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Are there Proto-Slavic loanwords in Saami?[1]

There are two nouns in Saami languages for which Proto-Slavic loan ety-mologies have been proposed: Proto-Saami *multtē 'soap' and *kuompe̮r 'mushroom', allegedly borrowed from Proto-Slavic *mỳdlo 'soap' and *go̤ba '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 match-es 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 *kuompe̮r 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 phono-logical 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

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 *kuompẹr '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)', *ćuorpmẹs 'hail', and *veḷjē '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 > *ẹ; 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 *muche* /mučə/ (> modern English *much* /mę̌č/, dialectally /mų̌č/). 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)ū/ ~ 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 *muche* 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 *myċel* '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 *fīlius* '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 *tȧktȧ̂* 'boat rib', Komi *tɨk* 'crossbar; spoke of a wheel', KhVVy *tŏɣət* 'crossbar of a boat', MsLK *tɔxt* 'thwart', Hung *tat* 'stern (in a ship)', SlkTa *tatị̈* 'crossbar in a boat or dugout').

Both of these etymologies are phonologically and semantically complete-ly 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 Ger-manic 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 implica-tion 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 implica-tions 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. Which-ever the case, we know that both Germanic loanwords and inherited Ural-ic 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 *kuomper̥ '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 great-er 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 *multt*ē 'soap'

This word is attested in North Saami and east thereof: SaaN *multi* (Leem 1768 and Friis 1887: ‹multte›), SaaI *multte*, SaaSk *muʹltt*, SaaK *muʹlht*, saaT *myʹlhte* ~ *muʹlhte* '(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 *myʹlhte* is irregular, but it may have recently developed under the influence of the similar vowel in Russian мыло 'soap'; also a phonologically regular variant *muʹlhte* 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 *ltt 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 *mỳdlo 'soap', or more precisely its predecessor *mūdla prior to the regular change of *ū into an unrounded vowel (PSlav *y = [i̯]). The etymology is semantically and phonologically quite straightforward, and the only detail requiring an explanation is the metathetic substitution of Saami *ltt for the Slavic cluster *dl. This has a straightforward structural motive: Saami phonotactics did not

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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 *ḥ* 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 *ltt, there are several well-established examples of the analogous substitution of Saami *rtt for the Proto-Norse clusters *dr and *þr (Koivulehto 1988):

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

SaaL *liertte ~ riertte* 'leather' < PSaa *lierttē < PNo *leþra- (> ONo *leðr* 'leather');

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

SaaN *vierca* 'ram' < PSaa *vierccę < *vierttę̄s < 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 *ltt 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 *мъıло*, Slovene *mílo*, Ukrainian *мило*, 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 *mỳdlo / 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 *nękla < PGerm *nēþlō- (> OHGerm *nādala*, ONo *nál*) and Fi *seula* ~ Veps *segl* ~ Võro *sõgõl* 'sieve' < PFi *sękla < 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 *ltt 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 *turdã- (> ONo *torð-* in the compound word *torðýfill ~ tordýfill* 'dung beetle'; cf. OHGerm *zort*, OEngl *tord* 'dung').

The substitution of Saami *ltt for Norse *lt is paralleled by the well-known borrowing SaaN *sálti* 'salt' (< PSaa *sālttē < PNo *saltã- > 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 *smaave*, SaaU *smávies* (ATTR *smávva*), SaaL *smávve* (ATTR *smávva ~ smávies*), SaaN *smávis* (ATTR *smávva*), SaaSk *smaavâs* (ATTR *smaavv*), (Njuõ'ttjäu'rr) *maavâs* (ATTR *maavv*), SaaK *mååvv* 'very small, tiny' (< PSaa *(s)māvẹs ~ *(s)māvēs : ATTR *(s)māvẹ) < PNo *smāxa- (> ONo *smá-r* 'small, little');

SaaS *snaaltije*, SaaU *snálduoj*, SaaL *snálldo*, SaaN *snáldu*, SaaI *snäldee*, SaaSk *sna'lddi*, (Njuõ'ttjäu'rr) *na'lddi*, SaaK *naa'lldej*, SaaT *naa'llde* 'distaff' (< PSaa *(s)nāltẹjō) < PNo *snāldjō- (> ONo *snælda* 'distaff');

SaaS *skaaltjoe*, SaaU *skálttjuo*, SaaL *sjkálltjo*, SaaN *skálžu*, SaaI *skálžu*, SaaSk *skä'lžǯ*, (Njuõ'ttjäu'rr) *kälžǯ*, SaaK *kaa'llž* 'seashell' (< PSaa *(s)kālćō) < PNo *skaljō- (> 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)māvẹs ~ *(s)māvēs '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 *-vẹ- was added because Saami morpheme structure does not allow monosyllabic content word-stems. On the other hand, phonological criteria clearly indicate that PSaa *(s)nāltẹjō 'distaff' and *(s)kālćō 'seashell' were borrowed from Proto-Norse already. The former had a trisyllabic stem ending in *-ẹjō which can only be explained as a reflex of a Proto-Norse form ending in *-(i)jō-; 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 *āvćę̄ < PNo *hagja- (> ONo *heggr* 'bird-cherry');

SaaN *ávžut* 'encourage, urge, incite' < PSaa *āvć-ō- < PNo *agja- (> ONo *eggja* 'incite; sharpen');

SaaN *lávžá* 'horsefly' < PSaa *lāvćā < PNo *klagjā- (> ONo *kleggi* 'horsefly');

SaaN *ruvža* 'ridge, esker' < *ruvćę̄- < PNo *hrugja- (> ONo *hryggr* 'backbone, spine; ridge');

SaaN *skávžá* 'beard' < PSaa *skāvćā < PNo *skagja- (> ONo *skegg* 'beard');

SaaN *stážžu* 'crucible; iron ashtray under a stove' < PSaa *stāńćō < 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 *kājmē ~ *kājmō < 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 *kājrō < PNo *skairō̄- (> 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 *pakisę- '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 *bååhkadit* 'speak (about)', SaaN *báhkkodit* 'say out loud, express' < PSaa *pākujeṇtẹ-), 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 *paaʹgge*, SaaT *paaʹgged* '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-ẹjẹ-) < 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 *pääʹnn*, SaaT *paaʹnne* '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

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3. Etymological references do not give any Saami cognates for PU *piŋi 'tooth' (Sammallahti 1988: 547; UEW: 382; SSA s.v. *pii²*; 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 *spānẹs). The semantic correspondence displayed by the earlier loan *pānē 'tooth' is similar to that in Ancient Greek γόμφος 'peg, bolt, nail' ~ OEngl *camb* 'comb' ~ Sanskrit *jámbha-*, OCSlav *zǫbъ*, 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 [δ] in Norse, because the voiced spirant ð would have yielded r (< *δ) instead of *hr* (< *ϑ) in South Saami. A parallel for the sound substitution is found in SaaS *eevhredh* 'clear (forest), cut down (trees)', SaaU *ävhđđet* 'clear (people) out of the way' (< PSaa *āvϑẹjẹ-) < 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 *skājδē (> SaaU *skájđđie ~ skájrrie*, SaaL *skájdde*, SaaN *skáidi*, SaaI *skäiđi* '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-ęlę-) < 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 & Öhrling 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 *ǩeunnjad*, 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' (< *rāvńē ~ *rāvŋē < PNo *strauma- > ONo *straumr* 'stream'); SaaN *sávdnji*, SaaSk *säu'nnj ~ säu'ŋŋ*, SaaK *sa'vvŋ* 'seam' (< *sāvńē ~ *sāvŋē < 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 *flǿ ~ 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 *krăppa-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 *kuompẹr '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 *kuompęr 'mushroom'

All Saami languages share a common word for 'mushroom': SaaS *goebpere*, SaaU *guabbar*, SaaP SaaL SaaN *guoppar*, SaaI *kuobâr*, SaaSk *kuõbbâr*, SaaK *kuumbâr*, SaaT *kyymbâr* (< PSaa *kuompęr). Two etymologies have been proposed for the word. On the one hand, it has been considered cognate with Komi *gob* and Udm *gubi̮* 'mushroom'; on the other, it has been regarded as a borrowing from PSlav *gǫba 'mushroom, fungus' (> OCSlav *gǫba* 'sponge', Serbo-Croatian *guba*, Bulgarian *гъ́ба*, Czech *houba* 'mushroom', Russian *губа* '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) *gǫb* and Udm *gubi̮* points to PPerm *göbi̮. The vowel *ö 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 *kör(j-) > Komi *kor* : *korj-*, (Upper Sysola) *kǫr*, Udm *kur* (UEW: 148–149); PU *penä-j 'dog' > PPerm *pöni̮ > Komi *pon* : *ponj-*, (Upper Sysola) *pǫn*, Udm *puni̮* (UEW: 371). This excludes any cognate relationship with PSaa *kuompęr, 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 *gǫba 'mushroom, fungus' is especially striking, and also Tatar *gömbä* and Chuvash *kămpa* '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 *göbi̯, 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 *kuompe̯r, its alleged cognate relationship with Permic *göbi̯ 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 *kuompe̯r was borrowed from PSlav *gǭba (> *gǫba); 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 *kǭdělь > *kǫdělь (> OCSlav *kǫdělь*, Rus *кудель*, Czech *koudel*, Polish *kądziel* 'sliver, tow') (SSA s.v. *kuontalo*). According to the second interpretation the loan would be considerably older: PSaa *kuompe̯r 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 *kuompẹr 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 *kuompẹr 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(ẹ)- 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 *ājttẹr < PNo *aixter- (> OSw -*attari* in *iorþ-attari* 'landowner');
SaaL *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 *fuođar* (GEN/ACC *fuođđara*) '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 *meašttir* (GEN/ACC *meaštára*) '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 *šláddara*) 'gossip' < Nw/Sw *sladder*;

SaaN *uŋggar* (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 *kavoŕks*, MdM *kavəŕks* ~ *kavərks* 'lump, clod (of earth, etc.)' (< PMd **kavəŕ-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 **māntẹr* < PFi **mandẹr* (> Fi *manner* 'mainland, continent'). PFi **mandẹr*, in turn, is cognate with Komi (obsolete) *mudẹr* '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 **mẹntVr*, 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-ssẹ, 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' (< *māntẹk, from unattested PFi *mand-ẹk?). Moreover, the stem *mẹntV has a previously overlooked regular reflex in MariE *möδə-wuj*, *müδə-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 *mẹnta- on the basis of MariE MariW *müδem* 'cover; bury, cover with earth' and Udm *mudị-* '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 *mẹxi '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 *čuõmâr* (GEN/ACC *čuõmmâr*) 'grain, crumb' < PSaa *ćuomẹr < post-PU *ćomir (> Fi *somero ~ somer* 'coarse gravel') (SSA s.v. *somero*).

SaaL *dabár* (ACC *dahparav*) 'prattle, nonsense' < PSaa *tẹpẹr < 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 *tẹpər*, *tăpər*, Ni Kaz *tăpər*, O *tăpär*). 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 *teɣən*, Sur *tăɣʷən* 'calm, windless') (SSA s.v. *tyven*).

SaaN *duottar* (GEN/ACC *duoddara*) 'tundra' < PSaa *tuonţer < (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 *ćintə* 'crest (of hill or mountain), ridge' and *ćintərəə* 'mountain', which would then go back to PSam *tįntê̂ and *tįntêrêjê̂, but soon she withdrew the comparison and instead traced the Nganasan word back to PSam *tüŋtê̂ (> NenT *túnt°, EnT *túdo* '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 *tåntê̂- (> NenT *tanə-, EnF *tadu-* 'tread on, step on'), *tånt-ut- (> NenT *tanəʔ-, 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 *tandę/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 *guoŋar* (ACC *guogŋarav*) 'boat rib' < PSaa *kuoŋer < 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 *kõõddâr* (GEN/ACC *kõddâr*) 'hock' < PSaa *keņter < post-PU *kintir (> Fi *kinner* 'hock') (SSA s.v. *kinner*).

SaaSk *kõõnjâr* (GEN/ACC *kõnnjâr*) 'elbow' < PSaa *keņer < PU ?*küńir ~ ?*küńär(ä) (> Fi *kyynärä*, *kyynär-*, MdE *keńeŕ*, MariE *kâńer*, Udm *gir-*). 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 *garŋŋel*, SaaN *gardnjil*,

gargŋil, SaaK *kâʹrrŋel* 'elbow' (< PSaa *kęŕńērē ~ *kęŕńēlē ~ *kęŕŋēlē, as if from Pre-PSaa *kürńärä ~ *kürńälä ~ *kürŋärä). 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 *kǒnʔŋi ~ kǒnni*, KhIrt *kǒšŋaj ~ kǒŋnaj* (< PKh *küṇčəŋāj), MsLK *kʷänɣəľ*, MsN *konl-ōwl* (< PMs *kʷänɣəl ~ *kʷänɣəľ), Hung *könyök* 'elbow'. Also Khanty and Mansi feature obscure stem-final elements, but in any case the Ugric words share a common Ugric stem *küṇV- < *künV-; note that the change *kVn- > *kVṇ- is regular in Ugric (Zhivlov 2016). This stem is no doubt of the same origin as the part *küńV- in the word for 'elbow' in the more western Uralic branches, despite the irregular correspondence *n ~ *ń. However, since the shared part *künV-/*küńV- 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 is 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 *āktęr/*āvttęr. To venture a speculation, one could think of borrowing from PNo *austrã 'east' (> ONo *austr*) in the meaning 'east wind', cf. the aforementioned SaaN *viesttar* 'west wind; west' (< ONo *vestr* < PNo *westrã). 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 *ćękęr.

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

SaaN *čuokkar* (GEN/ACC *čuoggara*) 'lump' < PSaa *ćuoŋk̦er.

SaaN *dieskkar* (GEN/ACC *dieskara*), SaaL *diesŋar* (ACC *diessŋarav*) 'fur lining on the inside of mittens' < PSaa *tiesŋer.

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 *miek̦er.

SaaN *muttar* (GEN/ACC *muddara*) 'sod, peat (used in the construction of sod huts and houses)' < PSaa *munter. It is tempting to compare this noun to PU *mentVr which was discussed above, considering especially the meanings of Komi *muder* 'floor, bottom of a house' and the related Udmurt verb *mudi̦-* 'shovel earth around the foundation of the house (for insulation)' (< PU *menta-). 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 *nek̦ēr.

SaaL *sájger* (ACC *sájggárav*), SaaS *saajkere* 'sharp stick (made of wood or antler)' < PSaa *sājkēr ~ *sājk̦er. 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 *sājttē) via borrowing in one direction or the other (cf. SSA s.v. *saitta*).

SaaN *skážir* (GEN/ACC *skáhčira*) 'blade of grass' < PSaa *skāćēr.

SaaN *spáiddar* (GEN/ACC *spáidara*), SaaS *svaajhtere* 'torch' < PSaa *svājțer ~ *svājtțer.

SaaN *suonjar* (GEN/ACC *suotnjara*) 'ray, beam of light' < PSaa *suoń̦er. The word might be somehow etymologically connected to SaaSk *šuõnjsted* 'loom, shimmer (of a distant object)', SaaK *šuunjse* 'shine between clouds (of the sun)' (< PSaa *śuoń̦estē-); 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 **śuonẹstē-* 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 *šâ'mmer* 'back of a knife blade or an ax blade' < PSaa **śimēr ~ *śẹmēr ~ *śomēr*. 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 **vientẹr*.

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(-)ẹr* (< PU **mẹnt(-)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 *kuompẹrē instead of *kuompẹr, 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 *guöhpiere*, 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 *kuompẹr '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 from *guohper* as a dialectal variant. In the case of *kuompẹr, 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 *kȯr* 'male dog', KhVVy *kar*, MsLK *xār* 'male; reindeer bull', Hung *here* 'testicle', NenT *xora*, SlkTa *qorị* 'male; reindeer bull' < PU *koj-ra ← *koji 'man, male' (> SaaSk *kuõjj* '(young) husband', KhVVy *ku* 'man, husband; male animal', MsLK *xŏj* 'male animal') (UEW: 166–169).

Fi *kumara* 'stooped, bent over', MariNw *kŏmŏr* 'brushwood, windfall, driftwood', Komi *kịmịr* 'slouching', Hung *homor-ú* 'concave' < PU *kuma-ra ← *kuma- 'fall or bend over' (> MdE *koma-*, Komi *kịm-*, MsLK *xåm-*, NenF *kămă-*, EnT *koo-*, Ngan *kəmə-*) (cf. UEW: 201–202, 227). The appurtenance of MariNw *kŏmŏr* has not been previously noticed. As regards semantics, a parallel is provided by another noun derived from the Samoyed reflex of this verb: NenF *kăm°xa*, EnT *kooxa*, Ngan *kəməgu* 'fallen tree', Mator *kamaga* 'block of wood, driftwood' (< PSam *kâmə̂-kå ← *kâmə̂- '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 *śaw°*, SlkTa *qāmị* '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', KhVVy *kịč-* 'hurt, ache; sting (of nettles)', MsN *xūs-* 'sting (of nettles)') (Aikio 2014b: 5–8).

Fi *pisara* 'drop' ← (post-)PU *pića- / *pińća- (> MdE *piźe-* '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 *tupịrt-* 'wind, reel, coil' (< *tapparta-), and Komi *tupịľ* 'ball (of yarn),

coil; lump' (with an opaque stem-final element *-lʼ*). 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 *toʼbbear* 'weather with sticky snow' < PSaa *topȩrē ~ ?*topērō ← *topȩ- (> SaaL *dåhpåt*, SaaN *dohpat*, SaaI *tuuppâđ* 'stick onto (skis etc.; of sticky snow)'). There is also a derived verb with *-r-*: SaaSk *toppred*, SaaK *tobbre* (< PSaa *topȩrV-), SaaI *toperuđ* 'stick on (skis, etc.; of sticky snow)' (< *topēr-uovȩ-).

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 *tobbrnânndâd* 'keep sticking on (of sticky snow)' (< PSaa *toprȩ-n-ȩntȩ-) is a durative verb formed from an otherwise unattested PSaa *toprȩ-nȩ- (an intransitive transformative verb formed from a syncopated stem *toprȩ-). This verb comes phonologically and semantically extremely close to another verb stem which has lacked an etymology: SaaS *dabranidh*, SaaU *dabrránit*, SaaP *dabbránit*, SaaL *dabrránit*, SaaN *darvánit*, SaaI *tarvaniđ* 'stick on, get stuck' < PSaa *tȩprā-nȩ-. The irregular vowel change *o > *ȩ has occasionally taken place adjacent to labial consonants in Saami, cf. the following parallels:

SaaS *buhtjedh*, SaaU *buhttjiet ~ bühttjiet*, SaaP SaaL *båhtjet*, SaaN *bohčit ~ bahčit*, SaaI *paččeeđ*, SaaSk *pââččad* 'milk, squeeze out, wring (e.g., wet clothes)', SaaK *pâʼǯǯe*, SaaT *pâǯǯad* 'wring (wet clothes)' (< PSaa *poćē- ~ *pȩćē- < PU *pućа-; UEW: 404).

SaaS *butnedh*, SaaU *büdniet*, SaaP SaaL *bådnet*, SaaN *botnit* ~ *batnit*, SaaI *panneeđ*, SaaSk *pââ'nned* 'spin, twine' (< PSaa *ponē- ~ *peṇē < 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 *lepsē < *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 ~ *meṇē < PU *muna; UEW: 285).

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

SaaS *bertedh*, SaaU *bårddiet*, SaaP *bårrdet*, SaaL *bårddet*, SaaN *bordit* ~ *bardit*, SaaI *pardeđ*, SaaK *po'rrde*, SaaT *po'rrded* 'stack up, pile up; load (e.g. a boat)' (< PSaa *portē- ~ *pertē- < 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 *tope̞-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 *tŭwər-. This stem underlies the derivatives MariE *tuwârɣem*, MariW *tôwârɣem* 'curdle (of milk); clot, coagulate (of blood)' (< PMari *tŭwər-g-e-) and MariE *tuwârtem*, MariW *tôwârtem* 'make (milk) curdle, make curds' (< PMari *tŭwər-t-e-). Although the meanings in Saami and Mari are different, their etymological connection is quite transparent.

The diachronic morphological analysis implies that PSaa *kuompe̞r 'mushroom' cannot be explained as any kind of regular derivative of a stem borrowed from PSlav *gǫba '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 *ćeapēttē ~ *ćeapōttē 'neck' (> SaaU *tjiäbuote*, SaaL *tjiebet*, SaaN *čeabet*, SaaSk *čeäppat*, SaaT *čeabbad*) ← *ćeapē 'neck' (> SaaS *tjiepie*, SaaL *tjiehpie*). No noun suffix *-(ō)ttē is known. The stem reflects PU *ćepä 'neck' (> Veps *seba*, MdE *śive* 'collar', MariE *šüj*, MsN *sip* 'neck') (UEW: 473–474).

PSaa *earttiŋkV '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 *erttä, and is certainly related to MdE *iŕdes* 'rib', MariE *erδe* '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)érdʰo- (> Proto-Indo-Iranian *(H)árdʰa- > Sanskrit *árdha-* 'side, part, half, place', Avestan *arəδa-* 'side, half').

PSaa *jievjẹmē ~ *jievjōmē 'lichen on trees' (> SaaN *jievjun*, SaaI *jievjâm*). The part *jievj(ẹ)- regularly reflects PU *jäwji (> KhVVy *jej ~ jĕj*, NenT *juj°*, Ngan *dîə* '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 *jåvjjamah* (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 *kāmẹk 'shoe' (> SaaS *gaamege*, SaaN *gáma*, SaaI *kaamuv*, SaaT *kaamâg*). The word must have been derived with a suffix *-ẹk from the otherwise unattested stem *kāmē, which is the regular reflex of PU *kämä '(a kind of) shoe' (> MdE *keme*, MariE *kem* 'boot', Komi *kẹm* 'bast shoe'). However, PSaa *-ẹk 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-ẹs 'reindeer leg skin' (> SaaS *gaamese*, SaaN *gámas*,

SaaI *kaamâs*, SaaT *kaams*). The suffix *-ẹs 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-ẹs '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-ẹs 'reindeer leg skin' is fully explained by the semantic function of the derivational suffix *-ẹs; 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′čǩem*, SaaT *kyŏ′cckem*). The part *koackē- is the regular reflex of PU *kočka 'eagle' (> Fi *kotka*, Komi *kuč*). Regarding the suffix *-mē see *jievjẹmē ~ *jievjōmē 'lichen on trees' above.

PSaa *luompẹl 'small lake (through which a river runs)' (> SaaS *loebpele*, SaaN *luoppal*, SaaSk *luubbâl*, SaaK *luumbâl*). No suffix *-l is known, but the part *luompẹ- regularly reflects PU *lẹmpi (> Fi *lampi* 'pond, small lake', Ngan *lʼüŋhə*, SlkK *lịmbị* '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 *oalōl 'lower jaw' (> SaaL *oalol*, SaaN *oalul* 'lower jaw', SaaI *uálul-tähti* 'jawbone', cf. *tähti* 'bone'). No suffix *-(ō)l is known (cf. the case of

*luompẹl above), but the part *oal(ō)- goes regularly back to (post-)PU *ola- and matches MdE *ulo* 'chin'. Probable further cognates include MsLK *ūləś* 'chin, lower jaw' (< PMs *ūləć, 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 *vuål-tä'htt*, SaaK *vual-taa'hht* 'cheekbone' probably do not preserve the shorter stem without *-(ō)l: the compound is otherwise identical to the afore-mentioned SaaI *uálul-tähti*, so its modifier has probably undergone haplology (PSaa *oalōl-tāktē > *voalal-tàkte > *voal-tàkte).

PSaa *peanẹk 'dog' (> SaaN *beana*, SaaI *peenuv*, SaaT *pienâg*). The word must have been derived with a suffix *-ẹk from the otherwise unattest-ed stem *peanē, which is the regular reflex of PU *penä 'dog' (> MdE *pińe*). Another derivative (with a known suffix) is PU *penä-j 'dog' (> Fi *peni*, MariE *pij*, Komi *pon* : *ponj-*, Udm *puni̮*). Regarding the suffix *-ẹk see *kāmẹk 'shoe' above. Note, moreover, that in southwestern Saa-mi the word appears in an irregular form: SaaS *bïenje*, SaaU *biäŋŋa* ~ *biägŋa* ~ *biädnja* (< *pieńẹ ~ ?*pieŋe). Although this form seemingly lacks the suffix *-ẹk, it cannot be a direct reflex of the simplex stem *penä because of its irregular vowels and the irregular place of artic-ulation 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 *pẹŋkōj 'hazel grouse' (> SaaL *bakkoj*, SaaN *bakku*, SaaSk *pââgg*). The Saami word regularly reflects Pre-PSaa *pi/üŋkäw, so it looks like an archaic consonant-stem derivative of PU *püŋV (? ~ *pi/eŋV) (> Fi *pyy*, MdE *povo*, KhVVy *pĕŋk* '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 trac-es of an opaque denominal noun suffix *-w, for example SaaL *guottoj* 'fallen tree', SaaN *guottu* 'tree stump', Fi *kanto* 'tree stump', MsN *xānta* 'horizontal floor beam of a storehouse' < PU *kẹntaw ← *kẹnta (> 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 *pẹŋkōj '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 *kuompẹr 'mushroom' differs crucially from the Uralic etymology of e.g. PSaa *peanẹk '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 *peanẹk 'dog'. Therefore, there is a quite different set of facts which leads us to conclude that PSaa *peanẹk consists of an inherited stem *pean(ē)- and an opaque suffix *-ẹk.

To conclude this analysis of PSaa *kuompẹr 'mushroom', the etymology deriving it from PSlav *gǫba 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 *kuompẹr 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 *kuompẹr '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 *mỳdlo 'soap' and *gǫba '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	Irtysh 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	Erzya 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	SaaP	Pite Saami
	and Sosva) Mansi	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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