohistory of the Volga region, arguing that the Cheremis people mentioned in the mediaeval sources are not the same people as the modern Mari. Agyagási also attempts to

reconstruct the language of this lost ethnic group, which she calls *Low Cheremis*, and argues that linguistic traces of this language can be found in the vocabulary of Mari and Chuvash. New West Baltic etymologies for Mari and Chuvash words are also presented, and it is argued that they were borrowed through this Low Cheremis language.

2. General remarks about the book

Some general remarks regarding the ways the data is presented in the work are in order here. The bibliographical entries after each chapter make it easier for the reader to go back to the original sources. However, it would have been a great help to have tables summarizing different phonological developments; in particular, a side-by-side comparison of the various Volga Bulgarian dialects and Chuvash would have probably served the reader well.

It is an interesting approach to combine purely linguistic data with philological evidence, to try to trace the Chuvash phonological developments through known historical sources and to track down the movements of the Chuvash (and Mari) speakers during the tumultuous Middle Ages. That said, it seems that sometimes Agyagási mixes up linguistic and ethnic evidence. Her remarks about the incompatibility of the linguistic family tree model (p. 92) with the prehistorical movements of the Turkic-speaking populations are unintelligible. As is too often done in linguistics, it seems that here the usability of the family tree as a theoretical model is rejected too hastily. Nor is it clear what exactly the author means by "pedigree theory" (p. 201) as this, to our knowledge, is not a standard term employed in historical linguistics.

There are some inconsistencies in the way the book refers to Mari dialects. Hill Mari forms are referred to as 'Mountain Cheremis' in one sentence and as the 'mountain dialect of Mari' in the next. This is not so much a problem for scholars in the field, but it may be misleading for those unfamiliar with these languages. This terminological ambiguity is especially troubling as Agyagási also discusses the Low Cheremis language, which she assumes is completely unrelated to Mari. Subscript numbers are used widely. Referring to the three different Volga Bulgarian dialects as VB_1, VB_2 and VB_3 may be justified, but it is difficult to see why Late Proto-Mari is referred to as PM_2 when there is no PM_1. Applying subscript numbers when there is neither a dialectal nor chronological distinction to be made seems unnecessarily confusing.

Regarding Hungarian etymology, Agyagási follows the most up-to-date views on Turkic loanwords, which are found in the work of Róna-Tas & Berta (2011). Here we would only like to remark that using the Ancient Hungarian reconstructions and not modern Hungarian words makes it a bit difficult for anyone not familiar with these reconstructions to follow. Using modern Hungarian forms (maybe alongside the reconstructed forms) would have been a reader-friendly choice.

Agyagási is clearly familiar with the most important sources and research results on the ethnic history and archaeology of the Volga region, citing recent sources such as Zimonyi (2014), but some recent sources are missing here. For the history of the Uralic peoples of the region, Rahkonen's (2013) results about the substrates in the languages of the Volga region might have also provided interesting insights into the problems that Agyagási discusses.

3. General notes on the Uralic material

As Turkic-Uralic contacts play a significant role in Agyagási's argumentation, some remarks about her use of the Uralic data are in order. While Agyagási refers to several key sources on Uralic historical linguistics and knows the material rather well, there are some unfortunate gaps that have consequences for the results of the book.

Agyagási's views on Uralic vocalism are based on a limited selection of sources, and many important details from recent works have been ignored. Agyagási states that the Proto-Uralic/Proto-Finno-Ugric vowel reconstruction in UEW is the widely accepted one in Uralic linguistics, but this statement is not entirely correct and may be a bit misleading for someone not keeping up with the developments in Uralic historical linguistics. Agyagási presents the two possible vowel reconstructions found in UEW (which differ mostly with regard to vowel length) but ignores notable developments in the field, such as Janhunen (1981), Sammallahti (1988) or Aikio (2012, 2015). While Proto-Uralic vocalism is obviously not the main concern of this book, taking into account the modern views on Proto-Uralic vocalism would have probably resulted in a more balanced view.

Unfortunately, similar problems can be seen in Agyagási's views on the taxonomy of the Uralic language family. Here again, references to relevant modern sources are missing, and the single reference to Honti's (2010–2011) very traditional view of

the taxonomy on page 289 gives the reader a distorted picture about the state of the art of the field. References to the alternative views of Salminen (2002) and Häkkinen (2009) might have been in order, even if one does not completely agree with them. Especially as the position of Mari among the Uralic languages is uncertain, it would have been desirable to pay more attention to this problem: Agyagási does comment on Mari's position and the problem of the Volgaic node on pages 248 and 252–256, but it remains uncertain to the reader what conclusion she reaches about this.

It would be impossible to go through every claim made by Agyagási in the book, but some more detailed remarks on the use of Uralic evidence and on the conclusions derived from it seem to be in order and are thus discussed below.

4. Volga Bulgarian dialects based on Permic

Agyagási weaves an intricate web of Volga Bulgarian dialects. The different Volga Bulgarian dialects and Agyagási's evidence for them are discussed in Section 3.2 of the book (p. 160 onwards). The first Volga Bulgarian dialect (VB_1), is postulated based on loanwords in Old Russian, Permic (both Proto-Permic and "Ancient Votyak") and Proto-Mari (Late Proto-Mari and Proto-West-Mari). Interdialectal borrowing constitutes the second source of evidence. According to Agyagási, around 20 words were borrowed from an extinct Volga Bulgarian dialect (VB_1) into a dialect that would eventually become Chuvash (Early Middle Chuvash, abbreviated as $MČ_1$).

Agyagási's evidence for Volga Bulgarian loanwords in Permic relies mainly on two articles by Károly Rédei and András Róna-Tas (1972, 1983). In these articles, Volga Bulgarian loanwords are divided into two layers, Proto-Permic and Proto-Udmurt (Proto-Votyak). According to Agyagási, this chronological division is unfounded (pp. 110–112) and both the Proto-Permic and Proto-Udmurt loans originate from a specific Volga Bulgarian dialect (VB_1) that corresponds phonologically to the Late Old Bulgarian of Rédei and Róna-Tas. For example, Proto-Udmurt (Proto-Votyak/Ancient Votyak) *olma 'apple' (> *ulmo*), which is thought to be a borrowing from either Late Old Bulgarian *ålma or Middle Bulgarian *olma (Rédei & Róna-Tas 1983: 31), is in Agyagási's view a loan from VB_1 *ålma (p. 165). Phonologically, there is no obvious reason to prefer LOB/VB_1 *ålma over Middle Bulgarian (Proto-Chuvash) *olma as the source for Proto-Udmurt *olma.

Agyagási postulates four Volga Bulgarian dialects based on how Proto-Turkic *o is reflected in Mari, Permic and Old Russian loanwords of Volga Bulgarian origin (pp. 122–126). In one of these supposed dialects, PT *o closed to VB *u, with examples including WOT *komdï 'basket made of bark' > VB *χundï → PP *kundi 'id.', WOT *bora 'home-made beer' > VB *bura → Proto-East-Mari *pura 'beer, homemade beer' > E[1] *pura*, Proto-West-Mari *pura > NW *pŭra*, VB *bŭraγ 'domestic beer' → Old Russian *bъraga*. The evidence is very fragmentary and there is a significant chronological difference between the postulated recipient languages, which makes it hard to believe that these examples constitute a chronologically uniform loanword layer. Even by conservative estimates, Proto-Permic probably predates Proto-Mari by several centuries. As the number of Volga Bulgarian loans is lower in Komi-Zyrian than in Komi-Permyak and Udmurt, it is quite clear that Proto-Permic had begun to disperse or had already significantly dispersed geographically by the time of these contacts around the 9th and 10th century AD (Rédei & Róna-Tas 1983: 3–4). Phonologically speaking, Volga Bulgarian loanwords were adopted into a level of Proto-Permic that one might call Late Proto-Permic, as it had already undergone all of the major sound changes typical of the Permic languages. For some of the loans, even parallel borrowing into Proto-Komi and Proto-Udmurt is a possibility. Intensive contacts between Mari and Volga Bulgars cannot have occurred earlier than the 13th century (Bereczki 1994: 16). As some of the earlier Volga Bulgarian/Chuvash loanwords display sound changes common to all Mari dialects, it can be assumed with some certainty that they were borrowed into a unified proto-language at some point after the 13th century. Interpreting these words as reflecting VB *u also ignores the fact that Mari and perhaps also Proto-Permic were also subject to the *o > *u change (in some reconstructions of Proto-Permic vowel correspondence, Udm. *u* and Komi *u* are reconstructed as Proto-Permic *o instead of *u

1. For the most part, Agyagási's abbreviations for the different Mari dialects are congruent with those used by Beke (1997–2001). This, although faithful to the original source, makes for laborious reading. For this reason, this article uses a simplified system of abbreviations that corresponds to the abbreviations used by Agyagási as follows: E = East (proper) = P B BJ BJp. M MK MM UP US USj.; M = Meadow/Central = CÜ UJ; NW = Northwest = JO V; Vo = Volga subdialect = CK Č ČN; W = West = K.

(Zhivlov 2014: 123–124)). The closing of *o to *u could then easily be explained as an internal change in both of these languages.

The preferred *modus operandi* throughout the book is to attribute phonological variation of any kind to different Volga Bulgarian dialects. This is not to say that some variation could not be interpreted as having resulted from dialectal variation within Volga Bulgarian, but competing ideas are not generally entertained.

5. No first-syllable reduced vowels in Proto-Mari?

There are different views concerning the reconstruction of the Proto-Mari vowel system. The most relevant point of contention for Agyagási is whether or not reduced vowels can be reconstructed for Proto-Mari. There are those who argue in favour of reconstructing an opposition between first-syllable full (*i, *ü, and *u) and reduced close vowels (*ĭ, *ŭ̈, *ŭ) (Itkonen 1954; Aikio 2014). No such opposition between full and reduced vowels is assumed by Bereczki (1994), who argues that first-syllable reduced vowels are a later, contact-induced phenomenon. Agyagási follows Bereczki in not reconstructing first-syllable reduced vowels for Proto-Mari. According to her, reduced labial vowels only emerged in the Volga, North-Western and Joškar-Ola dialect as a result of contacts with Middle Chuvash (pp. 293–298).

There are several reasons for reconstructing an opposition between full and reduced close vowels in Proto-Mari. First of all, minimal pairs or semi-minimal pairs indicate that there was such an opposition: E M Vo NW W *šur* (< PM *šur 'horn') vs. E M *šur*, Vo *šŭr*, NW *šŏr*, W *šə̑r* (< PM *šŭr 'shit'), W *tul* (< PM *tul 'storm, stormwind') vs. E M *tul*, Vo *tŭl*, NW *tŏl*, W *tə̑l* (< PM *tŭl 'fire') (Aikio 2014: 126–127). Second, the Proto-Mari full and reduced vowels have different origins: PM *ŭ is a reflex of PU *u (although the opposition between PU *u and *o has been neutralized adjacent to labial consonants), whereas PM *u is a reflex of PU *o (Aikio 2014: 130), PM *tŭl 'fire' < PU *tulə 'id.' Vs. PM *tul 'storm, stormwind' < PU *towlə 'wind'. If one reconstructs invariably *u for both PM *u and *ŭ, one should have a good explanation for how the reduction process has systematically managed to avoid those instances of PM *u that reflect PU *o even if one does consider reduction to be a secondary phenomenon. The examples here are of PM *u and *ŭ, but *mutatis mutandis* the same is true for other close vowels.

Agyagási does not address these shortcomings of reconstructing

only full close vowels in detail, but she does seek to demonstrate that Proto-Mari lacked reduced vowels in the first syllable by listing a number of East Mari words of Volga Bulgarian origin where no reduced vowels appear in the first syllable (pp. 202–203). Examples include: VB_3 *kürük 'fur' → PM *kürük ~ *kürə̑k 'id.', VB_3 *külčün 'loan' → PM *küśün ~ küśə̑n 'id.', VB_3 *puruś 'pepper' → PM *puruś ~ purə̑ś 'id.', VB_3 *pus 'misty, foggy' → PM *pus 'id.', VB_3 *śul- 'ransom, buy out' → PM *sul- 'id.', VB_3 *sür- 'sift, filter' → PM *sür- 'id.', VB_3 *tuluχ 'orphan; widow' → PM *tuluk ~ *tulə̑k 'id.', VB_3 *χir 'plain' → PM *ir 'id.', VB_3 *χis- 'press' → PM *is- 'id.', VB_3 *χuntur 'beaver' → PM *unδur ~ *unδə̑r ~ umδə̑r 'id.'

It is not clear what Agyagási's criteria are for Proto-Mari. There are phonological reasons to assume that many of the examples were borrowed only after the dispersal of Proto-Mari. The Proto-Mari full front vowels *i and *ü were lowered to the mid-vowels *e and *ö before *r (Aikio 2014: 135–136), e.g. PU *närə > PM *nir 'nose' > E W *ner*. On top of this, there has been a tendency for Proto-Mari *i to change to *e* before sonorants in the eastern Mari varieties (Itkonen 1954: 219–221). As East Mari *ir* 'wild (terrain); steppe, unforested area' lacks both the Proto-Mari and eastern Mari lowering, it cannot reflect Proto-Mari *ir and must have been borrowed into Mari only after these changes. The words that Agyagási reconstructs as PM *kürək 'fur' and *sür- 'filter' also lack lowering. If East Mari forms such as *kürə̑k* or *šüre-* actually reflected PM *ü, one would expect to find **körə̑k and **šöre- instead.

Proto-Mari had two sibilants: *š (< PU *ś and *š) and *s (< PU *s). Proto-Mari *s changed to *š in all other dialects except for a number of eastern dialects, which seems to suggest that the sound change was and is still ongoing (Beke 1934: 90–92). The opposition between PM *š and *s is observed most consistently in the Malmyž area, where PM *s is reflected as *s* (adjacent to back vowels) and *ś* (adjacent to front vowels). The lack of PM *s > *š* (*ž* intervocalically) in most eastern varieties, however, is indicative of post-Proto-Mari origin. For this reason, words such as Birsk *küśün* 'loan' or *sule-* 'ransom, buy out' could have been borrowed only after PM *s > *š*, and the idea of this borrowing having taken place after the dispersal of Proto-Mari is all the more obvious when forms from other Mari varieties are included, i.e. Vo *küsön*, W *küsən* 'loan' (TschWb: 311), Vo *sŭle-*, NW *sŏle-*, W *sə̑le-* 'ransom, buy out' (TschWb: 642).

A Proto-Mari form can be reconstructed for a few of the words, but based on the vowel correspond-

ences there is no reason to reconstruct a Proto-Mari full vowel. Examples of such words are PM *pŭs > E M *puš*, Malmyž *pus*, Vo *pŭš*, NW *pŏš*, W *pə̑š* 'steam, vapour' (TschWb: 564), PM *sŭre- 'sift, filter' E M *šüre-*, Malmyž *śüre-*, Vo *šŭ̈re-*, NW W *šəre-* (TschWb: 751) and PM *tŭləк 'orphan; widow' > E M *tulə̑k*, Vo *tŭlŭk*, NW *tŏlŏk*, W *tə̑lə̑k* (TschWb: 825). How eastern Mari varieties that lack first-syllable reduced labial vowels altogether constitutes evidence against Proto-Mari reduced vowels in the first place is also unclear. All and all, the evidence is rather unconvincing as most of the examples can be shown to have been borrowed only after the dispersal of Proto-Mari.

It seems that the main reason Agyagási is so keen to reject Proto-Mari first-syllable reduced vowels, and maintains that the prominent syllabic structure in Proto-Mari was a first-syllable full vowel followed by a reduced vowel in the second syllable (V-V̆), is that she seeks to explain the appearance of second-syllable vowel reduction in Chuvash as partial code-copying from Mari (pp. 203–205). As this premise was shown to be untenable, the conclusions derived from it are untenable as well, and thus code-copying does not provide a solution for Chuvash vowel reduction in the way Agyagási envisioned.

6. West Baltic loans in Mari and Chuvash and the role of the Low Cheremis language?

One of the most interesting and thought-provoking parts of the book is the treatment of possible Baltic loanwords in Chuvash and Mari (pp. 265–288). Agyagási suggests several new etymologies that she considers loanwords from a form of West Baltic, the branch that included Old Prussian and probably the poorly attested languages of Yotvingian, Galindian, whose existence is known from tribal names in Russian chronicles and hydronyms, and Curonian, which was spoken in Northern Latvia. Yotvingian and Galindian are thought to have been spoken in Central parts of European Russia. It is these languages that Agyagási considers the source of a group of words in Mari and Chuvash, and this is the reason she is determined that the loanwords are from West Baltic. However, Derksen (2015: 2–3) has noted that the knowledge of these only fragmentarily attested Baltic languages is very poor, as it is based on tribal names and loanwords alone, and that their classification as West Baltic is only tentative. Moreover, it seems that Agyagási's etymologies do not show any actual West Baltic features, and her reconstructions are mostly based on Lithuanian,

as she herself admits (p. 268). The loanwords from Mari and Chuvash thus offer no further evidence for the classification of Yotvingian and Galindian as West Baltic.

Agyagási assumes that the words were borrowed into Mari and Chuvash through the unattested Low Cheremis language, with the borrowing taking place quite late (not earlier than the 16th century). Some forms in Mari and Chuvash contain elements that Agyagási regards as Low Cheremis derivational suffixes. As this alleged loanword layer is rather significant for Agyagási's ethnohistorical claims, it is important to comment on it here in some detail.

Unfortunately, many of Agyagási's etymological suggestions are very complicated and involve various problems. Agyagási postulates some sound substitutions that are difficult to accept: in the Baltic etymologies *lēk- 'fly' (Lithuanian *lėkti*) → Mari E *lâye*, *liye* etc., Chuvash *lĕkĕ* (pp. 276–278) and *lēpš- 'wither' (Lithuanian *lėpti*) → Mari *lâwâžyem*, *liwâžyem*, etc., Chuvash *lĕpešken-* (pp. 278–279), Agyagási assumes that the *i she reconstructs for the Mari and Chuvash forms is a substitution of Baltic *e, but she does not account for why this sound substitution was used. Note that the Mari words reflect Proto-Mari *ĭ in Aikio's (2014) reconstruction. This vowel could reflect Pre-Mari *e, so if the borrowing into Mari was old enough, the vowel substitution could be explained. But this does not fit with Agyagási's ideas of the very late West Baltic influence in the Volga region and the late borrowing of the words into Mari through the hypothetical Low Cheremis idiom. A similar problem is the relation of Baltic *ū̆ in *pū̆čio- 'blow up' (Lithuanian *pūčioti*) with *i (in Agyagási's reconstruction) in Mari E *pič́*, M *piť*, Vo *pə̑č́*, NW W *pəc* 'thick, dark; airless, stuffy, stifling' and Chuvash *păčă* 'stuffy' (pp. 280–283). Agyagási notes that because of Baltic accentuation, the realization of the vowels might have led to these substitutions, but more substance would be needed to validate this argument.

The semantic side of the etymologies is in some cases rather unconvincing: the connection between *lēk- 'fly' with Mari *lə̑ye*, etc. and the meaning 'dandruff, membrane' is difficult to grasp (Agyagási assumes that the semantic connection is that dandruff flies off easily), Baltic *pū̆čio- 'blow up' would have produced 'stuffiness, stuffy, dark' on the Mari and Chuvash side (pp. 280–283), and the Baltic verb *su-stó- 'stop' would have given rise to the nouns *sustə̑k*, *śüstük*, etc. 'stammering' in Mari (eastern dialects), and *sŏstŏk*

'one whose speech is incoherent' in Chuvash (Viryal) (pp. 283–285). If one wishes to argue in favour of these etymologies, semantic parallels should be provided. At present, the semantic developments remain quite hypothetical.

Agyagási's etymologies also feature non-existent derivational suffixes; it is easy to explain something as a loan if part of the donor or recipient form is explained *ad hoc* as a derivational suffix in an unattested language. According to Agyagási, Baltic *dub- (Lithuanian *dub-ti* 'grow, become hollow, sunken, sink') yields a derivative *dubka-* in the Low Cheremis language, which then is borrowed onwards into Mari as M *tupka* 'a loose sheaf of hemp or flax', W *tə̑pka*, etc. 'combed wool; human hair' and Chuvash as *tăpka*, *topka* 'tuft, shred, splinter [пучок, клочок]' (pp. 272–273; note that here the semantic difference is once again quite problematic). The borrowing from the Baltic verb *juos- 'gird' (> Lith. *juósti*) to Mari → E *üštö*, Vo *üštŭ*, W *əštə* etc. 'belt' proceeds through a Low Cheremis form where, according to Agyagási (p. 274), *-t-* is a derivational suffix. In this case, would a better source for *-t-* not be Baltic *juosta > Lithuanian *júosta* 'woven sash; tape, band'? This form is also listed by Agyagási as one of the reflexes of the verbal root *juos- (the word is an old verbal adjective; see Derksen 2015 s.v. *juosta*). Another example of the dubious use of obscure suffixes is *kum̃p- 'bend' (Lithuanian *kum̃pti*) → Mari M *kuptə̑rʏe*, W *kə̑ptə̑rʏe* '(walk) slowly and crookedly [langsam und gekrümmt (gehen)]' *kə̑ptə̑rʏem* 'become bent, bowed', etc. and Chuvash *kăptărka-* 'grow old and weak' (pp. 275–276), where only the stem *kup- would have been borrowed and the suffix *-tur- could be a possible Low Cheremis suffix. (Note that we do not consider the last etymology impossible, but the suffixal elements would require further investigation before the etymology could be accepted.)

Some of the etymologies also involve various phonological difficulties. Baltic *juos- 'gird' → Mari *üštö* 'Gürtel' involves an *ad hoc* loss of *j- in Mari. In her treatment of the etymology *kump- → Mari *kə̑ptə̑rʏe*, Chuvash *kăptărka* (pp. 275–276), Agyagási discusses Mari denasalization and notes that the loss of *m* must have happened in the hypothetic intermediary language, as Mari retains clusters of a nasal and a stop. This is only partly correct: Aikio (2014: 83) has noted that Uralic/Pre-Mari *mp regularly develops into *w, and Metsäranta (2018: 123, footnote 3) further argues that in Uralic *-i-stems (= e-stems in UEW's reconstruction), the

regular reflex of *mp is Mari *p* at least in word-final position.

The etymology of Baltic *popliaũ- 'chat, gossip' (Lithuanian *pliaũkšti*) → Mari W *popaš* 'speak', E *popə̑lδatem* 'chat, gossip', Vo *popem* 'babble; speak [plappern; sprechen]', Chuvash *puple-*, (Viryal) *pople-* 'talk' (pp. 281–283) seems unconvincing to us because it presumes that only the first part of the Baltic word (including the prefix *po-) was borrowed in an arbitrary way. The donor form is also entirely hypothetical, as a prefixed form *popliaũ- is not attested anywhere in Baltic.

It is also difficult to understand why many modern sources of Baltic etymology are not referenced, as the recent years have seen the publication of several etymological dictionaries of the Baltic languages (Smoczyński 2005, 2007; AlEW; Derksen 2015), as well as Indo-European etymological dictionaries that would have been useful here (especially LIV). In some cases, these works would have supported Agyagási's arguments.

Although the etymologies cannot be treated here in more detail, we hope this illustrates that Agyagási's conclusions about a West Baltic loanword layer in Mari and Chuvash are far from certain. While the existence of Baltic loanwords in Mari (and possibly in Chuvash too) remains an open-ended question, more research is certainly needed. It also seems that Agyagási's remarks about the taxonomy of the Baltic languages and their relationship with Slavic (p. 268) do not reflect the most recent findings of research: Agyagási notes that Baltic separated from the "Old European language", which is a misleading term, as "Old European" is usually used as the name of the hypothetical substrate language that produced various hydronyms in Europe (see Krahe 1963; Schmid 1968). Agyagási also argues that Proto-Slavic diverged from West Baltic, which is also a statement that does not reflect the *communis opinio* in Baltic historical linguistics (for recent discussions of the taxonomy of Baltic and its relationship to Slavic, see Petit (2010: 3–51) and Hill (2017)).

Since there are various problems and uncertainties in the Baltic loanwords, it goes without saying that Agyagási's (p. 287) reconstruction of Low Cheremis derivational morphology rests on shaky grounds. She claims to have reconstructed several derivational suffixes based on evidence from loanwords, but these results remain highly inconclusive at this point, as does the entire existence of the Low Cheremis language, or at least the argument that Low Cheremis was

the meditator of Baltic loanwords. (Note that we do not wish to take a stance on whether Agyagási's conclusions regarding the differences in Mari and the Cheremis of mediaeval chronicles are correct, but we leave this to specialists in the mediaeval history of the region to judge).

7. Concluding remarks

One might consider this amount of criticism unfair, but we are not saying that there are no good sides to Agyagási's book. As already mentioned, the author discusses the problems of Chuvash historical phonology from many points of view in a cross-scientific perspective, and she presents the sources clearly. Agyagási's extra-linguistic ideas about the Mari ethnogenesis will also certainly give future researchers of Central Russian history a great deal of food for thought. As noted above, the book has shortcomings that make the conclusions uncertain. Nevertheless, the book is an interesting addition to Chuvash historical linguistics and the ethnic history of the Volga-Kama region, a field where modern, comprehensive contributions are few and far between.

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Die Nganasanische Grammatik in einem Band

Wagner-Nagy, Beáta. 2019. *A grammar of Nganasan*. Leiden: Brill. 582 S. https://doi.org/10.1163/9789004382763

Beáta Wagner-Nagys Grammatik des Nganasanischen, *A grammar of Nganasan* (2019), ist eine umfassende, auf Korpusmaterial basierende Darstellung der nganasanischen Sprache. In dem Werk, welches reichlich mit Beispielmaterial ausgestattet ist, werden die Konstruktionen der nganasanischen Sprache von der Phonologie bis zur Wortbildung behandelt, und das Werk ist auch die erste nganasanische Grammatik, in der die Eigenheiten der Phonologie, Morphologie und Syntax der Sprache detailliert in einem Band dargestellt werden. Die Grammatik hebt die typologischen Perspektiven der Sprache hervor, wobei die diachrone Entwicklung der Sprache weniger betont wird. Die traditionelle Uralistik hingegen betont diese. Wagner-Nagy vergleicht hin und wieder das Nganasanische mit seinen verwandten, insbesondere anderen nördlichen samojedischen Sprachen (u. a. 14–15, 159, 188, 197, 250, 274, 346–347, 430, 439). Dank der theoretischen Universalität ist die Grammatik wahrscheinlich lange brauchbar und für die breite Öffentlichkeit gut geeignet – jedoch richtet sie sich, aufgrund der englischsprachigen Fassung, in erster Linie an die internationale Wissenschaftsgemeinschaft und nicht so sehr an die Sprecher der Sprache selbst, die zweifellos ebenfalls von ergänzendem Material zu ihrer eigenen Sprache profitieren würden (siehe z. B. Siegl 2013: 13–14).

Das Material der Grammatik besteht aus früheren Forschungen zur nganasanischen Sprache, über die Wagner-Nagy einen umfassenden Bericht liefert (23–25), aus dem elektronischen Nganasanischen Korpus der gesprochenen Sprache (Nganasan Spoken Language Corpus, NSLC, Brykina et al. 2018, unveröffentlichte Version; siehe auch Brykina et al. 2018), sowie aus von den Sprechern elizitiertem Material (26–33). Die meisten nummerierten Beispielsätze stammen aus Korpustexten und werden gemäß der Abkürzungsliste auf den Seiten xv–xvii von Morphem zu Morphem glossiert. Zusätzlich dazu wird eine freie englische Übersetzung präsentiert. Die Glossierung folgt weitestgehend dem traditionellen Usus. Seltene und sprachspezifische Abkürzungen werden im Text erklärt, damit auch diese

dem Leser nicht unklar bleiben. Eine kleinere Version des elektronischen Korpus, welche den größten Teil des Materials ausmacht, ist online verfügbar, was das Kennenlernen der nganasanischen Sprache für alle Sprachinteressenten sehr leicht macht.

Das Werk ist nach einem eher traditionellen Muster aufgebaut: eine Einführung in die nganasanische Kultur und Sprachlage sowie die sprachlichen Verwandtschaftsbeziehungen (S. 1–33), danach folgen Phonologie (34–96), Wortklassen (94–175), Nominalflexionen (176–213) und Verbalflexionen (214–274). Der die Syntax behandelnde Abschnitt umfasst unter anderem die Valenz des Verbs (285–307), die innere Struktur der Nominalsatzkonstruktionen (308–333), Prädikate (334–362) – einschließlich der Nominalprädikate (*non-verbal predicates*) (347–353), der Satzbildung und Wortreihenfolge (363–404), Negation (405–428), sowie Satzverbindungen und Satzentsprechungen (429–454). Die Evidentialität und auch die Informationsstruktur bekamen ein eigenes Kapitel (275–284; 455–470), das über den Aufstieg dieser Themen berichtet, welche auch in der Uralistik zunehmend die Aufmerksamkeit der Forscher auf sich ziehen – die siebte Winterschule der Finnougristik, welche in Hamburg 2.–7.2.2019 stattfand, konzentrierte sich zu Ehren der Veröffentlichung der nganasanischen Grammatik auf eben diese zwei Themen. Sowohl bei der Wortsatzstruktur und Wortsemantik (471–503) als auch bei der Wortbildung (504–547) befasst sich das Werk in Hinsicht auf die bisherigen Forschungen mit den verfügbaren und den relevantesten Informationen. Wie Wagner-Nagy selbst betont (471, 504), ist die Forschung zu diesen Aspekten der Sprache bislang begrenzt. Andererseits können die Vorteile einer detaillierten Behandlung der Wortsemantik in der Grammatik in Frage gestellt werden, da es möglich ist, das Sprachvokabular mit Hilfe eines Wörterbuchs umfassender zu beschreiben. Das derzeit umfangreichste Wörterbuch des Nganasanischen mit siebentausend Worteinträgen (Kosterkina, Momde & Ždanova 2001) ist jedoch derzeit schwer zugänglich. Daher liefert Wagner-Nagys Überblick wertvolle grundlegende Informationen zu einigen der Schlüsselthemen der vergleichenden Wortschatzforschung, wie Farbbezeichnungen (488–490) und Relationsbezeichnungen (472–476). Zweifellos kann ein Kapitel über Wortsemantik für einen Typologen nützlich sein, der eine vergleichende Forschung betreibt, welche Informationen über einen bestimmten Wortschatz in Dutzenden

oder Hunderten von Sprachen benötigt. Neben der bestimmten schematischen Darstellung in Zusammenhang mit der Verbvalenz spiegelt der Abschnitt über die Wortsemantik das Ziel, einer internationalen Typologieforschung zu dienen, am deutlichsten wider. Wagner-Nagy hat in der Vergangenheit uralische Sprachen unter typologischen Gesichtspunkten beschrieben und verfügt über ein klares Verständnis der Konzepte und Praktiken auf diesem Gebiet. Im Vergleich zu den Arbeiten zur Negation in den obugrischen und samojedischen Sprachen (Wagner-Nagy 2011) ist die jetzt veröffentlichte Grammatik jedoch deutlich allgemeiner.

Laut Evans und Dench (2006) ist die Beschreibung und Kategorisierung multifunktionaler Formen in der Grammatik eine der größten Herausforderungen für die Grammatikautoren, sowohl zum Zeitpunkt der Veröffentlichung, als auch im Hinblick darauf, dass sie der zukünftigen größtmöglichen Lesergruppe von Nutzen sein werden. Einerseits ist die Veranschaulichung komplexer Sprachphänomene, ohne unnötige Wiederholungen und andererseits ohne Wesentliches auszulassen, immer eine Herausforderung. Dennoch gelingt es *A grammar of Nganasan*, seine Aufgabe zu erfüllen und ein ausgewogenes Ganzes zu bilden. Kleine Wiederholungen sind festzustellen: Beispielsweise wird ein Teil des Kapitels zur Änderung der Valenz (294–307) wiederholt, wenn es um deverbale Verbderivate (531–536) geht. Aber dies kann als unvermeidliche Folge dessen angesehen werden, dass die Valenz, als morphosyntaktisches und semantisches Phänomen, weit davon entfernt ist, in Bezug auf Derivation umfassend beschrieben zu werden. Andererseits wäre es auch nicht sinnvoll, die reiche Affixmorphologie (z. B. 531–520; siehe auch Leisiö 2012) des Nganasanischen, die oft über syntaktische Klassen hinausgeht, nur in den anderen Kapiteln auftreten zu lassen. So gelingt es Wagner-Nagy durch Unterteilung auch, sowohl die Sprachphänomene klar einzuteilen, indem auf die zwischensprachlichen Bedürfnisse der vergleichenden Forschung eingegangen wird, als auch die spannenden Eigenschaften des Nganasanischen hervorzuheben.

Am Ende des Werks befinden sich zwei Textbeispiele des Korpus mit Übersetzungen und Glossierungen (548–567), und mit deren Hilfe bekommt der Leser einen Eindruck von den wichtigsten Textarten im Korpus und den nganasanischen Ausdrücken. Die Verknüpfung einer größeren Textsammlung mit der Grammatik

dürfte kaum erforderlich sein, da die Digitalisierung der Materialien eine breite Online-Verfügbarkeit ermöglicht. Die alphabetische Referenzliste am Ende des Buches (569–577) sowie die Referenzen des Textes mit genauen Seitenzahlangaben ermöglichen nicht nur die Überprüfung der Hypothesen, sondern auch das Kennenlernen der gründlich katalogisierten früheren Recherchen. Die vollständige Latinisierung der kyrillischen Zeichen im Originaltext und das Entfernen der ursprünglichen Schreibweise aus dem Quellenverzeichnis erschweren das Auffinden der Quellen, was schon aufgrund der Fülle der russischsprachigen Quellen zu bedauern ist. Die zahlreichen Quellenverweise und eine detaillierte Indexliste von Schlüsselwörtern in Form und Bedeutung dürften insbesondere Typologen, aber auch diejenigen, die an einem bestimmten sprachlichen Merkmal interessiert sind, begeistern.

Im Kapitel über Phonetik und Phonologie (34–93) werden Klänge und Beispiele gemäß des IPA und der von Wagner-Nagy verwendeten Transkription (siehe S. 20–22), welche auf früheren Arbeiten basiert, gekennzeichnet. An anderen Stellen in der Grammatik wird nur die Transkription Wagner-Nagys verwendet, welche scheinbar das freie Allophon außer Acht lässt. Zum Beispiel wird das allgemeine, aber freiwillige Vorrücken eines Vokals nach einem palatalisierten Konsonanten nicht markiert (z. B. *ńuə* ‚Kind'). Stattdessen wird das in den neuen Lehnwörtern auftretende, nicht palatalisierte /d/ markiert, obwohl es nach Wagner-Nagy ein Allophon von /t/ ist (41). Andererseits wird auch die stimmlose Assimilation von Konsonantenklustern (z. B. *kobtu͡a* [koptu͡a] ‚Mädchen') nicht gekennzeichnet (82). Die Prinzipien, auf denen die Transkription basiert, sind in der Grammatik klar angegeben (20–22), werden aber nicht wirklich begründet. Das Kapitel über mögliche Klangkombinationen zeigt einige widersprüchliche Argumente. Zum Beispiel, dass das palatalisierte /ď/ vor einem /o/ nicht auftreten würde (54), obwohl Wagner-Nagy in ihrer früheren Darstellung der Allophonie der Vokale ein Beispiel gibt, in dem dies der Fall ist: „Following a palatal consonant, /o/ is pronounced as [ø] by some speakers, e.g. *ďoðürsa* 'walk' [ɟøðʲyrsa]. The pronunciation as [o] is more usual, if there is a non-front vowel in the following syllable, as in *ďorəďa* [ɟorəɟa] 'cry'." (S. 48.)

Dank des Kapitels über Phonologie wird sowohl eine bemerkenswert klare und detaillierte Beschreibung des vielseitigen Stufenwechsels als auch der im

Nganasanischen zahlreich auftretenden anderen morphologischen Flexionsprozesse geliefert (74–93). Die Auswirkungen sowohl synchronen als auch historischen Konsonantenwegfalls auf die Stufenstruktur werden durch das Konzept eines „leeren Slots" (*empty slot*) am Anfang veranschaulicht (67–71), welches auch im Wesentlichen die Beschreibung des Stufenwechsels verdeutlicht und einen erheblichen Teil der „Unregelmäßigkeiten" erklärt, wobei nur wenige tatsächliche Unregelmäßigkeiten übrig bleiben, unter anderem das reportative *ibahu* des sein-Verbs, dessen regelmäßige Form **ihuaŋhu* (217, 252) wäre. Die Wirkung von wegfallenden Konsonanten auf morphologische Prozesse wurde in einer früheren Studie untersucht (z. B. Helimski 2000: 172; Wagner-Nagy 2002), aber die jetzt veröffentlichte Beschreibung der Grammatik ist detaillierter als zuvor. Außerdem basiert sie auf einer systematischeren Stufenstruktur der Wörter. Sowohl das ältere Material (u. a. Castrén 1854, 1855) als auch die morphologischen Variationen im Flexionsparadigma der heutigen Sprecher zeigen, dass ein „leerer Slot" nicht nur ein theoretisches Konzept ist, sondern eine historische Grundlage hat. (S. 67–70.)

Leider weisen die Stufenwechselbeispiele 24 (S. 75) und 31 (S. 78) jeweils einen Fehler bei den Sibilanten und Sibilant-Nasalverbindung der gleichen schwachen Stufe auf: /s/ und /sʲ/ erhalten immer ein /ď/ der schwachen Stufe genauso wie /ns/ und /ńsʲ/ in der starken Stufe /ńď/, aber in der Einleitung der Beispiele sind die Zeilen so ausgerichtet, dass die Gegenpaare der repräsentativen Reihe der schwachen Stufe nicht mehr übereinstimmen und zu weit links angeordnet sind. Dieser Fehler kann den Leser, der mit anderen Quellen der Variationen des nganasanischen Stufenwechsels nicht vertraut ist, irreführen.

So umfangreich die Grammatik in Bezug auf den Inhalt und Umgang auch ist, so werden doch einige Sprachmerkmale und Teilbereiche unweigerlich aus der Diskussion herausgenommen. Die Prosodie wird unter anderem kurz und vor allem in Bezug auf den Wortakzent behandelt (72–74). Wie Wagner-Nagy selbst betont, erfordert das Thema noch eingehendere Forschung. Weitere Themen, die weiterer Forschung bedürfen, sind die Klärung des Ursprungs der Suffixelemente und Modusmarkierungen, dialektale Unterschiede und andere Unterschiede zwischen den Sprechergruppen. Mehr Aufmerksamkeit sollte auch den sogenannten Halbsprechern gewidmet werden, also der typischerweise jüngsten Generation von Sprechern, deren

Sprachkenntnisse unvollständig geblieben sind. Die Sprache der Halbsprecher wurde nicht im Korpus aufgenommen, was bedeutet, dass fast kein Material aus ihrer Sprache verfügbar ist. Die Untersuchung der Sprache der Halbsprecher würde jedoch wertvolle Einblicke in die Entwicklung des Sprachaustauschs zwischen den Nganasanen und der Attrition, also die Auswirkungen des Rückgangs der Sprachkenntnisse vermitteln. Gleichzeitig ist die linguistische Forschung zum Sprachwechsel – leider – sowohl im Bereich der Uralistik als auch weltweit ein aktuelles Thema.

Über die Sprachsituation des Nganasanischen gibt Wagner-Nagy ein ehr pessimistisches Bild; ihr zufolge ist der Sprachwechsel zum Russischen, nach den Besiedlungen, schnell fortgeschritten und kann nicht mehr gestoppt werden (15–18). Natürlich scheint die Zukunft der nganasanischen Sprache angesichts einiger früherer Erklärungen trostlos (z. B. Helimski 1998: 480–481; Szeverényi & Wagner-Nagy 2011; Wagner-Nagy 2017). Siegl (2013: 19–20, 23) stellt fest, dass die nächsten zehn Jahre entscheidend für die Zukunft des Nganasanischen sein werden und berichtet, dass sich die Einheimischen für das 2011 gestartete Sprachnestprojekt interessiert haben. Meines Wissens wurde seitdem weder eine detaillierte Beschreibung des Sprachnestprojekts veröffentlicht, noch wird dies in der neuesten Grammatik erwähnt. Zusätzlich zu den oben erwähnten vernachlässigten Sprachgebieten kann die aktuelle soziolinguistische Situation zu den Themen gezählt werden, die durch Feldforschung weiter untersucht werden müssten.

Glücklicherweise bietet die Grammatik eine gute Grundlage für weitere Forschungen. Dank der weit verbreiteten und bekannten verwendeten Terminologie in der Grammatik kann jeder, der mit den gängigen sprachlichen Theorien und Konzepten vertraut ist, diese problemlos verwenden, ohne zuvor die dazugehörige Literatur zu lesen. Andererseits kann auch die Sammlung von bisher fragmentierten und schwer zugänglichen Forschungsergebnissen in Form einer umfangreichen Bibliografie als unbestreitbares Verdienst der Arbeit gewertet werden. Vor allem, da in der Forschung zu den samojedischen Sprachen ein bedauernswert großer Teil an Informationen in Form von unveröffentlichter „Überlieferung" von einem Forscher an den anderen weitergegeben wurde. Die umfassende grundlegende Grammatik bietet mit ihrem benutzerfreundlichen Index den an der nganasanischen Sprache Interessierten ein breites Paket an Basisinformationen zu den Sprachstrukturen, das

eine mehrdimensionale Herangehensweise an das Thema von der Sprachtypologie bis hin zur Diskussionsforschung ermöglicht. Und die online veröffentlichte Version des als Material verwendeten Korpus (Brykina et al. 2018) gibt immer mehr Forschern Material über die kleinen nördlichen Sprachen, obwohl die Vorteile der englischsprachigen Publikation und der Online-Umgebung für die Sprachengemeinschaft jedoch begrenzt sind.

Kaisla Kaheinen

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A new general dictionary of Ume Saami

Barruk, Henrik. 2018. *Báhkuogirjjie: Ubmejesámien–dáruon, Dáruon–ubmejesámien = Ordbok: Umesamisk–svensk, Svensk–umesamisk*. Umeå. 301 pp.

Among the Western Saami languages, Ume Saami has the least written representation and the lowest number of speakers (currently a few dozen at most; see e.g. Sámediggi 2018). One of the obstacles to revitalisation work has been the lack of an easy-to-use dictionary: up until now, the most recent dictionary of Ume Saami was Wolfgang Schlachter's dictionary of the Malå dialect of the language, published in 1958, which has long been sold out and which, as a scientific dialect dictionary, uses German as its metalanguage. With this in mind, the publication of a new Ume Saami–Swedish–Ume Saami dictionary is happy and long-awaited news.

The new dictionary is the result of long-term gathering work by Henrik Barruk: in his preamble, he says that he started to write down the words of his parents when he was a child. The work became more goal-oriented in nature at the start of the 2000s, when a working group of five Saami elders came to Barruk's aid and began listing words based on their oral histories. In addition to the working group's language skills and observations on the contemporary language, Barruk has utilised Schlachter's dictionary, dialect notes by Axel Calleberg, Nils Moosberg and Jonas Nensén stored in the Swedish archives, and, to some extent, old Swedish Saami Bible translations and Lindahl and Öhrling's dictionary from 1780, which are mentioned in the references of the work. First and foremost, the dictionary is intended for everyday use – to provide a foundation for studies and the development of language skills, as Barruk states in the preamble – but linguists, who have had to rely thus far on Schlachter's dictionary, essentially based on the idiolect of one speaker of a single dialect, could also hope that the new dictionary would provide a somewhat broader lexicological resource. In the following, I will assess the usefulness of the dictionary first and foremost from the perspective of a researcher. Olle Kejonen (2019) has recently written a more general assessment of the book.

The appearance of the book is deserving of praise, but also a small reproach. The layout and cover design are elegant in their simplicity and pleasant to read, and map of the speaking area of Ume Saami on

the inner cover is a nice addition. The hard covers are undoubtedly good from the perspective of durability. However, the usability of the book is hampered by the stiff adhesive on the spine, which means that the book does not stay open except under the weight of a hand or at least half a kilogram. The use of an adhesive binding technique also poses a risk of pages coming loose with intensive use over time.

In presenting Saami words, Barruk's dictionary uses a newly established spelling (Arbetsgrupp 2016) that resembles the orthography of Lule and Pite Saami and is more user friendly than the subphonemic marking used by Schlachter. A noteworthy shortcoming in the orthography is that it does not distinguish between long (open) and short (close) *o*-vowels, using *å* to mark both (cf. e.g. *dågga* /o/ 'in that direction' and *dågga* /ō/ 'in this direction').[1] The relationship between writing and pronunciation is explained to a satisfactory degree in the introduction to the dictionary, although the somewhat disjointed vowel alternation table provided here would probably need a clearer layout and explanations to be understood by someone not familiar with Ume Saami phonology. When it comes to the letter *ü* (the central vowel /ʉ/), the alphabetisation is inconsistent: in the grapheme list in the introduction, it is presented between *u* and *v*, whereas in the word entries, it appears after *y* (the front vowel /ü/) as an initial. Word-internally, though, it is alphabetised together with *y*.

The word entries in the book are concise and informative; in addition to translations, the word class is provided for each word and, if necessary, the oblique stem and any phonetic variants, which also have their own reference entries. For some words, examples of usage are also provided. The phonetic variants are usually regular variants from different dialects; the forms belonging to the Malå and Arvidsjaur dialects are marked with an asterisk (e.g. *geärggie* ~ **geäđggie* 'rock'). Lexicologists would benefit from more detailed dialect and

1. When deciding on the orthography, there would have been an excellent opportunity to distinguish the short *o* from the long one using the grapheme ‹o›, which is now used only in the latter component of the diphthong ‹uo›. Here, the orthographic model of the Scandinavian languages and Lule, Pite and South Saami seems to have taken precedence over the principle of indicating phonemic differences. That said, the grapheme ‹u›, for example, is used to indicate the vowel *u*, despite its differing phonetic value [ʉ] in Swedish, Norwegian and South Saami.

source information, but understandably there is no place for it in a general dictionary of this kind.

That said, researchers of historical-comparative lexicology are aided by the fact that the original *đ* is presented as its own phoneme (with the dialectal variants *đ* ~ *r*), whereas in Schlachter's dictionary, this sound cannot be distinguished from *d*. Generally speaking, Barruk's dictionary uses a more systematic historical phonemicisation in cases where the realisations of two phonemes overlap; as a comparison, Schlachter sometimes marks the etymologically long *á* as *a*, (e.g. *vasstèdit* vs. Barruk: *vásstiedit* 'answer' ≠ *vasstie* 'ugly'). This likely reflects the handiwork of Professor Emeritus Olavi Korhonen, who is commended in the preamble to the dictionary for his great help during the editorial work.

The new dictionary is stated to have a scope of more than 5,000 Saami entries, whereas Schlachter's dictionary has just under 6,000 words. How has Barruk, using sources that are in principle much more extensive than Schlachter's, managed to produce a dictionary of around the same scope? Looking at the two dictionaries side by side, it appears that the material has been limited by excluding a large number of derivations and vocabulary that the editor apparently did not consider important for contemporary users. In the following, I will illustrate the differences between the two dictionaries by comparing the Ume Saami words they contain beginning with *v*. For the comparison, I have used an electronic version of Schlachter's dictionary data, where I have sought to programmatically convert the headwords into the spelling and alphabetisation used by Barruk.[2]

Barruk's dictionary contains a total of 318 entries beginning with the letter *v* when entries indicating regular dialectal variants (*vuađđuo* → *vuarruo*) and variants in inflectional class (*viärrage* → *viära* : *viärrag-*) are subtracted from the total. The total number of comparable words beginning with *v* in Schlachter's dictionary is 453. Excluding minor differences in phonetic form and meaning, there are 200 words that can be identified as common to both dictionaries,

2. The material is based on the Ume Saami vocabulary provided in the Álgu database (http://kaino.kotus.fi/algu/), which contains Schlachter's dictionary in its entirety (with minor additions). The data converted into the modern orthography and the program used for the conversion are available at https://doi.org/10.5281/zenodo.4163676, and a comparison table of the *v*-words can be found at https://doi.org/10.5281/zenodo.4166780.

including (B) *viärrat* ~ (S) *feärrat* 'carve', which is found under *f* in Schlachter. In addition, some basic words that are surprisingly missing from Barruk's entries can in fact be found in the Swedish–Ume Saami section of the same dictionary: these include at least *váhrá* ~ *váhđá* 'danger' (s.v. *fara*), *varries* 'fresh' (s.v. *frisk*), *viäralde* 'world' (s.v. *värld*), *vuajgŋat* ~ *vuajŋatit* 'breathe' (s.v. *andas*), *vuassa* 'sack' (s.v. *säck*) and *vuösstie-* 'counter-, against (in compounds)' (s.v. *mot-*). In other words, the two directions of the dictionary do not fully correspond to one another in terms of their content.

Based on the above, as many as 246 of the words beginning with *v* in Schlachter's dictionary, i.e. more than half, are not found in Barruk's. Most of the words omitted are compound words or derivations, particularly aspectual verbs and adjectives. For example, for the following series of derivations, Barruk's dictionary provides only the stem verbs (in boldface):

vadnat 'stretch (intr.)'	***viässuot*** 'live'
vadnatit 'stretch (tr.)'	*vyössat* 'receive life (e.g. of a newborn)'
vadnatallat 'stretch oneself'	*vyössijit* 'recover'
	vyössijahttiet 'bring back to life'

In addition, certain (near-)synonymous derivations have been omitted. Along with the word *varrasmuvvat* 'heal, recover', for example, Schlachter provides the near-synonymous derivations *varrasmit*, *varrasmáhtjat*, and *varrastuvvat*, which Barruk does not include. Regular inchoative derivations in *-gåhtiet* have been included by providing only the suffix as an entry. Adjectives in *-ladtje* are included selectively (*vïssjuoladtje* 'enemy', but not, for instance, *veälggåladtje* 'debtor'), as are abstract nouns in *-vuahta* (*viänagisvuahta* 'friendship', but not, for instance, *vïssjaladtjevuahta* 'hostility'). Caritive adjectives such as *viehkiet(iebmie)* 'helpless' and *vuajat(iebmie)* 'fat-free' seem to have been omitted altogether.

It makes sense to exclude transparent derivations of this sort from a dictionary with a limited scope, as the meaning can usually be inferred from the parts of the word. When it comes to productive derivation types, listing all possible derivations would also take up an unreasonable amount of space. The starting point is thus quite different from that of an exhaustive dialect dictionary, which is important to bear in mind when using this dictionary for research purposes.

Words have also been included or omitted on non-morphological

grounds. Although the introduction to the dictionary states that the majority of the vocabulary is related to the traditional sphere of life of the Ume Saami people, some vocabulary connected to former livelihoods and beliefs has also been omitted (cf. Schlachter's *várbbie* 'seine fishing spot', *virbmas* 'skilled at recognising earmarks', *vänttje* 'ghost'). Some of the words found in Schlachter's dictionary have probably been considered too marginal in the Ume Saami language area; for example, the phonetic form of the word *vuövddiet* 'sell' suggests that it has been borrowed from a more northern Saami variety (cf. the regular form *vuöbddiet* 'id.' < **vuomtē*-). On the other hand, the South Saami-type variant *vïnttsa* 'boat' of the word *vadnas* 'id.' has been included.

The new dictionary contains 118 *v*-words that are not included in Schlachter's dictionary. In terms of their semantics, many of these appear to be fairly basic vocabulary items that Schlachter simply did not come across when collecting his materials, such as *vaháge* 'damage', *várjjuo* 'weapon', *vïdnjuo* 'sloping, askew', *vuastuo* 'uphill', and *veäjkkat* 'dive'. The additions also include some adverbs and relational words, such as *vïhttás(i)t* 'surely, probably', *vuan* ~ *vuon* 'surely; of course; otherwise' and *vïllabe* 'regarding (related to the following sentence)'. The new dictionary also includes some common derivations and compounds not found in Schlachter's, such as the compounds *veälljabiellie* 'half-brother', *vuapttatjållie* 'strand of hair', *vulasvuarruo* 'autumn migration', the nominal derivations *vádtsátahkka* 'path', *välljeme* 'choice', *vuöhtjije* 'shooter', and the verbal derivations *viähkasjit* 'give help', *vïjssuot* 'become wise(r)', *valgg(a)sit* 'start walking' and *vuajdnasaddat* 'see one another'.

As a general impression, compared to Schlachter's dictionary, Barruk's is more comprehensive when it comes to the basic vocabulary commonly used in the language, which is the main purpose of a general dictionary. In some respects, the scope seems somewhat random, which is probably largely due to the fact that Barruk's dictionary is also based on field and archive materials and not, for example, on a pre-edited dictionary template. There are also peculiar gaps in certain semantic fields; for example, the kinship terms *vïjvva* 'son-in-law' and *vuöniev* 'mother-in-law' are included, but *vuahpa* 'father-in-law' (found in Schlachter) is not. The following superlative adjectives in *-mus* are included in both Schlachter's and Barruk's dictionaries:

jillijmus ‘westernmost’ *luvlijmus ~ lüvlijmus* ‘easternmost’ *nuartijmus* ‘northernmost’	compass points
uvdijmus ~ üvdijmus ‘first, foremost’ *bijjijmus* ‘uppermost; highest’ *vuelijmus* ‘undermost; lowest’	spatial field
viärrámus ~ viärrájmus ‘worst’	valuation

In Barruk’s dictionary, the list also includes the spatial terms *jïllijmus* ‘highest’ and *miŋŋijmus* ‘last, hindmost’. What is strange, on the other hand, is that the dictionary omits the superlative form of the fourth compass point, *ürjijmus* ‘southernmost’, and the opposite of the word *viärrámus*, *bürijmus* ‘best’, both of which are found in Schlachter. The following superlative spatial indicators, which appear in Schlachter, have also been omitted:

däbbijmus ‘closest to here’
gaskijmus ‘centremost’
gäddijmus ‘closest to the shore’
ulgijmus ‘outermost’
ustijmus ‘farthest’

The degree to which the amount of widespread vocabulary is increased in the new dictionary can also be examined by comparing it with the Ume Saami material in Lehtiranta’s (1989) *Yhteissaamelainen sanasto* [Common Saami Vocabulary] (YSaS), which is mostly based on Schlachter’s dictionary. YSaS contains a total of 161 Proto-Saamic words beginning with *v*, 40 of which do not have an Ume Saami cognate. The new dictionary provides five missing cognates: *viärruo* ‘victim; tax’, *vuaktijŋe* ‘rack for drying nets’, *vuöhppie* ‘narrow bay’, *vuömssie ~ vuöpssie* ‘span, hand span (unit of measurement)’ and *vuarruo* ‘turn; shift’. In addition, the dictionary contains three words in YSaS that were obtained from sources other than Schlachter (*vualppuo* ‘skirt’, *vuadna* ‘settlement (in Norway); fjord’ and *vuarttja ~ vuar(a)tjis* ‘crow’, which is presented in YSaS as *vuör'tjee*). The new dictionary does, therefore, provide additions, albeit not a great deal. At least the same amount of additional vocabulary would probably be obtained from the archival material that has not been included in the dictionary; Lehtiranta (1989: 8) estimates that more comprehensive source material could increase the amount of common Saami vocabulary known from Ume Saami by one tenth.

All in all, it can be said that the new Ume Saami dictionary will certainly fill its role as a tool for language use. For lexicologists, too, it offers a good number of entries

that were not previously found in dictionaries, but because of the selection made in the editorial work, it is not suitable for more systematic research on word formation or the structure of vocabulary. Consequently, a scientific dictionary describing all of the recorded Ume Saami vocabulary and its dialectological distribution remains on the researcher's wish list. On the other hand, it would be desirable if dictionary publishers made full use of modern technology: while ordinary language users could benefit from a mobile application or online version of the dictionary, linguistic researchers would also like to see the material made available for research purposes in a structured, digital form that can be used as openly as possible. When it comes to making data openly available, development has been moving in a good direction, and, to give an example from Saami lexicology, Juhani Lehtiranta's planned extensive dialect dictionary of Pite Saami will, according to the author's knowledge, be published as an open database as soon as it is completed.

Juha Kuokkala

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Marja Leinonen 1946–2019

Ulla Marja-Leena Leinonen was born on 16 January 1946 in Varkaus, Finland. She was originally a researcher and expert in the Slavic languages, and subsequently also in the Finno-Ugric and Baltic languages, who spoke and translated the languages she studied.

Marja Leinonen was so fascinated by the Russian language and general literature that, after having completed a correspondent's degree at the Helsinki School of Economics in 1967, she decided to pursue these subjects at the University of Helsinki. She obtained her Master of Arts degree in 1975 and her Licentiate degree in 1979, and earned her PhD in 1983. Her doctoral thesis on aspect in Russian, entitled *Russian Aspects, "temporal'naja lokalizacija" and Definiteness/Indefiniteness* (*Neuvostoliittoinstituutin vuosikirja* 27, 1982), has received a great deal of international attention.

Marja Leinonen began her academic career at the University of Helsinki, where she worked for three years as a lecturer in general linguistics. Following this, in 1981, she went to work at the University of Tampere, serving first as a lecturer in general linguistics and then, starting in 1985, as a professor of Slavic philology. Leinonen's career as a professor lasted until 2004. During that time, she led four projects funded by the Academy of Finland. She was also a Docent at the Department of General Linguistics at the University of Helsinki (appointed in 1983). Leinonen retired early from her position in Tampere, leaving behind the university bureaucracy and dedicating herself to science as a free researcher.

Marja Leinonen focused on comparing the sentence structures of Finnish and Russian and on the features of spoken Russian. She initiated the study of the oral history of Russians in Finland, with a particular emphasis on Russian evacuees from the Karelian Isthmus. Under her guidance, a number of theses were produced on the topic. Leinonen's own sociohistorical studies shed light on language contacts and on the traditions and everyday history of Russians in Finland. Leinonen was co-editor of the publication *Russian Life in Finland 1917–1939: A Local and Oral History* (2001), for which she also compiled materials. Her monograph *Impersonal sentences in Finnish and Russian* was published in 1985. The Russian-based

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vocabulary in Helsinki slang was another one of Leinonen's interests, and she explored the topic in her inauguration lecture in 1986. Leinonen also authored a history of the Russian society of merchants in Helsinki, *Helsingin venäläinen kauppiasyhdistys r.y. 1918–1988*, which was published in 1991.

In the 1990s, Leinonen began to develop an interest in the Finno-Ugric languages, first acquiring skills in Komi under the guidance of a native-speaking teacher. After retiring, she delved into research on the Komi language and later also Estonian. Her interest in Komi took Leinonen on conference and lecture trips to Syktyvkar. In cooperation with key researchers from the Komi Republic, she prepared and published a variety of studies, including an investigation of the Komi conjunction *da* together with Valentina Ludykova ("Конечное слово *да* в коми языке с ареально-типологической точки зрения", *JSFOu* 89, 2001), a study of evidentiality with Evgenij Cypanov ("Эвиденциальность в коми (на материале модального перфекта)", *Linguistica Uralica* XLV, 2009), and a paper on the Komi essive structure with Galina Nekrasova ("The Komi answer to the essive question", *Typological Studies in Language* 119, 2017).

Language contacts between Russian and Komi, especially the influence of Russian on Komi syntax, were key subjects of Leinonen's research. She explored these themes in her articles "Influence of Russian on the Syntax of Komi" (*FUF* 57, 2002), "The russification of Komi" (*Slavica Helsingiensia* 27, 2006) and "Russian influence on the Izhma Komi dialect" (*International Journal of Bilingualism* 13, 2009). Her article surveying the multifunctionality of Komi possessive suffixes, entitled "Omistussuhteen ulokkeita: komin possessiivisuffiksin ei-possesiivisista funktioista", was published in 2006 (*JSFOu* 91). Leinonen also studied the research history of the Finno-Ugric languages and peoples of Northern Russia more broadly. Her twenty articles on Komi account for one fifth of the more than a hundred articles she published throughout her career. Some of these also appeared in congress proceedings in the Komi Republic, and her articles on Anders Johan Sjögren's Komi-related correspondence were published in the Komi journal *Art* (2009: 3, 4).

Marja Leinonen was also an archival researcher. She diligently translated and published her archival findings – ethnographic and linguistic studies and travel reports on northern regions – in a variety of works, including "Kuolan niemimaan filman-saamelaiset" (*JSFOu* 92), "Perceptions of identity among speakers of Finno-Ugric languages in Russia as

recorded by Finnish scholars, 1816–1860" (Michael Branch (ed.), *Defining Self*, Finnish Literature Society, 2009) and *D. N. Buharov: Matka Lapissa syksyllä 1883* (Finnish Literature Society, 2010). She contributed to the A. J. Sjögren project led by the National Library of Finland and Michael Branch by transcribing Sjögren's journals for the library's online publication and by compiling a table of contents for the microfilms commissioned from Saint Petersburg, which would prove very useful for research. The world of Sjögren scholarship lost two researchers within a week of each other in summer 2019: first Leinonen, then Branch.

During her retirement years, Leinonen focused not only on the Finno-Ugric languages but also on learning and studying the Baltic languages. She was particularly interested in the language contacts that had taken place in the Baltic region. She compared the Latvian, Estonian and Finnish genitives, as well as the use of the partitive in Lithuanian and Finnish ("Lithuanian partitive genitive and Finnish partitive in existential sentences" in *Contacts between the Baltic and Finnic languages*, UH 7, 2015). Leinonen is also known as a translator of Latvian literature into Finnish; she co-translated the anthology *Jānis Rainis: Se pysyy, joka muuttuu*, which was published in 2016. In addition, her translations of poems and prose have appeared in the cultural publications of the Rozentāls Society (*Rozentāls-seuran Kulttuurikirja*). Leinonen was also a member of the Finnish-Latvian Ziemeļmeita choir, with whom she performed in several countries, including the Baltic States and the United Kingdom.

Along with choir singing, Leinonen was an avid painter. She was a member of Hyart, the faculty art club of the University of Helsinki, whose traditional spring exhibitions gave Marja's friends an opportunity to get to know her artistic side. An amateur ornithologist, she was particularly fascinated by the birdlife of Estonia.

Marja Leinonen was involved in the activities of many associations. She served on the editorial board of Scando-Slavica (1988–2004), the board of the Linguistic Association of Finland (1995–1999, including two terms as Chairperson) and the board of the Nordic Association of Linguists (1995–1999). Leinonen was also a permanent member of the Finno-Ugrian Society.

Marja Leinonen demonstrated her perseverance as a researcher until the very end: even on her sickbed at the beginning of June, she was thinking about a new research topic. However, her disease progressed rapidly, and she passed away on 8 June 2019 in a hospital in Helsinki.

The passing of a multifaceted all-round researcher and beloved friend was felt by many. This is evidenced by the obituaries published in *Helsingin Sanomat*, *Virittäjä*, *Idäntutkimus*, *Scando-Slavica* and the Komi-language newspaper *Komi mu*.

Мед сылы муыс лоас байдӧг гӧн кодь небыдӧн! ('May the earth be as soft for her as a willow grouse feather.')

Paula Kokkonen

Michael Branch 1940–2019

One of the most internationally renowned researchers in Finno-Ugrian studies, Professor Michael A. Branch of University College London, died after a long illness on 17 June 2019. He was born on 24 March 1940 in Langley, Kent, grew up in Eastern London and retired from his position as Director of the London School of Slavonic and East European Studies in 2001.

Throughout his career, Michael Branch served as a university lecturer and academic administrator at the London School of Slavonic and East European Studies, where he was based since autumn 1967. After three years as Assistant Lecturer in Finno-Ugrian Studies, he became a permanent lecturer in autumn 1970 and was appointed Reader in Finnish Studies in autumn 1977. On 1 October 1986, he was appointed Professor of the same subject. In addition to his academic career, he would eventually take on important administrative duties at the university. He served as Director of his School from autumn 1980 until his retirement in 2001. Along with his official duties, he was either a member or chair of numerous governing bodies, and he represented the university in several external organisations. The School had been merged with the University in 1999.

It is evident that Michael Branch had an interest in the Finno-Ugric peoples and their languages from an early stage. The problem was that when he began his studies in 1959, no British university offered Finnish Studies as an accredited course, which is why he chose to major in Hungarian studies with Swedish as the subsidiary subject, graduating in the spring of 1963. His Hungarian studies lasted four years. They also included a course in Hungary, which would be of great significance for his future and not only from an academic point of view: it was there that he met his future wife, Hannele, whom he married in 1965. This tied him in many ways to Finland, where he spent most of his summer holidays and did research at archives and libraries.

Although the Hungarian language was the main subject of his studies in the early years, he had a strong interest in Finland and the Finnish language, and in the academic years 1961–1962, he was able to study Swedish in Helsinki thanks to a scholarship granted by the Finnish State, while also beginning in-depth studies in Finnish. The following year, he received a three-year British postgraduate research grant, which he used largely in Helsinki, focusing on his doctoral thesis and, at the same time,

familiarising himself with history of research on the Finno-Ugric languages. He became acquainted with the topic of his doctoral thesis, the Finnish linguist and researcher Anders Johan Sjögren, in the autumn of 1963 after completing his BA degree. His decision to study Swedish had therefore been a fortunate one, as it gave him access to Sjögren's world: according to the practice of time, Sjögren wrote most of his texts in Swedish, even though his mother tongue was Finnish. It is not at all impossible that Branch's interest in Sjögren was inspired by Professor W. R. Mead, as he was one of the supervisors of Branch's doctoral dissertation and had an excellent knowledge of Finland and its circumstances. His other supervisor was Professor Aulis J. Joki from Finland, who was also a true expert on the topic of Sjögren. Branch's dissertation, *The development of A. J. Sjögren as a scholar and his role in establishing Finnic studies as an academic subject*, was accepted in 1967 at the University of London.

In 1973 Branch published the printed work *A. J. Sjögren: Studies of the North* (Mémoires de la Société Finno-Ougrienne 152. Helsinki 1973), in which he elaborated parts of the themes of his dissertation. To quote his own words: "The main emphasis of the dissertation, which examined the development of Anders Johan Sjögren as a scholar and his contribution to the establishment of Finnic studies as an academic subject, was mainly biographical. While Sjögren remains the subject of the present work, it is concerned far more with the evolution of a single idea, the affinity of the Finno-Ugrian languages and peoples as seen from Finland, from 1770 until the middle of the 19th century, and the methods by which that affinity was determined. As such, this book is as much concerned with the history of ideas in Finland as with the early history of Finno-Ugrian studies."

The printed work was the first of a planned set of two parts. It examined Sjögren's intellectual development as university student, his move to St Petersburg in 1819 and his fieldwork expeditions in Northern Russia in 1824–1829 to study the languages, traditions and history of peoples related linguistically to the Finns. Upon his return to St Petersburg, he entered the employment of the Imperial Academy of Sciences, first in 1829 as an assistant and in 1832 as an Extraordinary Academician. He worked as an Ordinary Academician between 1844 and 1855.

Already the subject of the doctoral thesis and the approach required for it ended up determining the direction of Branch's research. The approach to the research was historical, and it focused primarily on the Finno-Ugric language groups and their oral traditions, language and history. The main

area of interest was Sjögren, to whom Branch devoted the greatest attention until the end of his career as a researcher. And, when it came to A. J. Sjögren, Branch undoubtedly became the leading authority on his subject. Gradually, his perspective expanded and he also began looking into the development of national identity and the factors influencing it, particularly among the Finno-Ugric peoples of Russia. One of his great role models was Miroslav Hroch, Professor at the Charles University in Prague.

Branch never got the opportunity to write the planned sequel to the first volume of his printed work *A. J. Sjögren: Studies of the North*. The materials stored in the Soviet Union were not accessible at the time, and by the time the doors opened after the collapse of the Soviet Union, Branch's responsibilities as Director of the School of Slavonic and East European Studies did not afford the freedom needed to carry out the research. However, his plans had already changed by then, and new projects filled his time even after his retirement.

Despite his demanding official duties, Branch published a large number of studies and articles. In addition, he was either an initiator or editor in charge of various large-scale publications intended for an international readership. Thus, in 1977, together with Professor Matti Kuusi, he edited a broad, Finnish-English bilingual folklore anthology entitled *Finnish Folk Poetry: Epic*. As its translator he managed to procure Keith Bosley, who later gained many merits as a translator of Finnish-language literature. And in 1985, which marked the 150th anniversary of the Kalevala, he republished the English-language Kalevala, *Kalevala: The land of heroes*, published originally by W. F. Kirby in 1907, which he edited and expanded with an introduction and notes.

A notable work in terms of its scale was *The Great Bear: A Thematic Anthology of Oral Poetry in the Finno-Ugrian Languages*, which was published by the Finnish Literature Society in 1993 and to which Michael Branch was invited to contribute as a main editor. The basic concept of the publication was developed by Professor Lauri Honko, and the editorial team also included Senni Timonen. The actual texts in the anthology were once again translated by Keith Bosley. This large anthology, about 800 pages in total, was carefully edited with each section introduced by a specialist's essay. The 450 poems, songs, spells, prayers and laments in the original languages and in English convey the worldview of pre-literate peoples and provide an insight into their lives. The texts illustrate the beliefs, perceptions and artistic genius of fifteen peoples scattered across

Northern Europe, deep into Russia and beyond the Urals, and of the Hungarians in Central Europe.

While Branch continued to carry out his duties at the School and his diligent publishing, his interest in Sjögren took on an ever more diverse form. In fact, Sjögren gradually became the dominant focus of his activities, especially after his retirement. In honour of the 200th anniversary of Sjögren's birth, Branch organised an international conference under the heading "Identity and the Writing of National Histories in the North-East Baltic Region in the 18th and 19th Centuries" in Iitti, Finland, in 1994. The organisers also included the London School of Slavonic and East European Studies. The presentations given at the conference were published in 1999 as a book edited by Michael Branch entitled *National History and Identity: Approaches to the Writing of National History in the North-East Baltic Region Nineteenth and Twentieth Centuries* (Studia Fennica Ethnologica 6. Helsinki: Finnish Literature Society 1999).

Michael Branch considered it necessary to connect Sjögren's thinking to a wider international context. As part of these efforts, a second international conference was held at the Kymenlaakso Summer University in Kouvola, Finland, in June 2006. The supporting organisations behind the conference were University College London and the Finnish Cultural Foundation. The theme of the conference was the formation of national identities in Russia among its different nationalities. The speakers were internationally renowned experts on questions of nationality, including Miroslav Hroch. With great care, Branch collected the conference presentations into a wide-ranging publication, spanning more than 600 pages, entitled *Defining Self: Essays on emergent identities in Russia seventeenth to nineteenth centuries* (Studia Fennica Ethnologica 10. Helsinki: Finnish Literature Society 2009). The work is perhaps the most important scientific publication on this subject.

Michael Branch repeatedly highlighted the unique significance of the materials – journals, correspondences and collections of data – that Sjögren left behind. In Branch's view, Sjögren's research could shed light on the early stages of the nationalities movement of the 19th century, for example, as both a cultural and political phenomenon, especially if the materials were examined in the light of the latest research. When discussing the importance of the materials, he states emphatically: "I am not aware of any other Central European nationalist who would have left so much first-hand personal material on his own mental development and the shaping of his ideology."

Even before his retirement, at the end of the 1990s, Branch raised the idea of publishing a critical, scientifically edited online version of Sjögren's journals. Thanks to his own research, he was well acquainted with the journals and understood their significance for research on Sjögren and his influence. In his view, the journals, which spanned as long as half a century (1806–1855), were a unique series of sources also on a European scale. With his characteristic tenacity, he began to promote the realisation of his idea and also persuaded the author of these words, who was tasked with organising the major project. The project was launched in 2001, with the aim of producing a scientifically edited critical edition of Sjögren's full journal, the scope of which was 8,352 handwritten pages.

Without Michael Branch's input and expertise, the online publishing project would never have got underway. He did great work in defining the objectives and editorial principles of the project. Once the project had begun, and especially after his retirement, Branch supervised the work and participated in it himself. Unfortunately, his illness interrupted his participation in the project work, which was therefore interrupted for a few years. Fortunately, before long, Finnish researchers were able to resume work on the publication. This said, the goal would no longer be to produce the kind of critical text edition initially envisioned by Michael Branch, but rather to publish the basic text of the journals. The resulting publication is now available to researchers at https://www.doria.fi/handle/10024/177355. Alongside the journal project, he worked for a long time to get a significant portion of A. J. Sjögren's correspondence published. This work was unfortunately left unfinished. Fortunately, however, his material has been recovered and is available to researchers in the manuscript collections of the Finnish Literature Society.

It can be said that Branch was a key figure in disseminating interest in the Finnish language and in the research and history of the Finno-Ugric languages, both in the English-speaking world and more broadly. He had extensive international contacts, which he vigorously exploited, and his activities were widely recognised. This can be seen, for example, in the high decorations he received not only in Finland but also in Estonia, Latvia and Poland.

Branch himself has characterised his activities and their context as follows: "As Director of the School, my academic career moved in many new and interesting directions, as the School worked with various institutions establishing British and other models of higher education, and at the same

time seizing the numerous opportunities to work more closely with colleagues in the former Soviet Union and Eastern Europe. In retirement I have happily seized the opportunities which had opened up allowing closer collaboration across a wide-field of common academic interests, with my main interests primarily in the life and times of Anders Johan Sjögren."

In addition to research cooperation, Branch also contributed to the promotion of Finnish culture in Britain in many ways. For example, when the Helsinki University Library (now the National Library of Finland) began publishing the Finnish literature quarterly *Books from Finland*, he was initially a key figure in the project and participated in the publication of the journal until the end of 1979. Thanks to his expertise, the journal was able to adapt its editorial principles to meet the expectations and habits of a foreign readership. At the same time, he successfully promoted the translation of Finnish literature into English.

While working to make A. J. Sjögren and his life's work better known, Branch did not forget the birthplace of his subject. He forged close contacts with Iitti, Sjögren's home municipality, and its cultural circles. In 1989, he gave a presentation at the 450th anniversary of Iitti, and later, his relationship with Iitti grew stronger and led to a number of significant projects. On his initiative and with his help, the A. J. Sjögren Society was established in 1991, and he was invited to serve as an honorary member in 2001.

In fact, it is astonishing that, alongside his university career, Branch was able to create another full-scale and successful career as researcher and promoter of research in Finno-Ugrian studies. That would have already been enough for the life's work of a single researcher. This is a testament to his immense passion.

As a researcher and promoter of research, our friend Michael Branch was a recognised member of the Finnish community of scholars in Finno-Ugrian studies.

Esko Häkli

Martti Kahla 1928–2019

Martti Kahla, Erforscher der mordwinischen Sprachen, Bürochef und langjähriger Bibliothekar der Finnisch-Ugrischen Gesellschaft, verstarb am 10. Oktober 2019 in Helsinki. Er setzte sich zielstrebig für die Entwicklung der Bibliothekstätigkeit und des Schriftentauschs innerhalb der Finnougristik ein und war einer der langjährigsten Mitarbeiter der Finnisch-Ugrischen Gesellschaft. Martti Kahla wurde am 15. Oktober 1928 in Viipuri geboren; nach dem Zweiten Weltkrieg gehörte er zu der zahlenmäßig kleinen Generation der Finnougristikstudenten. Seine Familie war bereits in der ersten Hälfte der 1930er Jahre nach Helsinki gezogen. Bildungswille und Interesse für Bücher lenkten den Sohn einer Arbeiterfamilie. Schon zu Beginn seiner Studien, im Jahr 1950, wurde er Mitglied der Finnisch-Ugrischen Gesellschaft, an deren Tätigkeit er mehr als ein halbes Jahrhundert lang teilnahm.

Zu Martti Kahlas ureigenem Forschungsgebiet wurde das Mordwinische oder, wie man heute sagen würde, die mordwinischen Sprachen. Ursprünglich wollte er an der Universität slavische Philologie, vor allem Russisch, studieren. Während seines Studiums wechselte jedoch der Professor in seinem Hauptfach. Der neue Lehrstuhlinhaber änderte die Examensanforderungen, und so wechselte Kahla das Hauptfach, obwohl sein Studium schon weit vorangeschritten war. Lehre und Forschung im Bereich Finnougristik leitete Paavo Ravila, zu dessen Forschungsthemen u. a. das Mordwinische gehörte. In diesem Bereich gab es auch für Martti Kahla viel Neues zu entdecken. Seine Laudaturarbeit, die er 1956 vorlegte, behandelte den Prolativ. Ihr folgte 1974 die neben der hauptberuflichen Tätigkeit entstandene, mehr als 300 Seiten umfassende Lizenziatenarbeit über die syntaktischen Funktionen der Postpositionen im Mordwinischen, die vom Umfang und vom Material her die Anforderungen an eine heutige Dissertation ohne Weiteres erfüllt. Eine eigentliche Doktorarbeit hat Kahla jedoch nie angestrebt.

Seinen ersten langjährigen Arbeitsplatz nach dem Magisterexamen erhielt Martti Kahla am kurz zuvor gegründeten Sowjetunion-Institut. Die Tätigkeit des Instituts diente der Förderung der kulturellen und wissenschaftlichen Zusammenarbeit zwischen Finnland und der Sowjetunion, wobei die Bibliothek und ihre Erweiterung durch eintreffende Büchersendungen eine zentrale Rolle spielten. Kahla berücksichtigte bei seiner

systematischen Bibliotheksarbeit die Nutzer und erstellte für sie Nachschlagwerke, u. a. *Bibliografinen luettelo Neuvostoliitossa vuosina 1918–1959 julkaistusta suomalais-ugrilaisesta kielitieteellisestä kirjallisuudesta* (1962; Bibliographisches Verzeichnis der in der Sowjetunion in den Jahren 1918–1959 erschienenen finnougristischen sprachwissenschaftlichen Literatur) und den Leitfaden *Neuvostoliiton kielten kirjaimistojen translitteroimisesta* (1968; Über die Transliterierung der Alphabete der Sprachen der Sowjetunion). Diesen folgten der praktische Leitfaden *Neuvostoliiton paikannimet: valikoima Sosialististen Neuvostotasavaltain Liiton paikannimistöä: oikeinkirjoitus- ja painotusopas* (1982; Die Ortsnamen der Sowjetunion: eine Auswahl von Ortsnamen der Union der Sozialistischen Sowjetrepubliken: Leitfaden zur Orthographie und Betonung), sowie *Venäläis-suomalainen kirja-alan sanasto* (1988; Russisch-finnischer Wortschatz des Buchwesens).

Um die Zeit seiner Magisterprüfung 1956 begann Martti Kahla seine Tätigkeit als Bibliothekar, später als Verwalter des Schriftendepots (1957–1998) und Archivar (1957–1995) der Finnisch-Ugrischen Gesellschaft. Ravila war damals die Vorsitzende der Gesellschaft und fragte, bat oder verpflichtete ihn, eine ablehnende Antwort wäre undenkbar gewesen. Die Bibliothek der Finnisch-Ugrischen Gesellschaft wurde Kahlas Lebensaufgabe. Die Gesellschaft hatte 1884, unmittelbar nach ihrer Gründung, die Bibliothek gegründet und mit dem Schriftentausch begonnen. Eine der letzten Publikationen von Martti Kahla war der 2008 erschienene detaillierte und gründliche Überblick über die Geschichte der Bibliothek („Julkaisujen vaihdolla luotu tutkimuskirjasto" [Eine durch Schriftentausch geschaffene wissenschaftliche Bibliothek]. *Tieteessä tapahtuu* 26:7, S. 20–26). Unterstützt wurde die Bibliothek seit den 1930er Jahren durch die Bibliothek der Wissenschaftlichen Gesellschaften, die dem Verband der Wissenschaftlichen Gesellschaften unterstand und unter deren Leitung die Sammlungen der Finnisch-Ugrischen Gesellschaft gepflegt wurden. Kahla war sich der langen Tradition äußerst bewusst und vertrat die Auffassung, die künftigen Generationen seien dafür verantwortlich, dass die Bibliothek weiterhin sachgemäß gepflegt und weiterentwickelt wird.

Die Bibliothek wuchs, die Aufrechterhaltung der Bestände setzte eine dauerhaftere Unterstützung und hauptamtliche Bestandspflege voraus. 1979 wurde sie dem kurz zuvor gegründeten Forschungszentrum für die Landessprachen Finnlands (Kotus) zugeordnet, doch ihre Räumlichkeiten befanden sich bis 1989 im Ständehaus, wo damals regelmäßig auch die

Sitzungen der Gesellschaft stattfanden. Martti Kahla sorgte dafür, dass die Tauschbeziehungen auf dem aktuellen Stand waren und sich entwickelten, dass früher entstandene Lücken in den Publikationsreihen gefüllt, die alte Schriftentauschtradition gepflegt und neue Werke angeschafft wurden. Da öffentliche und offene Verbindungen schwierig waren oder ganz fehlten, setzte dies zahlreiche persönliche Kontakte zu Personen voraus, von denen man sich die gesuchten Publikationen für die Bestände der Bibliothek erhoffen konnte. Bei den regelmäßigen Sitzungen der Gesellschaft präsentierte Kahla in Übereinstimmung mit der hundertjährigen Tradition den Anwesenden die Neuerwerbungen. Die Bibliothek entwickelte sich zu einer einzigartigen, international anerkannten Zentralbibliothek der Finnougristik, zu einer Forschungsoase, die Wissenschaftlern alles Notwendige bot. Unzählige Bücher gingen durch Kahlas Hände, oben rechts auf dem hinteren Buchdeckel wurden die Bibliothekskennzeichen, also Klassifizierung und Signum vermerkt, in ordentlicher und präziser Handschrift.

Die zweite Hauptbeschäftigung für Martti Kahla wurde die Bearbeitung und Herausgabe des umfangreichen Wörterbuchmaterials, das Heikki Paasonen um die Wende vom 19. zum 20. Jahrhundert gesammelt hatte. Nach Paasonens Tod im Jahr 1919 waren das gesammelte Material und das Konzept eines Wörterbuchs in die Verantwortung künftiger Generationen gefallen. Für die Bearbeitung des Wörterbuchmaterials war lange Zeit Kaino Heikkilä zuständig, dessen Arbeit durch ein Stipendium der Finnisch-Ugrischen Gesellschaft gefördert wurde. Als Kahla die Redaktionsarbeit übernahm, ging es um die Ergänzung der bereits erstellten Belegzettel, die Überprüfung der Bedeutungen und die Erstellung der deutschen und russischen Übersetzungen. (In der Einleitung zum ersten Band des *Mordwinischen Wörterbuchs* werden die Arbeitsschritte detaillierter beschrieben.) Die Wörterbucharbeit vertiefte Martti Kahlas Kenntnisse im Ersä- und Mokschamordwinischen und deren Dialekten. Gekrönt wurde sie durch die jahrelange angenehme Zusammenarbeit mit zwei muttersprachlichen mordwinischen Linguisten, dem Ersäner Grigori Jermuschkin und dem Mokschaner Aleksandr Feoktistov. Vor allem die Besuche des Letzteren brachten nicht selten amüsante Verwicklungen mit sich, da der Terminplan des Gastes und seine vertrauensselige Nachlässigkeit den Gastgeber vor verschiedene praktische Herausforderungen stellten.

Heikki Paasonens *Mordwinisches Wörterbuch* erschien letzten Endes schnell als vierbändige Reihe (1990–1996) und war in seiner Art das umfangreichste und für künftige Generationen einzigartige Dialektwörterbuch.

Martti Kahlas Redaktionsethik war äußerst genau und kritisch. Auch nachdem das Wörterbuch gedruckt war, las er es noch einmal von vorn bis hinten durch und fügte im Publikationslager jedem Exemplar eine Corrigenda bei, eine kurze Liste der Druckfehler. Das eigentliche Wörterbuch ergänzten zwei Registerbände, zuerst in russischer (1998), dann in deutscher Sprache (1999). Danach kehrte Kahla zu seinem alten Interessengebiet, der Phraseologie, zurück; er verfasste zunächst *Phraseologia Polonica: valikoima puolalaisia fraaseja ja idiomeja suomen- ja ruotsinkielisin vastinein* (2001; Phraseologica Polonica: eine Auswahl polnischer Redewendungen und Idiome mit finnisch- und schwedischsprachigen Entsprechungen), dann *Phraseologia Bohemica: valikoima tšekkiläisiä fraaseja, idiomeja ja muita verbisidonnaisia sanontoja* (2005; Phraseologica Bohemica: eine Auswahl tschechischer Redewendungen, Idiome und anderer verbgebundener Redensarten) und zuletzt *Phraseologia Morduinica: valikoima ersämordvalaisia fraaseja, idiomeja ja muita sanontoja venäläisin, virolaisin ja suomalaisin vastinein* (2010; Phraseologia Morduinica: eine Auswahl ersämordwinischer Redewendungen, Idiome und anderer Redensarten mit russischen, estnischen und finnischen Entsprechungen).

Auch seine umfangreichen folkloristischen Sammlungen hatte Heikki Paasonen nicht mehr selbst veröffentlichen können; sie erschienen posthum in acht Bänden in der Reihe Suomalais-Ugrilaisen Seuran Toimituksia (1938–1981). Kahla zeichnete für die Herausgabe der Bände 5–8 verantwortlich. An seine Zusammenarbeit und seine Erfahrungen mit Wissenschaftlern verschiedener Generationen, angefangen bei Ravila und Eliel Lagercrantz, dem Dozenten für Lappisch, dachte er gern mit einem leisen Lächeln zurück. Noch lange nach seiner Pensionierung interessierte er sich für die Forschung zum Mordwinischen und für neue Publikationen.

Für seine wissenschaftlichen Verdienste und seinen Einsatz für die wissenschaftliche Gemeinschaft erhielt er im Jahr 2000 die Ehrendoktorwürde der Universität Helsinki. Der uneigennützigen, die Anstrengungen verschiedener Generationen respektierenden Arbeit von Martti Kahla ist es zu verdanken, dass den künftigen Generationen sorgfältig herausgegebene Materialien und Schriftensammlungen zur Verfügung stehen, von denen ihre Vorgänger nur träumen konnten.

Riho Grünthal

Margarita Ivanova 1945–2020

On 12 May 2020, the well-known Udmurt archaeologist Margarita Grigor′evna Ivanova, Doctor of Sciences (History), passed away. She was mainly known for her studies of the ancient Udmurt fortified settlement Idnakar. She was born on 20 November 1945 in Kvachi, a village located in the Mozhga region of the Udmurt Republic. She never retired and, despite her illnesses, she actively visited her workplace, the Udmurt Institute of History, Language and Literature, even up until this past spring. Like most Finno-Ugric researchers in Russia, she worked actively until the end. She is the author of more than 300 publications about ancient times, including many monographs. Margarita Ivanova was said to be the mother of Idnakar. Now, all of the 100,000 items found in that unique place have become orphans awaiting new researchers.

Margarita Ivanova's father had a great influence on her life. He was a veteran of World War II, where he had suffered severe injuries, but he began to study after the war while simultaneously working, and ultimately became a teacher of the Udmurt language at school. He also taught his children to play a variety of musical instruments. As a result, Margarita Ivanova learned to play the balalaika and the domra. Of course, she did not have any intention of becoming an archaeologist when she began studying at the teacher training college in Mozhga: after graduating from the college, she worked for two years as a teacher in her village's school, teaching small children.

She was very fond of her work in the classroom and, in order to enhance her education and become a specialised teacher, she decided to continue her studies at the Udmurt Pedagogical Institute (from 1972 on, Udmurt State University) in the Faculty of History. She graduated in 1969 with excellent grades and received a distinguished "red diploma". What happened next would prove to be a critical moment in her career: at that time, there were no educated archaeologists in Udmurtia, so the Research Institute of Udmurtia wanted to recruit some young and talented Udmurt students to study archaeology and help develop the field in the Republic. An excellent former student, Margarita Ivanova was chosen for post-graduate studies in archaeology at the Archaeological Institute in Moscow.

She successfully completed her post-graduate studies in archaeology over three years in 1970–1973, even if she did not have much faith in herself

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at first, according to her own words. In any case, she wrote her candidate's dissertation in archaeology during her last year in Moscow and defended it successfully in 1975. It focused on the ancient Udmurt settlements in the Cheptsa River region. When Margarita Ivanova returned to Udmurtia from Moscow, the territory of the fortified settlement of Idnakar was open: there had previously been a military base in the area, and it had now been closed down. It could not have been a happier coincidence: archaeological excavations began in the area, and this became the main theme of Margarita Ivanova's research for her entire life. It was also of great significance that at that time, the status of the Udmurt Institute of History, Language and Literature in Izhevsk changed significantly. In 1978, Kuzma Kulikov became Director of the Institute, and he managed to acquire for his Institute a status as part of the Russian Academy of Sciences. This meant better possibilities to conduct research and publish monographs.

After many years of work on the excavations, Margarita Ivanova wrote her doctoral dissertation on Idnakar (*Удмурты в эпоху средневековья (по материалам памятников бассейна реки Чепцы конца I начала II тыс. н. э.)*). She defended it successfully in 1996. After this, she continued her fruitful work at the Institute. She gave lessons in archaeology at the universities of Udmurtia and was a supervisor of many theses. For a long time, she was Deputy Director of the Institute. She never invented any wild theories. She was a very down-to-earth scholar. She felt her responsibility in the face of the past decades and future generations. As she put it, whenever she conducted an excavation on an archaeological monument, she ruined it forever at the same time. It was thus her responsibility to make the description of the monument as accurate as possible. She was well aware that others might find new ways to interpret the material, but they would always base their analyses on the thorough work she had done with it. The Idnakar excavations had a profound impact on the way we see the history of ancient Udmurts and eastern Finno-Ugric peoples nowadays: they proved that in mediaeval times, the ancient Udmurts had urban-type settlements and a highly developed, rich material culture. Margarita Ivanova made the findings of Idnakar known to the interested international community at the International Congresses for Finno-Ugric Studies in Syktyvkar (1985), Debrecen (1990) and Jyväskylä (1995). She was the initiator of the Idnakar museum in Glazov and the open-air museum in Idnakar, as well as several symposia for archaeological studies in Udmurtia. For her achievements, she received many local prizes.

As a native Udmurt born in an Udmurt village, Margarita Ivanova paid attention to the Udmurt language and was worried about its future. She also used it in her publications whenever possible. In 1988, she published one of her books in Udmurt entitled, simply, *Idnakar*. My own memories of Margarita Ivanova are also closely connected to the Udmurt language: namely, in 1997, I was an exchange student at Udmurt State University for the first time. I appeared at her Institute then knowing almost no Russian at all. Margarita Ivanova was told to give me some lectures: she explained every detail of the most beautiful items found in Idnakar using very good Udmurt terminology. It was extremely fascinating to hold ancient Udmurt decorations in my hands and talk about them in Udmurt using approximately the same words the makers and ancient holders of these objects had probably used themselves. It was one of the moments when I understood all of the possibilities the Udmurt language was to open up for me.

Margarita Ivanova was said to be the face of the Udmurt Institute of History, Language and Literature, where she worked for most of her life. She was an elegant, calm and honest person. The large national community of researchers in Udmurtia as well as friends and colleagues all over the Finno-Ugric world will truly miss her.

Esa-Jussi Salminen

Paul Kokla 1929–2020

Paul Kokla, Lexikograf und Erforscher des Mari, verstarb am 16. Mai 2020 im Alter von 90 Jahren in Tallinn. Er war am 17. August 1929 in Kärdla auf Hiiumaa geboren, wo er auch die Schule besuchte. Sein Plan, Schiffskapitän zu werden, scheiterte daran, dass die Sowjetunion an der Seemannsschule in Tallinn Russisch als Unterrichtssprache einführte. Nachdem Kokla 1950 das Gymnasium abgeschlossen hatte, wählte er aufgrund seines Interesses für Sprachen die Universität Tartu und die Finnougristik. Paul Ariste und Johannes Voldemar Veski, die Professoren des Fachs, wurden Koklas Lehrmeister. Vom ersteren eignete er sich die historisch-vergleichende Sprachwissenschaft an, während der letztere ihn in die Geheimnisse der estnischen Sprache einführte.

Ariste hatte seine Dissertation über die Phonetik der Dialekte von Hiiumaa geschrieben und bat Kokla, sein Dialektinformant zu sein. Kokla schloss das Studium 1955 ab und begann in der finnischsprachigen Redaktion des Rundfunks zu arbeiten. Ariste bot ihm jedoch eine Aspirantur an, d. h. die Möglichkeit, das Studium fortzusetzen, und Kokla kehrte 1957 an die Universität zurück. Aristes Plan zufolge sollte an der Universität Tartu je ein Experte für jede finnisch-ugrische Sprache ausgebildet werden. Kokla fiel als Forschungsgegenstand das Mari zu. Seine Lehrerin war die Bergmari Lidia Vasikova, die damals als Aspirantin an der Universität studierte. Als Forschungsthema wählte Kokla die Possessivsuffixe des Mari und unternahm drei Feldforschungsreisen nach Mari El, 1958 zu den Wiesenmari, 1959 zu den Bergmari und 1966 zu den Ostmari. Seine Kandidatendissertation *Притяжательные суффиксы в марийском языке* (Die Possessivsuffixe im Mari) erschien 1963 und wurde im folgenden Jahr verteidigt.

Von 1960 bis 1991 war Paul Kokla als Forscher an der Estnischen Akademie der Wissenschaften tätig. Er erstellte u. a. eine Etymologie-Datenbank, auf der das 2012 erschienene *Eesti etümoloogiasõnaraamat* (Etymologisches Wörterbuch des Estnischen) basiert. In den Jahren 1978–1990 gab Kokla die von der Estnischen Akademie der Wissenschaften veröffentlichte Zeitschrift *Советское финно-угроведение* (Sowjetische Finnougristik) heraus, und als aus dieser Zeitschrift nach dem Systemwechsel die *Linguistica Uralica* hervorging, wurde er für die Jahre 1990–1996 ihr Chefredakteur.

Kokla arbeitete mehrfach an den finnisch-ugrischen Instituten ausländischer Universitäten: 1971–1973 war er als Lektor für Estnisch an der Universität Göttingen und 1980–1982 in derselben Funktion an der Universität Turku tätig. An der Universität Pécs in Ungarn war Kokla 1991–1995 Leiter des finnisch-ugrischen Instituts. Hinzu kamen zahlreiche kürzere Aufenthalte mit Gastvorlesungen an verschiedenen finnisch-ugrischen Instituten, etwa in Helsinki, Budapest und Hamburg. Kokla war ein gern gesehener Gesellschaftsmensch: Er unterhielt sich fließend in mehreren Sprachen und erfreute seine Gesprächspartner mit seinem geistreichen, aber gutwilligen Sarkasmus.

Den Finnen ist Kokla als Lexikograf bekannt: Er war an der Erarbeitung des *Eesti-soome sõnaraamat* (Estnisch-Finnisches Wörterbuch, 1972) und des *Suomi–viro-suursanakirja* (Finnisch-Estnisches Großwörterbuch, 2003) beteiligt. Kokla betrachtete sich selbst als echten Einwohner von Hiiumaa: Dort war er geboren und aufgewachsen, und von dort stammte seine Familie. Sein Geburtsort Kärdla ist ein ehemaliges schwedisches Fischerdorf, und auch sein Urgroßvater war schwedischsprachig. Nach seiner Pensionierung verfasste Kokla ein Wörterbuch der Dialekte von Hiiumaa – von Emmaste, Käina, Reigi und Pühalepa (*Hiiu sõnaraamat*, 2015). Es wurde 2016 in Estland zur Sprachtat des Jahres gewählt.

Paul Kokla war Mitglied des Komitees des Internationalen Finnougristenkongresses. Er wurde in Estland mit dem Kreuz der 5. Klasse des Ordens des Weißen Sterns und in Finnland mit dem Ritterkreuz I. Klasse des Ordens der Weißen Rose ausgezeichnet.

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Sananjalka on vuodesta 1959 lähtien ilmestynyt laadukasta humanistista tutkimusta julkaiseva tieteellinen vuosikirja.
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