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INHALT

Band 69

- LUOBBAL SÁMMOL SÁMMOL ÁNTE (ANTE AIKIO)
(University of Oulu)
Are there Proto-Slavic loanwords in Saami?..... 5 – 40
- MARIA FEDINA
(University of Helsinki)
Komi language sustainability in urban Syktyvkar: Changes
in the linguistic environment and language attitudes..... 41 – 74
- SAMPSA HOLOPAINEN
(University of Helsinki)
Competing etymologies: Analyzing problems in the origin
of some words in Hungarian and other Uralic languages.....75 – 92
- KAISLA KAHEINEN
(University of Helsinki)
The origin and development of the Nganasan
indicative aorist perfect 93 – 134
- MINERVA PIHA
(Nord University)
Vocabulary related to iron manufacture and iron-working
in Saami languages: An etymological study..... 135 – 183
- MARI SARAHEIMO
(University of Helsinki)
Non-finite-based remote past in Udmurt:
Resultative and experiential functions..... 185 – 226

BESPRECHUNGEN

- KAISLA KAHEINEN, RIKU ERKKILÄ & TOIVO QIU
The Oxford Guide to the Uralic Languages: A major albeit uneven handbook (BAKRÓ-NAGY, MARIANNE & LAAKSO, JOHANNA & SKRIBNIK, ELENA (eds.): *The Oxford Guide to the Uralic Languages*) 227 – 234
- KAISLA KAHEINEN
Samoyed languages in *The Oxford Guide to the Uralic Languages* (BAKRÓ-NAGY, MARIANNE & LAAKSO, JOHANNA & SKRIBNIK, ELENA (eds.): *The Oxford Guide to the Uralic Languages*) 235 – 243
- RIKU ERKKILÄ
Some notes on *The Oxford Guide to the Uralic Languages* (BAKRÓ-NAGY, MARIANNE & LAAKSO, JOHANNA & SKRIBNIK, ELENA (eds.): *The Oxford Guide to the Uralic Languages*)..... 244 – 287

BERICHTE UND NEKROLOGE

- JUHA JANHUNEN & RIIKKA LÄNSISALMI
Hiroshi Shoji 1949–2023 288 – 290
- RIHO GRÜNTAL
Dmitri Cygankin 1925–2023 291 – 293
- SIRKKA SAARINEN
Valej (Valentin) Kel'makov 1942–2023..... 294 – 299
- RIHO GRÜNTAL
Mati Erelt 1941–2024 300 – 302

Are there Proto-Slavic loanwords in Saami?¹

There are two nouns in Saami languages for which Proto-Slavic loan etymologies have been proposed: Proto-Saami *multtē ‘soap’ and *kuomper ‘mushroom’, allegedly borrowed from Proto-Slavic *mǫdlo ‘soap’ and *gōba ‘mushroom, fungus’. Both etymologies are critically analyzed, and in the process, new etymologies for several other Saami words are also proposed. It is suggested that the two Slavic loan etymologies are examples of the largely overlooked phenomenon of “chance correspondence”: although the matches between the Saami and the Slavic words are phonologically regular and semantically transparent, they nevertheless very probably result from sheer coincidence. The word *multtē ‘soap’ is showed to have an alternative and far more probable Proto-Norse loan etymology, and the Slavic etymology of the word *kuomper turns out to be weak because it does not account for the stem-final consonant *r. This result entails a valuable methodological lesson: in addition to “chance similarities” between languages, there are also “chance correspondences” between them – that is, words that show a regular phonological and semantic match by pure coincidence. Although the latter are much rarer than the former, they nevertheless seem to be more common than is usually assumed. Because of this, far-reaching conclusions (such as assumptions of contact between two reconstructed proto-languages) should not be based on a mere couple of etymologies, no matter how plausible they may seem superficially.

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|---|------------------------------|
| 1. Introduction | 4. Saami *kuomper ‘mushroom’ |
| 2. The concept of “chance correspondence” | 5. Conclusion |
| 3. Saami *multtē ‘soap’ | Abbreviations |
| | References |

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I. Introduction

The impetus for this etymological case study was provided by the paper “Wie alt sind die Kontakte zwischen Finnisch-Ugrisch und Balto-Slavisch?” by Jorma Koivulehto (2006). One of the ideas argued for in that paper is that the Saami languages possess a couple of Proto-Slavic loanwords. The presence of Russian loanwords in eastern Saami languages has long been known, of course, but possible older loans from Proto-Slavic into Saami have scarcely been studied. Only a very small number of etymologies suggest such prehistoric language contact, so the topic is quite marginal even within the field of Saami historical linguistics. On the other hand, the scrutiny of this small and very specific etymological problem does raise some methodological questions of more general interest as well.

Koivulehto (2006) presents a Proto-Slavic loan etymology for two Saami words: *multtē ‘soap’ and *kuomper ‘mushroom’. The two etymologies have interesting implications, as the alleged borrowing correlates phonologically with the Proto-Saami level of reconstruction and thus suggests direct prehistoric contact between Proto-Saami and some stage of Proto-Slavic. The Slavic etymology of *multtē ‘soap’ had already been proposed over half a century earlier by Toivonen (1949: 346–347), but his proposal appears not to have been commented upon prior to Koivulehto’s contribution on the topic. The handbook of Saami historical linguistics by Korhonen (1981: 52–53) does not mention the possibility of early contacts with Slavic; the only Slavic loanwords discussed there are Russian ones, which at least for the most part were adopted after the founding of the Pechenga monastery in the sixteenth century.

In addition to the two etymologies mentioned above, Koivulehto (2006) also suggests an early Proto-Slavic or Proto-Balto-Slavic origin for Saami *muottē- ‘snow (verb)’, *čuorpmes ‘hail’, and *veljē ‘abundance’. These etymologies presuppose a much earlier date of borrowing, because the words have undergone the Pre-Proto-Saami vowel changes *a > *ō > *uo and *i > *e; the last word also has a cognate in Finnic (cf. Fi *vilja* ‘grain, cereal; abundance’). As these words seem to belong to a different and older lexical stratum, I will omit them from consideration here. If the etymologies are correct, the sound correspondences imply that they are roughly equal in age with the earliest Germanic and Baltic loans in Saami.

2. The concept of “chance correspondence”

As is well known, there are many chance similarities between words in different languages, and it is usually not very difficult to distinguish them from genuine etymological correspondences, at least when they occur between languages the historical developments of which are well understood. However, there is also another related phenomenon that has not been clearly distinguished from the concept of “chance similarity” in the theory of historical linguistics. I will refer to this phenomenon as “chance correspondence”. Chance similarities between words are based on an impression of likeness of form and meaning, and they are therefore always more or less subjective in nature. It is usually easy to show the coincidental nature of such similarities by applying established methods of historical linguistics and etymological research. Chance correspondences, on the other hand, differ from the former in that they involve word-forms that show formally regular or predictable correspondences despite not being etymologically related at all.

To illustrate chance correspondences, let us look at the following word pairs that Campbell & Mixco (2007: 29) cite among their examples of chance similarity between languages:

English *much*, Spanish *mucho* ‘much’
Hungarian *fiú*, Romanian *fiu* ‘boy; son’

These examples do not show mere vague similarity of phonological form and meaning, but a systematic match between two nearly identical forms. The compared words have the same meaning, and the very small phonological differences between them could be easily explained on the basis of the differences between the phonological systems of the two languages:

(Old) Spanish *mucho* /mučo/ ~ Middle English *muchē* /mučə/ (> modern English *much* /mʌtʃ/, dialectally /mʊtʃ/). The minor difference in the second-syllable vowels could be naturally attributed to the extremely limited vowel inventory of Middle English unstressed syllables: the unstressed vowel spelled as /e/ was probably realized as a schwa (≈ [ə]), and it represented the Middle English outcome of all Old English unstressed vowels.

Hungarian *fiú* /fi(j)ũ/ ~ Romanian *fiu* /fiu/. Here, too, the very small difference between the forms could be accounted for by general differences of phonological structure: unlike Romanian *fiu*, Hungarian *fiú* is bisyllabic, but Hungarian lacks diphthongs altogether.

The key issue here is this: if we were to ignore everything else besides the basic criteria of phonological and semantic correspondence, then we could convert these word comparisons into formally “flawless” loan etymologies by claiming that Middle English *much* was borrowed from Old Spanish *mucho*, and Romanian *fiu* from Hungarian *fiú* (or vice versa). These “etymologies” are obviously wrong, of course, but that is not because of any flaw in phonological or semantic correspondences. Instead, we know they are wrong because we know where the words actually stem from. Spanish *mucho* goes back to Latin *multus* ‘much’, whereas English *much* developed from Old English *mycel* ‘big; much’. As for Hungarian *fiú*, it was formed from a stem *fi-* which reflects PU *poj-ka ‘son, offspring’ (UEW: 390), whereas Romanian *fiu* is a descendant of Latin *filius* ‘son’.

It is not an altogether uncommon occurrence to come across this kind of formally good-looking quasi-etymology for some word. Actually, my impression is that chance correspondences are more common than most professional historical linguists tend to assume, and that they do pose some real challenges for etymological research. In the case of the two examples above, it is of course very easy to distinguish between the real etymology and the chance correspondence, but this is not always the case. Every once in a while a word turns out to have two quite well-formed alternative etymologies (and sometimes even more than two), and it is difficult to decide which of them is the correct one.

Consider, for example, the case of Fi *tuhto* ‘thwart (rower’s seat in a boat)’, for which two etymologies have been proposed (SSA s.v. *tuhto*; LÄGLOS s.v. *tuhto*):

- 1) Borrowing from PGerm *þuftōn- (> ONo *þopta*, OEngl *þoft* ~ *þofte*, OHGerm *dofta* ‘thwart’);
- 2) Inheritance from PU *tukta (> MariW *tāktā* ‘boat rib’, Komi *tik* ‘crossbar; spoke of a wheel’, KhVVy *tōγət* ‘crossbar of a boat’, MsLK *təxt* ‘thwart’, Hung *tat* ‘stern (in a ship)’, SlkTa *tati* ‘crossbar in a boat or dugout’).

Both of these etymologies are phonologically and semantically completely unproblematic and straightforward, and in the absence of one there would be no reason at all to doubt the other. Nevertheless, one of the two etymologies must be wrong, but it is quite hard to decide which one. The Finnish word does show a somewhat limited dialect distribution and it has no cognates in other Finnic languages, and this is more typical of Germanic loans than of inherited words, but this is merely suggestive. At face value the second-syllable vowel of *tuhto* appears to show a better match with Germanic than with Uralic, but *-o* could be an opaque derivational suffix here, as in the Finnish dialects we also find the variant *tuhta-* in the compound noun *tuhtalauta* ‘thwart’ (*lauta* ‘board’).

The existence of chance correspondences has an important implication for the evaluation of etymologies. We cannot blindly trust that an individual etymological comparison is correct even if it looks convincing by phonological, morphological, and semantic criteria. The word might later turn out to have an alternative etymology, or it might be of a different origin even if we could not discover the correct etymology at all. Even convincingly argued etymologies involve some uncertainty; the degree of this uncertainty might be quite small, but that does not make it negligible.

Luckily, such slight uncertainties do not usually have broader implications for our conclusions and theories. Whether Finnish *tuhto* ‘thwart’ was borrowed from Germanic or inherited from Proto-Uralic has essentially no impact on our broader understanding of the history of Finnish. Whichever the case, we know that both Germanic loanwords and inherited Uralic words number in the hundreds in the Finnish lexicon.

The situation is quite different, however, when the existence of a lexical stratum is inferred from a very small number of etymologies. The alleged Proto-Slavic loanwords **multtē* ‘soap’ and **kuomper* ‘mushroom’ in Proto-Saami are a case in point. As these two proto-languages do not date very far back in time, their reconstructed lexicons contain at least some 2000 word-stems that can be potentially compared to each other. It is not far-fetched at all to think that when data sets of such size are compared, two formally good-looking matches might turn up by sheer chance. After all, the probability of finding a chance correspondence needs to be no greater than 1 : 1000 for this to happen. Therefore, we need to carefully assess how solidly argued each of the two etymologies actually is, and to examine whether alternative etymologies for the words could be found.

3. Saami *multtē ‘soap’

This word is attested in North Saami and east thereof: SaaN *multi* (Leem 1768 and Friis 1887: <multte>), SaaI *multte*, SaaSk *mu’litt*, SaaK *mu’lht*, saaT *my’lhte* ~ *mu’lhte* ‘(a kind of) soap’.² The common protoform of the words can be reconstructed as *multtē. The unrounded vowel *y* in the Ter Saami variant *my’lhte* is irregular, but it may have recently developed under the influence of the similar vowel in Russian *мыло* ‘soap’; also a phonologically regular variant *mu’lhte* has been attested by Genetz (1891). In modern varieties of North, Inari, and Skolt Saami the word seems to be obsolete; according to dictionaries the word has been used of various kinds of old-fashioned and usually homemade soaps, made with ingredients such as lye, reindeer fat, etc.

The phonological form immediately reveals that *multtē cannot be an inherited word in Proto-Saami: neither the vowel combination *u-ē nor the three-consonant cluster *litt has any regular Pre-Proto-Saami source. Of course, also the meaning ‘soap’ strongly suggests that we are not dealing with an ancient inherited word. Thus, to the trained eye of a Uralic historical linguist *multtē stands out as a particularly obvious candidate for a loanword.

The source proposed by Toivonen (1949: 346–347) and further argued by Koivulehto (2006: 183–184) is Proto-Slavic *mǫdlo ‘soap’, or more precisely its predecessor *mǫdla prior to the regular change of *ū into an unrounded vowel (PSlav *y = [i]). The etymology is semantically and phonologically quite straightforward, and the only detail requiring an explanation is the metathetic substitution of Saami *litt for the Slavic cluster *dl. This has a straightforward structural motive: Saami phonotactics did not

2. For Kildin and Ter Saami I use a modified form of Skolt Saami orthography instead of a UPA-based phonological transcription or the official Cyrillic-based orthography of Kildin Saami. This solution has certain practical advantages: the three languages are phonologically quite similar in most respects, and employing a uniform transcription system makes the actual phonological differences between them easy to see. The letter *y* in Kildin and Ter Saami forms stands for the central or back unrounded vowel /i/, which does not occur in Skolt Saami. Before obstruents I write *h* for SaaK /x/ and *h* for SaaK /h/; this contrasts with Skolt Saami, where [x] and [h] are allophones of a single phoneme represented by *h* in the orthography. Otherwise the phonological values of letters correspond to those in the official Skolt Saami orthography.

allow clusters of the alveolar stop *t followed by a sonorant. Although we do not have a precise parallel involving the cluster *l_{tt}, there are several well-established examples of the analogous substitution of Saami *rtt for the Proto-Norse clusters *dr and *pr (Koivulehto 1988):

SaaN *fiertu* ~ *viertu* ‘fine weather’ < PSaa *vierttō < PNo *wedra- (> ONo *veðr* ‘weather’);

SaaL *liertte* ~ *riertte* ‘leather’ < PSaa *lierttē < PNo *lepra- (> ONo *leðr* ‘leather’);

SaaN *gurti* ‘meat on the neck’ < PSaa *kurttē < PNo *kuþran- (> Icel *koðri* ‘scrotum’);

SaaN *vierca* ‘ram’ < PSaa *viercē < *vierttes < PNo *weþru-z (> ONo *veðr* ‘ram’).

The Slavic loan etymology of Saami *multtē is therefore quite straightforward in phonological terms, as long as it is assumed that borrowing took place prior to the unrounding of *ū in Proto-Slavic. Also the Saami cluster *l_{tt} suggests a relatively early date of borrowing, because the Proto-Slavic cluster *dl was retained in West Slavic only (cf. Polish *mydło*, Czech *mýdlo* ‘soap’, etc.), while in other branches of Slavic the stop was lost (cf. OCSlav *мыло*, Slovene *mílo*, Ukrainian *милло*, Russian *мыло*, etc.). At face value the etymology looks quite compelling, and as such it would seem to provide good evidence of prehistoric language contact between Saami and an archaic form of Proto-Slavic. Furthermore, we also know that the same Slavic word has been independently borrowed by Finnic: cf. Fi (dialectal) *muula*, Veps *mugl*, Võro *mugõl* ‘(a kind of) lye’ < PFi *mukla < PSlav *mǔdlo / Pre-PSlav *mūdla. The Finnic word, too, can only have been borrowed from a Slavic form that had retained the cluster *dl: because the cluster *tl did not occur in Finnic, the existing cluster *kl was substituted for it. This nativization strategy is also attested in Germanic loanwords such as Fi *neula* ~ Veps *negl* ~ Võro *nõgõl* ‘needle’ < PFi *neḡkla < PGerm *nēþlō- (> OHGerm *nādala*, ONo *nál*) and Fi *seula* ~ Veps *segl* ~ Võro *sõgõl* ‘sieve’ < PFi *seḡkla < PGerm *sēdla- (> ONo *sáld*). Because of this different nativization strategy, the Saami word *multtē could not have been mediated by Finnic: the PFi cluster *kl could not have yielded *l_{tt} in Saami.

Even though the Slavic loan etymology of Saami *multtē looks quite flawless, there is also a quite obvious alternative etymology which has been overlooked by previous research. Saami *multtē can be straightforwardly compared to PNo *smulta- which is reflected in the following forms:

ONo/Icel *smolt* ‘grease floating on top of hot water’;
 Far *smoltur* ‘liquid fat (fat from web-footed birds when boiled)’;
 ODan *smolt* ‘melted fat’;
 Sw (dialectal) *smult* ‘melted or purified lard or goose fat (used in cooking or on bread)’;
 Nw *smult* ‘lard (used for cooking and soap production)’.

In phonological terms the Norse loan etymology is completely straightforward. The vowel correspondence is paralleled, e.g., by SaaN *gurti* ‘meat on the neck’, which was mentioned above. Other borrowings showing of the same vowel correspondence include the following:

SaaN *rudni* ‘hole in the ice’ < PSaa **runnē* < PNo **brunna-* (> ONo *brunnr* ‘spring, well’);
 SaaSk *u’rmm* ‘botfly larva’ < PSaa **urmē* < PNo *(w)*urma-* (> ONo *ormr* ‘worm, snake’);
 SaaN *durdi* ‘filth, dirt’ < PSaa **turtē* < PNo **turdā-* (> ONo *torð-* in the compound word *torðýfill* ~ *tordýfill* ‘dung beetle’; cf. OHGerm *zort*, OEngl *tord* ‘dung’).

The substitution of Saami **ltt* for Norse **It* is paralleled by the well-known borrowing SaaN *sálti* ‘salt’ (< PSaa **sálttē* < PNo **saltā-* > ONo *salt*). Also a new etymology displaying the same substitution can be presented: SaaN *boltut* ‘rummage’ (< PSaa **poltt-ō-*) must have been borrowed from either PNo **bultō-* (> Far *bólta* ‘turn over, tumble, upset, overturn, roll down’) or PNo **bultja-* (> Icel *bylta* ‘throw to the ground, overturn, overthrow’). No etymology has been previously proposed for this Saami verb.

A notable phonological feature in the alternative etymology is the simplification of the Norse word-initial consonant cluster **sm-* into **m-* in Saami. In most Proto-Norse borrowings foreign clusters of the type **sC-* have been retained in Western Saami languages, and for the most part also in Inari and Skolt Saami. The following words serve as examples:

SaaS *smave*, SaaU *smávies* (ATTR *smávva*), SaaL *smávve* (ATTR *smávva* ~ *smávies*), SaaN *smávís* (ATTR *smávva*), SaaSk *smavâs* (ATTR *smavv*), (Njuõ’ttjäu’rr) *maavâs* (ATTR *maavv*), SaaK *mâáv* ‘very small, tiny’ (< PSaa *(s)*mävēs* ~ *(s)*mävēs* : ATTR *(s)*māve*) < PNo **smāxa-* (> ONo *smá-r* ‘small, little’);

SaaS *snaaltije*, SaaU *snálduoj*, SaaL *snálldo*, SaaN *snáldu*, SaaI *snáldee*, SaaSk *sna'lddi*, (Njuõ'ttjäu'rr) *na'lddi*, SaaK *naa'lldej*, SaaT *naa'llde* 'distaff' (< PSaa *(s)nältejö < PNo *snäldjö- (> ONo *snælda* 'distaff'); SaaS *skaaltjoe*, SaaU *skálttjuo*, SaaL *sjkálltjo*, SaaN *skálžu*, SaaI *skálžu*, SaaSk *skä'lžž*, (Njuõ'ttjäu'rr) *kälžž*, SaaK *kaa'llž* 'seashell' (< PSaa *(s)kälčō < PNo *skaljö- (> ONo *skel* 'shell, seashell').

As the examples show, the Norse word-initial consonant cluster was simplified in Kildin and Ter Saami and in the easternmost Njuõ'ttjäu'rr (Notozero) dialect of Skolt Saami, but elsewhere retained. I had earlier suggested that Inari and Skolt Saami forms with word-initial consonant clusters are secondary and result from later North Saami influence (Aikio 2012: 77–78), but as pointed out by Juutinen (2023: 88), there seems to be no actual reason for assuming that: there appear to be no examples of Norse loans with North Saami clusters of the type *sC-* corresponding to a single consonant *C-* in Inari and Skolt Saami (excluding the Njuõ'ttjäu'rr dialect). Therefore, there is no evidence suggesting that word-initial *sC-* in Inari Saami and in most Skolt Saami dialects results from a later development.

Not all such borrowings are of equal age. Among the examples above, PSaa *(s)mävēs ~ *(s)mävēs 'very small, tiny' must actually be somewhat younger than Proto-Norse: the intervocalic consonant *-v- in Saami reveals that it was not borrowed from PNo *smāxa-z, but rather from a form postdating the loss of PNo *x/*h (cf. ONo *smá-r*); the syllable *-vę- was added because Saami morpheme structure does not allow monosyllabic content word-stems. On the other hand, phonological criteria clearly indicate that PSaa *(s)nältejö 'distaff' and *(s)kälčō 'seashell' were borrowed from Proto-Norse already. The former had a trisyllabic stem ending in *-ejō which can only be explained as a reflex of a Proto-Norse form ending in *(-i)jö-; by Old Norse the word had developed into *snælda* (OBL *snældu*), and although borrowing from the oblique case form could account for the unstressed rounded vowel in Saami, it could not explain the originally trisyllabic form. As regards the word for 'seashell', the etymology entails the substitution of PSaa *-Cć- for PNo *-Cj- which seems to be exclusively attested in Proto-Norse borrowings. Although the phonological and phonetic motivation for this substitution pattern remains unexplained, many examples of it are known, including the following:

- SaaN *ávža* ‘bird-cherry’ < PSaa *āvčę < PNo *hagja- (> ONo *hegg* ‘bird-cherry’);
- SaaN *ávžut* ‘encourage, urge, incite’ < PSaa *āvč-ō- < PNo *agja- (> ONo *eggja* ‘incite; sharpen’);
- SaaN *lávžá* ‘horsefly’ < PSaa *lāvčā < PNo *klagjā- (> ONo *kleggi* ‘horsefly’);
- SaaN *ruvža* ‘ridge, esker’ < *ruvčę- < PNo *hrugja- (> ONo *hryggr* ‘backbone, spine; ridge’);
- SaaN *skávžá* ‘beard’ < PSaa *skāvčā < PNo *skagja- (> ONo *skegg* ‘beard’);
- SaaN *stážžu* ‘crucible; iron ashtray under a stove’ < PSaa *stāńčō < PNo *stainjō- (not attested in Norse; cf. OHGerm *steina* ‘stone or earthenware pot’).

Therefore, the simplification of the Norse cluster *sm- in the word *multtē ‘soap’ looks unexpected at first sight. Nevertheless, there seems to be an even earlier stratum of Proto-Norse borrowings adopted at a time when clusters of the shape *sC- had not yet become established in the predecessor of Saami languages. Two other such loans have been discovered by previous research:

- SaaS *-gaejmie* in the compound word *tjeada-gaejmie* ‘shimmer, dawn’ (*tjeada* ‘twilight’), SaaN (dialectal) *gáibmu* ‘dawn, dusk’ < PSaa *kājme ~ *kājmo < PNo *skaima- (> dialectal Swedish *skäim* ‘dawning, dim twilight’). The Saami noun was further borrowed into Far-Northern dialects of Finnish as *kaimo* ‘dawn, first light’;
- SaaN *gáiru* ‘great black-backed gull’ < PSaa *kājro < PNo *skairō- (> ONo *skári* ‘young gull’).

Although previously established examples are sparse, as many as eight new etymologies can be presented which display the same kind of simplification of a word-initial consonant cluster:

- SaaS *baakoe*, SaaU *báhkuo*, SaaP SaaL *báhko* ‘word’ < PSaa *pākō < PNo *spaxō- (> ONo *spá* ‘prophecy’). The assumed semantic development in Saami is admittedly not a common one, but on the other hand, the Saami noun has no other plausible etymology although the vowel combination *ā-ō suggests that it is a loanword. According to SSA (s.v. *pakista*) it could be cognate with (Northeastern) Finnic *pakise- ‘speak, talk, chat’, or alternatively a borrowing from Finnic. A cognate

relationship is out of the question, however, because the vowel correspondence is irregular. Neither is borrowing from Finnic plausible, because there is no noun in Finnic that would be suitable as the source of PSaa *pākō. In Saami there is also a verb that comes somewhat closer to the Finnic forms (SaaU *bââhkadit* ‘speak (about)’, SaaN *bâhkkodit* ‘say out loud, express’ < PSaa *pākujentę-), but this verb is clearly a derivative of the noun *pākō and as such it cannot be a direct borrowing from Finnic. SSA also mentions another Kola Saami verb in this connection: SaaK *paa’gge*, SaaT *paa’gged* ‘quarrel, argue’ (< PSaa *pākē-). This, however, seems to be an etymologically unrelated borrowing from PNo *bāga- (> Far *bága* ‘harm, injure’). The verb is scarcely attested in Nordic languages, but it must be old because it is cognate with OHGerm *bāgan* ‘quarrel, argue; engage in a lawsuit’, which even shows the same meaning as the Kola Saami verb. As a sidenote, SaaN *biehkut* ‘complain, grumble, whine (about something)’ (< PSaa *piekō-) seems to be an older borrowing from the same Germanic verb, adopted from an archaic form *bēga- prior to the vowel change *ē > *ā in North and West Germanic.

SaaU *bädtjet*, SaaL *bádtjit* ‘incite’ (< PSaa *pāńć-eje-) < PNo *spanja- > ONo *spenja* ‘attract, allure’. The etymology entails the substitution of PSaa *-Cć- for PNo *-Cj-, which was mentioned above in connection with PSaa *(s)kālćō ‘seashell’.

SaaS *baenie*, SaaN *bátni*, SaaSk *pää’nn*, SaaT *paa’nne* ‘tooth’ (< PSaa *pānē) < PNo *spānu- > ONo *spánn* ~ *spónn* ‘chip, shaving; spoon’. No plausible etymology for this Saami word has been published so far, but it is obviously an innovation because it has replaced the reflex of PU *piŋi ‘tooth’ which is retained by almost every other branch of the Uralic family.³ This Norse loan etymology was suggested to me by Jorma Koivulehto in a personal communication in 2003; to my knowledge, he never published or publicly presented the etymology. At first sight the

3. Etymological references do not give any Saami cognates for PU *piŋi ‘tooth’ (Sammallahti 1988: 547; UEW: 382; SSA s.v. *pii*²; Zhivlov 2022: 169). Quite unexpectedly, however, Saarikivi (2020: 698) cites also North Saami “*batni*” (which must be a misspelling of *bátni*) as a reflex of this Proto-Uralic word. This is an error: PSaa *pānē ‘tooth’ shows no regular correspondence whatsoever to PU *piŋi, except for the word-initial consonant.

comparison looks semantically far-fetched, but in Saami also meanings much closer to the Germanic forms are attested. SaaN *bátni* refers not only to teeth but also to tooth-like or rod-like parts that appear in rows in various objects, such as the teeth of a saw, rake, or comb; the rungs of a ladder; the steps of a staircase; the spokes of a wheel; the horizontal bars of a gate; and the vertical strips of a weaver's reed (the framework used in weaving to hold the warp threads). Notably, the predecessor of the Norse word, PGerm *spēnu-, was also borrowed into Finnic: cf. Fi *piena* 'wooden slat, crosspiece' < PFi *pēna (LÄGLOS s.v. *piena*). On the other hand, a later borrowing of the same Norse word into Saami is SaaS *spaanese*, SaaN *spánas* 'wood shaving' (< PSaa *spāneš). The semantic correspondence displayed by the earlier loan *pānē 'tooth' is similar to that in Ancient Greek γόμφοϛ 'peg, bolt, nail' ~ OEngl *camb* 'comb' ~ Sanskrit *jámbha-*, OCSlav *zobъ*, Latvian *zuobs*, Albanian *dhëmb* 'tooth' < Proto-Indo-European *ǵómbʰo- (note also Fi *hammas* 'tooth' < Pre-PFi *šampas < PBalt *žámbas, a borrowing which replaced the inherited Uralic word *pii* in the primary anatomical sense). As regards the phonological details of the etymology, the only problematic detail is that PSaa *pānē (< Pre-PSaa *pānā) and PNo *spānu- show an unexpected correspondence of second-syllable vowels. Nevertheless, exactly the same kind of unexpected correspondence occurs between PFi *pēna and PGerm *spēnu-. This data suggests that a parallel form with a stem in *a (PNo ?*spāna- < PGerm ?*spēna-) may have occurred in Germanic, although it does not seem to have been attested.

SaaS *gaajhroe* 'sloping ledge on a mountain side; stone ridge that divides a stream in two courses (formed during spring floods); tracks in snow left by a migrating reindeer herd' (< PSaa *kājθō) < PNo *skaiþō- > ONo *skeið* 'weaver's beam; spoon', Icel *skeið* 'weaver's beam; spoon; scabbard, sheath; ledge, cirque on a mountain side; lower jaw'. The Norse noun was derived from PGerm *skaiþa- (> OEngl *scēadan*, OHGerm *skeidan*, Goth *skaidan* 'separate, divide'). The borrowing must be older than the merger of intervocalic *þ [θ] and *d into ð [ð] in Norse, because the voiced spirant ð would have yielded r (< *ð) instead of hr (< *θ) in South Saami. A parallel for the sound substitution is found in SaaS *evhredh* 'clear (forest), cut down (trees)', SaaU *ävhd̄det* 'clear (people) out of the way' (< PSaa *āvθeje-) < PNo *auþja- > ONo *eyða* 'waste, destroy, lay waste, desolate' (derived from PNo *auþa-z > ONo

auðr ‘empty, desolate, uninhabited’). Notably, the same Norse word has also been borrowed into Saami in the form *skājðē (> SaaU *skájdđie* ~ *skájrrie*, SaaL *skájdde*, SaaN *skáidi*, SaaI *skäidi* ‘the land between two joining rivers’); this borrowing must have been adopted later than SaaS *gaajhroe* because it retains the word-initial consonant cluster *sk- and also shows a voiced dental spirant in place of Norse *ð* < *þ.

SaaU *gáddiet* ‘suspect; accuse’, SaaN *gáddit* ‘think (mistakenly), believe (falsely); mistake (one thing or person for another)’ (< PSaa *kāntē-), SaaL *gáddalit* ‘suspect, mistrust’, SaaSk *kaddled* ‘slander, abuse verbally; quarrel’ (< *kānt-ęļ-) < PNo *skandia- (not attested in Norse; cf. OEngl *scendan* ‘put to shame, abuse, insult, harm’, MDu *schenden* ‘stain, dishonor; ruin (someone’s standing or happiness)’, OHGerm *skenten* (> Germ *schänden*) ‘desecrate, dishonor, violate’). Among the Saami forms the semantically most archaic one is SaaSk *kaddled*. T. I. Itkonen (1958: 77) suggested that this Skolt Saami verb could have been borrowed from Finnish *kannella* (: *kantele-*) ‘tell on, go tell about (someone’s illicit behavior to a superior); file a complaint’. This appears unlikely, however, because SaaSk *kaddled* is formally identical to SaaL *gáddalit* ‘suspect, mistrust’ and therefore it can be straightforwardly analyzed as a derivative within Saami. Although Fi *kannella* is also attested in the meaning ‘quarrel; scold (esp. of women)’, this meaning only occurs locally in Northern Savo dialects (SMS s.v. *kannella*) and it is not attested in Finnish dialects that have been in direct contact with Skolt Saami. Therefore, the precise phonological and semantic match between SaaSk *kaddled* and Northern Savo Finnish *kannella* seems to be an instance of chance correspondence. The Norse loan etymology for the Saami verb presupposes the original meaning ‘slander, abuse verbally’; this can easily develop into ‘accuse’ (which is attested in Ume Saami and also by Lindahl & Öhring 1780), and that meaning can further develop to ‘suspect (someone of something)’ (which is attested in most of the Saami cognates). The loan original itself was lost in Norse, and reflexes of PGerm *skandja- are only attested in West Germanic, but this is not a problem as also many other such Proto-Norse loans are known (Aikio 2020).

SaaN *givdnjut*, SaaSk *ķeunnjad*, SaaK *kyvvnjâ* ‘shimmer, flicker, appear by glimpses, appear briefly and repeatedly’ (< PSaa *kivńō-) < PNo *skiuma- (< *skeuma-) > Nw (dialectal) *skjoma* ‘flicker, shine with

flickering light’ (cf. ONo *skjómi* ‘flickering light’). The cluster *vm does not occur in Saami, which explains the substitution of Saami *ń for Norse *m in this context. The same pattern is attested in at least two other loanwords as well, although in these cases the eastern Saami languages partially show *ŋ: SaaN *rávdnji*, SaaSk *räu’nnj* ~ *räu’ŋŋ*, SaaK *ra’vvnj* ‘current, stream’ (< *rävñē ~ *rävŋjē < PNo *strauma- > ONo *straumr* ‘stream’); SaaN *sávdnji*, SaaSk *säu’nnj* ~ *säu’ŋŋ*, SaaK *sa’vvnj* ‘seam’ (< *sävñē ~ *sävŋjē < PNo *sauma- > ONo *saumr* ‘seam’).

SaaS *laekedh* ‘hit, strike, beat; strike dead, beat to death’ (< PSaa *lākē-) < PNo *slaxa- > ONo *slá* ‘hit, strike, beat’. This verb occurs in South Saami only, but the sound substitutions *sl- > *l- and *-x- > *-k- reveal that the borrowing must be quite old. One parallel for the latter substitution is PSaa *pākō ‘word’ (< PNo *spaxō-) which was discussed above, while another is SaaL *láhko*, SaaN *láhku* ‘highland plain, gently sloping valley in highlands’ (< PSaa *lākō < PNo *flaxō- > ONo *fló* ~ *flá* ‘rock ledge; gently sloping valley in highlands’) (Aikio 2020: 21). Note, by the way, that there is another isolated verb somewhat similar to SaaS *laekedh* at the opposite geographic end of the Saami language area: SaaT *lyy’gged* ‘chop (wood)’ (< PSaa *luokē-). This seems to be an even earlier borrowing from Germanic that has undergone the regular change of Pre-PSaa *a to PSaa *uo: it was probably borrowed from PGerm *slaxa- into Pre-PSaa as *laka-, which then regularly developed to PSaa *luokē-.

SaaS *laehpedh* ‘leave (TR)’, SaaN *láhppit* ‘lose; shed (antlers, hair)’, SaaSk *lä’pped*, SaaT *laa’hhped* ‘lose; shed (antlers)’ (< PSaa *lāppē-) < PNo *slāppia- (< *slampia-) > ONo *sleppa* (PST.3SG *sleppti*) ‘make slip, let slip’, Icel *sleppa* ‘release, let go’. This weak verb is a causative of the strong verb *sleppa* (PST.3SG *slapp*) ‘slip, slide’ (< PNo *slēppa- < *slempa-). A parallel for the consonant correspondence can be found in another new etymology: SaaN *ráhpis*, SaaI *rääpis*, SaaSk *rää’ppes*, SaaK *raa’bbes* ‘rough and rocky (of terrain)’ (< PSaa *rāppēs) < PNo *krāppa-z (< *krampa-z) > ONo *krappr* ‘narrow’, Icel *krappur* ‘narrow, scarce, difficult, dangerous’, Far *krappur* ‘acute-angled, extremely bent, bowed, curved’. This word has also been reconstructed as PNo *krappa-z without a nasal, but Kroonen (2013: 301) reconstructs PGerm *krampa-z and considers the Nordic words cognate with OHGerm *krampf* ‘bent, curved, crooked’.

In light of the etymologies discussed above, there is no doubt that the Saami languages possess a stratum of early Proto-Norse loanwords in which the sibilant was dropped in word-initial clusters of the type *sC-. Thus, the word *multtē ‘soap’ could have been borrowed from PNo *smulta- and also belong to this stratum of loanwords.

Now that two possible sources of borrowing have been identified for Saami *multtē ‘soap’, we have to evaluate which of them is likely to have been the actual source of the word. The basic criteria of phonological and semantic correspondence do not help in settling the issue, however, because in this regard both etymologies are completely straightforward and unproblematic. The phonological shape of the Saami word is perfectly well explained by Proto-Norse *smulta- and early Proto-Slavic *mūdlo- alike. As regards semantics, the Saami word shows a more precise match with the Slavic one, but there is no real semantic problem in the Norse etymology either; the assumption of an unremarkable semantic shift like ‘key ingredient of soap’ > ‘soap’ could not, by itself, provide a serious argument against the etymology.

There is another key criterion, however, which is independent of the features of the individual etymologies themselves. On the one hand, there are literally hundreds of ancient Norse loanwords in Saami, including dozens upon dozens of Proto-Norse ones; on the other hand, there are next to no plausible candidates for Proto-Slavic loanwords. In addition to *multtē ‘soap’, the only other promising example of such a borrowing is the word *kuomper ‘mushroom’, and that etymology is not without problems, as will become clear in the discussion below. Therefore, the very existence of Proto-Slavic loans in Proto-Saami is doubtful, and this serves as a very strong argument in favor of the Norse loan etymology of *multtē. Although the alternative Slavic etymology cannot be totally disproved, it looks far less probable than the Norse one, and therefore the word *multtē alone does not provide reliable evidence of contacts between Proto-Saami and Proto-Slavic.

4. Saami *kuomper ‘mushroom’

All Saami languages share a common word for ‘mushroom’: SaaS *goebpere*, SaaU *guabbar*, SaaP SaaL SaaN *guoppar*, SaaI *kuobâr*, SaaSk *kuöbbâr*, SaaK *kuumbâr*, SaaT *kyymbâr* (< PSaa *kuomper). Two etymologies have been proposed for the word. On the one hand, it has been considered cognate with Komi *gob* and Udm *gubj* ‘mushroom’; on the other, it has been regarded as a borrowing from PSlav *gõba ‘mushroom, fungus’ (> OCSlav *gõba* ‘sponge’, Serbo-Croatian *guba*, Bulgarian *зѣба*, Czech *houba* ‘mushroom’, Russian *зѣба* ‘lip; (dialectal) bracket fungus’, etc.), or from its Balto-Slavic predecessor.

The comparison to the Permic forms has been supported by Sammallahti. In an earlier paper (Sammallahti 1988: 552) he reconstructed a common proto-form *ko/ampV, but he had marked the etymology with a question mark and also mentioned the possibility that the Permic forms were borrowed from Chuvash. Later, however, Sammallahti (1998: 121) included SaaN *guoppar* in a list of words inherited from “Proto-Finno-Permic”, expressing no uncertainty.

The suggested etymological connection of the Saami and Permic forms appears untenable because the vowel correspondence is quite irregular. According to Zhivlov’s (2023: 135–138) model of Permic historical vocalism, the vowel correspondence between Komi *gob* : *gobj-*, (Upper Sysola dialect) *gõb* and Udm *gubj* points to PPerm *gõbj. The vowel *õ has two regular sources: 1) PU *e before second-syllable *-i or *-äj; 2) PU *a before palatal or alveolo-palatal consonants. In the case of the word for ‘mushroom’ only the first alternative would be possible. Therefore, had the word been inherited, it would regularly go back to PU *kempi or *kempä(-j); cf., e.g., PU *keri ‘crust, bark’ > PPerm *kõr(j-) > Komi *kor* : *korj-*, (Upper Sysola) *kõr*, Udm *kur* (UEW: 148–149); PU *penä-j ‘dog’ > PPerm *põnj > Komi *pon* : *ponj-*, (Upper Sysola) *põn*, Udm *punj* (UEW: 371). This excludes any cognate relationship with PSaa *kuomper, because PSaa *uo cannot reflect PU *e. Yet another problem is that the stem-final *-r in Saami has no correspondent in Permic; I will return to this issue further below.

In addition to these problems, the Permic word for ‘mushroom’ has also alternative comparanda: the resemblance to the aforementioned PSlav *gõba ‘mushroom, fungus’ is especially striking, and also Tatar *gõmbä* and Chuvash *kämpa* ‘mushroom’ come formally close. The mutual etymological relationships between these words are unclear, but at any rate

the Permic word cannot be explained as a Chuvash loan as was passingly suggested by Sammallahti (1988: 552). The Chuvash word itself has been regarded a borrowing from Tatar *gömbä* (< *gümbä), but the origin of the latter is not quite clear. As regards Permic *göbj, the assumption of borrowing from a Turkic source is problematic also because the change of nasal+stop clusters into voiced stops (*NT > *ND > *D) had in all likelihood taken place in Permic already before the earliest Permic–Turkic contacts (see the discussion by Metsäranta 2020: 201–202). The possibility of borrowing from Slavic seems a more attractive hypothesis, but a proper evaluation of the etymology would require that the features and chronology of the earliest East Slavic loanwords in Permic be worked out first.

As regards Saami *kuomper, its alleged cognate relationship with Permic *göbj must be false, so there is no competing hypothesis for the Slavic loan etymology of the former. Nevertheless, the word could not offer unambiguous evidence of contact between Proto-Slavic and Proto-Saami even if the loan etymology were correct, because Koivulehto (2006: 184–185) presents two chronologically different interpretations of the etymology. According to the first one, PSaa *kuomper was borrowed from PSlav *gōba (> *gōba); in this version the nativization of the nasal vowel and the following stop would be analogous to that in Fi *kuontalo* ‘roll of wool or flax fiber (for spinning yarn from)’ < PSlav *kōdělъ > *kōdělъ (> OCSlav *kōdělъ*, Rus *кудель*, Czech *koudel*, Polish *kądział* ‘sliver, tow’) (SSA s.v. *kuontalo*). According to the second interpretation the loan would be considerably older: PSaa *kuomper could go back to Pre-PSaa *kampir, which was borrowed from Pre-Proto-Slavic (or Proto-Balto-Slavic) *gambā.

The latter alternative, in fact, appears *a priori* more likely than the first one. It would make the loan roughly equal in age to the earliest layers of Proto-Baltic and Proto-Germanic loans in Saami, which in turn would imply that the borrowing had taken place in a quite different geographic setting. It is well-established that Pre-Proto-Saami was originally spoken at a more southerly latitude, somewhere in Southern Finland and Karelia (see the discussion by Aikio 2012 and references therein), and therefore it would not be so difficult to assume that also a stray Pre-Proto-Slavic borrowing had entered the language at that time. What is more, in this scenario it would not even be necessary to assume that the borrowing was adopted from Slavic in the first place: in terms of phonological reconstruction Proto-Balto-Slavic is nearly identical with Proto-Baltic, and one could alternatively assume that the word was borrowed from Baltic *gambā-, i.e.,

from a cognate form of the Slavic word which just happened to be later lost in the Baltic branch. The same explanation could also apply to a couple of other alleged Pre-Proto-Slavic or Proto-Balto-Slavic loanwords, at least to the aforementioned SaaN *vallji* ‘abundance’ ~ Fi *vilja* ‘grain; abundance’ (< *wilja < Proto-Balto-Slavic or Proto-Baltic *wīl(i)ja-; cf. Koivulehto 2006: 187–188). In fact, the existence of some such Baltic borrowings is entirely predictable: it would be quite contrary to expectations if the source form of every single prehistoric Baltic borrowing had been preserved in the Baltic branch itself. In a similar way, the much more numerous Proto-Norse borrowings in Saami also include ones whose source forms have not been preserved in the attested Nordic languages; 18 such cases are discussed in a recent paper of mine (Aikio 2020).

However, one problem still remains that provides an argument against both the Saami-Permic comparison and the Slavic (or Baltic) loan etymology: the assumption that PSaa *kuomper contains a suffix *(e)r. Koivulehto (2006: 184–185) comments on the issue as follows: “From a morphological point of view it should be noted that the Saami word must be a suffixed stem in *-er(e) [= Pre-Proto-Saami *-ir according to the present reconstruction]. Suffixations are not uncommon in loanwords.” (Quotation translated from the German.) This is a purely ad hoc hypothesis, however: there is no Proto-Saami derivational suffix *(e)r (< Pre-Proto-Saami *-ir), so nothing in PSaa *kuomper itself suggests that the word could be a derivative, let alone that it “must” be one. The assumption of suffixation is circularly based on the loan etymology itself, which can only explain the part *kuomp(e)- but not the stem-final consonant *-r.

To substantiate this counterargument, let us look at the origins of Lule, North, and Skolt Saami noun-stems ending in *-r. Such nouns can be etymologically grouped into four broad categories. Many of the words are borrowings from Nordic languages; most are recent loanwords, but there are also some earlier borrowings from Old Norse and even from Proto-Norse. The following serve as examples:

SaaN *áittar* (GEN/ACC *áitara*) ‘caretaker, owner’ < PSaa *ajtter < PNo *aixter- (> OSw *-attari* in *iorb-attari* ‘landowner’);

SaaN *áldar* (ACC *álldarav*) ‘age’ < Nw *alder*;

SaaN *bolsttar* (GEN/ACC *bolstara*) ‘mattress; pillow’ < Nw/Sw *bolster*;

SaaN *dimbbar* (GEN/ACC *dimbara*) ‘timber’ < ONo *timbr*;

- SaaN *eappir* (GEN/ACC *eabbára*) ‘wooden pail, bucket’ (< *eampēr) < OSw *æmbar*;
- SaaN *fáttar* (GEN/ACC *fáddara*) ‘godparent’ < Nw/Sw *fadder*;
- SaaN *fuod̄ar* (GEN/ACC *fuod̄dara*) ‘fodder’ < ONo *fóðr*;
- SaaN *gufihtar* (GEN/ACC *gufihttara*) ‘gnome (a kind of anthropomorphic being from under the earth in Saami mythology)’ < ONo **góð-vættr* (*góð* ‘good’ + *vættr* ‘a supernatural being’) > Nw *godvette* ‘a kind of benevolent gnome-like being’;
- SaaN *keallir* ~ *geallir* (GEN/ACC *keallára* ~ *geallára*) ‘cellar’ < Nw *kjeller* / Sw *källare*;
- SaaN *meašt̄tir* (GEN/ACC *meašt̄tára*) ‘master, expert, champion’ < Nw *mester* / Sw *mästare*;
- SaaN *minsttar* (GEN/ACC *minstara*) ‘pattern, model’ < Nw *mønster* / Sw *mönster*;
- SaaN *sohkar* (GEN/ACC *sohkkara*) ‘sugar’ < Nw *sukker* / Sw *socker*;
- SaaN *šláttar* (GEN/ACC *šlád̄dara*) ‘gossip’ < Nw/Sw *sladder*;
- SaaN *uŋgar* (GEN/ACC *uŋgara*) ‘craving (for a particular food etc.)’ < Nw/Sw *hunger*;
- SaaN *viesttar* (GEN/ACC *viestara*) ‘west wind; west’ < ONo *vestr*.

There are also some borrowings from Finnic, although they are much fewer in number:

- SaaN *gágir* (GEN/ACC *gáhkira* ~ *gáhkára*) ‘lump of reindeer feces’ < PSaa **kākēr* < PFi **kakara* (> Fi *kakara* ‘turd, lump of animal feces; brat’). As a sidenote, the Finnic word has an obvious but previously unnoticed cognate in Mordvin: MdE *kavork̄s*, MdM *kavork̄s* ~ *kavork̄s* ‘lump, clod (of earth, etc.)’ (< PMd **kavəf̄-ks* < Pre-PMd **kakarV-*).
- SaaN *ságir* (GEN/ACC *sáhkára*) ‘tang of a scythe blade’ < Fi *sakara* ‘jag, spike, tang’.
- SaaN *máttar* (GEN/ACC *máddara*) ‘ancestor’, SaaL *máttar* ‘ancestor; base, lower and wider part of something’ < PSaa **mānter* < PFi **mander* (> Fi *manner* ‘mainland, continent’). PFi **mander*, in turn, is cognate with Komi (obsolete) *mud̄er* ‘floor, bottom of a house’, Udm *mudor* ‘icon; altar or sacred shelf in a prayer hut; deity or sacred center of a tribal territory’ (SSA s.v. *manner*). One can reconstruct the common proto-form **mentVr*, although the second-syllable vowels in Finnic and Permic do not quite seem to match. In this case there is actually a reason to

view the part $*(V)r$ as a derivational suffix: there are also related forms pointing to a simplex stem $*mantV-$, e.g. Fi (dialectal) *mantu* ‘land, area; farm’ (< Pre-PFi $*mantV-w$), which has also been borrowed into Saami (cf. SaaS *maadtoe* ‘birthplace; ancestry; kindred’, SaaL *máddo* ‘ancestry; kindred’, SaaN *máddu* ‘oldest known ancestor; mythological ancestral form of an animal species’ < $*māntō$) (SSA s.v. *mantu*). In addition, there are two related Saami nouns which look like borrowings from (Proto-)Finnic forms that were not preserved in Finnic itself: SaaN *máddi* ‘south’, *máttá-s* ‘southwards’, SaaT *maanda-s* ‘landwards, towards the mainland’ (< $*māntē$, $*māntā-sse$, from unattested PFi $*manta?$) and SaaS *maadtege* ‘foot of a tree or a mountain; older generation’, SaaN *mátta* (GEN/ACC *máddaga*) ‘foot of a tree’ (< $*māntek$, from unattested PFi $*mand-ek?$). Moreover, the stem $*męntV$ has a previously overlooked regular reflex in MariE *möðə-wuj*, *müðə-wuj* ‘hummock, tussock’ (< PMari $*müdə-wuj$); the head of the compound is *wuj* ‘head’ (< PU $*ojwa$), so the word can be traced back to a metaphoric expression “head of land”, or the like. In light of this data it seems possible that Fi *manner* is a denominal derivative with an opaque suffix $*(V)r$. The analysis remains uncertain, however, as one can also reconstruct a related verb stem $*męnta-$ on the basis of MariE MariW *müdem* ‘cover; bury, cover with earth’ and Udm *mudj-* ‘shovel earth around the foundation of the house (for insulation)’. Furthermore, one could propose the hypothesis that all of these words are ultimately derivatives of the PU noun $*męxi$ ‘earth’, although their morphological makeup remains opaque for the time being.

Seven words appear to be inherited items with cognates in other Uralic languages:

SaaSk *čuōmâr* (GEN/ACC *čuōmmâr*) ‘grain, crumb’ < PSaa $*ćuomer$ < post-PU $*ćomir$ (> Fi *somero* ~ *somer* ‘coarse gravel’) (SSA s.v. *somero*).

SaaL *dabár* (ACC *dahparav*) ‘prattle, nonsense’ < PSaa $*teper$ < post-PU $*tüpir$ (~ $*tüpirä$ > Fi *typerä* ‘stupid, foolish’). The etymological connection between the Saami and Finnish words does not appear to have been previously noticed. In addition, one could tentatively suggest a further connection to PKh $*tepār$ ‘dust, waste, garbage’ (> VVy *tewər*, Sur *tăpər*, Irt *těpər*, *tăpər*, Ni Kaz *tăpər*, O *tăpār*). In this case the PU form would have been $*tipVr(V)$, and the change $*i > *ü$ in Finnic would

- be paralleled by Fi *tyven* ‘calm, windless weather’ < Pre-PFi *tüwin < PU *tiwin (> Kh VVy *teγən*, Sur *tǎγʷən* ‘calm, windless’) (SSA s.v. *tyven*).
- SaaN *duottar* (GEN/ACC *duoddara*) ‘tundra’ < PSaa *tuonter < (post-)PU *tanti/ar (> Fi *tanner* ‘hard trampled ground; yard, field, open space’, Veps *tandar* ‘hard trampled ground’). Kaheinen (2022) had suggested that the word is cognate with Ngan *ćintā* ‘crest (of hill or mountain), ridge’ and *ćintārā* ‘mountain’, which would then go back to PSam *t̥int̥ē and *t̥int̥ēr̥j̥ē, but soon she withdrew the comparison and instead traced the Nganasan word back to PSam *t̥ünt̥ē (> NenT *tunt̥*°, EnT *tudo* ‘hill, hillock, ridge of land’) (Kaheinen 2023: 97). Therefore, there is no principal objection to the old etymology suggested by Setälä (1912: 81–82) and supported by Rédei (1988), according to which the noun *tanti/ar was derived from a verb stem that was preserved in Samoyed: PU *tanta- ‘trample, tread on’ > PSam *tânt̥- (> NenT *tan̥-*, EnF *tadu-* ‘tread on, step on’), *tânt-ut- (> NenT *tan̥ʔ-*, EnF *taduʔ-* ‘trample’, Kamas *tōnuʔ-* ‘walk, tread’). The meaning shows a quite precise match with a derived verb in Finnic: Fi *tannertaa*, Veps *tandarta* ‘trample’ (< PFi *tand̥/arta-). Moreover, this etymology can be corroborated with further cognates in Permic and Mordvin: Komi *dud-* ‘be obstinate, balk, move backwards (e.g., of horses)’, MdE *tandadoms* ‘get frightened’, MdM *tandadəms* ‘get frightened; buck, bolt (of horses)’. According to Zhivlov (2014: 143) the Komi and Mordvin verbs can reflect a proto-form *tanta-, thus the phonological match with PU *tanta- ‘trample, tread on’ is precise, and even the semantic correspondence is fairly straightforward.
- SaaL *guonjar* (ACC *guogjarav*) ‘boat rib’ < PSaa *kuonjer < PU *keŋir (> Fi *kaari* ‘curve; boat rib’, KhNi *xuŋxarə* ‘palm of the hand’, MsUK *kēŋər* ‘hollow of the knee’) (Aikio 2015: 58; cf. UEW: 126 and SSA s.v. *kaari*).
- SaaSk *kōōddâr* (GEN/ACC *kōōddâr*) ‘hock’ < PSaa *keŋter < post-PU *kintir (> Fi *kinner* ‘hock’) (SSA s.v. *kinner*).
- SaaSk *kōōnjâr* (GEN/ACC *kōōnjâr*) ‘elbow’ < PSaa *keŋer < PU ?*küñir ~ ?*küñär(ä) (> Fi *kyynärä*, *kyynär-*, MdE *keñer*, MariE *kāñer*, Udm *gjr-*). Although this is undoubtedly a Proto-Uralic word (UEW: 158–159; Sammallahti 1988: 544), the etymology involves some morphological and phonological unclarities. First, only the Skolt Saami form is regularly comparable to the cognates cited above, whereas all the other Saami languages point to a protoform with a quite different type of phonological structure, cf. SaaS *gernjere*, SaaL *garŋjel*, SaaN *gardnjil*,

gargnjil, SaaK *ká'rrjel* ‘elbow’ (< PSaa **kər̥nērē* ~ **kər̥nēlē* ~ **kər̥nēlē*, as if from Pre-PSaa **kür̥närä* ~ **kür̥nälä* ~ **kür̥närä*). Second, there are apparently related words in the Ugric languages which lack the consonant *-r- and instead show other obscure stem-final elements: cf. KhSur *kõnʔŋi* ~ *kõnŋi*, KhIrt *kõšŋaj* ~ *kõŋnáj* (< PKh **küŋčəŋǰǰ*), MsLK *kʷänyəl*, MsN *konl-ōwl* (< PMs **kʷänyəl* ~ **kʷänyəl*), Hung *könyök* ‘elbow’. Also Khanty and Mansi feature obscure stem-final elements, but in any case the Ugric words share a common Ugric stem **küŋV-* < **künV-*; note that the change **kVn-* > **kVŋ-* is regular in Ugric (Zhivlov 2016). This stem is no doubt of the same origin as the part **küŋV-* in the word for ‘elbow’ in the more western Uralic branches, despite the irregular correspondence **n* ~ **ń*. However, since the shared part **künV-*/**küŋV-* is not attested as an independent word-stem anywhere in Uralic, it is not clear whether the part *-r(ä) can really be analyzed as a derivational suffix.

SaaN *muogir* (GEN/ACC *muohkára* ~ *muohkira*) ‘blackfly’ < PSaa **muokēr* < post-PU **makar* (? ~ **mäkärä* > Fi *mäkärä* ‘blackfly’). The etymology is accepted by SSA (s.v. *mäkärä*), but the irregular vowel correspondence makes it uncertain whether the Saami and Finnic words are direct cognates; they might also be parallel borrowings from some unknown source, for example. On the other hand, phonological irregularities are not rare in words denoting insects.

Quite a few Saami noun stems in *-r lack an etymology; many of them probably belong to the substrate lexicon Saami has acquired from unknown “Palaeo-Laplandic” languages (see Aikio 2012: 80–88). The following serve as examples:

SaaSk *aautâr* (GEN/ACC *ahttâr*) ‘storm’ < PSaa **äktər*/**ävtter*. To venture a speculation, one could think of borrowing from PNo **austrā* ‘east’ (> ONo *austr*) in the meaning ‘east wind’, cf. the aforementioned SaaN *viesttar* ‘west wind; west’ (< ONo *vestr* < PNo **westrā*). There is no evidence of the proposed semantic shift, however, so this is a mere conjecture.

SaaN *čagar* (GEN/ACC *čahkara*) ‘cartilage, gristle; penis (of an animal)’ < PSaa **čęker*.

SaaN *čiegar* (GEN/ACC *čiehkara*) ‘winter pasture (where reindeer have dug up lichen under the snow)’ < PSaa **čieker*.

- SaaN *čuokkar* (GEN/ACC *čuoggara*) ‘lump’ < PSaa **čuonjker*.
 SaaN *dieskkar* (GEN/ACC *dieskara*), SaaL *diesnar* (ACC *diessnarav*) ‘fur lining on the inside of mittens’ < PSaa **tiesjer*.
 SaaN *duogur* (GEN/ACC *duhkora*) ‘children’s game’ < PSaa **tuokōr*.
 SaaN *feaskkir* (GEN/ACC *feaskára*) ‘porch, entry of a house’ < PSaa **feaskēr*.
 SaaN *giegir* (GEN/ACC *giehkira* ~ *giehkára*) ‘windpipe’ < PSaa **kiekēr*.
 SaaN *miegar* (GEN/ACC *miehkara*) ‘temporary outdoor sleeping shelter that provides protection from mosquitoes’ < PSaa **mieker*.
 SaaN *muttar* (GEN/ACC *muddara*) ‘sod, peat (used in the construction of sod huts and houses)’ < PSaa **muntjer*. It is tempting to compare this noun to PU **męntVr* which was discussed above, considering especially the meanings of Komi *muder* ‘floor, bottom of a house’ and the related Udmurt verb *mudj-* ‘shovel earth around the foundation of the house (for insulation)’ (< PU **męnta-*). However, the vowel **u* in the Saami noun is difficult to explain, so this may also be a chance resemblance.
 SaaN *nagir* (GEN/ACC *nahkára*) ‘sleep, sleepiness’ < PSaa **nekēr*.
 SaaL *sájger* (ACC *sájggárav*), SaaS *saajkere* ‘sharp stick (made of wood or antler)’ < PSaa **sájkēr* ~ **sájker*. Finnish has the similar word *saikkara* ~ *saikara* ‘(a kind of) pole or rod; dry branch’ in Ostrobothnian and Far Northern dialects. Due to its northern distribution it looks like a borrowing from Saami, although the possibility of borrowing in the opposite direction cannot be completely ruled out. In the Northern Ostrobothnian subdialect the word also has a variant form *saikka*; this looks like a contamination of *saikkara* and the etymologically unrelated *saitta* ‘(a kind of) pole or rod’. The latter is related to SaaN *sáiti* ‘spear’ (< PSaa **sájtte*) via borrowing in one direction or the other (cf. SSA s.v. *saitta*).
 SaaN *skázir* (GEN/ACC *skáhčira*) ‘blade of grass’ < PSaa **skācēr*.
 SaaN *spáiddar* (GEN/ACC *spáidara*), SaaS *svaajhtere* ‘torch’ < PSaa **svājter* ~ **svājtter*.
 SaaN *suonjar* (GEN/ACC *suotnjara*) ‘ray, beam of light’ < PSaa **suoņer*. The word might be somehow etymologically connected to SaaSk *šuoņsted* ‘loom, shimmer (of a distant object)’, SaaK *šuoņse* ‘shine between clouds (of the sun)’ (< PSaa **šuoņstē-*); the word-initial **ś* could have developed via assimilation to the following alveolo-palatal nasal **ń*. Nevertheless, it would be circular to analyze SaaN *suonjar* as an example of a derivational suffix *-r, because the morphological relationship

between this noun and the verb *śuoŋestē- is not regular and the ultimate origin of both words remains unknown. For all we know, they could also be parallel borrowings from related forms in an unknown source language, or simply coincidentally similar words.

SaaN *šimir* (GEN/ACC *šipmára*), SaaI *šomer*, SaaSk *šá'mmer* 'back of a knife blade or an ax blade' < PSaa *šimēr ~ *šēmēr ~ *šomēr. The relationship to the similar Fi *hamara* 'back of a knife blade or an ax blade' (< Pre-PFi *šamara) is unclear. The sound correspondence does not support either a cognate relationship or direct borrowing between Finnic and Saami, so some kind of indirect etymological connection seems more likely (cf. SSA s.v. *hamara*). Moreover, the irregular vowel variation within Saami seems to suggest post-Proto-Saami origin.

SaaL *viettar* (ACC *vieddarav*) 'high or steep sandy bank' < PSaa *vienter.

To come to the point, the lexical material analyzed above offers extremely little evidence for the existence of a derivational suffix *-r in Saami, or even in Proto-Uralic. Only in the case of SaaN *duottar* 'tundra' and *máttar* 'ancestor' are there any real reasons to assume that the consonant -r at the end of the noun stem could be a derivational suffix; at least it must originate in a separate morpheme of some type, but the details remain unclear, as the word-formation has taken place at a very early date and the morphological makeup of the words has become obscured since. Moreover, the two words are more likely to be deverbal than denominal formations, and the hypothesized suffix *-(V)r remains unidentified in any case. What is more, the word *máttar* was not even directly inherited in Saami, but instead borrowed from Finnic *mand(-)er (< PU *ment(-)Vr). As noted above, an inherited cognate might also be found in SaaN *muttar* 'sod, peat', but this hypothesis remains very uncertain due to the irregular first-syllable vowel.

The scarcity and ambiguity of this evidence implies that denominal nouns with a suffix *-(V)r are extremely rare at best, and more likely they do not exist at all. Even if they do exist, the pattern of word-formation is obviously archaic: the possible examples predate the existence of Saami as a separate branch, and within the Saami branch there is no evidence at all suggesting the reconstruction of such a derivational pattern. In any case it would not have been productive in Proto-Saami any longer, and therefore it could not have been applied to a Slavic loanword thought to have been adopted at that stage.

For the sake of completeness, there is also a slightly different morphological explanation that ought to be discussed: one could think of modifying Koivulehto's explanation by reconstructing PSaa *kuomperē instead of *kuomper, and assuming that the word then became analogically restructured as a consonant-stem ending in *-r in Saami. In this way one could hypothesize that the word originally contained a derivational suffix *-rē (< PU *-rA). In fact, it is not always easy to tell the difference between Saami noun stems in *-rē and *-r, and in individual languages one does find some examples of the latter having originated by analogy from the former. One such word, in fact, has been suggested by Nikkilä (1993: 96) to be a Germanic loanword with a suffix *-rē added in Saami:

SaaU *guõhpieri*, SaaP *guohper*, SaaL *guober* ~ *guohper* (ACC *guohperav*), SaaN *guobir* (GEN/ACC *guohpira* ~ *guohpára*), SaaI *kyeppir*, SaaSk *kue'pper* 'hoof' < PSaa *kuopērē (~ *kuopēr) < Pre-PSaa *kapa(-)ra ? < Pre-PGerm *kāpa- (> PGerm *xōfa- > OEngl *hōf*, OHGerm *huof*, ONo *hófr* 'hoof'). Note that SaaS *guehpere* 'hoof' must be a borrowing from Ume Saami due to its irregular consonant cluster *-hp-*; the expected inherited reflex would be SaaS **guepere*.

This word does not offer an exact parallel for the word *kuomper 'mushroom', however. It is quite obvious that the word for 'hoof' must be reconstructed as a Proto-Saami trisyllabic vowel stem (*kuopērē), not as a bisyllabic consonant stem (*kuopēr). Reflexes of Proto-Saami trisyllabic noun stems regularly lack consonant gradation, and in this case the only exceptions are SaaL *guober* and SaaN *guobir* which are declined as gradating *r*-stems. They must have secondarily developed via analogy, as non-gradating cognates occur in the Saami languages both to the southwest and to the east of Lule and North Saami, and even Lule Saami has the expected non-gradating form *guohper* as a dialectal variant. In the case of *kuomper, however, there is no evidence of an earlier trisyllabic stem in *-rē; the word behaves everywhere as a gradating *r*-stem.

Besides this, the Germanic loan etymology suggested for PSaa *kuopērē is also morphologically problematic in itself: it is unlikely that Pre-Proto-Saami even had a productive derivational suffix *-rA at the time when this word is assumed to have been borrowed from Germanic. Even if such a suffix did occur, it is not at all clear what its semantic function was and what types of bases it could be attached to. In fact, the entire material suggesting

the reconstruction of the derivational suffix *-rA in Proto-Uralic is scarce and opaque. The only thing that looks clear is that such a suffix did once exist, as it is attested in two derivatives reconstructible into Proto-Uralic. One of them is denominal and the other deverbal:

- Fi *koira* ‘dog’, *koira-s* ‘male’, Võro *koir* ‘male dog’, KomiY *kór* ‘male dog’, KhV Vy *kar*, MsLK *xār* ‘male; reindeer bull’, Hung *here* ‘testicle’, NenT *xora*, SlkTa *gorj* ‘male; reindeer bull’ < PU **koj-ra* ← **koji* ‘man, male’ (> SaaSk *kuōjj* ‘(young) husband’, KhV Vy *ku* ‘man, husband; male animal’, MsLK *xōj* ‘male animal’) (UEW: 166–169).
- Fi *kumara* ‘stooped, bent over’, MariNw *kōmōr* ‘brushwood, windfall, driftwood’, Komi *kj̄mj̄r* ‘slouching’, Hung *homor-ú* ‘concave’ < PU **kuma-ra* ← **kuma-* ‘fall or bend over’ (> Mde *koma-*, Komi *kj̄m-*, MsLK *xām-*, NenF *kāmǎ-*, EnT *koo-*, Ngan *kəmǎ-*) (cf. UEW: 201–202, 227). The appurtenance of MariNw *kōmōr* has not been previously noticed. As regards semantics, a parallel is provided by another noun derived from the Samoyed reflex of this verb: NenF *kām°xa*, EnT *kooxa*, Ngan *kəmǎgu* ‘fallen tree’, Mator *kamaga* ‘block of wood, driftwood’ (< PSam **kāmǎ-kǎ* ← **kāmǎ-* ‘fall over’).

In addition, there are a few plausible examples of derivatives in *-rA in Finnic:

- Fi *avara* ‘wide and open, spacious’ ← PU **aŋa-* ‘open/take off’ (> KhIrt *eŋx-*, MsN *āŋkʷ-* ‘take off’); cf. also Fi *avata* (: *avaa-*) ‘open (verb)’, a parallel derivative of the same base (SSA s.v. *avara*, *avata*).
- Fi *kamara* ‘hard crust (esp. crust of the earth); pork rind’ ← PU **kama* (> MariE *kom* ‘crust (of bread), peel (of fruit)’, NenT *saw°*, SlkTa *qāmij* ‘fish scale’) (UEW: 121–122). SSA (s.v. *kamara*) considers the etymology uncertain but does not state reasons for this.
- Fi *katkera* ‘bitter’ ← PU **kačka-* ‘bite (?)’ (> SaaN *gáskit* ‘bite’, MariE *kočka-* ‘eat’, KhV Vy *kj̄č-* ‘hurt, ache; sting (of nettles)’, MsN *xūs-* ‘sting (of nettles)’) (Aikio 2014b: 5–8).
- Fi *pisara* ‘drop’ ← (post-)PU **pića-* / **pińća-* (> Mde *piže-* ‘rain (verb)’) (SSA s.v. *pisara*).
- Fi *tappura* ‘rough hemp or cotton fibers, waste fibers’ ← PU **tappa* (> Mde *tapo* ‘shaggy, tangled linden bast or tow’, MariE *towo* ‘tangle’). Note also the derived verb Mde *taparda-* ‘wrap, swaddle, wind’ ~ Komi *tupjrt-* ‘wind, reel, coil’ (< **tapparta-*), and Komi *tupjil’* ‘ball (of yarn),

coil; lump’ (with an opaque stem-final element *-l*). This is a new etymology for the Finnish word; Zhivlov (2014: 129) previously derived the Mordvin, Mari, and Permic words from the proto-form **tappa-*. The origin of the second-syllable *u* in Finnic remains unclear, but the comparison is otherwise relatively straightforward.

Fi (obsolete) *viherä* ‘green’ ← PU **wiša* ‘green/yellow’ (> Mde *ožo* ‘yellow’, Komi *vež* ‘green, yellow’, Udm *vož* ‘green’); cf. also Fi *vihanta* ‘lush, green (of vegetation)’, a parallel derivative of the same base (SSA s.v. *vihreä*, *vihanta*).

In Saami, however, I have found only a single example of this kind of derivative:

SaaSk *tooppâr*, SaaT *to’bbear* ‘weather with sticky snow’ < PSaa **toperē* ~ **topērō* ← **tope-* (> SaaL *dâhpât*, SaaN *dohpat*, SaaI *tuuppâd* ‘stick onto (skis etc.; of sticky snow)’). There is also a derived verb with *-r-*: SaaSk *toppred*, SaaK *tobbre* (< PSaa **toperV-*), SaaI *topered* ‘stick on (skis, etc.; of sticky snow)’ (< **topēr-uove-*).

As far as I am aware, this example is completely unique in Saami: there appear to be no other noun stems in **-rē* or verb stems in **-rV-* where that stem-final element could be analyzed as a suffix. Furthermore, the derivative has an archaic look to it, as it appears to have developed an irregularly syncopated variant already in Proto-Saami, which then served as the base for further derivatives. SaaT *tobbrnânnâd* ‘keep sticking on (of sticky snow)’ (< PSaa **topre-n-ente-*) is a durative verb formed from an otherwise unattested PSaa **topre-ne-* (an intransitive transformative verb formed from a syncopated stem **topre-*). This verb comes phonologically and semantically extremely close to another verb stem which has lacked an etymology: SaaS *dabranidh*, SaaU *dabrrânit*, SaaP *dabbrânit*, SaaL *dabrrânit*, SaaN *darvânit*, SaaI *tarvanid* ‘stick on, get stuck’ < PSaa **teprâ-ne-*. The irregular vowel change **o > *e* has occasionally taken place adjacent to labial consonants in Saami, cf. the following parallels:

SaaS *buhjtjedh*, SaaU *buhttjiet* ~ *bühttjiet*, SaaP SaaL *bâhtjet*, SaaN *bohçit* ~ *bahçit*, SaaI *paččeēđ*, SaaSk *pââččad* ‘milk, squeeze out, wring (e.g., wet clothes)’, SaaK *pâžžē*, SaaT *pâžžad* ‘wring (wet clothes)’ (< PSaa **počē-* ~ **pečē-* < PU **puća-*; UEW: 404).

SaaS *butnedh*, SaaU *büdniēt*, SaaP SaaL *bådnet*, SaaN *botnit* ~ *batnit*, SaaI *panneēđ*, SaaSk *pââ'ned* 'spin, twine' (< PSaa *ponē- ~ *penē < PU *puna-; UEW: 402–403).

SaaS *lepsie*, SaaU *lap'see*, SaaP *lappse*, SaaN *laksi*, SaaI *lapse*, SaaSk *lâ'pss*, SaaK *lâ'pps*, SaaT *lâ'ppse* 'dew' (< PSaa *lępsē < *lopsē < PU *lupsa; UEW: 261). The form with PSaa *o is not actually attested in any Saami language, but it is the expected reflex of the PU vowel *u.

SaaS *munnie*, SaaU *munnie*, SaaP SaaL *månne*, SaaN *monni* ~ *manni*, SaaI *mane*, SaaSk *mââ'nn*, K *mâ'nn*, T *mâ'nne* 'egg' (< PSaa *monē ~ *menē < PU *muna; UEW: 285).

SaaK *kâ'ppse*, SaaT *ko'ppsed* 'go out (of fire)' (< PSaa *kopsē- ~ *kępsē- < PU *kupsa-; UEW: 214–215).

SaaS *bertedh*, SaaU *bårddiēt*, SaaP *bårredet*, SaaL *bårddet*, SaaN *bordit* ~ *bardit*, SaaI *pardeđ*, SaaK *po'rrde*, SaaT *po'rrded* 'stack up, pile up; load (e.g. a boat)' (< PSaa *portē- ~ *pęrtē- < PNo *burdja- > ONo *inn-byrða*, Icel *byrða* 'pull onboard', Far *byrða* 'burden'). This is a new etymology for the Saami verb.

Therefore, it is reasonable to assume that PSaa *tope-rē is an archaic formation inherited from an earlier language stage when the suffix *-rA was still productive. On the basis of Saami we can thus tentatively reconstruct post-PU *tupi- and *tupi-ra, and indeed, for the derived form a plausible cognate is found in PMari *tūwər-. This stem underlies the derivatives MariE *tuwârȳem*, MariW *tāwârȳem* 'curdle (of milk); clot, coagulate (of blood)' (< PMari *tūwər-g-e-) and MariE *tuwârtem*, MariW *tāwârtem* 'make (milk) curdle, make curds' (< PMari *tūwər-t-e-). Although the meanings in Saami and Mari are different, their etymological connection is quite transparent.

The diachronic morphological analysis implies that PSaa *kuomper 'mushroom' cannot be explained as any kind of regular derivative of a stem borrowed from PSlav *gōba 'mushroom, fungus'. The question to ask ourselves, then, is whether we can accept a loan etymology which entails the hypothesis that an obscure suffix-like element without any recognizable semantic function was added to the word-stem. It seems that such an assumption does not inevitably invalidate an etymology, because in inherited Uralic vocabulary we do find a few examples of the phenomenon that are well-established and indeed difficult to dismiss. In Saami I have managed to find the following nine examples:

- PSaa *čēapēt̄tē ~ *čēapōttē ‘neck’ (> SaaU *tjiäbuote*, SaaL *tjebet*, SaaN *čēabet*, SaaSk *čēäppat*, SaaT *čēabbad*) ← *čēapē ‘neck’ (> SaaS *tjēpie*, SaaL *tjēhpie*). No noun suffix *-(ō)ttē is known. The stem reflects PU *čēpä ‘neck’ (> Veps *seba*, MdE *šive* ‘collar’, MariE *šüj*, MsN *sip* ‘neck’) (UEW: 473–474).
- PSaa *eartt̄iŋkV ‘ribs (meat cut)’ (> SaaS *eerhtege*, SaaL *hiertig*, SaaN *erttet*, SaaI *eertig*) ← *earttē ‘side (body part or meat cut)’ (> SaaI *ertti*, SaaSk *jeä’rtt*, SaaT *jie’rhte*). No suffix *-(i)ŋkV is known. The stem reflects pre-PSaa *erttā, and is certainly related to MdE *irđes* ‘rib’, MariE *erđe* ‘thigh’, and Udm *urd* ‘side; rib’ (< post-PU *ertä) (UEW: 625; regarding the Mari cognate see Aikio 2014a: 137). The correspondence between *-rtt- in Saami and *-rt- in the other branches has not been explained. The word is a well-known borrowing from Pre-Proto-Indo-Iranian *(H)érđ^ho- (> Proto-Indo-Iranian *(H)árd^ha- > Sanskrit *árdha-* ‘side, part, half, place’, Avestan *arəða-* ‘side, half’).
- PSaa *jievjemē ~ *jievjōmē ‘lichen on trees’ (> SaaN *jievjun*, SaaI *jievjâm*). The part *jievj(e)- regularly reflects PU *jäwji (> KhV Vy *jej* ~ *jěj*, NenT *juj*°, Ngan *dīā* ‘lichen on trees’) (Aikio 2006: 12–14). However, no denominal noun suffix *-(ō)mē is known (although *-mē < PU *-mA is a fully productive deverbal noun suffix that forms action nouns). Note also that the forms in the southwesternmost Saami languages show irregular back rounded vowels in the first-syllable: SaaS *joevjeme* ~ *jovjeme*, SaaU *jävjjamah* (PL) ‘lichen on trees’. The presence of vowel irregularities and an opaque suffix-like element in Saami could be seen as an argument against the Uralic etymology and in favor of substrate origin. However, I am reluctant to dismiss the comparison to the Khanty and Samoyed words as a chance correspondence, as the match is otherwise very precise, and a key condition for hypotheses of borrowing from an unknown substrate language is the lack of any plausible alternative etymology.
- PSaa *kāmek ‘shoe’ (> SaaS *gaamege*, SaaN *gáma*, SaaI *kaamuv*, SaaT *kaamâg*). The word must have been derived with a suffix *-ek from the otherwise unattested stem *kāmē, which is the regular reflex of PU *kämä ‘(a kind of) shoe’ (> MdE *keme*, MariE *kem* ‘boot’, Komi *kem* ‘bast shoe’). However, PSaa *-ek is not a known denominal noun suffix, even though it is a productive deverbal noun suffix. In any case, the former existence of the stem *kāmē is also implied by the parallel derivative *kām-ēs ‘reindeer leg skin’ (> SaaS *gaamese*, SaaN *gámas*,

SaaI *kaamâs*, SaaT *kaams*). The suffix *-es forms denominal nouns that denote materials used in the manufacture of the referent of the base noun (Korhonen 1981: 320). The underlying meaning of *kām-es ‘reindeer leg skin’ is thus ‘material for shoes’, which makes perfect sense because traditional Saami fur boots are sewn from reindeer leg skins. By the way, this morphological analysis offers a very strong argument against Koivulehto’s (2007: 584–587) proposal that the Uralic word *kämä was borrowed from PGerm *xammō- ‘shank’; he assumed that the word had undergone the semantic development ‘shank’ > ‘leg skin’ (> ‘shoe made of leg skins’). This is clearly in error, however, because the meaning of PSaa *kām-es ‘reindeer leg skin’ is fully explained by the semantic function of the derivational suffix *-es; in fact, the Saami derivative is formally identical with MariE *kemaš* ‘material for boots’ ← *kem* ‘boot’. Therefore, there is no doubt that the original meaning of the Uralic word was ‘(a kind of) shoe’ and not ‘leg skin’, and on top of that the loan etymology also involves other difficulties: the Uralic front vowel *ä would be an unexpected substitute for PGerm *a, and moreover, it is *a priori* unlikely that a word having regular cognates in Uralic languages as far east as Permic could have been borrowed from a language representing the Proto-Germanic level of reconstruction. This combination of semantic, phonological, and chronological problems implies that the loan etymology is wrong.

PSaa *koackēmē ‘eagle’ (> SaaL *goasskem*, SaaN *goaskin*, SaaSk *kuä’ckkem*, SaaT *kyö’ckem*). The part *koackē- is the regular reflex of PU *kočka ‘eagle’ (> Fi *kotka*, Komi *kuč*). Regarding the suffix *-mē see *jievjemē ~ *jievjömē ‘lichen on trees’ above.

PSaa *luompel ‘small lake (through which a river runs)’ (> SaaS *loebpele*, SaaN *luoppal*, SaaSk *luubbâl*, SaaK *luumbâl*). No suffix *-l is known, but the part *luompe- regularly reflects PU *lęmpi (> Fi *lampi* ‘pond, small lake’, Ngan *lūnhə*, SlkK *lįmbj* ‘boggy place, quagmire’) (Aikio 2014c: 86). UEW (235) considers the Saami word a possible borrowing from dialectal Fi *lampelo* ‘pond, puddle’, but this is obviously not the case: the vowel correspondence PSaa *uo ~ Fi *a* alone suffices to disprove the idea, not to mention the fact that the derivative *lampelo* is so rare that there is not a single attestation of it in the comprehensive dialect dictionary SMS.

PSaa *oalöl ‘lower jaw’ (> SaaL *oalol*, SaaN *oalul* ‘lower jaw’, SaaI *uálul-tähti* ‘jawbone’, cf. *tähti* ‘bone’). No suffix *-(ö)l is known (cf. the case of

*luompel above), but the part *oal(ō)- goes regularly back to (post-)PU *ola- and matches MdE *ulo* ‘chin’. Probable further cognates include MsLK *ūlaš* ‘chin, lower jaw’ (< PMs *ūlēc, with an obscure stem-final element *-ć) and Hung *áll* ‘chin’ (with *-ll* < *-lCV, thus also originally containing an obscure stem-final element). Note that SaaSk *vuâl-tä'htt*, SaaK *vual-taa'hht* ‘cheekbone’ probably do not preserve the shorter stem without *-(ō)l: the compound is otherwise identical to the aforementioned SaaI *uálul-tähti*, so its modifier has probably undergone haplology (PSaa *oalöl-täktē > *voalal-täkte > *voal-täkte).

PSaa *peanek ‘dog’ (> SaaN *beana*, SaaI *peenuv*, SaaT *pienâg*). The word must have been derived with a suffix *-ek from the otherwise unattested stem *peanē, which is the regular reflex of PU *penä ‘dog’ (> MdE *piñe*). Another derivative (with a known suffix) is PU *penä-j ‘dog’ (> Fi *peni*, MariE *pij*, Komi *pon : ponj-*, Udm *puni*). Regarding the suffix *-ek see *kämek ‘shoe’ above. Note, moreover, that in southwestern Saami the word appears in an irregular form: SaaS *bienje*, SaaU *biän̄ja ~ biägn̄ja ~ biäd̄nja* (< *pieñe ~ ?*pieñe). Although this form seemingly lacks the suffix *-ek, it cannot be a direct reflex of the simplex stem *penä because of its irregular vowels and the irregular place of articulation of the nasal; the predicted regular reflexes of PU *penä would be SaaS *bienie and SaaU *biennie ~ *biednie. The development of the South and Ume Saami forms remains unexplained.

PSaa *peñkōj ‘hazel grouse’ (> SaaL *bakkoj*, SaaN *bakku*, SaaSk *pââgg*). The Saami word regularly reflects Pre-PSaa *pi/üñkâw, so it looks like an archaic consonant-stem derivative of PU *püñV (? ~ *pi/eñV) (> Fi *pyy*, MdE *povo*, KhVVy *pěñk* ‘hazel grouse’, Hung *fogoly* ‘partridge’; the last contains an obscure stem-final element *-(o)ly*). The denominal noun suffix *-kA can be reconstructed into Proto-Uralic, but its semantic function is obscure (Aikio 2022: 19). There are also some possible traces of an opaque denominal noun suffix *-w, for example SaaL *guottoj* ‘fallen tree’, SaaN *guottu* ‘tree stump’, Fi *kanto* ‘tree stump’, MsN *xânta* ‘horizontal floor beam of a storehouse’ < PU *kəntaw ← *kənta (> Fi *kanta* ‘base; heel’; note also MdE *kando* ‘fallen tree’ and KhVVy *kant* ‘pillar of a storehouse’, which could reflect either the simplex or the derived stem). Regarding *peñkōj ‘hazel grouse’, however, it remains totally unclear why two opaque derivational suffixes would have been added to the base.

In the cases discussed above an inherited noun stem has been augmented by adding an element that looks like an opaque derivational suffix, but the process is not accompanied by any semantic change: the meaning of the derived form in Saami matches that reconstructed for the Proto-Uralic simplex stem. One could therefore ask whether the same kind of process could also have affected some loanwords. The answer is, of course, that it might; but it is quite another question whether such cases could be reliably identified, and whether invoking such an obscure process could be methodologically justified in loanword research.

The key issue here is probability. According to my calculations there are over 300 inherited noun stems in Saami with cognates in other branches of Uralic, so the nine examples discussed above amount to less than 3% of all inherited nouns. If we had a large stratum of Slavic loans in Saami that contained, say, 100 borrowed nouns, it would then make perfect sense to expect a couple of them to contain an obscure stem-final element. But the situation is completely different when we are dealing with merely two nouns alleged to be stray borrowings from Proto-Slavic. In such a situation we first need to establish the existence of the alleged loanword stratum itself, and for this purpose unambiguous and impeccable etymologies are needed as evidence. If we permit ad hoc postulation of unknown “suffixes” to account for non-matching stem-final material, the possibility of finding chance correspondences increases, which in turn weakens the hypothesis of the very existence of a Proto-Slavic loanword stratum in Proto-Saami. In this regard the Slavic loan etymology of PSaa *kuomper ‘mushroom’ differs crucially from the Uralic etymology of e.g. PSaa *peanək ‘dog’: we already know that Saami has inherited several hundred words from Proto-Uralic, and moreover we can reconstruct the noun *penä(-j) ‘dog’ on the basis of Finnic, Mordvin, Mari, and Permic forms, completely regardless of the origin of PSaa *peanək ‘dog’. Therefore, there is a quite different set of facts which leads us to conclude that PSaa *peanək consists of an inherited stem *pean(ē)- and an opaque suffix *-ək.

To conclude this analysis of PSaa *kuomper ‘mushroom’, the etymology deriving it from PSlav *gōba turns out to be quite weak because it fails to explain the stem-final consonant *r. This does not completely disprove the hypothesis, as there are some well-established parallels for the addition of an obscure stem-final element on Saami nouns, but the rarity of such processes is a significant weakness in the etymology. Moreover, even if the

hypothesis of a link between the Saami and Slavic words were correct after all, there would still not be compelling reasons to interpret the word as a borrowing from Proto-Slavic: the word could also have been adopted from Proto-Baltic or Proto-Balto-Slavic into Pre-Proto-Saami. Therefore, the etymology proposed for PSaa *kuomp̄er does not offer support for direct contacts between Proto-Slavic and Proto-Saami.

5. Conclusion

In this study the two Proto-Slavic etymologies that have been proposed for Saami words were critically reviewed. The word *multtē ‘soap’ turned out to have an alternative and far more probable Proto-Norse loan etymology, and the Slavic loan etymology of *kuomp̄er ‘mushroom’ turned out to be weak because it does not account for the stem-final consonant *r. Therefore, it appears that the striking matches of these words with PSlav *mȳdlo ‘soap’ and *gōba ‘mushroom, fungus’ are examples of the phenomenon of “chance correspondence”: even though the phonological and semantic matches between the words are “regular” in the sense meant in historical linguistics, it is nevertheless very probable that they result from pure coincidence.

There is an important methodological lesson in this. Although historical linguists are well aware of how common chance similarities are across languages, the possibility of finding seemingly regular chance correspondences is not often taken into account. The latter are, of course, much rarer than the former, but apparently not as rare as is generally thought. Every once in a while a professional historical linguist will encounter an etymology which, at face value, looks phonologically and semantically impeccable, although other criteria may strongly suggest or even prove that it is wrong. This means that one will occasionally also find such quasi-etymologies when there are no criteria to prove them wrong. Because of this, no far-reaching conclusions should be drawn or broad generalizations made on the basis of just a couple of etymologies, no matter how convincing they might seem.

Abbreviations

EnF	Forest Enets	ONo	Old Norse
EnT	Tundra Enets	OSw	Old Swedish
Est	Estonian	PBalt	Proto-Baltic
Far	Faroese	PFi	Proto-Finnic
Fi	Finnish	PGerm	Proto-Germanic
Germ	German	PKh	Proto-Khanty
Hung	Hungarian	PMari	Proto-Mari
Icel	Icelandic	PMd	Proto-Mordvin
KhIrt	Irtyskh Khanty	PMS	Proto-Mansi
KhNi	Nizjam Khanty	PNo	Proto-Norse
KhSur	Surgut Khanty		(Proto-North-Germanic)
KhVVy	Vakh-Vasyugan Khanty	PPerm	Proto-Permic
KomiY	Yazva Komi	PSaa	Proto-Saami
MariE	East (Meadow) Mari	PSam	Proto-Samoyed
MariNw	Northwest Mari	PSlav	Proto-Slavic
MariW	West (Hill) Mari	PU	Proto-Uralic
MdE	Erzva Mordvin	SaaI	Inari Saami
MdM	Moksha Mordvin	SaaK	Kildin Saami
MDu	Middle Dutch	SaaL	Lule Saami
MsLK	Lower Konda Mansi	SaaN	North Saami
MsN	North (Upper Lozva and Sosva) Mansi	SaaP	Pite Saami
		SaaS	South Saami
NenF	Forest Nenets	SaaSk	Skolt Saami
NenT	Tundra Nenets	SaaT	Ter Saami
Ngan	Nganasan	SaaU	Ume Saami
Nw	Norwegian	SlkK	Ket Selkup
OCSlav	Old Church Slavonic	SlkTa	Taz Selkup
OEngl	Old English	Udm	Udmurt
OHGerm	Old High German		

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Komi language sustainability in urban Syktyvkar: Changes in the linguistic environment and language attitudes

The article focuses on language sustainability, the functioning of a language in the multiverse of its relations with speakers, non-speakers, other languages, and surrounding environments. Highlighted is the case of the Komi language, approached through the analysis of the language attitudes of Komi and non-Komi residents of Syktyvkar, the capital of the Komi Republic, and changes that have affected the language's role. The empirical data includes interviews with urban Komi, social media posts, and historical and census data.

Unlike previous studies, the article demonstrates historical transformations in the language attitudes of urban Komi. Widespread Russification and marginalization have previously spurred the development of negative language attitudes. Increased interregional communication, digitalization, and access to information have influenced later improvements in these attitudes.

Changes in the attitudes of non-Komi residents are observed as well: while these attitudes were previously acutely negative, they have been replaced by indifferent and moderately positive ones. The prevalence of positive attitudes was registered in situations where direct interaction with the Komi language was not expected, while direct interaction, such as inclusion of Komi in the school curriculum, triggered more negative reactions.

The prevalence of a utilitarian approach to language maintenance and widespread narratives about the Russifying influence of Syktyvkar have negatively affected the sustainability of the Komi language within the city. Simultaneously, the influx of rural-born Komi-speaking youth with positive language attitudes and the presence of places and communities where Komi is used and valued exert a favorable influence on the language.

1. Introduction
 2. Exploring language sustainability through language attitudes
 3. Data and methods
 - 3.1. Statistical data
 - 3.2. Urban ethnographic fieldwork
 - 3.3. Digital ethnography
 4. Changing linguistic environment of Syktyvkar
 - 4.1. Statistics on Syktyvkar's ethnolinguistic diversity
 - 4.2. From the 1900s to the 2020s: changing language policies and their impact on the Komi language
 5. Komi perspectives of Syktyvkar: narratives of Russianness and "culture"
 6. Transformation of language attitudes of urban Komi: from shame and fear to affection and care
 - 6.1. Late Soviet period: marginalization, shame, and inferiority
 - 6.2. From the 1990s to the mid-2000s: ethnic revival and inception of changes in language attitudes
 - 6.3. From the late 2000s to the mid-2010s: "Something changed"
 - 6.4. From the late 2010s to the present: Komi-speaking youth and increased public use of Komi
 7. Non-Komi urbanites' views on the Komi language and its presence in the urban environment
 - 7.1. Stereotypes and beliefs about the Komi language
 - 7.2. Attitudes towards the Komi language in the urban environment
 8. Conclusions
- References
Appendix

1. Introduction

Urbanization is frequently regarded as detrimental to the maintenance and promotion of non-dominant languages (Saarikivi & Marten 2012; Sánchez et al. 2018). At the same time, with the ever-increasing speed of urbanization, it is imperative not only to engage in urban sociolinguistic research but also to challenge our approaches to language studies, namely by paying more attention to environments in which languages exist and the relations they are part of. For this reason, the focus of the present article is language sustainability, which I define as the functioning of language in the multiverse of its relations with speakers, non-speakers, other languages, and surrounding environments. Specifically, I focus on the sustainability of the Komi language in Syktyvkar, the capital of the Komi Republic, which I approach through an analysis of the language attitudes of Komi and non-Komi urbanites supported by the study of the transformation of the role of the Komi language.

Komi¹ is one of the Finno-Ugric languages of Russia and one of the state languages of the Komi Republic. Like other Finno-Ugric languages of Russia, Komi has been experiencing a steady decline in the number of its speakers. Like many other non-dominant languages in Russia, Komi is widely equated with rural areas, but contrary to this assumption, Komi has been an integral part of the urban environment, particularly in Syktyvkar,² the capital of the Komi Republic.³

Previous studies on attitudes towards the Komi language in urban areas have quite unilaterally focused on one social group, namely Komi-speaking youth and particularly students (Kuznetsov 2009; Mironova 2011; Mironova & Jaanits 2012; Juldašev & Vokuev 2022). This group, relocating from rural settlements to Syktyvkar, was presented as ignorant of their native language, and their attitudes were described as overwhelmingly negative, loaded with emotions of shame, embarrassment, and fear (Kuznetsov 2009: 123). According to Juldašev & Vokuev (2022), such attitudes were attributed to the linguistic dominance of Russian and what the authors called a “cultural inferiority complex among Komi language speakers”. The city was depicted as a place where formerly rural Komi abandoned their language by speaking exclusively Russian, leading, as a result, to the suppression of their ethnic identity (Mironova & Jaanits 2012).

The obvious shortcomings of the existing research are the exclusive concentration on a specific social group, an oversimplified depiction of language attitudes of urban Komi residents, and a lack of a critical analysis of the structural causes behind the language shift that urban Komi have undergone. Furthermore, such scholarship omits the language attitudes of non-Komi speakers as such. In this article, I aim to overcome these

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1. There are two major Komi groups and respective languages, namely the Komi Zyryans and Komi Permyaks; sometimes a third group, the Komi-Yazvinians, is distinguished as well (Kuznetsov 2022: 487). In this article I exclusively focus on the Komi Zyryans and in referring to this group, I use the endonym *Komi*.
 2. The city received its current name *Syktyvkar* (Komi *Сыктыв* ‘Sysola (river) + *кар* ‘city’) in 1930. From 1780 until that time, it was officially known as *Ust-Sysolsk*. In this article, the name *Syktyvkar* is used to designate the city regardless of the historical period concerned.
 3. At various times, the Komi Republic has been known under different names that reflected its political and administrative organization. In this article, the name *Komi Republic* is used to designate the region regardless of the historical period concerned.

limitations by involving diverse social and age groups of urban Komi and by approaching their attitudes as evolving phenomena. By providing a historical overview of the transitions that the Komi language in Syktyvkar and the Komi Republic has undergone, I further place such attitudes in specific political and social contexts. This background, I argue, assists in comprehending the particularity of people's beliefs at different time periods. In addition, I expand my analysis to include a study of language attitudes as expressed by non-Komi residents of Syktyvkar.

The main research questions this article aims to address are the following: What is the role of the Komi language in Syktyvkar and how has it transformed over time? What attitudes towards the Komi language do Komi and non-Komi residents of Syktyvkar express? How do these attitudes affect the sustainability of the Komi language in Syktyvkar?

The empirical data for this article consists of interviews with Komi urbanites recorded in 2021–2022, posts from public city groups on the social media website VKontakte, and census data. My own knowledge of the context further enriches these datasets: I was born and raised in Syktyvkar and have long followed Komi-related matters out of both personal and academic interest.

Investigating urban Komis' experiences from the late Soviet period until recent times, I demonstrate the evolution of their language attitudes and indicate the determinants for such changes. Exploring non-Komi residents' attitudes, I discover the variability in these attitudes that depends on the mediums and places where the Komi language is used. I identify the prevalence of a utilitarian approach to language maintenance and widespread narratives about the Russifying influence of Syktyvkar as challenges to Komi language sustainability. Simultaneously, I emphasize the positive impact of the influx of rural-born Komi-speaking youth and assert the significance of places where Komi is used and valued for language and identity maintenance within the urban environment.

2. Exploring language sustainability through language attitudes

In engaging with language in the framework of its connection to the surrounding environments, academic scholarship utilizes several conceptual frameworks, among which are language ecology, language sustainability, and language vitality. While language vitality appears to be a rather

traditional concept employed by UNESCO and used by a large body of scholarship studying the health and current state of languages, language ecology, which originated in the scholarship of the late 1960s and early 1970s, seems to attract more polarized opinions (Mufwene 2000; Wilans & Jukes 2017).

In this article, I am inclined to use language sustainability as the guiding concept (Bastardas-Boada 2014). Like language ecology, language sustainability promotes an ecological and relational approach that perceives languages as interactive and open phenomena situated in a network of diverse relations that form a holistic ecosystem (Ferguson & Siragusa 2017). In this sense, the sustainability of languages and language diversity are one of the components of the meta-level sustainability of diverse communities (Virtanen et al. 2020). Unlike language ecology, frequently criticized for its use of analogy between languages and biological species, language sustainability appears to be a more inclusive, accommodating, and flexible term. It allows one not only to fix the current state of a language and its use, but also to present these in their dynamic quality, from tracing their historical premises to analyzing their prospects. As Bastardas-Boada (2014: 139) concludes, language sustainability is both ecosystemic and dynamic, and I would also add that it is inherently future-oriented.

Cities are a distinctive area in studies of language sustainability, particularly of non-dominant languages. They are typically perceived as areas with limited resources to support such languages and cultures (Saarikivi & Marten 2012; Chao & Waller 2017; Sánchez et al. 2018). While relocation to urban areas has long been equated with assimilation, with loss of language and identity, research among Indigenous peoples shows that some of them do not perceive their relocation exclusively in such terms, and many of them choose to maintain their roots through continuous mobility, participation in cultural festivals, and connections through social media (Toivanen & Fabritius 2020: 60–61).

It is not enough to view the vitality of a non-dominant language and its sustainability in urban areas from solely the perspective of the traditional quantifiable elements, such as number of speakers, level of proficiency, etc. Rather, it is crucial to embed language use in the larger context of people's belonging, sense of community, and relationships established within and outside urban areas. With that said, I argue that for language maintenance in urban areas, it is particularly important to have dedicated spaces that

function in non-dominant languages or provide opportunities to practice them (for research on so-called “safe spaces” or “breathing spaces”, see Fishman 1991; Taylor-Leech & Tualalelei 2021; Kroik 2023; Sams 2024).

Acknowledging the strong relational focus of language sustainability, it is important to underline that each of the relations that situate language within social, economic, political, cultural, and ecological environments may differ among various communities. Depending on a community and local context, they influence language sustainability in different ways and to different degrees. In the case of the Komi language, aspects such as governmental support, inclusion of the language in the school curriculum, and digitalization have attracted particular attention from language activists and planners. In this article, however, I aim to bring another angle to this discussion and analyze attitudes that surround the Komi language and its use. Ultimately, the decision to use a language, transmit it, or engage in its maintenance in any other way, is individual and heavily influenced by speakers’ and others’ beliefs about language, its role, utility, and prestige (Kasstan et al. 2018: 389).

Language attitudes are the totality of people’s beliefs about linguistic forms, their feelings, actions, and inactions related to these forms (Gomashie 2023: 2). Incongruence between speakers’ beliefs, feelings, and actions is not uncommon, and thus for effective language use, maintenance, and transmission, consistency among all three elements is essential (Baker 1992: 13). Such incongruence also explains why, in certain cases, positive language attitudes do not directly translate into increased language use (Choi 2003; Gomashie 2023).

Language attitudes are usually dynamic and transformative. Their development is influenced by speakers’ personal experiences, social environment, and language policy, as well as other factors important to the community (Garrett 2010: 22; Mamontova 2019: 110).

3. Data and methods

This study employs a range of methods and data, including ethnographic fieldwork and interviews, digital ethnography, and analysis of historical statistical data. Additionally, my own experience as a (former) Syktyvkar resident born into a Komi-Russian family and my knowledge of local matters assist me in comprehending and presenting the urban language environment.

3.1. Statistical data

To represent changes in the ethnic and linguistic diversity of Syktyvkar and the Komi Republic, I make use of the results of censuses conducted consequently from 1897 to 2010. One could argue that using Russian census data (whether Soviet or from the Russian Empire) carries inherent risks due to potential falsifications and inconsistencies during the original data collection. For this reason, due to significant methodological limitations and inadequacies in data collection, I do not include the results of the recent 2020 census. Still, I believe that referring to census data is important, as such data informs experts' recommendations and official language policies.

3.2. Urban ethnographic fieldwork

From October 2021 to February 2022, as part of my ethnographic fieldwork, I conducted 6 group and 31 individual interviews with 67 Komi residents of Syktyvkar. Most interviewees were women (N=53, 79.1%) and first-generation internal migrants (N=62, 92.5%), who had moved to Syktyvkar from rural areas due to studies or work. My interlocutors included all generations born successively from the 1950s to the 2000s. In terms of their occupation, they were students, cultural and administrative workers, journalists, university lecturers and staff, private-sector employees, and retirees.

Interviews were organized in Syktyvkar, Saint-Petersburg (one interview), as well as online (one interview) at interlocutors' workplaces, homes, and in city cafes. During the interviews, I communicated with my interlocutors predominantly in Russian, while they chose to express themselves in either Russian or Komi or engaged in code-switching throughout the conversation. Interviews were either audio-recorded or documented in the form of notes, transcribed, and analyzed using the qualitative data-analysis software ATLAS.ti.

The scope of interviews was not limited to the discussion of the interlocutors' opinions about the Komi language, but rather covered the personal and professional biographies of the interlocutors, as well as their urban experiences. However, the Komi language, its use in the city and role in the construction of interlocutors' identities, as well as interlocutors' language attitudes were discussed in almost all interviews. I must also acknowledge

that a significant part of my interlocutors were professionally associated with the Komi language, culture, or nationality policy. I recognize that this fact may affect the representativeness of this study, but I nevertheless argue that even this seemingly homogeneous group of people can express contrasting opinions.

In this article, the interlocutors were anonymized, except when they expressed their opinions as public figures or experts.

3.3. Digital ethnography

To determine the language attitudes of non-Komi residents, in the spring of 2023 I conducted a study of posts on the city groups on the social-media website VKontakte (alternatively VK; known as *ВКонтакте* in Russian). The reason for choosing VK over other social-media platforms is its overwhelming popularity among city residents.⁴ VK largely resembles Facebook, but unlike the latter, it allows the use of pseudonyms, although it does not recommend it. While publicly available data on the use of pseudonyms in VK is lacking, based on my own extensive user experience, I see most people using their real names.

During the first stage of my study, I searched for public groups related to Syktyvkar by typing “Syktyvkar” (*Сыктывкар*) into the VK search bar and checking all results in the “Groups” category. I identified 13 groups that met my criteria: 1) the group was open, 2) there was a possibility for group members to write their own posts or leave comments, and 3) the number of subscribers was at least several thousand.

Next, using the three keywords “Komi” (*коми*), “Komi language” (*коми язык*), and “комыак” (*комыак*, a derogative word used in relation to the Komi people), I mined these groups for posts related to the Komi language and Komi residents of Syktyvkar. Five groups that yielded relevant results were selected for further analysis. In addition, a group already known to me was included in the final list.

General information about these groups and selected posts is presented in Table 1. A total of 57 posts with 4,595 comments published from 2014 to 2023 were analyzed. It was impossible to identify users’ ethnicities unless

4. For example, in 2021 VK made up 51% of all social-media traffic consumed in the Komi Republic (BNK 2021).

Table 1: The Syktyvkar public groups on VKontakte selected for the analysis

Group name	Number of subscribers (as of 12 June 2023)	Number of posts analyzed	Average number of views per post	Total/average number of likes of these posts	Total/average number of shares of these posts	Total/average number of comments to these posts
Doska pozora: Syktyvkar	26,000	2	2,100	31/15.5	0	31/15.5
Menja besit: Syktyvkar	3,500	2	NDA	130/65	2/1	27/13.5
Podslušano Syktyvkar	86,000	31	7,100	1,812/58.5	40/1.3	2,308/74.5
Pro Gorod Syktyvkar: Novosti	154,000	16	10,100	354/22.1	45/2.8	1,163/72.7
Važnoe v Komi: Syktyvkar	159,000	3	16,500	845/281.7	22/7.3	113/37.7
Žest' Komi	181,000	3	65,200	4,835/1,611.7	174/58	953/317.7

NDA = No data available

they were clearly stated. Since posts were collected to analyze the language attitudes of non-Komi residents, I thus set an additional task to highlight those comments, which clearly indicated that their authors did not self-identify as Komi.

4. Changing linguistic environment of Syktyvkar

The development of Syktyvkar as an ethnically non-Russian city distinguishes it from other cities in the European North of Russia (Rogačev 2010: 20). I have depicted the key aspects of the ethnic development of Syktyvkar in the twentieth and twenty-first centuries elsewhere (Fedina 2022a). Here I expand the previous description with a presentation of the changes that have affected the Komi language in Syktyvkar and the Komi Republic.

4.1. Statistics on Syktyvkar’s ethnolinguistic diversity

According to the All-Russian Census of 2010, more than 100 ethnic groups resided in Syktyvkar. While it remains unclear how many languages were spoken in Syktyvkar, on the regional level representatives of less than 100 out of 130 urban ethnic groups declared a knowledge of their groups’ native languages. Nevertheless, this indication says nothing about real language proficiency. Analyzing Syktyvkar’s ethnolinguistic diversity in its entirety lays beyond the scope of this article, and instead I focus on Russians and Komi, the two largest urban ethnic groups and, consequently, the two major languages, overwhelmingly dominating the urban environment. Historical changes in the shares of these groups are presented in Table 2.

Table 2: Shares of Komi and Russians in the population of Syktyvkar (Skvoznikov et al. 2001; All-Russian Census 2002; All-Russian Census 2010; Fauzer 2022)

	Komi		Russians		Total
1897	3,699	83%	731	16%	4,464
1926	3,486	69%	1,511	30%	5,068
1926 ^a	7,760	80%	1,816	19%	9,713
1937	18,549	80%	4,637	20%	23,186
1939	17,106	68%	7,079	28%	25,285
1959	32,423	50%	23,186	36%	64,461
1970	47,783	38%	52,537	49%	125,088
1979	61,040	36%	89,422	52%	170,980
1989	79,011	34%	127,619	54%	234,903
2002	75,140	31%	143,453	58%	245,768
2010	62,040	25%	158,147	63%	250,874

a. Recalculated in 1938.

As shown in Table 2, over the span of a century Komi have gone from the absolute majority to a quarter of the city’s population. As I described elsewhere (Fedina 2022a), the primary reason for this was extensive involuntary and professional migration to the Komi Republic that both brought new ethnic groups to the region and increased the Russian population severalfold.

It is believed that the actual number of urban Komi may be higher than what is reported by the census. Several factors have contributed to this discrepancy. First, up until the 2020 census, it was possible to declare only one ethnicity, even if a person identified with multiple ethnic groups; the documented ethnicity, in such cases, was commonly the dominant, more prestigious, or economically beneficial one. Second, people’s denial, indifference, and ignorance of their own ethnicity appeared to impact the reported number of urban Komi residents as well. The roots of denialism can be found in the past experiences of marginalization discussed in Section 6.1. Indifference and ignorance, in turn, can be attributed to the existing utilitarian approach, which promotes the idea that appreciating and embracing a Komi ethnic identity would only occur when it would bring practical benefits for its bearers.

As it was impossible to find comprehensive data depicting the self-reported native languages of the population of Syktyvkar, in Table 3 I present corresponding (largely incomplete) regional data on the native languages of the Komi people distributed across urban and rural areas (for a discussion on the meaning of cities, see Fedina 2022a).

Table 3: Native languages of the Komi people in the Komi Republic (Fryer 1998; All-Russian Census 2010; Fedina 2022b)

	Komi			Russian		
	Urban	Rural	Total	Urban	Rural	Total
1926	NDA	NDA	~100%	NDA	NDA	~0%
1959	84%	97%	94%	16%	3%	6%
1970	70%	95%	87%	30%	5%	13%
1979	63.5%	92%	80%	36.5%	8%	20%
1989	58%	89%	74%	42%	11%	26%
2010	41%	82%	63%	59%	18%	37%

NDA = No data available

This data clearly signals the linguistic Russification of the Komi people, starting in the second half of the twentieth century. While it has particularly affected urban Komi, according to official statistics and supported by the stories of my interlocutors, it has recently intensified in rural settlements as well (see interview excerpt 2 in Section 5 for an example of Russian-speaking rural Komi children).

4.2. From the 1900s to the 2020s: changing language policies and their impact on the Komi language

By the beginning of the twentieth century, constant contacts between Russians and Komi had led to relatively widespread bilingualism among city residents. At the same time, even though Komi was the language of the majority of the city, Russian remained the sole official language of public administration and education (Smetanin et al. 2004: 300; Rogačev 2010: 91). The situation changed briefly in the 1920s with the introduction of *korenizatsiia*,⁵ or ‘indigenization’, a nationality policy aimed at promoting nation-building among the non-Russian ethnic groups of the newly formed Soviet Union. *Korenizatsiia* led to predominantly positive results, including the omnipresence of the Komi language in all spheres of public life, including administration and education, but ended abruptly in the early 1930s and was replaced by a rapid transition to Russification (Smetanin et al. 2004: 305; Fedina 2022b).

From the 1930s on, the ethnic composition of the Komi Republic started to change dramatically. According to the family stories of one of my interlocutors, with the growing number of Russian-speaking residents, Russian became the dominant language in Syktyvkar by as early as the 1950s (male, 19 years old). As a result of the school reform begun in 1958 (for further discussion see Fedina 2022b), Komi was suppressed as a medium of school education. Even today there are no schools in the Komi Republic and Syktyvkar where Komi is used as the official language of instruction.

By the end of the Soviet period, the use of Komi was limited to a few spheres, and the language became regularly associated with rurality and inferiority. As for the Komi people, they became regularly marginalized and were often perceived as “second-rate” people by the Russian-speaking majority. According to my data, ethnolinguistic marginalization could be a distinguishing characteristic of urban areas, as it did not occur in Komi-speaking rural settlements.

The late 1980s, 1990s, and early 2000s were a period of ethnic revival that originated and culminated in Syktyvkar. It was at this time that the Komi representative organization Komi Vojtyr was created, the Komi Ethnic Gymnasium and Arts Gymnasium, two major Komi schools, the Komi

5. In Komi, *korenizatsiia* was known as *zyryanizatsiia*, or ‘Zyryanization’. This stemmed from the word “Zyryan”, a Russian exonym for the Komi people.

Culture Center, and the Finno-Ugric Faculty at the Syktyvkar State University began operation. In 1992 the “Law on State Languages” was adopted. In its initial version, the law designated Komi and Russian as the state languages of the Komi Republic and included such provisions as mandatory knowledge of both state languages for certain professions and compulsory study of both languages in schools. However, in 2002, after the Moscow’s campaign to harmonize regional and federal legislation (Zamyatin 2013: 132), many provisions were relaxed, for example, the requirement to know both state languages was substituted by the requirement to know at least one. Today the Law on State Languages stands as the main legal act pertaining to the functioning of the Komi language, but its notable weakness is the lack of defined measures in the event that the law is breached.

The centralization and de-federalization of Russia, begun in the early 2000s, slowed the pace and limited the areas of ethnic revival. The study of the Komi language remained compulsory until the mid-2010s but was later abolished. Nowadays, unlike the dominant Russian language, the use of which is widespread in all spheres of life, Komi is perceived as a place-based language, the use of which is limited to certain areas, networks, and situations. Unlike Russian, Komi is extremely rarely used in governmental bodies and by authorities. Due to legacies of marginalization, as well as stereotypes surrounding the upbringing of bilingual children,⁶ for a long time Komi was rarely transmitted to younger urban generations, leaving rural-to-urban Komi migration as the main source of reproduction of urban Komi speakers (for a similar observation on reproduction of urban Sakha speakers, see Ferguson 2022: 216). In recent years, however, there has reportedly been a rise in the presence of the Komi language in Syktyvkar, a trend that is further explored in Sections 6.2–6.4 and 7.2.

A long-lasting impact of restrictive language policies can, among other things, be observed in the changing role of the Komi language in the Komi ethnic identity. The scholarship of the 1990s unanimously ascribed the language as the foundation of the Komi identity and justified this assumption by the attitudes of Komi people themselves (Fryer 1998: 60). At the beginning of the 2020s, many of my interlocutors continued to define Kominess

6. According to Ljudmila Kambalova (2021), an active member of Šuda Kotyr, a Syktyvkar network of Komi-speaking families, even today many parents believe that raising bilingual children puts children’s intellectual and speaking skills at risk.

by referring to language, place of origin, familial roots, and knowledge of traditions. The account of the following interlocutor serves as an illustrative example:

- (1) I am Komi because I speak the Komi language and grew up in a village where everyone also speaks Komi. And in principle, the family is also Komi. (Female, 18 years old)

At the same time, based on the results of a number of sociological surveys conducted among Syktyvkar youth (2004, 2007), Mironova & Jaanits (2012) demonstrated that for urban youth, the Komi language held a symbolic significance, whereas for rural Komi youth it served a functional purpose and was intricately tied to the knowledge of traditions and self-identification as Komi. According to my observations that support the argument of Mironova and Jaanits, for some Komi the significance of language in shaping their Kominess diminished and was overshadowed by other factors, such as familial roots. This was notably visible among Russian-speaking urban-born Komi, although similar opinions were expressed by several Komi-speaking rural-born Komi. This development may be a direct consequence of the overall decline in Komi language proficiency, challenges of intergenerational transmission, legacies of previous marginalization, and the lack of governmental support for language promotion and maintenance. This process indeed reflects evident negative trends. I argue, however, that it also signifies a changing and adapting understanding of what Kominess entails and supports the possibility of preserving Komi identity amid and despite language shift and loss.

5. Komi perspectives of Syktyvkar: narratives of Russianness and “culture”

To comprehend the language attitudes of urban Komi residents, it is essential to incorporate them into the broader context of Komi people’s perspectives of Syktyvkar. Two fundamental elements of these perspectives are narratives of “culture” and Russianness. The meanings of these notions deviate, to some extent, from their conventional use. In the accounts of my interlocutors, “culture” was equated to being civilized, educated, and modern. The image of Syktyvkar as a hub of “culture” is, otherwise, historically entrenched in Komi images of the city: for example, the “cultural” character of Syktyvkar influenced the selection of the local dialect as the basis on which to standardize the Komi literary language (Lytkin 1928: 30).

In turn, associating Syktyvkar with Russianness, the interlocutors referred to Russian, the dominant language spoken in Syktyvkar and used across all aspects of urban life. Being urban was equated with speaking Russian. This association was unquestionably assumed by many urban Komi residents and was also projected by rural Komi on the Komi youth born and raised in the city, symbolically depriving them of an opportunity to be simultaneously urban and a Komi speaker. As one parent of an urban-born bilingual Komi–Russian child shared:

- (2) *Roč* [Komi *roč* ‘Russian’] is immediately urban. And when all the [rural] children spoke Russian, and he started speaking Komi, my [rural] parents had such big eyes, “Is he *roč*, or what?”. I said, “He is not *roč*.” “*Karsa roč?*” [Komi ‘A Russian from the city?’. “He is not *karsa roč*.” That’s why it was surprising for them that a child came from the city and spoke pure Komi. (Female, 44 years old)

This interlocutor and her husband, both native Komi speakers, aspired to raise bilingual children in the city, challenging an assumption that the Komi language could not be transmitted to the next generations in urban areas. Still, it was her own rural Komi-speaking parents, associating urban with Russian, who found their own urban grandson’s proficiency in Komi to be surprising.

Speaking Russian, as well as being Russian, as reported by my interlocutors, have long been perceived by Komi as indicators of higher social status. From this perspective, speaking Russian, possessing a higher social status, and being an urban resident appeared to be intrinsically linked and practically synonymous. This was well illustrated by one interlocutor who was discussing the differences between rural areas and the city: “Here are the Komi from the village, and there [in Syktyvkar] is the Russian *elite* [Russian *небожители*]” (female, 31 years old; emphasis mine). Another interlocutor echoed this sentiment when discussing rural Komi-speaking residents relocating to Syktyvkar: “[and rural residents are like that] oh, I’ll come to the city, so I need to learn to speak Russian beautifully, because this is the city, the *elite* lives here” (female, 24 years old; emphasis mine). Both interlocutors referred to urban residents as *elite* rather sarcastically, nonetheless, these descriptions serve well to illustrate this popular association.

I argue that the language shift experienced by a substantial number of Komi individuals relocating to the city can serve as a direct consequence

of associating Syktyvkar with Russianness and “culture”. Speaking Russian was frequently perceived as the sole means to validate oneself in the city, leading to the suppression of everything Komi, as the latter is associated with a less-privileged rural identity. Below are two stories shared by my interlocutors that illustrate this phenomenon:

- (3) There are also those who come from the village [...] to the city, and they immediately speak Russian and completely forget about Komi, because they are ashamed to speak [Komi]. (Female, 20 years old)
- (4) My friend feels uncomfortable [...], she prefers not to say that she has rural roots, that she is a Komi. For her, this no longer corresponds to her image precisely, because the image of a Komi for her is some kind of ridiculous image, some kind of uneducated [person], and so on. She wants to prove herself as a person. She has three, four higher educations, all honors diplomas, she is cool, smart, beautiful. [...] For her, this [speaking Komi] does not correspond to her image, and therefore she switches to Russian. (Female, 29 years old)

The shame associated with speaking Komi, coupled with the belief that being Komi and speaking the language implied a rural background and lack of education, led acquaintances of the interlocutors to suppress their use of the Komi language. As excerpt 4 shows, this suppression can extend beyond the language, impacting the identity linked with it.

Despite the perceived Russifying influence of Syktyvkar, the position of the Komi language in the capital appeared to be more promising compared to other cities in the Komi Republic. This was exemplified by the experience of an interlocutor who lived in one of these cities for several years:

- (5) I lived in Pečora for two years, and, of course, we consider that Pečora, since it's the north, is more of a Russian-speaking city. It seems there are no Komi there. In general, you won't hear Komi spoken in shops. But in fact, there are a lot of Komi there, as it turned out, they simply hide the fact that they are Komi. (Female, 25 years old)

While the study of language attitudes in other cities of the Komi Republic lies beyond the scope of this article, it is nevertheless important to highlight that Pečora, the city mentioned in excerpt 5, along with other regional cities such as Vorkuta, Usinsk, and Uxta, in contrast to Syktyvkar, did not develop organically around long-existing human settlements. Instead, these cities were the result of industrial projects of the Soviet era.

Historically, their population primarily consisted of non-Komi ethnic groups who were forcibly sent or voluntarily relocated to the region, with Russian always being the main language used in these cities.⁷

6. Transformation of language attitudes of urban Komi: from shame and fear to affection and care

6.1. Late Soviet period: marginalization, shame, and inferiority

My oldest interlocutors were born in the 1950s and 1960s and relocated to Syktyvkar in the 1970s and 1980s; some were born in the city. The experiences of urban and rural-born interlocutors varied to some extent, but both groups encountered marginalization in Syktyvkar. Below are the accounts of two interlocutors, one born in a rural area and the other in Syktyvkar, in which they discussed their first experiences of marginalization in the city:

- (6) I first encountered this [marginalization] at university. [...] They always wrote down your ethnicity, and when everyone applied to the university, everyone saw it. And then people who came here from Pečora, Inta, and Vorkuta approached me and asked: “Are you Komi?” Disparagingly. I said, “Well, yes, I am a Komi.” Yes, and [there was a feeling of] a little bit of such second-rateness. That is, apparently, I grew up in such an intelligent environment, among writers [...] and I did not encounter this. I first encountered this at the university. (Female, 55 years old; the interlocutor was urban-born, her experience was from the early 1980s)
- (7) I studied at the music college [...], it was 1985, 1989. We knew that we were all Komi [...], we knew that this girl knew Komi, that girl knew Komi, [but] we all spoke Russian. Because everyone laughed, everyone laughed. Everyone pointed at us, everyone. In general, the attitude was very negative, so we were afraid to speak openly in Komi, even with each other. (Female, 51 years old; the interlocutor was rural-born, her experience was from the mid- and late 1980s)

7. Information about the Komi share in the populations of these cities is presented in the Appendix.

Both experiences occurred within educational institutions, where the interlocutors were exposed to non-Komi Russian-speaking ethnic groups, who reportedly held overwhelmingly negative attitudes towards ethnic Komi and Komi speakers. The emotions elicited in the interlocutors by these attitudes can best be described as shame, fear, and a sense of inferiority.

As evident from excerpt 6, the urban space was not inherently “Komi-unfriendly”; particular attitudes prevailed in certain places and situations and among certain communities. In that recollection, for example, a hostile student community was contrasted with family and friends, who valued the Komi language. The importance of having an appreciative community was further underscored by another interlocutor:

- (8) [...] personally, I never experienced being ridiculed or anything like that. I was constantly in a Komi-language environment, both at the university and later at work. (Female, 53 years old; the interlocutor was rural-born, her experience was from the late 1980s and the 1990s)

For this interlocutor, the university, particularly the program in Komi philology in which she was enrolled, and work related to the Komi language, served as spaces where Komi could be constantly used and was valued. Connections with these Komi-speaking communities helped her to avoid the marginalization experienced by other interlocutors.

6.2. From the 1990s to the mid-2000s: ethnic revival and inception of changes in language attitudes

The dissolution of the Soviet Union was accompanied by an ethnic revival in the ethnic republics. In the Komi Republic, this revival intensified in the late 1980s and culminated in the 1990s. The rapid emergence of opportunities to openly express one’s ethnicity triggered a change in the language attitudes of urban Komi residents. This is how an interlocutor reminisced about that decade and her personal transformation:

- (9) And then this revival of the Komi people, 1990, 1992, 1993, so I really felt that this wave was already coming. It was already possible to hear Komi a little, from old women, yes. [...] That’s the whole economic and political situation in the country, and it echoed in our republic. Then we began to [openly] speak Komi. (Female, 51 years old)

Political and economic liberation were believed to be instrumental in the shift of the interlocutor and other Komi people's attitudes towards the public use of the Komi language. As reported by other interlocutors of the same generation, however, this change was not experienced by younger Komi who relocated to Syktyvkar in the same period:

- (10) In the 1990s, that's when my elder sisters were studying [in Syktyvkar], then they generally ... as they said, they felt scared and ashamed.⁸ (Female, 37 years old)

Experiences of the interlocutor's relatives reflected common narratives of marginalization, typical among early migrants to Syktyvkar. In this vein, contrasting excerpts 9 and 10, one might wonder how attitudes formed in the same place and at the same time could be so strikingly different. In addition to age-related and life-stage variations, another crucial factor, from my perspective, was the length of stay in Syktyvkar. Long-term residents, predating the ethnic revival and comparing the current language situation to the past, tended to view it more positively. Conversely, for recent arrivals, contrasting Russian-speaking Syktyvkar with their Komi-speaking rural homeland, their perceptions were shaped differently.

A similar pattern was detectable among the experiences of Komi who relocated to Syktyvkar during the 2000s and reported being embarrassed to speak Komi, despite changes that improved the language situation in the city. The following is the account of an interlocutor who relocated to Syktyvkar for her studies in the 2000s:

- (11) I was born in the village and came to Syktyvkar to study at the Arts Gymnasium in the 8th grade. At that time, to be honest, it was shameful⁹ to know Komi. I remember we spoke Komi in the gymnasium, it was normal there, there was a rather tolerant atmosphere, and in general Komi was somehow supported. But as soon as you left the gymnasium, it felt like you were entering a completely different dimension. And we spoke Russian when we walked along the road, because we were ashamed that we knew Komi. (Female, 28 years old)

8. The original Russian verb used by the interlocutor was *стрематься*. It can be roughly translated as 'be afraid' or 'be ashamed to do something'.

9. The original Russian adverb used by the interlocutor was *стрёмно* (which has the same stem as the verb *стрематься* 'be afraid', 'be ashamed to do something'). It can roughly be translated as 'frightening', 'scary', or 'shameful'.

In her account, this interlocutor did not offer any details behind the perceived shamefulness of speaking Komi, unlike earlier migrants who attributed marginalization as its main reason. Was the suppression of Komi once again occurring due to negative attitudes of the Russian-speaking majority? Or was it internalized by Komi speakers themselves, possibly due to a perceived lack of language prestige? While these reasons remain ambiguous, this excerpt emphasizes, unequivocally, the importance of places and communities where Komi was valued and could be actively used.

The paramount importance of the inclusion of the Komi language and other elements of Komi culture in the urban environment and creation of safe spaces for the preservation of the Komi language and identity, is undeniable in any historical period. Contrary to the claim by Jaanits (2012: 75–76) of the lack of such places and the impossibility of accommodating the Komi and their culture in the urban space, such places do exist in Syktyvkar, the Komi Culture Center founded in 2001 being the most emblematic. For many Komi who relocated to Syktyvkar in the 2000s and later, the Center was the key place to speak Komi, meet Komi residents of Syktyvkar, establish networks, and participate in Komi-related events. Furthermore, through participation in the Center’s activities, new Komi urbanites symbolically and practically maintained a vital connection to their own roots and rural homelands.

6.3. From the late 2000s to the mid-2010s: “Something changed”

Many of my interlocutors observed a transformation between the late 2000s and the mid-2010s. It was marked by an increased use of the Komi language in public and resulted in a transformation of interlocutors’ attitudes towards it, from viewing it as something associated with inferiority and rurality to regarding it as a source of pride and heritage. This sentiment was echoed by the same interlocutor who had once characterized speaking Komi as shameful:

- (12) Then something changed. It probably took about two years, from 8th to 10th grade, maybe. And then we began to speak Komi. Somehow, we felt cool [Russian *нам стало прикольно*] because we started talking, maybe within our class, and everyone there was a very cool guy [Russian *крутые ребята*] and we had this understanding that Komi was cool [Russian *круто*]. And so, we began to speak this language. (Female, 28 years old)

The narrative of “coolness”, strongly present in excerpt 12, was echoed by multiple interlocutors across various age groups. In essence, being cool was similar to being distinct from the dominant group. Another interlocutor summed this up by stating:

- (13) It [being Komi or speaking Komi] identifies them [urban Komi], it distinguishes them from Russians, who ... well, excuse me, there are so many Russians, but you are a little different. It means that I am different. Oh, that's cool, one doesn't have to get a tattoo. (Female, 37 years old)

The interlocutor's use of the tattoo metaphor emphasized the narrative of distinctiveness: one did not need to make modifications to one's appearance to stand out; being inherently different and speaking another language was already enough.

The shift in language attitudes among young people can indeed be seen as one of the developmental and psychological changes experienced by this group. At the same time, supporting Baker's (1992: 97) argument that while language attitudes do transform due to internal individual changes, more often they change due to external factors, I argue that individual changes were not the only determinant, as similar transformations were observed among and by other generational groups. According to my observations and assumptions made by the interlocutors, factors contributing to the increased appreciation of one's ethnicity and language may include increased use of the internet, access to a wider range of sources of information, and increased interregional and international interactions with Finno-Ugric peoples and other non-Russian ethnicities. These new opportunities acted as gateways for self-realization and self-appreciation: speaking a minority language and being part of a minority group was no longer exclusively perceived as unprestigious, rather it was regarded a source of differentiation and possibilities.

6.4. From the late 2010s to the present: Komi-speaking youth and increased public use of Komi

Finally, I would like to emphasize recent developments acknowledged by many interlocutors who have resided in Syktyvkar over the long term: a noticeable increase in the number of Komi-speaking youth and a consequent rise in the public use of Komi in the city. Talking about youth, one of the interlocutors shared:

- (14) Now there is such a positive trend that I hear a lot of Komi from young people on the streets. I can leave the cinema and hear Spider-Man being discussed in Komi. And well, there are such things, these are really good, it seems to me, good signs. (Female, 29 years old)

The influx of Komi-speaking youth was believed to assist in the revitalization of the Komi language in the city. As shown in excerpt 14, the youth, for example, have extended the use of Komi to various situations and spaces, challenging the traditional perception of Komi as a language primarily confined to family and more discreet communication.

The majority of contemporary Komi-speaking youth were born in rural areas and, like previous generations, relocated to Syktyvkar for their studies. According to my observations, unlike previous generations, this youth did not seem to undergo dramatic shifts in their language attitudes, being the first contemporary generation that consistently demonstrated strong positive emotions and beliefs towards their native language. As shown in excerpt 15, they still acknowledged the possibility of marginalization in the urban environment, but they reacted to it differently than previous generations:

- (15) Well, they can call you *komyak*. So what? I, unlike them, understand it [Komi language], I know it, I speak it. (Female, 21 years old)

Speaking Komi was no longer associated with shame; on the contrary, the interlocutor took pride in knowing the language. Another common feeling associated with the Komi language reported by the youth was care. This was clearly articulated in the following reaction to the negative opinion about the Komi language:

- (16) I have heard such an opinion about the Komi language that it is ugly, it is incomplete, it does not have the terms that are needed, it somehow sounds clumsy, somehow ugly. [...] It just hurt me so much, it hurt so much. (Female, 18 years old)

This passage is interesting not only due to marked stereotypes about the Komi language but also because of the interlocutor's response: "it hurt me so much". This reaction, standing in contrast to the shame and feeling of inferiority reported by previous generations, can be translated into a genuine affection and concern for one's own native language.

The influx of Komi-speaking youth, expressing pride in knowing and speaking the language and unafraid to use it in public, has contributed to a transformation in the language attitudes of both Komi and non-Komi

urbanites. Alongside this, grassroots initiatives such as the creation of Komi language memes, stickers, and other entertainment content by social-network users or production of t-shirts and hoodies featuring Komi phrases, have contributed to the development of a positive image of the Komi language in the urban environment and its wider presence.

7. Non-Komi urbanites' views on the Komi language and its presence in the urban environment

Discussing the attitudes of the Russian-speaking majority with my Komi interlocutors, I observed that, in most cases, Komi urbanites tend to characterize such attitudes as predominantly negative and contributing to the marginalization of the Komi people. This evaluation was particularly pronounced in older interlocutors' recollections of the Soviet period and the early post-Soviet years. Younger generations, however, reported experiencing much less overt verbal marginalization.

In this section, I aim to scrutinize the grounds of these opinions by exploring contemporary language attitudes held by non-Komi urbanites. To achieve this, I first discuss general stereotypes and beliefs about the Komi language, and then continue with attitudes towards the presence of Komi in education and the city's audio and visual landscapes.

7.1. Stereotypes and beliefs about the Komi language

For non-Komi residents of Syktyvkar, whose knowledge of Komi tends to be minimal or even non-existent, the link between the Komi language and the Komi ethnic identity is unequivocal. At the same time, authors of posts and comments demonstrated a growing awareness of the rising number of Russian-speaking Komi. Notably, however, there was a limited understanding of the underlying reasons for the continual language shift. For example, acknowledgment of the widespread impact of Russification was surprisingly rare. Instead, as emphasized in the following comment, people more commonly attributed the decline in Komi language use to the associated sense of shame:

- (17) Well, the Komi in the cities themselves do not speak Komi. Why should I learn the language of a people who are ashamed of their language?" (Pro Gorod Syktyvkar, 30 Oct. 2019).

This commentator failed to elucidate the rationale behind attributing the limited use of the Komi language in urban areas to feelings of shame among its speakers. Given that some Komi indeed reported experiencing shame when speaking Komi, it would be interesting to investigate why non-Komi residents also perceive it as a factor influencing the linguistic choices of Komi speakers.

Various commentators reported occasionally hearing Komi being spoken in the city, yet the prevailing belief was that its usage was far more frequent in villages. This association of Komi with rural areas reinforces several sub-narratives. Firstly, it perpetuates the notion that villages are the only locales for sustaining the Komi language. Secondly, it reinforces stereotypes about the typical Komi speaker, portraying them as either retirees or alcoholics, characters allegedly typical of rural areas.

Another frequently mentioned and widespread belief was that learning Komi is challenging and time-consuming. Challenges were attributed to the grammatical complexity of Komi, which indeed exhibits grammatical features that significantly differentiate it from Russian. Among all these features, the higher number of grammatical cases in Komi attracted particular attention from VK users: “How are you even able to speak Komi? There are 16 cases, it would really tie my tongue in knots” (Podslušano Syktyvkar, 5 March 2023).

Additionally, the perceived language difficulty was rationalized by the discrepancies in the standard literary Komi and its dialectical variations. In discussions about dialects, commentators regularly expressed the opinion that different Komi dialects were mutually incomprehensible. The following is an example of such statements:

- (18) Do you know how many dialects the Komi language now has? In Komi villages, people do not understand each other. The television news is shown, people watch, and half the words are not clear to them [...]. (Podslušano Syktyvkar, 6 Aug. 2017)

This passage vividly illustrated the intertwining of various beliefs. The perceived incomprehensibility of different dialects was justified by the claim that their speakers were not able to understand each other. Further, when talking about television news, which is, in fact, conveyed in standard Komi, the commentator asserted that “half the words are not clear”. The commentator’s dissatisfaction with standard Komi can be due to the prevalence of neologisms, which might indeed be challenging to comprehend.

This sentiment was echoed by two other commentators: “In schools they tried to impose an artificially created language called Komi, which the Komi people themselves did not understand” (Podslušano Syktyvkar, 20 Aug. 2018), “The Indigenous Komi people do not understand the modern invented Komi language at all” (Žest’ Komi, 6 March 2022).

The challenges of learning Komi and its limited use in Syktyvkar, in turn, lead to the perception that the Komi language is impractical. Commentators expressing this view were frequently guided by the pragmatic approach, viewing practical utility as the sole valid reason for learning Komi:

- (19) Why learn it, what is its practical use in Syktyvkar? To understand what old women are talking about? In general, if you live in Syktyvkar, then you don’t need any language other than Russian [...] (Podslušano Syktyvkar, 5 March 2023).

It is indeed true that knowing Komi is not necessary to access all city services and live a full life in the city. However, this excerpt is illustrative for another reason as well: it highlighted the popular belief about the average Komi speaker being a person from the older generations (“old women”).

At the same time, not every commentator was driven solely by a pragmatic approach. Some commentators, conscious of their Komi roots, felt regret at not knowing the language and expressed a desire to learn it. Other VK users argued that when living in an ethnic republic, one should know at least the most basic expressions in the local language, in order to show respect for the territory and its people.

Discussions about the impracticality of Komi often attracted commentators that highlighted the serious endangerment of the Komi language. While the UNESCO World Atlas of Languages indeed recognizes Komi as potentially vulnerable, the motivation of such VK users was typically not to raise awareness of the real issue, but rather to use the characterization of Komi as endangered and “dying out” in order to justify its perceived uselessness. In some comments, as shown by the following example, this narrative was applied to Komi people as well:

- (20) I am against the forced introduction of a half-dead dialect of an endangered people (Podslušano Syktyvkar, 29 Sept. 2017).

Not everyone, however, subscribed to the belief that Komi was a moribund language. Comments that introduced the narrative of endangerment were often met with counter-responses, as exemplified by the following excerpt:

- (21) I have been to many places, and I must say that Komi is not an endangered language. There are many villages, and even on an ordinary bus there are enough people who speak Komi. If there are no Komi people among your friends and acquaintances, then there is no need to shout about the extinction of the language. (Podslušano Syktyvkar, 29 Sept. 2017)

Generally, most commentators exhibited a range of indifferent and neutral to moderately positive attitudes toward the Komi language. While they might have not perceived any practical benefits in knowing it, VK users seldom ridiculed other individuals expressing a desire to learn Komi. Instances of negative attitudes, such as deeming the language unnecessary or asserting its uselessness in life, were also present. However, it appeared that these instances were not as prevalent as in previous historical periods.

7.2. Attitudes towards the Komi language in the urban environment

The main interconnected areas and spaces where non-Komi speakers and non-Komi urbanites may encounter the Komi language in the everyday environment of the city are schools, and outdoor visual and sound landscapes. The components of the visual landscape include bilingual signs in governmental institutions, cultural centers, and shops, as well as bilingual street signs. The mandatory use of both Komi and Russian on street signs and public offices' signs was established in 1992 by the Law on State Languages. In recent years, Komi was also introduced on navigation signs in major chain stores and social-cause advertising (Syktyvkarsa komi vojtyr 2020; Komi Daily 2022). The soundscape, in turn, consists of the multiple ways in which people talk as overheard in various urban spaces, as well as the bilingual audio announcements on the bus which were introduced in 2019 (Komsomol'skaja pravda 2019). An analysis of the attitudes of city residents towards the use of Komi in the digital sphere, television and radio, and other spheres is beyond the scope of this article.

When examining posts on the use of Komi in the urban audiovisual landscape, I was surprised to encounter contrasting reactions to these forms of linguistic expression. Commenting on the use of Komi in bus announcements, many people reported that they were either annoyed or found it funny. Nonetheless, when discussing the new Komi signs in local stores, the vast majority of commentators reacted positively and even wondered what other possible reactions they should have caused:

- (22) And what can one think about this? In the Komi Republic, signs are in the native language.¹⁰ Wow, such a miracle, right? Well, excuse me, have you not seen Komi signs with street names before? (Žest' Komi, 6 March 2022).

In this excerpt, the commentator, while emphasizing the normality of the Komi language being incorporated into shop signs, noted its longstanding presence on street signs. In this vein, considering that the majority of negative comments on Komi bus announcements dated back to the year of their introduction, I can speculate that such negative reactions were primarily caused by the novelty of the announcements and their unfinished state at that time, rather than by the mere introduction of the Komi language into a new urban space. This hypothesis can be supported by the fact that negative comments about other instances of the presence of the Komi language in the urban soundscape, for example, overhearing people talking in Komi, were indeed rare. At the same time, the absence of such comments cannot fully encapsulate the real-life situation; remarks from some of my interlocutors regarding occasional public mistreatment for speaking Komi imply that certain prejudices persist.

The only area where negative attitudes clearly predominated was the study of the Komi language in schools. Until 2018, studying Komi was compulsory in city schools, which caused a lot of criticism from Russian-speaking parents. VK users who opposed the study of Komi appealed to, among other things, the limited use of Komi in Syktyvkar, its alleged uselessness, lack of comprehensive pedagogical and supporting materials, as well as their own inability and lack of knowledge to help their children with homework.

While supporters of mandatory school study of Komi were clearly the minority, people who favored the voluntary study of Komi, according to some polls, amounted to and sometimes even outnumbered respondents who opposed it. In this regard, according to a poll organized by the VK public group Pro Gorod Syktyvkar in 2018, 20% of people believed that Komi should be a compulsory school subject, 37% supported the voluntary study of Komi, and 43% were against any inclusion of Komi in the school curriculum (the total number of respondents was 1,165; Pro Gorod Syktyvkar, 27 Oct. 2018). In another poll conducted by the same group in

10. Many commentators (including non-Komi), for some reason, frequently equated the concept of “native language” with “regional language”.

2019 on the necessity of knowing the Komi language in Syktyvkar, 17% of urban residents supported it because “it is the second state language”, 19% opposed it, and an overwhelming 64% voted for the option “Let those who want to, study it, but there is no need to force it” (total number of respondents = 1,138; Pro Gorod Syktyvkar, 1 Nov. 2019).

Posts and comments related to the compulsory study of Komi were the most prone to conflict and full of users’ mutual grievances. It is therefore unsurprising that it was in one of these discussions that a commentator, referring to the hostility of such discussions, remarked:

- (23) Komi is the only region of Russia that has its own language which the population hates and is trying to eradicate (Podslušano Syktyvkar, 28 April 2018).

Unlike the elements of audiovisual landscape that can be acknowledged but do not require interaction, the study of the Komi language in schools for many non-Komi urbanites may be the only instance when they and their children engage with the language on a practical level. Thus, undoubtedly, negative attitudes towards the study of the Komi language are detrimental to its vitality, as the maintenance of non-dominant languages depends not only on the actions and decisions of its speakers but also on acknowledgment and support from the dominant group.

8. Conclusions

In this article, I approached the sustainability of the Komi language in the urban environment by studying the changing role and usage of the language, analyzing the evolution of urban Komi speakers’ language attitudes, and shedding light on language attitudes expressed by non-Komi urbanites. I have presented a century of history of the transition of Komi from a dominant language to a minority language. The diminishing role and usage of Komi, in turn, have led to accelerating language shift and an increasing number of Russian-speaking Komi.

Analyzing Komi speakers’ language attitudes, I have discovered that in the Soviet and early post-Soviet periods they were strongly influenced by the orientation of state nationality policies. During times of Russification, urban Komi marginalized by the dominant population were embarrassed and afraid to speak Komi, while in the period of ethnic revival, many of them began to change their attitudes. With the onset of Putin’s regime,

prioritization of a Russian identity and the Russian language at the expense of regional and local languages became widespread, though ethnographic data has not shown a complete correlation between the direction of the modern nationality policies and the language attitudes expressed. It, in fact, has depicted the opposite situation: affection, pride, and self-sufficiency were the feelings reported by Komi urbanites, particularly by Komi youth. It appears that such factors as digitalization, interregional contacts, and increased access to information have assisted in the improvement of language attitudes. By presenting such evolution of language attitudes of Komi urbanites and describing the transition of the language's role, I have emphasized the dynamic quality of both language attitudes (Mamontova 2019) and factors that affect language sustainability (Bastardas-Boada 2014), as well as the importance of addressing environments in which a language exists (Ferguson & Siragusa 2017).

The attitudes of non-Komi urbanites toward the Komi language have evolved as well. Most non-Komi urban residents exhibited indifferent or moderately positive attitudes towards the Komi language, especially in situations where their direct interaction with the language was not expected. On the contrary, the inclusion of Komi in the school curriculum triggered more negative opinions supported by various stereotypes and belief in the impracticality of the language and its low prestige. By including attitudes of non-speakers in my analysis of the Komi language sustainability, I aimed to stress their influence on language sustainability, particularly of non-dominant languages, and to outline that languages exist not only within the framework of relations with their speakers, but with non-speakers as well.

Among the factors detrimentally affecting the sustainability of the Komi language are a utilitarian approach to language acquisition, use, and transmission, and particular narratives about Syktyvkar and its language environment. A pragmatic approach was typical even for those Komi urbanites who otherwise hold positive attitudes towards the Komi language, which supports the idea that positive language attitudes can lead to an increase in language use and transmission only if aligned with respective actions (Baker 1992; Gomashie 2023). As for the language environment, the dominance of the Russian language in Syktyvkar has led to equating the city with Russianness in the public imagination; such a narrative is detrimental in that sense that it deprives an urban resident of an opportunity to be simultaneously urban and a Komi speaker. By engaging with public

narratives and imaginations about places and their linguistic environments, I assert that the consideration of subjective beliefs is as important for language sustainability as examination of objective factors.

Finally, I have emphasized that the influx of rural-born Komi-speaking youth with positive language attitudes had a positive impact on language maintenance and language attitudes of Komi and non-Komi urbanites. I have also asserted the crucial significance of places and communities where the Komi language was spoken and valued. The respective experiences of my interlocutors supported the significance of belonging in and maintaining ties with language communities inside and outside urban areas for urban language sustainability.

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Appendix: Population of the cities in the Komi Republic according to the All-Russian Census of 2010 (All-Russian Census 2010)

City	Founding year	Total population	Komi population		Russian population	
Emva	1941	14,570	2,471	17%	10,212	70%
Inta	1932	35,181	3,660	10%	23,204	66%
Mikun'	1937	10,730	1,078	10%	8,018	75%
Pečora	1940	57,364	7,155	12.5%	40,439	70.5%
Sosnogorsk	1939	46,775	4,007	8.5%	36,230	77.5%
Syktyvkar	1586	250,874	62,040	25%	158,147	63%
Usinsk	1966	47,229	6,548	14%	26,395	56%
Uxta	1929	121,701	9,100	7.5%	93,112	76.5%
Vorkuta	1936	95,854	1,401	1.5%	63,739	66.5%
Vuktyl	1966	14,873	1,489	10%	9,986	67%
Komi Republic		901,189	202,348	22.5%	555,963	62%
Urban		693,436	94,736	14% of all urban population, 47% of Komi	472,174	68% of all urban population, 85% of Russian
Rural		207,753	107,612	52% of all rural population, 53% of Komi	83,789	40% of all rural population, 15% of Russian

Competing etymologies: Analyzing problems in the origin of some words in Hungarian and other Uralic languages

The purpose of this paper is to discuss some debated etymologies that have competing explanations in Hungarian and in other Uralic languages. It is shown that in most cases quite clearly one of the suggested etymologies is superior and that some phonological details have been neglected in recent discussion of these etymologies. The discussion includes criticism of some recent etymologies that have not yet been commented on elsewhere in detail.

1. Introduction
 2. The etymologies
 - 2.1. Hungarian *sok* ‘much, many’
 - 2.2. Hungarian *orvos* ‘doctor’
 - 2.3. Hungarian *tojik* ‘lay eggs’
 - 2.4. Hungarian *üdül* ‘refresh oneself; recover; rest and relax’
 - 2.5. Hungarian *ing* ‘shirt’
 3. Concluding remarks
- References

1. Introduction¹

The purpose of this paper is to discuss some debated etymologies in Hungarian and in other Uralic languages. The etymologies that are discussed here have competing etymologies: most have both a competing Uralic (Finno-Ugric) etymology and a loan etymology and one has two competing loan etymologies, both of which involve some debated issues. In the case of most etymologies discussed here, problems with both explanations have been noted in the research literature, but there is no consensus on which explanation is correct or more plausible.

1. I am grateful to Luobbal Sámmol Sámmol Ánte (Ante Aikio), Christopher Culver, András Czentnár, Martin Kümmel, and Johanna Laakso for discussions

Even though Uralic etymology and loanword research is a vibrant field, there are etymologies that include unsolved problems. Some of the more problematic Uralic etymologies presented in earlier sources, such as the UEW, MSzFE, or SSA, have not been commented on in detail in more recent etymological dictionaries, such as ÚESz or SES. On the other hand, some problematic Turkic loan etymologies for Hungarian that have been discussed, for example, by Róna-Tas & Berta (2011), have not been analyzed further in more recent research (see, however, Honti 2017 for discussion of some etymologies and Róna-Tas 2017 for answers to criticism). There are also some quite recent etymological proposals that have not yet been, at least to my knowledge, commented on (Aikio 2021 on *üdül*; Róna-Tas & Berta 2011 on *ing*).

The etymologies discussed here form case studies to highlight the problems with competing etymologies. In this article I intend to show that in a few cases, two competing etymologies are equally good. It is also my aim to highlight the fact that discussing problematic Uralic etymologies in more detail can open fruitful aspects for future research. The etymologies discussed in the following are the Turkic etymology of Hungarian *sok* ‘much, many’ as well as the alleged cognates in Mansi, Mari, and Komi; Hungarian *orvos* ‘doctor’ and its alleged cognates in Finnic and Saami; the competing Uralic and Turkic etymologies for Hungarian *tojik* ‘lay eggs’; the Turkic and Iranian loan etymologies of Hungarian *üdül* ‘refresh oneself; recover; rest and relax’ and recently suggested cognates in Komi and Nganasan; and the competing Iranian and Turkic etymologies of Hungarian *ing* ‘shirt’.

on the etymologies discussed here and to two anonymous reviewers for useful comments that have helped to improve this paper. I am solely responsible for the remaining errors. This research has been partly supported by the Research Council of Finland (project 356825) and by an APART-GSK fellowship of the Austrian Academy of Sciences at the University of Vienna.

2. The etymologies

2.1. Hungarian *sok* ‘much, many’

The Uralic etymology: Hungarian *sok* has been assumed to be cognate with the following words.

Mansi: South *šaw*, East *šǝw*, West *šāw*, North *sāw*; Mari (Carevokokšajsk) *ćoka* ‘thick’, (Kozmodemjansk) *čakata* ‘thick, firm, compact’; Komi *ček* ‘thick’ < Proto-Uralic/Proto-Finno-Ugric *čukkV ~ *čokkV (UEW: 62–63)

Loan etymology:

Hungarian *sok* (< ? early Proto-Hungarian *čokV) ← ? West Old Turkic *čok ‘much, many’, cf. Middle Turkic *čoq* id., reconstructed East Old Turkic *čok³ id. < ? Proto-Turkic *taši-ok (Róna-Tas & Berta 2011: 729–735; suggested as an alternative to the Uralic etymology)

Although Hungarian *sok* and its cognates have often been considered reflexes of Proto-Uralic *čukkV ~ *čokkV (MszFE s.v. *sok*; UEW: 62–63; EWUng s.v. *sok*; Honti 2017: 53; ŰESz s.v. *sok*) and even though the etymology is listed among the certain etymologies in the UEW, it is obvious in the light of modern phonological studies that this cannot be correct. Interestingly, in a recent but short commentary on the etymology, Honti (2017: 53) notes that the Finno-Ugric etymology is without a doubt correct (“Minden kétséget kizáróan finnugor eredetű *sok* szavunk”). However, Honti does not comment on the phonological details, which quite clearly point to the opposite conclusion. It is also difficult to understand why the recent ŰESz (s.v. *sok*) claims that the Turkic etymology is incorrect; no arguments are given. The competing Turkic etymology seems probable at least for the Hungarian word; this will be commented on in more detail below.

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2. The West Old Turkic language is a reconstructed language, without direct descendants, which Róna-Tas & Berta (2011) postulated on the basis of early Turkic loanwords into Hungarian. For criticism and additional notes on the concept of West Old Turkic, see Erdal (2018: 511–512) and Sándor (2021). The problematic issues with this protolanguage cannot be discussed here, so the term and concept of West Old Turkic is accepted here for the sake of this study.
 3. The word is not attested in actual East Old Turkic sources, but Róna-Tas & Berta reconstruct the expected East Old Turkic form as *čok.

The UEW gives two reconstruction variants, *čukkV ~ *čokkV, but it is not explained what the reason for this is. The vocalism of the Hungarian and Mari words is not commented on, but an explanation is offered for the dubious Komi vocalism and the unexpected *-w- in the Mansi word.

To start with the Hungarian word, the *o* in *sok* quite clearly points to earlier *u: Proto-Uralic *o would not be retained in Hungarian except before *čk, for example, Hungarian *močki > Hungarian *mos* ‘wash’. The assumed Turkic original has *o, but there are parallels for Hungarian *o* corresponding to Proto-Turkic *o in loans, and these will be discussed below in more detail.

The alleged Mansi cognate is problematic. The vocalism across the Mansi dialects poses some problems: most of the variants point to Proto-Mansi *šāw (cf. Zhivlov 2006: 69), whereas the Southern dialects show an unexpected short *a*. If the vocalism of the Southern forms is considered to be a result of the shortening of earlier *ā, we can reconstruct Proto-Mansi *šāw, which obviously cannot reflect Proto-Uralic *čokka or *čukka.⁴ Furthermore, Mansi *w cannot reflect Proto-Uralic *kk, as *kk became *k in Proto-Ob-Ugric and this should have been retained as *k in Proto-Mansi (Honti 1999: 139–140; Zhivlov 2023: 142–143). The UEW mentions the parallel of Proto-Finno-Ugric *rakka > East Mansi *row-* ‘let (the game animals) sneak up close [nahe heranschleichen lassen (vom Wild)]’, but this is not a plausible parallel in the light of modern research, as the alleged Finnic cognate *rakas* is a Germanic loan (← Proto-Germanic *frakaz > Old English *fræc* ‘lustful, eager’; LÄGLOS III s.v. *rakas*), meaning that no Proto-Uralic word can be reconstructed. Also ascribing a Proto-Ugric origin to Mansi *row-* and related forms must be regarded as erroneous because of the problem with *w.

Recently the issue with the Mari cognate has been briefly discussed by Bereczki (2013: 3–4), who notes that Mari *čok* ‘very, very much, in a great amount (sehr, sehr viel, in großer Menge)’ (< Proto-Mari *čok) is rather the reflex of Proto-Uralic *čukkV ~ *čokkV, not the dialectal words *čoka* or *čakata* mentioned in the UEW. It is true that the vowel correspondence East Mari *o* ~ West Mari *a*, reflecting Proto-Mari *ā in the reconstruction by Aikio (2014), could not regularly reflect either Proto-Uralic *o or *u. However, the Mari word *čok* could probably also be an archaic loan from Turkic. Proto-Mari *č would be a phonetically suitable substitution of

4. I am grateful to an anonymous reviewer for comments on the vocalism of the Mansi words discussed here.

Turkic *č, but the exact chronology of the possible borrowing from Turkic to Mari would need further research (a reflex of Turkic *čok is attested neither in Chuvash nor in Kazan Tatar, the usual Turkic languages with which Mari has been in contact; Róna-Tas & Berta 2011: 731). It should also be noted that Proto-Mari *ć, not *č, has served as the Mari substitute for Turkic *č in some loans, at least in Eastern Mari *čatan* ‘lame’ (< Proto-Mari *ć) that was borrowed from Middle Bashkir *čatan ‘lame’ (Bereczki 2013: 3–4). The etymology of the unrelated *ćoka* ‘thick’, *čakata* ‘thick, firm, compact’ remains unclear, but these words cannot be explained as borrowings from the same Turkic word, however.

Concerning the Komi vowel *ę*, the UEW notes that a sporadic change **j* > *ó* > *ę* could have taken place in this word. However, Komi *ę* can go back to Proto-Uralic **o* in old **i*-stems; nevertheless, this is not the regular reflex of **u* that we would expect based on Hungarian (Zhivlov 2023: 136).

To sum up, the suggested Uralic cognates involve phonological problems that make the etymology untenable. Now it is time to investigate the phonology of the possible Turkic etymology in more detail.

Hungarian *š* from *č is regular in inherited words, compare, for example, Hungarian *sötét* ‘dark’ < Proto-Ugric *čittV- (UEW: 842), and there are many examples of old Turkic loans borrowed before this change happened, e.g. Hungarian *som* ‘cornel (*Cornus*)’ ← Turkic *čum id., Hungarian *sólyom* ‘falcon’ ← Turkic *čavli id. Regarding the *o* vocalism, parallels can be found among other Turkic loans: for example, *tok* ‘sturgeon (*Acipenser sturio*)’ ← Turkic *toku id., *toklyó* ‘one-year-old lamb’ ← Turkic *toklu id. are found in the material of Róna-Tas & Berta (2011). It is admittedly dubious that these words did not go through the lowering *o* > *a* that probably happened in Old Hungarian, and for Hungarian *o* we would expect Proto-Hungarian **u* as the most probable preform (as is the case with *som* ← Turkic *čum above). However, the fact that we have a number of Turkic loans in Hungarian displaying this vowel correspondence means that the vowel *o* is not a problem, even if not all the details are fully understood.

To conclude, the Uralic etymology of Hungarian *sok* in its traditional form is phonologically impossible and has to be rejected, whereas the Turkic etymology does not involve any major problems and is clearly the more probable alternative. The loan etymology is also semantically more probable. Based on the material of Róna-Tas & Berta (2011), the lexical evidence of Turkic–Hungarian contacts points to an intensive period of contact, where verbs and central concepts such as body-part terms have also

been borrowed, so the borrowing of a function word ‘many’ would not be surprising. The alleged Mari cognate *ćok* is probably also a Turkic loan, although the exact periodization of this borrowing needs additional research. Mari also has a high number of Turkic loanwords as well as Turkic structural influence (Róna-Tas 1988: 768–774), so the borrowing of a function word is not problematic also in this case. The problem of the origin of the Komi and Mansi words discussed above requires further research. Formally, Hungarian *sok* and Mari *ćok* might reflect a common protoform *čukka, but the borrowings from Turkic are more probable.

2.2. Hungarian *orvos* ‘doctor’

(dial. *olvos, óros, orvas*; see ÚMTSz IV: 212, s.v. *orvos*)

Uralic (Finno-Ugric) etymology: *orvos* has been assumed to be cognate with the following words.

Finnish *arpa* ‘Wahrsagungsgerät, Schlagrute, Los (Loskugel, Würfel); Schlagrute um verborgene Dinge zuentdecken; budskap, uppbud avfolket (genom kringskickad budkavle); Botschaft, Aufgebot des Volks (durch umhergeschickten Aufgebotsstab)’ (cognates in other Finnic languages), North Saami *vuorbi* ‘each of the two or more pieces of wood, stones, etc., used by persons who are going to cast lots something; lot; destiny’ (cognates in many other Saami languages) < Proto-Uralic *arpa ‘soothsaying instrument, magic instrument, potion’ (UEW: 16: uncertain Finno-Ugric etymology)

Loan etymology:

Hungarian *orvos* ← West Old Turkic *orwuči, cf. East Old Turkic *arvišči* ‘spellbinder, sorcerer’, derived from Proto-Turkic *arva- ‘make magic, cast spells’ (MSzFE: 505–506; Róna-Tas & Berta 2011: 656–659)

Already MSzFE mentions the Turkic origin of Hungarian *orvos* as an alternative to the Uralic etymology. Also in the UEW and in many sources published after that, both the Uralic and Turkic origin is mentioned as an alternative (see, for example, EWUng: 1071–1072, s.v. *orvos*; Róna-Tas & Berta 2011: 656–659 and Honti 2017: 48–49). It is, however, not noted by these Hungarian sources that Koivulehto (1972: 249) had suggested a Germanic origin for the alleged Finnic and Saami words; Koivulehto’s suggestion has been since accepted by LÄGLOS (s.v. *arpa*). Furthermore, the Hungarian word involves phonological problems, something that was noted already

by MSzFE: Hungarian *o* does not correspond regularly to *a* in Finnic and *vuo-* in North Saami, both of which regularly reflect Proto-Uralic **a* in **a*-stems. Furthermore, the *-s* element in the Hungarian word is difficult to explain on the basis of the Uralic word.

Honti (2017: 48–49) considers both etymological alternatives possible, noting that perhaps the Hungarian word is of Finno-Ugric origin, but it was later influenced by the Turkic word. This would not be impossible if the Finnic and Saami words did not have a Germanic etymology, but in the current situation it is much more likely that the words have nothing to do with each other. Regarding the phonological problem of the Hungarian vocalism, Honti assumes that affectiveness might have played a role here. This is a difficult explanation, however. Róna-Tas (2017: 51–52), in a commentary on Honti’s criticism, considers both the Uralic and Turkic explanations possible.

Helimski (manuscript) has also defended the traditional etymology, arguing that Hungarian *o* is due to the assimilating influence of the following syllable.⁵ However, his defense is ad hoc, as there seem to be no parallel examples of Uralic **a* being reflected as *o* in Hungarian due to the following syllable.

The recent ÚESz gives a rather confusing explanation, mentioning that the Hungarian word is of uncertain origin, perhaps a derivative of a stem of Finno-Ugric origin. It is also mentioned that the Finno-Ugric words might have Turkic connections, but it is difficult to understand what is meant here exactly.

The Turkic etymology is more plausible from a phonological point of view. Hungarian *s* can easily be explained from Turkic **ç*, as numerous parallels can be found; see the discussion of Hungarian *sok* above. There are also many parallels for the substitution of Turkic **a* with Hungarian *o* (Dybo 2009: 77–78; Róna-Tas & Berta 2011: 1115). The semantic connection is also plausible.

Regarding the vocalism of the Hungarian word, Róna-Tas & Berta (2011) assume West Old Turkic **o*, because Old Hungarian /u/ in the early attestations of the word, such as *Vruus* (personal name) and *vruufok* (ÚESz s.v. *orvos*) would be difficult to explain in the case of West Old Turkic **a*.

5. Helimski’s original formulation was as follows: “Das unregelmäßige wortanlautende *o* im ung. *orvos* ‚Arzt‘ ist vermutlich der Entwicklung *a > o* vor einem *o* in der zweiten Silbe zu verdanken.”

However, in Old Hungarian, the grapheme <u> can also denote the phoneme /o/ (Benkő 1980: 89–94), so the argument is not compelling. Perhaps the Turkic donor form had *a and Hungarian substituted it with *o, possibly because of the labial in the following syllable.

Concerning the Germanic etymology of the Finnic and Saami words, it involves no major problems: Koivulehto (1972) argues that these words were borrowed from Proto-Germanic *arþa- or *arþa-z, as reflected by e.g. Old Swedish *arf*, *arver* ‘possession of land, inheritance’. Phonologically the explanation is plausible, and Koivulehto also argues that semantic parallels exist, such as Gothic *hlaus* ‘lot, inheritance, the share of inheritance’, noting that in past eras inheritance was often determined by casting lots. LÄGLOS also notes that reflexes of the related Germanic form *arþija- (> Old Norse *arþija* ‘wake (Begräbnismahl)’) come closer to the semantics of the Finnic and Saami words (see also Bjorvand & Lindeman 2000: 46–47, s.v. *arv*; Seebold 2019; Koch 2020: 113 and Zimmer 2020: 61 for more detailed discussions of the semantics and the possible background of the Germanic word family). Whether the words in Saami and Finnic are parallel borrowings or cognates (as they regularly could be) should be discussed elsewhere in more detail, but the Germanic etymology for these words is plausible.

2.3. Hungarian *tojik* ‘lay eggs’

Uralic etymology: *tojik* has been considered cognate with the following words.

Finnish *tuo-* ‘bring’ (cognates in other Finnic languages); South Saami *doeke-* ‘sell’ (cognates in Ume and Pite Saami); Mordvin (Erzya and Moksha) *tuje-* ‘bring’, Khanty (East, South, North) *tu-* ‘bring’, ? Mansi *tōl-* (South), *tūl-* (West, East, North) ‘bring’, Tundra Nenets *tā-* ‘give, bring’ (cognates in other Samoyed languages) < Proto-Uralic *toyi- ‘bring, carry, give’ (MSzFE: 635–636; UEW: 529–530, where Hungarian *tojik* is mentioned with a question mark; Sammallahti 1988: 550⁶)

Loan etymology:

Hungarian *tojik* ← West Old Turkic *tuγ- or *toγ-, cf. East Old Turkic *tug-*, *tog-* ‘be born’ (Róna-Tas & Berta 2011: 911–914; first suggested by Vambéry 1870)

6. The Uralic word is reconstructed as *toxi- by Sammallahti (1988). The differ-

This etymology is a rather similar case to the two etymologies discussed above: the Hungarian word has a possible Uralic etymology and a possible Turkic one. However, unlike in the two etymologies above, in this case we are dealing with a plausible Uralic etymology as such, but the cognacy of Hungarian *tojik* with the rest of the forms is debated. The UEW and also SSA (s.v. *toivoa*) are uncertain of the inclusion of the Hungarian word in this cognate set and problems are mentioned already by MSzFE. The Turkic etymology is mentioned as a possibility by both the UEW and MSzFE. ŪESz mentions both possibilities, noting that the Turkic origin of Hungarian *tyúk* ‘chicken’ makes the Turkic borrowing likely. Among the reflexes of Uralic **toyi-*, Hungarian *tojik* is a semantic outlier, as it shows a specific meaning ‘lay eggs’ divergent from the rest of the meanings that quite transparently continue Proto-Uralic ‘bring’ or ‘give’. It has been mentioned in the UEW that the semantic development ‘bring’ > ‘lay eggs’ is plausible, but here it should be noted that the meaning attested in East Old Turkic is even closer. Honti (2017: 68–69) also discusses the etymology but does not state clearly which explanation he supports.

Bigger problems are posed, once again, by the phonology. As has been noted above, Proto-Uralic **o* should not have been retained as *o* in Hungarian: **o* > *a* or *á* would be the expected development. On the other hand, it was already noted above that the correspondence Hungarian *o* ~ West Old Turkic **o* has parallels, and furthermore, in the case of this etymology, forms with both *o* and *u* are attested in East Old Turkic according to Róna-Tas & Berta (2011). Whichever vowel the donor form had, the Hungarian vocalism is easier to derive from that than from Proto-Uralic **o*.

The consonantism also involves problems: already MSzFE noted that Hungarian *j* is unexpected as the hiatus filler after the loss of Uralic **γ*; Hungarian usually has *v*, cf. *tavat* (accusative of *tó* ‘lake’) < Proto-Uralic **tuγi* ‘lake’. The matter of *j* from Turkic **γ* requires further research, but there seem to be few examples of **γ* in intervocalic position among loans (Róna-Tas & Berta 2011: 1081). Even though the matter of *j* is not completely clear, the phonology and semantics otherwise point to a Turkic donor rather than Uralic inheritance.

ence in notation is due to the uncertainty regarding the nature of the Proto-Uralic phoneme **x*/**γ*. This phoneme is reconstructed as a velar spirant by some (for example, in the UEW) but its phonetic realization and its status in the phonological system of Proto-Uralic remains insufficiently understood (see Aikio 2022: 7–8 for a recent discussion).

Lastly, it should be noted that the Uralic word has been considered a loan from Proto-Indo-European *doh₃- ‘give’ (see e.g. Koivulehto 1991: 8–9); the Indo-European etymology is also mentioned in the UEW, but it is mentioned with a question mark in SSA and SES. This has little impact on the origin of the Hungarian word as it would be quite unlikely that a very old Indo-European loanword would have been borrowed separately into Hungarian, but as this is theoretically possible, this issue should be mentioned. The existence of Proto-Indo-European loanwords in Uralic languages has been doubted by Simon (2020), who notes that this particular etymology is semantically problematic as the meaning ‘give’, prevalent in Indo-European, can hardly be reconstructed for the Proto-Uralic word as it is found only in couple of cognates where it might reflect an areal semantic innovation (Simon 2020: 252). It could be added here that the Indo-Iranian branch of Indo-European, a known contact language of early Uralic (see Holopainen 2019) would not be a very probable donor of either the Proto-Uralic word or Hungarian *tojik*, as no plausible donor form can be found among the Indo-Iranian conjugated forms; the present stem is a reduplicated stem (for example, Sanskrit *dādāti* ‘gives’) and it is unclear how this kind of stem would have been borrowed into Uralic (see EWAia I: 713–715 for more information on the Indo-Iranian forms).

2.4. Hungarian *üdül* ‘refresh oneself; recover; rest and relax’

Uralic etymology: Hungarian *üdül* ‘refresh oneself; recover; rest and relax’, *üdvözöl* ‘greet, salute’, *üdvöz* (obsolete) ‘greeted, saluted’ is cognate to the following words.

Finnish *synty-* ‘be born’ (cognates in other Finnic languages), Komi *sod-* ‘grow’, Nganasan *tjntud’i* ‘come back to life; wake up’ < Proto-Uralic *sen-tiw- ‘be born’ (Aikio 2021: 171)

Loan etymology:

Hungarian *üdül* is related to *ül* ‘feast (verb)’ (< *üdl-), (obsolete) *ëgy* ‘holy’ (in the compound *ëgyház* ‘church (*holy house)’) and *ünnep* ‘festival’ (< *üd-nap ‘holy day’); the word family is borrowed from West Old Turkic *edü ‘good; holy (?)’, cf. East Old Turkic *ädgü* (Róna-Tas & Berta 2011: 307–310).

The idea that Hungarian *üdü* and its apparent cognates are Turkic loans is considered plausible by Róna-Tas & Berta (2011) and the issue has a very long research history (see also Ligeti 1977: 7–9; 1986: 33, 195, 273 for a thorough discussion of this etymology and some phonological problems). Recently, Aikio (2021) has noted that *üd-* could reflect Proto-Uralic **sen-tiw-*; he mentions that the Hungarian word lacks an etymology, but this is incorrect, as the Turkic origin has been widely discussed. However, it is true that EWUng (s.v. *üdü*) does not consider the idea of a Turkic etymology correct. As Aikio's new idea would be a plausible possibility as such, it is important to discuss it in more detail.

Aikio's etymology is semantically plausible, and the Uralic cognates could be derived from a Proto-Uralic word that would have had the meaning 'be born' or 'refresh' or 'come back to life'. However, phonologically the issue is less clear. While Hungarian *üd-* could reflect **sün-tiw-* (> Finnish *synty-*) without problems, Komi and Nganasan point to Proto-Uralic **e*, and the labial **ü* in Finnic is due to regressive assimilation. Aikio mentions parallels to this Finnic development, but for a similar development in Hungarian no parallels are known. One possibility would be to assume that **sen-tiw-* > **sün-tiw-* is a Proto-Uralic development and the vocalism in Komi and Nganasan was influenced analogically by other forms of the verbal stem **sen(i)-* where the original **e* vocalism was retained.

The matter of the vocalism of this Proto-Uralic word requires further research. However, it is also clear that problems with the vocalism are involved with the Turkic etymology. Again, semantically it is plausible that all the Hungarian forms mentioned above belong together etymologically, but the alternation of *ë* and *ü* would be difficult to explain. Issues with *gy-* in *ëgy* and *d* in *üd-* have also raised problems in the past (see Ligeti 1977: 7–9), meaning that there are various problems with the Turkic etymology that would require a more detailed treatment. Furthermore, the relationship of *üdü* and *ül* (< ? **üdl-*), which seem to reflect similar formations, requires further research.

It seems clear that the *ëgy-* in *ëgyház* is probably a Turkic loan, as a similar compound 'holy house > temple' is attested in early Turkic (such as medieval Cuman *yix-ön* 'church (literally holy house)' in the Codex Cumanicus), as noted by EWUng, Ligeti (1986), and Róna-Tas & Berta (2011). However, the phonological details in deriving *ëgy* (< ? Old Hungarian *igy*) from a reconstructed Turkic **edü* or **ädgü* remain obscure, regarding both the phonology (the vocalism and the relationship of Hungarian *gy*

to Turkic *d or *dg) and the semantics, and further research is needed. One can be quite certain that *ëgy* ‘holy’ does not have, in any case, anything to do with the Uralic verb *sen-tiw-.

Although no satisfactory solution to the problem of *üdüil* and related forms is available, this treatment has hopefully shown that the existing etymologies involve problems that need addressing, and that both the new suggestion by Aikio and the earlier etymologies circulating in the literature should not be taken for granted without a more thorough scrutiny. However, the possibility that we are dealing with unrelated forms, one inherited from Uralic and the other borrowed from Turkic, is a plausible option based on the scrutiny above.

Lastly, it should be mentioned that Szemerényi (1981: 241–242) had also suggested an Iranian etymology for this Hungarian word family, assuming a borrowing from a Persian-type *yad- (< Proto-Iranian *yadz- ‘holy’), but this idea is implausible: there is a lack of parallels for borrowings from such a Persian-type language and the etymology also involves problems with the vocalism (Holopainen & Czentnár 2022).

2.5. Hungarian *ing* ‘shirt’

(dial. *imëg*, *ümëg*; ÚMTSz s.v. *ing*)

Iranian loan etymology:

Hungarian *ing* < *imëg < (? *jämVgV) ← Middle Iranian *yāmag ‘shirt’, cf. Middle Persian *jāmag* ‘shirt’ (Joki 1973: 264; Szemerényi 1981: 242; Har-matta 1997: 81; Katz 2003: 308)

Turkic loan etymology:

Hungarian *ing* < *ümeğ < *ümmeg ← (?) West Old Turkic *öñmäk, derivative of *öñ ‘front’; cf. Eat Old Turkic *öñ* ‘front’

The Turkic etymology is a new idea of Róna-Tas & Berta (2011: 457–459). As this etymology has never been, to my knowledge, discussed in subsequent research, it is important to analyze it here. ÚESz (s.v. *ing*) mentions the Iranian etymology as an uncertain possibility but does not mention the new suggestion by Róna-Tas & Berta. To start with, this etymology involves two problems: the speculative donor form and certain phonological obstacles. The form *öñmäk is postulated by Róna-Tas and Berta to account for the Hungarian word, but it does not have any actual Turkic basis. The Turkic derivational suffix *-mäk is a real and productive suffix according to those

authors, so the etymology is not impossible, but it is still dubious to reconstruct unattested forms simply on the basis of loanwords. The semantic side of the Turkic etymology is also more problematic compared to the Iranian one.

Regarding the phonological problems, it is not clear how Hungarian *i* and *ü* in dialectal forms like *umëg* could be explained from Turkic *ö*. Róna-Tas & Berta assume a substitution Hungarian **ü* ← Turkic **ö*, but this would need good parallels before the idea can be accepted. Furthermore, the idea of a Proto-Hungarian geminate **mm* in the reconstruction **ümmeg* seems to be ad hoc. The voiced *g* in Hungarian would not be a problem as such, as there are some loanwords where Hungarian word-final *-g* corresponds to Proto-Turkic word-final **-k* although in most cases Turkic **-k* is reflected either as Hungarian *-k* or as zero (< Proto-Hungarian **γ*; Róna-Tas & Berta 2011: 1076).

The Iranian etymology, which is an older idea, also involves some problems, but it is overall much more likely than the Turkic etymology. EWUng (I: 614) considers the Iranian etymology possible but mentions problems with the vocalism. However, the idea that Hungarian *i* can correspond to Iranian **yā-* is not that problematic: if it is assumed that a reconstructed Middle Iranian **yāmag* (< Proto-Iranian (?) **yāmaka-*⁷) was borrowed as **jāmVgV* into Proto-Hungarian, *i* can be explained from **jä* in a similar way as *ideg* ‘bowsting’ from Proto-Uralic **jänti(η)* (> Finnish *jänne* etc.). EWUng also refers to other etymologies where Hungarian *i* alternates with a sequence of *j* and a vowel, such as *juhár* ~ *ihár* ‘maple’. It is not completely clear that the modern alternation in the Hungarian dialects is connected to the change *i* < **jä* that seem to have produced *i* already quite early; it is also not clear under which conditions this change happens, and also the chronology is not completely clear, but this Iranian loanword can be helpful in the discussion of these issues.

7. The Middle Iranian word can be reconstructed on the basis of Middle Persian *jāmag* [jʷmkʰ], New Persian *jāma* ‘clothing, garment’ as well as related forms in some modern Iranian languages (Rastorgueva & Edelʹman 2007: 76; Horn 1893: 93; MacKenzie 1971: 46). According to Rastorgueva & Edelʹman (2007: 76) and Bailey (1979: 108) the Middle Persian word is derived from the Proto-Iranian verbal root **yam-* ‘hold, bear’, reconstructed by Cheung (2007: 211–212) with the meanings ‘hold, stretch, reach out’ (see also AiWb: 1262–1263; *yam* ‘halten, fassen’; Kellens 1995: 46). The semantic side of this idea is not entirely satisfactory, but that does not affect the loan into Hungarian.

However, even if $i < *j\ddot{a}$ is regular, the origin of dialectal forms with labial \ddot{u} remains somewhat problematic. If *ing* goes back to earlier $*j\ddot{a}$ -, the forms with \ddot{u} have to reflect secondary labialization.

The Iranian word is not widely attested in the Middle Iranian period, and it is doubtful whether a Middle Persian or early modern Persian word could have been directly borrowed into Hungarian. However, we cannot exclude the possibility that the word would have been found in other Middle Iranian varieties, and a Persian cultural term could have found its way into Proto-Hungarian through trade contacts or through some intermediary language (see Holopainen 2024: 32, 39, 42, 56 for discussion of problems with some allegedly Persian loanwords in Hungarian).

3. Concluding remarks

The etymological analysis of this paper has shown that in several cases where two alternative etymologies for a Hungarian word have been suggested, in the end one of the alternatives is clearly inferior. The Uralic etymologies of *sok* ‘much, many’ and *orvos* ‘doctor’ involve phonological problems that make them extremely unlikely, whereas the Turkic etymologies show established patterns of sound substitution; some of the alleged Uralic cognates of *sok* can also be explained as Turkic loans, and the alleged Finnic and Saamic cognates of *orvos* have a better alternative etymology. Concerning the etymology of *tojik* ‘lay eggs’, the Turkic etymology is also less complicated and, in this case, also semantically more plausible than the Uralic etymology. The situation of *üdül* ‘refresh oneself; recover; rest and relax’ and its relationship to *ëgy* ‘holy’ is more complicated and requires further research, but the idea presented here that the verb is of Uralic origin and the noun from Turkic can be supported with at least some arguments. The Turkic etymology of *ing* ‘shirt’ involves a speculative donor form that cannot be supported by the actual data.

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The origin and development of the Nganasan indicative aorist perfect

This paper addresses the origin and development of the Nganasan indicative aorist markers. The system of Nganasan aorist marking, with its obligatory marking of lexical aspect through the selection of suffixes, is unique among the Samoyed languages, and the aorist suffixes themselves lack direct cognates in finite verbal paradigms outside Nganasan. The present paper asserts that the Nganasan markers of the indicative aorist have developed from Proto-Samoyed deverbal forms via the process of reinitization, also known as verbalization, a common way of creating new finite paradigms in languages of northern Eurasia. Cognates for the Nganasan aorist suffixes can be found among the derivational forms of other Samoyed languages, and traces pointing towards their deverbal origin prevail in Nganasan as well.

In parallel to the Nganasan imperfective aorist suffixes *-NTU*, *-U*, previously suggested to have originated in imperfective participles, I claim that the perfective aorist suffix *-qe/-qa* has likewise developed from a deverbal form, the modern cognates of which are found in the augmentative suffixes of northern Samoyed languages. The diverse patterns of aorist formation in Samoyed, as well as the largely opaque morphophonological alternations affecting the suffixes in Nganasan, suggest that the tense system of Proto-Samoyed was going through major changes exactly during the breakup of the common proto-language.

1. Introduction
 2. The development of finite markers from verbal nouns, with special reference to northern Eurasia
 3. TAM marking in Nganasan: a brief survey
 - 3.1. Aspect in Nganasan
 - 3.2. Suffix variants and morphophonological rules
 4. The development of the Nganasan aorist markers in the indicative: an etymological re-examination
 - 4.1. Expression of tense in Proto-Samoyed
 - 4.2. Imperfective aorist *-NTU* and *-U*
 - 4.3. Perfective aorist *-qe/-qa*
 5. Conclusion
- Language abbreviations
Glossing abbreviations
References

I. Introduction

One essential property separates the Nganasan tense system from those of the other Samoyed languages, along with the rest of Uralic: the obligatory, overt marking of lexical aspect in the indicative aorist. The marking is achieved by the use of two different sets of tense markers, the choice of which depends on the aspectual class of the verb. Out of these suffixes, *-NTU* and *-U* are used with imperfective verbs, *-qel-qa* with perfective verbs. Both forms are conventionally called “aorist” and regarded as instances of the same grammatical tense (i.e. the indicative aorist, see Wagner-Nagy 2019: 234–235), although they may be glossed separately. However, independent of their synchronic status, it is obvious that they are etymologically of different origin. Mikola (1996) suggests that both of the imperfective suffixes have developed from Proto-Samoyed present participle markers ($*\text{-nt}\text{Å}^1 > \text{-NTU}$, $*\text{-r}\text{Å} > \text{-U}$), while Gusev (2013: 72–73) supposes the perfective suffix to have developed from a coaffixal form (i.e. a form combining two originally separate affixes) which should have consisted of the Proto-Samoyed tense markers $*\text{-j}$ and $*\text{-}\eta\text{Å}$ ($> *\text{-j}\eta\text{Å}$).² The latter etymology suffers from phonological problems, which leaves occasion for another explanation. In this paper, I offer a new etymology, my proposal

1. All Proto-Samoyed forms, unless indicated otherwise, are reconstructed by the present author, following the updated reconstruction for vowels (for details, see Helimski 2005; Aikio 2006: 9–10; Kaheinen 2023: 33–41). The difference between the front and back reduced vowels (i.e. $*\text{ə}$ and $*\text{ə̃}$) will not be marked on suffixes, as it presumably followed the rules of vowel harmony. On stems, ambiguous forms may be rendered with $*\text{ə}^1$. Likewise, the conventional $*\text{t}^3$ will be used to mark any PS stop of unknown quality (i.e. $*\text{t} \sim *c \sim *p \sim *k$) and $*\text{n}^1$ either member of the pair $*\text{n} \sim *\eta$.
2. In bound morphemes, capital letters will be used to indicate regular allophonic alternations conditioned by vowel harmony or consonant gradation. Since these variations are extremely abundant especially in Nganasan, which can have up to 12 allomorphs per suffix (Helimski 2000 [1995]: 189), the details concerning each type of variation will not be discussed if they are not directly relevant to the topic of this paper. The same concerns reconstructed forms, although for PU and PS only the low vowels PU $*\text{A}$ ($= *a \sim *\text{ä}$) $>$ PS $*\text{Å}$ ($*\text{å} \sim *\text{ä}$) seem to have been harmonically relevant (Janhunen 2020: 367–369; Aikio 2022: 10–11). For more details concerning Nganasan morphophonological variation, see Várnai (2002: 55–67) and Wagner-Nagy (2019: 74–81). On the other hand, irregular or marginal alternations will not be marked with capital letters and will not be further discussed, unless they are directly relevant to the main arguments of this paper.

being that the Nganasan indicative perfective aorist suffixes have developed from a Proto-Samoyed resultative marker, originally used to form verbal nouns denoting the result or consequence (often also the instrument) of the action expressed by the verb. The existence of such a resultative marker in Proto-Samoyed is supported by numerous lexicalized derivatives found in Nganasan as well as the Enets and Nenets³ languages, even if the exact reconstruction and semantic content of this resultative marker's phonological shape in Proto-Samoyed proves to be difficult.

The development of the Nganasan aorist markers, and to a large extent, the rest of the Nganasan tense-aspect-mood marking system (TAM) as well, seems to have involved the incorporation of various non-finite verbal markers into the finite verbal paradigm. This is achieved through a process which I will call (re)finitization, in which deverbal, nominalized (i.e. prototypically non-finite) forms are reanalyzed by speakers as finite, which leads to them (re)gaining other inflectional properties typical for the finite verb. The process, which has also been called verbalization in previous literature, has been argued to be typical for the languages of northern Eurasia (Malchukov 2013; Gruzdeva & Janhunen 2020; Janhunen 2020: 385–392). In Nganasan, refinitization often arises in the context of nominal predication, a grammatical locus allowing for a high degree of word-class ambiguity through e.g. the usage of finite person-marking suffixes on nouns, which, in turn, makes it easier for the speakers to interpret the nominalized verbal forms as finite. The same process can be demonstrated from other Samoyed languages that allow person marking on nominal predicates, such as Tundra Nenets (see Jalava 2017: 141).

The structure of the paper is as follows: first, I take a look at the previous literature concerning verbalization as a means of forming new finite paradigms, with special focus on the languages of northern Eurasia, in order to demonstrate that the developments I propose to have occurred in Nganasan are, in fact, very common in this particular linguistic area. In Section 3, I present an abridged description of the Nganasan TAM marking (for a more detailed account see Wagner-Nagy 2019: 214–262), especially the marking of the aorist in the indicative and its interaction with lexical aspect. In Section 4, I survey the historical development of various

3. Due to the genetic proximity of Tundra Nenets to Forest Nenets, as well as Tundra Enets to Forest Enets, they will be referred to jointly when there is no need to differentiate. Despite their closeness, they can be regarded as separate and independent languages, not dialects of the same language.

Nganasan aorist-marking suffixes, presenting my own proposal for the etymology of the perfective aorist marker. Conclusions are given in Section 5.

2. The development of finite markers from verbal nouns, with special reference to northern Eurasia

In recent years, researchers focusing on the languages of northern Eurasia have argued that specific grammatical developments that have taken place in these languages over the course of their history, are not necessarily directly contact-induced but instead have been conditioned by their shared typological profile (Janhunen 2012). One such characteristic is the development of finite verb forms, such as tense markers, out of prototypically non-finite forms, such as participles and verbal nouns (Malchukov 2013; Gruzdeva & Janhunen 2020; Janhunen 2020: 385–392). In the typological literature, processes of this type are divided into two categories: the process of reanalyzing nominal predicates as verbal forms is called verbalization, while the reanalysis of complement clauses as main clauses is called insubordination (Malchukov 2013: 201). In the context of this paper, I will focus only on what Malchukov calls verbalization, since it is relevant from the point of view of the developments that have taken place in Nganasan.

Janhunen (2020: 389–391) criticizes the use of both terms, noting that the formation of new verb stems from nominalized verbs as well as nouns is often synchronically productive in the languages of this typological area, not the kind of one-way process that is often implied by “verbalization” – and, on the other hand, the nominalized verbs used as predicates are in many cases still formally nominals, or at least retain characteristics that set them apart from the original finite forms. As long as both the cyclicity and synchronic productivity of the processes involved is properly acknowledged, the use of the terms “verbalization” and “insubordination” should not be seen as inherently problematic. Verbalization in the context of northern Eurasia should be understood as a kind of continuous, cyclical process where one subsystem of grammar feeds into the other, taking advantage of the fuzziness of word-class boundaries, not as a kind of a sudden, rigid change in the status of any morpheme involved. It is also a long-term tendency in the languages of northern Eurasia to perpetually form new paradigms in this way. Since a pivotal part of the process is the changing of (prototypically) finite forms to non-finites and back again, I argue that it could also be called finitization or refinitization of verbs.

For example, in the Tungusic languages, it is typical for participles, usually regarded as prototypically non-finite forms, to be used as predicates, leading to them (re)gaining finite properties on the syntactic level. Morphologically, however, they remain separate from the typical finite forms in that they take person markers of the possessive type instead of the predicative type. (See e.g. Malchukov 2013: 187–189; Janhunen 2024: 65–68.) In some Tungusic languages, this has led to partial mixing of the two types of suffixes, creating rather complex patterns of alternation (e.g. those found in Udihe, see Nikolaeva & Tolskaya 2001: 212–213) or the marginalization of the original finite forms (e.g. in Nanai, see Kazama 2024: 389–391). In principle, however, the forms can be differentiated historically by the choice of person marker. It has been pointed out by Janhunen (2020: 385) that even the predicative forms, with their respective tense suffixes, show signs of having once been non-finite, thus indicating cyclicity in the emergence of finite verbal paradigms in these languages. This can be seen e.g. in the Proto-Tungusic paradigm, where the aorist marker is reconstructed as **-rA*, identical with the (synchronically marginal) aorist participle **-rA* (Janhunen 2024: 65–67). These markers can be interpreted as representing different chronological layers of the same process of (re)finitization (ibid. 70–71).

Examples of new finite verbal forms arising from former verbal noun markers can be found in other languages of the Altaic zone as well, with the refinitized forms coexisting alongside the non-finite forms that gave rise to them, such as the Finnish third person markers 3SG *-V < *-pA* (Aikio 2022: 19), 3PL *-vAt < *-pA-t* and the active present participle *-vA : PL -vAt* (see also Hakulinen 1941: 220). These kinds of processes of refinitization have apparently been prolific in languages of northern Eurasia for several millennia, since finite verbal paradigms formed on the basis of former non-finite or verbal noun markers can be reconstructed on different chronological stages. As will be shown in the following sections (see especially Section 4), such coexistence of fully integrated finite forms and the non-finite forms they originate in can be observed in Nganasan, too.

The pervasiveness of this pattern in the languages of northern Eurasia is demonstrated by the fact that the oldest traceable paradigms generated via transcategorical operations predate the earliest reconstructable proto-language stages of each respective language family, as is indicated, for example, by the fact that several grammatical categories reconstructed for Proto-Uralic verbs share semantic properties as well as phonological forms of the markers with corresponding nominal categories. Recently,

Janhunen (2020: 371–374) has even argued in support of the hypothesis of the relative indefiniteness of Proto-Uralic word classes, citing the resemblance between denominal and deverbal derivational suffixes (e.g. the PU denominal factive $^{*}-(t)tA$ and causative $^{*}-(t)tA$, as in Fi *lippu* ‘flag’ → DRV.FAC *liputta-* ‘wield a flag’; *istu-* ‘sit’ → DRV.CAUS *istutta-* ‘seat’) as proof, while Aikio (2022: 16) objects to his arguments. Whether the differentiation of verbs and nouns can be said to have been even weaker at some point in the history of (pre-)Proto-Uralic, remains controversial. The hypothesis itself is not new and was originally based mainly on the existence of so-called *nomenverba*, i.e. words that can either function as both nominal and verbal stems without intervening derivational suffixes or, per another interpretation, happen to be instances of homonymy between nominal and verbal stems (e.g. Fi *tuule-* ‘wind[.OBL]; blow (of the wind)’ : *tuuli* ‘wind[.NOM.SG]; the wind blew [blow.PST.3SG]’) (Aikio 2022: 16). In any case, the resemblance between some older deverbal and denominal suffixes in Uralic can hardly be denied.

Another example of the continuous interaction and flux between nominal and verbal categories (as well as that between derivation and inflection) can be found in the various caritive or abessive forms found in Uralic, all going back to, or containing, a suffix with a phonological form of the type $^{*}ktA-$ (Aikio 2022: 14–15). This suffix can be found, for example, incorporated in such Finnish forms as the abessive case ending *-tta* < PU $^{*}ktAk$ (*kala-tta* [fish-ABE] ‘without a fish’, used adverbially as in *tuli kotiin kalatta* ‘s/he came home without (any) fish’), the caritive derivational suffix *-tOn* < PU $^{*}ktAm^4$ (*kala-ton* [fish-CAR] ‘without a fish’, used adnominally as in *kalaton järvi* ‘a lake without fish’), as well as in corresponding non-finite verb forms, the abessive infinitive *-mAttA* (*teke-mättä* ‘without doing’) and the caritive derivation *-mAtOn* (*teke-mätön* ‘that which has not (been) done⁵). (See also Shagal 2018: 77–78.)

At the other geographical periphery of Uralic, the same suffix has become part of the Nganasan abessive mood *-meTUmAqa*, which is used as a finite verb form: *kotu-metumaqa-m⁶* [kill-ABE-1SG] ‘I, not having killed’. The

4. Reconstructions are from Aikio (2022: 15).

5. Whether the head noun is the agent or the patient of the action in question is not formally distinguished and has to be inferred from context, e.g. *tekemätön työ* [do.PTCP.ABE work] ‘a job not done’; *töitä tekemätön mies* [work.PL.PART do.PTCP.ABE man] ‘a man not working’.

6. Unless stated otherwise, this paper employs a strictly phonemic transcription

Nganasan form is obviously complex, ultimately built upon a deverbal noun in PS *-mə- and followed by another nominalizing suffix *-mÅ (< PU *-mA, see Aikio 2022: 19), plus what can probably be considered an instance of the augmentative suffix Ng -qA (see below), thus yielding the reconstruction *-mə-tÅ-mÅ-jtt³a-m [VN-ABE-VN-?AUG-1SG]. However, since this form has no exact parallels in other Samoyed languages, the reconstruction should be viewed as hypothetical, only based on the reconstructions of each of its parts separately. The apparent presence of (at least) two verbal noun markers in the chain of suffixes indicates that the form has gone through several cycles of transcategorical operations. Compare also the Meadow Mari privative suffix -de, identical with the negative converb: *kol-de* ‘without (a/the) fish’ [fish-PRIV], *nal-de* ‘without taking’ [take-CONV.NEG] (Janhunen 2020: 372), also suggesting an interaction between nominal and verbal categories.

Despite typological similarities, there are language-specific factors affecting the synchronic productivity as well as the inflectional properties of the forms involved (Malchukov 2013: 202–204). While Tungusic shows a strong tendency towards using participles as predicates while retaining their possessive person marking as a sign of their non-finite origin, such a tendency is rarer in the northern Samoyed languages, where verbal person markers can, in a limited number of sentence types – mainly predication – attach directly to nouns as well as verbs, making it possible for nominalized forms to be essentially indistinguishable (save for the nominalizing marker itself) from finite verb stems, thus allowing for a more “complete” verbalization (Jalava 2017: 141). On the other hand, in Western Uralic (Sami and Finnic, especially), the use of a copula for nominal predicates is often obligatory, which tends to produce periphrastic rather than synthetic forms (Janhunen 2020: 376–378).

for Nganasan, which differs from the conventional transcription used by e.g. Wagner-Nagy (2019) and the NSL corpus (Brykina et al. 2018) mainly in that it does not mark some of the subphonemic distinctions in consonants ([d̥, j] = <j>; [d, δ] = <d>) and vowels ([e, ə] = <e>; [o] and [ə] after *h, b* and *m* = <o>). The so-called diphthongoids are marked with the monographs <å> and <ä>, while <q> marks the glottal stop, as per the conventions followed in Kaheinen (2023). Tundra Nenets forms are cited according to the transcription employed by Salminen (1998), with only graphic modifications. Forest Nenets forms are likewise cited according to the phonological transcription (see Salminen 2007). Materials from other Samoyed languages are cited as in the sources, with only graphic modifications. Translations from Russian and German original glosses are by the author.

As stated by Janhunen (2020: 391–392), the languages of northern Eurasia tend to continuously replenish their verb paradigms via the incorporation of non-finites into finite conjugation in the form of tense and mood markers, sometimes replacing the old paradigms altogether with new forms. This process is typically achieved through the use of deverbal nouns in syntactical contexts that allow for both noun-like and verb-like forms to be used as predicates, making it possible for the speakers to reinterpret non-finites as finite verb forms (see also Jalava 2017: 141). It has been argued by Malchukov (2013: 183–187) that the border of finiteness and non-finiteness is essentially fuzzy in these languages, allowing for forms to move on a cline rather than being assigned to strict categories. Similarly, it can be claimed that the categories of verb and noun in northern Eurasian languages are both historically and synchronically somewhat flexible, better characterized by the concepts of prototypical “nounness” and “verbness”, with some forms, such as verbal nouns, falling somewhere in between the most prototypical categories, as has been argued by Gruzdeva & Janhunen (2020: 97–98).

This is not to say that nouns and verbs as separate categories do not exist at all in languages of this type, in fact they do (see especially Jalava 2013, focusing on Tundra Nenets). It can also be pointed out that the fluidity of categories, somewhat paradoxically, has to rely on the strict definition of prototypes, which, in turn, allow for the identification of “inbetweenness” – although the actual existence of any one strictly prototypical entity is not a prerequisite for establishing the prototype itself (Moser 2014: 99–103). In a similar vein, recognizing the typical characteristics of nouns and verbs in languages of northern Eurasia allows us to examine the forms deviating from the prototype, and thus better explain their emergence. Thus, although previous authors have often wanted to stress the granularity and fluidity of grammatical categories and concepts such as finiteness (see Malchukov 2013; Shagal 2019; Gruzdeva & Janhunen 2020), there is value in the ability to accurately name such categories even when dealing with phenomena that might fall in between.

The use of verbal nouns as predicates inherently involves a form moving back and forth on the finiteness cline, as well as on the cline between a typical noun and a typical verb. A verb stem which has first been nominalized, a process that would allow for the use of forms more typical for nominal inflection such as case, becomes instead reinterpreted as more akin to a prototypical verb, leading to it regaining some verbal properties, such as the ability to function as the sole predicate of a finite clause. Therefore, it

would be justified to speak of transcategorial or category-changing operations, or categorical shift (Heyvaert et al. 2019; see also Malchukov 2006: 984–991) when describing these processes.

It seems that various types of category-changing operations can be used to generate new finite verbal forms and, in the process, incorporate nominalizing morphology in the verb form. These processes are to some extent dependent on the underlying typological makeup of the language involved, which gives rise to language-specific characteristics in the emerging grammatical construction. When investigating the etymologies of specific suffixes, one cannot, however, forget the importance of regular sound correspondences, which are a prerequisite for a convincing etymology. Due to the nature of the phonological matter involved (i.e. short suffixes of the type -C or -CV, often also containing phonemes with a very high frequency in the language) and the ambiguity in meaning, chance similarity is a very real possibility that should be taken into account when comparing grammatical markers across languages (cf. Janhunen 2012: 24–26; compare also to Section 4.1).

3. TAM marking in Nganasan: a brief survey

Nganasan possesses a rich system of morphological markers for the expression of tense, aspect, and mood. These categories are largely intertwined, which is evident from the fact that tense and mood markers occupy the same “slot” in the inflectional template of the verb, i.e. they cannot co-occur but instead a single marker often carries both temporal and modal meanings. (For a more detailed account, see Wagner-Nagy 2019: 214–262.) A distinctive characteristic of the Nganasan TAM marking system lies in its overt expression of lexical aspect in the indicative aorist through the use of specialized tense markers. The Nganasan indicative aorist markers can be divided into two main classes: imperfective and perfective, the choice of which is tied to the aspectual class of the verb stem itself (see Table 1). Thus, the markers are not aspectual markers per se but aspect-dependent markers.

Additionally, the phonological shape of the marker taken by each verb is affected by stem type (for imperfective verbs), as well as regular and irregular morphophonological alternations such as gradation, vowel harmony class alternations, and stem-vowel alternations. On the other hand, the markers themselves cause alternations in the verb stem, triggering

Table 1: Suffix variants for Nganasan aorist classified according to aspectual class and stem type

Aspectual class	Stem type	General suffix	+REFL/PLO ^a
perfective	<i>a</i> -stem	<i>-qa</i> (<i>-qĀ^b</i>)	<i>-qi</i>
	<i>e</i> -stem	<i>-qe</i>	
imperfective	general	<i>-NTU</i>	<i>-NTA</i>
	<i>r</i> -stem	<i>-U</i>	<i>-A</i>

- Plural object, whereas SGO = singular object. See also the glossing abbreviations.
- The morphophonological transcription used for Nganasan by e.g. Várnai (2002: 58–59) marks the alternation *a* ~ *ā* with *A*, the alternation *a* ~ *i* ~ *i* with *A^l*, and the non-alternating *a* with *A_o*. Since there is no need to mark non-alternating phonemes with any special symbol, and since *Ā* is a graphically easier and more memorable symbol for the alternation *a* ~ *ā*, I will use *A* to mark the alternation *a* ~ *i* ~ *i*, and *Ā* to mark the alternation *a* ~ *ā*.

gradation and stem-vowel alternations. This makes the formation of the Nganasan indicative aorist a rather complex process.

In addition to an indicative aorist, there are four other temporal forms, two future and two past, with one member of each pair being the more basic one while the other is complex, e.g. simplex *-SUE* for (general) past and *-SUEjee* for pluperfect (PST *-SUE* + the nominal past marker *-jee*),⁷ and simplex (historically complex but synchronically simple) *-qsUTE* for general future and *-qsUTEjee* for “past in the future” (FUT *-qsUTE* + *-jee*) (Wagner-Nagy 2019: 234–239). Additionally, Wagner-Nagy (ibid. 238–239) analyzes the form *-qke* as a tense termed “immediate future,” appearing in the complex form *-qki-qe*. Since the former part of the suffix is actually present on the verb stem in non-finite forms of the verb, e.g. the dictionary forms in INF SNG *bore-qke-sa* ‘wait[-INCH-INF]’, and the latter part is the perfective aorist suffix, the suffix *-qke* is better analyzed as belonging to derivation rather than inflection.

The number of moods in Nganasan is high. Altogether, there are 13 non-indicative moods in Nganasan: imperative, admonitive, optative, interrogative, interrogative-iterative, inferential, reportative (also called renarra-

7. For more on the nominal past marker in Nganasan, see Leisiö (2012: 214). The fact that this is another instance of an original nominal marker being incorporated into the finite paradigm of the verb is a further example in support of the development argued for in this paper (see especially Sections 4.2 and 4.3).

tive), interrogative-reportative, irrealis, dubitative, necessitative, speculative, and abessive. These are used to express e.g. volition, epistemic certainty, and evidentiality, as well as to form questions (Wagner-Nagy 2019: 241). Many Nganasan moods are obviously historically complex and demonstrate the interaction between modal and temporal categories. For example, the future interrogative *-NŦe-ŦU* and the future reportative *-NŦe-HÄNHU* both consist of a futuritive element *-NŦe*, which does not appear on its own in Nganasan, joined by the same suffix that appears in the aorist tense of the respective moods (i.e. interrogative *-ŦU* and the reportative *-HÄNHU*). On the other hand, some moods do not have separate future or past forms (such as the inferential, admonitive, and dubitative, for example), while others have forms that are seemingly unrelated to the aorist, such as the past interrogative *-HU* (cf. the aorist *-ŦU*) (ibid.) (see also Section 4.1).

There are numerous non-finite verb forms, many of which are expressed with markers that greatly resemble finite temporal or modal forms, compare, for example, the necessitative participle *-qsUTE* and the necessitative past participle *-qsUTEjee*, which are phonologically identical to the future and past in the future forms (see above) (Wagner-Nagy 2019: 262–274). These undoubtedly have a common origin, having likely developed through a process similar to that described in Section 2 (see also Section 4.3). The marking of tense is complex in Samoyed in general, and in addition to Nganasan, especially the Nenets languages have developed highly elaborate systems of mood marking (see Nikolaeva 2014: 80–115, for Tundra Nenets). The overt expression of lexicalized aspect is, however, unique to Nganasan.

3.1. Aspect in Nganasan

Nganasan verb stems can be divided according to aspect into perfective and imperfective (see also Wagner-Nagy 2019: 222–225). The selection of the aorist marker depends mostly on this division, with perfective verb stems selecting the suffix *-qe/-qa*, and imperfective verb stems either *-NTU* or *-U*. Verbs receiving the perfective suffix in the indicative aorist convey actions completed just now, or momentary changes in state that have just happened, while the verbs selecting an imperfective suffix convey prolonged actions or states of being (see examples below), hence the term “aorist”. The form could also be called e.g. “non-future”, but in this paper I shall adhere to conventional terms in order to avoid confusion.

The perfectness or imperfectness of the verb in Nganasan is a lexical property of the stem that can be changed only through (marked) derivation, the affective *hãŋku-* ‘be drunk; to become drunk’ apparently being a rare exception (Wagner-Nagy 2019: 225). There are underived stems of either class, and derivational suffixes, such as the imperfective ^c*te* (*-te* ~ *-qte* ~ *-nte*) (e.g. *kotu-* : *koda-qa* ‘kill[-AOR.PRF.3SG]’ → *kodu-te-* : *kodu-te-tu* ‘be killing, habitually kill (e.g. practice hunting)’ [kill-DUR-AOR.IPF.3SG]) and perfective(-inchoative) *-qke* (e.g. *bare-* : *bare-tu* ‘wait[-AOR.IPF.3SG]’ → *bare-qke-* : *bare-qki-qe* ‘begin waiting’ [wait-INCH-AOR.PRF.3SG]), are used freely to change the aspectual class of a verb (examples from SNg). (For more on Nganasan deverbal derivation see Wagner-Nagy 2019: 531–536.)

No detailed research regarding Nganasan aspectual class in relation to lexical semantics has been carried out so far. According to Wagner-Nagy (2019: 224–225), from among the underived verb stems, those that describe static properties and states such as *ij-* ‘be’ AOR.IPF.3SG *i-cü*, *kerbu-* ‘want’ : AOR.IPF.3SG *kerbu-tu*, etc. tend to be imperfective. This includes also adjective-like verbs such as *ceši-ti* [be.cold-AOR.PRS.3SG] ‘it is cold; s/he is cold’ (SNg), i.e. verbs that semantically resemble typical adjectives but grammatically belong to the class of verbs and are inflected accordingly.⁸ Some auxiliary verbs also belong to this class by default, such as the negative auxiliary *ni-* : AOR.IPF.3SG *ni-nti* and *eku-* ‘maybe’ : *eku-tu* (Wagner-Nagy 2019: 224–225; 411). Thus, the semantics of the lexical verb do not affect the aspectual class of the auxiliary. There are a few examples of the negative auxiliary taking a perfective suffix (e.g. *ni-qe*), but these are apparently marginal (Gusev 2015: 107). Underived perfective stems are typically those that describe changes in states and momentary actions such as *nomte-* ‘sit down’ : AOR.PRF.3SG *nomtü-qe* and *kuntu-* ‘fall asleep’ : *kunda-qa* (SNg; Wagner-Nagy 2019: 225). There has been little comparative research into lexical aspect in Samoyed, but parallel patterns in verbal derivation suggest that the lexical semantics regarding aspect in Nganasan may at least partially be inherited from Proto-Samoyed, compare e.g. the cognate durative

8. The northern Samoyed languages have a small subset of property words that can be classified as verbs in contrast to the majority that are more like nouns in this respect, and thus can be classed as adjectives. The phenomenon goes back to Proto-Samoyed, although the number of words belonging to this class varies between the modern Samoyed languages. For more details from a Tundra Nenets perspective, see Jalava (2013).

suffixes in Nganasan and Tundra Nenets: Ng *kuntu-* ‘fall asleep (PRF)’ → *kundã-* ‘sleep (IPF)’ (SNg) ~ TN *xona-* → *xonyo-* id. (T65) < PS *kontã- → *kontã-w- (? *konta-w).

The aspectual class of each stem seems to depend mainly on the verb’s lexical semantics and the temporal characteristics of the situation it describes, i.e. Aktionsart. Aspect and Aktionsart can be seen as different perspectives on the temporal qualities of a given situation; the main difference between them is that Aktionsart encompasses the “objective” temporal properties of the situation, while aspect involves the experiencer’s subjective judgment of said properties (Moser 2014: 114–116). Moser argues that from the point of view of grammar, aspect and Aktionsart can be seen as a continuum. A detailed study into Nganasan verb semantics and aorist-marker selection could reveal more interesting facts about this continuum and the interaction of aspect with Aktionsart. For the purposes of this study, it suffices to note that the aspectual class of most Nganasan verbs is essentially fixed.

3.2. Suffix variants and morphophonological rules

Besides aspectual class, the selection of the aorist marker and its specific allomorph on each individual verb is dependent on the phonological shape of the verb stem and is subject to regular morphophonological alternations, namely gradation and the rules of vowel harmony. Both perfective and imperfective suffixes have several stem type-dependent forms, which are listed in Table 1 above. These, in turn, have their own allomorphs conditioned by regular morphophonological rules, here indicated by capital letters. In addition to alternations affecting the suffixal matter, the verb stem itself may be subject to various morphophonological alternations, most importantly gradation and stem-vowel alternation, the latter affecting only stems joined by the perfective suffix.

Radical gradation is present in all stem types, due to the fact that both of the perfective suffixes, as well as the imperfective *-NTU*, begin with a (historical) cluster, which closes the syllable and thus triggers the appearance of the weak grade, and, on the other hand, the *r*-stem suffix *-U* leads to the opening of the syllable, triggering the appearance of strong-grade consonantism in the stem. Derived stems and original consonant stems also follow their characteristic patterns. A few examples can be found in Table 2.

Table 2: Examples of consonant gradation in Nganasan verb stems in the indicative aorist (from SNg)

Stem	Strong grade	Weak grade	Gradation	Meaning
<i>śínśi-</i>	INF <i>śínśiji</i>	AOR.PRF.3SG <i>śínjije</i>	<i>ńś : ńj</i>	‘freeze’
<i>cebis-</i>	AOR.PRF.3SG <i>cehijije</i>	INF <i>cebiqśi</i>	<i>h : b^a</i>	‘nail’
<i>ņusī-</i>	INF <i>ņusiji</i>	AOR.IPF.3SG <i>ņujiti</i>	<i>s : j</i>	‘work on sth.’
<i>ńegus-</i>	CNG <i>ńekujeq</i>	AOR.IPF.3SG <i>ńegutu</i>	<i>k : g</i>	‘be annoyed, cringe’
<i>jodür-</i>	AOR.IPF.3SG <i>jotürü</i>	INF <i>jodürśa</i>	<i>t : d</i>	‘walk’
<i>lĩngar-</i>	AOR.IPF.3SG <i>lĩngkaru</i>	INF <i>lĩngarsa</i>	<i>ņk : ŋg</i>	‘be hidden’

a. Nganasan *h* as the strong grade of *b* goes back to PS *p.

Besides gradation, the verb stem joined by the perfective aorist markers is affected by a morphophonological process called stem-vowel alternation. Stem-vowel alternation in Nganasan is a complex phenomenon affecting both nouns and verbs. It appears with a select group of suffixes that have in common the fact that they have a consonant cluster with an initial historical *j (Gusev 2013: 72–73). The historical *j-cluster triggers both the vowel alternation as well as the weak grade of consonant gradation if consonants subject to gradation are present along the preceding syllable border, thus creating a special alternation stem, or Stem III (Wagner-Nagy 2019: 176–179). The most common suffixes to require Stem III are the genitive plural for nouns and the aorist perfect for verbs.

Typical alternations involve, from a synchronic perspective, either the raising of the low or mid vowels (e.g. *kojke* : *kojkü-* ‘idol’; *hurse-* : *hurśi-* ‘return’) or the lowering of high vowels (e.g. *jali* : *jala-* ‘day’; *kotu-* : *koda-* ‘kill’) (SNg; for more examples see Wagner-Nagy 2019: 179, 220). In the latter case, the basic high vowels of the stem actually represent original PS low vowels that have become raised in Nganasan (PS *jalä ‘day’; *kätä ‘kill’). Not all stems alternate, and the alternation is not directly predictable based on harmony class, as demonstrated by the *I*-class stem *koni-* : *kona-* ‘go’ (INF *koniji*) and *U*-class stem *kotu-* : *koda-* ‘kill’ (INF *kotuja*) having similar alternations (SNg).

The imperfective aorist suffix does not involve alternations of the stem vowels, but the vowel alternation appearing in the reflexive and objective plural conjugations of the aorist imperfective (e.g. REFL/PLO *-NTA*, *-A*)

is very similar to the stem-vowel variation discussed above. Historically, these both probably reflect the same phenomenon of a suffix-initial *j-cluster interacting with the preceding vowel.

Nganasan vowel harmony is a lexicalized system of regular vowel alternations on allomorphs. These alternations were formerly regulated by the quality of the stem vowels, which were all either [+ front] or [+ back] harmonically. Due to subsequent phonological changes, the rules conditioning the selection of harmonic variants have become highly obscured, leading to a system where each stem has to be classed as either *U* (formerly back; representing PS *ä) or *I* (formerly front, representing PS *ä), not necessarily inferrable from the actual quality of the vowels in the stem. The system is highly resilient, with most forms still reflecting their original Proto-Samoyed or even Proto-Uralic harmonic class, despite the stem vowels having sometimes changed radically (Helimski 1993 [2000]). On top of this, Nganasan has developed additional assimilation rules, such as the fronting of vowels when there is a front vowel in the adjacent syllable, which are synchronically more transparent but also allow for some free variation. (For details see Wagner-Nagy 2019: 84–85.)

In the context of aorist marking, all three main types of harmonic alternations can be seen: *U* (*u ~ ü ~ i ~ i*), *Ä* (*a ~ ä*) and *A* (*a ~ i ~ i*) (cf. Várnai 2002: 58–59).⁹ Out of these, the alternation in *U* (PS *ä ~ ä) is historically primary, while the one in *Ä* is probably analogous (PS *a with modern Ng *ä* as a secondary harmonic pair). *A* is a variant of *U* created by the fusion of a *j-initial cluster with the stem vowel. Thus, both the perfective suffix variant *-qi* as well as the imperfective *-NTA*, *-A*, characteristic of the reflexive conjugation as well as the objective conjugation for plural objects, are conditioned by the historical presence of the reflexive or plural object marker PS *jə, which has synchronically fused with the tense marker.

As is evident from Table 1 above, there are two primary imperfective aorist suffixes: *-NTU* and *-U*. The selection of the imperfective suffix variant itself is dependent on the type of stem it attaches to, with the variant *-U* appearing on stems ending in *r* (i.e. *r*-stems), and *-NTU* everywhere

9. Várnai (2002: 58–59) lists other variants as well, although these are either non-alternating vowels or various subtypes of the alternating vowels discussed above. In the notational convention of this paper, these are not marked separately. The marking of the alternations also differs slightly from that used by Várnai, see footnote 9.

The alternation of *-NTU* on general stems and *-U* on *r*-stems is not conditioned by regular phonotactic rules, as the cluster *rt* is completely possible in Nganasan and appears, for example, on *r*-stem nouns when they receive the 3SG.PX suffix *-TU*, e.g. SNg *kadar* ‘light’ : 3SG.PX *kadar-tu*. A similar alternation appears only in the present participles of verbs, where the suffix variants *-NTUe* and *-Ue* are distributed according to criteria identical to those concerning the imperfective aorist suffixes (e.g. *ɲate-tue* ‘waiting’ [wait-PTCP.PRS]; *teir-ie* ‘flying’ (also lexicalized as ‘airplane’) [fly-PTCP.PRS] (SNg)). Moreover, the alternation is not of Proto-Samoyed origin but seems to be restricted to Nganasan, as demonstrated by the Tundra Nenets (lexicalized) participle *tyír-tya* [fly-PTCP.PRS] ‘bird’ (lit. ‘flying’) (T65). This suggests a complex historical origin for the alternation, as well as a historical connection between the imperfective aorist and the present participle forms (see Section 4).

As for the perfective aorist, the variants *-qe* and *-qa* (technically *-qÄ*) appear. The rare form *-qä*, representing the front allomorph of *-qa*, only appears on the irregular stem *bii* ‘leave’ : AOR.PRF.3SG *bii-qä*. (See also Wagner-Nagy 2019: 223.) Otherwise, the alternation between *-qe* and *-qa* cannot be attributed to vowel harmony, since it does not involve any of the regular harmonic pairs (see Várnai 2002: 58–59) and does not strictly follow the usual harmonic class of the stem, although there is some overlap.

For one, the vast majority of stems taking the suffix *-qa*, i.e. the so-called *a*-stems, belong to the *U* class (historically back). Thus, we have INF *kotu-ja* ‘kill’ : AOR.PRF.3SG *koda-qa*; *motu-ja* ‘cut’ : *mota-qa*; *ñiibtü-ša* ‘rest’ : *ñiibtä-qa* (SNg) as typical *a*-stems, all belonging to the *U* class, as indicated by their infinitives in *-SA* selecting the back harmonic variant. The only exceptions to this appearing in the school dictionary (SNg) are INF *koni-ji* : AOR.PRF.3SG *kona-qa* ‘go; become sth.’ and *ñintübtüši-* : *ñintübtä-qa* ‘remind’. At least the first mentioned of these is likely to have been a historical **ä*-stem, with the fronting of the original second-syllable **ä*¹⁰ (PS **kân-* ‘go’ > DRV ? **kânä-* > **känä-*). Otherwise, all *a*-stems are harmonically

10. The fronting of Pre-Proto-Samoyed **ä* to **ä* is attested in several stems after **l* and **r*, but there are no other cases of such fronting after **n*. However, since all the other known cases of *i* ~ *a* alternation in Nganasan words of Stem III appear on stems with **ä* fronting after a liquid (**r* or **l*), e.g. Ng *koli* : *kola-* ‘fish’ < PS **kälä* < PU **kala*, it can be proposed that also the alternation in *koni-* : *kona-* could be ascribed to a similar sound change.

back. The class of *a*-stems also includes derived stems, if the final vowel of the last derivational suffix is a high vowel (*u, ü*) that alternates with Stem III *a*, such as the causative suffix *-btU*.

The picture is more complicated for the stems taking the suffix *-qe* (for the current purposes, the “*e*-stems”). This class of stems may contain both *I* and *U* stems; almost all *I* stems (i.e. historically front) belong to this class, but also all those *U* stems that have a Stem III not ending in *a* (see above). These stems typically have a mid or high unrounded vowel in their Stems I and II. Consonant stems, such as stems ending in *-s* and the transformative forms in *-m* (i.e. ‘become X’) also belong to this class. The mid vowel *e* of *e*-stems will raise and variably become palatalized or rounded and palatalized. Examples include the *I* class as per SNG; INF *śai-ji* : AOR.PRF.3SG *śai-qe* ‘burn, ignite’; *ńimti-ji* : *ńimti-qe* ‘call by a name’ and the *U* class *nome-ja* : *nomü-qe* ‘push’; *tamtüq-sa* : *tamtüjü-qe* ‘climb’ (SNG).

The more minor morphophonological alternations cannot be detailed here. What is important is the fact that the perfective aorist suffix is not congruent with harmonic class, meaning that neither its synchronic realization nor its historical origins can be explained by vowel harmony rules.

Table 3: Examples of stems and factors affecting the choice of aorist marker

Lexical stem	(Derivational suffixes)	Aspectual class	Stem type	Vowel harmony	AOR suffix
<i>kotu-</i>		PRF	<i>a</i> -stem	<i>U</i>	<i>-qa</i>
<i>koni-</i>		PRF	<i>a</i> -stem	<i>I</i>	<i>-qa</i>
<i>bii-</i>		PRF	<i>a</i> -stem	<i>I</i>	<i>-qä</i> [irreg.]
<i>tamtüq-</i>		PRF	<i>e</i> -stem (<i>-s</i>)	<i>U</i>	<i>-qe</i>
<i>ńili-</i>		IPF	general	<i>I</i>	<i>-ti</i>
<i>tej-</i>		IPF	general (<i>-j</i>)	<i>U</i>	<i>-cü</i>
<i>kundä^C-</i>	<i>-ä^C-</i> [DUR]	IPF	general (^C)	<i>U</i>	<i>-tu</i>
<i>kodu-te-</i>	<i>-^Cte-</i> [DUR]	IPF	general	<i>U</i>	<i>-tu</i>
<i>ńili-li-</i>	<i>-li-</i> [INCH]	PRF	<i>e</i> -stem	<i>I</i>	<i>-qe</i>
<i>teir-</i>	(*-jr- [“AUG”]) ^a	IPF	<i>r</i> -stem	<i>I</i>	<i>-i</i>
<i>tuu-qnar-</i>	<i>-qnÄr-</i> [FREQ]	IPF	<i>r</i> -stem	<i>U</i>	<i>-ü</i>
					(regularly)

a. See Section 4.2.

The formation of other temporal and modal forms is synchronically not as complex as that of the indicative aorist, although they do participate in regular processes of morphophonological alternation where these are applicable (see Wagner-Nagy 2019: 240–262).

To conclude this section, it can be stated that the selection of the aorist marker in Nganasan is a complex operation, involving several areas of grammar, including aspect, the phonotactic properties of the lexical stem, productive patterns of derivation, stem type (with subtypes), and regular morphophonological alternations of the suffixes. Many of these processes are at least partially opaque from the synchronic point of view and seem to reflect different chronological layers. What follows next is an attempt to decipher the diachronic origins of the system.

4. The development of the Nganasan aorist markers in the indicative: an etymological re-examination

The Nganasan tense system is unique within the Samoyed branch, both in terms of the overt expression of lexical aspect, as well as the material background of forms: the indicative aorist suffixes *-NTU*, *-U*, and *-qe/-qa* have no direct parallels in the finite expression of TAM in any other Samoyed language. That the imperfective markers *-NTU* and *-U* originate in present participles has been noted already by Mikola (1996). For the perfective *-qe/-qa*, a similar proposal can be made based on partially lexicalized suffixes found in Nenets, Enets, and Nganasan that represent a former deverbal intensifying, resultative, or instrumental marker. Drawing examples from dictionary and corpus data, I argue that the Nganasan perfective aorist has developed from such a marker through a process of reinitiation as described in Section 2. While the incorporation of this form into aorist marking is limited to Nganasan, its cognates are found in various lexicalized derivatives in Nenets and Enets, and it seems to have regained productivity as a denominal marker, conventionally termed “augmentative”. Although my data on the productivity and exact semantics of the augmentative is limited, it is sufficient to claim that the class of nouns which formally count as augmentatives in all northern Samoyed languages contains both probably productive derivatives (i.e. augmentatives proper) as well as instances of lexicalized derivatives belonging to an older chronological layer of the form’s development and, as a consequence, reflecting its original resultative or instrumental semantics.

4.1. Expression of tense in Proto-Samoyed

Due to the complexity of systems found in the daughter languages of Proto-Samoyed, reconstructing the exact makeup of the original tense system has proven to be a difficult task. The conventional reconstruction relies heavily on the (Tundra) Nenets system, where the finite stem markers *-ŋa* and *-°*, representing the PS aorist markers **-ŋǎ* and **-ə*, respectively, are distributed according to a complex pattern, where the choice of the appropriate stem formation suffix is dependent upon both the phonotactic properties of the bare stem (e.g. consonant stems taking *-ŋa* and vowel stems *-°* in subjective conjugation) as well as the inflectional categories following it (e.g. *-ŋa* with dual objects, i.e. preceding a suffix with an initial *-x-*, while *-yə/-y°* (< PS **-jə*) is used with plural objects and in the reflexive conjugation, etc. (see Salminen 1997: 99–103; 2024: 225; Nikolaeva 2014: 26–27). Cognates of **-ŋǎ* and **-jə*, the latter of which will not be further discussed here due to limitations of space, can be found in most other Samoyed languages, while **-ə* is more problematic in this sense due to its shortness and the lability associated with PS vowel sequences.

In Nganasan, the indisputable cognate of the PS **-ŋǎ* is the interrogative aorist mood marker *-ŋU*, with the regular allomorphs *-ŋu* ~ *-ŋü* ~ *-ŋi* ~ *-ŋj* displaying vowel alternations typical for Nganasan vowel harmony (< PS **-ŋǎ* ~ **-ŋǎ*). The Nganasan interrogative suffix is used to form polar questions, e.g. *tuj-ŋu?* [COME-INT.AOR.3SG] ‘Did s/he arrive?’ and it can be used in other types of interrogative constructions as well. The time reference of the interrogative aorist is the same as that of the indicative aorist, while for the past interrogative Nganasan uses a different suffix, *-HU*, and for the future, a compound form *-NteŋU* (see also Section 3). It is notable that it is the interrogative in particular that uses different markers to distinguish tense, when this is not the case with all moods in Nganasan (see Wagner-Nagy 2019: 241). This could be the result of semantic carry-over of the original temporal meanings of the aorist, another piece of evidence supporting the linking of PS **-ŋǎ* to the tense system, as opposed to the view expressed by Gruzdeva & Janhunen (2020: 87–88) that the markers **-ŋǎ* and **-ə* should rather be reconstructed as markers of finiteness in general, rather than as genuine tense markers on the Proto-Samoyed level. While the latter interpretation is still possible, the markers’ interaction with the marking of tense proper, such as their opposition with the preterite marker **-sǎ*, suggests that they cannot be viewed as separate

from the tense system, and handling them separately from tense would be arbitrary. No sign of $*\text{-}\text{ə}$ can be found in Nganasan, where vowel sequences are usually preserved.

The Enets systems have received various interpretations. According to Siegl (2022: 727) the aorist in Enets is a morphologically unmarked category, while in the analysis of Urmanchieva (2006: 86), there is a tense of “undefined time reference” (*форма неопределенного времени*) with the markers $-a/\emptyset$ (vowel stems) $\sim -\eta a$ (stems ending in a voiced consonant) $\sim \text{-}^2a$ (stems ending in a voiceless consonant). Of these segments, whatever their synchronic status may be, at least the second one corresponds exactly to PS $*\text{-}\eta\text{Å}$. The marker $-a/\emptyset$ could at least technically be connected with PS $*\text{-}\text{ə}$, but this is unlikely, since the regular cognate of PS $*\text{ə}$ would be o or ɔ rather than a . As for -^2a , it could possibly be a variant of $-\eta a$, where the glottal stop is the result of the contraction of a consonant cluster at the morpheme boundary, cf. the stem-internal PS clusters $*\text{t}^3m$, $*\text{t}^3w$ which both yield ʔ in Enets (Kaheinen 2023: 104), but more research into Enets historical morpho(phono)logy is needed to confirm this.

There are several present tense markers in Kamas as well: a zero marker, $-GA$, $-mA$, and $-LA^2b\text{ə}$, the selection of which depends on the verb stem, among other factors (for more details see Klumpp 2022: 828–829). The marker $-GA$ (e.g. *i-ge-m* ‘I am’ [be-PRS-1SG]) is usually mentioned as a cognate of $*\text{-}\eta\text{Å}$ (ibid.). However, since PS intervocalic $*\eta$ actually yields η in Kamas, as in PS $*a\eta o j$ ‘chin’ > Km $o\eta o j$ (KSz 0768); $*t\text{ə}\eta\text{ə}$ ‘summer’ > $t\text{ə}\eta a$ (KSz 1146), the claim can be placed under doubt. It must also be noted that the Kamas marker is phonologically identical to the participle marker $-GA$ (Klumpp 2022: 832), in which it quite obviously originates. Meanwhile, the zero marking could be a cognate of PS $*\text{-}\text{ə}$, but the comparison is fundamentally fruitless, since a comparison with zero cannot be a convincing argument. According to Klumpp (2022: 828), the Kamas zero marker originates in PS zero, which is a viable possibility. The presence of a suffix cognate to PS $*\text{-}j\text{ə}$ in Kamas cannot be confirmed. In Mator, there is a similar problem with the zero marker, but the present tense marker $-\eta$ can be considered a cognate of $*\text{-}\eta\text{Å}$ with relatively high certainty (Helimski 1997: 153).

The past tense marker $*\text{-}s\text{Å}$ (< PU $*\text{-}\acute{s}\text{A}$) is present in all Samoyed languages, except for Kamas, apparently (Salminen 2024: 227, for Mator see Helimski 1997: 162–163). In Nenets and (Forest) Enets, the marker has gained non-assertive functions, becoming a mood marker often termed interrogative, very much like $*\text{-}\eta\text{Å}$ in Nganasan, while a new periphrastic

past tense marker has developed in the indicative (Janhunen 1998: 472–473; Salminen 2024: 227).

It thus seems that overt tense marking was obligatory in Proto-Samoyed, i.e. finite predicates could not be conjugated with person markers without the use of a tense (or mood) marker. This may have been a Samoyed innovation (see Janhunen 1998: 471), although on the basis of Mansi and some traces elsewhere, it is possible that Proto-Uralic had a present tense marker alongside the more widely attested preterite ones (Aikio 2022: 17). In any case, the aorist markers $*-\eta\dot{A}$ and $*-\dot{a}$ themselves have no known cognates outside Samoyed, while the preterite marker $*-\dot{s}\dot{A}$ is of Uralic origin ($<$ PU $*-\dot{s}(A)$, see Aikio 2022: 17). The question as to whether a Proto-Uralic type (?) zero-marking could have been possible in Proto-Samoyed as well, may also be reconsidered. A marginal case of zero-marking is found even in Forest Nenets, where the 1SG suffix $-m^oq$ can attach to the bare verb stem without the usual stem-forming suffix (Salminen 2024: 225), though this could very well be an innovation.

As can be seen just from the brief survey above, the history of tense marking in Samoyed involves semantic shifts, replacement of forms, and phonetic contraction and alternation resulting from the interaction of suffixes with stem-final consonants, making up a quite complicated picture. According to Janhunen (1998: 471), tense marking in Proto-Samoyed likely went through a number of changes just before the final breakup of the proto-language. Otherwise, it would be difficult to explain the variation, irregular alternations, and also cognacy we see today in the systems attested in Samoyed languages. In the case of Nganasan, where the PS aorist has been pushed out of the indicative function by new forms, it is perhaps not appropriate to assume a unilateral replacement of an established or uniform PS system, but rather an independent evolution from a state of disarray.

4.2. Imperfective aorist *-NTU* and *-U*

Out of the three Nganasan aorist markers, IPF *-NTU*, *-U*, and PRF *-qel-qa*, the general stem imperfective aorist marker *-NTU* is etymologically the most transparent, being nearly identical with the present participle marker *-NTUe*, which is fully productive, e.g. *niliti* ‘s/he lives’ [AOR.IPF.3SG] : *nilitie* ‘living’ [PTCP.PRS] (SNg). The marking has most likely developed through the use of the participle as a nominal predicate in sentences of the type

nili-ti-m [*live-PTCP.PRS-1SG] ‘I am (a) living (being)’, where the possibility to attach person markers directly to the nominalized verb precipitated the reanalysis of the form as a finite one, i.e. → [live-AOR.IPF-1SG] ‘I live’. The process has parallels in e.g. the formation of several Tundra Nenets mood markers (Jalava 2017: 141).

While the tense marker *-NTU* has developed from the present participle, PS **-ntÅ*, the original present participle marker itself has been augmented with the adjectivizing suffix **-jə*, giving Ng PTCP.PRS *-NTUe*. This etymology has been suggested already by Mikola (1996), who, furthermore, proposes that the *r*-stem suffix *-U* would likewise originate in a present participle, only with the suffix being **-rÅ* instead of **-ntÅ*. Mikola notes that, firstly, the *r*-stem verbs not only require the suffix *-U* in the imperfective aorist, but also appear with the suffix variant *-Ue* in the present participle, e.g. *teiri* ‘s/he flies’ [AOR.IPF.3SG] : *teirie* ‘flying’ [PTCP.PRS] (SNg), and, secondly, that the use of the suffix *-U* on *r*-stems is not conditioned by phonotactic rules, as demonstrated by the appearance of the *rt* cluster in *r*-stem nouns, e.g. *kadar-tu* ‘light’ [3SG.PX] (SNg). The cluster was also historically possible in Proto-Samoyed (see the discussion in Kaheinen 2023: 180), and forms such as TN *tyír-tya* ‘flying’ [fly-PTCP.PRS] → ‘bird’ (Salminen 1997: 53), reflecting PS **təjr-tä*, demonstrate that the present participle **-ntÅ* could attach to stems ending in PS **r*. The suffix would undergo the regular deletion of the initial consonant due to the rule that forbade clusters of more than two (non-*) consonants in Proto-Samoyed, but it would leave the **t* unchanged, consequently leaving us without an easy phonotactic explanation for the complementary distribution of *-NTU* and *-U* in Nganasan.

To resolve this issue, Mikola (1996) proposes that there could have been another present participle marker of the type PS **-rÅ*, which would have subsequently been limited to (pre-)Nganasan *r*-stems, and, through the automatic simplification of the phonologically non-distinctive geminate **rr*, led to the development **-r-rÅ* > **-r-Å* on these stems. Possible cognates of **-rÅ*, unmentioned by Mikola, could be the Forest Nenets frequentative marker *-rV* (see Siegl 2013: 272) or the Mator deverbal derivational suffix *-rə* (Helimski 1997: 184). The assumption of phonological indistinctiveness and automatic simplification of the geminate already at the Proto-Samoyed level is supported by the fact that Nganasan *r*-stem verbs appear in the strong grade in their aorist imperfect, meaning that the syllable was open at the time radical gradation became phonologized (be

it Proto-Nganasan or earlier, cf. Helimski [1995] 2000: 175–178): e.g. *tagur* ‘gather’ : AOR.IPF.3SG *takuru* (SNG). What is more difficult to explain with regards to this etymology, however, is the complementary distribution of the suffixes in the first place, since there is no apparent reason as to why the *jr-stem verbs should select a different participle marker in the first place – and why *only* the *jr-stems would select for it. Mikola (1996) seems to assume this is just the result of lexicalization.

In searching for a further explanation for the strange distributional details of the suffixes *-NTU* and *-U*, one may note that the Nganasan *r*-stems themselves are all historically derivatives. The Nganasan suffix forming *r*-stems goes back to the Proto-Samoyed deverbal derivational suffix *jr, conventionally termed “augmentative” (see e.g. Janhunen 1977), which has cognates in all Samoyed languages, albeit with varying levels of productivity. The semantics of the Proto-Samoyed suffix have not been studied in detail, a task left to be taken up by future research, but based on its modern cognates, it seems likely that it was used to form verbs with durative, multiplicative, or habitual semantics, which are typical for verbs belonging to the imperfective aspectual class in Nganasan. In fact, nearly all – if not all – Nganasan *r*-stem verbs are imperfective. The assumption of PS *jr as an imperfective (durative, habitative, etc.) derivational suffix is supported also by its cognates, in e.g. Tundra Nenets frequentative-iterative-multiplicative *-or, -ur, -er*: *xayo-* ‘stay’ → *xayur-* ‘stay many times’ (Nikolaeva 2014: 45); Forest Enets unproductive frequentative *-r/-l*: *dōrid* ‘speak’ : CNG *dōrir* (Siegl 2013: 270); Mator frequentative *-r* (Helimski 1997: 185), etc.

It seems very likely that the Proto-Samoyed suffixes *jr and *rÅ are ultimately historically connected to each other. In fact, one could suggest that they might originally represent the descendants of one and the same deverbal suffix, which has given rise to a wide array of forms and the morphosyntactic behavior of which lies somewhere in between inflection and derivation. This would explain why the Nganasan *r*-stems (and only the *r*-stems) take the suffix *rÅ, because there was no PS participle *rÅ existing separately from the PS *jr, but instead *jr and *rÅ (actually *jrÅ) descend from the same form. I acknowledge that this suggestion is not entirely without problems (for example, the presence vs. absence of the vowel *Å is left unexplained), but since no better explanation is immediately available, it is worth mentioning. I will tentatively suggest that a (deverbal) noun-forming suffix *jr could also be of the same origin, cf. Ng *kadar* ‘light’ (noun) ~ *kategee* ‘light, clear’ (adj.) < PS *kâtâ- (? *kât3-) ‘shine’ >

Slk *kuâti*-id. (SkWb 1907) etc., although the matter of word formation and aspectual derivation in Proto-Samoyed would require more research to confirm this.

Interestingly, in the paradigm of the Forest Enets unproductive frequentative marker *-r* (< PS **-jr*) – separate from, but historically probably related to, the productive frequentative *-rV* – there is a complementary distribution of the markers *-r* and *-ŋa* (< PS **-ŋǻ*), the aforementioned appearing in e.g. the connegative and the former in the present tense (Siegl 2013: 270–272). Synchronically they can be technically analyzed as allomorphs, although historically they are of separate origin (*ibid.*). This fact could be cited in support of the idea that perhaps both forms originally functioned as derivational suffixes, which allowed them to develop complex patterns of (stylistic, semantic, etc.) alternations that subsequently became lexicalized and fossilized within paradigms. More research into Proto-Samoyed derivational suffixes is still needed to explain these complex phenomena.

It is technically possible, and thus worth mentioning, that the *r*-stem suffix *-U* could also have originated in PS **-ǻ* (see Section 3), but this would require the irregular sound change (presumably by analogy) **ǻ > U*, and yet it would leave the complementary distribution of suffixes according to stem types unexplained. Even if it would be tempting in its simplicity to assume that Ng *-U* has developed from the same PS **-ǻ* as e.g. Nenets *-°*, jumping to conclusions should be avoided. Again, we are faced with the fact that segments consisting of a single vowel are deceptively easy to compare to just about anything, which is why etymologizing them requires especial caution.

4.3. Perfective aorist *-qe/-qa*

The Nganasan perfective aorist suffix *-qe/-qa* is without obvious cognates in the tense paradigms of other Samoyed languages, which may also be part of the reason why the Nganasan tense system has been regarded as aberrant (see Janhunen 1991). Gusev (2013: 72–73) suggests that the Nganasan suffix could have originated in a compound of two Proto-Samoyed suffixes, the *REFL/PLO* marker **-j* and the regular “aorist” **-ŋǻ*, comparing them to the Selkup present tense (or finite) markers *-j*, *-ŋ*. Based on this comparison, Gusev reconstructs the form **-jŋǻ* for the Nganasan perfective aorist. However, from the point of view of historical phonology, the reconstruction is clearly problematic. First of all, there is little evidence to

indicate that the PS cluster *jŋ would produce a glottal stop in Nganasan, since there are no other cases of glottal stops developing from nasals.¹¹ Secondly, the vowel *ə of Gusev's (ibid.) reconstruction does not match the vowel required by the cognates in other Samoyed languages, which is undeniably PS *Ä. This etymology also leaves unaddressed the non-harmonic vowel alternation *e ~ a* (~ *ä*) (see Section 3), which does not regularly reflect PS *ə, either.

In my opinion, a better etymological match for the perfective aorist marker is available. The northern Samoyed languages, an areal rather than genealogical grouping within the Samoyed branch (see Salminen 2002; 2024: 181–184; Kaheinen 2023: 132–133), all show traces of a Proto-Samoyed deverbal derivative suffix which seems to have carried resultative and instrumental meanings (see examples below). The original deverbal derivational process has become unproductive, but traces of it remain in lexicalized derivatives, which can be found in dictionaries. Notably, all of the languages in which the suffix appears display similar internal variations in the suffix vowel, which cannot be ascribed to regular morphophonological alternations caused by the PS vowel harmony. A further complicating factor related to these suffixes is that they are phonologically identical with the augmentative, a productive or semi-productive denominal, or, in the case of Nenets, omnibased (i.e. joining both verbs and nouns) derivational suffix, which is used to convey the meanings of the largeness or intensity of an entity (i.e. 'large [noun]', '[verb] intensely, greatly'). There is no reason to assume that these are not etymologically the same form. However, there seem to be both synchronically productive and unproductive uses of the form, which are oftentimes semantically distinct.

In Nganasan, the suffix appears with the variants *-qÄ*, *-qe(e)*, *-que*, resembling greatly the perfective aorist suffix *-qe/-qa* (cf. Section 3.2), while, admittedly, not being identical to it (Wagner-Nagy 2019: 509–511, examples drawn from SNg and Brykina et al. 2018). In Tundra Enets (EnSl), the suffix appears as *-ʔo*, *-ʔe*, and *-ʔa*, all going back to different PS vowels, while in

11. Synchronically, a stem-final glottal stop does alternate with a nasal in the oblique stem in the word *hebtiq* : *hebtine-* 'lip' (< PS *päptänʔ?) (SNg) (see also Várnai 2010: 612), but this is not a regular alternation in Nganasan, and based on cognates found in other Samoyed languages, there may have been alternation in the stem-final consonant already at the Proto-Samoyed level, cf. Slk *peptäl'* 'chin' (SkWb 400) (< PS *päptäjʔ?) ~ Mt *höbten* ~ *hibten* ~ *höbten* (~ *höbteʔn*) 'lip' (MS 307) (< PS *päptän¹ ~ *piptän¹ ~ *päptät¹ ~ *piptät¹).

Forest Enets (LES) we find no less than five different vowels -ʔo, -ʔɔ, -ʔe, -ʔε, and -ʔa, reflecting likewise a historical disarray in vocalism.¹² Both Nenets languages, in their turn, display two different-vowel variants of the suffix: Tundra Nenets -qj̄a^o (with the contracted form -qj̄a) and -yeq^o, Forest Nenets -jaqj^o and -yeqj^{o3}.

The productive use of the Nganasan suffix as an augmentative occurs with substantives, adjectives, as well as participles. According to Wagner-Nagy (2019: 509–511), there are several different augmentative suffixes in Nganasan: -qĀ,¹⁴ -qee, -que (with the variant -qūe, fronted through assimilation), and -rbAqĀ (with the variant -rbAqe). Not mentioned separately but appearing among the examples is also -qā, best analyzed as a variant of -qĀ on stems ending in ā, where metathesis of the stem-final vowel is sometimes attested (cf. Table 4). There is apparently little to no semantic difference between the different vowel variants, and they are also phonologically very similar to each other, indicating that they are etymologically connected, even if their distribution cannot be explained by regular morphophonological alternations. The extended form in -rbAqĀ is obviously a compound containing the short form -qĀ and another suffix which does not appear independently. Additionally, the augmentative suffix appears on the compound pejorative suffix -jAqĀ (ibid., p. 511). Wagner-Nagy gives the following distributional criteria for the simple¹⁵ augmentative suffixes: -qĀ joins common nouns, -qe(e) mostly kinship terms, where it has pejorative connotations, while -que joins proper names. Based on the forms

12. The Forest Nenets vowel ε (< PS *ä in certain contexts) is not found in Tundra Enets, where Proto-Enets *e and *ε have merged. The situation of ɔ (< PS *ə¹), which is found in both Enets languages, is more complex. (See Khanina 2018: 433.) The difference between EnSl o and LES ɔ is orthographic; both represent a back rounded half-open vowel < PS *ə¹, while EnSl ô and LES o represent its slightly raised counterpart (< PS *o). Thus, the TE suffix variant -ʔo is actually, in terms of the Enets phonological systems, most equivalent to FE -ʔ, while no forms of the suffix with TE ô (= FE o) are recorded in EnSl.

13. I thank Tapani Salminen (p.c. July 2023) for valuable information on the Nenets suffixes, especially the details concerning their phonological shape.

14. The alternation a ~ ä is not marked on the archiphonemic form of the suffix by Wagner-Nagy (2019: 509), but it is present in the NSL corpus (Brykina et al. 2018).

15. The final vowel -e of these suffixes is probably historically the adjectivizing suffix *-jə, but the complex origin of -qe(e) and -que is still arguably less transparent than that of -rbAqĀ and -jAqĀ.

found in the NSL corpus (Brykina et al. 2018), which contains altogether 3,546 instances glossed as augmentative, including both productive and lexicalized instances, and the school dictionary (SNG), the picture is a little more complicated, as demonstrated by the following table:

Table 4: Some examples of different augmentative suffix variants in productive use in Nganasan

Suffix variant	Allo-morphs	Class	Examples
-qÄ	-qa	U	<i>kolaqa</i> (← <i>koli</i>) ‘fish’; <i>ñüaraqa</i> (← <i>ñüar</i>) ‘hill’; <i>taaqa</i> (← <i>taa</i>) ‘reindeer’
	-qä	I	<i>seriqä</i> (← <i>seree</i>) ‘path’; <i>cebitiqä</i> (← <i>cebitie</i> [nail.VBLZ-PTCP.PRS]) ‘nailing’; <i>bitidiqä</i> (← <i>bidiq</i>) ‘arrow’
	-qå	U	<i>kobtuqå</i> (~ <i>kobtaqa</i>) (← <i>kobtä</i>) ‘girl’; <i>jündüqå</i> (← <i>jündä</i>) ‘horse’
-qe(e)	-qe	U; I	<i>cajbeqe</i> (← <i>cajbe</i>) ‘stomach’ (I); <i>banüqe</i> (← <i>ban</i>) ‘dog’ (U)
	-qee	U; I	<i>madeqee</i> (← <i>maq</i> : OBL <i>made-</i>) ‘tent’ (U); <i>ñedeqee</i> (← <i>ñeq</i> : OBL <i>ñede-</i>) ‘shaman’ (I); <i>jejiqee</i> (← <i>jesi</i>) ‘father’ (I)
-que	-que	U	<i>Ukuque</i> (← <i>Uku</i>); <i>susuque</i> (← <i>susu</i>) ‘hill’; <i>ñomuque</i> (← <i>ñomu</i>) ‘hare’; <i>ñojbukuque</i> ‘shaman’s headdress’ (← <i>ñojbu-kue</i> [head-DRV])

As is evident from Table 4 above, it cannot be claimed that the suffix variants *-qe*, *-qee*, and *-que* would be restricted to kinship terms and proper names in the texts of the corpus. In fact, many regular nouns seem to consistently take the suffix *-qe(e)*, with no obvious semantic explanation. The distributional criteria of these forms are not entirely clear, as both *-qÄ* and *-qe* are apparently productive despite the high number of lexicalized forms for both. The variant *-qee* with a vowel sequence is actually rarer than *-qe*, with only 12 appearances in the NSL corpus (Brykina et al. 2018) vs. 215 of *-qe*, and it may in fact be considered a subvariant of *-qe* (diachronically likely derived with the PS adjectivizing suffix **-jə*), since the stems appearing with it may also appear with *-qe*. The suffix *-que*, contrary to the view of Wagner-Nagy (2019: 509–511), seems to appear on some appellatives along with proper names, e.g. *?susuque* ‘hill’; *?ñomuque* ‘hare’, but

these may be erroneous renderings of *-qe*.¹⁶ The variant *-qÄ* seems to be the most common in the NSL corpus, with 2,282 instances¹⁷ of *-qa*, though this number is inflated due to a few highly frequent lexicalized augmentatives belonging to this class (e.g. *bojkaqa* ‘old man, husband’ with 240 instances and *anikaqa* ‘big’ with 95 instances), 154 instances of *-qä*, and 854 instances of *-qä*. Furthermore, there are 29 (apparent) instances of *-que*, confusingly rendered as *ʔuä* or *ʔüä* in the transcription. In any case, no clear relation between semantic groupings and the choice of particular suffix can be found in the data, but instead the choice of suffix variant depends on the stem, with certain (most) stems taking the variant *-qÄ*, a smaller but nonetheless significant number taking *-qe*, and very few appearing with *-que*.

Along with the irregular variation discussed above, the augmentative suffixes display alternation that conforms to the usual morphophonological rules of the historical vowel harmony, namely the alternation *a ~ ä* on *U/I* class stems, respectively. While *qä* appears on *I* class stems, i.e. historically front, and *-qa* mostly¹⁸ on *U* class stems, i.e. historically back, *-qe(e)* may appear with both. Historically, the vowel *e* in non-first syllables reflects Proto-Samoyed **ə*¹ (**ə ~ *ə*), while *Ä* probably reflects an originally non-alternating **a*, which later acquired the front variant *ä* through analogy. The variation *-qe/-qÄ* not only defies the usual rules of vowel harmony in Nganasan, according to which *e* is a neutral vowel, but it is also nearly identical to the pattern of variation attested in the perfective aorist marker (see Section 3.2). The distributional criteria of the different vowel variants are not identical for the two forms, since *-qä* is the usual *I* stem variant in the augmentative, while in the perfective aorist this variant only appears with the irregular stem *bii-* ‘leave’ (cf. Table 3). The augmentative suffix *-qÄ* joins a stem highly resembling the Stem III, but its stem formation is not entirely normal. The most striking deviation from regular stem formation

16. In the corpus, they are transcribed as *üe*, which is not an independent phoneme in Nganasan, and it is at times unclear whether it is intended to represent an allophone of *e* or *ä*.

17. Including forms displaying regular stem-vowel alternations in *-qi*; these have been grouped according to their Stem I form.

18. A salient exception is *kolaqa* from *koli* ‘fish’, which belongs to the *I* class. However, *koli* is otherwise historically exceptional as well, belonging to the small class of PS words which fronted their second-syllable **ä* after a liquid (> **ä*) while retaining a back-vowel stem variant which resurfaces in certain contexts. Thus, the *I* class membership of Ng *koli* is secondary.

is that *-qa* alters the final vowel of the stem it joins, forming a kind of “pseudo *a*-stem” for even those nouns that do not belong to this stem type, such as consonant stems. The front variant *-qä* appears with either *i* or *ī* as the stem vowel, which is phonologically identical to the Stem III of *I* class (historically front) verbs. The variant *-qe*, on the other hand, joins Stem II, causing no vowel alternations.

Although the Nganasan augmentative is productive, the difference in meaning between the augmentative and the underived form seems in some cases to be vague at best. In the case of lexicalized augmentatives, lacking an underived counterpart, there is obviously no point of comparison, but the lexicalized augmentatives do not appear to bear any connotation of particular grandiosity of size. Sometimes there is no underived stem, but instead only forms which look like parallel derivations of the same stem, one of which is (formally) an augmentative. Parallel forms are especially typical of adjectives, sometimes apparently without a pronounced semantic difference, cf. AUG *tusajkaqa* ‘black’ ~ DRV.ADJ *tusajkue* id. (SNg)¹⁹ – the expected underived stem ***tusajku* does not exist independently. It should be noted that, apart from the rare forms in *-qee*, the adjectivizing suffix *-e* and the augmentative are mutually exclusive, and the usage of one on any given stem implies the absence of the other. The mutual exclusivity of the augmentative and the adjectivizer applies not only to regular adjectives but historically complex deverbal forms as well, such as participles in *-qmUe* and *NTUe*, where the final *-e* is historically the adjectivizing suffix **-jə*; see e.g. *kondüqmaqa* ‘sacrifice’ ← *kondü-qmue* [sacrifice.VBLZ-PTCP.PRF] (SNg). The presumable underived stem ***kondüqmu* is not attested independently.

There is still little research on the exact functions and productiveness of these suffixes in the Enets languages, but examples of them do appear in dictionary data, with both patterns of obvious derivation as well as apparently lexicalized examples: TE *ebe’o* ‘(very thick) long needle, large needle’ ← *ee* ‘needle’; *kori’o* ‘pole for steering reindeer (Ru хопей)’; *pire’e* ‘back of the head’; *maga’a* ‘a baby’s sleeping bag’, etc. (EnSI); FE *bato’o* ~ *bto’o* ‘tail’; *ezo’o* ~ *eze’o* ‘runner of a sledge’; *kazi’e* ‘sterile female reindeer’; *de’ni’a* ‘patch’; *səri’ε* ‘tree stump’ (LES).

19. One would expect the augmentative form to mean something like ‘very black’, but this is not indicated in the dictionary, where both words are given the Russian translation ‘чёрный’, i.e. ‘black’. Whether such connotations are nonetheless present is a matter that should be looked into in future research.

The Nenets augmentative markers, which can, according to Salminen (p.c. July 2023), be reconstructed as Proto-Nenets **-jaqjə* and **-yeqjə*, are actually cognate with the Nganasan pejorative augmentative in *-jAqal/-jAqe* (see Wagner-Nagy 2019: 509–511) ~ FE (AUG.)PEJ *-jeʔe*. Moreover, a cognate of the Proto-Nenets segment **-ja/-jə* appears independently in Enets, as in TE *pedá* ‘large tree’ (← *pe* ‘tree’), *seodá* ‘large heart’ (← *seo* ‘heart’) (EnSl), suggesting that the Nenets forms, too, were originally compound and contain the same segment that appears as an independent augmentative suffix in Nganasan and Enets. The original phonological shape of the suffixes has become somewhat obscured in Tundra Nenets especially, likely through a process of metathesis **-jäq° > -qjä°*.²⁰

Examples of both vowel variants from both Nenets languages can be readily found in dictionaries: TN *ɲarkaqaqjä* ‘huge, very large’ ← *ɲarka* ‘big, large, adult’; *seryeq°* ‘very white’ ← *ser* ‘white’ (T65; see also Nikolaeva 2014: 139); FN *ɲalkajaqj°* ‘adult male of wild reindeer’ (JrWb 17a ‘heisst der Bulle des wilden Renntiers im Sommer, falls er von grossem Wuchs ist’) ← *ɲalka* ‘big’ (JrWb 16b); *xeryeqj°* ‘large white reindeer bull’ (JrWb 410a) ← *xər* ‘white’ (JrWb 410a). Especially in the Forest Nenets examples, a tendency towards lexicalization and semantic specialization of the augmentatives can be seen, although this may be at least partially a feature of dictionary data, which probably contains proportionally more examples of lexicalized forms than productive ones, and thus it cannot be taken as an indicator of the general productivity of augmentative formation in Forest Nenets.

A peculiar property of the Tundra Nenets augmentative is that it is omnibased, meaning it can appear on verbs as well as nouns. It does not change the word class of the stem it attaches to. On finite verbs, it has a pejorative meaning, implying disdain or disapproval towards the action portrayed on the part of the speaker (Nikolaeva 2014: 139). Apparently, the deverbal use of the augmentative is quite rare. No information on the productivity of augmentative derivation in Forest Nenets verbs is available.

Although the augmentative suffix is without cognates elsewhere in Samoyed, it could be claimed that both the suffix and the vowel alternations go back to Proto-Samoyed. From among the other Samoyed languages, at least Selkup has functional equivalents of the augmentative suffix, separate for nouns and verbs (North Selkup *-lra* and *-ka*, respectively, see Kazakevič 2022: 806), but these are obviously not direct cognates of the northern Samoyed augmentative.

20. Tapani Salminen (p.c. July 2023).

The Nganasan augmentative, as it has been previously described (e.g. Wagner-Nagy 2019: 509–511), is a productive process of denominal derivation, in which the augmentative suffix denotes the large size or other kind of significance of the entity, e.g. *taa* ‘reindeer’ → *taa-qa* ‘large reindeer’. However, upon a closer inspection the list of Nganasan words that might be formally considered augmentatives (collected from SNg, NgSl and Ng2o) seems to contain also quite a few instances of fossilized forms, for which no underived stem is attested. It is likely that the lexicalization has in many cases led to the loss of the augmentative’s semantic specificity of denoting the large size of the referent. Many lexicalized forms are found among terms denoting animals, body parts, household items, kinship terms, or geographical entities: *bataqa* ‘untrained reindeer’; *kirkaqa* (~ *kirkaqa*) ‘short-haired dog’; *hingaqa* ‘pillow’; *ηueraqa* ‘season of impassable roads (Ru распутица)’; *iniqä* ‘old woman, wife’, but there are also a few adjectives where the augmentative form is the most common one attested. Predictably, the adjectives of this type have meanings such as ‘big, large’: *anikaqa* ‘big’, *ñenacaqa* ‘huge’, etc. A few of these have cognates in Nenets or Enets, some of which are fossilized augmentatives as well, while others are either underived or appear with another derivational suffix.

Further examples of lexicalized augmentatives include the following: *bäguqe* ‘male grouse’ ~ TE *bexu’o* ‘a grouse species (with a black neck)’ – no further cognates; possibly PS *wäkz-, but unlikely given the narrow distribution and specialized meaning; *batüqe* ‘tailbone, sacrum’ ~ TE *batu’o* ‘tail; hindside’ ~ FE *bato’o* ~ *boto’o* ‘tail’ – likely parallel loans from an unknown source; *bodiqe* ‘left-handed person’ ~ TE *bađi’o* ‘left; left-handed person’ – cf. parallel derivatives TN *wadyisyey*^o ‘left; left-handed person’; FN *watyişyat*^o id. < PS *wâti(-); *hiriqä* ‘back of the head’ ~ TE *pire’e* id. – possibly from PS *pirə ‘height’; compare TN *pyir’o* *bya* ‘hump (of animal); withers’ ~ FE *pyil’omya* ‘withers (of animal)’ (JrWb 358b); *kendiqe* ‘owl’ ~ TE *kode’o* ~ FE *kəde’o* id. – cognate stem derived with a different suffix attested in Nenets: TN *xənyebcyo* ~ FN *kinyipsyu* (JrWb 157b); no other cognates but plausibly from PS *kəntä-; *lan̄kuebtiqe* ‘snow bunting’ ← *lan̄kue* ‘gill cover; craw (of bird)’ (NgSl) ~ TE *leguo* ‘gills’; *ñemiqe* ‘female reindeer’ – formally a derivative of Ng *ñemi* ‘mother’ < PS *ämä, but lexicalized in meaning. There are also examples without known cognates: *honiqe* ‘underwear’; *jehiqe* ‘old (of reindeer)’; *kaŋgüqe*²¹ ‘lesser white-front-

21. Anikin & Helimski (2007: 144) suggest a loan etymology from Tungusic, but

ed goose'; *šerjibtidiqä* 'late February, early March'; *šerbiqe* 'large beautiful sleigh reindeer'.

As can be seen from the examples, many Nganasan lexicalized augmentatives are entirely without cognates, and in the cases where there are cognates, which also happen to be lexicalized augmentatives, they are most often found in Tundra Enets – whereas the lexicalized augmentatives of the Nenets languages seem to be stems of separate origin. This is likely the result of contacts between Nganasan and Enets, causing parallel areal developments in the formation of their lexicon.

A number of the examples presented above indeed look like denominal derivations in the augmentative that have simply become lexicalized. However, there are also cases where it would be possible to suggest a deverbal origin for a noun that synchronically looks like a lexicalized augmentative. This is especially the case with nouns where an underived nominal stem is not attested at all, but instead a semantically close verbal stem is attested in the same language or can be reconstructed for Proto-Samoyed. Conspicuous examples from Nganasan include e.g. *kentiqe* 'frost', cf. *kenti-* : *kendiqe* (I) 'freeze [AOR.PRF.3SG]' (SNG) < PS *kəntä- id.; *holiqa* 'top of the head; roof of the mouth; uvula' (NgSI) < PS *pälä- 'swallow'; *hiŋgaqa* 'pillow', cf. the verb *hiŋgabu-* : *hiŋgabtaqa* 'make a bed [AOR.PRF.3SG]' (Ng20); *keriqa* 'a pole for steering reindeer' (SNG), cf. *keri-* : *keriqa* 'steer reindeer' (Ng20); *mieduqa* 'artifact, product' (SNG), cf. *mej-* : *miiqa* : CNG *mieq* 'make' (Ng20); and *jeceqa* 'a pole for pulling up tent covers' (Ng20), cf. *jeci-* : *jeciqa* 'pull up the tent cover' (SNG). The most striking example is perhaps found in the school dictionary (SNG): *honuqa* 'plait', which is phonologically identical to the 3rd person perfective aorist of the verb *hon-* 'plait': *honuqa*. I argue that these forms represent cases of lexicalized deverbal derivatives.

A couple of lexemes from Nenets and Enets that contain the cognate suffix, and likewise look like lexicalized deverbal forms, can also be cited: TN *nəqjä°* 'a hide for processing', cf. *nəq-* 'process an animal hide' (T65); TE *nodu'e* 'the one which is heard', cf. *nodo-* 'hear' (EnSI); FE *tidoʔ* 'washing (process)', cf. *tidoʔ* 'wash (verb) [AOR]' (LES). These would still warrant more research to uncover their full history and possible further cognates. There are too few examples of the Tundra Nenets deverbal augmentative

since the proposed cognates (at least the phonologically plausible ones) are all from Southern Tungusic, it is better to consider it a chance resemblance motivated by onomatopoeia.

to determine whether it could convey some kind of immediacy, i.e. perfectiveness, associated with the action. The evidence is inconclusive, as can be seen from the two examples (taken from Salminen 2013) below, where (3) would seem to allow for such an interpretation but (4) would not.

Tundra Nenets

- (3) *Нумда хоба ханзеркава” малңо”яңа, ңамгэхэрт ни ңадю”.*

num-ta *xoba xənsyer-k^owa-q* *mal^oηo-qjja^o-ηa,*
sky-GEN.3SG.PX.SG skin how-AFF-LAT get.covered-AUG-AOR.3SG

ηəmtke-xərt^o *nyí* *ηədyu-q*
what-CONC NEG.AUX.3SG show-CNG

‘The sky got covered with clouds, nothing can be seen.’
(TN Corpus, p. 506 [223 35])

- (4) *Некоця”я” еи” маңгат хурина тарина худыкаръяңа”.*

nye-kosya-qjja^o-q *yeuyi-q* *tañk^o-kət^o*
woman-DIM.PEJ-AUG-PL tent.cover-GEN.PL rope-ABL.PL

xuryina *təryina* *xúdikər^o-qjja^o-ηa-q*
everywhere everywhere flail-AUG-AOR-3PL

‘The women are keeping busy with the tent covers’ ropes here and there.’ (TN Corpus, p. 534 [234 49])

An interesting case of this is the mythologically significant term Ng *śigiqe* ‘monster; a type of evil spirit (in folklore)’ (Ng20) ~ TE *sixi^o* id. (EnSl), cf. the Tundra Nenets *syix^ortya* ‘(mythological) entity living underground; (mythological) people; Finnic-speaking people (чуди)’ ~ FN *syix^oltya* id. (JrWb 445b ‘(myth.) glücklicher, unter der Erde wohnender Mensch, an der Wohnplätzen solcher, in sandigen Uferwänden hat man Gegenstände aus Silber, Kupfer und Stein, Tonscherben und Münzen gefunden; mit dem russischen Namen werden sie Tschuden (чуди) genannt’). The Nenets lexemes are at least formally present participles of the verb TN *syixər-* ‘acquire an earth-like complexion’ (T65) (also apparently ‘hide oneself’ (Laptander 2020: 187) ~ FN *syixil-* ‘acquire a strange appearance, acquire a dark complexion (of the face of a shaman or a person who has long been wandering and sleeping under the open sky)’ (JrWb 445b ‘ein schwarzes, fremdartiges, altes Aussehen annehmen (das Gesicht des Zauberers oder jemandes, der lange auf der Wanderung sein und unter freiem Himmel schlafen muss)’). This word family is of especial interest from an ethno-historical point of view, because it has been connected to the pre-Samoyed

populations of northern Siberia and the Arctic coast. In addition to referring to probable historical groups of people, the word has become heavily mythologized (Laptander 2020: 187–189). It has no known cognates outside Nganasan, Enets, and Nenets, and no further etymology for it exists. The current account does not offer much of an etymology, either, but what it does suggest is that the nouns belonging to this word family are of deverbal origin, a fact that may later prove to be etymologically or ethnohistorically significant.

Drawing together the facts, namely the parallel irregularities in suffix vowels displayed by both the perfective aorist as well as the augmentative, the latter having likewise irregular cognates in Nenets and Enets, and the appearance of otherwise etymologically inexplicable nouns formally in the augmentative, with close cognates in verbal stems, it can be proposed that the Nganasan indicative perfective aorist *-qe/-qa* has developed from a Proto-Samoyed deverbal derivational suffix. I claim that there was a Proto-Samoyed suffix used to form verbal nouns, which, through the process of refinitization described in Section 2, came to be used with predicates in Nganasan, and was subsequently integrated into the finite paradigm, eventually becoming obligatory in the indicative aorist with stems of the perfective aspectual class. The same suffix has also become productive in denominal use, giving rise to the productive augmentative derivation, fossilized examples of the previous deverbal use undoubtedly existing in parallel.

Judging by the fact that there is a tendency for the augmentative forms to become lexicalized in all of the languages surveyed, the Tundra Nenets productive deverbal augmentative could also be of secondary origin. Thus, it is not necessary to assume that the Nganasan perfective aorist originated directly in the augmentative, but that the common history of the two forms lies somewhere, likely very far back, in the past. In cases where there is both a synchronically attested (perfective) verb stem as well as a cognate fossilized augmentative in Nganasan, it is notable that the 3rd person indicative aorist of the verb is very similar to the augmentative noun, though only rarely a complete homophone (e.g. in the case of *honuqe* ‘s/he plaited it [AOR.PRF.3SG]; plait (noun)’). This further indicates that the process of lexicalization that created the nouns is quite old.

The nouns most clearly indicative of the kind of Proto-Samoyed derivational relationship proposed here tend to reflect either resultative or instrumental semantics of the noun in relation to the verb stem, e.g. a plait as the result of the action of plaiting, or a staff for steering reindeer as the

instrument of the action of steering. In either case, the immediacy of the action was likely implicated, at least relative to the present participle, but it may have been partially conditioned by the lexical aspect of the verb stem as well, cf., for example, the aforementioned Ng *šigiqe* ~ TE *sixi'o*, which seem to reflect an underived (presumably aspectually perfective) stem, whereas TN *syix^ortya* ~ FN *syix^oltya*, which formally are present participles in PS *-ntÅ, look like they are derived from a durative form of the verb in PS *-jr. Further research into the role of aspect in Samoyed verbal semantics could clarify the issue. As for the process of reinitiation itself, considering that both underived perfective and imperfective class stems are attested in Nganasan, the original selection of either perfective or imperfective deverbal forms for lexicalization is likely to have been dependent upon Aktionsart, eventually becoming fossilized and giving rise to a system with lexicalized aspect marking.

Although the demarcation between the productive and unproductive uses of the augmentative suffix is not clear in all cases, it is important for the historical analysis of these forms and their connection to the Nganasan indicative aorist. It can be argued that the more lexicalized instances of the suffix on nouns that look like deverbal derivations reflect the original deverbal use of the form as a deverbal resultative or instrumental marker, whereas the more productive augmentative use is a later development. An intermediary type is seen in the lexicalized augmentative forms denoting mostly animals, body parts, and geographical entities, which seem to be neither deverbal nor productive (since there is no underived form). This suggests that even at the Proto-Samoyed level, the suffix was likely semantically complex.

Finally, one may attempt to reconstruct a Proto-Samoyed form for the suffix. This is a difficult task, since not only does one have to take into account the vowel alternations, essentially requiring the reconstruction of several forms in PS already, but also since the history of the intervocalic glottal stop in Nenets, Enets, and Nganasan is particularly difficult to reconstruct. Based on the stem vowels in Nganasan, we might postulate a *j-initial suffix of the type *-jtt³V, where the reconstruction of a geminate stop of unspecified quality is the best explanation, even if a slightly ad hoc one, for the synchronically encountered glottal stop. Nevertheless, considering the absence of alternations with the suffix *-qe*, even this interpretation remains uncertain. What is clear is that phonological variation was present at the Proto-Samoyed level, since the irregularities in vocalism do

not allow for the reconstruction of a uniform suffix in PS. A Selkup cognate could clarify the reconstruction of the consonantism, but so far no convincing cognates have come up.

5. Conclusion

The Nganasan tense system has sometimes been thought of as especially innovative (e.g. Janhunen 1991), and it does possess some qualities that are unique within the Samoyed branch, namely the obligatory overt expression of lexical aspect in the indicative aorist. However, it can also be said that the development of the system has followed a path very typical for the languages of northern Eurasia: the incorporation of deverbal suffixes into the finite paradigm of the verb through the refinitization of nominalized verb forms. As I argue in this paper, both of the Nganasan imperfective aorist markers *-NTU* and *-U* have indeed developed from the imperfective participle markers PS **-ntÅ* and **-jrÅ*, respectively, as originally suggested by Mikola (1996). The perfective aorist markers *-qe/-qa* likewise, as per my novel suggestion, originate in a Proto-Samoyed deverbal marker carrying resultative or instrumental meanings which appear in lexicalized derivatives. This marker is further etymologically connected to the synchronically productive augmentative suffixes of Nganasan, Nenets, and Enets. It is clear that the material background of the Nganasan suffixes is shared with the other Samoyed languages, even if their morphosyntactic functions are specific to Nganasan, as is the case for several other temporal and modal markers as well.

Since the developments in the Nganasan tense system clearly took place after the linguistic dispersal of Proto-Samoyed, they do not bear great taxonomic significance with regard to the position of Nganasan among the Samoyed languages. To determine the taxonomic weight of the development of TAM expression in Samoyed, more research into the history of each individual Samoyed language would be needed. Until now, much emphasis has been given to the Tundra Nenets system, which is among the most well documented.

Scholars of historical linguistics have long since established that the passage of time tends to erase variation that once existed. The Proto-Samoyed tense system looks like an example of the reverse phenomenon, where language change, brought on by the use of language in time, has obscured a system that may once have been quite regular. The marking of

tense was probably changing rapidly during the period leading up to the breakup of Proto-Samoyed, which explains why the tense systems found in Samoyed languages today contain a great deal of common substance that is, however, arranged in diverse ways, giving an impression of structural disunity going far back in time. This points to an earlier state where free variation was possible, or the existing variation was conditioned quite transparently, by rules that were subsequently lost due to phonological or morphosyntactic changes in the system. It is unlikely that the exact nature of that previous state can be retrieved based on the available data, even if advances can be made with further research into e.g. the role of aspect in Proto-Samoyed.

Language abbreviations

FE	Forest Enets	PS	Proto-Samoyed
Fi	Finnish	PU	Proto-Uralic
FN	Forest Nenets	Ru	Russian
Km	Kamas	Slk	Selkup
Mt	Mator	TE	Tundra Enets
Ng	Nganasan	TN	Tundra Nenets

Glossing abbreviations

1	first person	LAT	lative
3	third person	LOC	locative
ABE	abessive	NEG	negative
ABL	ablative	NOM	nominative
AOR	aorist	OBL	oblique
AUG	augmentative	PART	partitive
CAR	caritive	PEJ	pejorative
CAUS	causative	PL	plural
CNG	connegative	PLO	plural object
CONC	concessive	PRF	perfect
DIM	diminutive	PRIV	privative
DRV	derivative suffix	PRS	present
DUR	durative	PST	past
FAC	factive	PTCP	participle
FREQ	frequentative	PX	possessive
INCH	inchoative	SG	singular
INT	interrogative	SGO	singular object
IPF	imperfect	TR	transformative
ITER	iterative	VN	verbal noun

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Vocabulary related to iron manufacture and iron-working in Saami languages: An etymological study

In this article, etymologies of the lexical set related to iron manufacture and iron-working in the Saami languages are examined. The aim is to examine, from a linguistic perspective, when Saami speakers started to manufacture and work iron and from which direction they learned these activities.

The data consists of 32 words relating to iron. Only the most central terms of the lexical set have been included, namely terms for ‘iron’; ‘steel’; ‘ore’; ‘iron slag’; ‘forge (v.)’; ‘forge (n., smithy)’; ‘furnace’; ‘smith’; ‘coal; ember’; ‘bellows’; ‘pliers’; ‘hammer’; ‘anvil’. The data was collected from dictionaries of the Saami languages.

According to the data analysis, it seems that Saami speakers received their iron-related vocabulary mainly from two directions: Proto-Scandinavian and Finnic/Finnish. The southwestern Saami languages which are today spoken in central Scandinavia and Lule Saami received the vocabulary mainly from Proto-Scandinavian. The more northern and northeastern languages have borrowed words from Finnic/Finnish.

1. Introduction
 2. Background, the concept of lexical set, and data
 - 2.1. An overview of Saami etymological research
 - 2.2. Saami prehistory and iron
 - 2.3. Lexical sets
 - 2.4. The data of the research
 3. The etymologies for words related to iron manufacture and iron-working
 - 3.1. Well-established etymologies
 - 3.2. Revision of old etymologies and some new etymologies
 - 3.2.1. ‘forge (n.); furnace’
 - 3.2.2. ‘smith’
 - 3.2.3. ‘forge (v.); work iron’
 - 3.2.4. ‘smithy’
 - 3.2.5. ‘anvil’
 - 3.2.6. ‘ember; glowing coal’
 - 3.2.7. ‘steel’
 - 3.2.8. ‘ore’
 - 3.2.9. ‘pliers’
 - 3.2.10. ‘bellows’
 - 3.2.11. ‘iron slag’
 - 3.3. Summary
 4. The age and origin of iron manufacture and iron-working among Saami speakers
 - 4.1. The ages and origins of iron-related words
 - 4.2. Tentative correlations with archaeology
- Abbreviations
References
Sources of the data
Literature
Appendix

I. Introduction¹

The etymology of the Saami words meaning ‘iron’ – for example, *ruevtie* in South Saami and *ruovdi* in North Saami – is well-established: it is a late Proto-Germanic or early North-West Germanic loanword in the Saami languages (e.g. Korhonen 1981: 35; Sammallahti 1998: 128; Aikio 2006: 12, 39). Also other words related to iron manufacture and iron-working have been etymologized (see below), but no such study has been published which would bring together the vocabulary related to iron manufacture and iron-working. What is more, many words related to iron vocabulary remain understudied.

In this language-historical study, my aim is to present the etymologies for the vocabulary of one specific lexical set (see Section 2.3): iron manufacture and iron-working. My research question is as follows: What are the ages and origins of words referring to iron manufacture and iron-working in the Saami languages?

Some of the etymologies are well-known, some debated only sporadically and now commented on further. Some etymologies are new proposals from my part. By presenting the origins and age of the words, I try to clarify from a linguistic perspective when Saami speakers started to manufacture and work iron and from which direction they learned these skills and how these activities developed later.

This article is part of the ongoing multidisciplinary project “The Iron Saami: On the connection between iron production, asbestos pottery, and Saami language 900 calBCE–600 calCE Finland” (Pesonen et al. 2022). Within this project, the aim is to study whether it is possible to connect the spread of the Saami language(s) in Fennoscandia, especially in Finland, with the early iron production sites and asbestos pottery of the Luukonsaari and Sirnihta types, which were produced in the area of modern inland Finland and Karelia during that time (Map 1). The distribution area of these asbestos pottery types covers a big part – but not necessarily the

1. I am very grateful to all who have helped me with this research and discussed the words in my data with me. My thanks go to Hanna Danbolt Ajer, Jaakko Häkkinen, Petri Kallio, Mikko Moilanen, Siri Ellen Nystø Råhka, Maida Persson Steinfjell, Petro Pesonen, Sierge Rasmus, and Johan Schalin. I especially want to thank Markus Juutinen and the two anonymous reviewers who had excellent observations and suggestions on earlier versions of this paper.

whole – of the Proto-Saami speaking area, and the dating of the ceramic types correlates quite well with the period in which Proto-Saami was spoken, and in the later phase, also the spread and disintegration of the language. (See further Section 2.2.)

In addition to the article at hand, the project will include, for instance, archaeological research on dating several of the sites, and toponymic research that will map out possible toponyms of Proto-Saami origin in the surroundings of the archaeological sites. An article is also planned in which the results of archaeology, toponymy, and language history will be combined and it will be examined whether there are possible correlations between the archaeological data and the linguistic data.

The present article is not multidisciplinary; rather, it focuses only on the etymologies of the words in the data and what can be determined about the origin and age of the words. Often – but not always – the origins of the words are also the origins of the concepts to which the words refer. However, some tentative correlations with archaeological material are made with earlier research results. The new archaeological results about asbestos pottery and iron-production sites that we will obtain within the “Iron Saami” project are still in progress and will be published later (Pesonen et al. forthcoming).

The structure of the article is as follows: in Section 2, I will give a brief overview of the etymological research on the Saami languages (2.1) and what is known of Saami prehistoric iron manufacture and iron-working (2.2). I will also define what I mean by calling the words in my data the lexical set of iron manufacture and iron-working (2.3). Then, I will describe the data and its collection (2.4). I will then move on to present the etymologies for vocabulary related to iron in Section 3. First, I will handle the already established and widely accepted etymologies (3.1). Then, I will discuss etymologies which I now revisit, and I will also suggest some entirely new etymologies (3.2) and give a summary of the data analysis (3.3). In Section 4, I will discuss the age of iron manufacture and iron-working among the Saami speakers based on the origin and age of the words of the data. As my analysis will show, the vocabulary related to iron has origins in many directions. Not all the words have been present in Saami since prehistoric times; some are much younger. However, two main directions can be seen in the data: southwestern Saami and Lule Saami have borrowed vocabulary from Proto-Scandinavian, while northern and eastern languages have borrowed vocabulary from Finnic/Finnish.

2. Background, the concept of lexical set, and data

2.1. An overview of Saami etymological research

Saami etymological research has long-reaching roots as plausible etymologies were suggested already in the 1800s (e.g. Wiklund 1894). Nevertheless, research became more accurate during the twentieth century, during which time, for example, Sköld (e.g. 1961; 1980), Koivulehto (e.g. 1976; 1988), Korhonen (1981), Bergsland (e.g. 1992; 1995), and Sammallahti (e.g. 1998, 1999) specialized in Saami historical linguistics.

In the last twenty years, Saami etymology has been researched from many perspectives: contacts between Saami and other languages in the Baltic Sea area have been studied, for instance, contacts with Germanic (e.g. Aikio 2006; 2012; 2020; Piha & J. Häkkinen 2020; Juutinen & Valtonen 2023), Finnish and Karelian (Aikio 2009) and the already vanished Paleo-European languages (Aikio 2004; 2012; Rahkonen 2013). Also, the historical toponymy of Saami origin in Finland and northern Russia (Saarikivi 2004; Aikio 2007b; 2007c) has been a research interest in the 2000s.

During the last fifteen years, detailed attention has been paid to the fact that Saami languages may have separate language histories from each other. Aikio notes some parallel loanwords in his dissertation (e.g. SaaS *raavre* versus SaaN *rávdu* ‘arctic char’, Aikio 2009: 272–273) and he later observes, for example, that in Proto-Scandinavian loanwords, initial Proto-Scandinavian consonant combinations of the shape stop+liquid (e.g. *kl-*, *pr-*) have been substituted differently in the southernmost Saami languages compared to more northern languages (Aikio 2012: 76–78), e.g. South Saami *praadtie* versus North Saami *ráddi* ‘ember’ in this article (etymology 25).

Lately, also the study of etymology by semantic categories has been done. This means that the researcher has chosen one semantic (or lexical) category and collected vocabulary belonging to the category in question. For example, Piha (2020a) has collected vocabulary that refers to the indigenous South Saami religion and has studied the origins of it, while Juutinen & Valtonen (2023) have studied the etymologies of words referring to domestic animal husbandry. Such perspectives regarding words are significant as they might shed light on the genesis and development of the studied phenomena.

In this article, the perspective is a common Saami one, meaning that I have collected my data from all the Saami languages that are alive today. I consider words not only from the perspective of one Saami language but look at each Saami language separately. At the same time, this article continues the trend of etymological studies by semantic categories as I have chosen to consider the words that belong to the lexical set of iron manufacture and iron-working.

2.2. Saami prehistory and iron

The Saami languages descend from a common Proto-Saami language, one of the six intermediate protolanguages of Proto-Uralic (e.g. Saarikivi 2022: 31). It is difficult to give an exact dating for when Proto-Saami or its preform, Pre-Saami, became a separate language. Carpelan & Parpola (2001: 91–92) have suggested that it was sometime in the Bronze Age (1700–500 BCE) as there is an archaeologically visible Nordic Bronze Age culture in coastal Finland which is the best option for the spread of Proto-Germanic loanwords into Saami independently of Finnic. Aikio (2012: 103) has tentatively accepted this dating and archaeological connection, although earlier he had noted that the *terminus ante quem* for Proto-Germanic loanwords in Saami would be 100 CE² and most likely the borrowing happened in the early Iron Age (Aikio 2006: 39). The early Iron Age is suitable for the early Proto-Germanic loanwords because the word for iron, SaaN *ruovdi* and SaaS *ruevtie*, is a Proto-Germanic loanword (e.g. Korhonen 1981: 35; Sammallahti 1998: 128; Aikio 2006: 12, 39). The word would not have come into the language much earlier than the shift from the Bronze Age to the Iron Age. Thus, Proto-Germanic loanwords in Saami are not necessarily connected to the Germanic spoken in the Bronze Age. However, the Saami word ‘iron’ has taken part in the sound change Pre-Saami *a > Proto-Saami *uo (Aikio 2012: 93), which indicates that it is a relatively old loan. Even so, SaaN *ruovdi*, SaaS *ruevtie*, and their cognates were more likely borrowed closer to the North-West Germanic phase, i.e. closer to the beginning of the Common Era, than in the Bronze Age.

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2. I interpret that Aikio includes the North-West Germanic period within the Proto-Germanic period (see Aikio 2006: 39). North-West Germanic is a language stratum that is reconstructed between Proto-Germanic and Proto-Scandinavian (e.g. Haugen 1982: 8).

According to researchers, Pre-Saami developed into Early Proto-Saami in an area that covers the southeastern parts of inland Finland and the area of Lake Ladoga and perhaps Lake Onega in Karelia (e.g. Aikio 2006: 40–42, 45; Kallio 2009: 38). Aikio (2012: 103) suggests that western Finland all the way to Tavastia might have been a part of the area in which Pre-Saami was spoken (Aikio uses the term “Pre-Proto-Saami”). However, he is skeptical about a wide speaking area that would have covered an area from Tavastia to Lake Ladoga. Yet, Proto-Saami speakers reached western Finland during the early Iron Age, something which is proven by Finnish toponyms of Proto-Saami origin in the area and loanwords from Proto-Saami into southern Finnish dialects (e.g. Aikio 2007b; 2009). This has been deemed to be a convenient area from the perspective of language contact (see Aikio 2012: 88–92; 103). Thus, it might be reasonable to assume a speaking area, the core of which was somewhere in Lakeland Finland rather than in Karelia.

As for dating the Saami *Urheimat*, this has been done with the help of Germanic and Scandinavian language contacts. The earliest runic inscriptions have been defined to reflect the phonology of Proto-Scandinavian. These runic carvings have been dated by archaeological methods to approximately 1–500 CE. (See e.g. H. F. Nielsen 2000: 32, 288; 2002: 615; Amundsen 2023; Bjørnstad 2023; see also Aikio 2004: 26; J. Häkkinen 2010: 55). The earliest dating for runic inscriptions has just been backdated to 1–250 CE after the discovery of the Svingerudsteinen near Tyrifjorden, Norway (Amundsen 2023; Bjørnstad 2023). However, the datings of older runic sources involve many uncertainties, such as the fact that the oldest inscriptions are found in Southern Scandinavia (H. F. Nielsen 2000: 32) and they do not show areal variation. Therefore, the datings should be applied with care to the datings of early Saami language forms. Nonetheless, an approximate dating to the first two centuries of the Common Era can be made.

The loanwords that have been borrowed from Proto-Scandinavian into Saami show that at the time of the borrowing, Saami had already gone through the so-called “great Saami vowel shift”, and thus Proto-Scandinavian words have not taken part in this shift (Aikio 2012: 71; see Aikio 2012: 70–72 about this vowel shift). Loanwords from the earlier Germanic language phases, Proto-Germanic and partly North-West Germanic,³ and

3. However, North-West Germanic words seem to have been borrowed into

older strata must have already been present in Saami before the vowel shift as they have taken part in the shift (Aikio 2006: 10; 2012: 71). The Saami language form prior to the great Saami vowel shift is termed Pre-(Proto-) Saami, and the language form after the shift is called Proto-Saami (Aikio 2012: 70). This shift, then, takes place around 200 CE, and therefore Saami was spoken in the Urheimat before 200 CE and centuries after that, even when it had started to spread to a wide area in Fennoscandia.

The language of the last phase of Proto-Saami, Late Proto-Saami, began to disintegrate into different proto-dialects sometime after the shift to the Common Era. The modern Saami languages developed from these proto-dialects (as well as some other Saami languages that have become extinct). There were three proto-dialects: the *southwest dialect* (> South, Ume, and perhaps Pite Saami), the *northwest dialect* (> Lule and North Saami, possibly also Pite Saami), and the *east dialect* (> Inari, Skolt, Kil-din, and Ter Saami as well as the extinct Kemi and Akkala Saami) (Aikio 2012: 77).

The expansion of Late Proto-Saami might have happened in western Finland, from where the speakers spread to western, northern, and even eastern parts of Fennoscandia (Aikio 2012: 103). In western Finland, the first dialect boundary was also formed when Late Proto-Saami spread towards central Scandinavia over the Gulf of Bothnia around 200 CE. There, the language developed via a southwestern proto-dialect into Southern Proto-Saami. The remaining Late Proto-Saami disintegrated into north-western and eastern Proto-Saami slightly later. (See Piha & J. Häkkinen 2020: 117–118.)

In the “Iron Saami” project, we suggest that the Proto-Saami language – or rather, speakers of Proto-Saami – relate to the Luukonsaari

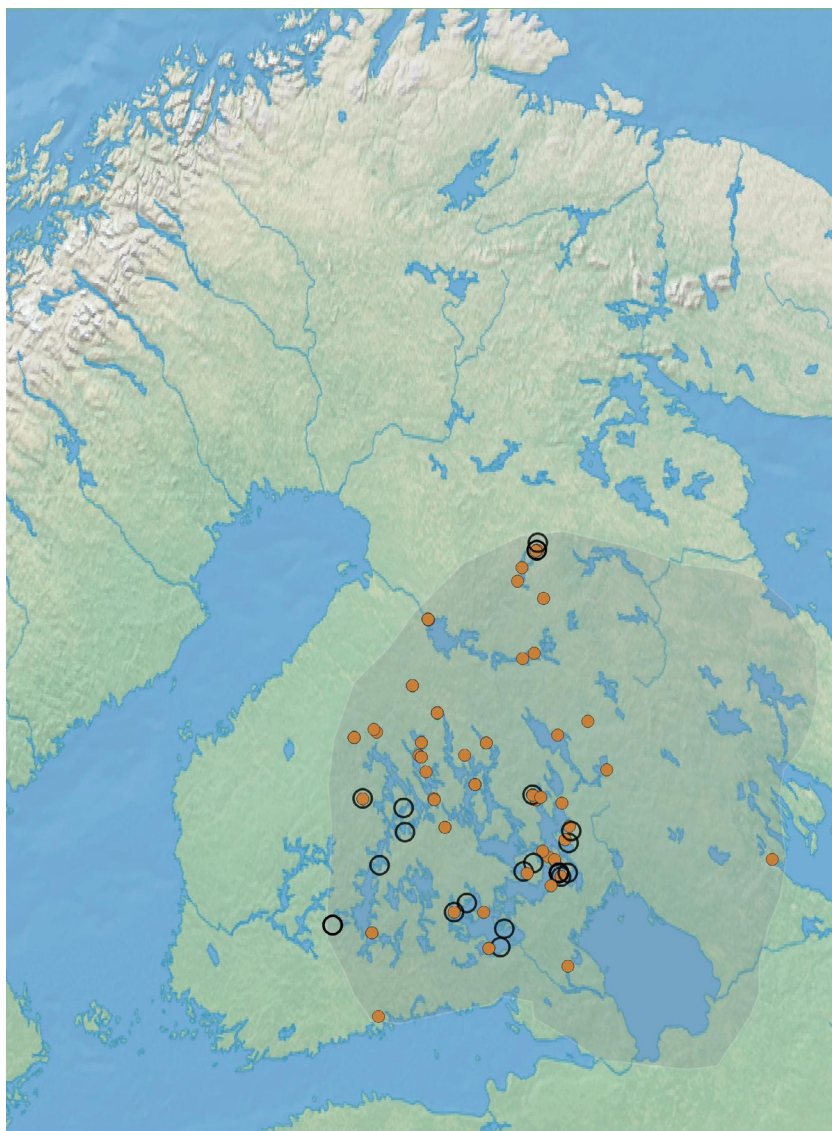
Saami while the Saami vowel shift was ongoing, because some of the loanwords show that they have gone through the vowel shift and some have not, and thus the latter loanwords were borrowed after the shift was completed. This is visible in North-West Germanic *h- that has sometimes been substituted with zero in Saami, but the loanword has not taken part in the vowel shift. In some North-West Germanic words *h- was substituted with *h- but the words did not take part in the vowel shift. (See e.g. Kallio 2009: 37). At the time of the Proto-Scandinavian loans, the *h- was already regularly substituted with *h- in Saami. Some North-West Germanic loanwords have participated in the vowel shift as seen in the SaaN word *vuohčču* ‘narrow, wet bog’ ← NWG *wätjō- (Aikio 2006: 12).

and Sirnihta asbestos pottery sites and indications of iron manufacture. The Luukonsaari and Sirnihta sites are located in southeastern and eastern inland Finland, and sites are known also in the area of Lakes Ladoga and Onega (Map 1). The origin of Luukonsaari ceramics is in the Late Bronze Age (beginning around 1000 BCE and lasting until 300 CE) and Sirnihta ceramics in the Early Iron Age (starting around 400 BCE and lasting until 300 CE) (Lavento 2015: 197). Both types show some connection with iron manufacture from ca. 400 BCE onwards (Pesonen & Ahola 2022: 198, 200, 203; on early iron production in Finland, see e.g. Kotivuori 2013; Lavento 2013). When these datings for early iron manufacture are correlated with what is known about the dating of Proto-Saami, it seems strikingly simultaneous with the presence of Pre- and Proto-Saami in the area. However, no multidisciplinary proof of the connection between early iron manufacture and the Saami languages has been presented thus far, and this article along with the other forthcoming publications of the project aims to seek the missing proof. It is also of interest that after 300 CE, iron manufacture and the use of ceramics ceases in northern Finland (Hamari & Halinen 2000: 156). This is claimed to coincide with the timing of the arrival of the predecessors of the northern Saami languages in the northernmost Fennoscandia (e.g. Heikkilä 2011: 76).

In this study, my hypothesis is that some – possibly many – of the words in the data are contemporaneous with the asbestos pottery types of Luukonsaari and Sirnihta and the early iron production sites. That is why the pottery types are of interest in this article. It is my aim to clarify the dating of the words in the data, and then in future studies we will be able to define possible correlations with the archaeological data and the iron vocabulary. However, I do not expect every single word of the data to correlate with Luukonsaari and Sirnihta ceramics; some words might be considerably younger, and they might tell about the developments within the field of Saami iron manufacture and iron-working in the later centuries.

2.3. Lexical sets

When categorizing words by their meanings, they are often categorized in so-called lexical sets. A lexical set is formed by words that belong semantically together (Kay & Allan 2015: 35). For example, in this paper, I study the words for iron manufacture and iron-working, such as ‘iron’, ‘smith’, and ‘forge’. This could be understood as a lexical set. Lexical sets



Map 1: The distribution of Luukonsaari pottery (filled symbols) and Sirnihta pottery (open symbols) in Finland according to the AADA database (Pesonen et al. 2024) and the main distribution area of Luukonsaari pottery (gray shading) in Finland and Russia (according to Pesonen et al. forthcoming; Kosmenko 2009). Map: Petro Pesonen, background map: naturalearthdata.com.

are rather limited in size, but together, loosely related lexical sets form larger units called *lexical* or *semantic fields* (ibid. 35; see also Murphy & Koskela 2010: 148). The lexical set of iron manufacture and iron-working could, for instance, be a part of the wider lexical field for terms for metal-working. Deeply connected with lexical sets and fields are so-called conceptual fields. A conceptual field refers to the domain of activity in the language-external world (ibid. 35). Thus, the conceptual field for the lexical set of iron manufacture and iron-working is the activities, objects, and other things that relate to iron manufacture in the external world.

Categorization in general – be it objects and activities or words that refer to these – is a universal phenomenon, but how categorization is done and what is included in a category is culture- and time-bound as well as affected by the purpose for which the categorization is done (see e.g. K. Häkkinen 1999: 163). In this study, I have decided to categorize words that refer to iron manufacture and iron-working into one lexical set. This lexical set is made from an etic perspective on the part of the researcher (see Piha 2018: 124–125). The starting point of this lexical set is in the present: I have collected the words within the lexical set from rather modern dictionaries that document the Saami languages (the oldest dictionary used in this research is Nielsen 1932–1938). However, the nature of this research is etymological. This means that we go back into the (pre)historical depths while searching for the origin and age of the words within the lexical set.

It has to be taken into account that we cannot know for sure how people in past times categorized words and their language-external referents – does their categorization overlap with ours? In this research about the lexical set of iron manufacture and iron-working, I use my knowledge and educated guesses regarding prehistorical and historical eras and iron manufacture and iron-working: as long as iron has been worked by human beings there must have been tools, circumstances, and activities that relate to iron manufacture and iron-working and therefore, they have had conceptual fields and lexical sets for objects, circumstances, and activities related to iron manufacture and iron-working. In this study, I presume that terms for such central materials, tools, circumstances, and activities for iron-related work should have been part of the lexical set of iron manufacture and iron-working already in prehistoric and historical times. This in mind, I now turn to explain the data of the research.

2.4. The data of the research

The data of this research consists of Saami words that refer to iron manufacture or iron-working. The iron-related vocabulary is vast, but to keep this paper as concise and readable as possible, I have decided to limit my data to the following concepts and the words referring to them in the Saami languages: ‘iron’; ‘steel’; ‘ore’; ‘iron slag’; ‘forge (v.)’; ‘forge (n.), smithy’; ‘furnace’; ‘smith’; ‘coal; ember’; ‘bellows’; ‘pliers’; ‘hammer’; and ‘anvil’. I have assessed these concepts as the most central in the lexical set of iron manufacture and iron-working, and they have most likely been part of iron-related activities already in past eras as discussed in Section 2.3. In addition to these, there are many other important concepts that are iron-related, examples of which are ‘concentrate’, ‘weld’, and ‘punch’,⁴ but I will address these elsewhere in the future.

I have collected the data from Saami dictionaries which are listed in the References under the subheading “Sources of the data”. I have used the modern Saami languages as the starting point and looked for the iron-related words in several digital and modern dictionaries, and then I looked for the words in scientific dictionaries. I have also used the etymological database of the Saami languages *Álgu* to search through the etymological works concerning the words in the data.

The data is analyzed by the methods of etymology: historical-comparative linguistics and contact linguistics. It is then organized by the respective origins of the words. Finally, where the iron vocabulary of Saami languages originates shall be studied.

3. The etymologies for words related to iron manufacture and iron-working

In this section, I will present the etymologies of the words in my data. First, I will present the well-established etymologies that do not, according to my examination, need revision (3.1). After these words, I will discuss words that need revision or lack an etymology altogether (3.2). At the end of the section, I will give a summary of the etymological findings (3.3).

4. I am very grateful to Mikko Moilanen PhD who is a specialist in Iron Age iron-working and who helped me to map the concepts related to iron manufacture and iron-working.

The works in which the etymologies of the words are discussed are given after the Saami words. If I have seen the need to revise an etymology, the new proposal for the etymology is given after the analysis of the etymology, at the end of the entry.

I have used the modern orthography of the Saami languages whenever possible. There is not always an orthographically modernized word form for all Saami languages; in particular this concerns Ume, Pite, Kildin, and Ter Saami. In such cases, I use the transcription or orthography that has been used in Lehtiranta (2001) or other sources of the data. I give the source in parentheses.

3.1. Well-established etymologies

Many words that are connected to iron manufacture or iron-working have been etymologized. These include the following words (1–15):

- (1) SaaS *ruevtie* ‘iron; iron tool; iron trap’; SaaU *ruövddie*; SaaP *ruov’tie*; SaaL *ruovdde* ‘iron; metal; iron slag; iron trap’; SaaN *ruovdi* ‘iron; implement made of iron; iron trap’; SaaI *ryevdi* ‘iron; trap’; SaaSk *ru’vdd* ‘iron’; SaaK *rúŷu^{dt}* ‘iron; iron trap; scissors’ (T. I. Itkonen 1958: 444; Sammallahti & Hvorostuhina 1991 s.v. *ruovdi*); SaaT *riŷu^{te}* ‘iron’ (T. I. Itkonen 1958: 444) < PS *ruovtē < Pre-PS *rōvtē < *ravta ← *PG/NWG *raudan- > ON *rauði* ‘bog iron ore’ (Korhonen 1981: 35; Sammallahti 1998: 128; Lehtiranta 2001 s.v. *rōvtē; Aikio 2006: 12, 39; 2012: 93).
- (2) SaaS *aassjoe* ‘furnace; hearth in a smithy’; SaaL *ássjo* ‘furnace; hearth in a smithy’ < PS *āšō
← PSc *ašjōn- > Sw *ässja* ‘hearth in a smithy’ (Korhonen 1981: 163; Sammallahti 1998: 128; Aikio 2006: 20; Piha 2018: 139, 192).

A cognate is found also in North Saami, but there the word *áššu* does not have a meaning ‘furnace; hearth in a smithy’ but rather ‘glowing wood embers on a hearth’. Aikio (2012: 79) has, however, included the word as an iron-related word, because he regards the modern meaning as having developed from the meaning seen in the South Saami and Lule Saami word. Nevertheless, the North Saami language has another word for ‘furnace’ (*álvi*, see etymology 16 in this article).

Earlier, the Proto-Saami form was reconstructed with a short *š (Aikio 2006: 20; see also Piha 2018: 192), but as there is a long sibilant after a long vowel in all the Saami languages, the reconstructed form might be *āššō (cf. e.g. SaaS *bāassjoe*, SaaN *boaššu*, SaaSk *puāšš* ‘rear part in a Saami dwelling’ < PS *poaššu, Aikio 2009: 270).

- (3) SaaN *dearpat* ‘forge (v.); hammer (v.); beat (v.); knock; hit (v.); make (of iron or steel); go at a gentle jogtrot (of horses)’; SaaI *terppâđ* ‘forge (v.); hammer (v.); hit (v.)’
 ← Fi dialectal *tärppiä* ‘bang (v.); make notches in wood with an axe; jerk’ (Aikio 2007a: 40; SES s.v. *tärppiä*).

In addition, a cognate to North Saami and Inari Saami words is found in Skolt Saami and Kildin Saami, but the meaning ‘forge (v.)’ is not found in these two languages; in Skolt Saami the meaning is ‘cut (wood)’ and in Kildin Saami ‘cut; chop down’.

- (4) SaaI *áhju*
 ← Fi *ahjo* ‘forge (n.); furnace’ (E. Itkonen 1986: 35).
- (5) SaaN *dáhkut* ‘forge (v.); repeat the same word or sentence’; SaaSk *tääkkad* ‘forge (v.); hit (v.); nail (v.)’ SaaK *tāgke^δ* ‘forge (v.); hit (v.); nail (v.); crush (v.)’; SaaT *tāgka^d* (SaaK, SaaT T. I. Itkonen 1958: 569).
 ← Fi *takoa* ‘forge (v.)’ (SES s.v. *takoa*).
- (6) SaaSk *miōhh* ‘furnace’
 ← Russian *mexú* ‘bellows’ (Juutinen 2022, online appendix p. 22).

This word belongs to an older stratum of Russian loans, because in old loans the short vowel in Russian words has been substituted with a diphthong in Skolt Saami (Juutinen 2022: 94).

- (7) SaaS *baste* ‘pliers; clamp’; SaaU *bassta*; SaaP *pastastit* ‘take with pliers; pinch’; SaaL *bassta* ‘pliers; screw clamp; clamp (for handicrafts, hobby work, for holding electricity etc.)’; SaaN *basttat* ‘pliers; clamp’; SaaI *poostah* ‘pliers; cutting pliers’; SaaSk *pōōst* ‘pliers; cutting pliers’ < PS *peste < Finno-Permic *pišti or *pište (Sammallahti 1988: 553; 1998: 121).⁵

5. Today many researchers of the Uralic languages, myself included, doubt the

Pliers are not a tool used only to work with iron. However, in iron production pliers are a central tool, and therefore I have included the word in my data.

The Saami words are old words that are also found in the Finnic, Mordvinic, and Permic languages (SES s.v. *pihti*), but the origin of the words is not known. The old age of the word suggests that it was not acquired into the language in the context of iron production.

- (8) SaaN *vuossu* ‘bellows’; SaaI *vuássoo* ‘bellows’ < PS *vuosejō < Pre-PS *vōsejō < *asijo
 ← PG *hasja- (> Icelandic *hes* ‘skin pouch’) (Koivulehto 1999: 13–15; Aikio 2006: 10).

This word has traditionally been defined as a Proto-Germanic loan, but it could also be a borrowing from North-West Germanic, because some North-West Germanic loanwords have gone through the vowel shift Pre-Saami *a > late PS *uo. Also, NWG *h- is sometimes substituted by zero. Also implying a somewhat later origin than Proto-Germanic is the note by Koivulehto (1999: 13) that the Saami words were borrowed from “früh-germ. (Norden)”, i.e. from the Nordic branch of early Germanic.

The North Saami and Inari Saami words have cognates in all the Saami languages (Lehtiranta 2001 s.v. *vōsse), but in these other languages the meaning is not related to iron production; the most common meaning is ‘sack’, which probably is, according to the Icelandic words, the original meaning of the Proto-Saami word. The semantic change towards ‘bellows’ is easy to explain inasmuch as early bellows were leather sacks (Salo 1992: 113).

- (9) SaaN *bádji* ‘forge (n.)’; SaaI *páájá* ‘forge (n.)’
 ← Finnic or Finnish *paja* (Lagercrantz 1939: 617; E. Itkonen 1987: 314; SES s.v. *paja*).
- (10) SaaSk *rau'ddipõrtt* ‘forge (n.)’.

existence of a Finno-Permic branch of the language family or the binary taxonomical division of the language family in general (Aikio 2022: 4; Saarikivi 2022: 31–32). Therefore, it is perhaps safer to state that SaaN *basttat* and its cognates originate in a western dialect of Proto-Uralic, in the form *pišti or *pište.

This word is a compound with the components *rau'ddi* 'smith's' (see etymology 13) and *põrtt* 'cottage'. The word *põrtt* is a borrowing of Finnic *pirtti* 'id.'. The latter word is found in all the Saami languages with the exception of South Saami, and thus it was most likely borrowed into Proto-Saami. The literal meaning of the Skolt Saami compound would be 'smith's cottage'.

- (11) SaaS *sjijle* 'coal, glowing coal'; SaaU *sjijlla* 'coal, glowing coal'; SaaP *sjilla* 'coal, glowing coal' < *šile
 ← Pre-Finnic *šili (> Finnish *hiili* 'coal') (e.g. Sammallahti 1999: 79; Aikio 2006: 41).
- (12) SaaL *hilla* 'coal, glowing coal'; SaaN *hilla* 'coal, glowing coal'; SaaI *illâ* 'coal, glowing coal'; SaaSk *ill* 'coal'; SaaK *ᵛᵛᵛᵛ^(a)/ᵇᵛᵛᵛᵛ* 'coal' (Sammallahti & Hvorostuhina 1991 s.v. *hilla*); SaaT *ᵛᵛᵛᵛ^(a)* (T. I. Itkonen 1958: 44) 'coal' < PS *hille < Pre-Saami *hile.
 ← Finnic or Finnish *hiili* 'coal' (Lagercrantz 1939: 872; Korhonen 1981: 38, 92, 104, 134; SES s.v. *hiili*.)

The word is a loan from a Finnic language stratum in which the change *š > *h had already taken place. However, it cannot be a very recent loan as the easternmost Saami languages show zero as a substitution for Finnic *h. In newer loanwords, for example in Skolt Saami, Finnish *h* is substituted with *h* (Markus Juutinen 2023 pers. comm.).

The short *i* in the first syllable seems to support the old age of the word, that is, the word must already have been present in the language before the long vowel in the first syllable changed into a short one. According to e.g. Sammallahti (1998: 184) and Aikio (2007b: 167), that change happened between Pre-Saami and Proto-Saami. Also, the lengthening of the word-internal consonant after a stressed syllable seems to be a Common Saami phenomenon, inasmuch as it is seen in all the Saami languages in this and other words (see Korhonen 1981: 164–165).

- (13) SaaN *rávdi*; SaaI *rävdee*; SaaSk *rau'ddi* 'smith'
 ← Fi *rautio* 'smith' (< *rauta* 'iron') (Koivulehto 1976: 34; SES s.v. *rautio*).

These words most likely originally referred to a smith who works iron, because the words represent borrowings of Finnish *rautio* which, in turn, is a derivation from *rauta* 'iron'.

- (14) SaaSk *ku'znej̃* 'blacksmith'
 ← Russian *кузнéц* 'blacksmith' (Juutinen 2022, online appendix p. 18 and references there).
- (15) SaaS *vietjere* 'hammer (n.)'; SaaU *viehtjere* 'hammer (n.)'; SaaP *vähtjer* 'hammer (n.)'; SaaL *viehtjer* 'hammer (n.)'; SaaN (*bádje*)*veahčir* 'hammer (used for forging)'; SaaI *veeččir* 'hammer (n.)'; SaaSk *vie'ččer* 'hammer (n.)'; SaaK *vieđťšer* 'hammer (n.)'; SaaT *vieččer* 'hammer (n.)' (SaaK and SaaT T. I. Itkonen 1958: 737) < PS *veacērē < Proto-West Uralic *wačara
 ← Proto-Indo-Iranian *wáźra- > Avestan *vazra-* 'club', Old Indic *vájra-* 'thunderbolt; Indra's weapon' (Lehtiranta 2001 s.v. *vēcērē; Holopainen 2019: 292–293 and the references there).

The word for hammer is an old one and refers not only to hammers used in iron-working. Holopainen (2019: 293) suggests that it has been borrowed in a context relating to mythology.

The Proto-Saami form *veacērē is reconstructed according to the first-syllable vowels in the North Saami word. For many other Saami words, the reconstruction should rather be *viecērē. These two forms might represent forms after the Common Saami period when the Saami languages developed separately from one another. The Proto-Saami form is, then, *vēcērē. A similar development is seen in some other words, e.g. SaaS *gietjje*, SaaL *giehtje*, 'end; top', SaaSk *kie'čč* 'end' (< *kiečē) ~ SaaN *geahči* 'end; top' (< *keahči) and SaaS *rietjmie* 'rope on the edge of a net' (< *riečmē), SaaL *riessjme* 'rope for dragging nets under the ice' (< *riečmē) ~ SaaN *reašmi* 'rope on the edge of a net' (< *reačmē; Aikio 2009: 275).⁶ Thus, Proto-West Uralic *a could have developed into (Pre-)Proto-Saami *ē before *č.

6. In the eastern inland dialects of North Saami, *geahči* is phonologically /kiehčii/ and *reašmi* : *reašmmi* is /reášmii : riešmii/. Here, there might be some, perhaps later, innovations that should be studied in more detail in the future. The same goes for the Inari Saami forms *keeči* and *rešmi*. I thank an anonymous reviewer for bringing this to my attention.

3.2. Revision of old etymologies and some new etymologies

In this section, I will discuss etymologies for 17 words that belong to the lexical set of iron manufacture and iron-working. Only a small part of this vocabulary is common to all modern Saami languages. Over time these languages have developed and received new words for different aspects of iron manufacture and iron-working, and that is why I will list the words according to their meaning. The meaning is the title of the subsection and all different words that denote that meaning are presented therein, e.g. all words meaning ‘forge (n.)’ are listed in the subsection 3.2.1 ‘forge (n.); furnace’. If additional meanings are given in dictionaries, they will be given along with the Saami word.

3.2.1. ‘forge (n.); furnace’

- (16) SaaN *álvi*
 ← ON *afl* ‘furnace; hearth in a smithy’ (Qvigstad 1893: 90).

Although the distribution of this word is limited only to one Saami language, it is possible that this word is older than Old Norse – it could have been borrowed from Proto-Scandinavian word **afla* (Kroonen 2013 s.v. **afla*). A metathesis has affected the internal consonants, but otherwise the sound substitutions are regular. In addition, the vowel in the second syllable of *álvi* speaks for an earlier loan than Old Norse; words borrowed from such Old Norse words that end with a consonant have been substituted with **ε* as the second-syllable vowel (Juutinen & Kuokkala 2023). As also other words related to iron manufacture have been borrowed from Proto-Scandinavian, it is possible that this one was as well. Because the word is found only in North Saami, this makes the Proto-Scandinavian etymology slightly uncertain.

The etymology is tentatively as follows:

- SaaN *álvi* < PS **ālvē*
 ← PSc **afla*- > ON *afl* ‘furnace; hearth in a smithy’.

It might also be as follows:

- SaaN *álvi* < Proto-North Saami **ālvē*
 ← ON *afl* ‘furnace; hearth in a smithy’

3.2.2. ‘smith’

- (17) SaaS *smirre*; SaaU *smidda*; SaaP *smirrjo*; SaaL *smirjjo*, *smirjár*; SaaN *smid̄đa*
 ← ON *smiðr*, Sw, Nw *smed* ‘smith’ (Qvigstad 1893: 305; Lagercrantz 1939: 814).

In the western and southwestern Saami languages, the word for smith was borrowed from the Scandinavian languages according to Qvigstad (1893: 305) and Lagercrantz (1939: 814). However, I suggest that the word could be older than Old Norse, namely it could be a borrowing from the Proto-Scandinavian word **smiþaz* ‘smith’ (VAEO s.v. *smed*; Köbler 2014 s.v. **smiþaz*) at least in South Saami.

The South Saami word has mostly regular sound substitutions with the Proto-Scandinavian word, inasmuch as in South Saami word-internal **þ* and **ð* are regularly substituted with the tremulant **r*, compare *smirre* with e.g. *vaarese* ‘homespun fabric’ (< **vāðas* ← PSc **wāðiz*; Aikio 2009: 272–273).

South Saami *smirre* requires the (Southern) Proto-Saami form **smiðe* while Ume Saami *smidda* requires the form **smite*. In addition to the word-internal consonant, all the other sounds are regular. It is well established that initial consonant clusters are allowed in the Saami languages as substitutes for e.g. Proto-Scandinavian initial consonant clusters (e.g. Aikio 2012: 77–78). Even the word-final vowel is regular as Proto-Scandinavian word-final **a* is sometimes substituted with Proto-Saami **ɛ* > South Saami *-e*, e.g. *svaajnes* ‘farm worker’ < **svājnes* ← PSc **swainaz* (Jutinen & Kuokkala 2023) and *raavke* ‘apparition, ghost’ < **rāvke* ← **drauga-* (Aikio 2009: 272).⁷

The fact that the Proto-Scandinavian final consonant **-z* is not reflected as *s* in the South and Ume Saami words may indicate that this word was borrowed when Proto-Scandinavian **-z* had already developed into **-r*.

7. However, Jutinen & Kuokkala (2023) have recently discussed the second-syllable vowels in Proto-Scandinavian loanwords in Saami and observed that in the second syllable, the PSc vowel **a* is most often substituted with PS **ɛ* > SaaS *ie*. Nonetheless, it is apparent that in South Saami, the PSc second-syllable **a* is reflected sometimes as *e* as Jutinen and Kuokkala themselves note in connection with the above-mentioned word *svaajnes* ‘farm worker’.

There are rather many such Proto-Scandinavian loans in which the *z → s substitution is not reflected, for example, in South Saami: *daajje* ‘dough’ and *laampe* ‘lamb’ (see the words in e.g. Piha 2018: 195, 203, 214, 217 and the literature mentioned there; about the Proto-Scandinavian sound change *z > r and its relation to Saami see Heikkilä 2014: 121–123). These words could, then, be borrowed from forms such as PSc *daiʀar and *lambar, respectively. *Smirre* could have been borrowed from *smiʀar. This would also imply that the *-r was not substituted in Saami. It would also mean that these words would be slightly younger than those that were borrowed from forms with *-z: the sound change *-z > *-r is dated approximately to 400–700 CE (e.g. Heikkilä 2014: 123). However, this matter should be studied in more detail in the future.

There are no phonological obstacles to seeing the word as a borrowing from Old Norse into South Saami. Nonetheless, other South Saami words referring to iron manufacture and iron-working were also borrowed from Proto-Scandinavian (see etymologies 2, 21, 22, 25, 26, 27, 31). That lets one assume that the word for ‘smith’ would have been needed quite early, during the contacts with Proto-Scandinavian speakers.

The Pite and Lule Saami words *smirrjo* and *smirjjo* may have been borrowed from the Old Norse oblique form *smiðju* of *smiðja* ‘smithy’, although the semantics make it somewhat uncertain. If the word was an older loan, the word-internal sound substitution for Proto-Scandinavian *þ and *ð would have been *ð, cf. SaaP *vādas*, SaaL *vādas*, SaaN *vādas* ‘homespun fabric’ < *vādas ← PSc *wāðiz- (Piha 2018: 210; Álgv s.v. *vaarese*; SaaP Halász 1896). (See also etymology 23 about SaaL *stáddá* and SaaN *stáddi*.) Another possibility is that the origin lies in the Proto-Scandinavian word *smiþjōn- ‘forge (v.)’ > ON *smiðja* ‘smithy’ (see etymology 22), but the word-internal substitution of Proto-Scandinavian *ð and *þ with *r* in Lule Saami would still be a problem as it should have been substituted with *ð > SaaL *d*. It could perhaps be a loan from late Proto-Scandinavian, from a time when *ð and *þ were no longer substituted with a stop in Saami but the second-syllable *ō had not yet developed into Old Norse *a* (on the sound change PSc > ON, see e.g. Haugen 1982: 28–29), which change would have happened sometime between 450 and 900 CE (Haugen 1982: 28).

These etymologies are, however, problematic regarding the semantics: how would the word for a forge or smithy come to mean ‘smith’? These two conceptions do belong together, but the semantics make it uncertain. One explanation could be that the words *smirjjo* and *smirrjo* have been

borrowed from an agent-noun derivation of Proto-Scandinavian *smiþjōn- ‘forge (v.)’ with an unknown derivational suffix. A similar possibility has been speculated on concerning a few Finnish words with loan etymologies in Scandinavian (see e.g. LÄGLOS I s.v. *haltija*, LÄGLOS II s.v. *kauppias*).

Lule Saami *smirjár* is a derivation from the verb *smirjjit* ‘forge’ (see etymology 21), and North Saami *smiđđa* represents a regular borrowing of Old Norse *smiðr*.

The etymologies would be as follows:

SaaS *smirre* < Proto-South Saami *smiðe, SaaU *smidda* < Proto-Ume Saami *smite ← PSc *smiþaz > ON *smiðr* ‘smith’ or ← Common Scandinavian *smiþar > ON *smiðr* ‘smith’.

SaaP *smirrjo*; SaaL *smirjjo* ? ← ON *smiðju* or < PS *smiðjō ← transitional form between PSc nom. sg. f. *smiþjō and ON *smiðja* ‘forge (n.)’ or ← *smirjjit* ‘forge (v.)’.

SaaN *smiđđa* < *smiðe ← ON *smiðr* ‘smith’.

(18) SaaSk *ka'll'jeei* ‘iron forger, iron hammerer’

The word is a derivative of the Skolt Saami verb *ka'll'jed*, which, in turn is a borrowing from Finnish or Karelian *kallita* ‘sharpen by forging; harden’ (see etymology 19).

3.2.3. ‘forge (v.); work iron’

(19) SaaSk *ka'll'jed*

This word is a borrowing from Finnish or Karelian *kallita* ‘sharpen by forging; harden’. The word is a Russian loan in Finnish and Karelian from the word *калúть* ‘anneal; heat to red’ (SES s.v. *kallita*).

(20) SaaI *rävdiĵâššad* ‘do smith’s chores’; SaaSk *rau'ddjõõššâd* ‘id.’

The Inari Saami *rävdiĵâššad* and Skolt Saami *rau'ddjõõššâd* are derivations of the words *rävdee* and *rau'ddi* ‘smith’ respectively (see etymology 13).

- (21) SaaS *smírredh*; SaaL *smirjjit*
 ← ON *smíða*, Sw *smida* ‘forge (v.)’ (Qvigstad 1893, 305; Lagercrantz 1939: 814).

The South and Lule Saami words cannot have been borrowed from Old Norse because there is no word for ‘forge (v.)’ in Old Norse with a short vowel in the first syllable; the verb is of the form *smíða*. The Old Norse *smíða* or its cognates cannot be the loan original because the Saami words show a short *i*.

The Saami words may be derivations of the Saami word with the meaning ‘smith’ or ‘forge (n.)’: SaaL *smirjjo* ‘smith; forge (n.)’ and SaaS *smírre* ‘smith’ (etymologies 17 and 22). A similar derivational relationship from ‘smith’ to ‘forge (v.)’ is seen also in e.g. the Finnic languages: Karelian *sepitá* ‘forge (v.), do smith’s chores’ ← *seppä* ‘smith’ and Estonian *sepistada* ‘forge (v.)’ ← *sepp* ‘smith’ (SES s.v. *seppä*).

The South Saami word could be a borrowing of Germanic *smiþōn- (the Germanic form in Köbler 2014 s.v. *smiþōn) – the first syllable *-i-* in Saami would speak for this (cf. Juutinen & Kuokkala 2023). The second syllable *-e* has developed from **ę* in Proto-Saami < Pre-Saami **i*. Aikio (2006: 17, 21, 23, 34) gives a few South Saami verbs that are borrowings from Proto-Germanic and show this same second-syllable vowel development, e.g. SaaS *boelnedh* ‘wilt’ < PS **puolne-* < Pre-Saami **palni-* ← PG **falwnō-*. However, the other words with similar sounds, *smírre* ‘smith’ (etymology 17) and *smærjoe* ‘smithy’ (etymology 22), have been borrowed from the Proto-Scandinavian stratum, and it is questionable why the word for ‘forge (v.)’ would have been borrowed earlier. There are some Proto-Germanic loans referring to objects and activities related to iron manufacture and iron-working, e.g. *ruovtie* ‘iron’ (etymology 1), but why would ‘forge (v.)’ have been borrowed first and *smírre* and *smærjoe* only later when all the concepts belong together and are often used in the same contexts? The time gap between these loanwords could be hundreds of years.

The Germanic verb *smiþōn- has disappeared from Old Norse and Old East Nordic so that its descendants cannot be found in modern languages. It is not known when it disappeared from the language, and it is, therefore, possible that it was still in the language around the Proto-Scandinavian era. If this is the case, then it is well possible that the word was borrowed into Saami at the same time as the words *smírre* and *smærjoe*. Aikio has published an article on words in Saami languages that were borrowed

from unattested Proto-Scandinavian words, thus showing that such loan-words are numerous in Saami (Aikio 2020). The same can be said even of *smirredh*.

My suggestions for etymologies are therefore as follows, reflecting my view that the etymology in South Saami leans towards the unattested Proto-Scandinavian form:

SaaL *smirjjit* ← SaaL *smirjjo* < PS *smiðjō ← transition between PSc nom. sg. f. *smiþjōn- and ON *smiðja* ‘forge (v)’.

SaaS *smirredh* ← SaaS *smirre* < SPS *smiðe- ← PSc *smiþaz > ON *smiðr* ‘smith’ or < SPS *smiðe- < *smiði- ← PG *smiþōn- or an unattested PSc form.

3.2.4. ‘smithy’

- (22) SaaS *smærjoe*; SaaP *smirrjo*; SaaL *smirjjo(goahte)*
 ← ON *smiðja*; Nw *smidja* ‘smithy’ (Qvigstad 1893: 305; Lagercrantz 1939: 814).

The South Saami word seems to be a regular loan from Proto-Scandinavian *smiþjōn- ‘smithy’ (see VAEO s.v. *smed*). Proto-Scandinavian first-syllable *i is substituted with *ε in South Saami (the Southern Proto-Saami form would be *smεðjō) when there is labial vowel or open unrounded vowel in the second syllable, cf. e.g. *tæjhkoe* ‘female dog’ < SPS *tεjkkō (< PS *tjkkō) ← PSc *tikō (Aikio 2009: 27 fn. 5) and *bæhta* ‘bit, piece’ < SPS *pehtā (< PS *pittā) ← PSc *bitan- ‘bit’ (Sammallahti 1998: 128, 231; Kroonen 2013 s.v. *bitan-; Köbler 2014 s.v. *bitō-). However, this substitution is not found in all the southwestern Saami languages. Thus, originally the Proto-Scandinavian *i could have been substituted with *i, and later it would have developed into *ε. However, a similar substitution is found also in recent loans such as *tjæjloe* ‘kilo’ ← Sw, Nw *kilo* ‘kilo’, and a more convincing proof of the old age of the word is the internal consonant substitution which was explained in etymology 17.

In Pite and Lule Saami, the word could have been borrowed either from Old Norse or Proto-Scandinavian. The loan original in Old Norse would be the oblique form *smiðju* of *smiðja* ‘smithy’ (see etymology 17). Another possibility is Proto-Scandinavian *smiþjōn-. The first-syllable vowel also regularly matches with the Proto-Scandinavian first-syllable vowel: the

Proto-Scandinavian first-syllable *i is regularly substituted with *i* in these two languages, e.g. SaaL *dijikko* ‘female dog < PS *tjikkō ← PSc *tikō and SaaL *bihttä*, SaaP *bihтта* ‘piece’ < PS *pittā ← PSc *bitan- ‘bit’ (Sammallahti 1998: 128, 231; Kroonen 2013 s.v. *bitan-; Köbler 2014 s.v. *bitō-). However, the internal consonant substitution represents the same kind of problem as in the words SaaP *smirrho*, SaaL *smirrho* (etymology 17), and SaaL *smirrho* (etymology 21). I propose the same as I proposed for the other words, namely that the word was borrowed during an intermediate period during which the Proto-Scandinavian internal dental fricative began to be substituted with a tremulant rather than a stop, but the Proto-Scandinavian second-syllable *ō was still intact. It is not possible to define which one of these two etymologies is correct: the Old Norse oblique form or a transition period from Proto-Scandinavian to Old Norse.

The etymologies for these Saami words are as follows:

SaaS *smærjoe* < SPS *smēδjō or < Proto-South Saami *smēδjō < SPS *smiδjō ← PSc *smiþjōn- > ON *smiðja* ‘smithy’.

SaaP *smirrho*; SaaL *smirrho* < PS *smiδjō ← transitional form between PSc nom. sg. f. *smiþjō and ON *smiðja* ‘smithy’ or SaaP *smirrho*; SaaL *smirrho* < PS *smiδjō ← ON *smiðju*.

3.2.5. ‘anvil’

- (23) SaaL *stáddá*, *stádde*; SaaN *stáddi*
 ← ON *steði* ‘anvil’ (Qvigstad 1893: 317; Lagercrantz 1939: 836).

Qvigstad has determined the Lule and North Saami words to be loans from Old Norse; Lagercrantz describes them as Scandinavian. Nevertheless, these words are older loans from the Proto-Scandinavian word *staþja- ‘anvil’ in the neuter (> Sw *stád*) (for the PSc etymology, see VAEO s.v. *sme*; for Sw *stád* see e.g. SAOB s.v. *stád*, noun 5). Aikio (2012: 77–78; 110) has shown that word-initial consonant clusters of the type sC- came into the Saami languages with loanwords from Proto-Scandinavian. The first-syllable long vowel in Lule and North Saami is a regular substitution of Proto-Scandinavian first-syllable *a. Also the substitution of the internal consonant (SaaL -*dd*- and SaaN -*đđ*- ← PSc *-þ-) in the words is regular (see my discussion in the entries for etymologies 17, 21, and 22 and Aikio 2009: 272–273; Piha & J. Häkkinen 2020: 112), although Lule Saami seems,

at least in some cases, to have a short *d* when North Saami has *đđ*, e.g. SaaL *råde* ~ SaaN *ráđđi* ‘advice’ ← PSc **rāda*- ‘advice; plan’ (VAEO s.v. *råde*; Piha 2021: 33). The second-syllable vowel is also a regular substitution: the Proto-Scandinavian second-syllable vowel **a* is substituted with *e* /*ie*/ in Lule Saami and *i* /*ii*/, /*ie*/, or /*ee*/ (depending on the dialect) in North Saami, consider for example SaaL *råde* ~ SaaN *ráđđi* above and PSc **wanga-* → (PS **vāŋkē* >) SaaL *vágge*, SaaN *vággi* ‘valley’.

However, there is a difficulty in the etymology: the Lule Saami word *stáddá* irregularly matches with the Proto-Scandinavian loan original when it comes to the second syllable. It is possible that this Lule Saami word was borrowed from the masculine form of the Proto-Scandinavian word **staþjan-*. There are some Lule Saami words that reflect a similar substitution as *stáddá*, e.g. *sjlávttjá* ‘warble fly’ < PS *(s)lāvčā ← PSc **klaggjan-* ‘horsefly’ (VAEO s.v. *klegg*; Aikio 2012: 110).

Therefore, I suggest the following etymologies:

SaaL *stádde*; SaaN *stáđđi* < PS **stāðē* ← PSc **staþja-* (neuter) ‘anvil’ > Sw *stād*.

SaaL *stáddá* < PS **stāðā* ← PSc **staþjan-* (masculine) ‘anvil’ > ON *steði*.

(24) SaaI *terppâmvuálááš*

The Inari Saami word is a compound word formed by the components *terppâm-* and *vuálááš* ‘platform’. The word *terppâm* is an action noun derived from the verb *terppâđ* ‘forge; beat; pound’ (Korhonen 1981: 290–291; for the verb, see etymology 3). As for the etymology of *vuálááš*, it is a diminutive derivation from the word *vyeli-* ‘underneath; sub’ which goes back to Proto-Uralic (Sammallahti 1988: 536).

3.2.6. ‘ember; glowing coal’

- (25) SaaS *praedtie*; SaaU *práddie*; SaaP *kraat'tie*; SaaL *rádde*; SaaN *ráddi*;
SaaI *ráddi*; SaaSk *rä'dd*
← PSc **branda-* ‘fire; a burning log’ (Theil 2012: 64).

This word is not solely iron-related word and can refer to other burning processes as well. However, a furnace with heat and embers is a central part of iron manufacture and iron-working, and therefore the word has

been included in the data. The Saami words were earlier determined to be borrowings from Old Norse (Qvigstad 1893: 252; Lagercrantz 1939: 680, 711; Lehtiranta 2001 s.v. *rāntē), but Rolf Theil (2012: 64) has noted the Saami words to be loans from Proto-Scandinavian *branda-. In general, this notation is correct, but some adjustments should be made.

The word was borrowed separately into the southwestern Saami languages, on the one hand, and the more northern Saami languages, on the other. This is seen in the initial consonants of the words: South and Ume Saami have a consonant cluster of the form stop + liquid, while the other Saami languages have substituted the Proto-Scandinavian consonant cluster with a single liquid consonant. Such words in which these substitutions have happened are many (Aikio 2012: 77–78, 110–111; Piha & J. Häkkinen 2020: 107, 117). Thus, South and Ume Saami require a protoform *prāntē while the other Saami languages require *rāntē.

The Pite Saami *kr-* is somewhat mysterious as it seems to be irregular. It is possible that the Pite Saami word is a hypercorrect form. In Pite Saami, initial clusters with a velar plosive and liquid are sometimes seen in such Proto-Scandinavian loanwords that have a single liquid in Saami languages other than South Saami and Ume Saami (e.g. SaaP *klaivē* ~ SaaN *láivi* ‘mild; weak’ ← PSc *slaiwaz, Aikio 2012: 78, 110; Álgu s.v. *láivi*). It is possible that this tendency has also affected the development of hypercorrect *kr-* in *kraat'tie*.

The parallel etymologies of South Saami and other Saami languages are as follows:

SaaS *praedtie*; SaaU *práddie* < SPS *prāntē
 ?SaaP *kraat'tie*; SaaL *rádde*; SaaN *ráddi*; SaaI *ráddi*; SaaSk *rä'dd* < PS *rāntē
 ← PSc *branda- > ON *brandr* ‘fire; firewood’.

3.2.7. ‘steel’

- (26) SaaS *staelie*; SaaU *stállie*; SaaP *ställe*; SaaL *ställe*; SaaN *stállí*; SaaI *stääli*; SaaSk *stää'll*; SaaK *stāll*(^e) (T. I. Itkonen 1958: 520)
 ← ON *stál*, Sw *stål*, Nw *stål* ‘steel’ (Qvigstad 1893: 318; Lagercrantz 1939: 837; T. I. Itkonen 1958: 520).
 SaaSk Njuõ'ttjäu'rr dialect *stāl̥ǽ* (T. I. Itkonen 1958: 520) ← Russian *сталь* ‘steel’.

The word for ‘steel’ was seen as a loan from Scandinavian by Qvigstad (1893: 318) and Lagercrantz (1939: 837), but T. I. Itkonen (1958: 520) has defined one of the Skolt Saami words and the Kildin Saami words to be of Scandinavian origin, while the word in the Njuõ’ttjäu’rr dialect of Skolt Saami is a Russian loan.

The word seems to be Common Saami as it is found in most Saami languages, and it might have been present in Proto-Saami before its disintegration. A possible loan source is the Proto-Scandinavian word *stahla- ‘steel; firm’ (Kroonen 2013 s.v. *stahla-; Köbler 2014 s.v. *stahala-) from which the Scandinavian words derive. The sound substitutions are all regular from South Saami to Skolt Saami: the word-initial consonant cluster is of the type sC- which is found in these Saami languages (Aikio 2012: 77). The vowels in the words are regular as well.

The only exception is the word in the Njuõ’ttjäu’rr dialect of Skolt Saami. According to T. I. Itkonen (1958: 520), the form is *stäl̥ě* and there is no consonant gradation. The word must be a borrowing of Russian *сталь* ‘steel’ rather than Proto-Scandinavian in this dialect for three reasons: 1) the word has no consonant gradation; 2) Scandinavian loanwords are rare in the dialect; and 3) there is an adjective *stàtnai* ‘steel-like, steely’ in the dialect that is clearly a Russian loan (Markus Juutinen pers. comm.).

Also, the Kildin Saami word must be younger than Proto-Scandinavian as the consonant cluster sC- did not develop within the language that early as proven by, e.g. the word SaaK *kà̃^dt̥š̥* (T. I. Itkonen 1958: 501) vs. SaaS *skaaltjoe*, SaaN *skálžu*, SaaSk *skälžž* ‘seashell’ (Aikio 2012: 110; Juutinen 2023: 88). Russian as the loan source is a plausible option for Kildin Saami, but it could also have been borrowed from Skolt Saami.

The etymology for South Saami–Skolt Saami is as follows:

SaaS *staelie*; SaaP *ställe*; SaaL *ställe*; SaaN *stáll*i; SaaI *stääli*; SaaSk *stää’ll*
 < *stälē ← PSc *stahla- > Sw *stål*.

For the Njuõ’ttjäu’rr dialect of Skolt Saami and Kildin Saami it is the following:

SaaSk Njuõ’ttjäu’rr *stäl̥ě*; SaaK *stäl̥l̥*(^e) ← Russian *сталь*.

The etymology for the Kildin Saami word could also be this:

SaaK *stäl̥l̥*(^e) ← SaaSk *stää’ll*.

3.2.8. ‘ore’

- (27) SaaS *maalme*; SaaU *málbma*; SaaL *málmma* also ‘copper, bronze’; SaaN *málbma* ‘heartwood’; SaaI *malamá*; SaaSk *malmm*
 ← Scandinavian, cf. Gothic *malma* ‘sand’ (Qvigstad 1893: 230; Lagercrantz 1939: 471).

The meaning ‘ore’ does not necessarily refer only to iron ore; it could refer to other metal ores as well. However, ore is a central concept in iron manufacture, and therefore the words for ore are discussed here.

Qvigstad (1893: 230) and Lagercrantz (1939: 471) equate the word with Scandinavian words. A possible source for the loan could, however, be Proto-Scandinavian *malma-; the modern languages that descend from Proto-Scandinavian also show the meaning ‘ore’ (VAEO s.v. *malme*; Köbler 2014 s.v. *malma-). The sound substitutions in Saami are quite regular: the long vowel in the first syllable in the Saami languages may speak for an old loan. Also, the word-internal consonant cluster is regular: North and Ume Saami have regularly developed a stop between a liquid and nasal while South and Lule Saami have not (Korhonen 1981: 184). As for the word-final vowel, see etymology 17. Thus, the Proto-Saami reconstruction would be *mälme.

However, there are no phonological restrictions against the word being a loan from the Old Norse *malmr* ‘ore’. The short vowels in the first syllable in Scandinavian were sometimes substituted as long even after the Proto-Scandinavian period, even though also a short *a* emerged in late Proto-Scandinavian loanwords, at least in South Saami (Piha & J. Häkkinen 2020: 118). As Juutinen & Kuokkala (2023) have shown, the Saami languages have substituted also the vowels in the last syllable regularly.

As I will discuss in Section 4, the data of this paper shows that at least some Saami-speaking groups were involved in iron manufacture and iron-working already in the early Iron Age. That means that they would have needed a word for the substance from which iron is made. Therefore, it is plausible to think that the word for ‘ore’ is an old loan rather than a new one. Even if the word for ‘iron’ might have also had the meaning of ‘ore’ as the meaning of the Old Norse word *rauði* suggests (see etymology 1), in an iron-producing society distinguishing the concepts of iron and ore would have been important. Thus, I see the word as a Proto-Scandinavian loanword, but I will not dismiss the Old Norse etymology either.

The etymologies of ‘ore’ in the Saami languages are as follows:

SaaS *maalme*; SaaU *málbma*; SaaL *málmma*; SaaN *málbma*; SaaI *malmâ*; SaaSk *malmm* < PS *mālmę ← PS *malma- ‘ore; sand’ or ← ON *malmr*.

3.2.9. ‘pliers’

(28) SaaSk *cee’pc*

This word is a derivative of *ce’pcced* ‘pinch (v.)’. The last-mentioned word is Common Saami with the Proto-Saami form *cipcē (Lehtiranta 2001 s.v. *cipcē). However, the etymology is not known further.

(29) SaaN *doanggat*; SaaI *toongih*

This is a recent loan from Finnish *tongit* ‘pliers’. This can be seen from the labial vowel of the first syllable and the plural form of both the Finnish and the Saami words. The combination of nasal and consonant has not been denasalized either. In addition, the Inari Saami combination of the first- and second-syllable vowels indicates a recent loan from Finnish. The Finnish word is a borrowing from the Scandinavian languages (cf. Sw *tång*) (SES s.v. *tongit*).⁸

3.2.10. ‘bellows’

(30) SaaS *baeljiestahke*

The South Saami word for ‘bellows’ is a derivation from the verb *baeljiestidh* ‘blow (e.g. of a wind)’ (see the verb in Bergsland & Magga 2007 s.v. *baeljiestidh*) or of a hypothetical noun **baeljie which is not found in (modern) South Saami. The derivational suffix is *-stahke* which is used, for example, to derive nouns denoting tools or instruments from verbs (Magga & Magga 2012: 110). The literal meaning of *baeljiestahke* would thus be ‘blower’.

I tentatively suggest that the word is a loan from a form of North Finnic, cf. Finnish *palje* (sg.) ‘bellows’. The Finnish word is, in turn, a borrowing from Proto-Germanic *balgiz ‘bellows’ (e.g. SES s.v. *palje*). The Proto-Germanic or Proto-Scandinavian *balgiz is less probable as a loan original for

8. However, the Finnish word is used in the plural when referring to one item, while the Scandinavian words are not. This might be an analogy from the other Finnish word for ‘pliers’, *pihdit*, that is also often used in the plural form.

the South Saami word, because the internal *-g- is substituted by *k* in South Saami (e.g. *bearkoe* ‘meat’ ← PSc *bergō-). It is possible that the *g* before *i* in *balgiz was relatively palatal and would have been substituted by *j* and not *k* in the Saami languages.⁹ I have not been able to find any such loanwords in Saami that would show this substitution, so this etymology is uncertain.

The *-j-* in Finnic *palje*, in turn, could well be substituted with *-j-* in South Saami. South Saami substitutes Proto-Scandinavian word-internal **j* with *-j-* after a liquid (e.g. *saalje* ‘goat willow, great sallow’ ← PSc *saljōn-, Piha 2018: 208; for the Proto-Scandinavian word, see VAEO s.v. *selje*), which would support a similar substitution in loans from Finnic. However, there are not many examples for such loans from Finnic: It is known that South Saami has some old loanwords from Finnic, one example is *hierkie* ‘horse’ that was borrowed from Finnic *härkä* ‘ox’ (Heikkilä 2014: 240 fn. 200), but it might be considerably earlier than **baeljie.

The Finnic word *palje* is in the weak grade, and the strong grade of the word would have *-k-*, e.g. *palkeet* (pl.) ‘bellows’. The original weak grade of the consonant *-k-* would have been *-g- or *-γ-, but this had developed into *-j-* already in Michael Agricola’s language (see e.g. VKS s.v. *nylkeä*), so the change had happened sometime in the Middle Ages. Therefore, the borrowing of **baeljie from Finnic would most likely have happened in the Middle Ages (1200–1500 CE). The word could have been borrowed, for example, from the forms of Finnic spoken in northern parts of Sweden (the modern Meänkieli).¹⁰ The question is why this word would have been borrowed so late when the need for bellows was present already in the earlier times. One explanation could be that there was another word for ‘bellows’ that was replaced by **baeljie in the Middle Ages.

The semantic development of *baeljestahke* is quite interesting. If there has been a noun for bellows, **baeljie, it must have disappeared from the language at some point, most likely soon after *baeljestahke* had been taken up as the word for bellows. Thus, I propose that the word has been derived from the verb *baeljestidh* which was, in turn, derived from **baeljie before the noun disappeared.

Thus, the suggestions for etymologies are the following:

SaaS *baeljestahke* ← SaaS *baeljestidh* ← SaaS **baeljie < SPS *bäljje-
← Finnic, e.g. Fi *palje* ‘bellows’ or ← PG/PSc *balgiz > Sw *bäljg*.

9. I thank an anonymous reviewer for leading my thoughts in this direction.

10. I thank Petri Kallio for discussing this with me.

3.2.11. ‘iron slag’

(31) SaaS *ruevtieskaarhte*

The word is a compound with the components *ruevtie* ‘iron (see etymology 1) and *kaarhte* ‘coating (in a saucepan); slag’.

The South Saami word *kaarhte* is most likely a loanword from Proto-Scandinavian *skarda- ‘tile’ (Kroonen 2013 s.v. *skarda-; Köbler 2014 s.v. *skarda-). The sound substitutions are quite regular: the initial *sk-* is found in many Proto-Scandinavian loanwords in South Saami, cf. *skaaltjoe* ‘seashell’ ← PSc *skaljö- (Aikio 2012: 77) as is the long *aa* as the first-syllable vowel. The word-final vowel is also regularly substituted as discussed in etymology 17.

The word-internal consonant combination *-rht-* in South Saami seems slightly problematic, however. Usually, this combination seems to substitute for the Proto-Scandinavian *-rþ(r)- as in *noerhte* ‘north’ (← *norþra-, Koivulehto 1988: 28; Köbler 2014 s.v. *norþra-) or *maarhte* ‘pine marten’ (← *marþra-, Bergsland 1995: 15; Köbler 2014 s.v. *marþra-). Proto-Scandinavian *-rd- is substituted with *-rt-*, cf. *vaartasjidh* ‘look closely, examine’ (← *wardō-, Aikio 2009: 287). In my Proto-Scandinavian loanword data (see Piha 2018), there are not very many Proto-Scandinavian words with *-rþ(r)- (or metathetic *-þr-), *-rd-, or *-rt- borrowed into South Saami; altogether there are only five. The substitution rule might become clearer when more loanwords with these substitutions are found.

The semantic development from the Proto-Scandinavian adjective or noun is not transparent. In Proto-Scandinavian, there is also an adjective *skarda- ‘damaged, scarred’ or noun *skarda- ‘notch, cut, piece, section’. Semantically, the adjective is more plausible than the noun: slag can be perhaps seen as damaged goods as it is not usable in working iron. Also, a coating on a pan could be seen as the pan being damaged or scarred. Slag can also be seen as a piece that is “cut” from iron when the iron is reduced. However, a noun is more likely borrowed from a noun than an adjective.

In many Saami languages, the cognates of South Saami *kaarhte* have a meaning ‘thin layer of snow frozen on to the ground’ and ‘incrustation, crust’; only the South Saami word means ‘slag’. The Ume Saami word *skárttie* and Lule Saami word *skártta* include the concept of bad (reindeer) pasture when the ground is covered with frozen snow. It is probable that the South Saami meaning ‘slag’ is a somewhat later semantic development, and the original meaning is closer to the meanings in other Saami languages.

The compound could have existed since the younger component *skaarhte* was borrowed into the language. The compound is, however, probably a later development.

The etymology for *skaarhte* is as follows:

SaaS *skaarhte* < PS *skārte/*skārhte ← PSc *skarda.

- (32) SaaN *ruovdebázahus* ← *bázahus* ‘leave behind’ ← *báhcit* ‘stay behind; be left behind’ < *pācē (Lagercrantz 1939: 614; Lehtiranta 2001 s.v. *pācē).

The word is a compound with the components *ruovde-* (*ruovdi* ‘iron’, see etymology 1) and *bázahus* ‘waste; slag’. The origin of *bázahus* is not known farther back than Proto-Saami. The scientific dictionaries (e.g. Lagercrantz 1939: 755) do not mention the word, and it is not known if this word was in use for ‘iron slag’ already in prehistoric times.

3.3. Summary

There are altogether 32 words in the data that belong to the lexical set of iron manufacture and iron-working. They are presented in the Appendix with their origin and absolute dating. Derivatives (7 words) are given together with their roots if they are in the data; if not, they are found as individual words in the Appendix. Compounds (4 words, of which one is a compound with a derivative as the latter component) are also listed in the Appendix.

Compound words are not easy to date as there is often no possibility to know when the compounding was done. However, it is possible to define a *terminus post quem* for compounds: no compounding can be done before all the parts of compound words are present in the language. However, the compounding could have happened at any time after that. (For dating of compounds, see Piha 2020a: 117). The same goes for the derivatives in the data. The compounds (SaaSk *rau'ddipörtt* ‘forge (n.)’, SaaI *terppâmvuálááš* ‘anvil’) and the derivatives (SaaI *rävdiĵâššad* ~ SaaSk *rau'ddjõõššad* ‘forge (v.)’) are from around 400 CE at the earliest. The South Saami derivative *baelĵiestahke* dates to 1200 CE at the earliest. For the North Saami compound *ruovdebázahus* ‘iron slag’, the Proto-Saami period is the *terminus post quem*. In addition, the Lule Saami (*smirĵit* ‘forge (v.)’, *smirĵár* ‘smith’) and South Saami (*smirredh* ‘forge (v.)’) derivatives date to 200–500

CE at the earliest. South Saami *smirredh* has also another etymology: it might be a loanword from Proto-Germanic. There is no etymology for the Skolt Saami derivative *cee'pc* 'pliers' or its stem *ce'pcced* 'pinch (v.)'

The table in the Appendix shows that most words come from Proto-Scandinavian (8 words) and Finnic or Finnish (7). In addition, two words have their origin in either Proto-Scandinavian or Old Norse, and two in the transition period from Proto-Scandinavian and Old Norse (or Old Norse). Along with the Finnish words, there are two words that were borrowed either from Finnish or Karelian and one very old borrowing from Pre-Finnic. Two words originate in Proto-Germanic or North-West Germanic. Three words are borrowed from Russian and one Kildin Saami word is a loan from either Russian or Skolt Saami.

The data includes one very old word that is inherited from Proto-Finno-Permic (SaaS *baste* 'pliers' and its cognates) as well as one old loanword from Proto-Indo-Iranian (SaaS *vietjere* 'hammer' and its cognates), but these are words that have also other meanings than those related to iron or metal. Thus, the original meaning might have been something unrelated to iron, and even today, the words have other meanings as well, not only those related to iron (see the Appendix). When they came to be iron-related is not easy to say, other than perhaps sometime in the Iron Age.

However, if we look at different Saami languages separately, it is obvious that the origins of the iron-related vocabulary differ from language to language. This is illustrated in Table 1.

As seen in Table 1, South and Lule Saami have received or preserved the most Proto-Scandinavian words while the other Saami languages have 0–4 Proto-Scandinavian loanwords. This can certainly represent a gap in the research history, inasmuch as many Saami languages are much less studied than others. It is, however, quite surprising that North Saami does not have as many iron-related words borrowed from Proto-Scandinavian. It is well known that North Saami has a vast Proto-Scandinavian loanword stratum in general and the language is best documented of all the Saami languages. If all the words originating in between Proto-Scandinavian and Old Norse are counted in, Lule Saami has nine loanwords, South Saami six or seven, Pite Saami four, and North Saami six loanwords from this direction. The other languages have 0–3 words.

North and Inari Saami have received more words from Finnic or Finnish than the other languages (Table 1). Skolt Saami has also received words from Finnish and Karelian but also Russian. That is expected as these languages

Table 1: Origin of the iron manufacture and iron-working vocabulary in different Saami languages^a

Loan origin	Amount of words from different origins in different Saami languages								
	SaaS	SaaU	SaaP	SaaL	SaaN	SaaI	SaaSk	SaaK	SaaT
PII	1	1	1	1	1	1	1	1	1
PFP	1	1	1	1	1	1	1	–	–
Pre-Fi	1	1	1	–	–	–	–	–	–
PG/NWG	1	1	1	1	2	2	1	1	1
PSc	4	2	2	5	3	2	2	–	–
PSc/Common Scandinavian	1	1	–	–	–	–	–	–	–
PSc/ON	1	1	–	1	2	1	1	–	–
Transition between PSc & ON or ?ON	–	–	2	2	–	–	–	–	–
ON	–	–	–	–	1	–	–	–	–
Fi/PG or PSc	1	–	–	–	–	–	–	–	–
Fi	–	–	–	1	6	6	3	2	2
Fi/Karelian	–	–	–	–	–	–	1	–	–
Russian	–	–	–	–	–	–	3	–	–
Russian/SaaSk	–	–	–	–	–	–	–	1	–

- a. Derivatives and compounds are not included in the table, because the date of the compounding and derivation is not easy to define. The only exception is South Saami *baeljestahke* (borrowed from Fi/PG or PSc) ‘bellows’, which might have its origin in the word ***baeljie* which also meant ‘bellows’.

have been in contact with Finnish and Karelian, and for Skolt Saami, Russian, much more than Saami in Scandinavia. It is interesting that only the southwestern Saami languages, South, Ume, and Pite Saami have a word borrowed from Pre-Finnic, namely *sjijle* ‘coal’. In other Saami languages, this word has most likely been replaced by the word that is nowadays used in this sense from Lule to Ter Saami: *hilla* borrowed from Finnish *hiili*.

Interesting is also the fact that both of the two Proto-Germanic/North-West Germanic words are found only in North and Inari Saami. All the other languages have one Proto-Germanic loanword, the one with the meaning ‘iron’, although one South Saami word (*baeljestahke* ‘bellows’) might be from Proto-Germanic, but there are other explanations also. (See the Appendix and Table 1.)

The data is numerically very small, and therefore it is important to be cautious when interpreting the results. With this in mind, I will next discuss some possible interpretations about what the age and origin of iron-related words might tell about iron manufacture and iron-working among the Saami speakers.

4. The age and origin of iron manufacture and iron-working among Saami speakers

In this article, I have studied the origins of Saami words that are related to iron manufacture and iron-working. My aim has been to determine what the ages and origins of words referring to iron manufacture and iron-working in the Saami languages are. In this section, I shall try to answer this question (Section 4.1). I also hypothesized that several of the words might date to periods that are contemporaneous with the archaeological pottery types of Luukonsaari (1000 BCE – 300 CE) and Sirnihta (400 BCE – 300 CE). Both types have a connection with iron manufacture from around 400 BCE. In this section, I suggest some preliminary correlations with the archaeological material (Section 4.2) which we will, then, further develop in a later multidisciplinary article within the “Iron Saami” project.

4.1. The ages and origins of iron-related words

According to the analyzed data, it seems that Saami speakers have received their iron-related words mainly from two different directions: Germanic (14 and two possible PG/PSc loans, SaaS *smirredh* and SaaS ***baeljie*) and Finnic, Finnish, or Karelian (9). In addition, the data shows individual words that originate, for example, in Proto-Indo-Iranian, Proto-Finno-Permic, and Pre-Finnic. Skolt and Kildin Saami have also received words from Russian, and they are quite recent loans.

North, Inari, and Skolt Saami have had intensive contacts with Finnic and Finnish.¹¹ As for these loans, it is not easy to define which words are inherited cognates and which are borrowings due to a process known as etymological nativization. This process happens when there are bilingual

11. Also, Lule Saami has had intensive contacts with Finnic and Finnish, but this is not visible in the data of the present research apart from one word, namely *hilla* ‘coal’.

speakers in related languages who identify patterns of regular sound correspondences and apply them by nativizing loanwords in such a manner that can make borrowings look like cognates (Aikio 2012: 68; for more details, see also Aikio 2007a). Another problem with Finnic loanwords in Saami is that there are no phonological criteria for distinguishing early loanwords from cognates (Aikio 2006: 41). Thus, I have given most of the Finnic and Finnish loanwords only a rough dating to after 400 CE, but some of them could be significantly younger. Skolt Saami has probably borrowed a word from Karelian, but it might equally have been borrowed from Finnish.

Proto-Germanic dates to around 500–1 BCE, Proto-Scandinavian around 200–500 CE, and Old Norse around 800 CE. It has been possible to date some words to the transition period between Proto-Scandinavian and Old Norse around 500–800 CE. Within the lexical set, South Saami and Lule Saami show the most intensive contacts with Proto-Scandinavian. Ume, Pite, North, Inari, and Skolt Saami show some contact with Scandinavian, too, but less than South Saami and Lule Saami. The situation of North Saami is slightly surprising: it is well known that North Saami has a broad Proto-Scandinavian loanword stratum in general, yet it does not seem to include that many iron-related words.

4.2. Tentative correlations with archaeology

The Proto-Scandinavian borrowings are often slightly older than Finnic/Finnish words, and the Russian words in the eastern Saami languages are even younger. It is entirely possible that the more northern Saami languages have had more of these Proto-Scandinavian words but these words have been replaced.

Archaeologically, there is an “empty” phase in the material culture in Northern Fennoscandia starting around 300 CE: production of ceramics and iron ceases (e.g. Hamari & Halinen 2000: 156).¹² During this period, iron-related words might have fallen out of use and disappeared from Proto-Saami and its dialects, which would explain the loss of Proto-Scandinavian loanwords. Some words, like North Saami *áššu* ‘glowing wood embers on a hearth’, have gone through a semantic change from an iron-related meaning (‘furnace’) seen in e.g. South Saami *aassjoe* (see etymology 2 and

12. For a scientific discussion on the question of archaeological invisibility, see Piha et al. 2023: 8–10.

Aikio 2012: 79) to a non-iron-related meaning. Later, iron manufacture and iron-working became familiar again, perhaps via Finnish, Russian, and Old Norse contacts, and that is when new iron-related vocabulary was borrowed. The question of why iron-working would have fallen out of use or diminished significantly remains open. It might be connected to a new environment that offered other livelihoods than that of iron manufacture and iron-working, but this remains a hypothesis for now. The disappearance of Proto-Scandinavian loans may also be connected to the fast spread of Saami.

The development was different for the predecessor of the southwestern Saami languages. It is proposed that Southern Proto-Saami drifted off from Proto-Saami around 200 CE and ended up in central Scandinavia (J. Häkkinen 2010: 59; Piha 2018; Piha & J. Häkkinen 2020: 119). In central Scandinavia, intensive iron manufacture developed in the early Iron Age (Magnusson 1986: 168, 173) and archaeologists have seen the Saami speakers, or many of them, as part of this iron-manufacture network (e.g. Fossum 2006: 143; Piha 2020b: 175–176). During this time, another language group inhabiting the same areas as speakers of Southern Saami (and Paleo-European language(s), see e.g. Aikio 2004; 2012; Piha 2018: 172–175) were the Proto-Scandinavian speakers. This scenario explains why there are plenty of Proto-Scandinavian loans among the iron-related vocabulary in South Saami. It seems, according to the origins of this vocabulary, that also the speakers of the predecessors of the Pite and Lule Saami have been part of an iron-producing network in central Scandinavia or areas near to it from early times. As for the rather few iron-related words in another Southern Saami language, Ume Saami, this might represent merely a gap in research as Ume Saami language documentation is poorer than that of e.g. South or Lule Saami.

The scenario described above assumes, however, that many of the Proto-Scandinavian loanwords were borrowed into the predecessor of South Saami in central Scandinavia, and thus, they might never have been present in the more northern Saami languages. It is known that the southwestern Saami languages have received Proto-Scandinavian loanwords independently from other Saami languages (Piha & J. Häkkinen 2020), and it is seen even in the data of this article (see etymologies 17 SaaS *smirre*, cf. SaaL *smirjjo* ‘smith’; 22 SaaS *smærjoe* cf. SaaL *smirjjo* ‘smithy’; 25 SaaS *praedtie*, cf. SaaN *ráddi* ‘glowing coal’). Therefore, an option is that these words were never borrowed into Proto-Saami, and that is why it was necessary to borrow words for these concepts from Finnish, Karelian, and Russian. The fact that Lule (and Pite) Saami have borrowed these words

(*smirjjo* ‘smithy’, *smirjjit* ‘forge (v.)’, and *smirjjo* ‘smith’) from a later Scandinavian language stratum that descends from the same word as the South Saami words, strengthens the proposal that South (as well as Pite and Lule) Saami borrowed the words in central Scandinavia for the first time.

Perhaps Proto-Saami was divided into two (or more) groups, of which one was a more western group inhabiting the western parts of the area of modern Finland that later moved to Central Scandinavia and had intensive contacts with the iron-producing Proto-Scandinavian speakers. The other would have been an eastern group that connects to the archaeological Luukonsaari and Sirnihta groups that had less contact with the Scandinavian-speaking iron-producers. Contacts with Proto-Scandinavian were, however, otherwise quite intensive, because the Proto-Scandinavian loanword stratum is large in the more northern Saami languages.

Another explanation for the lack of iron-related Proto-Scandinavian loanwords in the more northern Saami languages would be that the archaeologically visible iron manufacturing of the early Iron Age in inland Finland was connected to language groups that did not speak Saami. Such an explanation has been presented before, and I have accepted it in my earlier research (Piha 2020b: 50): Heikkilä (2011: 76) has proposed that the Saami languages spread to Lapland around 300 CE. That immigration would have caused the earlier inhabitants to abandon ceramics and iron production. However, no reason for why this might have happened has been given. Heikkilä (id.) does mention the fur trade, but he does not describe more closely how it connects with the spread of Saami languages and the cessation of ceramic and iron production. In this scenario, the iron manufacturers were not Saami speakers but other people(s) with another language or languages that are called Paleo-European (see e.g. Aikio 2004) and/or a Uralic *x*-language (Rahkonen 2013: 182–183).

The period when the Saami speakers first got acquainted with iron was not, however, the time of the Proto-Scandinavian loanwords. The word for ‘iron’ as well as some other iron-related words were borrowed already from Proto-Germanic or North-West Germanic (see Table 1). It is quite possible that Saami speakers learned some basic iron manufacturing or iron-working during this time, but the intensive phase of iron manufacturing and iron-working began a few centuries later.

It is not simple to define, with the present knowledge of the Saami past, which of the above-described scenarios is the most plausible one. That much is clear that Saami speakers did know about iron and possibly how

to work it already quite early in the Roman or even Pre-Roman Iron Age (approximately 500 BCE – 400 CE).

I find it most likely that the Southern Proto-Saami speakers did have an active role in the iron-manufacturing network in central Scandinavia from 200 CE onward. However, it is somewhat a mystery how the speakers of Saami in the area of modern inland and northern Finland connect to iron manufacture during the time when Saami speakers spread to the area (the last centuries before the Common Era and the first centuries of the Common Era). It is an archaeological fact that there has been iron manufacture in the area inhabited also by the Saami speakers in the Roman Iron Age. The vocabulary related to iron manufacture and iron-working does not give any certainty on the matter: it is possible that the Saami took part in the iron-related activities and the words disappeared from some of the Saami languages at some point in history. It is also possible that the disappearance is only a research gap: in this research, I have not gone through the scientific dictionaries systematically word by word. It is well possible that the dictionaries include words not found in the data here and the iron-related vocabulary in languages from North Saami to Ter Saami is larger than presented here.

Another question to be pondered is why the earliest iron-related vocabulary is borrowed from Germanic and Scandinavian language strata if these groups did not inhabit the inland areas of modern-day Finland. Did the Saami speakers learn how to manufacture iron in the western areas of Finland and then return to the inland areas to practice iron manufacturing? Or was there a Paleo-European-speaking population who taught iron manufacturing to the Saami speakers? If this was the case, this contact has not left many traces, if any, in the Saami languages. The future multidisciplinary research within the project “Iron Saami” will likely solve some of this mystery.

Abbreviations

Fi	Finnish	SaaL	Lule Saami
Nw	Norwegian	SaaN	North Saami
NWG	North-West Germanic	SaaP	Pite Saami
ON	Old Norse	SaaS	South Saami
PG	Proto-Germanic	SaaSk	Skolt Saami
PS	Proto-Saami	SaaT	Ter Saami
PSc	Proto-Scandinavian	SaaU	Ume Saami
SaaI	Inari Saami	SPS	Southern Proto-Saami
SaaK	Kildin Saami	Sw	Swedish

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Appendix: The words in the data and their origin

The words are organized according to origin. Derivatives are given together with their roots if they are in the data. Words without iron-related meanings are presented if they have cognates in other Saami languages with iron-related meanings. Such non-iron-related words are not, however, included in the data. The column for the *terminus post quem* gives the earliest possible dating for the Saami words. The compound words and

derivatives can be as old as the youngest part of the word, but they could also be much younger. Derivatives can be as old as the simplex word or derivative suffix but could have been derived later. The dating of Finnic/Finnish is given very approximately in many cases, because it is not easy to determine from which Finnic or Finnish language stratum a word has been borrowed.

SaaS	SaaU	SaaP	SaaL	SaaN	SaaI	SaaSk	SaaK	SaaT	Origin of the word	Terminus post quem
<i>vietjere</i> 'hammer (n.)'	<i>viehtjiere</i>	<i>vähtjer</i>	<i>viehtjer</i>	(<i>bádje-</i>) <i>veahčir</i>	<i>veeččir</i>	<i>vieččer</i>	<i>viebfšer</i>	<i>vieččeŕ</i>	Proto-Indo-Iranian	
<i>baste</i> 'pliers'	<i>bassta</i>	<i>pastastit</i>	<i>bassta</i>	<i>basttat</i>	<i>poostah</i>	<i>põöst</i>			Proto-Finno-Permian	
<i>sjijle</i> 'coal'	<i>sjijlla</i>	<i>sjilla</i>							Pre-Finnic	
<i>ruevtie</i> 'iron'	<i>ruövddie</i>	<i>ruov'tie</i>	<i>ruvdde</i>	<i>ruovdi</i>	<i>ryevdi</i>	<i>ru'vdd</i>	<i>rúŋŋ^dt</i>	<i>rìŋŋ^te</i>	PG/NWG	500–1 BCE / 1–150 CE
<i>voesse</i> 'sack'	<i>vuassa</i> 'sack'	<i>vuos'sa</i> 'sack' ¹	<i>vuossa</i> 'sack'	<i>vuossu</i> 'bellows'	<i>vuássoo</i>	<i>vüöšs^A/</i> <i>vuöšs</i> 'sack' ²	<i>vüšs</i> 'sack'	<i>vīšs</i> 'sack' ³	PG/NWG	500–1 BCE / 1–150 CE
<i>aassjoe</i> 'furnace'			<i>ássjo</i>	<i>áššu</i> 'glowing wood embers on a hearth'					PSc	200–500 CE
<i>praedtie</i> 'glowing coal'	<i>práddie</i>	<i>kraat'tie</i>	<i>rádde</i>	<i>ráddi</i>	<i>ráddi</i>	<i>rä'dd</i>			PSc	200–500 CE
<i>smærjoe</i> 'smithy'									PSc	200–500 CE
<i>staelie</i> 'steel'	<i>stállie</i>	<i>stálle</i>	<i>stálle</i>	<i>stállli</i>	<i>stääli</i>	<i>stää'll</i>			PSc	200–500 CE
			<i>stádde</i> 'anvil'	<i>stáddi</i>					PSc	200–500 CE
			<i>stádda</i> 'anvil'						PSc	200–500 CE
<i>smirre</i> 'smith'	<i>smidda</i>								PSc/Common Scandinavian or <i>smirredh</i> also ← PG	200–500 CE / 550– 800 CE
<i>smirredh</i> 'forge (v.)'				<i>álvi</i> 'furnace'					PSc/ON	200–800 / 800–1250 CE
		<i>smirrjo</i> 'smithy'	<i>smirjjo</i> (-goahte)						Transition between PSc and ON / ? ON	~500–800 CE / 800– 1250 CE
		<i>smirrjo</i> 'smith'	<i>smirjjo</i> <i>smirjjit</i> 'forge (v.)' <i>smirjár</i> 'smith'						Transition between PSc and ON / ? ON	~500–800 CE / 800– 1250 CE

1. Lehtiranta (2001 [1989] s.v. *vösse).

2. Itkonen (1958: 796) / Lehtiranta (2001 s.v. *vösse).

3. SaaK and SaaT by Itkonen (1958: 796).

SaaS	SaaU	SaaP	SaaL	SaaN	SaaI	SaaSk	SaaK	SaaT	Origin of the word	Terminus post quem
				<i>bádji</i> 'forge (n.)'	<i>páájá</i>				Fi	? (after 400 CE)
				<i>dáhkut</i> 'forge (v.)'		<i>tääkkad</i>	<i>tāgke^δ</i>	<i>tāgka^d</i>	Fi	? (after 400 CE)
				<i>dearpat</i> 'forge (v.)'	<i>terppâđ</i>	<i>ṛǣǣṛpṛqr</i> 'cut (wood) ⁴ '	<i>tiēr</i> 'pe ^δ 'cut; chop down'		Fi	? (after 400 CE)
				<i>doanggat</i> 'pliers'	<i>toongih</i>				Fi	? (after 400 CE)
			<i>hilla</i> 'coal'	<i>hilla</i>	<i>illâ</i>	<i>ill</i>	<i>ἰλλ(α) / βλλ</i>	<i>ἰλλ(α)</i>	Fi	? (after 400 CE)
				<i>rávdi</i> 'smith'	<i>rävdee</i> <i>rävdijáššad</i> 'forge (v.)'	<i>rau'ddi</i> <i>rau'ddjōōššad</i> 'forge (v.)'			Fi	? (after 400 CE)
						<i>ka'll'jed</i> 'forge (v.)' <i>ka'll'jeei</i> 'iron forger'			Fi/Karelian	? (after 400 CE)
						<i>miōhh</i> 'furnace'			Russian	1700s
						<i>stälē</i> 'steel'			Russian	recent
							<i>stäl(ē)</i> 'steel'		Russian/SaaSk	recent
						<i>cee'pc</i> 'pliers'			Derivative (← <i>ce'pcced</i>)	?
<i>baeljie-stahke</i> 'bellows'									Derivative (← <i>baeljestidh</i> ← **baeljie ← Fi <i>palje</i> / PG/PSc *balgiz)	1200–1500 CE / 500–1 BCE / 200–500 CE
				<i>ruovde-bázahus</i> 'iron slag'					Compound with a derivative as a second component (← <i>bázahit</i> ← <i>báhcit</i>)	?
						<i>rau'ddipõrtt</i> 'forge (n.)'			Compound (both parts ← Fi)	after 400 CE
					<i>terppâm-vuáláás</i> 'anvil'				Compound (younger part ← Fi <i>tärppiä</i>)	after 400 CE
<i>ruevtie-skaarhte</i> 'iron slag'	<i>skárttie</i> 'in-crustation; crust; bad reindeer pasture covered with frozen snow'	<i>skártta</i> 'in-crustation; crust; bad reindeer pasture covered with frozen snow'	<i>skárta</i> 'crust; snuff; thin ice on the ground'	<i>skártti</i> 'crust'					Compound (younger part ← PSc *skarda)	after 200–500 CE

4. SaaSk and SaaK by Itkonen (1958: 590) and Lagercrantz (1939: 918).

Non-finite-based remote past in Udmurt: Resultative and experiential functions

The article deals with three constructions in Udmurt based on the past participle, combined with the past tense copula (*val*_{PST1}/*vjlem*_{PST2}). The aim of the study is to describe the functions of the following constructions: 1) the experiential construction + *val/vjlem*, 2) the resultative construction + *val/vjlem* and 3) the past participle + *val/vjlem*. These constructions are examined through the theory of perfects and pluperfects and whether the constructions carry out functions typical of those of a (plu)perfect. The results of the study show that the constructions in question carry out functions typical of pluperfects, such as past relevance perfect, past experiential and counterfactual functions. The construction formed with the past participle is found to be evidentially neutral and by and large corresponding to the first finite remote past, albeit declining in use and stylistically nuanced. The so-called resultative construction, on the other hand, may acquire various meanings depending on the semantics of the verb, among them past resultative action, past relevance perfect, and past continuative. Contrary to previous descriptions, the resultative construction may also occur with an external subject argument. Finally, the constructions also carry out similar discourse-pragmatic functions as their finite counterparts, such as attenuating questions, expressing assertivity, mirativity, and marking a pre-mirative context.

1. Introduction
 2. What is (more than) perfect?
 - 2.1. The perfect in Udmurt
 - 2.2. Remote past categories in Udmurt
 3. Data and research
 4. Analysis
 - 4.1. The past experiential
 - 4.2. Past participle + *val*
 - 4.3. The past resultative
 5. Conclusions
- Abbreviations
Primary data sources
References

1. Introduction

Uralic languages use a variety of both finite and non-finite verb forms that by definition fit clearly into the said categories. However, many forms and constructions are more ambivalent in regards to their (non-)finiteness (Ylikoski 2022: 936). In Udmurt, a central Uralic language of the Permic group, events and actions in the past can be referred to by using a variety of synthetic and analytic past tenses. The two synthetic past tenses are the first past (1) and the second past (2) (see e.g. Bartens 2000; Winkler 2011; Kubitsch 2022), of which the former is either evidentially neutral or associated with firsthand knowledge, and the latter an evidential past form. The analytic past tense system consists of various combinations of finite or non-finite verb forms and the unchanged past tense form of the copula *val/vilem*, such as the remote past constructions with the lexical verb in the first (3) or the second past tense.

- (1) Со студент вал.
So student val.
 3SG student be.PST1
 ‘S/he was a student.’ (non-evidential)
- (2) Со студент вылэм.
So student vilem.
 3SG student be.PST2
 ‘S/he was [apparently, as I have heard] a student.’
- (3) Со толон тонэ утчаз вал но, öз шедьты.
So tolon ton-e utčá-z val no,
 3SG yesterday 2SG-ACC search-PST1.3SG be.PST1 but
ę-z šedťj.
 NEG.PST1-3SG find.CNG
 ‘He was looking for you yesterday but did not find you.’
 (Kel'makov & Hännikäinen 2008: 269)

Although the analytic constructions have been mentioned and often briefly described in grammars and other studies (see e.g. Serebrennikov 1960; Zaguljaeva 1984; 1986; Bartens 2000; Kozmács 2002; Tarakanov 2011; Winkler 2011), the descriptions remain general, offering many options for both form and function without an exhaustive insight into when and why certain constructions are preferred over another and what the full semantic profiles of the individual constructions are. In a recent study, however, the finite-based

remote past constructions have been found to carry out temporal, modal, and pragmatic functions (Saraheimo 2022). Most prominently, the finite remote pasts are used modally to indicate that the event or action deviates from or contradicts the course of events in the real world or fails to receive an expected continuation, much like in (3), where the action of the subject does not result in the intended outcome. Furthermore, the constructions cannot be considered as past perfects and should thus be viewed as general remote pasts rather than pluperfects (Saraheimo 2022). Additionally, the finite constructions have pragmatic functions, such as expressing evidentiality, mirativity, and emphasis (Saraheimo 2022; Saraheimo & Kubitsch 2023).

In addition to finite-based constructions, there are similar pluperfect-like constructions based on non-finite forms of the lexical verb. These constructions are the past experiential construction (4), which denotes an experience the speaker possesses, and formally consists of a genitive-marked subject, a person-marked past participle, and the existential copula; the so-called resultative construction (5) based on the inessive-marked past participle, and lastly, the past participle combined with *val/vjlem* (6).

- (4) Со музей сярысь мынам кылэме вал ини.
So muzej śariś mīnam kīl-em-e
 that museum about 1SG.GEN hear-PTCP.PST-POSS.1SG
val inī.
 be.PST1 already
 ‘I had already heard about that museum.’ (*Udmurt duńńe*, 6 June 2007)
- (5) Нылмурт синмаськемын вал лесниклы.
Nīlmurt śinmaśk-em-īn val lesńik-lī.
 woman fall.in.love-PTCP.PST-INE be.PST1 forester-DAT
 ‘The woman had fallen in love ~ was in love with a forester.’
 (*Udmurt duńńe*, 21 Oct. 2013)
- (6) Мон та сярысь вунэтэм вал ини.
Mon ta śariś vunet-em val inī.
 I that about forget-PTCP.PST be.PST1 already
 ‘I had already forgotten about that.’ (*Udmurt duńńe*, 23 Oct. 2009)

The constructions presented above are often mentioned in grammars in connection with participles or as for (6), in connection with other analytic remote past constructions, but without further elaboration on how and when exactly the constructions are used and when a certain construction

is preferred over another (see e.g. Leinonen & Vilkuna 2000; Šutov 2011; Tarakanov 2011; Winkler 2011). The aim of this paper is to describe the use of these constructions in which the lexical verb is in a non-finite form, more precisely, in the past participle, as opposed to the variants based on a finite-conjugated main verb and *val/vilem*. These analytic constructions largely resemble pluperfects, and the categories of the perfect and pluperfect will be discussed in terms of the characteristics of the constructions that correspond to prototypical (plu)perfects. Furthermore, this study participates in the ongoing discussion concerning the analytic past formation and functions in the Uralic languages of the Middle Volga region, in which similar analytic past tense patterns are manifested (see e.g. Spets 2023 for analytic past tenses in Mari). In a broader crosslinguistic context, this article adds to the general typological knowledge of the pluperfect, remote past, resultativity, and the use of the ‘be’-verb in analytic past tense constructions.

In the following I argue that in Udmurt, there is no unambiguous grammatical category representing the category of a pluperfect, but a variety of constructions which carry out functions typical of pluperfects. Although the actions are expressed by non-finites, the main functions are, especially when combined with *val/vilem*, typically associated with predicates, and the investigated constructions should be considered as participants in the past tense predication of Udmurt. As for the resultative construction, the study takes into account the recent studies that suggest the construction also carries out functions of a present perfect, or even a preterite (Asztalos 2022; Asztalos & Szabó 2023), and thus the functions and syntax of the past resultative might also be affected by reanalysis. The study shows that depending on the semantics of the verb, the past resultative construction may acquire resultative and continuative meanings and operate on different temporal levels. Evidential notions are not found in the construction where the unmarked past participle is combined with *val*, although the construction often occurs in a pre-mirative context. On the other hand, constructions built around the second past copula *vilem* carry referative and inferential evidential notions and possess a mirative extension.

The paper is organized as follows. In Section 2, I present the relevant theory and previous studies, reflecting on how the phenomena involved have been described in the Udmurt language. In Section 3, I elaborate on the data and research methods. The results of the analysis are laid out in Section 4, and the conclusions are summarized in Section 5. The analysis shows that the non-finite based remote past constructions do fulfill

functions typical and expected of pluperfects, but possess also other noteworthy and mutually overlapping functions and features which should be taken into consideration while performing research on corresponding constructions in Uralic and beyond.

2. What is (more than) perfect?

The perfect is an aspecto-temporal category used to express actions in the past that hold relevance in the present frame (Comrie 1976; Bybee et al. 1994; Lindstedt 2000; Comrie 2021). Typically, the actions expressed by perfects are completed, although one of the attested Indo-European semantic extensions for perfects includes universal or continuative action (Comrie 2021: 5). Perfects have a universal tendency to develop from completives and resultatives, of which the latter is the most common source for perfects in European languages (Lindstedt 2000: 366). Resultatives originally express a change in the state of the subject (7). The resulting state causes the current relevance of the past action (8). The present relevance is often morphologically reinforced through an auxiliary, as perfects tend to be periphrastic constructions (Bybee et al. 1994; Comrie 2021: 2).

(7) Italian

Siamo andat-i.

be.PRS.1PL go.PTCP-M.PL

‘We have gone [and are therefore no longer there].’

(8) English

I have already eaten [and therefore I am no longer hungry].

The perfect is a crosslinguistically attested category (Comrie 2021: 2). Of the typical sources for perfects listed by Bybee & Dahl (1989: 67–68), two are relevant for Udmurt: first, combining the copula with a past participle of the main verb, and second, a possessive construction involving a past participle of the main verb. While perfects with an auxiliary ‘be’-verb are crosslinguistically common, ‘have’-perfects have been considered by and large as an Indo-European phenomenon, although perfect constructions with ‘have’-verbs or other possessive constructions have also been attested outside the Indo-European family (Comrie 2021). According to Leinonen & Vilkuna (2000), Udmurt lacks an unambiguous category of a perfect, but uses different inflectional categories to express meanings typically attributed to perfects. The events expressed through these forms may be moved into an even

earlier frame by combining them with *val/vjlem*, in which case the resulting constructions resemble pluperfects in Standard Average European (SAE).

Due to its fluid nature as a category between aspectual and temporal or verbal and non-verbal categories, the perfect is particularly susceptible to semantic change (Lindstedt 2000: 366). The semantic development of the perfect is crosslinguistically very similar. The most frequent extensions of the perfect include the experiential (especially in negated clauses, see e.g. Dahl 2021), the aforementioned universal or continuative meaning, and inferential and reportative evidentiality (Lindstedt 2000; Comrie 2021: 5–6). As regards Udmurt, the resultative, the experiential, the evidential, and as shown in Section 4.3, continuative meanings are relevant.

The pluperfect is a frequent perfect-related category in SAE languages. However, the pluperfect has larger variation in its definition and functions, and many languages have been claimed to have the category of pluperfect even when they do not have an unambiguous category of perfect (Dahl 1985: 144). Dahl also points out that the pluperfect tends to develop other secondary or extended uses uncharacteristic of perfects, such as counterfactual modality and less restricted use with time adverbs (Dahl 1985: 144–146; Comrie 2021). Concerning the counterfactual functions, pluperfects crosslinguistically indicate not only that a given situation preceded another past situation but emphasize that this situation belongs to another temporal plane, separated from the plane of the current narrative. In other words, the pluperfect distinguishes events in the discourse that fall outside of the main narrative line. Thus, the pluperfect could be said to mark a certain mental operation, where a return to a previous time frame takes place, breaking the order of event development (Plungjan 2004: 284–285; see also Givón 1982 and Plungjan 1998).

In some languages, such as Finnish and Argentinian La Paz Spanish, pluperfects are known to have developed referative¹ and evidential functions (see Lampela 2004: 27–34 and Pallaskallio 2016 for Finnish; for La Paz Spanish, see e.g. Quartararo 2020). In Udmurt, evidentiality and the modal aspects are of specific interest, as the second past is by default evidential, and the ‘be’-verb in analytic past tenses may inflect in either the first (witnessed information or evidentially neutral) or the second (evidential) past.

1. I choose to use the term *referative* instead of *reported* in the context, as past perfects are characteristically used to relay the speech of another person, while reported evidentials mainly mark the information source as other (Lund 2015: 64–68; Pallaskallio 2016: 103–109).

In the following Sections 2.1 and 2.2, I will discuss the categories of perfect and other related categories, such as the resultative and the experiential, reflecting on how these phenomena manifest in the Udmurt language, such as the pluperfect-like constructions these forms participate in.

2.1. The perfect in Udmurt

Udmurt represents the Permic subgroup of the Uralic languages. Udmurt also belongs to the Volga–Kama Sprachbund, which consists of Uralic and Turkic languages spoken in the Middle Volga region. Affected by contact-induced processes due to intense and long-standing language and cultural contacts, the languages spoken in the area share a remarkable amount of common properties, such as rich agglutinative inflection, evidential verbal categories and an SOV word order. An abundant analytic past tense predication is also typical of the Volga-area languages (Honti 2000; Bradley et al. 2022).

In their study on the past tenses of Permic languages from a typological perspective, Leinonen & Vilkuna (2000) present three inflectional categories which have functions typical of perfects in Udmurt: the evidential second past, the resultative construction, and the experiential construction. Traditionally, the difference between the first and the second past tenses is described as evidential (Aikhenvald 2004: 26, 28; Tarakanov 2011: 189; Skribnik & Kehayov 2018: 539). The first past tense is predominantly a general or evidentially neutral past, although contextually it is sometimes associated with eyewitness and direct evidence. The first past may also be used to express assimilated knowledge or a higher degree of certainty and commitment. The second past is used to express actions and events based on indirect evidence, most importantly hearsay and inference, while also marking mirative notions and a lower degree of certainty and commitment (Siegl 2004; Kubitsch 2022; see also Leinonen & Vilkuna 2000). When used in the first person, evidential forms in Udmurt denote the speaker's lack of control, which refers to a semantic content of non-volitionality (Curnow 2003: 42–43; Kubitsch 2022; see Section 4.2).

The Udmurt second past forms derive from the Permic past participle, which is also the base of the evidential second past in Komi, a Permic language closely related to Udmurt. While Udmurt has developed a particular inflectional paradigm for the second past tense (the *Kjri̯kmas* variant in Table 1), the Komi paradigm uses the plain past participle with the adjectivizing

Table 1: The two variants of the Udmurt second past in the positive conjugation, the Kirjikmas variant (standard, widespread) and the Bavli variant (dialectal, narrow spread) (Saarinen & Kel'makov 1994: 132–133).

	Kirjikmas	Bavli
1SG	<i>m̄iniškem</i>	<i>m̄ineme</i>
2SG	<i>m̄inemed</i>	<i>m̄inemed</i>
3SG	<i>m̄inem</i>	<i>m̄inem(ez)</i>
1PL	<i>m̄iniškem(mi)</i>	<i>m̄inemmi</i>
2PL	<i>m̄inil'lam(di)</i>	<i>m̄inemdi</i>
3PL	<i>m̄inil'lam(zi)</i>	<i>m̄inemzi</i>

suffixes *-a* (SG) and *-aęs'* (PL) in the third person forms. The Komi paradigm resembles the dialectal Bavli variant presented in Table 1, and according to the reconstruction of the Permic second past by Csúcs (2005), it is closer to the original form. The other inflectional categories with perfect functions in Udmurt are based on the same participle. Udmurt has previously used the past participle to express resultative past, which is known to have a connection with evidentiality through the element of inference, resulting in the form grammaticalizing into an evidential past (Asztalos & Szabó 2022; Szabó 2022). The grammaticalization of the evidential second past could have triggered the marking of other functions of the past participle with additional markers to avoid the overlapping of distinct inflectional categories.

For experiential past, Udmurt uses a periphrastic construction based on a past participle inflecting for the possessive conjugation (identical to the Bavli second past in Table 1) combined with the present existential *vań*, or, if manifesting a past frame, with *val/vilem*. This construction is mentioned in several grammars and studies on Udmurt tenses (Nasibullin 1984; Bartens 2000: 237–238; Winkler 2001: 47–48; Kel'makov and Hännikäinen 2008: 235). When formed with a present copula, the construction resembles a (present) perfect in an experiential function (9) (Leinonen & Vilkuna 2000: 508).

- (9) Тынад кылэмед вань-а революционеръяс сяръсь?

T̄inad kij-em-ed vań-a revolucioneer-jos śariś?
 you.GEN hear-PTCP.PST-POSS.2SG be.PRS-Q revolutionary-PL about
 'Have you [ever] heard about the revolutionaries?'
 (Leinonen & Vilkuna 2000: 509)

Leinonen & Vilkuna (2000: 509) point out that the semantic connection to an experiential perfect is clear: the experiential perfect often occurs in

languages as a grammaticalized ‘have’ construction, where the speaker is considered to possess the experience of having done something. The experiential perfect has also been described as a category that expresses distinct qualities of an agent due to past experiences (Bybee et al. 1994: 62; Lindstedt 2000: 369), and these kinds of attributes are characteristics of the agent.

Should a past participle be used in a predicative position, it displays the inessive marker *-jn*. The *-(e)mjn* construction has regularly been referred to as the resultative construction or described as denoting the result of the action expressed with the verbal head (Bartens 2000: 239; Leinonen & Vilkuna 2000: 504; Šutov 2011: 272; Winkler 2011: 115). Prototypically, it is formed from a transitive verb and takes on an impersonal meaning: the participle then denotes a result of a change in the patient argument’s state, as in (10) (Leinonen & Vilkuna 2000: 504–505).

(10) Укно усьтэмын.

Ukno *ušt-em-jn*.

window open-PTCP.PST-INE

‘The window is open.’ (Leinonen & Vilkuna 2000: 505)

In the first Udmurt grammar by Venjamin Pucek-Grigorovics from 1775, the *-(e)mjn* construction is not presented (Alatyrev 1975), nor does it occur in the first folklore collection by Bernát Munkácsi (1887). In the first grammar, the past participle is claimed to have perfect and resultative meaning, and it occurs also in the complement position. During the twenty-first century, it has been attested that the perfect and resultative meaning is now much more often expressed by the resultative construction compared to the second past tense (Szabó 2022: 124–128). The use of the inessive case in the resultative construction originates in the essive functions of the Udmurt inessive. In addition to its locative meaning ‘in’ (11), the inessive case in Udmurt is used in an essive function (‘as’, 12) (Edygarova 2017: 312). The essive is a category of a “state of being” or an impermanent state described for many Uralic languages. Udmurt has no essive case, but both the inessive and instrumental cases are historically and functionally linked to essives (de Groot 2017: 2; Edygarova 2017).

(11) Удмуртиын уйлiсько.

Udmurti-jn *ul-iško*.

Udmurtia-INE live-PRS.1SG

‘I live in Udmurtia.’

(12) Дышетйсьын ужасько.

Djšetiš-ŷn uža-ško.

teacher-INE work-1SG.PRS

‘I work as a teacher.’ (Winkler 2011: 56)

The meaning of the resultative construction is best described as “being in a state”, while also expressing the action leading to the state, which fits the typology and definition of resultatives. Another category expressing states is the stative, which, as opposed to resultatives, makes no explicit reference to the cause of the state (Nedyalkov & Jaxontov 1988: 6). The resultative construction may, depending on the semantics of the verb, acquire both stative and resultative meaning. This is a consequence of the aspectuality of the resultative, as it implies an unlimited or ongoing duration through its stative meaning. Thus, the resultative, although often intuitively associated with completed action i.e. perfectivity, has an affinity to the imperfective aspect (Nedyalkov & Jaxontov 1988: 16). In Chinese, for instance, the marker for resultativity and progressivity is one and the same. A locative marker, however, is more prominently associated with progressives (Bybee et al. 1994: 128). Such locative progressive markers exist also in some Western Uralic languages (e.g. Finnic, Saami). In the Saami progressive forms such as North Saami *mannamin* (13), the final element *-n* in the suffix *-min* goes back to the Proto-Uralic locative case marker **-na*, the ancestor of the inessive and instrumental case markers in Udmurt and the essive case marker in Saami and Finnic (Edygarova 2017: 312; Ylikoski 2017: 229).

(13) North Saami

Ovlla ii astan go šlubistit
Ovlla NEG.3SG have.time.PST.CNG except gulp.down.INF

gáfe ja dalle lei mannamin.
coffee.SG.GENACC and then be.PST.3SG go.PROG

‘Ovlla only had time to sip the coffee, and then he was already going.’
(Kuokkala 2021: 339)

In addition to transitive verbs, the Udmurt resultative construction may be formed with intransitive verbs (Leinonen & Vilkuuna 2000: 504–505; Šutov 2011: 272). In this case, the construction expresses a change in the state of the subject, i.e. the result of an action affecting the subject. The use of an intransitive verb in the resultative is demonstrated in (14) through comparing the uses of the resultative and the first and the second past.

Later on, Asztalos (2022) corrected her statement to include peripheral and even some core unergatives, which in turn have an agentive (active) subject. According to Asztalos (2022), the construction accepts peripheral unergative intransitives expressing smell emission, physiological processes, and controlled processes of motion such as *bižilini* ‘run’ (16), while uncontrolled, non-motion processes, such as *djrekjani* (‘tremble’) are not accepted. Certain core unergatives, some controlled, non-motion processes such as *užani* ‘work’ (17), may occur.

- (16) Анае [...] ас вакытаз куасэн бызьылэмын.
Anaj-e [...] *as* *vakjt-a-z* *kuas-en* *bižil-em-ijn*.
 mother-POSS.1SG self time-INE.POSS.3SG ski-INS run-PTCP.PST-INE
 ‘My mother skied in her youth.’ (Asztalos 2022)
- (17) Зоја Ермакова 30 ар ужамын фермаын.
Zoja Jermakova *30 ar* *uža-m-ijn* *ferma-ijn*.
 Zoja Ermakova 30 year work-PTCP.PST-INE farm-INE
 ‘Zoja Ermakova worked 30 years on a farm.’ (Asztalos 2022)

Crosslinguistically, resultativity is typical for unaccusative intransitive verbs as well as transitive verbs. During the earliest stages of perfects, transitive verbs drop the agent and present the patient in subject position (Comrie 2021: 6–7). Extending the formation of resultatives into transitive verbs without a change in the diathesis happens in later stages of perfect development. It is noteworthy that the Udmurt resultative may also occur with unergative intransitives, which is untypical of resultatives, as well as with some transitive verbs “with an external argument as the subject of the *-(e)mijn-* construction” (Asztalos 2022; see Section 4.3). Recently, Asztalos & Szabó (2023) have brought up the possibility that the resultative construction in Udmurt may be a resultative on the path of grammaticalization to a perfect. As mentioned above, and also brought up by Asztalos and Szabó, in Udmurt a development from a resultative to an evidential

transitives into two different types. In short, for unaccusatives, the subject is internal, i.e. unaccusative verbs have a patient subject, while unergative verbs have an agent subject (for a more detailed description, see Perlmutter 1978). The unergative/unaccusative split has been later described to divide further into core and peripheral unaccusatives and unergatives, of which the peripheral ones show more variance crosslinguistically in how they behave syntactically, whereas the core verbs are more uniform in their syntactic properties (Sorace 2000).

perfect has already happened once, and thus a consequential development would not be unexpected. This notion will be taken into consideration in Section 4.3, where the past resultative construction is analyzed.

2.2. Remote past categories in Udmurt

Udmurt uses a variety of analytic past constructions. The languages of the Volga–Kama region have a particular model for analytic past formation, which consists of the main verb in finite conjugation combined with the unchanged auxiliary past form of the ‘be’-verb (Honti 2000; Bradley et al. 2022). In Udmurt, two remote past forms may be formed by combining the main verb in the first past with *val* or the main verb in the second past combined with *vilem*, or, less frequently, with *val*. I will refer to these two forms as the first and the second remote past, respectively. The auxiliary follows the main verb, as the prototypical word order is SOV (Vilkuna 1998; 2022). Traditionally, these are referred to as the pluperfects in Udmurt (Serebrennikov 1960; Kel’makov & Hännikäinen 2008). In the latest Western³ grammar descriptions and textbooks (Kozmács 2002; Kel’makov & Hännikäinen 2008; Winkler 2011), the difference between the first and the second remote past is characterized as aspectual: the first remote past is described as a progressive, whereas the second remote past is allegedly a resultative or completive. This claim, however, has recently been tested and shown to be incorrect (Saraheimo 2022). The grounds for labeling these forms pluperfects have also been scrutinized, as they are clearly not past perfects, and their temporal profile corresponds more to those of general remote pasts. Additionally, the forms are frequently used in modal and pragmatic functions (Saraheimo 2022; see also Saraheimo & Kubitsch 2023). In addition to these forms, the experiential and the resultative construction may combine with *val/vilem*, connecting the actions with a past time frame instead of the present, resulting in constructions largely resembling pluperfects.

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3. The notion of the grammars and descriptions being “Western” is based on the fact that Uralistics have been studied actively both in Russia and Europe, while different traditions prevail in European and Russian linguistics. This is also due to the language barrier, and it is often visible in the descriptions of Uralic languages that some notions and conclusions concerning certain grammatical categories are based on erroneous interpretations of source materials, and then prevail in subsequent works if the description of the category is not thoroughly revised.

Grammars and language descriptions typically include different morphological variants of the two remote pasts in Udmurt. While accounts of the first remote past are uniform, the inflectional properties and the motivation for the variation of the second remote past are more ambiguous. Table 2 shows variants for the remote pasts in the published Udmurt grammars, textbooks, and more specific case studies. As seen in Table 2, earlier descriptions label the PST1 + *val* variant as the second remote past, whereas the constructions based on a participle or second past are referred to as the first remote past. This could be due to a change in the prevalence of different forms, or due to the later studies finding it more consistent to refer to the first-past-based forms as the first remote past or pluperfect and the second-past-based forms as the second remote past or pluperfect. In my study, I refer to constructions based on finite second past forms as the second remote past, whereas the construction including first past forms is labeled the first remote past.

Table 2: The remote past (pluperfect) structures as presented in previous studies

	First remote past	Second remote past
Serebrennikov 1960	PTCP.PST(-POSS) + <i>val</i> / PST2 + <i>vilem</i>	PST1 + <i>val</i>
Zaguljaeva 1984	PTCP.PST(-POSS) + <i>val</i> / PST2 + <i>vilem</i>	PST1 + <i>val</i>
Kel'makov & Hännikäinen 1998	PST1 + <i>val</i>	PTCP.PST(-POSS) + <i>val</i> / PST2 + <i>vilem</i>
Kozmács 2002	PST1 + <i>val</i>	PST2 + <i>val/vilem</i>
Winkler 2011	PST1 + <i>val</i>	PTCP.PST(-POSS) / PST2 + <i>val</i>
Tarakanov 2011	PST1 + <i>val</i>	PTCP.PST(-POSS) + <i>val</i> / PST2 + <i>vilem</i>

As Table 2 shows, there are three constructions to which the label *second remote past* has been applied: a main verb in the second past combined with either *val* or *vilem*, or the past participle (optionally) combined with a possessive marker, co-occurring with *val*. Within the scope of this article the last variant is relevant, as it is based on a non-finite form of the main verb. It cannot go unnoticed that this construction is strikingly similar to the past experiential, the only difference being that the subject is marked here in the nominative instead of the genitive in the past experiential. Subject

marking, however, does not always reveal the construction type, as overt subject expression is not required in either case. A possessive-marked past participle also resembles the Bavli variant of the evidential second past conjugation (see Table 1 in Section 2.1), which is the more archaic second past variant. The evidential⁴ properties of the PTCP.PST(-POSS) + *val* construction are not discussed in older studies, such as Serebrennikov (1960) and Zagulyaeva (1984). Both Serebrennikov and Zagulyaeva describe it as a variant of the first remote past (PST1 + *val*), while other grammars, such as Tarakanov (2011: 182–184) and Winkler (2011: 100), describe it as a variant of the second remote past, yet neither of them take a clear stance on whether the construction is evidential or not, either. According to Bartens (2000: 208), the form may be interpreted either as a second-hand evidential or evidentially neutral. While Tarakanov claims that the evidentiality of all the analytic constructions is determined by the inflection of the past copula, he also states that the three remote past constructions – PST1 + *val*, PTCP.PST(-POSS) + *val*, and PST2 + *vilem* – are functionally identical and he presents the latter two constructions as variants of one inflectional category. Skribnik & Kehayov (2018) claim that the construction is a witnessed remote past, but in their description of the analytic past tenses in the Uralic languages, the first remote past (PST1 + *val*) is not taken into account, i.e. only PTCP.PST(-POSS) + *val* / PST2 + *vilem* are presented.

As mentioned above, Tarakanov (2011) claims that the evidential value of the analytic past forms is defined by the tense of the copula. Spets (2023) has recently suggested analyzing the ‘was’-element in the formally corresponding analytic tenses of Mari as a retrospectivization particle, one which operates on a clausal level. As such, the element cannot shift epistemic modal or evidential values of other clausal elements to the past, as they rank higher than time in the scope hierarchy (18) (Aikhenvald 2004: 96; Nuyts 2014: 48).

(18) Scope hierarchy of different TAME values

epistemic modality / evidentiality > time > aspect > state of affairs

It can, however, according to the chosen tense (evidential or non-evidential) define the evidential value of the whole clause. While the study at hand mainly examines each construction as a whole, the status of *val* and

4. As pointed out by the reviewer, evidentiality was a lesser-known category in the 1960–1980s, but the epistemic properties of the second past as a category of second-hand knowledge or inference were already well known by that time, and similar characteristics were not described for the construction in question.

vjlem as auxiliaries or particles is subject to debate (see e.g. Saraheimo & Kubitsch 2023, and Spets 2023 for Mari), and this observation will be taken into account while defining the evidential status of the forms. If this is the case, the PTCP.PST(-POSS) + *val* construction should rather be characterized as a variant of the first remote past than the second remote past, assuming that the crucial characteristic of the second remote past is evidentiality. In the analysis below, I will scrutinize the evidential values of the PTCP.PST(-POSS) + *val* construction in more detail.

The functions of various remote past categories are, as a rule, only briefly described in available grammars and other studies. However, as pointed out in Section 1, it has recently been shown (Saraheimo 2022) that the finite first remote past and the finite-based second remote past are predominantly used modally, while also maintaining a temporal function, marking a remote past event, typically preceding another past event (past reference time). In the predominant modal function, the event shown in the remote past contradicts the states of affairs or, more precisely, course of events, in the actual world. The action expressed in the remote past, or the result of it, may be annulled, is intended but unrealized, or differs from reasonable or presumable expectations (Saraheimo 2022; Saraheimo & Kubitsch 2023). In this function, the construction largely resembles the *bylo* construction in Russian (19) (see e.g. Goeringer 1995; Kagan 2011), as well as pre-mirative context marking attested in some Turkic and Samoyedic languages (19) (Skribnik 2023). A pre-mirative context is a concept used to describe a sequence in storytelling that precedes an unexpected event, typically but not exclusively expressed in a mirative form (Skribnik 2023). In the Buryat example (20), a terminative converb⁵ is used in a pre-mirative function, while mirativity per se has no dedicated miratives, and mirativity is expressed through periphrastic forms with mirative extensions or through marking the pre-mirative context.

(19) Russian

Lena otkry-l-a bylo okno, no tut že
 Lena open-PST-F be.PST window.ACC but immediately

snova ego zakry-l-a.
 again 3SG.ACC close-PST-F

‘Lena opened the window but closed it again at once.’ (Kagan 2011: 79)

5. The terminative converb *-tAr* in Buryat marks a terminal boundary ‘A until B’, but also an unexpected succession of events (‘A, until unexpected B’) (Skribnik 2023: 251)

(20) Buryat

... *oj sooguur jaba-na xa. Tiige-že*
 forest in go-PRS[3SG/PL] PTCL.MOD V.DEM-CVB

jaba-tar-aa, baaxalda-taj uulza-ba xa.
 go-CVB.TERM-REFL bear-COM meet-PST[3SG/PL] PTCL.MOD

[The trickster wanted to hide his mother from the revenge of his last victim.] ‘(They) went into the forest. While (they) were walking this way, (they) met (lit. with) a bear.’ [The trickster fights with it.] (Skribnik 2023: 251)

The first remote past is most frequently used to express abnormally proceeding events, while the second remote past construction has a mirative extension, as also attested for the synthetic second past (Saraheimo 2022; Saraheimo & Kubitsch 2023). The constructions have been shown to also carry out discourse-interactional and intersubjective functions, such as marking emphasis or (un)common ground (Saraheimo 2022; Saraheimo & Kubitsch 2023). The categories investigated in this study, however, are syntactically different from juxtapositional finite-based analytic constructions, where both the ‘be’-verb and the lexical verb display the same, finite tense. Furthermore, in the finite-based analytic past tenses, *val/vilem*, originally third person singular forms of ***vili-* (‘be’), remain unchanged, whereas the analysis shows that in the past resultative construction, the evidential *vilem* may inflect for person (see Section 4.3, example 45). While the evidentially neutral *val* does not inflect for person, *vilem* has a full paradigm, and some occurrences of third person plural forms (*vililʹlam* ‘they [allegedly] had’) are attested.

The past resultative is not typically mentioned in the descriptions of Udmurt remote past or pluperfect categories. According to Leinonen & Vilkuna (2000: 511) it corresponds to PST2 + *val*, although they do explain the restrictions for the use of the resultative earlier in the paper. Bartens (2000: 240) describes the past resultative as being marked as a verbal construction rather than a nominal one when combined with a past copula, and she claims that the construction is then interpreted as the predicate of the clause. In this paper, I will consider both the past experiential and the past resultative as possible representatives of a remote past or pluperfect category in Udmurt.

3. Data and research

The study is performed on the basis of material found in newspaper texts. The analysis is carried out by examining the functional context of individual constructions, with special emphasis on semantic content typical of perfects and pluperfects. The textual genre of the data is also taken into consideration. Concerning the past resultative construction, I have paid special attention to the syntactic properties of the construction.

The study focuses on the Udmurt-language newspaper *Udmurt duńńe*, which mostly uses language considered standard literary Udmurt, although dialectal expressions are not avoided. The data is drawn from the Udmurt corpus (see References), which consisted of approximately 73 million tokens altogether at the time the data was drawn (2020–2021). In the event that a search in the *Udmurt duńńe* subcorpus yielded no results, some examples of the more infrequent constructions were drawn from other newspapers. Newspaper materials constitute 91% of the content, of which *Udmurt duńńe* is the biggest source. For the past experiential and the PTCР.PST + *val* construction I have performed a search across the whole subcorpus of *Udmurt duńńe*, whereas for the past resultative the search was limited to the year 2013,⁶ as the past resultative occurs far more frequently than the other constructions. The 2013 subcorpus data comprises approximately 570,000 tokens. I have analyzed altogether 922 non-finite remote past clauses: 637 past resultatives, 262 past experientials, and 23 PTCР.PST + *val* constructions. This includes all the occurrences found in the specified subcorpus.

As regards certain ambiguous examples, I have consulted three native speakers who also have an academic background in studying the Udmurt language: Svetlana Edygarova, Natalija Kozlovceva, and Irina Krestjaninova. Whenever native-speaker evaluations have been used to supplement the analysis, this has been mentioned accordingly.

In the transcription of the examples, Cyrillic (Russian) language data is transcribed according to the International Scholarly System, while authors and persons (e.g. Plungian, Yeltsin) with an established romanization of their names in the field will be referred to accordingly. For transcribing Udmurt, the Uralic Phonetic Alphabet (UPA) is used.

6. In cases with a person-inflected *vjlem*, the search consisted of the whole corpus, because the occurrences were rare and a search for solely the year 2013 yielded only one hit. Some of the older and newer materials yielded examples

4. Analysis

The analysis is divided into three parts: first, I will present the findings concerning the use of the past experiential construction PTCP.PST-POSS + *val* (4.1), then the PTCP.PST + *val* construction (4.2), and finally the past resultative construction PTCP.PST-INE + *val* (4.3). Occurrences with both *val* and *vilem* are taken into consideration in each subsection.

4.1. The past experiential

As expected for an experiential, the past experiential occurs most frequently with perception verbs such as *kil̄ini* ‘hear’ and *ad̄žini* ‘see’. Perception verbs comprise half of the data: out of 262 occurrences, 129 (49%) are formed with perception verbs, as in (21).

- (21) Иже вуи нырысьсэ, но та фестиваль сярысь кылэме вал ини.
Iž-e vu-i nīrīsse, no ta
 Iževsk-ILL come-PST1.1SG first.time but this
festival' śariś kil-em-e val in̄i.
 festival about hear-PTCP.PST-POSS.1SG be.PST1 already
 ‘I came to Iževsk for the first time, but I had already heard of the festival before.’ (*Udmurt duññe*, 11 March 2011)

In (21), the speaker tells a story in the first past (*vui* ‘I came’), which is the evidentially neutral narrative tense and marks the reference time as past. The speaker then refers, in the past experiential (*kileme val* ‘I had heard’), to an earlier experiential event which holds relevance in the reference time. The adverb *in̄i* ‘already’ is frequently used with the past experiential.

In addition to perception verbs, mutative intransitive (motion) verbs, such as *vetlin̄i* ‘come’, *vuīlin̄i* ‘go, visit’, and *p̄irin̄i* ‘enter’ (22), form a significant group in the data. Motion verbs are used in 36 clauses, which is 14% of the total amount of occurrences.

- (22) Та стадионэ азьвыл но пыраме вал. Но туэ нырысьсэ котькуд адымили сётъязы пукон вылэ нимысьтыз шунит валён.
Ta stadion-e aźvyl no p̄ira-m-e val.
 this stadium-ILL before PTCL enter-PTCP.PST-POSS.1SG be.PST1

with similar verbs used in other relevant examples of past resultatives combining with *vilem* (see Section 4.3, example 36).

No tue n̄jrīsse koʔkud adami-l̄j ʃotja-z̄j
 but this.year first.time every person-DAT give-PST1.3PL

pukon v̄ile n̄im̄īst̄jz šun̄j̄t val̄on.
 seat over individually warm cover

‘I had been to this stadium before. But this year was the first time they gave everyone a warm cover over their seat.’

(*Udmurt duññe*, 19 Sept. 2008)

Both perception verbs and motion verbs (21, 22) have a clear semantic connection to experientiality, which as an act often involves movement to a location or sensory reception, or both: having been to a place can be seen as a combination of sensory experiences. The rest of the verbs used in the context do not form uniform semantic groups, but one common verb occurring in the past experiential is *d̄īšets̄k̄j̄n̄j̄* ‘study’. In the data, these cases most often address the basic education of the referent, as in (23). With the verb *d̄īšets̄k̄j̄n̄j̄* the thought of using the past experiential as means of describing an agent’s qualities, namely whether they have an education or not, or to what extent they possess one, is especially imminent.

- (23) Соослэн 7–8 класс дышетскемзы вал — со трос.

Soos-len 7–8 klass d̄īšets̄k-em-z̄j val – so tros.
 they-GEN 7–8 class study-PTCP.PST-POSS.3PL be.PST1 that much

‘They had studied until grade 7 or 8 – that is a lot.’

(*Udmurt duññe*, 29 March 2013)

In (24), the use of both the present and the past experientials is on display, which makes this example of particular interest. In two subsequent questions addressed to the same person, with no apparent switch in the reference time, the speaker first uses the present experiential and then resorts to the past experiential.

- (24) Со доры дырт̄йзы оже бырем̄г̄ёслэн кышнооссы. «Оло, ад̄зы-лэмед вань мынэсьтымзэ? Пленын, тюрмаын, оло, кылэмед вал фамилизэ?»

So dor-i d̄jrt-i-z̄j ož-e bjrem-jos-len
 he at-ILL hurry-PST1-3PL war-ILL perished-PL-GEN

k̄išno-os-s̄j. “Olo, ad̄ž̄il-em-ed vañ
 wife-PL-POSS.3PL maybe see-PTCP.PST-POSS.2SG EX.PRS

m̄j̄nešt̄j̄m-ze? Pl̄en-̄j̄n, t̄urma-̄j̄n, olo,
 I.ABL-DEF captivity-INE prison-INE maybe

In (25), the speaker talks about how they were drawn to the violin, although they had never seen one before (*noku adžileme ej val* ‘I had never seen’). The negative past experiential occurs remarkably frequently with the temporal adverb *noku* (‘never’) which is present in almost every third negative past experiential clause.⁷ Even more frequent is the adverb *na* ‘yet’ (25).

While the tendency of an experiential to be used in negative form is crosslinguistic, it should be noted that some Turkic and Samoyedic languages use similar constructions (subject_{GEN} + PTCP.POSS + existential verb) to convey emphatic assertive meaning (‘something happened; so it was’) (Skribnik 2005; see also Baranova & Mishchenko 2022 for Turkic; Wagner-Nagy 2011 for Samoyedic). Similar use of the negative existential verb has been attested in Mari (Klumpp & Skribnik 2023: 1020). The first remote past (PST1 + *val*) has also been attested in emphatic contexts, and the possibility to analyze *val/vilem* as emphatic particles is currently subject to debate (Saraheimo & Kubitsch 2023). In the following example, where the evidential existential *vilem* is used, an emphatic assertive meaning can be detected. With the experiential, *vilem* is mostly chosen in instances where the information source is not the speaker himself or herself, which in the case of a pluperfect most typically applies to situations where the speaker is citing someone else’s narration (27). In (27), the speaker summarizes what another person told them about the war. They first use the second past (*žalam* ‘he pitied’), and then resort to the past experiential construction (*djšetskemzi vilymte* ‘they had not studied’) to mark emphatic, assertive information (‘they indeed / in fact / really had not studied’). The quotative particle *pe* marks the interviewee as the source of the whole utterance, whereas the second past marks the lack of education as something that was told to the interviewee by someone else.

- (27) Туж жалам чош служить карем эшгӛссӛ, тросӛзлӛн, пе, дышеткемзы вылымтӛ.

<i>Tuž</i>	<i>žal'-am</i>	<i>čoš</i>	<i>služit'</i>	<i>kar-em</i>
very	pity-PST2,3SG	together	serve	make-PTCP.PST
<i>eš-jos-se,</i>		<i>tros-ez-len,</i>	<i>pe,</i>	
friend-PL-ACC.POSS.3PL		many-DEF-GEN	QTV	
<i>djšetsk-em-zj</i>		<i>vilymte.</i>		
study-PTCP.PST-POSS.3PL		be.PTCP.NEG		

7. In addition to *noku*, I have counted in adverbs with similar meaning, such as *ogpol no* or *odig pol no* ‘not once, never’.

‘He really pitied his friends, with whom he went to serve [in the army] together, as most of them, he says, [really] had no education.’
(*Udmurt duńńe*, 24 April 2012)

In conclusion, the past experiential construction is used in ways typical of experientials: it is mostly used with perception verbs and motion verbs, describing experiences the referent had in a given reference time or did not have until that moment. Characteristic of experientials, the construction occurs most often in the negative form. The construction is composed of a past participle of completed action combined with a past copula, and the results of the action are relevant at the reference time; thus, both formally and temporally, it fits the profile of a past perfect, although restricted to experientiality. When used with *vilem*, the construction has a referative evidential meaning. As shown in (24), if the time window for the event is located in the past, and it is specified and delimited in the clause – even when not specifically with a time adverb – Udmurt favors using the past experiential instead of the present experiential. According to a native speaker’s judgment, the past experiential construction with *val* may also have a discourse-pragmatic function, in which it attenuates the question. It should also be taken into consideration that similar constructions are used in other Uralic and Turkic languages to express assertive emphatic meaning, and according to the analysis, this holds true also for Udmurt. The assertive emphatic meaning could have given rise to experientiality: assertivity or a higher level of confidence most often occurs at the level of personal experiences.

4.2. Past participle + *val*

As discussed in Section 2.2, most Udmurt grammars mention the construction consisting of the past participle with, optionally, a possessive marker in second and third person forms⁸ (Serebrennikov 1960; Zagulyaeva 1984; Kel’makov & Hännikäinen 2008: 268; Tarakanov 2011: 182–184; Winkler 2011: 100). The evidential status is not clearly defined in any of the studies. Another problem arises in comparison with the experiential. When comparing Tables 1 and 2 (in which the Bavlj variant follows the

8. Zagulyaeva gives allomorphs to 2PL and 3PL, which correspond to the finite second past conjugation, but does not mention the finite second past as a possible variant of first person singular or plural.

model $\text{PTCP.PST}(-\text{POSS})$, see Section 2.1), it cannot go unnoticed that the paradigms of the past experiential and the past participle + *val* construction almost entirely coincide, except for the subject being marked in the genitive for the experiential. As these constructions differ only by the subject case marking, and the overt subject expression is not obligatory due to the general tendency to omit topical subjects in Udmurt, it is not easy to ascribe concrete elliptic examples to one of these constructions.

The data for the analysis of this non-finite based construction was conducted as follows. As pointed out in Section 3, the search for the year 2013 yielded only a few results for the construction in question, and therefore a search was carried out across the whole corpus of *Udmurt duńńe*. Altogether 50 possible matches were found. The constructions which had the participle marked with a possessive suffix but lacked overt subject expression all turned out to be experientials and were thus excluded from this group. A closer look at the remaining examples shows that some of them are first person plurals of *-anj* verbs,⁹ where the first past differs from the past participle by a final vowel *-i* which, in fact, may drop because of apocope (Edygarova 2010). As there were no occurrences of first person plural forms of *-inj*-verbs representing the construction in question, it is safe to assume that the aforementioned forms actually correspond to the first finite remote past ($\text{PST1} + \text{val}$), which have been excluded from the data. Furthermore, as the first-person singular possessive marker *-e* may also drop (Edygarova 2010), and thereby an overlap with the past participle results, I monitored the remaining data for 1SG forms with a clearly experiential meaning and excluded them from the data as experiential constructions. The remaining data consists of 23 occurrences, which is significantly less than the experiential (262 occurrences) and the second finite remote past, for which a search across the whole corpus gives 378 occurrences.

The use of the $\text{PTCP.PST} + \text{val}$ construction greatly resembles that of the first finite remote past as described briefly in Section 2.2. The construction

9. Udmurt verbal conjugation is traditionally divided into the first and the second conjugation. The first conjugation includes verbs with the infinitive in *-inj*, whereas the second conjugation comprises of verbs with the infinitive in *-anj*. In the *-inj* conjugation, the *-i* in the stem changes to *-i-* in the finite conjugation, but becomes *-e-* in the past participle, whereas in the *-anj* conjugation, the vowel *-a-* in the stem remains unchanged for all forms. This causes syncretism between 1PL (*-am(i)*) and the past participle, if apocope takes place. For a more illustrative presentation of the Udmurt verbal conjugation, see Winkler (2011).

typically denotes a remoter past, much like pluperfects in SAE languages: it marks an action or event taking place before other past events or actions mentioned in the context, as in (28), where the speaker talks about their professional aspirations during their school years.

- (28) «Комсомольская правда» газетэ гожтэт лэзи юрист луэме потэ шуыса, пöрамме печатлазы. Мон та сярсыс вунэтэм вал ини, дышетйсе öтиз учительское.

“*Komsomolskaja pravda*” *gazet-e* *gožtet* *lež-i*
 Komsomolskaya Pravda newspaper-ILL letter send-PST1.1SG
jurist lu-em-e pot-e
 lawyer become-PTCP.PST-POSS.1SG want-PRS.3SG
šujša, peram-me pečatla-zj. Mon ta
 COMP creation-POSS.1SG.ACC print-PST1.3PL I that
šariš vunet-em val iní, džšetiš-e
 about forget-PTCP.PST be.PST1 already teacher-POSS.1SG
et-i-z učitelskoj-e.
 invite-PST1-3SG teachers.room-ILL

‘I sent a letter to the newspaper *Komsomolskaya Pravda* saying I want to become a lawyer, and they published my text. After I had already forgotten about that, my teacher invited me to the teacher’s room.’ (*Udmurt duńńe*, 23 Oct. 2009)

In (8), the speaker first refers to how their letter got printed in a newspaper, in the first past (*peramme pečatlazj* ‘they published my text’). Again using the first past, the speaker then moves on to a later point in time, where their teacher invited them to visit the teacher’s room (*džšetiše etiz* ‘my teacher invited’), but first they point out, with the remote past construction, that by the time this happened, they had already forgotten about the letter (*vunetem val iní* ‘I had already forgotten’). In this case, the use of the remote construction corresponds to a prototypical past-relevance perfect, as it expresses an event taking place before another past event, with consequences relevant at the time in which the subsequent event takes place.

The PTCP.PST + *val* construction often expresses an unfulfilled intention or expectation, or an initiated action or event, which is either interrupted or fails to receive an expected continuation (29). Thus, it marks a pre-mirative context. This function is also predominant for the first finite remote past (see Section 2.2).

- (29) Тау карыны шуыса берытскем вал, но мышказ нокин өвөл ни.
Tau kar-ɨni šujsa berjtsk-em val, no
 thanks make-INF COMP turn-PTCP.PST be.PST1 but
mjšk-az nokin evel ńi.
 behind-INE.POSS.3SG nobody NEG.EX.PRS anymore
 ‘He turned around to say thanks, but there was no longer anyone behind him.’ (Udmurt *duńne*, 9 July 2008)

In (29), the action expressed with the PTCP.PST + *val* construction (*berjtskem val* ‘he turned around’) did not lead to the expected result: the speaker turned around to express their gratitude, but to their surprise, there was no one to direct the intended thanks towards. For the most part, Udmurt uses the second past to convey mirative meaning, but in this case the unexpected revelation is expressed through a present negative existential (*evel* ‘is not’) instead. In Udmurt, a narrative present tense or *praesens historicum* is frequently used in past context, and here it conveys the meaning of a vivid immediacy of a firsthand account (see e.g. Quirk et al. 1985: 181 for English). The first finite remote past (PST1 + *val*) is often used in a similar context, cf. (30), where the pre-mirative context is marked with the first finite remote past, while the mirative is marked with *vjem* (‘be’, PST2), which is used as a mirative particle.

- (30) Мон тонэ бадžым ни кожай вал, нош тон весь анаедлэн вера-
 мезъя гине ульськод вылэм...
Mon ton-e badžym ńi koža-j
 I you-ACC big already reckon-PST1.1SG
val, noš ton veś anaj-ed-len
 be.PST1 but you always mother-POSS.2SG-GEN
vera-m-ez-ja gine uli-škod vjem...
 say-NMLZ-POSS.3SG-ADV only live-PRS.2SG be.PST2
 ‘I’ve reckoned you as a grown up, but you always turn out to act as your mother says...’ (Saraheimo & Kubitsch 2023: 141)

When used in a clause with the conjunction *ke* ‘if’, the construction acquires a counterfactual modal function (31). As opposed to unfulfilled intentions, the counterfactual action or event is not intended or interrupted, as it does not take place to begin with.

- (31) Я, čok, ойдо, čok, оломар но мултэссэ супыльтыны кутски кадь.
 [...] Мон ке дорады чылкак мукетыз пумысен лыктэм вал.
Ja, čok, ojdo, čok, olomar no multes-se
 okay INJ INJ INJ something PTCL extra-ACC

supjilt-jinj kutsch-i kad. [...] Mon ke dor-adj
 chatter-INF begin-PST1.1SG like 1SG if side-ILL.POSS.2PL
čjilkak muket-iz pumišen ljkt-em val.
 completely other-DEF reason come-PTCP.PST be.PST1
 ‘Okay, so be it, I like, started talking about something redundant.
 [...] As if I had come to your place for a completely different reason.’
 (Udmurt *duññe*, 17 March 2010)

In order to determine whether the PTCP.PST + *val* construction has evidential or evidentiality-connected semantic content, we will take a closer look at examples (28) and (29). In (29), the rest of the story is mostly narrated in the first past, in which case genre marking or hearsay do not explain the use of an evidential – the context, however, is pre-mirative, but pre-mirative contexts also accommodate the use of PST1 + *val*. In (28), a mirative interpretation is possible: the action of forgetting could be seen as out of the speaker’s control, and therefore non-volitional. Here the three native informants were consulted in order to determine whether the constructions are interchangeable with the evidentially neutral first finite remote past (PST1 + *val*) and if so, if and how the change affects the meaning. Two of them claimed that the constructions are interchangeable without a change in the evidential semantic content, and both did find there to be a greater (temporal or mental) distance between *vunetem val* and the reference time than *vuneti val* (first finite remote past, PST1 + *val*) and the reference time. The third informant stated that the PTCP.PST + *val* variant could be interpreted as secondhand information, but not necessarily.

As a whole, the analysis does not support a scenario according to which the PTCP.PST + *val* construction would be evidential. Conclusively, the results fit the scope hierarchy of Nuyts (2014) and Aikhenvald (2004) mentioned in Section 2.2, as suggested by Spets (2023) for the Volga–Kama analytic pasts in general, where the tense of the past copula would define the evidentiality of the clause. This, of course, leads us to wonder about the combination of PTCP.PST + *vjlem* – a formally challenging question, as 3SG forms of the second past are identical with the unmarked past participle, and evidential forms in persons other than third persons are rare. A search in the corpus yielded no results for a combination of PTCP.PST + *vjlem* that would indisputably represent the construction in question. Nonetheless, especially concerning the formal correspondence, the function of the construction is similar to the finite second remote past (see e.g. Saraheimo 2022).

It should be pointed out, however, that the PTCP.PST + *val* constructions in the data are often found in texts representing poetry or fiction (short stories). The functions of the construction in these contexts correspond to the ones presented above, as shown in (32) where the use of the construction is used to mark a pre-mirative context.

- (32) Горд кышетэз мон басытэм вал,
 Горд кышет вуэ бездйз.
 Чебер пиез яратэм вал,
 Сьёд, каргам война быдтйз.
 Из гурезь мон азе куашказ,
 Пыдме куажырак тйяз.
- Gord kjšet-ez mon bašt-em val,*
 red scarf-ACC I buy-PTCP.PST be.PST1
- gord kjšet vu-e bezd-i-z.*
 red scarf water-ILL fade-PST1-3SG
- čeber pi-jez jarat-em val,*
 beautiful boy-ACC love-PTCP.PST be.PST1
- šed, karga-m voina bjdt-i-z.*
 black curse-PTCP.PST war kill-PST1-3SG
- Iz gurez mon aź-e kuaška-z,*
 stone mountain I front-ILL fall.apart-PST1,3SG
- pjd-me kuažyrak tija-z.*
 foot-POSS.1SG.ACC with.a.bang break-PST1,3SG
- ‘I bought a red scarf,
 [but] the red scarf faded in water.
 I loved a beautiful boy,
 [but] he died in the black, cursed war.
 A mountain of stone fell apart in front of me,
 broke my legs with a bang.’
 (*Udmurt duńńe*, 6 July 2015)

In (32), the speaker refers to two events which did not end the way she intended or was expecting: the red scarf she bought (*baštem val*) faded in water (*bezdziz*, first past), losing its red color, and the man she loved (*jaratem val*) died in war (*voina bjdtiz* ‘war killed [him]’, first past). In the translation, this is illustrated by the adversative discourse particle ‘but’. In the rest of the poem, first past is used, although the actions follow one another, and thus one precedes the other. Therefore, there must be some other motivation for the use of PTCP.PST + *val*.

Concerning the negation of this construction, Winkler (2011: 98) does not present a negative paradigm, and the negative forms included in Kel'makov & Hännikäinen (2008), namely the *-mte* participle with possessive markers, are not found in the data. Zaguljaeva (1984) gives the same paradigm as Kel'makov & Hännikäinen, but with the option of leaving the possessive marker out. Negative constructions like these can indeed be found in the data, but when examined more closely, they appear to be negations of the past resultative and shall therefore be considered in Section 4.3.

In conclusion, the *PTCP.PST + val* construction is rare and mostly displays the same functions as the first finite remote past. In connection with the particle *ke*, the construction may be used counterfactually. As a rule, it does not have evidential semantic content and is often encountered in texts representing fiction or poetry. As mentioned in Section 2, the construction is based on a more archaic variant of the second past and could therefore be of more ancient origin. Considering these facts and the analysis conducted in this section, the construction can be considered a stylistic, declining alternative for the first finite remote past (*PST1 + val*).

4.3. The past resultative

The resultative construction appears remarkably often with the past copula *val*. With 630 occurrences in the corpus, it is overwhelmingly frequent in comparison to other remote past constructions, both finite¹⁰ and non-finite. This section seeks to shed more light on the use of the past resultative by elaborating on the prototypical use of the construction and, more precisely, by noting occurrences where the meaning cannot be described as resultative. In order to do so, I will discuss the syntactic properties of the verbs which are allowed in the construction, paying special attention to untypical occurrences. Lastly, I will take a closer look at how *vilem* behaves in the construction, both syntactically and semantically.

Much like the present resultative, the past resultative is prototypically, and most frequently, used in impersonal transitive clauses, where the agent is demoted and the object argument (patient) moves to the subject position. The resultative denotes the (changed) state of the patient. Temporally, the past resultative most typically expresses an action or event happening

10. In *Udmurt duññe* 2013–2014, 122 examples were found for the first remote past and 36 for the second remote past (cf. the total amount of 604 occurrences for the past resultative) (Saraheimo 2022).

in the same temporal order as a simple past tense (33), not locating the action as prior to another event. Thus, the temporal profile of it differs from that of a pluperfect.

- (33) Кылсярысь, Ижын тани кык пол ялймы нимаз нылпи сад усьтонъя конкурс. Та ивор паськыт вӧлмытэмын вал.
Kylsariš, Iž-in tani kjk pol
 for.example Iževsk-INE like.that two time
jali-mj nimaz niłpi sad ušton-ja
 announce-PST1.1PL separately child garden open-ADV
konkurs. Ta ivor paškjt velmiž-em-žn val.
 competition that news wide spread-PTCP.PST-INE be.PST1
 ‘For example, in Iževsk such a competition for opening a kindergarten was announced twice. The news was spread widely.’
 (Udmurt duńne, 25 Jan. 2013)

The past resultative may also be formed from an intransitive verb. In most earlier descriptions, it has been claimed that the resultative may only be formed from intransitives that result in a change in the subject’s state, i.e. intransitives with no semantic subject, that is, unaccusatives, as in (34) (cf. Leinonen & Vilkuna 2000; Asztalos 2011).

- (34) Нылмурт синмаськемын вал лесниклы.
Nilmurt šinmašk-em-žn val lesnik-lj.
 woman fall.in.love-PTCP.PST-INE be.PST1 forester-DAT
 ‘The woman had fallen in love ~ was in love with a forester.’
 (Udmurt duńne, 21 Oct. 2013)

Asztalos (2022) points out that the present resultative construction also accepts a wide range of unergative intransitive verbs, such as the activity verbs *užanj* (35), *veraškijnj* (36), and *keretijnj* (37). This holds true also for the past resultative. With unergatives, the resultative construction acquires typically an atelic reading (cf. Asztalos 2022). In (35), the construction would translate to the past perfect progressive in English, and in (36), the construction refers to an atelic event prior to another moment in the past. In these cases, the construction acquires a continuative reading. In (37), the situation is similar: when the informants were asked how the meaning of the construction would change if *val* were omitted from the clause, the informants stated that it would indicate the fight is still ongoing. Thus, in these instances, the construction has the meaning of a past-relevance perfect, or even a past continuous perfect.

- (35) Та нылкышно кема аръёс чоже ужамын вал ни.
Ta nilkışno kema ar-jos čože
 this woman long year-PL altogether
uža-m-ın val ni.
 work-PTCP.PST-INE be.PST1 already
 ‘The woman had already been working for many years.’
 (Udmurt duńńe, 8 Feb. 2013)
- (36) Путинэз пуктыз Ельцин. Куспазы соос вераськемын вал: азь-
 выл президентлэсь командазэ возёно.
Putin-ez pukt-i-z Jelcin. Kusp-azi
 Putin-ACC put-PST1-3SG Yeltsin between-INE.POSS.3PL
soos veraşk-em-ın val: aźvıl prezident-leś
 they talk-PTCP.PST-INE be.PST1 former president-ABL
komanda-ze voź-ono.
 team-POSS.3SG.ACC keep-NEC
 ‘Putin was put [into his position] by Yeltsin. Among themselves, they
 had discussed: the previous president’s team had to be preserved.’
 (Udmurt duńńe, 25 July 2008)
- (37) Гажанэныды керетэмын вал ке, нырысь вамыш пумитаз лэсьтэ
 асьтэос.
Gažan-eni-dj keret-em-ın val ke, nırjś
 partner-INS-POSS.2PL quarrel-PTCP.PST-INE be.PST1 if first
vamiş pumit-az lešt-e ašte-os.
 step against-ILL.POSS.3SG make-IMP.2PL yourself-PL
 ‘If you have fought with your partner, you shall take the first step [to
 make amends] toward them.’ (Udmurt duńńe, 22 March 2013)

Although the construction is characterized by its predominant resultative function, it co-occurs with both unaccusative and unergative verbs, and it may refer to continuative events. Thus, it should be taken into consideration whether the construction may be a resultative grammaticalizing into a perfect (Asztalos 2022; Asztalos & Szabó 2023; cf. Comrie 2021). As outlined in Section 2, Udmurt does not have an unambiguous category of a perfect, and the second past has assumedly developed from a resultative past participle (see e.g. Szabó 2022), so a similar development has already taken place earlier in the language. A possible way to examine the grammaticalization path to perfects is the ‘still’-test (Lindstedt 2000: 367). Adverbs of unlimited duration, such as ‘still’, can be used to test whether a

construction is grammaticalizing into a perfect. The resultative is considered a stative or statal variant of the perfect, and therefore, in the event that the construction does not permit an adverb of unlimited duration, such as ‘still’, it can no longer be considered to express a statal event (Lindstedt 2000; see also Nedyalkov & Jaxontov 1988; Bybee et al. 1994: 63–68). With some unaccusative motion verbs, such as *liktinji* (‘come’), a clause with the past resultative indeed does not permit ‘still’ (38). This holds true also for (36) and (37); with activity verbs, the use of an adverb of unlimited duration would mean that the structure would acquire an indisputably progressive meaning. In (38), the syntactic position of the place adverb is also unusual, as it typically would appear before the verb. This also supports the claim that instead of being understood as a complement clause, the past resultative construction indeed acts as a predicate.

(38) a. Тужгес но кыдѣкысез лыктэмын вал Туваысь.

Tužges no kjdokjš-ez likt-em-ïn val Tuva-jš.
 most distant-DEF come-PTCP.PST-INE be.PST1 Tuva-ELA
 ‘The most faraway [guests] had come from Tuva.’
 (*Udmurt duńne*, 20 Feb. 2013)

b. *Тужгес но кыдѣкысез лыктэмын на вал Туваысь

Tužges no kjdokjš-ez likt-em-ïn na val Tuva-jš.
 most distant-DEF come-PTCP.PST-INE still be.PST1 Tuva-ELA
 ‘The most faraway [guests] had still come from Tuva.’

As Asztalos (2022) points out, the resultative construction sometimes, albeit rarely, displays transitive verbs with an external argument¹¹ as the subject, such as (39) and (40). As stated in Section 2.1, extending the formation of perfects to transitive verbs without a change in the diathesis belongs to the later stages of perfect development (Comrie 2021). While there were no such occurrences in the 2013 *Udmurt duńne* examples, a search through the entire corpus yielded results also for some transitive verbs with external arguments as subjects. Interestingly enough, most of them were

11. Here the term *external argument* is applied, as the subject of the resultative construction is typically an internal argument: the experiencer if intransitive (subject-oriented resultatives), the patient if transitive (object-oriented resultatives). In examples and descriptions given in previous literature, the resultative construction cannot acquire a subject if it is object-oriented, but as proven by the above examples, in some cases this is possible.

perception verbs, such as *adžinj* ('see'), *kilinj* ('hear'), and *šedinj* ('find, feel'), which are commonly associated with experiential meaning and the semantic group most often encountered in the experiential construction.

- (39) Арми улон сярысь мон зэмзэ ик трос кылэмын вал ни. Уродзэ но, зечсэ но өжыт өз вералэ.

Armi ulon šariš mon zem-ze ik
 army life about I truth-DEF.ACC EMPH

tros kil-em-ĭn val ni. Urod-ze
 much hear-PTCP.PST-INE be.PST1 already bad-DEF.ACC

no, žeč-se no ežit e-z vera-le.
 also good-DEF.ACC also little NEG.PST-3SG speak-CNG.PL

'I had really heard a lot about army life. Bad things as well as good things were told a lot.' (*Ošmes*, 19 Feb. 2015)

- (40) Мон ваньзэ сое ас вылам шөдэмын (вал).

Mon vań-ze so-je as vił-am
 I all-DEF.ACC that-ACC self on-INE.POSS.1SG

šgd-em-ĭn val.
 feel-PTCP.PST-INE be.PST1

'I (had) experienced [lit. felt] all of it myself.'

(*Udmurt duńne*, 28 March 2008; clause altered by the author)

In (39), a man talks about what he had heard about the army before joining it himself. Although there is no explicit object, it is implicit; *kilinj* is a transitive verb which requires at least an elliptic object, and the adverb *tros* ('much') implies the presence of an implicit object, as well as the accusative-marked *žečse* ('good') and *urodze* ('bad') in the following clause. In (40), the speaker refers to their experience-based competence as a teacher, saying that they learned what they know through doing, using the verb *šedinj* ('feel'), and in this context, both the external subject and object-marked internal patient are present. *Val* could be added to the clause if it was part of a past narrative, and it would not otherwise affect the interpretation of the clause.

The resultative can be negated in two ways, either by using the negative participle *-mte* (41) or an analytic construction where the copula is negated (42) (see Section 2.2). The analytic construction, which has the Northern Udmurt negation pattern, is more common in the data, although the synthetic form (Southern type) is presented as primary in grammars. The negative participle suffix *-mte* in the Southern type is a special element preserved mainly as the negative counterpart for the past participle, and

the negation is understood to act on the level of the whole clause, including the predicate, not only on the level of the NP.¹²

- (41) Судьялэн юрттйсьёсыз но, администраторъёсыз но соку чак-
ламтэ вал.
Sud'ja-len jurttiś-jos-iz no, administrator-jos-iz
court-GEN assistant-PL-POSS.3PL and administrator-PL-POSS.3PL
no soku čakla-mte val.
and then appoint-PTCP.NEG be.PST1
'Court assistants and administrators had not yet been appointed.'
(*Udmurt duńńe*, 22 Aug. 2011)
- (42) Бюджетын талы коньдон чакламын öй вал.
Bjudžet-ın ta-lj końdon čakla-m-ın
budget-INE that-DAT money allocate-PTCP.PST-INE
ę-j val.
NEG.PST1-1SG be.PST1
'No money was allocated for it in the budget.'
(*Udmurt duńńe*, 23 Aug. 2013)

The resultative construction may also combine with *vilem* and thereby have an evidential meaning, although in the corpus, occurrences with *vilem* are remarkably rarer than with *val*: whereas with *val*, a search of the 2013 *Udmurt duńńe* subcorpus yields almost 568 results, PTCP.PST-INE + *vilem* occurs only 36 times. *Vilem* may mark the construction as hearsay (43), but it may also have a mirative meaning (44). Thus, the construction also functions as a past mirative strategy.

- (43) 22-тй июне Кам шурын Сарапул палан 19 аресъем егит пи
быриз, со кудъемын вылэм но ярдурын эшгъёсыныз шутэтскем.
22-ti ijuń-e Kam šur-ın Sarapul pal-an 19 ares-jem
22-ORD June-ILL Kama river-INE Sarapul side-INE 19 age-DER
jegit pi bir-i-z, so kudž-em-ın
young boy die-PST1-3SG he intoxicate-PTCP.PST-INE
vilem no jardur-ın eš-jos-ıńj-z šutetsk-em.
be.PST2 and shore-INE friend-PL-INS-POSS.3SG repose-PST2.3SG
'On July 22, along the Kama River in the Sarapul area, a 19-year-old
young man died, he was [reportedly] intoxicated and unwinding
with his friends at the riverside.' (*Udmurt duńńe*, 24 June 2013)

12. As pointed out by the reviewers, a question may arise whether the *-mte* participle here should be interpreted as a caritive adjective, corresponding to the

- (44) Пиез вордйськиз. Но Алёшалы шудтэм аджон гожтэмын вылэм.
Pi-jez vordisk-i-z. No Aloša-lj
 son-POSS.3SG be.born-PST1-3SG but Alěša-DAT
šud-tem adžon gožt-em-ijn vilem.
 happiness-CAR fate write-PTCP.PST-INE be.PST2
 ‘His son was born. But [it turned out that] an unhappy fate was
 predestined [lit. written] for Alěša.’ (*Udmurt duńńe*, 9 Aug. 2013)

In (43), *vilem* clearly marks hearsay in the construction: it is first stated as an evidentially neutral fact that the young man died, while the alleged circumstances, his intoxication (*kudžemjn vilem* ‘he had been drunk’) and having spent time in his friends’ company (*šutetskem* ‘relax, repose, unwind’) are reported information. In (44), the story of the unfortunate life of a rich man’s son is told: while the family was wealthy and well-established in their village, their son was, unexpectedly, born disabled and faced many other difficulties later in his life. Hearsay is not the motivation for *vilem* in this context, as the rest of the story is told in the first past. In this case, as confirmed by the informants, *vilem* marks the information as counterexpectational relative to the preceding course of events, which is semantically connected to mirativity (see Aikhenvald 2012; Saraheimo & Kubitsch 2023).

In a past resultative construction, *vilem* can inflect for person, although there were only a few occurrences to be found in the materials. In all the occurrences, *vilem* inflects in the third person plural form *vililʕam*, as in (45) (cf. example 43).

- (45) Кылем арын Городлэн нуналаз 36 йыртэмась кырмемын вал.
 Та пöлысь 27-ез куджэмын выйиллям.
Kilem arjn Gorod-len nunal-az 36
 last year-INE city-GEN day-ILL.POSS.3SG 36
jirtemaś kirm-em-ijn val. Ta peł-įś
 criminal catch-PTCP.PST-INE be.PST1 that among-ELA
27-jez kudž-emjn vililʕam.
 27-DEF intoxicate-PTCP.PST-INE be.PST2.3PL
 ‘Last year during the city-day celebrations 36 lawbreakers were
 detained. Of them, 27 were intoxicated.’ (*Udmurt duńńe*, 10 June 2016)

type “prepared” vs. “unprepared”. As pointed out in Section 2.2, negation through non-finite elements is not uncommon in Uralic languages, and the negative participle suffix *-mte* in Udmurt is only encountered in connection with the past participle and the negative conjugation of the finite second past.

The past resultative is by far the only remote past construction where *vilem* may inflect for person. The observation is in line with the construction favoring the negation to happen analytically through the copula instead of using the negative participle suffix. In the finite constructions, it is the main verb that inflects for person, and therefore marking person on the copula is redundant. Person marking on the copula also speaks in favor of describing the construction as an analytic predicate.

As the construction is remarkably rare with *vilem*, and in some of the occurrences *vilem* acts as a mirative strategy rather than evidential, a question arises whether the resultative construction itself has an evidential value. The vast majority of the past resultative occurrences do represent non-witnessed information, e.g. accounts of political decision-making, which could be considered factual and thus common knowledge, but also stories from the lives of third parties, which were supposedly not witnessed firsthand by the speaker and not considered common knowledge. As mentioned in Section 2, pluperfects tend to develop referative, inferential, and evidential functions, and this could also be the case for the past resultative.

Conclusively, the analysis shows that the past resultative construction may acquire different meanings depending on the semantics of the verb. Some of these cannot be described as resultative, as they carry notions of continuative action, although the connection of resultatives and imperfectivity is known in typological studies (see Section 2.1). Temporally, the past resultative is most often used in a way corresponding to a simple preterite, and thus does not act typically like a pluperfect. It may, however, depending on the semantics of the verb, acquire also a past perfect meaning. With transitives and unaccusatives, the construction typically acquires a resultative reading, while with unergatives, the construction tends to acquire a past continuative reading. While the possible grammaticalization to a perfect should be studied more carefully, paying attention primarily to the use of the present resultative, the analysis shows evidence of the construction going through the said process. Of especial interest are the cases where a resultative construction is formed with a transitive verb in the presence of an external subject, as this kind of development is usually associated with later stages of perfect development. The use of the construction seems to also overlap with the experiential and may thus be acquiring experiential meaning.

5. Conclusions

The analysis above shows that the non-finite-based remote past constructions partially fulfill functions typical and expected of past perfects, and thus possess features typical of pluperfects. Temporally, the description of the PTCP.PST + *val* and the past experiential constructions matches one of a typical pluperfect: they are most typically used to describe actions or events that have taken place and were completed before the reference time, which is also located in the past. The constructions may also be used to express counterfactuality, and they can be used, and are sometimes even favored instead of other forms, in connection with time adverbs – as opposed to typical SAE pluperfects, in Udmurt, a delimiting temporal adverbial may trigger the copula to switch from present to past.

The past experiential is restricted to express past experientiality and assertivity, while the past resultative may also express experiential meanings. Taking into consideration the frequent use of the past resultative, as well as other factors mentioned in Sections 2 and 4.3, it should be noted that the resultative construction seems to be grammaticalizing into a perfect and the past resultative may therefore overlap with other forms with functions typical of perfects. The PTCP.PST + *val* construction should be considered as either a witnessed remote past, or as an evidentially neutral remote past functionally corresponding to the first remote past (PST1 + *val*), albeit being more rarely used and mostly encountered in prose or poetry. All the constructions may combine with both the evidentially neutral or witnessed *val* and the evidential *vilem*, although concerning PTCP.PST + *val*, the negative occurrences found in the data are identical in form to the second finite remote past. With the past resultative, *vilem* may also inflect for person, which supports analyzing the construction as an analytic verbal form instead of a complex predicate. Occurrences with *vilem* are rare, though, and raise the question of whether the resultative itself has reportative or evidential functions – it is known that past perfect constructions tend to have referative functions. In connection with the past experiential, the construction may be used in questions for pragmatic reasons, as to attenuate the question, and the past resultative construction with *vilem* has a mirative extension. As the constructions in question share similarities with SAE pluperfects, but also differ from them, the study offers future insights into what should be taken into account when studying corresponding categories in other Uralic languages, such as Mari, or the Turkic languages of the Volga–Kama Sprachbund.

Abbreviations

1	first person	INE	inessive
2	second person	INF	infinitive
3	third person	INJ	interjection
ABL	ablative	M	masculine
ACC	accusative	MOD	modal
ADV	adverbial case	NEC	necessive
ATTR	attributive	NEG	negative
CAR	caritive	NMLZ	nominalizer
CNG	connegative	ORD	ordinal number
COM	comitative	PL	plural
COMP	complementizer	POSS	possessive
CVB	converb	PROG	progressive
DAT	dative	PRS	present tense
DEF	definitive article	PST1	first past
DEM	demonstrative pronoun	PST2	second past
DER	derivative	PTCL	particle
EGR	egressive	PTCP	participle
ELA	elative	Q	question marker
EMPH	emphatic particle	QTV	quotative
EX	existential	REFL	reflexive
F	feminine	SG	singular
GEN	genitive	SUP	superlative
GENACC	genitive-accusative	TERM	terminative
ILL	illative	V	verb
IMP	imperative		

Primary data sources

Udmurt corpora: Main corpus of literary Udmurt.

https://udmurt.web-corpora.net/udmurt_corpus/search

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The Oxford Guide to the Uralic Languages: A major albeit uneven handbook

BAKRÓ-NAGY, MARIANNE & LAAKSO, JOHANNA & SKRIBNIK, ELENA (eds.). 2022. *The Oxford Guide to the Uralic Languages*. Oxford University Press. LV + 1115 pp.

The study of Uralic languages is a vast field, with a tradition comparable and complementary to that of Indo-European linguistics, spanning over two hundred years, covering several dozen languages belonging to nine distinct branches and involving a myriad of topics and linguistic theories. It is thus appropriate that a major handbook addressing the discipline as a whole should also be a work of considerable size, both in the number of pages and in the topics covered. *The Oxford Guide to the Uralic Languages* (OGUL), edited by Marianne Bakró-Nagy, Johanna Laakso, and Elena Skribnik and comprising the contributions of 43 authors altogether (cf. the list of contributors on p. xlix) is undoubtedly a work of great value. However, it is not without flaws. In this general review, the authors wish to point out some of the major problems

with OGUL, without forgetting to mention its merits.

The handbook under review is a massive work consisting of 54 chapters, across a total of 1,170 pages, and comprising a vast number of language descriptions and other topics important for Uralistics. Because of the size of the work, it is practically impossible for one, or even three, persons to review the book comprehensively. To manage such an endeavor one ought to possess a knowledge of a number of topics, which in the present diversity of linguistics is practically impossible. Therefore, we have opted to review only parts of the handbook but focus on these with our best competence. By choosing such an approach, we hope to display the variation in the handbook without jeopardizing the reader's opinion of the work by reviewing it less than adequately. This introductory review will touch on some of the topics handled in the first chapters of OGUL, as well as more general concerns, while the subsequent reviews by individual authors will address a selection of topics in more detail.

Structure and composition

The volume is divided into three sections. The first section, titled “Introduction”, consists of six chapters that provide general information on the history of the language family (Chapters 1 and 2), as well as on the development of the sociolinguistic situation of Uralic nation-state and minority languages (Chapters 3–5). Finally, Chapter 6 is a brief account of the kinds of writing systems used for the Uralic languages. The second and largest section comprises language descriptions, arranged according to subbranches and from West to East. This section has the ambitious goal of providing an account not only of each Uralic subbranch (Saami, Finnic, Mordvin, Mari, Permic, Samoyed, and the branches of Khanty, Mansi, and Hungarian, often subsumed under Ugric), but also of each individual Uralic language. This goal is achieved quite well, although individual descriptions are missing for several lesser-known Saami languages (Ume, Pite, Akkala, and Ter), as well as Ludic in the Finnic branch and Mator in the Samoyed branch. The third section, “General issues and case studies”, addresses several topics related to synchronic descriptive phonology, morphology, and syntax, such as palatalization,

prosody, case and person marking, and word order. This section is clearly aimed at readers looking for more general information on certain characteristics in the Uralic family.

One of the most valuable contributions to Uralistics brought about adjacent to this volume is undoubtedly the extensive number of very detailed maps illustrating the areas in which the Uralic languages have been spoken during various periods in history and at present (see Rantanen et al. 2022). This collection of maps, which were based on a detailed analysis of the data and involved collaboration between many experts, is by far the highest-quality one produced to this date. They are also open access and licensed in a way that allows other researchers to use them. Although the maps are part of an independent project, their use in this volume will surely bring them much deserved attention.

Typological considerations

A clear improvement over previous handbooks in Uralistics (e.g. Sinor 1988; Abondolo 1998) is the adoption of a typological perspective. Even though typologically oriented research has been gaining ground among Uralists (as mentioned also by the editors, Chapter 40), there

have not been any collections of general typological features found in Uralic languages. The typological orientation is evident in many chapters on individual languages, where typologically interesting phenomena are brought up more than in previous works (e.g. the secondary declension of Mordvin languages on pages 401–402, and discussion of differential object marking, or DOM, in many chapters).

The clearest manifestation of this tendency is, however, Part III of this handbook that is dedicated to general issues and case studies of Uralic languages. This approach to Uralistics was not entertained in the previous handbooks, as is evident for example from the subtitle of Sinor (1988): “Description, history and foreign influences”. The section comprises in total 14 chapters on various phenomena in Uralic languages, ranging from phonology to clause combining. Some chapters consider from a typological perspective features typical of Uralic languages (e.g. consonant gradation, case, adpositions), while others look at topics that have gained general typological interest from the point of view of Uralic languages (e.g. TAM and evidentials, negation, nominal predication). Such a section is clearly warranted, as the typological data on Uralic languages tend to be more

or less inaccurate. For example, the analysis of nominal predication in Erzya (Stassen 2013) clearly shows a misunderstanding of the phenomenon in the Mordvin languages, not to mention that the analysis is based on a grammar that is over 150 years old, namely that of Wiedemann (1865).

On the other hand, a section on typologically oriented research can function as a showcase for Uralicists about the current diversity of research. It is certainly needed if the editors of the handbook thought that an introductory chapter is necessary for this part, when no such introduction was deemed necessary for Parts I and II that contain the historical and descriptive chapters. All in all, the typological orientation makes a fine addition to any Uralistics handbook and demonstrates alongside the historically and descriptively oriented research the full coverage of modern-day Uralistics research.

However, despite the large number of typological case studies, some very important issues related to the structure of Uralic languages, like the emergence/expansion of vowel harmony in individual subbranches, seem to be insufficiently addressed in the book whereas some of the issues addressed, like palatalization in Uralic, appear somewhat banal. It also appears

that the typological perspective has overridden considerations of areal and contact linguistics – there is not a single chapter devoted to either the different contact areas of Uralic (the Baltic, Middle Volga, Western Siberia, and the Sayan) or the contacts between Proto-Uralic or its daughter languages with neighboring languages and language families like Indo-European, Turkic, or Tungusic.

Terminology and transcription

As the editors expressed an aspiration to employ transparent and idiosyncrasy-free terminology (Introduction, pp. liv–lv), we dare to turn our focus now to this daunting topic. There is a problem in the handbook that is persistent in Uralistics in general, and that is the use of terminology for grammatical cases. Cases are named and then established names circulate from publication to publication without proper critical assessment. The most blatant example is the use of terms *inessive*, *elative*, and *illative* in the description of languages like the Mordvin or Permic languages, which do not make a distinction between inner and outer location in their case systems (for the meanings of these terms, cf. Creissels 2009; Haspelmath 2009). The problem with this practice is that terms

are not only empty name tags, they have their own connotations and implications, which can lead researchers astray if they are unaccustomed to the conventions of a certain field such as Uralistics. We are not saying here that changing the tradition should necessarily be the job of a handbook like the one under review here, as such volumes are usually meant to disseminate established views. However, this is a matter that should not be dismissed lightly, as conflicting use of terminology can result in problems and misinterpretations in comparative and typological work based on data discussed in the handbook.

The same applies, to some extent, to the terminology used for tenses, modals, and non-finite verb forms. How semantically similar are e.g. the Mordvin and Permic conditionals, and are they comparable with conditionals attested crosslinguistically? The terminology used for semantically more general categories like possessive or personal inflection does not suffer from this.

As explicitly stated (p. xlv), a choice was made to use the International Phonetic Alphabet (IPA) for the transcription of linguistic material instead of the well-established Finno-Ugric Transcription (FUT) traditionally used in Uralic linguistics. This is a considerable

break from tradition, and by no means an unproblematic one. First of all, the IPA, as a *phonetic* alphabet in the strict sense, should not be used to present material detached from an actual speech situation or utterance to which phonetic notation can be applied. Using it for phonemic (i.e. abstracted) notation can create needless confusion.

It is also notable that in OGUL, the IPA is used not solely for languages without an official orthography but also for languages that employ a Cyrillic orthography instead of Latin. While this choice is understandable from the point of view of a potential reader who cannot be expected to master the Cyrillic alphabet, it does lead to a situation where major Uralic languages that all happen to use the Latin alphabet, are consistently presented using their official orthography, while a large proportion of minor Uralic languages get the IPA treatment, creating the impression that their official orthographies are somehow less important. An attempt has been made to remedy this by using the official orthography side-by-side with IPA in the transcription of examples, which, while perhaps being the least bad choice, often leads to up to three different orthographies being used in the same chapter for the same language, if there are examples quoted

using a third kind of orthography, as is the case for e.g. Tundra Nenets (cf. the review of the chapters on Samoyed for a more detailed discussion).

The transcription choice seems even more illogical considering that there is an entire chapter (Chapter 6, pp. 91–100) by Johanna Laakso dedicated to the development of orthographies for Uralic minority languages, where the Finno-Ugric Transcription is also briefly presented. One could ask, then, whether FUT could have been used in the rest of the volume as well, where needed, instead of making a divorce from tradition for the sake of a perceived universality.

The history of the Uralic language family

Historical linguistics has traditionally occupied a central position in the field of Finno-Ugric studies, and it is not forgotten in this volume, either. The first section of OGUL begins with an introduction written by Ante Aikio to Proto-Uralic, the oldest reconstructible ancestor of all Uralic languages (pp. 4–27). This is followed by a chapter by Janne Saarikivi that focuses on the areal and cultural divergence of Proto-Uralic and each of its subfamilies (pp. 28–58).

The decision to divide the historical description into two parts that could be described as language-internal and language-external, is an appropriate one, even though there is some overlap between the disciplines. Due to the historical prominence of diachronic linguistics in the field of Uralic studies, these chapters are a very valuable addition to OGUL.

The introductory chapter by Aikio is a well-balanced, compact, up to date, and generally intelligibly written description of the Uralic proto-language as it is reconstructed by most contemporary scholars. The chapter works as a comprehensive introduction to the historical phonology, morphology, and syntax of Proto-Uralic for any reader familiar with the most basic principles of historical linguistics, but it can be used as a handy reference by the more experienced researcher as well. Aikio's vast knowledge of Uralic history, accumulated over two decades of research, is reflected clearly in this chapter, though he has not forgotten to include some differing opinions as well. In addition to historical phonology and lexicon, the most classical topics of Uralic historical research, the chapter also includes a treatment of the historical morphology of Proto-Uralic and syntax.

The second chapter by Janne Saarikivi provides an account of the external history (i.e. language geography, ethnohistory, and dating) of the Uralic languages. The chapter focuses on linguistic material, combining evidence from lexical loans, dialect geography and variation, toponymy, and lexical semantics. In his survey of the histories of individual branches, Saarikivi manages to focus on the most central findings, providing a compact introduction to what can be often a messy field of conflicting interpretations of complex evidence. The treatment of toponyms when discussing the location of each branch can be considered especially valuable, since toponymic research in Uralistics has previously been largely ignored outside of specialist circles.

Unfortunately, the section on Samoyed is missing some important references, most notably on the toponym *Yenisei* which forms an onomastic focal point in Samoyed language history (cf. Janhunen 2017), as well as Helimski's papers on general Samoyed ethnohistory (1989) and Enets onomastics (1981), both of which have been reprinted in Helimski (2000). Considering the overall scarcity of information widely available on Samoyed, drawing on the aforementioned

publications would have made a vital addition to the discussion. It would have been preferable to also include Janhunen's rather stark critique of the proposed contacts between Proto-Samoyed and Proto-Tungusic, since it does not focus on some minor details, but rather Janhunen maintains that the locating of Proto-Tungusic in fact makes any direct contact between it and Proto-Samoyed impossible (Janhunen 2013).

Especially welcome is the updated account of Uralic historical taxonomy and the discussion that has led scholars to gradually question the "traditional" binary-branching model of the Uralic family tree. Although the traditional model has been increasingly contested since at least the 1990s (cf. Salminen 1989; Häkkinen 2009; see also Grünthal et al. 2022: 491–492), that model which separates the Samoyed branch from the so-called Finno-Ugric and postulates a series of chronologically ordered branchings for the latter, was included in previous introductory volumes (i.e. Abondolo 1998)

and taught as the canonical view of Uralic historical taxonomy well into the 2010s. Thus, Aikio's rather agnostic and careful account of the branching of Proto-Uralic (pp. 3–4) represents an improvement over many previous treatises that have quite blindly followed the traditional stance. The debate is still ongoing, so its inclusion in the volume also fulfills the authors' goal of addressing contemporary topics in Uralistics.

To conclude, we would like to state that *The Oxford Guide to the Uralic Languages* is a work of great scope and significance. A project of this magnitude undoubtedly required an immense effort on the part of everyone involved, and the dedication of the authors and editors is apparent in many ways. With a work of such ambition, it would be a miracle were all expectations even met in the first place. By pointing out some of the most glaring issues involved with the volume, we hope to have further underscored the significance of this work for the field of Uralistics as a whole.

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Samoyed languages in *The Oxford Guide to the Uralic Languages*

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The Samoyed languages, located at the eastern periphery of the Uralic language family, still remain one of this family's lesser-known subgroups. Therefore, the section on Samoyed (Chapters 34–39) provided in *The Oxford Guide to the Uralic Languages* (hereinafter abbreviated as OGUL) is a welcome contribution to work on the Samoyed subfamily, and especially the chapters on individual Samoyed languages will serve as a handy reference and an introduction to the basics of the grammar of these idioms, some of which are yet to receive even a modern monograph-length treatment. A large portion of this section of OGUL will, at least for the time being, remain one of the most accessible sources of information on Samoyed (see also, however, the section on Samoyed in Abondolo & Valijärvi 2023), which is why it is especially unfortunate that some chapters contain many inaccuracies, shortcomings, and inconsistencies, particularly at the level of transcription. The present review

will concentrate on the more general issues concerning the section, leaving aside the vast amount of linguistic material presented in the form of tables of inflectional forms and example sentences, which are undoubtedly a valuable resource for researchers interested in Samoyed languages, specialist and non-specialist alike.

The section on Samoyed consists of five chapters: first, a general introduction to Samoyed by Beáta Wagner-Nagy and Sándor Szeverényi (pp. 659–673), followed by more detailed synchronic descriptions of individual languages, with closely related ones grouped together into one chapter. Thus, Tundra Nenets and Forest Nenets are described in Chapter 35 by Svetlana Burkova (pp. 674–708), Tundra Enets and Forest Enets in Chapter 36 by Florian Siegl (pp. 709–753), and the Selkup languages in Chapter 37 by Olga Kazakevič (pp. 777–816). Separate chapters are dedicated to Nganasan (Beáta Wagner-Nagy, pp. 754–776) and Kamas (Gerson Klumpp, pp. 818–843). Sadly, there is no chapter on Mator, the most scarcely attested Samoyed language. The scant material that is available for Mator, which became extinct by the

early nineteenth century, has been painstakingly analyzed by Helimski (1997). Readers new to the subject could benefit tremendously from a short, comprehensive introduction to these materials. Mator is seldom mentioned even in the introductory chapter, even if its many exceptional features make it very relevant from the point of view of diachronic reconstruction.

Coincidentally, it is the diachronic side of Samoyed studies which suffers from the greatest problems in the description that OGUL provides. While the foundations of Proto-Samoyed reconstruction were laid almost half a century ago in Janhunen's *Samojedischer Wortschatz* (1977), subsequent additions have not been incorporated into a single, easily accessible study, but rather they are left scattered across specialist papers, compiled in yet-to-be-published work, or even transmitted orally among active researchers. The introductory chapter on Samoyed by Wagner-Nagy and Szeverényi (pp. 659–673), however, does not provide the kind of comprehensive, updated review of diachronic research the field would need and deserve. The major updates that have been made to the Proto-Samoyed vowel system since Janhunen (1977) have not been taken into account in the reconstruction presented in this chapter

(pp. 660–662). Although the authors do mention some of the recent changes in the reconstruction of the Proto-Samoyed vowel system (i.e. Helimski 2005, while other important works like Salminen 2012 are left unmentioned), these are not fully incorporated into the reconstruction presented in this chapter. Instead, many unorthodox choices have been made without explanation. For example, the authors have chosen to transcribe Proto-Samoyed *o as half-open ⟨ɔ⟩ and the low vowels as ⟨ɛ, ä, a/â⟩ (= Janhunen's *e, *ä, *â, which, after the split of *i into *e and *i by Helimski 2005, would be *ä, *a, *â). The “supposed” Proto-Samoyed vowel system in Table 34.1 (p. 660), with its four-way height distinction, is unlike any system argued for in the latest research.

Contrary to the authors' claims, the reconstruction of *ä (Janhunen 1977) as a low back vowel *a is no longer controversial but rather the most widely accepted solution (cf. Aikio 2006; Salminen 2012). Some choices made by the authors regarding the presentation of reconstructed material seem to reflect even a fundamental misunderstanding of the nature of historical-linguistic reconstruction, namely the fact that phonetic values, given in square brackets, are ascribed to reconstructed sounds, as if the

authors were dealing with actual phonetic data. How do Szeverényi and Wagner-Nagy know, for example, that the Proto-Samoyed **ü* was exactly [y], as they claim it to be?

It is not possible to give a detailed account of every error contained in the chapter, but it should suffice to mention a couple of the more prominent ones. For one, the recent discussion on first-syllable vs. second-syllable vowel systems (see e.g. Salminen 2012) is completely absent, and the authors variously cite either forms in accordance with the minimalistic system reconstructed by Janhunen (1977) such as **əntəj* ‘boat’ (= **əntoj* according to Salminen 2012: 340–341) or forms that allow a broader selection of second-syllable vowels, for example **əmor-* ‘eat’ (= Janhunen’s **əməjr-*) (p. 662), without any explanation. Equally unmotivated or plainly erroneous is the reconstruction of the vowel **ɔ* (= **o*) in some suffixes. For example, in the plural forms of personal suffixes of verbs (cf. Tundra Nenets 1PL.SUBJ *-maq*, 2PL.SUBJ *-raq*; Nganasan *-mUʔ*, *-RUʔ*, with the vowel alternation *u ~ a*, see Wagner-Nagy 2019: 79–80), the daughter languages clearly point to PS **māt*, **rāt*, instead of the **-mɔt*, **-rɔt* that Wagner-Nagy and Szeverényi reconstruct (p. 665).

There are a few clear misinterpretations of previous research. For

example, contrary to the authors’ claims, the phenomenon in Tundra Nenets and Enets where a reduced vowel following the fricative *x* qualitatively assimilates to the vowel of the preceding syllable (p. 662), has nothing to do with traces of vowel harmony, but rather it should be viewed as purely phonetic (cf. Salminen 1997: 33–34, on Tundra Nenets). Instead, one could cite the accusative plural formation of Tundra Nenets as an example of a remnant of Proto-Samoyed vowel harmony (Salminen 2012: 340–342). One of the two examples meant to illustrate the phenomenon in Tundra Nenets is also transcribed incorrectly: <man-kana> ‘in the bush’ could be rendered either as ***mənkənə* or ***mankana*, depending on how one chooses to interpret <a>, while the phonologically accurate transcription according to the system used by e.g. Salminen (1993; 1997; 1998) would be *mən^okəna* (NOM.SG *mən^oq*) (p. 662).

The claim that, in the Nenets languages, “the functions of singular case endings diverged, and the plural paradigm was formed using the original lative suffix PS **-kātə*” (citing Mikola 1988: 239; 2004: 102), is clearly some kind of misunderstanding. Juxtaposed with a general treatment of plural formation in the local cases, the wording gives the impression that that the Nenets languages formed the

whole plural paradigm with the lative suffix *-kâ-tâ, as opposed to *j in Nganasan and Enets local cases, or *t in Selkup. This is obviously not the case, as the plural forms of the local cases in Nenets are formed with the inherited suffix *t: Tundra Nenets DAT.PL *ŋənox°q* : LOC.PL *ŋənoxəqna* : ABL.PL *ŋənoxət°* (*ŋəno* ‘boat’; data from Salminen 1997: 120) < Proto-Samoyed *əntoj-kâ-t : əntoj-kâ-t-nâ : əntoj-kâ-t-tâ.

In the introductory chapter, very little attention is paid to Proto-Samoyed lexicon, although it has been a central topic of research since at least the publication of *Samojedischer Wortschatz* (Janhunen 1977). Lexical data is discussed quite superficially and mainly in chapters considering individual languages, which is probably not the most effective solution for a volume like this. For example, the long list of Kamas lexemes sorted by semantic fields such as hunting and fishing, clothing, or metallurgy and complemented with etymological notes (pp. 840–842), while impressive in its own right, can only encompass a fraction of the Kamas vocabulary. More extensive sources containing much of the same information already exist (i.e. Donner 1944; Joki 1952), and therefore, a more compact account of the main sources of Kamas borrowed lexicon and semantic spheres would have sufficed.

Turning to the chapters on individual Samoyed languages, a few problems are apparent concerning the phonological transcription of the Nenets languages. Apparently, two different transcriptions are employed by the authors of the volume, one by Wagner-Nagy and Szeverényi, and the other in Burkova’s chapter on the Nenets languages, as well as in some of the Nenets examples found in the other chapters of the volume, if not cited according to the original source. The fact that, despite attempting to adopt a unified model of transcription, the volume ends up using two separate transcriptions for a language, is in itself troublesome. In the case of Nenets, both chosen transcriptions are unfortunate compromises between IPA and an attempt to accommodate language-specific phonological analysis, and end up somewhat misrepresenting the data. They both also differ from the transcription used by e.g. Salminen (1993; 1997; 1998) and, with slight modifications, Nikolaeva (2014), making it difficult for the reader to relate information to data found in the most prominent specialist publications on Tundra Nenets.

The two transcriptions found in OGUL often use symbols in an overlapping manner, making it very difficult for the reader to keep up; for example, Burkova uses <a> for /a/,

⟨Λ⟩ for /ə/, and ⟨°⟩ for the special schwa, an allophone of /ə/ (cf. Salminen 1997: 37), when the latter is marked at all. While the choice to alter the conventional transcription to graphically resemble IPA seems unnecessary, the solution at least differentiates all Tundra Nenets vowels. This is not true for the transcription employed by Wagner-Nagy and Szeverényi, which does not mark the schwa /°/ at all and does not properly differentiate /ə/ from /a/ (cf. the aforementioned ⟨man-kana⟩ ‘in the bush’ for *mən°kəna*, p. 662). The example sentences Wagner-Nagy and Szeverényi present are cited in the transcription used in the original source, in this case Nikolaeva (2014) (p. 671). While Burkova’s transcription is based on a phonological analysis, albeit an unconventional one (cf. below), Wagner-Nagy and Szeverényi do not give any explanation for their choice to use a different transcription.

The problems of transcription do not end with the introductory chapter but are also evident in Burkova’s chapter on Nenets (pp. 674–708). Burkova states that the schwa of Forest Nenets – which is functionally very much like the one in Tundra Nenets but not predictable based on cognates (Salminen 2007: 358–360) – “will be marked only where it is necessary to specify the deep structure or where it is

really pronounced” (p. 678). Consequently, the marking of the Forest Nenets schwa in this chapter, and most likely in the rest of the volume as well, is highly inconsistent and unreliable. In order to avoid the problem caused by the schwa, Burkova apparently opts for citing material from both Nenets varieties in supposedly phonetic transcription, indicated by square brackets. It is difficult to understand how this could be a good way to represent a language for which an elaborate phonological analysis already exists (cf. Salminen 1993; 1997: 37; 2007). Many of the Tundra Nenets forms could have also been checked from the reference work made for this purpose (Salminen 1998).

For Tundra Nenets, Burkova posits two glottal-stop phonemes that are, however, identical in pronunciation (p. 678). The number of glottal stops in Tundra Nenets has been a subject of debate in Samoyedology (cf. Janhunen 1986), but since it has been confirmed that there are no phonetic differences between morphophonologically or etymologically different glottal stops, the consensus has been to posit a single glottal stop phoneme with a dual transcription (i.e. ⟨q⟩/⟨h⟩) to indicate the two main patterns of morphophonological alternations (Salminen 1997: 37). Treating a phoneme that participates in two different kinds

of morphophonological alternations as two separate phonemes is, from the point of view of current mainstream phonological theory, an unorthodox approach, and one would at least expect the author to explain this choice. When no such explanation is given, the analysis of the Tundra Nenets glottal stop as two phonetically identical but morphophonologically different phonemes looks like a misunderstanding of Tundra Nenets phonology. The way of transcribing the glottal stops with a subscript digit, i.e. ⟨ʔ₁⟩ for the usual *q* and ⟨ʔ₂⟩ for *h*, is also unconventional and impractical from the reader's point of view, since these are more difficult to memorize than the symbols conventionally employed. The subscript ʔ₁ is used also for the Forest Nenets glottal stop, despite Forest Nenets not having a functional equivalent to the Tundra Nenets ʔ₂ (Salminen 2007: 362).

There are a few other strange and impractical solutions in the transcription of Tundra Nenets. For example, the marking of *æ* as long ⟨æː⟩ (p. 679) is redundant, since there is no short counterpart to contrast with it (cf. Salminen 2024: 195). On the basis of the Samoyed section of OGUL, it seems that the recent trend of using IPA or, in this case at least, a mix of IPA and various ad hoc solutions, even when there is an established

transcription convention, has more problems than benefits to it.

The description of the synchronic morphology and syntax of the Nenets languages has fewer issues. Overall, the functions of different cases, tenses, moods, and other inflectional and derivational forms are illustrated with numerous examples taken from naturalistic data. The information on Tundra Nenets is in some cases more detailed than on Forest Nenets; for example, a selection of common derivational suffixes is given only for Tundra Nenets (pp. 703–704), though this is understandable, considering that Tundra Nenets has been documented and studied far more than Forest Nenets. The chapter attends well to the similarities and differences between Forest and Tundra Nenets, and treating them parallel in this manner seems like a reasonable solution in a volume like this.

The same can be said of Chapter 36 by Florian Siegl (pp. 709–753), which focuses on the Enets languages; Forest Enets and Tundra Enets are different enough to be considered separate languages – albeit closely related ones – but similar enough that treating them under a single chapter is justified and appropriate from a comparative perspective. Especially the juxtaposed tables on morphology (pp. 717–719) make comparing the two

languages very convenient for the reader. Siegl's treatment of Enets phonology (pp. 712–715) illustrates the essential characteristics of both Enets languages' phonemic systems and the differences between them in compact form, and while this description might require revisions and additions in the future, as Siegl himself also notes (p. 712), having an accessible comparative description as a point of reference, where previously there was none, is certainly useful. A small correction considering diachronic Enets phonology may, however, be made. Contrary to what Siegl claims (p. 713, footnote 7), the areal development resulting in the strengthening of PS *j to *d'* in initial position is not entirely a post-Castrénian phenomenon; although it is not attested in Castrén's materials, it does appear in Middendorf's manuscripts which predate them, and thus *j and *d'* may have been in free variation for a lengthy period (cf. Gusev 2020: 12).

Unlike languages such as Forest Nenets and Tundra Enets, which have previously been scarcely described in English-language scientific literature, Nganasan has recently gotten a full monograph-length grammatical description (Wagner-Nagy 2019). That grammar and the chapter of this volume are written by the same author, and for that reason, greatly resemble each other.

Essentially, the chapter on Nganasan is a more compact version of the description provided in Wagner-Nagy (2019), containing the core parts of Nganasan phonology, morphology, and syntax. The treatment of Nganasan phonology (pp. 756–757) suffers from a few inconsistencies, although these are not as grave as those in the chapter on the Nenets languages. For example, one must ask why the “palatal stop” [c], which Wagner-Nagy considers an allophone of /tʃ/, is listed separately in the table illustrating the Nganasan consonant system, but no other common allophones, such as the velar fricative [ɣ] for /g/ or voiceless labial stop [p] for /b/, are given (see Wagner-Nagy 2019: 34–39). Wagner-Nagy also confuses synchronic alternations with diachronic sound changes, when she claims on page 757 that “[t]he phoneme [j] is always deleted in intervocalic positions and otherwise mostly turned into [j̥]; it is preserved only in word-final position and in some cases before consonants”. However, the deletion of Proto-Samoyed *j in Nganasan intervocalically is a diachronic sound change, not directly connected to the prevocalic strengthening of [j] to [j̥], as shown by forms where *j is preserved, e.g. Proto-Samoyed *käəj > Nganasan *śiäd'e* ‘tongue’ (strictly phonemically /śieje/).

The chapter on Selkup (Kazakevič, pp. 777–816) concentrates mostly on the Middle Taz variety of Northern Selkup (p. 777), which causes some uncertainty with regard to how universally the statements made in this chapter apply to the other Selkup varieties. Otherwise, the chapter works well as a description of at least the Middle Taz variety. However, since languages as close to each other as Forest Enets and Tundra Enets are consistently referred to as separate languages instead of dialects, it is strange that the Selkup languages, which are arguably more distinct from each other than the Enets languages, are referred to as dialects by Kazakevič. The phonotactic restrictions concerning vowels are mentioned only in passing (p. 783). With so many vowels (25, counting short and long ones as separate units), a table illustrating these restrictions would have been useful. Although an admirable effort is made to present words that display the alternation of nasal and stop, characteristic for Selkup, in such a manner that it is possible for the reader to immediately see which alternation occurs in each word, the subscript notation used for this purpose (p. 784) is clumsy, and one must ask whether such a notation is needed at all in the context of this handbook.

Overall, the chapters describing individual Samoyed languages in OGUL from a synchronic point of view serve as a handy reference work for researchers seeking information on a specific case marker or paradigm, for example. They are also a decent introduction to synchronic Samoyedology, at least when it comes to morphology and syntax, and they contain a large amount of essential references to the most important sources, where more information can be found. Many grammatical phenomena, such as case and person inflection, are illustrated with tables presenting the whole paradigm for a few example words, which makes it easy for the reader to get the gist of the subject quickly. From this point of view, the chapters on the less well-known Samoyed languages, such as Enets and Kamas, are of utmost value, albeit some details may have to be revised in the light of future research. Because Kamas has been officially extinct since the death of the last speaker Klavdija Plotnikova in 1989, all further descriptive work on the language relies purely on previous documentation. Thus, the detailed attention paid to the history of the documentation of Kamas and different archival sources by Klumpp (pp. 818–820) deserves a special mention.

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Some notes on *The Oxford Guide to the Uralic Languages*

BAKRÓ-NAGY, MARIANNE & LAAKSO, JOHANNA & SKRIBNIK, ELENA (eds.). 2022. *The Oxford Guide to the Uralic Languages*. Oxford University Press. LV + 1115 pp.

The book under consideration is so vast that it would be impossible to write an expert review on every chapter in it. Therefore, the choice of chapters to review was based on the expertise and current research interests of this reviewer, and it ultimately comprises Chapters 3–6 from Part I pertaining to sociolinguistics and related issues, Chapters 7–13 (on Saami), 23 (on Mordvin), 24 (on Mari), and 25–27 (on Permic) from Part II, and Chapters 44 and 50 considering adverbial marking, 48 on non-finites, and 51–52 on atypical predication.

I have decided to focus on things that I find problematic, or what is more often the case, things that are interesting and would benefit from more extensive discussion. This approach makes the review seem at times rather negative, but I would like to assure the reader that anything I do not mention in the text is on point and does not require any comment. In the end, this comprises the majority of the reviewed chapters.

I. Sociolinguistics and language policy

The handbook's one aim is to pay attention to issues pertaining to language endangerment, language policy, and sociolinguistics that have been ignored in previous handbooks of Uralic languages (p. lv). This is achieved mostly in the chapters on individual languages in Part II of the handbook, where the sociolinguistic situation of each language is outlined in its respective chapter. In addition to these outlines the handbook includes four chapters that cover issues related to language endangerment, language policy, and sociolinguistic questions. These chapters deal with important issues, as most of the Uralic languages are spoken in contexts where bilingualism, oppressive language policies, etc. affect their use on a daily basis.

I.1. The making of the Uralic nation-state languages

Chapter 3 by Johanna Laakso is a concise overview of the history of the nation-state languages Finnish, Estonian, and Hungarian. The chapter introduces the historical and political forces that have

affected the development of the nation-state languages. Their history is traced from the oldest writings in these languages right up to the modern era, the emphasis being on more modern times. The delimitation is justified, as the history of the languages prior to their written traditions is discussed in Chapters 1 and 2. Furthermore, a chapter on the development of Finnish, Estonian, and Hungarian should be of interest to linguists who are not experts on Uralic languages (and maybe even to ones who are), as the histories of the respective written standards help to explain some properties of these languages that are not easily explained by purely historical, typological, or cognitive factors. This kind of historical overview is especially important for the nation-state languages for two reasons. Firstly, these languages are used most often as examples by linguists who do not specialize in Uralistics and thus do not necessarily know about how language planning has interfered in the languages themselves. Secondly, these languages themselves have been shaped by language planning the most among the Uralic languages.

The chapter starts from the emergence of the first texts. One important remark made about the oldest Uralic texts is that the Novgorod birch-bark letter,

sometimes referred to as the oldest Finnish text, is not in fact Finnish, and thus does not belong to the history of written Finnish (cf. Laakso 1999). On the other hand, the lack of texts in Finnish or Estonian in the fifteenth century is not explained. Even though the explanation is as simple as that the languages were not written back then (cf. e.g. Häkkinen 1994: 37–43 for Finnish), this could have at least been mentioned. What caused the written standards to form could also have been elaborated on more (cf. e.g. Ising 1970: 126–215; Linn 2013 for general European trends).

Next, Laakso considers the developments in the seventeenth century. This period marks the beginning of the written use of Finnish and Estonian in addition to Hungarian. The developments are introduced well, but the small corpus of texts that were written in Finnish before Mikael Agricola could have been explicitly mentioned, in order to show that a Finnish literary standard did not suddenly spring into existence (cf. Häkkinen 1994: 79–80).

For the development of Finnish and Estonian nation-state languages this period includes two important phenomena which are mentioned by Laakso but merited being underlined more. This is namely the fact that the standards,

especially old written Finnish, had their basis in one dialect, and that most of the oldest texts were translations which were related to the doctrines of the Church and therefore were translated very faithfully (cf. e.g. Häkkinen 1994: 79–90). In addition, as mentioned in the chapter, the first Estonian writers were mostly German-speaking clergymen that had no (good) command of Estonian and could not write the language in concise way (p. 60). It is important to acknowledge that in the beginning, the written standards of Finnish and Estonian were not standards for the whole language but rather for some (artificial) part of it. This is to some extent reflected in the modern written standards as well.¹

Following the chronology, the chapter discusses the nation-state languages in the nineteenth century. Laakso discusses all the main developments regarding institutional possibilities, e.g. the status of the language at the time and the possibilities to change it, the orthographical developments at the time, vocabulary planning, as well as the codification of the languages.

The differences between the situations of the nation-state languages are shown in the chapter well, but the similarities are left undisclosed, even though it is a reasonable assumption that they also affected the development of the written standards. The final section of the chapter discusses the modern-day nation-state languages. This section, the longest of the chapter, covers all the important aspects of the twentieth- and twenty-first-century developments. Undoubtedly there would have been more to say about the matters, but for a handbook-sized chapter there is enough information.

All in all, Chapter 3 is a good overview of the development of the Uralic nation-state languages and the forces that have affected them in the past. One could have hoped for an even more thorough account of the pre-twentieth-century developments, as these affected the structures of the written standards, which are today mostly the object of study of linguists working with Hungarian, Finnish, or Estonian. Understanding the history of the written standards could shed light on problems with seemingly no answer. Also, some kind of timeline could have made it easier to understand the sequence of the events examined in the chapter.

1. This is of course not a unique development for Finnish and Estonian (cf. e.g. Linn 2013), but one that seems to be forgotten from time to time.

1.2. The Uralic minorities

The theme of Chapter 4, written by Annika Pasanen, Johanna Laakso, and Anneli Sarhimaa, considers endangerment and revitalization of Uralic minority languages. The chapter functions as a nice crash course (or repetition) of the main issues of the Uralic minority languages. The chapter is based on a previous paper by one of the authors (Pasanen 2008) which has been translated and updated (p. 78). It is evident that the chapter is not a mere translation but actually incorporates research done after the publication of the first version, as the chapter refers to research published in the years since (e.g. Laakso et al. 2016; Sarhimaa 2017), and it makes use of what was then the latest Russian census data of 2010. The similarities between Pasanen (2008) and the chapter under review serve as a grim reminder of the fact that the intervening ten years had not seen any drastic improvement in the situation of most Uralic minority languages.

The chapter begins with a section on the problem of demarcating minority languages. It defines two problems of demarcation, namely the problem of endangerment in different areas, domains of use, etc., and the differentiation between a language and dialect or

variety. Even though both issues affect also Uralic languages, and the language-or-dialect-problem is elucidated by the situation of a number of Uralic varieties (p. 68), the demarcation problem should be basic knowledge for any sociolinguist and thus should not need the amount of discussion dedicated to it in a handbook of a single language family. The next section deals with more theoretical issues of endangerment and revitalization. This section is less tightly tied to Uralic minority languages per se. Here Pasanen et al. introduce the theoretical notions of language shift and reverse language shift (e.g. Fishman 2013). This section, like the previous one, seems a bit unnecessary, as any sociolinguist should be familiar with language-shift theory. The theory is, however, linked somewhat to the reality of Uralic languages by discussing the situations of Aanaar and Kildin Saami, and with a nod to the reality of many Uralic minorities in Russia (p. 69). Maybe the first two sections could have been merged into one, and the theoretical content explained more concisely via the Uralic examples.

The following section also has a somewhat theoretical background. Here Pasanen et al. discuss the most common ways of assessing endangerment, i.e. the different

scales of endangerment that have been put forward in the literature. These include GIDS (e.g. Fishman 2013: 484–489), EGIDS (Lewis & Simons 2010), the UNESCO framework (UNESCO 2003), and EuLaViBar (e.g. Laakso et al. 2016: 33–48), among others. Like with the previous section, the discussion of the assessment tools seems a bit unnecessary, as they should be common knowledge for those interested. However, after explaining the general mechanism of the assessment tools, Pasanen et al. give examples of seven common criteria with Uralic minorities, which ties the general discussion to the subject matter of the book.

Following the general overview of typical criteria for assessing endangerment, Pasanen et al. take a more thorough look at two central phenomena. Firstly, Pasanen et al. discuss intergenerational transmission of different Uralic minority languages. Especially interesting is seeing a figure on how intergenerational transmission is present in different Uralic minority languages (p. 73) and comparing it to a similar one in Pasanen (2008: 61). For example, it seems that Lule Saami is slowly starting to regain the intergenerational transmission it had once lost, whereas Karelian has lost such intergenerational transmission between the two

publications. Secondly, Pasanen et al. review the role of the educational system in assimilation or revitalization of minority languages with regard to different Uralic languages. These tie the Uralic reality nicely to the general research tradition of language endangerment. The examples Pasanen et al. have chosen, show that there are similar forces affecting the minority languages that have been shown to be present also in non-Uralic contexts, but also that one cannot blindly apply the results of other research to the Uralic minority languages.

The chapter ends with a section on how language assimilation and revitalization are constantly in competition. This takes the form of four theses which can be read as guidelines for those who are involved in preservation and revitalization of minority languages, including professionals and laypeople alike. The theses describe the different steps that are vital to revitalization, but also underline the responsibilities different parties must take. The theses discuss very important matters, but I still wonder whether the handbook under review is the best place for such a call to action. The section does not discuss mostly Uralic languages but rather a general situation, and it does not describe a phenomenon but rather actions that ought to be

taken. Nonetheless, the matter really is important, and hopefully it will find the right audience from the pages of this handbook.

1.3. Language policy in Russia

The subject of Chapter 5 by Konstantin Zamyatin is the language policy in Russia. This is a justified choice, as most of the Uralic languages are spoken in Russia. Furthermore, the Uralic languages in Russia are more or less endangered minority languages there, and as such are strongly affected by whatever language policies are implemented in Russia. However, a mention of a source on the language policies affecting Uralic minorities in Western Europe, e.g. Laakso et al. (2016), could have been provided for those who are interested in the status of Uralic minorities elsewhere. The chapter represents a synthesis of almost a decade of the author's research on language policy in Russia (e.g. Zamyatin 2012; 2020), and thus is a reliable overview of the phenomenon.

The chapter begins with a rather brief portrayal of Russian language policies from the tsarist era through the Soviet regime until the disintegration of the Soviet Union. In principle, there were no clear language policies in place for most of this time, and of course there is

no sound documentation of their effect even when some policies were implemented, but there were some periods, most notably the 1920s and the first half of the 1930s, when the policies enabled the development of minority languages. These periods are mentioned (p. 79), but a somewhat wider discussion would have been interesting. For example, the discussion of the language policy of the 1920s and 1930s with regard to individual Uralic languages that is presently scattered across different publications (e.g. Ivanov & Moisis 1998: 18–112 on Mari) could have been summarized here. Otherwise, the choice of focusing on the present is well founded.

Zamyatin has divided the main discussion into four parts. First, the language policies of Russia in the 1990s are discussed at length. The language policies of the 1990s serve as a good starting point for surveying the present-day language policies and the changes in the status of minority languages in Russia. Next, Zamyatin discusses the language policies in the 2000s. This era has overall been a dark time for all minority languages of the Russian Federation, and Zamyatin manages to highlight the key points of the fresh decline in minority-language rights that occurred and is still occurring. This section is divided into two subsections, the first of which discuss

the changes of the early 2000s, and the second focuses on the period from 2014 to the present. The general part is comprehensive, but similarly to Chapter 4 (see above), the focus is on rather general phenomena. Even though the average potential reader probably does not know a lot about the language-political situation in Russia, in a handbook about Uralic languages the general part seems a bit too long.

After the chronological review Zamyatin turns to the general tendencies of regional language policies in Russia. He shows that previous language-revival attempts have not been successful, and the attitude of minority-language speakers in Russia seems to be that the government should take care of language transmission. Finally, Zamyatin gives an overview of the situation of the Uralic minority languages in their titular areas (republics or autonomous districts). This part goes through the problems of language policy with regard to the Uralic languages well, but it could have been even more thorough at the expense of the general overview. All in all, Zamyatin manages to show the problematic reality of policies and the status of minority languages rather well, pointing out the gap between the official (theoretical) status of the languages and the actual reality.

1.4. The orthographies of Uralic minority languages

The subject of Chapter 6 by Johanna Laakso is the graphization and orthographies of Uralic minority languages. The chapter complements Chapter 3 in those parts where the development of the written standards of the Uralic nation-state languages is discussed. The end of the chapter discusses briefly the scientific transcriptions used with Uralic languages. Chapter 6 is a concise but welcome overview of the development of written standards for Uralic minority languages. The chapter nicely rounds off the section on sociolinguistic and language-political issues. It also summarizes well the history of the written standards of Uralic minority languages, as this is scattered across publications that might not be easily accessible to an international audience (e.g. Korhonen 1981: 53–65 for the Saami Languages; Bartens 1999: 22 for Erzya; Bartens 2000: 24–25, 27–28, 30–31 for the Permic languages; Moisio et al. 2020: 24–31 for Mari; all in Finnish). In addition, the information given in the prior literature is typically rather scanty.

First, Laakso goes over the Saami and Finnic orthographies. The development of the different Saami orthographies differs greatly, as the languages are spoken in four

different countries. Thus, the discussion raises the question of whether the complexity of the orthography poses problems for e.g. language teaching. Even if this is not the main topic of the chapter, a brief commentary or maybe some relevant references could have been given (here and in other places in the chapter). The Cyrillic alphabets of the Uralic minorities are discussed more thoroughly, which is a good choice, because the Cyrillic alphabet and especially the Russian spelling rules tend to yield rather complex phoneme-grapheme correspondences. This discussion also raises an important point for the student of Uralic languages not familiar with the history of these languages' standardization. One should always first familiarize oneself with the writing system and its phoneme correspondences.

The final section of the chapter introduces the scientific transcriptions for the Uralic languages. The focus is on the Finno-Ugric Transcription (FUT), but some others are also mentioned. In my opinion, FUT is so important to any scholars wanting to familiarize themselves with the Uralic languages that the explanation of the system should not have been buried in a chapter on orthographies in general. The ASCII-based system developed by Tapani Salminen for (Tundra) Nenets is mentioned (p. 99), but it

merited a little more discussion, as some central works in Nenets studies (e.g. Salminen 1997) use this system. In addition, Salminen's system seems to cause confusion even within the Samoyedist community (Siegl 2013: 33, fn. 7). The chapter ends with a brief discussion of the effects of digitalization on the Uralic minority orthographies. This discussion could have been even longer, as the difficulties in using orthographies with special characters and diacritics pose a real problem in the digital world.

2. Some language groups

2.1. Saami languages

The handbook contains six chapters on individual Saami languages, namely South, Lule, North, Aanaar, Skolt, and Kildin, as well as a general introduction to the history of different aspects of Proto-Saami. The languages have been chosen from different parts of the Saami continuum and represent the different types of Saami languages rather well. The only slight shortcoming is that the easternmost Saami language, namely Ter Saami, lacks a description. This is of course understandable, as the language is scarcely described, rather remote, and lacks large amounts of data necessary for description.

However, it would have been interesting to have both ends of the Saami continuum described in the handbook.

2.1.1.1. The history of the Saami languages

Chapter 7, written by Eino Koponen, is a general introduction to Saami languages. Such a chapter is much needed, as the standard introductions to Saami languages and linguistics (e.g. Korhonen 1981; Sammallahti 1998) are somewhat outdated. Koponen seems to be of the opinion that all the Saami varieties, i.e. South, Pite, Ume, Lule, North, Aanaar, Skolt, Kildin, Akkala, and Ter Saami, are languages in their own regard, even though some of them, e.g. South and Ume Saami, are sometimes conflated (p. 103). Considering all Saami varieties to be languages seems a good approach for the classification of the varieties, as it gives each variety a certain status. The discussion also highlights the important point that the Saami languages represent a continuum.

The same section also motivates the choice of the languages described in the following chapters of the handbook. The chosen languages seem to be representative examples of the continuum and, as an additional feature, they have codified written standards.

Opinions can differ on this matter, for after all also Pite and Ume Saami have a written standard, and Ter Saami would probably also be representative of one end of the continuum. Due to the constraints of space, and possibly because of the lack of competent researchers in one or the other language, the selection still seems adequate.

The descent of the Saamic group is also touched upon briefly, as is the internal division of the languages. The former is discussed more thoroughly elsewhere in the handbook, and therefore it does not necessitate a longer consideration, but the latter issue is interesting, and, in my opinion, Koponen could have examined it a little further. This issue pertains to the fact that the Saami languages can be divided into two groups, a western one comprising North Saami and the languages west of it, and an eastern group comprising the languages spoken east of North Saami. North Saami, however, shows both western and eastern traits in various areas of its language structure. The reason for this and the classification itself merited more consideration.

The first part of the actual historical description concerns phonology. The Saami languages exhibit diverse and sometimes extremely complex patterns of morphophonological alternation, and therefore

this section is of utmost importance for anyone interested in the Saami languages. The word structure of Proto-Saami is discussed in its own section, which is a good choice as the system is somewhat complicated, and many of the present-day languages show similarities to it. Koponen also introduces the traditional terminology of the parts of a foot in the text (p. 106; cf. Sammallahti 1998: 39). The use of discipline-internal terminology in a handbook could be criticized in itself, but in this case a bigger problem is that the discussion is unnecessary as the terminology is not really used in the handbook. A typical feature for most Saami languages, namely consonant gradation, is briefly summarized. Koponen mentions that the background of the phenomenon is still unclear (for a previous explanation, cf. Korhonen 1996 [1969]), but as the phenomenon is one of the most prevalent features across the Saami languages, a more thorough discussion would have been in order.

Koponen also discusses the morphology and syntax of Proto-Saami. Both sections are rather concise overviews. However, as most of the chapters on individual Saami languages exhibit the same structure as the introductory chapter, it is possible to compare the reflexes of the Proto-Saami

structures in the modern-day languages. Therefore, it is good that even a small amount of information has been offered here.

2.1.2. South and Lule Saami

Chapters 8 and 9 by Jussi Ylikoski concentrate on two of the less-spoken Western Saami languages, South and Lule Saami, respectively. These languages are part of the western arm of the Saami continuum, specifically the westernmost Saami language (South Saami) and the easternmost Saami language before North Saami (Lule Saami). Therefore, these languages serve as representative examples of the Western Saami languages. The languages are really similar, however, so maybe one chapter covering both would have been enough. Such a choice has been made with regard to the Mordvin languages (Chapter 23) in the handbook.

Both chapters begin with an overview of the sociolinguistic situation and the dialectal division of the languages. The most important feature in this field is the problem of delimiting one language against the neighboring Saami languages. The discussion makes it clear why the different Saami varieties have been regarded as dialects rather than languages. Ylikoski demonstrates that the languages

have a linguistically distinct core, and based on this core the languages can be defined (cf. also Salminen 2007: 212), and he discusses which varieties of each language are easy to classify, and which are not. These overviews will most likely be useful for students of the Saami branch in the future.

The next section of both chapters describes the phonology. The sound system of Lule Saami is compared to North Saami, which is closest to it (p. 132). This solution partly works: on the one hand, the comparison to a comparably more well-known language helps to see the similarities and peculiarities of the system. On the other hand, the reader must have some kind of command of North Saami phonology, or resort to looking at the system as presented in Chapter 10 of the handbook, which can be somewhat annoying. Moreover, the phonological system of a language should be presented independent of any comparisons in a handbook chapter.

The next section in both chapters is the section on morphology. The discussion is structured very similarly in both chapters, and Ylikoski even uses exactly the same text in some places of the description (cf. e.g. pages 119 and 137). In general, the discussion of nominal inflection is good, but some things are mentioned too briefly, or omitted

altogether. The same applies to pronouns, of which only personal pronouns are mentioned, as well as numerals. Some of the information one would expect to find in the morphology section, is found under syntax instead, like the discussion on the semantics of cases and inflection (pp. 144–145), and of demonstratives and numerals (p. 144) in Chapter 9. This makes the chapter somewhat difficult to use.

Verb inflection is discussed at greater length in both chapters. Most interesting is the discussion of non-finite verb forms, where Ylikoski comments on the alleged non-finiteness of some of the forms of South Saami (p. 123). Ylikoski also highlights the symmetry of the periphrastic aspect forms of Lule Saami (p. 141; cf. also Ylikoski 2016a). The proposal to name the South Saami mood previously known as the “potential” the “dubitative” (p. 124) seems warranted and the analysis of the Lule Saami potential as a future tense (p. 139) is an interesting proposal.

All in all, both chapters are a good description of the respective languages. Ylikoski focuses on the peculiarities of each language, and the reader gets a good picture of how the Saami languages differ from each other. This approach also underlines that each Saami language can indeed be regarded as a distinct

language. The decision to describe a lot of the structure of the respective languages by comparing them to other Saami languages, on the other hand, is a bit questionable. There are a lot of commonalities between the Saami languages, but if these languages are viewed as independent entities, also their structure should be described independently.

2.1.3. North Saami

Chapter 10, by Luobbal Sámmol Sámmol Ánte (Ante Aikio) and Jussi Ylikoski, focuses on the biggest, most researched, and probably internationally most well-known Saami language, namely North Saami. The chapter is the most comprehensive of all the chapters describing the Saami languages, and one of the longest chapters in the part of the handbook describing the various Uralic languages. This is warranted only to the extent that North Saami functions as a kind of default for the structure of the Saami languages in the handbook, so that many typically pan-Saami phenomena, e.g. consonant gradation, are described in more detail in this chapter. The handbook could also have been structured so that there would be no need in other chapters to refer to Chapter 10. In its present form the chapter is rather overwhelming and taxing to read.

The chapter begins, as is typical for the chapters of the handbook, with an overview of the sociolinguistic situation and dialectal division of the language. In Chapter 10 this section seems to be somewhat shorter than in other chapters on Saami languages. It is easy to find additional information on these matters (e.g. Pasanen 2008; Aikio et al. 2015), but having all the information in one place would be helpful. Especially considering the overall length of the chapter, the brevity of this section is remarkable.

After the introduction, there is a section on phonology. This section begins with a disclaimer saying that the phonology of North Saami is very hard to describe within a grammatical sketch, and that only the main features of the phonology of the main dialects are discussed (p. 148). The section is long, and it discusses a wide variety of phonological phenomena in North Saami. The analysis sometimes even goes into unnecessary detail, for example when discussing marginal phonemes and allegro shortening of certain word forms. Even the discussion of differences in phonological systems between dialects can be considered superfluous information for a handbook chapter.

Next up is the section on morphology. The inflectional categories of nominals are discussed in greater

depth than in Chapters 8 and 9, and for example the functions of the cases are explored in detail. A minor but nonetheless interesting comment comes in the discussion of the locative case (p. 159). As is well known, the North Saami locative (and its counterparts in more eastern Saami languages) exhibits a typologically highly uncommon syncretism, namely location–source syncretism (cf. e.g. Creissels 2009; Pantcheva 2010). This syncretism can cause problems in comprehension in some situations, and Aikio and Ylikoski mention that the adverb *eret* ‘away’ is used to disambiguate source from location. To my knowledge this is the only description of any Saami language that has a locative case, where such a device is mentioned, and it will probably prove very useful for future research. At the end of the section on nominal inflection there is a rather long list of nominal derivational suffixes, which seems unnecessary, as it only lists derivational morphemes. After nominal inflection, the verbal inflection is discussed. In general, the section discusses verbal inflection in sufficient detail for a handbook chapter, i.e. neither too little nor too much, but the discussion of non-finite inflection seems disproportionately large. As there are studies focusing specifically on this matter (e.g.

Ylikoski 2003), this section could have been shorter. The section on verb inflection ends with a rather long subsection on verbal derivation that, like its nominal counterpart, seems unnecessary in the context of a handbook chapter of this magnitude. The final section of the chapter covers syntax, including word order, phrase and clause structure, and clause combining. This section is short compared to the other sections, which gives an unbalanced feel to the chapter.

Chapter 10 describes the structure of North Saami in detail, so that this chapter can be used as a reference for the chapters on the other Saami languages. The chapter focuses disproportionately on phonology, and even though North Saami phonology is highly complex and needs much explanation, some things discussed in the chapter seem to be too specific for a handbook chapter.

2.1.4. Aanaar, Skolt, and Kildin Saami

The last three chapters on Saami languages describe three Eastern Saami languages, namely Aanaar Saami (Chapter 11 by Taarna Valtonen, Jussi Ylikoski, and Luobbal Sámmol Sámmol Ánte [Ante Aikio]), Skolt Saami (Chapter 12 by Eino Koponen, Matti Miestamo, and Markus

Juutinen), and Kildin Saami (Chapter 13 by Michael Rießler). As mentioned above, the range of the Saami languages discussed in the handbook does not reach the easternmost end of the branch, i.e. Ter Saami. The easternmost language described is Kildin Saami. Although it would have been interesting to have in the handbook chapters on both the westernmost and easternmost Saami languages, the choice is justified: there simply were not any linguists available who focus on Ter Saami. On the other hand, the number of linguists focusing on Kildin Saami is also very small, so it is great that even this Saami language is included in the handbook. The obvious easy route would have been to exclude all the Saami languages spoken in Russia. Furthermore, the sample of Eastern Saami languages include two languages, namely Aanaar and Kildin Saami, which lack a modern grammatical description. Therefore, the selection of Eastern Saami languages in the handbook should be considered as comprehensive as possible.

All the chapters begin with a concise overview of the dialectal and sociolinguistic situation of the respective languages. Aanaar and Skolt Saami are interesting examples from a sociolinguistic perspective, as Aanaar Saami almost went extinct but has been

since revitalized (cf. also Pasanen 2008: 61–63), and Skolt Saami speakers suffered from the effects of World War II because they were forced to leave their original home region and resettle in present-day Finland. Such events naturally affect the structure of a language, and the discussion functions as a useful backdrop for the rest of the respective chapters.

Following the sociolinguistics section, every chapter has a section on phonology. A typologically interesting phenomenon is the distinction between palatal and palatalized laterals and nasals in Kildin Saami, which Rießler describes in detail (pp. 221–222). Chapter 12 seems to be the only one (except for the introductory Chapter 7) to employ the traditional analysis of Saami word structure (cf. Sammallahti 1998: 39), which underlines the lack of utility in discussing it in Chapter 7. A considerable amount of space is given to the description of morphophonological alternations, as these are so pervasive in these languages. In Chapter 13, the discussion is, however, hidden in the subsection on prosody (pp. 223–224). To facilitate comparative and typological research, a separate section on morphophonological processes would have been a better idea.

Following phonology is a section on morphology, which is divided

into nominal and verbal morphology. The emphasis in these sections seems to vary according to what is deemed most complicated in a certain language. For example, in Chapter 11 adjectival inflection is named one of the most complex areas of Aanaar Saami inflection (p. 187), which probably motivates the rather lengthy analysis of this part of speech. The description of morphology is somewhat uneven in the chapters. For example, the inflection of the copula and negation are discussed separately and only in the main text in Chapter 12, whereas in Chapter 11 the inflection is presented in tabular form, and Chapter 13 has a table of the inflection of the copula, but generally a very short and rather unclear discussion on negation (pp. 228–229). Such differences are of course due to the fact that the chapters have different authors, but the editors could have maintained some kind of coherence within the descriptions of Saami languages. This applies, naturally, also to the chapters discussed above.

After morphology there is a section on syntax in every chapter. Negation in Kildin Saami is treated under syntax (p. 235). This decision is somewhat confusing, as all the other chapters on Saami languages include the discussion in the section on morphology. In all chapters the semantics of cases is, somewhat

unintuitively, discussed in the subsection on clause structure. The same was not done, for example, with the semantics of moods or non-finite forms. All the Eastern Saami languages have the syncretic locative case combining the expressions of location and source, which is very rare in the languages of the world (cf. e.g. Creissels 2009; Pantcheva 2010). Unfortunately, even though many typologically interesting aspects of these languages are described in this chapter, there is no comment on this rare phenomenon.

All the chapters on Eastern Saami languages are very good, and cover all the important aspects of the languages, even though their emphases differ somewhat. The chapters are a bit uneven in the way that they discuss the same or similar phenomena differently. As the Eastern Saami languages do exhibit similarities, a bit like the Western Saami languages do, an approach similar to that employed in Chapters 8 and 9, i.e. to compare the languages more to each other, could have yielded more insight into the structure of the languages. Occasionally this is done, and it is a solution that works. Finally, a minor comment on the glossing conventions of Chapter 13 is in order. The chapter employs glosses like “*tenn* [DISC.SG.GEN|ACC]” and “*liejb* [bread|ACC.SG]”. The use of

the symbols | and \ is not immediately clear, especially for someone not acquainted with the structure of Kildin Saami, and therefore it should have been explained.

2.2. Languages of the Volga-Kama area

The handbook includes a chapter on all Uralic languages spoken in the Volga-Kama area, namely Erzya and Moksha, Mari, Komi, and Udmurt. In addition, there is an introduction to the history of the Permic branch. The division of the languages into chapters, i.e. that the Mordvin languages and Mari varieties get one chapter each whereas both Permic languages get their own chapters, is justified, as the Mordvin languages and Mari varieties are more closely related among each other than the Permic languages. However, the decision to not include separate chapters on the history of the Mordvin languages and Mari seems not to be in line with the general organization of the volume, as every other branch has such a chapter. Maybe a combined chapter on the history of Mordvin and Mari would have been in order? Another detail that could have been implemented differently is the chapter titles for Mari and Komi. As there are two literary standards for Mari

and Komi, respectively, which do exhibit differences (see below), the chapters could have been titled *Mari (Hill and Meadow Mari)* and *Komi (Zyrian and Permyak)*, as was done with the Mordvin languages.

2.2.1. The Mordvin languages

The chapter on the Mordvin languages by Arja Hamari and Rigina Ajanki treats Erzya and Moksha as different languages. This has not always been the case, as the authors of the chapter also point out (p. 392). The languages are discussed side by side, which clearly shows that the Mordvin languages should not be considered as dialects of one language, as has been done in a great deal of previous research (e.g. Raun 1988; Zaicz 1998). Considering that other languages that have traditionally been regarded as dialects of one language, e.g. Estonian and Võro, the Mansi languages, and the Khanty languages, have gotten their own chapters in the handbook, one could ask whether Erzya and Moksha would have also merited two chapters, and maybe even a chapter on Mordvin in general, like Chapter 25 on the Permic languages. In my opinion, the decision in the handbook is well thought out, even though a chapter on Mordvin in general could have added some historical insight on the evolution

of the languages from Proto-Mordvin. However, there exist previous treatments of the history of the Mordvin languages that are not hard to find, e.g. Zaicz (1998) and Bereczki (1988: 316–331; somewhat obsolete) in previous handbooks, so this is not a big deficiency.

In general, the different aspects of grammar are treated well in the chapter. However, it could have been pointed out more strongly why the voiceless fricatives /f l' r' j/ in Moksha can be considered phonemes and not mere allophones. The discussion (p. 395) seems to point to the direction that at least /f/ is an allomorph of /v/ before /t/. This otherwise minor thing catches the eye, because the palatalization opposition in dental-alveolars is clearly argued for (p. 394).

The morphology of nouns and verbs is discussed at length in the chapter, but other word classes, especially adjectives, numerals, and quantifiers do not get much more than a mention. Personal pronouns are discussed hastily, but other such forms like interrogatives, indefinites, or demonstratives are lacking. I assume that this choice was based on length restrictions, but Hamari and Ajanki could have at least noted that the aforementioned word classes mostly behave like nouns. Postpositions and relational nouns are discussed at slightly more

length. The series of “locative postpositions” (p. 407) could have been termed inflection, as they parallel nominal inflection in spatial cases, and the series can be seen as rudimentary inflectional paradigms.

The discussion of the cases of the Mordvin languages describes the case systems of the languages well and uses sufficient tables to illustrate the complexities of this morphological category. The discussion of the status of certain cases deserves special mention. Firstly, the explanation that the causative has only recently been grammaticalized and alternates, to some extent, with the original postposition nicely shows that the case system is a dynamic entity, and not a static whole like it is too often described. However, the question of whether the causative is a case or not could have been raised. The causative is semantically rather narrow, which is less typical for cases (cf. e.g. Malchukov & Narrog 2009: 518), and as mentioned, it alternates sometimes with the postposition. The discussion would have benefited from an assessment of the productivity of the case in comparison to the postposition. Secondly, the status of the comparative and the abessive is considered and different views are compared. The relative has a similar double function as an adverbial derivational suffix, but this is not mentioned until the

discussion on derivation, which is somewhat strange.

The rest of the discussion of cases is good, but the semantics get too little mention. For example, the dative is given six meanings in Bartens (1999: 93), but only two are mentioned in the chapter here (p. 399). The same goes for the spatial cases, e.g. the illative can be shown to express up to ten distinct meanings (Erkkilä 2022b), but they are not mentioned at all. In the same vein, labeling the illative as a goal case and the lative as a direction case is a big oversimplification of the semantic interplay of these cases (cf. Erkkilä 2022a). All in all, the discussion seems to rely a little too much on the use of terms as meanings and readers' knowledge of the semantics of cases, which can lead to different kinds of trouble.

The definite and possessive declension is discussed from the point of view of morphology and morphosyntax, but the functions of these declensions are not discussed at length. The function of the possessive declension to mark possessor and possessee is mentioned (p. 402), but the functions of the definite declension are commented on only minimally. As definiteness covers a large ground of notions tied to the givenness of a referent in the Mordvin languages (cf. Bernhardt 2021: 26–27), a brief

comment on the matter would have been helpful.

Hamari and Ajanki cover the verbal inflection of the Mordvin languages well. The converb in *-do* (E), *-da* (M) which is frequently used with posture verbs could have been discussed further, as expressions of location and their variation is a topic of frequent attention in typology (cf. e.g. Levinson & Wilkins 2006; Vallejos & Brown 2021). In general, the section would have benefited from an additional historical overview which would explain the origins of different verbal morphemes and their development, as the verbal inflection system of the Mordvin languages is rather complex.

The section on syntax is the shortest, as is often the case in handbook chapters. Nevertheless, the authors manage to treat all the most important and typologically most relevant properties of the Mordvin languages. While discussing the object marking in Mordvin languages, the authors do not take up the recently proposed analysis of the inessive as a marker of antipassive (Kozlov 2018: 422–428). The analysis presented by the authors in the handbook and argued for by Bernhardt (2020) is, of course, more traditional, but also better argued for than the alternative analysis. However, the alternative analysis could have been mentioned and then dismissed.

2.2.2. Mari

Chapter 24 by Sirkka Saarinen concerns the Mari varieties. Saarinen discerns four dialect groups for Mari (p. 432). Later she voices the opinion that the two main dialects, Hill and Meadow Mari, underlying two literary standards are not wholly mutually intelligible (p. 432). This raises the question of whether the “dialects” would be better analyzed as separate languages. However, this decision is of minor practical concern in this chapter, as the author consistently presents both main varieties side by side, and comments on their differences where it is necessary. From a sociolinguistic point of view, however, a more neutral expression like “variety” would have been justified (I will follow this convention).

Saarinen has decided to take a diachronic point of view in addition to a strictly synchronic description. This choice is justified, as there is no separate chapter on the development of the Mari varieties (cf. e.g. Chapter 25 on Permic), and it gives an interesting insight into the matter. However, in some places Saarinen seems to refer to somewhat outdated views (e.g. Proto-Finno-Ugric, p. 443).

Following the introduction there is a section on phonology that covers all important aspects of the

phonology of Mari varieties. From a typological perspective the different types of vowel harmony are an interesting phenomenon which probably would have merited even a longer discussion (cf. Kangasmaa-Minn 1998: 223–224). Furthermore, Saarinen uses the term *schwa* for the reduced vowels of the Mari varieties (pp. 433–434). For Meadow Mari this choice works well enough, but as Hill Mari has two reduced vowels, another term like “reduced vowel” could have worked better.

Next up is a section on morphology, which starts with a description of nominal morphology. The discussion of case is good, but there are a few things that should have been considered more. Firstly, the inclusion of the modal and comitative among the case paradigms is not unproblematic. Both exhibit morphosyntactic behavior that is not typical for cases. Secondly, the categorization of the lative as a spatial case could be disputed; it could also be analyzed as a primarily semantic case expressing change of state which has secondary spatial functions. On the other hand, Saarinen’s choice to discuss the unproductive spatial cases alongside the productive ones is exceptionally good, as it illustrates the paradigmatic nature of the unproductive series and makes visible the continuum nature of productive and

unproductive inflection in Uralic relational nouns. Thirdly, the author draws a parallel between the Finnic and Permic *l*-cases and the dative of the Mari varieties (p. 437), but this was unnecessary as none of these have any relationship beyond a superficial similarity in the form (cf. Ylikoski 2011: 258–261). Other minor problems are the imprecise terminology used in the description of the non-possessive uses of the genitive (pp. 438–439), which could be described as well as part-whole or metonymic relations instead of “more abstract kinds of inclusion and affiliation”, and the comment that the illative is used only spatially (p. 441) when the examples show that this is clearly not the case. However, the author has discussed the semantics of the cases exceptionally well, and such a presentation would have enhanced many of the other chapters on languages in the handbook.

The section on possessive inflection covers the morphosyntactic phenomena and most of the semantic phenomena well. The only thing lacking is a listing of all the types of possession that can be expressed by possessive suffixes instead of giving only two examples (p. 443). The section on nominal inflection ends with a discussion of morpheme order, which is undoubtedly one of the typologically most interesting

phenomenon in the Mari varieties. As is well known, morpheme order is typically claimed to be rigid (e.g. Matthews 1991: 212–213). The author presents all the possible variants and quickly discusses the parameters affecting them, but a longer discussion with examples would also have been in order.

The section on verbs discusses all the important phenomena in the verbal inflection of Mari. The semantic analysis of the tenses, especially the compound tenses, is very thorough, which has not always been the case in treatments of Mari (cf. e.g. Kangasmaa-Minn 1998: 238–239). In the section on the non-finite forms, the discussion of the necessitive infinitive is especially interesting, as such modal expressions are potentially typologically interesting (cf. Narrog 2014). There are a few minor problems in the section, however. First of all, the author says that the origin of the infinitive suffix is in the lative **-s* (p. 455). This analysis seems rather dubious, as the whole existence of the **s*-lative is questionable (cf. Ylikoski 2016b).

Clause structure is considered at length, but otherwise the section on syntax is a bit compact. However, this section, and especially the part regarding clause combining, is thorough and discusses all the important matters.

2.2.3. The history of the Permic languages

The three chapters discussing the Permic languages have a clear division of labor: Chapter 25 by Gerson Klumpp discusses the history of the Permic languages from Proto-Permic to the present-day languages, whereas the other two chapters, 26 and 27, focus on Komi and Udmurt, respectively. There is some overlap between the chapters, but this is not a problem as in this way the reader can get all the necessary information on one language in one chapter.

Chapter 25 starts with a concise review of the language-sociological situation of the Permic languages, including a section on the history of literary languages. The treatment of Old Komi, though brief, is interesting, as this language variety is sometimes confused with Proto-Permian (which it is not) and has one of the oldest Sprachdenkmal among the Uralic languages, a fact that, for some reason is not brought up in the chapter. From a language-sociological point of view the rather brief mention of modern Permic varieties used on social-network sites (p. 474) is interesting, but the matter could have been considered more thoroughly.

The discussion of the dialects of the Permic languages is comprehensive enough, but the classification of

Komi varieties is left open. Instead, Komi is portrayed as consisting of a continuum of dialects (p. 472). This raises the question of the status of especially Komi Permyak, which is mentioned as having its own literary standard (p. 471) and comprising two dialect groups and three dialect areas (pp. 472–473). If Komi (Zyrian) and Komi Permyak are dialects of the same language, it is a bit strange to talk about dialects of dialects. Furthermore, the dialect view is the dominant view at least in western scholarship on the Permic languages (Baker 1985: 50–72; Riese 1998: 250–251; Bartens 2000: 29–32), and it is the stance taken in the chapter on Komi in the current handbook. Thus, the chapter should have commented on the matter more strongly, or at least referred to the relevant section in the chapter on Komi (at the end of the chapter, on page 484, the author refers to “Komi languages”, which seems to be at odds with the initial treatment).

The section on morphology begins with a comment on the morphological structure of Komi and Udmurt, i.e. that it is highly agglutinating with only minor stem alternations and a few portmanteau morphemes in the possessive declension. The Permic languages could have been compared to other Uralic languages in order to address the common misconception of

a purely agglutinating structure being the major Uralic inflection type, however. In addition, the history of the stem alternation could have been considered at greater length.

The section on nominal and pronominal inflection clearly shows that the categories of inflection (cases and possession) are semantically practically identical but differ formally between the languages. The so-called approximative cases of Komi are mentioned as being in the process of being introduced into the literary language (p. 479). Whether they can be considered cases at all should have been discussed, however (cf. Baker 1985: 230–231). The chapter shows the Komi prolativ as having two allomorphs (*-ed* and *-ti*). This is incorrect, as these forms are not in complementary distribution, but rather they have their own semantic and morphosyntactic properties, as well as different dialectal distributions (cf. e.g. Partanen & Erkkilä 2022). Another somewhat problematic claim is that the Permic relative is implied to have cognates in other languages (p. 479). If such a view has been presented somewhere, it should be referenced. For example, Ylikoski (2016), the presently most comprehensive treatment of (western) Uralic spatial cases, does not even mention such a possibility.

The possessive cases of Komi and Udmurt (genitive, ablative,

and dative) are historically compared to the similar case series of Finnic languages. The comparison is old and based on the fact that structurally the case series in both branches consist of a “coaffix” *-l-* and material reminiscent of spatial cases. The explanation that the cases are structurally similar is correct, but the section seems to suggest that the *l*-element is cognate with the Finnic element (p. 479). This is wrong, as already Ylikoski (2011: 258–261) shows that the *l*-element in Permic languages is probably a parallel development from a different postposition than the *l*-element in Finnic languages. In addition to the above-mentioned cases, only the history of the accusative is touched upon, even though a wider look at the development of the Permic cases would have been warranted.

Unlike nominal inflection, verbal inflection in Komi and Udmurt does differ, which is clearly stated at the beginning of the section on verbal inflection (p. 480). One could have expected a more thorough review of the historical development and comparative differences of the verbal inflection in the Permic languages, especially when both Komi and Udmurt have their own chapters in the handbook, for which such discussions would function as excellent background.

The section on syntax begins with a well-grounded note of caution about the difficulties of reconstructing Permic syntax, after which a brief discussion of word order follows. The section claims that in Udmurt the word order is rigid SOV (p. 483), but in the chapter on Udmurt the word order is said to be on its way to becoming SVO due to Russian influence (p. 518). This probably does not matter, as apparently both orders are possible, but a reference for the claim would not have hurt here.

The chapter is a useful addition to the handbook. At times, the author could have been more exact in his claims, and especially in the discussion of cases somewhat more critical. Also, a bit more historical treatment on the developments in morphology would have been interesting. However, the partly historical and thoroughly comparative approach gives useful background information on the Permic varieties.

2.2.4. Komi

Chapter 26 by Nikolay Kuznetsov discusses the Komi language. This is a synchronic description, which seems to lean a bit towards the traditional analysis of Komi instead of a fully typologically informed description.

The chapter starts with a short sociolinguistic and historical overview of Komi. Kuznetsov states that Komi has two or three varieties, namely Zyrian (he uses the form “Zyryan”), Permyak, and Yaz’va, which are dialects of the same language. His classification is argued for well enough and follows the western Uralistics tradition. However, as in Chapter 25, the choice brings about a terminological problem when Kuznetsov starts to speak about dialects of Zyrian and Permyak (p. 487): a dialect cannot have dialects, and even if this might not be the biggest problem, it is still an inconsistency that should have been avoided. Furthermore, the caption of Map 26.1 refers to Zyrian, Permyak, and Yaz’va as Komi languages, not dialects. In addition, the author states that the differences between Komi dialects, presumably the lower-level dialects of Zyrian and Permyak, are insignificant. The differences might be minor (cf. e.g. Baker 1985: 58–71; Hausenberg 1998: 306), but probably not insignificant.

The phonology and phonotactics of Komi are dealt with mostly with precision. When discussing the phoneme inventory, the author seems to acknowledge that his statement about insignificant differences between the dialects of Komi is too strong, as he notes that

the phoneme inventories can vary across the dialects (p. 487). Here, a treatment akin to Hausenberg (1998: 308–310) would have been a good addition. A similar comment is made when discussing the differences in the stress patterns of the main varieties (p. 490).

The treatment of nominal inflection is riddled with problems and inaccuracies. Number is discussed properly, but case inflection and, to a smaller extent, possession are not. First of all, the case paradigm given (p. 491) is inconsistent. The cases consisting of the approximative suffix, and another spatial case suffix are considered as a part of the case system without any reservations, even though this cannot be considered an established view. Only a few students of Komi, including the author himself (Kuznetsov 2012: 88–91; Kuznetsov 2012: 373–374) consider these forms as cases. Older treatments, e.g. Lytkin (1955), Bartens (2000) do not even mention these forms, and Baker (1985: 230–231) explicitly states that these forms should not be considered cases in their own right. The problem with the analysis presented in the chapter is not so much that it would be impossible to have such cases, but rather that the analysis of these forms is too vague to be considered as the correct one without further argumentation.

Furthermore, if there is research on the matter, it should be properly cited (cf. Usačeva & Archangel'skij 2017 on Beserman Udmurt). Other analyses of these “cases” are equally possible, such as one put forward in Baker (1985: 230–231) that the approximative suffix would function as a derivational element. This analysis seems at least as plausible as the case analysis, as the approximative suffix is losing its productivity also in Udmurt (cf. Chapter 27, p. 512).

A second inconsistency in the analysis of the case system of Komi is the treatment of the prolativ and the transitive (forms in *-ed* and *-ti*). The author considers them as suffix variants, as they are usually interchangeable (p. 492). First of all, this statement leaves the status of the two suffixes unclear. Does “suffix variant” mean a morphophonologically or syntactically conditioned allomorph, or something else? Secondly, the latest research (Partanen & Erkkilä 2020, 2022; Erkkilä & Partanen 2022) has shown that both suffixes have clear tendencies to appear in different morphosyntactic and semantic environments, and thus they are not always interchangeable. If the cases based on the approximative are considered cases, the prolativ and transitive cannot be considered “suffix variants”.

The third inconsistency is the inclusion of the comparative case in

the case paradigm while leaving out the so-called surface relational cases present in Southern Permyak (Baker 1985: 175–191). This is inconsistent because the comparative is, like the surface relational cases, present only in some varieties of Komi, namely in Permyak and in the Sysola and Luza dialects of Zyrian (Bartens 2000: 78; Bartens calls the case “preclusive” (Finnish *preklusiivi*). In general, it is worth questioning the case status of the comparative, which has rather narrow semantics as the marker of standard of comparison (p. 493). If, however, the case is productive enough, it could fit into the case paradigm, but then the other dialectal cases should also be accepted.

The semantics of the cases are described mainly well, albeit rather briefly. This is of course a typical problem of handbook chapters, for which the author cannot be held responsible. The typologically most interesting phenomena, e.g. the use of the accusative only with animate objects, are mentioned. For some reason the author does not, however, speak about Differential Object Marking, but rather presents the traditional analysis of an unmarked accusative (p. 492). The most problematic thing in the section is the division of spatial cases into three series and referring to two of them as “internal” and “external”. The spatial cases form a basic four-way

system consisting of inessive (location), elative (source), illative (goal), and prolative (path) which the other cases augment, e.g. the egressive and terminative mark a boundary, either at the beginning or the end, to the action expressed by the predicate. There is also no notion of internalness in the semantics of the inessive, elative, and illative (cf. Koivunen & Erkkilä 2022). Rather they express general spatial relations, and the configuration is either inferred from the context or specified by relational nouns. Similarly, the approximative, egressive, and terminative do not express externalness. Furthermore, it is highly questionable whether such series would be useful in classifying spatial cases, as they are really asymmetric. “Internal cases” express location, source, and goal, “external cases” have one case with source-oriented semantics and two with goal-oriented semantics, and “proximal cases” have double the number of spatial cases than any of the other two series. On top of that, the prolative is left outside the whole categorization. As a conclusion, it can be said that the proposed classification (the author calls it, on page 493, the common division but does not indicate from where it stems) is not useful or systematic, but rather brings up misconceptions about the semantics of the spatial cases.

The discussion of possession is rather short, but it does bring up the most important aspects of the possessive inflection of Komi. Definiteness marking could have benefited from a longer discussion, as the common ground for the interlocutors (p. 493) can include a lot of different aspects. For example, must the entities marked as definite, unique, etc. be known from the previous discourse, or can anything that is considered common ground between the interlocutors be marked with the possessive suffixes? Another question left unanswered is whether the marking is obligatory or not.

Verbal inflection is discussed in sufficient detail and without any apparent shortcomings, but the compound past tenses merited even more discussion in my opinion. The discussion leaves it unclear whether the author shows examples of all of the compound past tenses or only some of them. The brief mention of the marking of degree of action (p. 497) promises interesting avenues for future research. The non-finite verb forms are represented with plenty of examples, but their semantics are discussed only briefly, mostly by naming the form in a certain way. A little more analysis would have benefited the section.

In the section on direct object marking, the variation of object marking in Komi is discussed

briefly. Even here the unmarked object is called “nominative-like”, and a mention of the traditional unmarked accusative is given (p. 502; compare to p. 492). The phenomenon should have been analyzed as DOM. However, all the relevant parameters of the variation in object marking are given, so the analysis itself seems correct.

The chapter on Komi is rather uneven in its quality. Many parts, like phonology, pronominal and verbal inflection, and most of syntax, are as good as one could hope from a handbook chapter. Some of the discussion feels a bit too compact, but that is of course inevitable. Other parts like the description of object marking and especially nominal inflection seem to have been carried out without any actual analysis by repeating older sources uncritically. The section on spatial cases is so full of unjustified claims that it gives a false picture of Komi spatial case inflection.

2.2.5. Udmurt

Chapter 27 by Svetlana Edygarova discusses the Udmurt language. The chapter is a synchronic description, and the analysis is typologically informed. The section addressing sociolinguistic, dialectal, and language-policy issues is concise but informative. In my opinion,

the interplay between standard language, traditional dialects, and modern vernaculars could have been discussed even more, as the author has expertise in the field (cf. e.g. Edygarova 2014). The section on phonology and phonotactics is rather short. Mostly this does not matter, as all the important facts of the Udmurt sound system are covered. However, the distribution of phonemes is not discussed and the possibility of consonant clusters and vowel sequences on a morpheme boundary are not (explicitly) mentioned (cf. e.g. Csúcs 1998: 280).

The section on nominal inflection presents all the relevant information. The semantics of grammatical and semantic (non-spatial) cases are mostly discussed well, but the treatment could have been longer. However, even as it is, the section manages to bring up the typologically most interesting phenomena, e.g. the use of accusative in DOM. Unfortunately, this is not explicated well enough. The only real question in the treatment of non-spatial cases is the status of the so-called adverbial case. This case is traditionally counted as a case in Udmurt (e.g. Perevoščikov et al. 1962: 86–87), but its semantics raises the question of whether the form is polysemous enough to be considered a case (cf. Malchukov & Narrog 2009: 518), or whether it would be better analyzed

as a derivational morpheme. Also, “adverbial” is an extremely unsuitable term for a case, which should have been considered.

The section on spatial cases is unfortunately rather short, and it has some inaccuracies. Firstly, the Udmurt spatial case system is best viewed as having a basic four-way distinction with one location (inessive), one source (elative), one goal (illative), and one path case (prolative). Secondly, egressive and terminative do not express only starting and end point, but rather boundedness of action in space or time (cf. Erkkilä 2024). In addition, all the basic spatial cases have diverse functions, but only those of the elative are even mentioned. The comment on the approximative is a good point, but it raises the question of why an unproductive suffix is analyzed as a case.

The treatment of possessive inflection is also generally good. The only minor complaint is that the different semantic functions traditionally bundled as definiteness are not explored further. In the discussion on pronominal inflection, the analysis of plural 1st person pronouns as having an inclusive–exclusive distinction would require some additional discussion. After all, the previous treatments of Udmurt (e.g. Perevoščikov et al. 1962; Bartens 2000) do not mention this division.

The section of verbal inflection introduces Udmurt verbal morphology well. A longer treatment of the so-called 2nd past tense would have been useful. This tense expresses evidential connotations and thus is also of interest to typologically oriented research. Some questions that could have been addressed are, for example, whether there are degrees of inference when using the tense, what the relationship of the tense to the compound tenses mentioned is (or whether this can presently be evaluated), and whether the tense can be used in narration. Furthermore, the comment on the use of the 1st person form of the 2nd past to express mirativity (p. 515) would need further elaboration. As this is a totally novel analysis of the form, some references or arguments in favor would be in order.

The moods are covered rather comprehensively. The only minor problem is that the semantics of the conditional are not discussed, but the reader must rely on the semantics of the Udmurt conditional being equal or similar to other conditionals they might be familiar with. The semantics of the imperative are also not discussed, but as the optative is contrasted to the imperative this does not pose much of a problem. Considering the number of non-finite verb forms in Udmurt, their treatment is rather short. This

is probably due to space constraints and the lack of research on the topic, but there could have been more discussion than merely naming the forms.

The section on syntax begins with an overview of word order in Udmurt. Edyagrova states here (p. 518) that SVO word order is becoming more common in Udmurt, whereas in Chapter 25 this development is not mentioned. Phrase structure is covered rather briefly, and even though most of the basic phenomena are mentioned, a bit more discussion or examples would have been in order. For example, the author fails to mention that adpositional phrases in Udmurt are always postpositional and take their complement mostly in the nominative, even though some other cases are also possible (cf. e.g. Bartens 2000: 294–300).

In general, the chapter is good and covers all the important and typologically interesting aspects of Udmurt. However, a certain compactness can be noted in the treatment. Especially in the section on syntax, the topics are discussed rather briefly, and even though most of the important phenomena get a mention, the reader is left with the feeling that the subject has only partially been covered. Furthermore, the chapter voices a few more controversial analyses of Udmurt,

especially the inclusive–exclusive division in personal pronouns and the expression of mirativity. These claims would have needed either longer discussions, supporting references, or both.

3. Some typological issues of Uralic languages

3.1. Nominal and adpositional marking

There are two chapters in the handbook discussing the marking of non-possessive grammatical and semantic relations in the Uralic languages. The subjects treated are the case inflection and adpositions in Uralic. Both chapters are typologically oriented and thorough descriptions of their respective subject matters. The chapters reviewed here complement the individual language descriptions of Part II by giving a more general picture of the vastly varying marking of different relations in Uralic languages.

3.1.1. Cases

Chapter 44, written by Seppo Kittilä, Johanna Laakso, and Jussi Ylikoski, tackles a phenomenon that is traditionally seen as a hallmark of Uralic languages, namely case. The subject is studied from morphological, syntactic, and semantic

perspectives through a typological lens. This is, as far as I know, the first comprehensive treatment of case and cases in Uralic languages, and as such a valuable addition to the handbook. The chapter manages at the same time to demonstrate the variation of cases and case systems and to correct common misconceptions about case in Uralic languages.

The chapter begins with a discussion of what is considered a case in Uralistics. After some consideration, Kittilä et al. define cases in the traditional Uralistics way (a kind of a word-and-paradigm model, e.g. Blevins 2009) based on the similar morphosyntactic behavior of case suffixes and other, less controversial nominal inflection suffixes. This definition is not airtight, as some Uralic languages lack morphosyntactic features capable of distinguishing case and postposition, but it is a good working definition that covers most cases in Uralic languages. It is nice for a change to see a definition of case in literature on Uralistics.

The next section treats the case inventories and the sizes thereof across Uralic languages. In this section Kittilä et al. state that even though some of the Uralic languages do have a lot of cases, this is not the case for all languages. In the *World Atlas of Language Structure* (Iggesen 2013), however, a case

system consisting of six to nine cases is considered large, and a case system of over 10 cases is very large. This means that, according to the criteria of Iggesen (2013), most Uralic languages do, in fact, possess large case inventories. This perspective could have also been mentioned.

In the following section the grammatical cases and their use in the different Uralic languages is discussed. First Kittilä et al. discuss Differential Object Marking (DOM). It is shown that in most Uralic languages patient marking is not based on (purely) grammatical factors, but semantics and pragmatics also play a role. Kittilä et al. show many examples of DOM in Uralic languages, but I would have hoped, however, that the use of the inessive as an object case in the Mordvin languages would have been mentioned, as it has recently stirred some controversy (cf. Toldova et al. 2018: 422–428; Bernhardt 2020).

After discussing DOM, Kittilä et al. turn to other Differential Argument Marking (DAM) phenomena in Uralic languages. In general, this section is good and highlights typologically interesting DAM phenomena in the family. The section focusing on DOM is understandably longer than the section focusing on the other DAM phenomena, but as DOM already has its own chapter in the handbook, the

focus could have been on the other types of DAM. One could even imagine that a separate chapter for all the DAM phenomena would have been useful, as the DAM phenomena mentioned in the chapter range from DOM to Differential Goal and Location Marking (DGM and DLM), and even to Differential Adjunct Marking. The discussion of DGM and DLM is centered on the variation of internal and external cases, which raises the question of why Kittilä et al. do not distinguish also Differential Source Marking (e.g. in Finnish where there are two of each spatial case) or even Differential Path Marking in Komi, where there are two different path cases (cf. e.g. Partanen & Erkkilä 2022). With this in mind, the adoption of a new terminology for variation between internal and external cases seems a bit unwarranted.

Moreover, the section on DAM seems to paint a picture of some of the cases as typologically rare. Especially the treatment of DGM and DLM seems to imply that these phenomena are somehow special and exclusive to the Uralic languages. They are of course typologically interesting, but not especially rare. Similar phenomena can be attested in practically any language with spatial cases and adpositions (e.g. most languages of Siberia), only adpositions (e.g. Indo-European languages of

Europe), or multiple locational predicates (e.g. some Mayan languages), to name a few examples. However, if Kittilä et al. intend the scope of DGM and DLM to cover only variation in case marking, the phenomena can be seen a lot less frequently across languages. Their discussion on DGM (p. 877) does not support the latter interpretation, however.

The discussion on the tripartite division of Uralic spatial case systems is basically correct, but it considers only one viewpoint. It is true that there are no valid reasons to present most of the Uralic case systems as consisting of multiple series of location, source, and goal cases, and especially the discussion on the position of a path case (the prolativ) is very welcome. However, from a cognitive and perceptual point of view the different cases expressing starting point, endpoint, direction, etc. cannot be considered on the same level as location, source, goal, and path cases. The four latter cases cover the four basic perceptual/conceptual spatial relations (cf. e.g. Zlatev 2007: 330–332), whereas the others convey complex relations consisting of a basic spatial relation and a semantic specification. In this vein a three or four partite system underlies all Uralic spatial case systems. The same goes for syncretic cases, which cover more than one of the basic relations. However, from

a paradigmatic point of view the chapter definitely has a point, and most of the spatial case systems of the Uralic languages cannot be reduced to (multiple) tripartite subsystems. Kittilä et al. describe the variation in spatial cases among Uralic languages in sufficient detail. In such a chapter serving as a mere overview, a deeper semantic analysis would have been unnecessary. A slight fault is that the Zyrian approximative cases are, in my opinion, presented too uncritically (p. 889).

All in all, this chapter is a valuable addition to the study of one of the most prominent features of the Uralic languages, namely cases. Kittilä et al. manage to cover all the important and typologically interesting features of the Uralic languages and discuss them extensively enough, maintaining at the same time a sufficiently general level of treatment.

3.1.2. Adpositions

This chapter by Riho Grünthal discusses adpositions,² which are one of the basic parts of speech in Uralic (and many other) languages.

2. I will use the terms *adposition*, *postposition*, etc. in accordance with Grünthal. However, in my opinion, some of the “adpositions” would be better classified as relational nouns.

What makes this chapter especially important is that adpositions tend to get rather minor attention in descriptions of Uralic languages (e.g. Bartens 1999: 163–165, 2000: 294–300; Siegl 2013: 206–215; Grünthal 2015: 214–218, to name a few). Even though there have been studies concentrating on the analysis of adpositions (e.g. Grünthal 2003), this field of study is fairly under-represented in Uralistics.

Grünthal goes through the morphosyntactic properties of adpositional phrase (AdpP). First, he discusses the variation in the order of the adposition and its dependent in Uralic languages. As mentioned above, Uralic languages mostly exhibit postpositions, but the westernmost groups also have prepositions, and even a few ambipositions, which can function as both pre- and postpositions (p. 963). This variation in the position of the adposition is typologically interesting but is covered rather briefly. The next matter that is discussed is the case marking of the dependent in an AdpP, which varies between different Uralic languages.

The section on the inflection of adpositions is the most thorough of the sections on the morphosyntactic properties. It starts with a division of adpositions into uninflected and inflected, which I think corresponds more or less to the division

between adpositions and relational nouns. Grünthal uses the paradigm of the Finnish postposition *sisä-* ‘inside’, which can take both inner and outer spatial cases, as an example of the versatility of spatial case in the inflection of adpositions, and he comments that the semantic differences between the inflected forms are subtle and difficult to describe (p. 965, fn. 2). I do not think that this is the case, as the differences have been investigated rather thoroughly (Ojutkangas & Huumo 2010; however, this does not apply to all adpositions in Uralic languages).

Furthermore, Grünthal makes a distinction between productive and unproductive spatial cases adpositions take, which is a bit unnecessary. It would be better to at least entertain the idea that the so-called unproductive spatial cases, i.e. the older stratum of spatial cases that are not used (in spatial function) in content noun inflection, would rather form a spatial case paradigm for relational noun inflection. After all, they do have some properties of productive inflection. The forms are, for example, transparent to some extent, regular, natural in their category, and the default forms with a number of stems (cf. Bauer 2001: 51–62).

The interplay of case inflection and adpositions are mentioned in

passing in a dedicated section. The tendency of supplementing disturbed spatial case paradigms with postpositions (e.g. in Mari varieties, p. 968) is considered. This is welcome, as the supplementing and subsequent re-establishment of spatial case systems is a tendency in Uralic languages, cf. e.g. Veps and different Karelian varieties (e.g. Larjavaara 1986) where the postposition *päin* ‘towards’ has become grammaticalized with the syncretic location–source cases to form new unambiguous source cases. On the other hand, the complementing function of case-inflected postpositions in comparison to plain cases could have been discussed more. It is typical for the Uralic languages that plain spatial cases express only the relation (e.g. location, source, goal) between two entities, and an inflected postposition supplies the configural information (e.g. under, on, behind, in front of). This fact is mentioned only implicitly.

The final section in the chapter discusses the diachrony of adpositions. This section, even though it is interesting, could have been somewhat shorter as the chapter discusses the diachrony of adpositions also elsewhere. This would have provided space for tackling the interesting aspects of the adpositional systems of Uralic languages mentioned above.

There is only one thing in the chapter that would need a more thorough discussion, namely the distinction between relational noun and adposition. First, the term “relational noun” is used in the chapter somewhat ambiguously, but it is implied that a relational noun is a noun expressing a concept that has relational properties (e.g. ‘inside’; p. 962). The chapter proposes a few distinctions between (relational) nouns and adpositions. One is that adpositions display “unproductive” spatial case markers, as mentioned above. In addition to the properties of at least partial productivity mentioned, the so-called unproductive inflection cannot be considered a decisive property differentiating between relational nouns and adpositions, as it is common that nouns of different classes exhibit different kinds of inflectional paradigms (cf. e.g. Blevins 2009: 210–215). Moreover, in many languages both adpositions and nouns exhibit similar case inflection, the only difference being that adpositions have a smaller case paradigm.

Other criteria mentioned include the lack of plural (and dual) inflection, which is also not decisive. The same applies to the deviant order of possessive marking and case. The Permic languages serve as a counterexample to both criteria, as in these languages an adposition can take plural marking, and the

order of possessive marking and case differ also in nominal inflection depending on the case (Bartens 2000: 117–118). Furthermore, it is not uncommon to find languages where different subclasses of nouns behave differently. For example, animate nouns or mass nouns can have different inflectional behavior. Following this line of argumentation, one could rather easily consider some of the postpositions of this chapter to represent a subclass of nouns, i.e. relational nouns. These nouns would then have morphosyntactic and semantic properties setting them apart from content nouns (e.g. they express a relational area; cf. Carlson 2010). The category of adpositions in Uralic languages would then be formed by postpositions with only one (lexicalized) form, and prepositions and ambipositions in languages which have them. A similar analysis is put forward by Arkhangelskiy & Usacheva (2015) for inflecting “postpositions” in Beserman Udmurt.

The chapter takes in general a rather historical point of view with regard to adpositions. This is not a bad thing per se, as many phenomena tied to adpositions and AdpPs are tied to the diachronic developments in morphosyntactic structure and grammaticalization tendencies in Uralic languages. However, it seems that this emphasis has

taken up space that could have gone to more thorough considerations of the synchronic categorization of adpositions, which might also have brought some interesting views on the typology of Uralic languages.

3.2. Non-verbal and atypical predication

There are three chapters in the volume which touch upon predication that does not involve a typical finite verb form in Uralic languages. These chapters consider non-finite verb forms, existential, locational, and possessive sentences, and nominal predication. The chapter on non-finite verb forms discusses the use of non-finites in general, not restricted to their predicative function. All the chapters are written from a typological point of view, which is a rather novel approach to the phenomena at hand. The chapters under review here complement the descriptions of the individual languages in Part II nicely.

3.2.1. Non-finites

In Chapter 48, Jussi Ylikoski discusses the classification and functions of non-finite verb forms in the Uralic languages. The analysis is based on typological knowledge, which is definitely an improvement in the Uralic tradition. Ylikoski has

discussed the non-finites in Uralic languages before (cf. e.g. Ylikoski 2003), so the approach is not entirely novel. However, in my opinion, it is important that such a chapter has been included in the handbook, as it adds to the comprehensiveness of the work.

The chapter begins with a general introduction and a discussion of the phenomenon. The discussion on the problems of classifying non-finites in the chapter is good and highlights the biggest issues in analyzing the non-finite verb forms of Uralic languages. One of the most prominent difficulties are the discrepancies between the traditional analyses (p. 936), which has led to one of the worst terminological jumbles in Uralistics (p. 938), comparable only to the indifferent use of case terminology. Ylikoski presents a system based on typological properties (and an according terminology), which enables the classification of Uralic non-finites a lot better than the idiosyncratic systems of the past. The system is of course not perfect, but still an improvement.

The system consists of a four-way distinction between infinitives, participles, converbs, and action nominals. The distinctions between the forms are based on the syntactic behavior of the forms. The inclusion of action nominals in the classification would have required here some

further motivation, as they are not traditionally seen as verb forms, and they possess basically all properties of nouns in Uralic languages. However, Ylikoski returns to the question later and gives some convincing arguments for his position (pp. 943–944). In general, basing the classification only on syntactic properties of the non-finites raises the question of how clear-cut such a division can be. For example, Ylikoski states that the infinitive functions as an argument in a clause (table on p. 937), but in certain Uralic languages, for example in the Permic languages, an infinitive can function as a modal predicate (cf. Bartens 1999: 148–149). Therefore, some mention of prototypical syntactic function would have been in order.

After the theoretical introduction, Ylikoski discusses the types of non-finite inventories found in different Uralic languages. One typical property of the Uralic non-finite forms is that the same form can function in different classes of non-finites. The functional polysemy of non-finite forms could have been attested even more, however. It would have been interesting to see a more thorough discussion on the relationships between cases and non-finite verb forms, especially from the point of view that a nominalizing element and a case seem to underlie many of the non-finite

forms in Uralic languages, cf. e.g. Csúcs (2005: 284–285) for the relation of the suffixes *-töž* and *-öž* (p. 939). It would be quite natural that the cases contributed their own semantics, at least partly, to the new form. The phenomenon is mentioned (p. 946), but there is no lengthier discussion.

After these general sections Ylikoski turns to discussing the different categories of non-finites. Participles and action nominals have gotten their own sections, but infinitives and converbs are discussed together. I assume that this decision is based on the fact that participles and action nominals change the part of speech status of the inflected word (p. 937), but I think that all the classes would have merited their own section. On the other hand, the presentation does bring out certain generalizations that can be made between infinitives and converbs.

In the next two sections Ylikoski discusses the different kinds of participles and action nominals of Uralic languages. He proposes a new analysis of the participles of Uralic languages, namely that they orient towards core arguments or sometimes an adverbial. This seems like an interesting idea. Ylikoski also claims that action nominals have a special function as nominal verb forms in Uralic languages. This position is strengthened by means of examples of Udmurt action nominals that can

take verbal arguments and participate in clause combining (pp. 942–943). This argument indeed supports the position, but it is based only on the Udmurt data and a mention of similar properties of Mansi action nominals (pp. 943–944). Therefore, I would regard it as a fruitful working hypothesis that requires more thorough analysis for support. Finally, Ylikoski discusses the infinitives and converbs together in one section. Converbs are covered well, except that the functional polysemy of some forms (e.g. participles and converbs) is unfortunately not analyzed further. Infinitives do not get as long and thorough a discussion as converbs, but the basic morphosyntactic tendencies are covered. The only thing that seems to be lacking is the discussion on infinitives as modal predicates, as witnessed e.g. in the Mordvin languages (Bartens 1999: 148–149).

In general, the chapter covers the system of non-finites from a typological perspective and defines the categories of non-finites more or less successfully. There are some issues, namely the rather straightforward definition of action nominals as non-finite, the lack of discussion of infinitives as predicates, and the neglect of form polyfunctionality, but all in all, the chapter manages to convey the versatility of the non-finites of Uralic languages well.

3.2.2. Existential, locational and possessive sentences

Chapter 51, written by Johanna Laakso and Beáta Wagner-Nagy, takes a look at some sentence types exhibiting non-verbal predication, namely existential, locational, and possessive sentences (cf. Hengeveld 1992: 94–101). This type of predication has been studied typologically, but in Uralistics such research is largely lacking (pp. 979–980). This overview will hopefully spark an interest in this line of study also in the Uralic languages. The point of view in the chapter is typological, which yields interesting comparisons between the previous research and the systems present in Uralic languages.

The chapter begins by discussing existential sentences. In the first section Laakso and Wagner-Nagy compare typological definitions of existential sentences to the reality of Uralic languages and argue that the definitions do not fit the Uralic languages very well. They point out that there are both terminological and structural problems (p. 970). Laakso and Wagner-Nagy draw the conclusion that the function of existential sentences in Uralic languages is to mark the pivot indefinite in a wide sense. This conclusion seems justified, but it could have been supported with additional data from other branches of Uralic. The

conclusion is now based on (some) Finnic languages, the Permic languages, Hungarian, and marginally the Samoyedic languages. Even if the state of research is poor, the reader might want to know what the situation is in the other half of the language family. Laakso and Wagner-Nagy consider predicates attested in existential sentences. They show that Uralic languages have different types of existential predicates. This section utilizes sufficient examples from different branches and languages of the family, which gives a rather complete picture of the existential predicates of Uralic languages. The sections on the properties of pivot and predicate are mostly informative, but some more thorough typological comparisons would have been in order (cf. e.g. Hengeveld 1992: 73–126).

After existential sentences, Laakso and Wagner-Nagy turn to locational sentences. The semantics and syntax of the locational sentences are demonstrated with examples from many Uralic languages and from different branches. Especially valuable is the discussion on the information-structural properties of some languages (especially the Finnic and Samoyed languages, but also in some Mansi varieties and in Meadow Mari), as the information structure of the Uralic languages in general, and its ties to syntax,

should be studied more. Hopefully this section will spark an interest in this subject. Like in the discussion on existential sentences, some more typological insight could have helped readers to understand the peculiarities of the subject. From this chapter it is still unclear, for example, whether the variation in information structure is something special, found only in certain Uralic languages, or a wider phenomenon.

The final type of sentences discussed is possessive sentences. Laakso and Wagner-Nagy discuss in turn the two main types of possessive sentences, namely transitive (*have*-)possession and possession based on existential sentences (cf. e.g. Stassen 2013b). In the first part Laakso and Wagner-Nagy handle the *have*-possession, which is found in a minority of Uralic languages. They clearly point out that the *have*-possession is the result of developments in single languages, and not a feature of any branch of the Uralic languages.

In the second part of the section Laakso and Wagner-Nagy discuss the existential-type possession, which is far more widespread in the Uralic languages than the *have*-possession. A minor problem in the discussion of the possessor marking is that they draw a formal parallel between the Permian and Finnic *l*-cases, which is unnecessary and can even

mislead a reader into thinking that the forms have something in common (cf. Ylikoski 2011: 258–260). The discussion of possession and possessive marking is rather compact but does not seem to miss any important features. The only shortcoming is that Laakso and Wagner-Nagy fail to mention the marking of the number of the possessee with a possessive suffix in e.g. the Mordvin languages (Bartens 1999: 100–105) and Tundra Enets (Siegl 2013: 149).

In general, the chapter discusses an interesting topic, where the Uralic languages have a lot to offer for research. Laakso and Wagner-Nagy deal with all the major aspects of existential, locational, and possessive sentences in the Uralic languages, and most of the time compare the phenomena typologically, though this could have been done more concisely.

3.2.3. Nominal predication

In Chapter 52, Rigina Ajanki, Johanna Laakso, and Elena Skribnik discuss nominal predication in the Uralic languages. The discussion is limited to equative, and non-existential ascriptive predication (cf. Hengeveld 1992: 101–105), as existential, locational, and possessive predication is covered in Chapter 51. However, nonverbal possession expressed by a genitive attribute is

included in Chapter 52. This division is logical, as the constructions handled in Chapter 51 consist of predication with a spatial element, whereas the spatial element is lacking in the construction discussed in Chapter 52.

In the first part of the chapter, Ajanki et al. present the formal properties of nominal predication in the Uralic languages. The discussion of morphosyntactic properties of nominal predication in the Uralic language is comprehensive. The chapter points out typologically interesting phenomena in nominal predication, namely nominal conjugation, agreement in number, and negation. Also nominal predication with other cases than the nominative is discussed.

The discussion clearly shows that Uralic languages use many different strategies in nonverbal predication, and that the strategies can vary even within one language based on e.g. tense. This is an important point, though it may seem a trivial one. It is important to underline the differences between the Uralic languages to non-experts, in order to avoid any unfortunate misconceptions regarding the homogeneity of the family, or generalizations of Uralic languages based on only Finnish, Estonian, and Hungarian, as has happened with various phenomena in the past. Ajanki et al. could have,

however, tied the discussion of the formal types more to the typological tradition of nonverbal predication (e.g. Hengeveld 1992).

The second part of the chapter discusses the semantics of nonverbal predication in the Uralic languages. Ajanki et al. show which construction types are used in different Uralic languages to express different functions. They consider a wide variety of different constructions, for example identifying, property assigning, and evaluative, and their properties and similarities with each other. When discussing the properties of subjectless clauses expressing physical or psychological states, it would have been worth a mention that, at least in Finnish, the experiencer construction of psychological states varies with prototypical intransitive clauses (cf. e.g. Siirinen 2003). As with the first part of the chapter, also the second part would have benefited from more typological discussion of the functions.

The function that gets most attention in this section is comparison. This is a very good idea, as comparison in the Uralic languages had not previously been studied from a typological point of view (except for Finnish, Estonian, and Hungarian). Ajanki et al. point out that the original Uralic comparative type has been to express the standard with a source case

(locational comparative), but that language contact has also produced particle comparatives in various Uralic languages (cf. Stassen 2013a).

In general, the chapter is very good discussion of nonverbal predication in the Uralic languages. Ajanki et al. manage to cover all the

typologically important features and even point out some Uralic rarities. As they mention (p. 995), the nominal predication of Uralic languages is understudied. Taking this into account, the chapter is definitely a valuable addition to the handbook.

Riku Erkkilä

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Hiroshi Shoji 1949–2023

One of the foremost Japanese experts on Finland and adjacent regions, Hiroshi Shoji (庄司博史) passed away after a prolonged illness on 4 May 2023, at the age of 73. He was born in Osaka on 24 August 1949, and moved in the early 1970s to Finland, where he completed his bachelor's degree at the University of Helsinki in ethnography and linguistics, including the Finnish language, in which he retained full fluency during his whole life. For a couple of years in the mid 1970s he also taught courses in Japanese at the University of Helsinki, where this language, then still outside of the formal academic structures, was included as an optional subject within the curriculum of Comparative Altaic Linguistics.

After returning to Japan, Shoji continued his academic studies and took a master's degree at the Kansai University of Foreign Languages (関西外国語大学), or Kansai Gaidai, under the supervision of Yasumoto Tokunaga (徳永康元, 1912–2003), at the time the leading specialist on the Hungarian language in Japan. Already in 1977 Shoji established a connection with the newly-established National Museum of Ethnology (国立民族学博物館), or Minpaku, which was led by the eminent scholar and influential organizer Tadao Umesao (梅棹忠夫, 1920–2010). It was at Minpaku where Shoji made his lifelong career as a researcher and academic teacher, starting as a research assistant and ending as a full professor as well as, after retirement, an active emeritus.

Founded in 1974 and housed in a huge complex built on the site of the 1970 Japan World Exposition (Expo 70) in Suita, Osaka, Minpaku during its first years enjoyed a huge budget for the acquisition of collections, including both objects and library resources, from all over the world. Shoji actively participated in this programme from the beginning, and, as one of his first projects, he travelled around Finland acquiring ethnographic materials representative of the folk culture of the Finns, who came to have a prominent position in the first permanent exhibition of Minpaku. He later added collections also from Estonia and Lapland. Already after his retirement, he organized an exhibition of Saami culture, for which he collected materials during his last visit to Finland in 2018.

Apart from material objects, Shoji was also interested in the intangible heritage of the peoples he studied, including folk customs, religious traditions, folklore, and languages. On the initiative of Umesao as its director, Minpaku introduced a library of ethnographic films, the so-called Videotheque (*Bideoteeku*), which originally contained a rapidly growing number of analogue videotapes – later replaced by digital materials – that could be viewed on site in the museum. Shoji added to this collection many films that he made on his travels not only to Northern Europe but also to other parts of the world. One region in which he took interest was Amdo Qinghai at the frontier of China and Tibet. In the early 1990s Shoji completed a couple of field expeditions targeting, in particular, the Huzhu Mongghul people in today's Qinghai Province of the People's Republic of China. The films and audio recordings he made on these trips are already of historical importance.

From the late 1980s Shoji became actively involved in the issue of linguistic diversity. He was one of the initiators of a project that aimed at presenting the languages of the world to museum visitors in an audiovisual form with the help of increasingly sophisticated technical equipment. As the principal person in charge of languages at Minpaku he also organized events and exhibitions on the topic of linguistic diversity. A major enterprise was the organization of the Taniguchi International Symposium on language endangerment in November 1994, with a focus on the languages of the northern regions of the world. The symposium, which drew participants from Europe, Russia, North America, Australia, and Japan, yielded one of the first collective volumes ever published on this topic (*Northern Minority Languages: Problems of Survival*, 1997).

Among the languages whose survival was of special interest to Shoji were the different varieties of Saami, Estonian, and Ainu. He had close personal relationships with many ethnic and language activists in both Lapland and Estonia. In Estonia, he followed closely the development of linguistic activism among the speakers of Võro, and he also visited the remaining Seto speakers in Setumaa, southeastern Estonia, as well as in the neighbouring Pskov region of Russia. With regard to Ainu, he was among the organizers of the annual event at Minpaku in which Shigeru Kayano (萱野茂, 1926–2006), one of last speakers of Ainu and until today the only ethnic Ainu person to have served as a member of the Japanese Parliament, carried out a ritual, open only for a restricted audience, at the Ainu house installed in one of the exhibition halls of Minpaku.

Apart from Ainu, Shoji brought up the presence of immigrant languages, thus challenging the traditional image of Japan as a homogeneous monolingual society. He also conducted some pioneering fieldwork in multilingual communities in the Helsinki metropolitan region in Finland, long before the topic gained wider scholarly interest. In Japan, he founded an active research group focusing on multilingualization (多言語化現象研究会), which held its inaugural meeting in June 1999 and celebrated its twenty-fifth anniversary after the passing of its founder in September 2024. He served as the editor of important scholarly reference works in the field.

From its early years, Minpaku has been actively engaged in various programmes for international collaboration. With the establishment of the School of Cultural and Social Studies in 1989, the research department of Minpaku became linked to the Japanese inter-university system of Advanced Graduate Studies (総合研究大学院大学), or Sokendai, which means that it trains doctoral students in relevant fields connected with ethnography and linguistics. Shoji, in his position as professor, also supervised his share of doctoral students from both Japan and various foreign countries. In this role, he was known as an easily accessible, supportive, and tolerant teacher with a great sense of humor. As a colleague and friend he was always externally calm and modest but internally warm and un-failingly reliable.

Hiroshi Shoji joined the Finno-Ugrian Society in 1984. He was also active in the Uralic Society of Japan (日本ウラル学会), as well as several other learned organizations. In Japan, he is missed by his Finnish wife Mia, as well as their daughter Marie and son Kei and two grandchildren.

Juha Janhunen & Riikka Länsisalmi

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1. Juha Janhunen was a fellow student of Hiroshi Shoji in Uralic and Altaic linguistics at the University of Helsinki in the early 1970s and a participant in his Japanese classes, as well as, later, Shoji's colleague at Minpaku in the capacity of a visiting fellow in 1985–1986 and 1994–1995. Riikka Länsisalmi was a research and postgraduate student of Hiroshi Shoji at Minpaku and Sokendai in 1992–1998.

Dmitri Cygankin 1925–2023

Dmitri Vasiljevič Cygankin, Professor für ersanische Sprache an der Universität Saransk und langjähriger Leiter des Instituts für mordwinische Sprache und Literatur, später für ersanische Sprache, verstarb am 21. November 2023 im hohen Alter von 98 Jahren. Er leistete sein Lebenswerk als Ausbilder der ersasprachigen Studierenden an der Universität Saransk und als einer der aktivsten Erforscher der Grammatik und der Dialekte des Ersanischen.

Dmitri Cygankin wurde am 22. Oktober 1925 in dem ersanischen Dorf Mokšalej in der Gemeinde Čamzinski (ersanisch Čaunzabuje) im damaligen Gouvernement Pensa, im Gebiet der späteren Republik Mordwinien geboren. Während seines fast hundertjährigen Lebens erlebte er die kinderreichen, traditionellen Dorfgemeinschaften, die gesellschaftlichen Umwälzungen, die kulturellen Krisen und die schrittweise Verminderung der mordwinischsprachigen Gemeinschaft. Zur Zeit von Cygankins Geburt gab es laut der ersten in der Sowjetunion durchgeführten, 1926 veröffentlichten Volkszählung rund anderthalb Millionen Mordwinen. Gegen Ende seines Lebens weist die Volkszählung von 2021 weniger als eine halbe Million als Mordwinen registrierte aus. Im Lauf von hundert Jahren ist die Zahl derjenigen, die Ersa oder Mokscha als Muttersprache sprechen, noch dramatischer zurückgegangen.

Cygankin gehörte der Generation an, deren Schulbildung durch den Zweiten Weltkrieg unterbrochen wurde. Schon vor seinem achtzehnten Geburtstag wurde er mobilisiert und zum Militär eingezogen. Als Achtzehnjähriger wurde er im November 1943 an die Front geschickt. Aus der Sowjetarmee wurde er endgültig erst im Juni 1950 entlassen, nach sieben Jahren, nach der Endphase des Zweiten Weltkriegs und den darauffolgenden unruhigen Jahren.

Sein Studium begann Cygankin an der historisch-sprachwissenschaftlichen Fakultät des Pädagogischen Instituts von Mordwinien, aus dem später die Universität der Republik Mordwinien und von Saransk hervorging. Cygankin verfasste seine erste wissenschaftliche Arbeit über seine Familiensprache, den Šugurovo-Dialekt des Ersa. Nach einem weiterführenden Studium in der Aspirantur legte er 1958 die Prüfung zum Kandidaten der Philologie ab. Bei vielen muttersprachlichen Forschern und Lehrkräften der finnisch-ugrischen Sprachen Russlands, so auch bei ihm,

waren die Stadien der Laufbahn das Studium am Pädagogischen Institut, das Interesse am eigenen Dialekt, zeitlich begrenzte Studien in der Aspirantur und danach die Tätigkeit als festangestellter Lehrer, oft auch als Professor. Die Basis für den Einstieg in die wissenschaftliche Laufbahn bildeten die ersasprachigen Dorfgemeinschaften, in denen das Ersa die Unterrichtssprache war und in denen man ersasprachige Lehrkräfte benötigte.

Wie bei vielen anderen in der Sowjetunion aufgewachsenen muttersprachlichen Erforschern der finnisch-ugrischen Sprachen gehörte auch bei Cygankin zu den Anfängen seiner Laufbahn die Abfassung von Lehrbüchern, in seinem Fall sowohl der ersanischen als auch der russischen Sprache. Für beide bestand an den mordwinischen Schulen Bedarf, und er verfasste mehrere Lehrbücher für die 7.–8. Klasse, also für Schüler der Sekundarstufe, für die zusätzlich ersasprachige Hilfsmittel erstellt wurden.

Cygankins bevorzugter Bereich innerhalb der Sprachwissenschaft war die Dialektforschung; mit Dialekten beschäftigte er sich fast während seiner gesamten akademischen Laufbahn. Er veröffentlichte zum Beispiel Sprachproben der ersanischen Dialekte von Šura und präziserte ihre Taxonomie noch 40 Jahre später im 21. Jahrhundert. Er wollte sich vor Ort mit den Dialekten des Ersa vertraut machen und kannte, der mordwinischen Dialektologie entsprechend, die phonetischen und morphologischen Besonderheiten des jeweiligen Haupt- und Unterdialekts. Mit ihrer Hilfe definierte er auch die sprachliche Beziehung der außerhalb der Republik Mordwinien gelegenen, großen mordwinischen Gebiete zum alten geographischen Kerngebiet. Die von Cygankin organisierten Feldforschungsreisen für Studierende der Universität Saransk und die Praktika im authentischen sprachlichen Umfeld führten häufig auch in Gebiete außerhalb der Republik, in der näheren Umgebung in den Oblast Pensa, aber auch auf die östliche Seite der Wolga in den Oblast Samara (zur Sowjetzeit Kujbyšev), in die ersanischen Dörfer im Süden von Tatarstan und in den Oblast Orenburg, wo sich das größte ersanische Gebiet außerhalb der Republik Mordwinien befand. Nach der russischen Revolution waren Ersanen auch in den Kaukasus gezogen, und Cygankin reiste u.a. nach Armenien, um die dortige ersanische Niederlassung kennenzulernen.

Die lexikalischen Unterschiede interessierten Cygankin ebenfalls, und er ging nach und nach auch zur Untersuchung der dialektalen Besonderheiten der Flexionsmorphologie und der Wortbildung über. Seine

1977 fertiggestellte Doktorarbeit befasste sich mit der Flexions- und Ableitungsmorphologie der Substantive im Ersa.

Zum Professor für ersonische Sprache wurde Cygankin 1977 berufen. Auf seinem Lehrplan standen regelmäßig ein Kurs über die Geschichte der ersonischen Sprache, ein Kurs über die ersonischen Dialekte, Namen- gut und vergleichende Morphologie. Er bildete eine große Schar von Lehrkräften für die ersonische Sprache und Literatur aus und setzte seine Tätigkeit als Autor und Herausgeber bis weit in das 21. Jahrhundert fort. Cygankin war verantwortlicher Chefredakteur der kompakten ersa- sprachigen Gesamtdarstellungen zur Morphologie und Syntax des Ersa, die im Jahr 2000 erschienen.

Anfang der 1990er Jahre eröffnete sich den finnischen Studierenden des Ersa zum ersten Mal seit über siebzig Jahren die Möglichkeit, in die Sprachgebiete des Mordwinischen zu reisen. Im ersten Jahr, 1990, nahm Cygankin uns vier Studierende und Magister gastfreundlich mit auf eine Dialektexkursion in die ersonischen Dörfer im Oblast Samara (Kujbyšev) und in Tatarstan. Als Unterkunft dienten Stoffzelte, deren Aufbau Cygan- kin genau überwachte. Wenn in der Zeltbahn eine Falte verblieb, die bei Regen Feuchtigkeit nach innen dringen ließ, musste das Zelt erneut auf- geschlagen werden. Die Mahlzeiten wurden unter Campingverhältnissen zubereitet. Wichtig war, dass es in der Nähe einen sauberen Bach gab, der das nötige Trinkwasser lieferte. Die Exkursionen und Kontakte wurden in den folgenden Jahren fortgesetzt.

1985 wurde Dmitri Cygankin zum assoziierten Mitglied der Finnisch- Ugrischen Gesellschaft ernannt.

Riho Grünthal

Valej (Valentin) Kel'makov 1942–2023

Der herausragendste Vertreter der Finnougristik in Russland, Professor Valej (Valentin) Kel'makov, verstarb unerwartet im Alter von 81 Jahren am 28. Dezember 2023 in Iževsk. Seinen Kollegen zufolge hatte er noch am Vortag intensiv im Institut gearbeitet.

Valej Kel'makov wurde am 14. Januar 1942 in dem Dorf Verhna-ja Jumja im Gebiet Kukmor in Tatarstan geboren. Die Familie war arm, und Kel'makovs Vater war zwei Monate vor der Geburt seines Sohnes an der Front gefallen. Kel'makov besuchte zunächst die Schule in seinem Heimatdorf und wechselte vier Jahre später für die nächsten fünf Jahre auf die Mittelschule im benachbarten Ostorma-Jumja. In seiner Biografie (Kel'makov 2011: 384¹) berichtet er, von den finnisch-ugrischen Sprachen und Völkern habe er zum ersten Mal von seinem Erdkundelehrer S. M. Mamašev gehört, der ihm Literatur über diese Sprachen gab und ihn bei seinen Bemühungen unterstützte, sie zu studieren.

Kel'makov begann 1959 sein Studium am Institut für udmurtische Sprache der Pädagogischen Hochschule Udmurtiens und schloss es 1964 ab. Auf Empfehlung seines damaligen Lehrers (später Professor) Ivan Tarkanov bewarb er sich erfolgreich für die Aspirantur, d.h. für ein weiterführendes Studium in Moskau (anders als viele andere Vertreter der finnisch-ugrischen Völker Russlands, die ihr weiterführendes Studium in Tartu unter Leitung von Paul Ariste absolvierten). Als Mentor erhielt Kel'makov den angesehenen Wissenschaftler Vasilij I. Lytkin, einen muttersprachlichen Komi. Seine Kandidatendissertation über den Dialekt von Kukmor stellte er 1970 fertig. (Kel'makov 2011: 384.) Schon zuvor hatte er seine Tätigkeit am wissenschaftlichen Forschungsinstitut Udmurtiens aufgenommen. Von dort ging er 1971 an die Staatsuniversität Udmurtiens, wo er bis zu seiner Pensionierung arbeitete und lange als Leiter des Instituts für Allgemeine und Finnisch-ugrische Sprachwissenschaft tätig war. 1993 promovierte er mit einer Doktorarbeit über die Phonetik der udmurtischen Dialekte und ihre Entwicklung am Institut für Sprachwissenschaft

1. Kel'makov = Кельмаков, Валентин Кельмакович 2011: *Вехи истории удмуртского языковедения* = *Удмурт кылтодослэн дыржуресысьтыз майыгъёс*. Удмуртские говоры = Удмурт вераськетъёс 9. Ижевск: Удмуртский университет.

der Wissenschaftsakademie der Sowjetunion in Moskau, und 1996 wurde er zum Professor ernannt.

Kel'makovs Beziehungen zu ausländischen Finnougristen begannen bereits 1970, als er an dem in Estland stattfindenden III. internationalen Finnougristenkongress teilnahm und u.a. ungarische und finnische Wissenschaftler kennenlernte. Ich selbst begegnete ihm zum ersten Mal auf dem Finnougristenkongress in Turku 1980, wo ich die Aufgabe hatte, Texte in verschiedenen finnisch-ugrischen Sprachen auf Band aufzunehmen und Kel'makov als mein Informant für das Udmurtische ausgewählt wurde. 1992 wurde Kel'makov zum Gastlektor für eine entfernt verwandte Sprache in Turku und Helsinki gewählt. Schon vor seinem Dienstantritt als Lektor nahm er am ersten Sommerkurs des Finnischen für finnisch-ugrische Muttersprachler Russlands teil, der im Sommer 1992 in Turku stattfand. Auch in seiner Zeit als Lektor setzte er sein Finnischstudium aktiv fort und erwarb gute schriftliche und mündliche Finnischkenntnisse. Ebenso gut beherrschte er auch das Ungarische.

Als Lektor hielt Kel'makov sich wöchentlich nur knapp zwei Tage in Turku auf, wurde jedoch sofort zu einer prominenten Gestalt in unserem Fach. Kel'makovs Zeit hatte eine umwälzende Wirkung auf die Turkuer Finnougristik: Zuvor hatte man sich in unserem Fach hauptsächlich auf die Erforschung der Wolgasprachen konzentriert, aber dank Kel'makovs Einfluss kam auch das Udmurtische hinzu. Aus der 1993 in Turku gegründeten Forschungseinheit für die Wolgasprachen wurde später die Forschungseinheit für die Sprachen des Wolgagebiets. In deren Führungsgruppe wurde selbstverständlich Prof. Kel'makov gewählt. Später begann auch ein intensiver Stipendiatenaustausch. Dutzende von udmurtischen Aspiranten und jungen Forschern haben in Turku studiert und mit der Abfassung ihrer Kandidatendissertation begonnen, was eine große Freude war, denn die udmurtischen Stipendiaten waren stets begabt und tüchtig: Sie beherrschten das Finnische schon bei ihrer Ankunft ausgezeichnet und widmeten sich intensiv ihrem Studium und ihrer Forschungsarbeit. Zu Kel'makovs Zeit beteiligte sich die Universität von Udmurtien auch aktiv an neuen Stipendiatenprogrammen, etwa dem Erasmus Mundus -Projekt der EU.

Während seiner Tätigkeit in Finnland verfasste Kel'makov das Handbuch *Udmurtin murteet* (Die udmurtischen Dialekte, 1994), in dem er in kompakter Form die Besonderheiten der Dialekte und die phonetischen und morphologischen Unterschiede zwischen den Dialekten darstellt.

Die in dem Werk enthaltenen Dialekttexte decken alle Hauptdialektgruppen und deren wichtigste Unterdialekte ab. Eine weitere Frucht des zweijährigen Finnland-Aufenthalts von Kel'makov ist sein gemeinsam mit Sara Hännikäinen verfasstes Lehrbuch *Udmurtin kielioppia ja harjoituksia* (Udmurtische Grammatik und Übungen, 1999), das nicht nur von Studierenden Udmurtischen, sondern auch von Erforschern der Sprache genutzt wurde.

Kel'makov war ein guter und inspirierender Lehrer, wie die große Schar der von ihm ausgebildeten jungen und begabten udmurtischen Studierenden (und späteren Forschern) zeigt. Er konnte streng wirken, aber sein lebhafter Humor nahm ihm alles Beängstigende. In seinen Unterrichtsstunden fühlte man sich wohl, und man lernte sowohl gut als auch viel. Kel'makovs Zeit in Finnland war ein Erfolg, aber in einem Punkt scheiterte er: Er wollte uns mit der udmurtischen Kultur bekannt machen, indem er uns udmurtische Lieder singen ließ. Verwundertes Schweigen breitete sich aus, als er fragte, wer die zweite und wer die dritte Stimme singen würde. In Finnland sind nur Profis fähig, gemeinsam mehrstimmig zu singen. Die Aufgabe war für Finnen also unausführbar. Allmählich verstand Kel'makov auch selbst, dass man Finnen eine Sprache lehren kann, aber nicht mehrstimmiges Singen. Zum Glück durften wir dennoch oft Volkslieder hören, die er in seinem beeindruckenden Bariton vortrug.

Kel'makovs Schaffen ist bemerkenswert umfangreich und umfasst mehr als 500 Publikationen, von denen fast ein Fünftel selbstständige Bücher oder Hefte sind, darunter viele Lehrbücher. (Zwar ist die äußere Ausstattung der Bücher im Vergleich zum Inhalt nebensächlich, aber Kel'makovs Werke wurden in aller Regel auf gutem Papier gedruckt und mit festem Einband versehen, was ein Zeichen für die Hochachtung seiner Universität gegenüber dem international bedeutsamen Wissenschaftler sein dürfte.) Kel'makov begann seine Forschungstätigkeit mit seinem eigenen Dialekt, hat aber später fast alle Hauptdialekte und auch die meisten Unterdialekte des Udmurtischen minutiös dargestellt. Es entstand die langsam vervollständigte, dreibändig gebliebene Reihe *Образцы удмуртской речи* (Proben der udmurtischen Dialekte, 1981, 1990, 2015), deren Material teilweise bei den sommerlichen Feldforschungsexkursionen der Studierenden gesammelt wurde. Die Werke enthalten Beispiele für zahlreiche Überlieferungsformen, sodass sie auch Folkloristen brauchbares Material bieten. In den drei Bänden werden die nördlichen und mittleren

Dialekte sowie ein Teil der südlichen Dialekte behandelt. Im Bereich der Süddialekte blieb die Reihe jedoch unvollendet.

Die umfangreichste Werkreihe von Kel'makov ist die zehnbändige Publikation *Удмурт вераськетъёс – Удмуртские говоры* (Die Dialekte des Udmurtischen). Der erste Band erschien 1992 und der letzte 2017; jeder Band hat seinen eigenen Titel. Trotz des Gesamttitels beschränken sich bei weitem nicht alle Bände auf die Dialekte im engeren Sinn. Beispielsweise befassen sich der 6. und der 7. Band, *Диалектная и историческая фонетика удмуртского языка* (1–2) (Dialektale und historische Phonetik des Udmurtischen, 2003, 2004) mit verschiedenen umfassenden Fragen wie der Dialekteinteilung, der Entwicklung der Phonetik des Udmurtischen in der urpermischen Zeit und der Stellung des Bessermenischen unter den udmurtischen Dialekten: Kel'makov widerlegt u.a. die Hypothese vom болгарischen Substrat des Bessermenischen. – Der 8. Band der Reihe, *Очерки истории удмуртского литературного языка* (Untersuchungen über die Geschichte der udmurtischen Schriftsprache, 2008), konzentriert sich auf die Geschichte der udmurtischen Schriftsprache, von den frühen Grammatiken angefangen über Grigori Vereščagin bis zur zeitgenössischen Presse; der letzte, in udmurtischer Sprache verfasste Teil behandelt die Entwicklung der heutigen Sprache.

Der 9. Band der Reihe, *Вехи истории удмуртского языковедения* (Untersuchungen aus dem Bereich der udmurtischen Sprachforschung, 2011), behandelt die Entstehung und Entwicklung der udmurtischen Sprachforschung von ihren Anfängen bis heute. Kel'makov stellt die bedeutendsten Erforscher des Udmurtischen vor, von Torsten Aminoff über Bernát Munkácsi und Yrjö Wichmann u.a. bis zu Vasilij I. Lytkin und Sándor Csúcs. Er berichtet auch kurz über sein eigenes Leben und seinen Weg als Forscher. (S. die Zitate am Anfang dieses Textes.) – Der 10. und letzte Band der Reihe, *Острые углы удмуртской филологии* (frei übersetzt Die Problempunkte der udmurtischen Philologie, 2017), befasst sich ausführlich (auf 553 Seiten) mit der udmurtischen Literatur, ihrer Entwicklung von den frühen Stadien bis zur Gegenwart, vor allem aber mit dem Mangel an philologischem Ansatz und Pietät in den heutigen Wiederveröffentlichungen alter Texte.

Kel'makov war nicht nur ein Erforscher des Udmurtischen, sondern auch ein Finnougrist in der vollen Bedeutung des Wortes. Er war gut vertraut mit der westlichen Finnougristik und machte sie in zahlreichen

Artikeln und Rezensionen den udmurtischen und russländischen Wissenschaftlern bekannt. Durch seine Schriften konnten udmurtische und russische Leser finnische und ungarische Untersuchungen über das Udmurtische und die Udmurten kennenlernen. – Die von Kel'makov veröffentlichten Sprachproben bieten nicht nur Sprachwissenschaftlern, sondern auch Erforschern der Überlieferung und der Lokalgeschichte interessantes Material. Er hat die Geschichte der udmurtischen Sprache, vor allem die Entwicklung ihrer Lautstruktur und Morphologie, umfassend analysiert. Besonders die Artikel über die Entwicklung des udmurtischen Vokalismus und der udmurtischen Dialekte sind auch für die allgemeine Finnougristik von zentraler Bedeutung. Kel'makovs Untersuchungen über die Entwicklung des Udmurtischen und darüber hinaus der permischen Sprachen werden in nahezu allen im Ausland erscheinenden Untersuchungen über die Geschichte der permischen Sprachen zitiert. In dieser Hinsicht ist er dem angesehenen Erforscher der permischen Sprachen Vasilij I. Lytkin, seinem akademischen Lehrer, vergleichbar.

Prof. Kel'makov war auch der Primus Motor vieler verschiedener Projekte, Symposien und Publikationen, der mit seiner Begeisterung auch andere mitriss. Sich selbst wollte er nie in den Vordergrund stellen und hervorheben.

Prof. Kel'makov erhielt sowohl in seinem Heimatland als auch im Ausland zahlreiche Auszeichnungen. Er wurde 1991 als verdienter Forscher der autonomen sozialistischen Republik Udmurtien und 1997 als verdienter Wissenschaftler der Russischen Föderation ausgezeichnet und 1998 Mitglied der Wissenschaftsakademie Udmurtiens gewählt. 1990 wurde er zum Mitglied des internationalen Finnougristenkongresskomitees gewählt. Bis 1990 waren alle Vertreter der Sowjetunion im Komitee Mitglieder der Wissenschaftsakademie und russischer Nationalität. Kel'makov war der erste Vertreter der finnisch-ugrischen Gebiete und finnisch-ugrischen Forscher Russlands im Komitee, was ein deutliches Zeichen für die Wertschätzung war, die man ihm schon damals im Ausland entgegenbrachte.

2008, im Jahr ihres 125-jährigen Jubiläums, wählte die Finnisch-Ugrische Gesellschaft Prof. Kel'makov zum Ehrenmitglied in Anerkennung seiner Verdienste für die allgemeine Finnougristik und die Förderung der Ziele der Finnisch-Ugrischen Gesellschaft. Prof. Kel'makov ist erst der zweite Wissenschaftler finnisch-ugrischer Herkunft aus Russland, der diese Auszeichnung erhalten hat. Der erste war sein Lehrmeister Vasilij I. Lytkin.

Kel'makovs 80. Geburtstag wurde mit einem ihm gewidmeten zweitägigen Symposium am 10.–11.2.2022 gefeiert, noch in den Nachwehen von Corona. Deshalb nahmen viele digital an der Veranstaltung teil. Der Jubilar war in seinem Element, kommentierte die Diskussionen und Vorträge und schien besonders die Darbietungen des Volksmusikensembles zu genießen. Auch aus seinem Heimatdorf waren Gratulanten gekommen. Es schien selbstverständlich, dass man als nächstes, in fünf Jahren, seinen 85. Geburtstag feiern würde, doch Inmar entschied anders...

Sirkka Saarinen

Mati Erelt 1941–2024

Mati Erelt, one of the most active researchers of Estonian syntax for over half a century, passed away on 12 October 2024 in Tallinn. He was one of the most significant figures of his time in improving our understanding of Estonian grammar.

Erelt was born in Tallinn on 12 March 1941, amidst the turbulence of World War II. He began his studies at the Tallinn Polytechnic Institute, originally planning to graduate as an engineer. A couple of years into his studies, however, an opportunity arose to transfer to Tartu University and there study the Estonian language. During the oppressive Soviet regime that lasted for long years, in the mid 1960s there was a milder period when it became possible again to establish connections outside of the USSR and occupied Estonia. Along with these contacts with other scholars, news arrived at Tartu University about a new way of analyzing and describing language: the generative grammar that Noam Chomsky had developed in the USA. Though this literature could not be officially obtained, this was possible through personal connections.

Huno Rätsep, then a young researcher of Estonian philology, later Professor of Estonian at Tartu University, managed to found a generative-grammar research group known in Estonian as *Generatiivse grammatika grupp*, or GGG. Mati Erelt joined this group, first as an undergraduate and later, after graduating in 1965, as a graduate student. He applied, like his peers, the methods of generative grammar to his research, and in 1981 he ultimately received his doctorate with a dissertation on the syntax of Estonian adjectives. The study *Eesti adjektiivisüntaks* appeared in print in 1986.

From 1969 to 1991 he worked at the Institute for Language and Literature in Tallinn as a researcher and then, in the 1980s after his dissertation, as director of the language division established there. He briefly (1989–1991) found time to serve also as a professor of Estonian at the Tallinn Pedagogical Institute.

A new phrase in Erelt's career began in 1991, when he worked as a visiting professor of Estonian at the University of Helsinki, a position that would last until 1995. Alongside the upheavals in the Estonian political regime and the regaining of the country's independence, also science was seeing major shifts. A new Estonian grammar project had been launched at the Institute of the Estonian Language, the preliminary output of which

appeared already in the 1980s and in the 1990s as over thirty small research reports. During his time in Helsinki, Erelt was able to freely draw on the latest publications and gain a deeper familiarity with theoretical studies and current trends. The empirical research that stemmed from the methods introduced by Joseph Greenberg, a pioneer of modern linguistic typology, grew larger and more elaborate, becoming a truly global school in linguistics. Functional typology opened up new perspectives on structure and semantics, examining language from sentence-length units without any assumptions about predefined hierarchies.

Erelt assimilated this way of thinking and began to apply it to the study of Estonian. He served as editor-in-chief of *Eesti keele grammatika*, the two-volume grammar of Estonian that was published in gray covers in 1993–1995. This was the most ample grammar of this language since the works of Eduard Ahrens and Ferdinand Johann Wiedemann published in the nineteenth century. However, even before that two-volume grammar saw the light of day, it was clear to the authors that a new grammar of Estonian would have to be written, without generative grammar as its starting point.

In Helsinki Mati Erelt was often seen standing by the photocopier, where he copied vast amounts of international linguistic literature that he could take back to Estonia. The application of syntactic typology to the study of Estonian would prove one of Erelt's most important innovations when he returned to his country and served as Professor of Estonian at Tartu University in the years 1995–2006. In Tartu he founded a new series, "Tartu Ülikooli Eesti keele õppetooli toimetised" (Publications of the Department of Estonian of the University of Tartu), in order to promote Estonian research and give wider opportunities for publishing. Thirty volumes would appear in this series over the next decade until 2006. Research into Estonian took on new momentum and became international.

After retiring in 2006, Erelt continued working on Estonian syntax until recent years and he served as a senior researcher in several projects and in the production of various books and other publications. The most ample of these, running to 923 pages, was *Eesti keele süntaks* (Syntax of the Estonian Language) that appeared in 1997; Erelt edited this together with his longtime colleague Helle Metslang, editor-in-chief of the new "Eesti keele varamu" series. Most of the articles in this work were written by Erelt, and they represent the synthesis of the life's work of a researcher who had developed and perfected his vision over decades.

When Erelt was asked, during an interview to mark his seventy-fifth birthday, what he considered his most important contributions to be, he named three broad areas. The first was the writing and editing of scientific grammars, his work on Estonian grammar and especially syntax that spanned half a century, beginning in his student days and lasting nearly until his death. His second institutionally significant achievement was his role in the renewal of Tartu University's Estonian language department, and giving it a new impetus after the difficulties of the post-Soviet transition period. That Erelt thought deeply about the needs of the research community and its societal importance, is underscored by a third aspect of his life's work: the relaunch of Emakeele Selts (Mother Tongue Society) after it had become inactive. This society, founded all the way back in the 1920s, was allowed to continue its activities under the Soviet occupation and it began to publish a yearbook, but towards the end of the twentieth century seven years went by without a publication, due to lack of funds and a vision for the society's future. Emakeele Selts eventually recovered, however, and today fulfills even more versatile functions.

Within Erelt's vast output, more than two hundred publications, one of his most-consulted works is the handbook of Estonian that he wrote with his wife Tiiu Erelt and Kristiina Ross: the 653-page *Eesti keele käsiraamat* (Handbook of the Estonian Language; 1st ed. 1997, 3rd ed. with supplement 2007; available online since 2020). When the 1,264-page Estonian grammar *Eesti grammatika* appeared in 2022, edited by Helle Metslang, Erelt appeared again as one of the book's fourteen authors, a respected expert on syntax. Mati Erelt's lifework was based on a precise, skillful, and subtle analysis of language, and constituted the foundations for the description of Estonian syntax for several generations.

Riho Grünthal

Sananjalka on vuodesta 1959 lähtien ilmestynyt laadukasta humanistista tutkimusta julkaiseva tieteellinen vuosikirja.

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