Niklas Metsäranta, Veronika Milanova & Terhi Honkola

University of Helsinki | Austrian Academy of Sciences | University of Helsinki

Borrowability of kinship terms in Uralic languages

Kinship terms are assumed to be universal and central to social life, and consequently they are not particularly prone to borrowing. Borrowing of kinship terms does happen, however, and this provides us a lens with which to evaluate the nature and intensity of contact situations. In this study, we provide a general overview of the borrowability of kinship terms into the Uralic languages. We collected kinship terms from twenty Uralic languages and used a list of 146 kin categories total as the basis for our data collection. We found that affinal kin categories such as those denoting spouses, spouse's siblings, and sibling's spouses had the largest number of loanwords. However, among the kin categories with the largest number of loanwords were also consanguineal categories such as those of 'mother' and 'father'. We also found that the Uralic languages vary notably in how large a percentage of their kinship terminology has been borrowed: the Mordvin languages have borrowed the most, more than 40 percent of their kinship terms, while for many Samoyedic languages no loanwords were detected in their kinship terminology. In addition to the quantitative approach, we also delve into the kin categories with the largest number of loanwords and discuss the patterns of these loanwords in certain languages, and the occurrence of semantic change as a factor explaining the large number of loanwords of terms for 'husband' and 'wife'. All in all, borrowing of kin terms is a context-dependent process and it is challenging to make global generalizations. Nevertheless, we propose that borrowed kin terms could provide us the best possible material through which individual contact situations of the past could be studied. This study also summarizes the borrowed kin terms in the Uralic languages, brings the topic into the spotlight, and pinpoints cases where more research is needed.

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1. Introduction

All languages have kinship terms to denote family relationships. These relationships range from the biologically closest one between a mother and her child to more remote ones, for example those between a father and his child's spouse's parents. The relationships described with kinship terms are the building blocks of kinship networks which are at the heart of social life in many societies. Along these networks, languages, genes, and cultures are transmitted both vertically from one generation to another and horizontally from one family to another. Conventionally, at least in the Western tradition, kin terms are viewed as part of the basic vocabulary[1] and central to social life, and especially terms denoting close kin are seen as resistant to borrowing, while borrowing of more distant kin terms is not such a rarity (Doerfer 1988: 98–99; Matras 2009: 169–171; 2010: 82). In recent research with a global sample, it was found that while terms denoting more

1. Many scholars studying basic vocabulary and lexical universals do not consider the majority of English (European) kinship concepts (even denoting such close kin as 'brother', 'sister', 'sibling', 'son', and 'daughter') to be basic or universal in the global perspective (Milanova et al. 2020: 345–347 with references to Swadesh & Sherzer 1971: 283, Goddard & Wierzbicka 2014: 22–54, and Wierzbicka 2016).

distant kin were borrowed more often, also terms denoting close relatives were borrowed, but they often coexisted with the native term (Honkola & Jordan, in press). Thus, it seems that the patterns of kin-term borrowing are not as simple as they may first seem.

Here we study how language contact has influenced the kinship terminology in the Uralic languages, i.e. what kinship terms are typically borrowed, whence, and when. The borrowed kin terms are, across a number of Uralic languages representing each main branch, examined *vis-à-vis* the loanword layers they are borrowed into. Some of the reasons why certain languages have borrowed kinship terms more readily than others are explored. In essence, we study the borrowability of words in a certain semantic group, namely kinship terms. The study combines etymology with loanword typology, albeit mostly on the level of a single language family, Uralic. The relevance to Uralistics comes first and foremost from the summary of the borrowed kin terms in Uralic languages; the paper also includes minor etymological remarks and additions (see Appendix 2) which hopefully will spark more interest on the topic. While the list of the borrowed kin terms is comprehensive, it also demonstrates the fact that the more western branches, mainly Finnic, Saami, and Hungarian, have been quite thoroughly studied etymologically, while the more eastern branches Mansi, Khanty, and Samoyedic have attracted noticeably less attention.

Uralic is a language family with ca. 40 languages, which today exist in very different sociolinguistic realities. Only Estonian, Finnish, and Hungarian are majority languages that have their own nation-states. The rest are minority languages spoken primarily in Russia as well as in some Nordic and Baltic countries. As these languages are and have been spoken in geographically distant locations for an extended period of time, it is perhaps stating the obvious to say that naturally the languages also differ in what languages they are and have been in contact with. For the Saami languages, Finnic and Germanic have been the two most prominent sources of loanwords, both in borrowed kin terms (cf. Appendix 2) and more generally. For Finnic the most prominently featured source for borrowed kinship terms is Baltic, although the amount of old Germanic loanwords is generally higher. The Uralic languages spoken in Central Russia around the Volga and its tributaries, i.e. Mordvin, Mari, and Udmurt, have borrowed heavily from different Turkic languages, mainly Chuvash and Tatar. Today, for the languages spoken in Russia, Russian is obviously a common source of loanwords in general, and kinship terms in particular.

Loanwords into Uralic have been a longstanding topic of research throughout the last century and even further back, starting with Thomsen 1870.[2] The long-lasting contacts between Indo-European and Uralic languages are somewhat of a given in Uralic studies (cf. e.g. Joki 1973), although the exact chronology of the most ancient loanwords from Indo-European into Uralic is open to interpretation (Aikio 2022: 25). Some have suggested that the earliest loanwords were borrowed already from Proto-Indo-European into Proto-Uralic (Koivulehto 1999: 207–211). The number of potential Proto-Indo-European loanwords in Proto-Uralic is relatively low, however, around a dozen or so, and not without their problems. For loanwords, they also suspiciously include many basic verbs such as 'bring, give', 'fear', 'wash', etc. (op. cit.) instead of nouns, which are more common among loanwords and vocabulary in general. Whatever the case may be, it seems that there are no kinship terms that were borrowed from Proto-Indo-European into Proto-Uralic.

The existence of old Indo-Iranian loanwords in Uralic languages is attested already by a clearly larger number of loanwords, some which can be reconstructed for Proto-Uralic and some which seem to postdate Proto-Uralic (Aikio 2022: 26). An old Indo-Iranian layer postdating Proto-Uralic is possibly where we find the oldest borrowed kinship term in Uralic, as at least MdE *sazor* M *sazər*, MariM *šüžar*, H *šə̑žar* and Udm *suzer* 'younger sister' were ultimately borrowed from a form closely resembling PII **swasar-* 'sister'; the borrowing of these words has been suggested to have taken place separately in the predecessors of Mordvin, Mari, and Permic (for further details see Metsäranta 2023: 162–167). Some other clearly prehistorical loanword layers that also include kinship terminology are Proto-Scandinavian and Old Norse loanwords in Proto-Saami and Baltic loanwords in Proto-Finnic. The main bulk of borrowed kinship terms in the Uralic languages are much later loanwords. Turkic languages, namely Tatar and Chuvash, typically started to assert their influence in the Volga-area languages after the Mongol conquest of Volga Bulgaria in AD 1236 (Bartens 1999: 16–17; Bereczki 1994: 14–16) and Russian even later, some of the languages having come into close contact with Russian only in the course of the 20th century.

The kinship terms of the Uralic languages and the nature of their connection to social realities have been a topic of study for more than a

2. Some of the loanword studies relevant for our purposes include Qvigstad 1893; Wichmann 1903; Räsänen 1920; 1923; Kálmán 1961; Csúcs 1990, etc.

century (Ahlqvist 1875; Smirnov 1889; 1891; 1895; Setälä 1900; Karjalainen 1913; Harva 1939–1940). From more recent and branch-specific research on the topic the following studies could be mentioned: Whitaker (1955; 1979), Fehlig (1981), Kejonen (2020), Næss et al. (2021) for Saami, Nirvi (1952) and ALFE 2 for Finnic, Szíj (1979; 1998) for Permic, Vavra (1965) and Bíró (2004) for Mansi, Sokolova (1974) for Ob-Ugric, Székely (2016) for Hungarian, and Simčenko (1974), Fainberg (1984), and Volzhanina (2011) for Samoyedic.

Another type of kinship research that has been done in the Uralic context is the reconstruction of Proto-Uralic kinship terms. While several core kin terms can be reconstructed for Proto-Indo-European (Milanova 2020), the situation for Proto-Uralic is quite different, as even the basic consanguineal kin terms such as 'father', 'brother', and 'sister' cannot be reliably reconstructed (Aikio 2022: 24). Equally peculiar is at least the seeming absence of 'child' in Proto-Uralic. Interestingly, most of the more securely reconstructable kinship terms are all terms for different in-laws, e.g. PU **ẹ́na* 'mother-in-law', **ẹ́ppə* 'father-in-law', **ẹ́na-ẹ́ppə* 'parents-in-law', **mińä* 'daughter-in-law', **wäŋəw* 'son-in-law', **ańə* 'sister-in-law', **käləw* 'sister- or brother-in-law', **nataw* 'sister- or brother-in-law', etc. (op. cit.; UED: 54). In general, it can be said the kin terms and the terminologies as a whole have changed notably since Proto-Uralic. It should become clear from the present paper that borrowing is a major contributing factor for these changes and for our inability to reconstruct many of the basic Proto-Uralic kin terms, although certainly not the only factor at play.

In sum, until now both kinship terminologies and loanwords in Uralic have been a topic of extensive research, and there have also been attempts to reconstruct Proto-Uralic kin terms. However, to the best of our knowledge, borrowing of kin terms in the Uralic languages has not been studied earlier in a holistic manner; Milanova et al. (2020) touches upon the topic, but in the current paper we aim at being more exhaustive.

Kinship terminologies can be structured according to various principles. The Uralic languages have a rich diversity of ways for how relatives can be classified.[3] For example, in Finnish there are separate terms for 'brother', 'mother's brother', and 'father's brother' (*veli*, *eno*, and *setä* respectively) whereas in Udmurt *agaj* denotes both 'elder brother' and 'father's brother' while there is a separate term for 'mother's brother' (*čužmurt*). One feature

3. The Uralic languages do not have grammatical gender, so the gender of the relative is most often marked lexically.

that has particularly rich diversity across the Uralic languages is the relative age distinction, that is, the existence of separate terms for example 'elder sister' and 'younger sister' (instead of having only one term for 'sister') and 'elder brother' and 'younger brother' (instead of having only one term for 'brother'). A complete relative age distinction of sibling terms (four terms) exists in Mordvin, Mari, Udmurt, Khanty, Mansi, and Hungarian, and it is partly present (three terms) in Nganasan and Tundra Nenets, while it is missing (two terms) from Finnic, Saami, and Komi. Languages with relative age distinction for siblings also often follow a similar pattern in other areas of kinship terminology as well, e.g. 'elder sister's husband' and 'younger sister's husband' or 'husband's elder brother' and 'husband's younger brother'. Contact is a likely explanation for the preservation of relative age distinction in at least some modern Uralic languages, but it is probable that already Proto-Uralic had relative age distinction in some capacity (Metsäranta et al. manuscript).

The principles for how kinship terminologies are structured show areal tendencies across language-family borders in general (Trautmann 2001: 282) and this is also seen in Northern Eurasia and Europe where Uralic languages are spoken. The kinship terminologies of Uralic languages spoken in Siberia share similarities with non-Uralic languages of the area, and the same is largely true for the Uralic languages of the Volga-Kama and Circum-Baltic regions. The notable exception to this geographical similarity tendency is Saami kinship terminology, which has some eastern Eurasian features as well as a pattern of alternate generation equivalence – a feature that does not exist in any other Uralic language or in their immediate contact languages.[4] The Saami languages have, however, borrowed several kin terms (Whitaker 1979; Kejonen 2020) and there is some indication that the Saami system has started to change in the same direction as the other Circum-Baltic kinship terminologies.

We studied the kin-term borrowability of twenty Uralic languages covering each main branch of the family. The more precise variety (see Section 2) was often chosen based on the availability of dictionaries and other literary sources. This was the case especially with the eastern Uralic languages.

4. Alternate generation equivalence refers to kin-term pairs where the same lexeme or a derivation thereof is used to denote certain pairs of relatives e.g. SaaN *eahki* 'father's elder brother' and *eahkit* '(younger) brother's child' (to their uncle). The closest analogues to this pattern are found in North America, India, South-East Asia, Papua New Guinea, and Australia (Dziebel 2007: 211–254, 322–324).

From these twenty languages, we collected kinship terms and their known etymologies. In the collection of kin terms we used a template list of 146 kin categories (for further details, see Section 2). The collection of the lexical information largely followed the guidelines of the collection of the data in the World Loanword Database (WOLD; Haspelmath & Tadmor 2009).

With this data we aim to answer two sets of questions: 1) *Which kin categories have loanwords in the Uralic languages?* We also divide the data into subgroups based on e.g. consanguinity and gender of the relative to study whether kin categories in one of these subgroups have pronounced numbers of loanwords. Additionally, we delve deeper into the kin categories with the largest number of loanwords and look at both the extra- and intralinguistic reasons as to why kin terms in these particular categories might be the most commonly borrowed. 2) *Which Uralic languages have borrowed kin terms?* We also study from which languages these terms have been borrowed. Furthermore, we discuss the occurrence of kin-term loans in the light of what is known about the contact situation in question and, conversely, what can be deduced about the contact situation based on the presence or absence of borrowed kin terms.

In what follows, in Section 2 we explain the principles of data collection and key concepts. We focus on explaining how the collection took place and some of the challenges our approach might entail. In Section 3, we present our results and discussion. We have subdivided this section based on the two research questions mentioned above. In 3.1, we found that terms denoting affinal relatives have been borrowed the most, but among the most borrowed ones were also terms denoting close relatives. We discuss the patterns of borrowing for some of these categories and highlight the cases where semantic change has likely played a role in the process. In 3.2 we see that the Uralic languages vary notably in how many kin terms they have borrowed depending on their contact history, but also of how well the languages in question have been studied. Finally, in Section 4 we conclude our study, summarize its main findings, and give an insight into our ongoing work, as well as discuss possible avenues for further study.

The paper also has four appendices. In Appendix 1, we list the kinship categories included in this study. In Appendix 2, we present the research material, i.e., the borrowed kin terms and their etymologies. In Appendix 3, we show the complete list of kin categories with the number of borrowing events, and in Appendix 4, we list kin categories for which no loanwords were detected in the Uralic languages.

2. Data collection

We collected kinship terms and their etymological information, including loanword status, from twenty languages covering each main branch of Uralic: Saami (South, North, Skolt), Finnic (Finnish, Veps, Estonian, Livonian), Mordvin (Erzya, Moksha), Mari (Hill, Meadow), Permic (Komi-Zyrian, Udmurt), Mansi (Sosva), Khanty (Kazym), Hungarian, and Samoyedic (Tundra Nenets, Forest Enets, Nganasan, Taz Selkup). Initially, we used a list of 115 kin categories total as the basis for the data collection. This list has been developed to collect kinship terminologies worldwide and it includes 88 categories of genealogical kin and 27 categories for kin by marriage (i.e. affinal relatives) (for further information see Passmore et al. 2023). We added 31 categories to the original list so that it would meet the needs of our project better when collecting kin-term data from Uralic languages.[5] These categories covered relative age distinction (elder/younger) of affinal relatives. For example, instead of having a category only for 'husband's sister' we added new categories for 'husband's elder sister' and 'husband's younger sister'. Thus, in total, data was collected from 146 kinship categories. The list of original and added categories can be seen in Appendix 1.

2.1. Kinship terms and their etymology

We considered a kinship term to exist in a language if it was found in a dictionary or other lexical source we used either as its own entry or, at minimum, as a part of another, as this would imply at least some level of convention. We included phrasal expressions only when they were found in a dictionary, as in those cases the expression could be considered to be fixed and conventionalized (following the guidelines of Haspelmath & Tadmor 2009: 11). This requirement was necessary, as all familial relationships can be described with phrasal expressions (e.g. the English kin term *uncle* can be described as parent's brother). In our data one kin category could have more than one kin term (e.g. in Komi both *ćoj* and *soć* denote sister) and one kin term could fill more than one kin category (i.e. polysemic terms, e.g. Meadow Mari *aka* is 'elder sister; parent's (father's or mother's) younger sister').

5. This study was conducted as a part of the project Kinura funded by the Kone Foundation.

We aimed for collecting the standard modern varieties of the language, but this was not always possible. We collected kinship terms mainly from various dictionaries, both print dictionaries and those available online (a full list of the materials utilized can be found under Lexical sources). For some of the smaller and uniform languages in our study (such as Nganasan or Forest Enets), the choice of which dictionary to utilize was rather straightforward, as there simply are only a few dictionaries to choose from. In many cases bilingual dictionaries were used and also dialectal dictionaries were utilized if found necessary or otherwise helpful. We avoided using dialectal materials as primary sources mainly because the bulk of them were collected well over a century ago and we were generally aiming for the modern standard variety. In a few cases, in the absence of comparably comprehensive material resources this could not be feasibly avoided. For example, our Sosva Mansi material is based on *Wogulisches Wörterbuch* (WogWb), as alternatives of matching scope (i.e. Munkácsi & Kálmán 1986) are also dialectal and fairly similar in terms of when the materials were collected. Generally, we have striven to use primary sources. However, for a few languages or branches of languages, there exist comprehensive descriptions of their kinship terms along with etymological information (such as Karjalainen 1913 for Khanty, Mészáros 2001 for Mordvin), so we chose to use these sources as the basis for our data collection. The collected kinship terms and their references are part of the Kinbank database (kinbank.net; Passmore et al. 2023) and can be found online (Honkola et al. 2022; github.com/kinbank/kinura).[6]

After collecting the kinship terms, the task was to gather all the existing etymologies – that is, particularly to include information whether they are borrowed or not – for them. It bears repeating that within the Uralic language family the geographically more western languages have been the subject of more rigorous etymological research. Traveling from west to east, the amount of etymological research declines steadily. Estonian, Finnish, and Hungarian are the most thoroughly studied and there exist several etymological dictionaries of these languages. For languages which do not have etymological dictionaries of their own (Mansi, Tundra Nenets, Forest Enets, Nganasan, Taz Selkup), etymological notes from individual articles and studies were used as well as Uralic etymological dictionaries, e.g. the UEW and UED. The above-mentioned imbalance in the amount

6. With the exception of Taz Selkup, which was not added to Kinbank, as it is based on an unpublished source (Helimski 2007) not readily available.

of research into different languages has necessarily had an effect on our results, too; the lack of borrowed kin terms especially in the eastern Uralic languages may also at least partly be due to lack of research. Nevertheless, keeping this in mind, our paper provides a comprehensive list of borrowed kin terms in the Uralic languages.

2.2. Information about borrowing

For each kin term we defined whether the term was known to be borrowed or not. In cases when a term was borrowed, we also collected information about the source language and the time of the borrowing. As this task is not as straightforward as it may first seem, in the following sections we provide details about this procedure.

2.2.1. Defining a loanword and analyzability

A *loanword* is defined as a word that at some point in the history of a language entered its lexicon as a result of borrowing (Haspelmath 2009: 36). In this study *borrowing* is used to refer to the point in time when the transfer of lexical units happens and to denote this process in general, i.e. a loanword is the linguistic unit that is transferred, and borrowing is the process by which it is transferred. Loanwords are typically unanalyzable in the recipient language even if they are more complex in the source language (op. cit. 37). Hungarian *mostoha* 'stepmother' is a Slavic loanword, cf. Czech *macecha*, Slovak *macocha*, Bulg *мащеха*, Ru *мачеха*. This can be determined by analyzability, as the Slavic words are derived from the common Slavic word for 'mother', cf. Old Church Slavonic *mati*, Old Czech *máti*, Ru *мать* < Proto-Slavic **màti* (Derksen 2008: 303), with the suffix **-juxa* (*-jexa*) 'step-' (Matasović 2014: 152). Such an analysis cannot be done for the Hungarian word, which is opaque in form and thus a loan. In general, analyzability is used as one of the criteria by which the direction of borrowing is determined.

The example above is a straightforward example of a loanword. Our data contains a rather large number of loanwords that have been further modified in the recipient language, usually by derivation or compounding. Somewhat typical examples of derivations are diminutive derivatives such as SaaSk *päärnaž* 'child' ← SaaSk *pä'rnn* 'son, boy' (< PS **pārnē*) ← Scand, cf. ON *barn* 'child' or Veps *baboi* 'grandmother' ← Ru *баба* 'old woman',

Veps *dedoi* 'grandfather' ← Ru *дед* 'id.', and compounds containing a loanword or loanwords, e.g. Komi *baťʼ-mam* 'parents' (*baťʼ* 'father' ← Ru *батя* and *mam* 'mother' < Proto-Permic **måm*), Udm *anaj-ataj* 'parents' (*anaj* 'mother' ← Ta *ana*, *änej* and *ataj* 'father' ← Ta *ätej*, *ataj*) (Csúcs 1990: 104, 112). According to a definition given in Haspelmath & Tadmor (2009: 12) and Haspelmath (2009: 37), if a word is analyzable in the recipient language and has in a way been "created" in the recipient language, then it is no longer treated as a loanword. Under this definition, SaaSk *päärnaž* 'child', analyzable as a diminutive derivation in Skolt Saami, is not a loanword, while *pä'rnn*, which is underived, is a Scandinavian loanword. In our study we follow the criteria set by Haspelmath & Tadmor (2009: 15) and only discuss kin terms which are loanwords in the strict sense, i.e. not further modified by derivation or compounding in the target language. We do this in order to keep the amount of data manageable and our dataset comparable with that of WOLD.

2.2.2. Certainty of borrowing

In this section, we will be discussing the etymological treatment of the data. One of the things we did was to try to evaluate the reliability of the etymologies that have been proposed in previous literature and the certainty of borrowing. To this end, each kinship term was assigned a value ranging from 4 to 0 following the five-point classification used in Haspelmath & Tadmor (2009: 12–13). We also follow Haspelmath & Tadmor (2009: 20) in that we consider words in classes 4 and 3 as loanwords and focus our discussion in this paper on those.

4 = clearly borrowed
3 = probably borrowed
2 = perhaps borrowed
1 = very little evidence for borrowing
0 = no evidence for borrowing

We will give some examples and try to formalize how words were divided into these categories. In general, the validity of proposed loan etymologies is evaluated based on matching phonological shape and matching meaning – these are factors on the lexical level. We also considered the validity of the suggested source language, i.e. are there other loanwords from the same source and how well established the prehistorical or historical contacts between the languages in question are.

Words that are clearly borrowed were assigned the value 4. These often include, among others, recent loanwords between languages that are

known to have been in contact from verifiable historical sources or are perhaps still in close contact. These are typically loanwords that can be spotted even by non-experts, as the borrowing has taken place in the not-too-distant past, so that the phonological shapes between them deviate only slightly or not at all and the meanings are similar enough to be recognizable. Words with value 4 include, for example, many of the recent Russian loans into individual Uralic languages, Komi *vnuk* 'grandchild' ← Ru *внук*, MdE *ďaďa* 'father's brother, uncle' ← Ru *дядя*, MdE Komi *šurin* 'wife's brother' ← Ru *шурин*, Komi *plemjannik* 'brother's or sister's son, nephew' ← Ru *племянник*. Minority-language speakers are nowadays almost uniformly bilingual in their native language and Russian, so these examples might even be difficult to distinguish from code-switching.

In the previous cases the phonological match is one to one, but this does not need to be the case and phonological substitutions and adaptations, if predictable, do not in our view change the level of certainty. Meadow Mari *ońo* and Hill Mari *ońə̑* 'father-in-law' can be explained as loanwords from Chuvash *χoń*, *χuń* (Räsänen 1920: 166), as zero substitution for Chuvash *χ*- is common in other Chuvash loans as well (although admittedly Hill Mari shows two substitution patterns, zero substitution and *χ*-).

Ideally, we would want to determine a chronologically clearly defined source for all loanwords. Failure to do so unequivocally does not automatically mean that the certainty of borrowing is any less, however. The relationship between the Uralic words MdE *sazor* 'younger sister', M *sazə̑r*, MariM *šüžar*, H *šə̑žar*, Udm *suzer* is phonologically ambiguous and difficult to interpret conclusively (see Metsäranta 2023 : 162–167). It is certain that no matter which specific chronology we settle for, the words are all certainly borrowed from an Indo-European word ultimately reflecting Proto-Indo-European **sm̥ésor-* 'sister' (Milanova 2021: 113–117), although the interpretation we give them can have a profound impact on how we view the prehistory of these languages. The status of different 'sister' words as loanwords does not change even though there are many ways in which their internal relationship and chronology can be interpreted.

In sum, etymologies were assigned value 4 if they exhibited the following characteristics: 1) regular phonological match between the source and the target; 2) semantic match; 3) belonging to a known loanword layer, i.e. there are other words borrowed from the same source and not just the kinship term in question. If one of these criteria was not met or there was otherwise uncertainty related to the etymology, value 3 = probably borrowed

was used instead. For example, a case that was demoted due to a semantic mismatch between the source and target word is Meadow Mari *βate* 'wife' and Hill Mari *βätə*, which was deemed value 3 because the proposed loan original for the Mari words, Chuvash *vatə̂*, means 'old' (Räsänen 1920: 120) rather than 'wife'. Although the difference in meaning between the Mari and Chuvash words can be explained through semantic change (see Section 3.1.2), the change itself does muddy the waters enough so that the case can no longer be viewed as "clearly" borrowed.

As another example of a case where value 3 was assigned instead of 4 we could mention Proto-Saami **muoϑā/ē* 'mother's younger sister' > SaaS *muahra*, N *muottá*, Sk *mue'ʹđđ*, which is thought to have been borrowed from Proto-Germanic **mōþō(n)* 'mother's sister' (Kümmel 2015: 121–129). Although we generally find the etymology plausible, the reasoning behind assigning it a value of 3, instead of 4, lies in the fact that the particular word form is not actually attested anywhere in Germanic (although similar derivatives do exist). The phonological correspondence between Proto-Saami and Proto-Germanic is expected, the meanings are a close match, and there are otherwise a large amount of Germanic loans in Saami, but borrowing from an otherwise unattested form does add a level of uncertainty, hence a value of 3.

Values 2 and 1 were assigned for poorly defined and uncompelling etymologies. In general, *Lallwörter* were assigned value 2, especially if the loan original could not be determined with any level of certainty. For example, Hungarian *papa* 'father's father, mother's father' can be a loanword from German *Papa* 'father', but this does not need to be the case and the Hungarian word can certainly have been borrowed from many other languages as well. Ill-defined etymologies were assigned value 1. For example, we have Komi *geṭi̯r* 'wife, spouse' that has been compared to German *Gatte* and related Germanic words, perhaps entering Komi from Old Norse through Finnic (KESKJa: 81). However, as there is no Finnic word that could be considered as the mediator and there is otherwise no known layer of Old Norse loans in Komi, there is no compelling reason to believe that the word in Komi is of Germanic origin.

Value 0 represents words with no evidence for borrowing. This is not to say that words with value 0 could not be loanwords, but rather that they have not been treated as loanwords and/or no credible loan etymologies have, to the best of our knowledge, been proposed for them in the etymological literature. This group of words is heterogeneous as it includes

1) inherited Uralic words; 2) words that can be reconstructed for different branch ancestors, e.g. Proto-Finnic, Proto-Permic, etc.; and 3) words of unknown origin, i.e. they are not known to be borrowed but only exist in individual modern languages, and therefore their origin is an open question. Finally, this group also contains words that were excluded from our study by the definition of a loanword used here, i.e. calques and loan blends (derivations and compounds); see Section 2.2.1.

In Appendix 2 we present the research material used in this study, that is, all the etymologies in our material that were deemed either value 4 or 3. This material was used to calculate the borrowability rates and properties tied to that. The material is organized by branch and has been chronologically ordered. The chronology provided is relative and there to give the reader a rough estimation as to which stage the borrowing occurred at. Unfortunately, an extensive etymological analysis of the research material is not possible here, but some brief etymological remarks are included in this appendix. There are a few rather major departures from the standard views expressed in the etymological literature regarding the chronology and validity of certain borrowed kinship terms; these are treated more closely in Metsäranta (2023).

3. Results and discussion

In what follows, we present our findings both from the perspective of kin categories (Section 3.1) and from the perspective of the languages studied (Section 3.2). In Section 3.1 our focus is first specifically on the number of borrowing events per kin category (Table 1), and after that on the number of loanwords (Table 2).

For Table 1 we calculated the number of borrowing events in two different ways. First, we counted separately all borrowing events. For example, if a term denoting a category (e.g. 'father's father') had in a language (e.g. Finnish) been borrowed twice (from Swedish both *pappa* and *vaari*), it was counted as two borrowing events. In the second, perhaps less intuitive, calculation we had a restriction that the maximum number of borrowing events per language / language stage is one.[7] Thus, in this calculation the

7. The proto-language stages considered here are the well-established branch ancestors, that is, Proto-Finnic, Proto-Saami, Proto-Mordvin, Proto-Mari, and Proto-Permic (see also Appendix 2).

two Swedish loanwords for 'father's father' in the above-mentioned example are counted as one.[8] The reason to limit the maximum number of borrowing events per language / language stage comes from the aim to keep the results stabilized, so that for example a large number of recent Swedish loans into Finnish would not distort calculations which are supposed to illustrate the frequency of borrowing throughout the Uralic family (something which is already somewhat distorted due to the lack of research into the easternmost Uralic languages). In addition, a similar principle of calculation was used in Honkola & Jordan (in press), making these numbers comparable with those when the same principle of calculation is followed.

In Table 1 we also present the total number of languages in which the kin category in question is occupied by a loanword in our material. It needs to be borne in mind when having several daughter languages of the same parent language in the sample, that the word was possibly borrowed already into the proto-language stage instead of the individual languages. For example, if a term was borrowed into Proto-Saami and it exists in the three modern Saami languages included in the sample, in terms of absolute numbers there are three loanwords as a result of one borrowing event. As we are interested in the borrowability of kin terms instead of the absolute number of loanwords in our sample, we have focused on the number of borrowing events, as that would seem to give a more reliable picture of the actual borrowability.

In the calculations presented in Section 3.1 the relative age distinction of affinal relatives (i.e. the additional categories mentioned in Section 2 and listed in Appendix 1) are merged into their main categories. That is, for example, the merged category of 'wife's brother' includes also terms for 'wife's younger brother' and 'wife's elder brother'. Merging of categories was done as although age distinction is rather prevalent, it is not a universal feature of kinship terms in Uralic languages. In other words, if the additional categories would have been kept separate in our calculations, it would have automatically excluded a number of languages by definition

8. If a term has been borrowed both into the proto-language and into the individual modern languages in a certain branch, these were counted separately. For example, a term for 'husband' has been borrowed into Proto-Saami from Proto-Norse, and later again into South Saami from Scandinavian and into North Saami from Finnic, resulting in three instances of borrowing for the category of 'husband'.

from certain categories – something which should be avoided when summarizing large datasets. When calculating the number of kin categories with loanwords per language (results presented in Section 3.2) the categories of relative age distinction for affinal relatives were kept separated. This way we obtained a more realistic picture about the number of kin categories existing in each language.

3.1. Which kin categories have loanwords?

In total 68 kin categories had borrowing events and thus also loanwords in Uralic languages. The distribution of loanwords into these categories is very uneven, however, as loanwords in the 18 top categories listed in Table 1 covered 57.4% of all the loanwords (in total 157 loanwords, see Appendix 2). Terms denoting certain affinal relatives – that is, the more distant relatives – have been borrowed the most. A similar pattern of borrowing has been suggested earlier (Doerfer 1988: 98–99; Matras 2009: 169–171; 2010: 82) and has also been found from the global dataset of WOLD (Honkola & Jordan, in press). The categories with the largest number of borrowed terms include mainly 'sibling's spouse' ('sister's husband') and 'spouse's siblings' ('husband's brother', 'wife's brother', and 'wife's sister'). In many languages, the kin terms in these affinal categories are polysemous. For example, in most languages a term for 'sister's husband' also means something else, such as 'wife's brother' (e.g. in South Saami *maake*, Finnish *lanko*, and Hungarian *sógor*) or 'daughter's husband' (e.g. Erzya *ezna* and Komi *źaťʼ*). Loanwords into these affinal categories are a topic of closer inspection in Section 3.1.1.

While the kin categories which most often have loanwords in the Uralic languages are affinal, also kin terms denoting the closest familial relationships such as 'father', 'mother', 'child', 'elder sister', 'husband', and 'wife' have been borrowed in several languages (Table 1).[9] In the global study made by Honkola & Jordan (in press) with the WOLD dataset, it was found

9. We use here a slightly modified version of the close/distant categorization used in Honkola & Jordan (in press) and consider the categories 'mother', 'father', 'sister', 'brother', 'son', 'daughter', 'child', 'wife', and 'husband' as "close" kin categories ('child' was not included in the list of Honkola & Jordan) and all other kin categories as "distant". This kind of a binary division may feel artificial, but it is used here to capture the main axis of kinship interaction.

Table 1: Kin categories with the largest number of borrowing events in Uralic languages. Boldface font indicates the close kin categories. Parameter column introduces the abbreviations of the kin categories which are used later in the text. Parentheses indicate categories where the age distinction (e = elder, y = younger) has been merged into the main category. The table has been sorted by the total number of borrowing events. The column with a maximum of one borrowing event per language has a § in cases when a term in the kin category in question has been borrowed both into proto-language and into the individual languages in one of the subgroups; in the case of merged categories the § sign indicates that two categories exist in one language (e.g. Erzya has both WZ and WeZ) and these have been counted separately. Number of languages with a loanword shows the total number of languages in which the kin term in question is a loanword. Asterisk in the Polysemy column indicates that at least in one of the languages the kin term is polysemous (i.e. linked to more than one kin category). The number in the Coexistence column indicates in how many languages the borrowed kin term coexists with a term with no evidence of borrowing. The full list is given in Appendix 3.

Kin category	Parameter	# of borr. events (total)	# of borr. events (max. 1 / lang.)	# of lang. with a loan-word	Poly-semy	Co-ex.
sister's husband	(e)ZH	11	9 §	10	*	3
husband's brother	H(e/y)B	10	10	12	*	0
wife's brother	W(e/y)B	10	10 §	10	*	1
wife	**W**	**9**	**7 §**	**8**		**4**
grandchild	CC	9	7	7		2
husband	**H**	**8**	**8 §**	**10**		**3**
wife's sister	W(e)Z	8	8 §	8	*	0
wife's sister's husband	W(e)ZH	7	7	8	*	0
child	**C**	**7**	**7 §**	**7**		**4**
father's father	FF	7	5	5	*	3
father's mother	FM	6	6	6	*	3
elder sister	**eZ**	**6**	**5**	**6**	*	**1**
father	**F**	**6**	**5**	**6**		**2**
mother	**M**	**5**	**5**	**6**		**2**
daughter's husband	DH	5	5	5	*	4
mother's mother	MM	5	5	5	*	2
sister's son	ZS	5	4	5	*	1
sister's daughter	ZD	5	4	5	*	2

that in cases where a term denoting a close kin category was borrowed, the borrowed term often coexisted with the variant with no evidence of borrowing. This was especially the case with 'father' and 'mother', as in all languages where a term for mother was borrowed, it coexisted with a non-borrowed term; with 'father' this was also the case except in the two languages where the term also denoted father's brother. This kind of a pattern is not, however, seen in our data, as in the categories of both 'mother' and 'father' in three out of five borrowing events the borrowed term has replaced the native variant. Terms for both 'mother' and 'father' have been replaced in Erzya, and in Hill Mari and Meadow Mari (borrowing took place in Proto-Mari). In addition, a term for 'mother' has been replaced in Finnish and a term for 'father' in Komi.[10]

Of the 146 kin categories used as the template in our data collection, 20 did not have any loanwords despite being a relatively common category in the Uralic language family (Appendix 4). As a criterion for being a "relatively common category", a term for that category needed to exist in three or more languages covering more than one subgroup of the Uralic family. These categories include, for example, the age distinction of siblings when denoting the nephews and nieces (e.g. 'younger brother's son', 'elder sister's daughter') and terms for grandchildren (e.g. 'son's son', 'daughter's son'). The reason why these categories appear not to be affected by borrowing is that these categories typically include phrasal expressions, e.g. MdE *ťejťeŕeń ćora* 'daughter's son', that are not considered strictly speaking loanwords in this study even though they might involve borrowing in some way (see Section 2.2.1).

We also studied the number of loanwords when dividing the data into certain subgroups based on consanguinity, generation, and gender (Table 2). For these calculations, we used a so-called "balanced" version of the data, in which the focus is on the loanwords instead of kin categories. The difference between these two approaches is clarified with the following example. When calculating the number of borrowing events in Table 1, each language that had a borrowed term in the kin category in question was counted as one borrowing event. For example, as Finnish *mummu* 'mother's mother' is a loanword from Swedish, it is counted as one borrowing

10. The inherited variant for 'mother' could still exist in the language in question but with a different meaning. For example, in Finnish *emä*, the Uralic variant for 'mother', denotes animal mother instead of human mother.

event for this MM category. However, as *mummu* denotes also father's mother it is counted as a loanword also for the FM category. Now, when we are interested in the total number of actual loanwords, taking these values directly would give us an impression that *mummu* would have been borrowed twice, which is not the case. Therefore, to compare loanwords in different groups in a more realistic way, we made a balanced data where we counted the borrowed kin terms instead of having the focus on the categories. This means that as we have one term *mummu*, which covers two categories (MM and FM), each category was given a value of 0.5 so that those sum up equal with the fact that we are now talking about one single loanword. A similar practice was followed when a kin term covered more than two categories. For example, Veps *bratan* 'male cousin' fills four categories ('father's brother's son', 'mother's brother's son', 'father's sister's son', 'mother's sister's son'). As a result, in the balanced data for Veps each of these categories got a value of 0.25.

When comparing different subgroups with each other, the results are the following. We found that the largest number of borrowings had taken place in consanguineal categories (Table 2). This is however due to the fact that there are more consanguineal categories in our data. Affinal categories had a higher number of loanwords per category (2.4 loanwords/category) than what consanguineal categories had (1.5 loanwords/category). When counting the number of kin categories, which had a large number of loanwords (five or more loanwords; three or more loanwords), the affinal categories had a larger percentage of categories with a large number of loanwords. This can be seen also from Table 1.

When comparing subgroups divided by the generation of the relative in question, we found that terms denoting relatives in ego's generation (e.g. 'sister', 'husband') were borrowed the most when taking into account the number of categories in each of the subsets (Table 2). This is contrary to what was found with the global dataset of WOLD, as there terms denoting elder relatives were borrowed the most (Honkola & Jordan, in press). Finally, when comparing the subgroups which were divided by the gender of the relative in question, we found that terms denoting male relatives were borrowed slightly more than terms denoting females. This is different from what was found in Honkola & Jordan (in press) where no difference between these groups was found. Terms denoting a category without a specific gender (e.g. 'sibling') had a large number of loanwords based on the average and the percentage of categories, which had three or

more loanwords (28.6% in both). This is because there were two categories with a large number of loanwords ('grandchild' and 'child'), whereas other general categories had less than three loanwords (Table 2).

Table 2: Comparison of subgroups divided by consanguinity, generation, and gender. Number of kin categories in each subgroup is shown in the first column including the relatively common categories with no detected loanwords (Appendix 4); in the second column is the percentage of borrowed kin terms in the subgroup in question when calculated from the balanced data. This percentage does not take into account the different sizes of the subgroups. In the third column we show the average number of loanwords per kin category in the subgroup in question. This value takes into account the different sizes of the subgroups. In the fourth and in the fifth column we present the percentage of categories with a large number of loanwords. In the fourth column the threshold of what is considered a large number of loanwords is five; in the fifth column this threshold is three.

	# of kin categories	% of loanwords	Average number of loanwords / category	% of categories with ≥5 loanwords	% of categories with ≥3 loanwords
Consanguinity					
Consanguineal	58	55.4	1.5	8.6	20.7
Affinal	30	44.6	2.4	16.7	33.3
Total	88		1.8		
Generation					
Older than ego	30	28.6	1.5	10.0	16.7
Ego's generation	33	47.7	2.3	15.2	33.3
Younger than ego	25	23.7	1.5	8.0	24.0
Total	88		1.8		
Gender					
Male	41	47.6	1.8	12.2	26.8
Female	40	39.1	1.5	7.5	22.5
General	7	13.3	3.0	28.6	28.6
Total	88		1.8		

3.1.1. Borrowed terms for 'spouse's siblings' and 'sibling's spouses'

Loanwords occur most commonly in kinship categories for in-laws, with terms for brother-in-law being the most commonly borrowed, cf. ZH 'sister's husband' (11), HB 'husband's brother', (10), and WB 'wife's brother' (10). Terms for WZ 'wife's sister' are also among the top most borrowed kin terms, with eight instances of borrowing. HZ 'husband's sister' is clearly the least borrowed of the terms, as in our materials there are only two loanwords in this category (see Appendix 3). The terms for ZH 'sister's husband' (11) are clearly more likely to be borrowed than the terms for BW 'brother's wife' (4) (Appendix 3). Terms denoting these categories have been borrowed in all subgroups of the Uralic family with the exception of the Samoyedic languages, which have very few detected loanwords in their kinship terminology overall. The majority of the loanwords are found in Mordvin, Mari, and Komi, due to which in the following we focus our discussion on those languages.

Some general tendencies can be found from the loans in the above-mentioned categories. Borrowed affinal kinship terms for 'spouse's sibling' and 'sibling's spouse' rarely if ever come from anything other than similar kinship terms in the source languages. Semantically, borrowed kinship terms for 'spouse's siblings' and 'sibling's spouses' form a sort of continuum. On the one end of this semantic continuum, there are words expressing quite general meanings of affinal relatedness that have perhaps come to cover several different categories, and at the other end are highly specific kinship terms that usually occupy only one category or two at maximum. Even within the more polysemic affinal kinship terms, whatever polysemy exists there is cross-polysemy between the categories ZH, HB, WB, WZ, HZ, and BW.

Quite specific meanings of affinal relatedness seen in modern languages are oftentimes the result of semantic narrowing. An example of a loanword that referred to relatives in general and later narrowed in meaning is Finnish *lanko* 'brother-in-law', which in the standard literary language covers categories WB, HB, and ZH. This constellation of meanings is evidently a Finnish-specific development. In old literary Finnish, the oldest source from 1637 defines *lanko* as 'cognatus, frände, ein Blutfreund; cognata, frändka, die Freundin' (VKS: s.v. *lanko*). The meaning 'brother-in-law' is first encountered in Daniel Juslenius' dictionary from 1745. Also the cognates of Fi *lanko* in other Finnic languages more commonly refer to an affinal relative in general, cf. Karelian *lanko* 'affinal relative, esp. sister's

husband', Est *lang* 'affinal relative' (SSA 2: 44–45). The Finnic word is usually thought to be a Germanic loanword, cf. PGrm **ga-langaz* > Old High German *gilang* 'brother-in-law, relative' / PGrm **bi-langaz* > Old Low German *bilang* 'related; joined, connected' (LägLoS: 167; SSA 2: 44–45).

Another rather similar case of narrowing of a borrowed term with a more general meaning in the source language is SaaS *sïbjege* 'en manns el. gutts eldre brors el. fetters kone; ens ektemanns yngre bror el. fetter' (eBW = HyB) and SaaN *sivjjot* 'affinal relative of the opposite sex; husband's brother or male relative, sister's husband or male relative (to their wife's sister); wife's sister or female relative, brother's wife (to their husband's brother)' (HB = fZH = WZ = mBW). Both terms have been borrowed from Scandinavian, cf. ON *sifjungr* 'verwandt', which refers to affinal relatives in general. The polysemy eBW = HyB presently found in Saami is probably largely due to the Old Norse loanword replacing a Proto-Saami reciprocal pattern still found in Kildin and Ter Saami (PS **oaǻē* > Kildin *vuəńń*, Ter *vįeńńe* 'elder brother's wife' → PS **oaǻēp* > Kildin *vuəńńev* and Ter *vįeńńev* 'husband's younger brother') (Bergsland 1942: 176–177; Itkonen 1958 [2011]: 789).

When talking about highly specific kinship terms, if the loan original features relative age distinction, this distinction is often present in the target language as well. In addition, it seems likely that the borrowing of kinship terms with age distinction has at least partly resulted in the development or reinforcement of a similar dichotomy also in the target language. Mari, which has borrowed most of its kinship terms for elder affinals, is a prime example:

1. Spouse's elder sibling or elder sibling's spouse in Mari

- WeB = HeB MariM *oǻəška*, H *oǻəška* ← Chu dial. *χoǻəška*, cf. lit. *хунчӑкам* 'brother-in-law (wife's elder brother)'
- WeZ = HeZ MariM *oǻaka*, H *oǻaka* ← Chu dial., cf. lit. *хунакам* 'sister-in-law (wife's elder sister)'
- eBW MariM *jeŋga*, H *jeŋgä* ← Ta *ӂиӈгии*, *ӂиӈгэ(ӳ)* 'elder brother's wife' perhaps via Chu, cf. *инке* 'sister-in-law (elder brother's wife)'
- eZH MariM *kurska*, H *kə̑rska* (←)[11] Chu *kərü* 'Bräutigam, Schwager'

11. The Mari word is structurally obscure, but the stem is ultimately from Chuvash. We have not included the word in the research material used in this study.

2. Spouse's younger sibling or younger sibling's spouse in Mari

- WyB = HyB MariM *pörâž*, H *pörâž* (not known to be borrowed)
- WyZ = HyZ MariM *nuδo*, H *nuδâ* (inherited Uralic word)
- yBW MariM *šeške*, H *šeškə* (not known to be borrowed)
- yZH MariM *βeŋe*, H *βiŋgə* (inherited Uralic word)

The terms for 'spouse's elder siblings' and 'elder sibling's spouses' are typically borrowed in Mari, whereas the terms for their younger counterparts are usually either inherited Uralic words (in the case of WyZ and yZH) or at least are not known to have been borrowed from anywhere (in the case of WyB and yBW). One could perhaps argue that the borrowing of elder affinals from Chuvash (and in a single case perhaps from Tatar) introduced the relative age distinction to Mari, after which this feature spread to existing native terms and produced the dichotomy we find in Mari today. It might also very well be that contact with the Turkic languages only reinforced a distinction already present in Mari.

The same pattern repeats between eZ 'elder sister' and yZ 'younger sister'. The word for 'elder sister' in Mari, M *aka*, H *äkä*, was borrowed from Chuvash and the existing word, MariM *šüžar* 'younger sister', MariH *šâžar* 'id.' (itself originally a loanword, but probably predating the Chuvash contacts) in turn presumably narrowed in meaning from 'sister' to 'younger sister'. This pattern does not hold all the way through borrowed consanguineal and affinal kinship terms in Mari, the most notable counterexample being eB 'elder brother' and yB 'younger brother'. The term used for eB is possibly an old Uralic kinship term or at least does not have a credible loan etymology, M *iza*, H *əzä* < PM **ĭćä* 'elder brother; father's younger brother' (UED: 30–32), whereas the term for yB, M *šoľo*, H *šoľa*, *šoľâ*, is a loanword from Chuvash. Despite this one obvious counterexample, the pattern is rather pervasive. However, it must be said that Mari is rather the exception in the symmetry and uniformity of its borrowed kinship terms in comparison to, for example, the Mordvin languages, where the kinship system seems to have been more in flux with different layers of loanwords present.

The most frequently borrowed single term for 'wife's brother' is Russian *шурин* 'brother-in-law (wife's brother)' that has been independently borrowed by both the Mordvinic languages Erzya and Moksha and by Komi. It is perhaps interesting to note that none of the languages in our material has borrowed the "mirror image" of this kinship term, i.e. Russian *золовка* 'sister-in-law (husband's sister)', which seems to correlate with the fact that

'husband's sister' is clearly the category with the smallest number of loanwords of spouse's siblings. This seems to be an even more general trend. In general, the Russian kinship terms denoting the wife's relatives have been more attractive objects of borrowing, even so much so that the Russian words for the husband's relatives, *свёкор* 'husband's father', *свекровь* 'husband's mother', *деверь* 'husband's brother', and *золовка* 'husband's sister' do not seem to have been borrowed by any of the Uralic languages we surveyed. Even languages such as Komi, which has borrowed all of its kinship terms denoting the wife's relatives from Russian, has not borrowed any of the terms denoting the husband's relatives from Russian and instead uses native derivatives and compounds.

3. Wife's parents and siblings in Komi

- *ťesť* 'father-in-law (wife's father)' ← Russian *месть* 'id.'
- *ťęšа* 'mother-in-law (wife's mother)' ← Russian *мёща* 'id.'
- *šurin* 'wife's brother' ← Russian *шурин* 'id.'
- *svesťa* 'wife's sister' ← Russian *свестья* 'id.'

4. Husband's parents and siblings in Komi

- *ajka* 'father-in-law (husband's father)'
- *eńka* 'mother-in-law (husband's mother)'
- *piver* 'husband's brother'
- *ajanjv* 'husband's sister'

It is not immediately obvious why this should be the case. In general, it is difficult to determine conclusively how certain features have come about in kinship terminology, especially as correlation does not necessarily mean causation. The fact that wife's relatives in Komi are borrowed from Russian might mean that Komi men having Russian spouses was what first introduced these terms to Komi, and intermarriage between Komi-speaking men and Russian-speaking women was more common than intermarriage between Komi-speaking women and Russian-speaking men. Any such analysis is, however, bound to be speculative in nature and also too simplistic to accurately describe the contact situation as a whole in any meaningful way. Whatever the explanation, the dichotomy is surprisingly clear-cut in Komi.

Whereas some of the languages, like Mari and Komi, have only one clear source for the borrowed kinship terms, Chuvash in the case of Mari

and Russian in the case of Komi, the situation in Mordvin is more heterogeneous. Russian loans represent only the most recent layer; before that Mordvin was in contact with the Turkic languages of the Volga area, (Mishar) Tatar and Chuvash, whence it also borrowed several kinship terms. Different words for 'wife's brother' illustrate the influences and overall situation quite well.

5. Wife's brother in Mordvin

- WeB MdE *aľa*, M *aľǵä* (no convincing loan etymology)
- WyB MdE *baľźa*, M *baźä*, *päľźä*, *paźä* ← Mishar Tatar *baźa* 'Mann der Frauenschwester'
- WB MdE *šurin*, M *šuŕin*, *šuŕəń* ← Russian *шурин* 'id.'

The most recent of the loanwords is Russian *шурин* 'brother-in-law (wife's brother)'. Like the Russian loan original, the word has no relative age distinction in Mordvin, despite the fact that age distinction is otherwise heavily featured in Mordvin affinal and consanguineal kinship terms alike. The Russian loanword has not replaced the earlier terms for 'wife's brother' that have relative age distinction, but it has superimposed itself onto the existing system that consisted of WeB MdE *aľa*, M *aľǵä* and WyB MdE *baľźa*, M *baźä*, *päľźä*, *paźä*, a loan from Mishar Tatar. We have no information on how stable such a system is, whether the Russian term is, for example, edging out the more specific terms or whether they still serve a useful purpose not being full synonyms with the newest addition. It is, in any event, interesting to note how clearly the different contacts are still visible within the Mordvin kinship terminology.

It is unfortunately not possible to fully compare our numbers against WOLD's borrowed scores, as they only include a single kin category 'sibling-in-law' with a borrowed score of 0.12 (see Tadmor 2009 for further details on how the borrowed scores were calculated in WOLD). Even as a collapsed category, 'sibling-in-law' does not come anywhere close to being the kinship category with the largest number of loanwords among the world's languages.[12]

12. In WOLD in the semantic field of kinship, the categories which have the highest borrowed scores are 'family' (0.42), 'relatives' (0.40), and 'descendants' (0.35). Specific kin categories with the highest borrowed scores are 'uncle' (0.30), 'father's sister' (0.28), and 'grandmother' (0.27).

3.1.2. Borrowed terms for 'husband' and 'wife'

Among the categories where borrowing most often occurs, are the categories for 'husband' and 'wife'. It is perhaps interesting to ponder reasons as to why these particular categories have one of the largest number of loanwords. *A priori*, it seems reasonable to assume that the reasons are either 1) language-external social factors, i.e. explained by intermarriage between two linguistic groups or by otherwise close linguistic contact or 2) language-internal as in due to polysemy and semantic change etc. In the following, we will examine how many of the loanwords for 'husband' and 'wife' can be explained with language-internal factors in our material. The effects of semantic change have often been ignored in loanword typology.

The word for 'husband' in our material, whether borrowed or not, is rarely if ever strictly monosemic. Words denoting men often develop polysemy that 'husband' is a part of and the most common cross-linguistic semantic patterns, including synchronic polysemy and semantic change (perhaps better characterized as diachronic polysemy), are found in our material. We should first take a look at the most common tendencies concerning semantic shifts and borrowability in the world's languages.

In the *Database of Semantic Shifts in Languages of the World* (DatSemShift), 'husband' most commonly co-occurs with 'man' (43 languages). In the 20 cases for which the direction of the semantic shift is reported in DatSemShift, 'husband' always develops secondarily from 'man'. The borrowed scores of 'man' and 'husband' in WOLD are 0.10 for 'man' and 0.20 for 'husband'. To try to put the WOLD's borrowed scores into perspective, of the 41 languages, the word for 'husband' was reportedly either clearly or probably borrowed in 13 languages. The word 'man' was either clearly or probably borrowed in 5 languages. Considering that words meaning 'man' are two times less likely to be borrowed than the words meaning 'husband', the cross-linguistically common semantic shift from 'man' to 'husband' is probably not a very significant factor alone in explaining how 'husband' is one of the categories with the largest number of loanwords in the Uralic languages.

Another co-occurring polysemy according to DatSemShift that is also found in our material is that between 'husband' and 'old man'. In DatSemShift 'old man' and 'husband' are polysemous in 28 languages, with the meaning 'husband' developing from the meaning 'old man' in 15 languages. In general, 'husband' and 'old man' have very similar borrowed

scores with the latter closely edging out the former with 0.23 according to WOLD. The third quite clear polysemic pattern is between 'husband' and words denoting men of some kind of elevated social standing, i.e. 'master', 'owner', 'head of household', 'host', 'lord', etc. In DatSemShift there are 38 languages where this kind of polysemy occurs (examples can be found under 'owner'). The borrowed score of these words varies, but it is generally either equal with 'husband' (0.20), cf. 'host' (0.21) or even noticeably higher, cf. 'chieftain' (0.34), 'master' (0.38).

Perhaps unsurprisingly, 'wife' exhibits most of the same semantic patterns symmetrical with 'husband' in that the most common polysemy is between 'wife' and 'woman' (44 languages in DatSemShift). 'Wife' also shows a rather similar borrowed score of 0.18 in WOLD to 'husband's' 0.20. Words for 'woman' are borrowed slightly more often (0.16) than words for 'man' (0.10). Similarly to the polysemy of 'old man, husband', 'old woman, wife' is also a fairly typical meaning pair according to DatSemShift (15 languages). The borrowed score of 'old woman' in WOLD is 0.13. The third most common polysemic co-occurrence is between 'wife' and 'house, dwelling' (10 languages). This pattern, although interesting in itself, is not found in our material.[13] The fourth and fifth most common polysemy, again quite similarly to 'husband', is between 'wife' and 'mistress of a house' (5 languages) and 'owner' (4 languages).

In many cases, it is not easy to untangle the historical meanings from one another. It can, however, be established through etymological research that at least some of the terms for 'husband' and 'wife' in Kinura's materials were not initially kinship terms (at least four cases for 'husband' and three for 'wife'). They acquired their current meanings 'husband' and 'wife' only after having been borrowed, following some common cross-linguistic semantic shifts mentioned above (e.g. the meaning 'husband' being born out of 'man', 'old man', or 'head of the house'/'master'/'host'), and in this sense we are actually not dealing with the borrowability of kinship terms *per se* but rather with borrowing in general.

At least in four cases in our material 'husband' is clearly a secondary development brought on by semantic change. It perhaps comes as no surprise that these secondary developments follow more or less the same

13. According to DatSemShift, instances of polysemy between 'wife' and 'house, dwelling' are found in India, China, Korea, and Japan.

semantic patterns as listed above, the meaning 'husband' being born out of 'man', 'old man', or 'head of the house'/'master'/'host'.

In the first two cases the secondary development of 'husband' is from 'man' (in Mordvin) or from '(young) man' (in Mari). MdE *miŕďe*, M *miŕďä* has acquired its current meaning 'husband' through semantic change and at an earlier date the word probably was polysemous meaning 'man, husband' (or 'human; man, husband') considering that the loan original is nowadays usually identified as Pre-Indo-Iranian **mérto-* > Old Indic *márta-* 'mortal, human' (Holopainen 2019: 143–146). This interpretation is not without its difficulties, however.

The second case of secondary development of 'husband', also from '(young) man' in our material is in MariM *marij* 'Mari; man, husband', MariH *marə̑*. The word is used as an endonym by the Mari people themselves, so it seems reasonable to assume that the word initially referred to 'man' as ethnonyms developing from words meaning 'man, human' are a common occurrence unlike ethnonyms developing from words meaning 'husband'. The Mari word is usually thought to have been borrowed from an Iranian source representing a reflex of PI/PII **mar(H)ya-* > Young Avestan *mairiia* 'Schurke, Bube', Old Indic *márya-* 'Jungmann, Jüngling' (Holopainen 2019: 135–137), although given that the Mari vowel is atypical of Pre-Proto-Mari lexicon, it is unlikely that Proto-Indo-Iranian and Proto-Iranian could be the source. Rather, the word has entered the Mari language rather recently either directly or indirectly from an unidentified Iranian source.

The third case of secondary development of a term for 'husband' comes from Udmurt. This time the polysemy is between 'husband' and 'old man', cf. Udm *kart* 'муж, супруг' ← Ta *kart* 'старик' (Csúcs 1990: 207). No further examples of a shift from 'old man' to 'husband' can be found in Kinura's research materials. Referring to (one's) husband as 'old man' is noted to be somewhat widespread in Finnish dialects as well, cf. Fi *äijä* generally 'old man; geezer, gaffer', in western dialects also 'husband', *ukko* generally 'old man, gaffer', dialectally also 'husband', and *faija* both 'old man' and 'husband' in the Porvoo area, etc. (Nirvi 1952: 18–32). These are often used in a playful manner, but also partly as euphemisms brought on by affection. Words denoting 'old man' and especially 'old woman' have a tendency to undergo pejoration and it is usually dependent on the level of pejoration whether or not any given word denoting 'old man' or 'old woman' can be used to refer to one's husband or wife (op. cit.).

In the fourth case the meaning 'husband' developed secondarily from a meaning referring to a man with an elevated social status: North Saami *isit* 'head of the household; man, husband' is borrowed from Finnish *isäntä* 'master, lord (of a household); host' (Sammallahti 1998: 240). It is difficult to ascertain at what point exactly the word came to mean 'husband' in North Saami, as the word has been used for one's husband or father-in-law, usually in a way to convey a certain dignity, reverence, and distance in Finnish dialects whence the North Saami word was originally borrowed. Nowadays referring to one's husband as *isäntä* in Finnish is done more tongue-in-cheek.

'Wife' has also developed secondarily. 'Wife' and 'old woman' intertwine in the same way 'old man' and 'husband' do and often undergo pejoration as mentioned. At first glance, the idea that MariM *βate* 'wife', MariH *βätə* was borrowed from Chuvash *вамӑ* 'old, old (person)' (Räsänen 1920: 120) strikes one as semantically peculiar. Given that the polysemy 'old woman, wife' is commonplace (see above), the semantics become less of an issue.[14]

In DatSemShift, the fourth and fifth most commonly occurring polysemy is between 'wife' and 'mistress of a house' or 'owner'. There are at least two cases of borrowing in our material where 'wife' has clearly been borrowed from a word that primarily refers to a woman of elevated social standing, cf. SaaN *eamit* 'housewife; (female) owner; solitary woman who does her own cooking; wife' ← Finnic, Fi *emäntä* 'lady (of the house); housewife; hostess, matron; wife, spouse' (SSA 1: 104–105; Sammallahti 1998: 240) and MdE *koźejka*, *koźajka* 'wife' ← Russian *хозяйка* 'hostess', coll. 'wife' (Mészáros 2001: 174). In the case of North Saami *eamit*, it is yet again difficult to discern whether the meaning 'wife' developed independently after the borrowing or whether it was influenced by the similar use present in Finnish dialects or even borrowed as such.

In sum, the amount of loanwords in the categories 'husband' and 'wife' is at least partly explained by purely language-internal factors, i.e. by the fact that 'husband' and 'wife' often develop secondarily from a number of primary meanings such as 'man', 'old man', 'head of the household', 'host'

14. One might add that context matters here. Chuvash loanwords are a common occurrence in Mari, in fact Mari has borrowed roughly 10% of its vocabulary from Chuvash. If this was a more isolated loan etymology, we would perhaps be less convinced of its validity.

or 'woman', 'old woman', 'mistress', 'hostess'. Some of these primary meanings are also clearly more likely to be borrowed than 'husband' and 'wife' themselves.

It is worth pointing out here that simply looking at raw numbers and answering the question "is the word currently occupying this semantic slot a loan?" will yield a number that might not be all that representative of the borrowability of a given kinship term. For example, in our material it happens that 'sister' has been borrowed once or twice (PF **sisar/*sęsar* ← Baltic), while 'younger sister' has been borrowed at least three times (MdE *sazor* 'younger sister', M *sazər*, MariM *šüžar* 'younger sister', MariH *šâžar*, Udm *suzer* 'younger sister' are separate loanwords from (Indo-)Iranian **swasar-* 'sister'). The numbers in Uralic languages seem to stand in stark contrast to the borrowability rates one finds globally.

In WOLD 'sister' has a borrowed score of 0.12 while 'younger sister' only has a borrowed score of mere 0.01. Interestingly, however, words in Uralic languages in all likelihood came to mean 'younger sister' only secondarily. It has been argued that the words initially did not have age distinction and simply meant 'sister', and only developed their current meaning as a result of contact with the Turkic languages (Holopainen 2019: 224; Metsäranta 2023: 162–167). In other words, if we account for semantic change, the Uralic languages are actually not an anomaly when it comes to borrowability rates between 'sister' and 'younger sister' but rather conform to global tendencies. Ideally, it would be good to take the possibility of semantic change into account when examining the borrowability rates of all items but, unfortunately, this is often too laborious and open to interpretation in practice.

3.1.3. Borrowed terms for 'grandchild'

One of the most commonly borrowed kinship terms in our material is that for 'grandchild'. In many of the categories, borrowed kinship terms include different terms borrowed from various languages at different times; in the case of 'grandchild' the borrowability in our material is entirely due to the same, originally Slavic, kinship term being borrowed congruently into Uralic languages. Komi *vnuk*, MariM *unə̑ka*, H *ə̑nə̑ka*, MdE *nuka*, M *unək* and Veps *vunuk* are borrowed from Russian *внук* '(male) grandchild'. Hungarian *unoka* is likewise a Slavic loanword, cf. Serbo-Croatian *unuk* 'grandchild' (EWUng: 1578). The Russian word has been very

expansive and has been borrowed into other non-Uralic languages as well, cf. Ta *оныκ*, Chu *мӑнук*. Alongside the masculine *внук*, Komi seems to be the only one that has also borrowed the feminine version from Russian, Komi *vnučka* '(female) grandchild' ← Ru *внучка*. In general, the word denotes grandchildren of both sexes in the target languages.

Despite the fact that most of the words have ultimately been borrowed from Slavic, it seems unlikely that this modern Russian word is straightforwardly the loan original for most of the Uralic words, although it is often stated as such: Russian *внук* → MdE *nuka*, M *unək* (Mészáros 2001: 171) and MariM *unə̑ka*, H *ənə̑ka* (Savatkova 1969: 92). Only the Komi word has quite clearly been borrowed from a form that is identical with the modern Russian word and as such can be a very late addition to the lexicon. The rest of the words are more open to interpretation. The Mordvin words quite clearly represent two separate loanwords, as the word-initial cluster *vn-* has been substituted in two different ways, in Erzya by simplification and in Moksha by vocalization of *v* to *u*. Vocalized forms, such as *unuk*, are found in various Russian dialects as well. Their distribution (Pskov, Kaluga, and Stavropol) does not seem to coincide closely enough with any of the vocalized forms on the Uralic side to have any direct connection.

The wide distribution in Mari dialects, as well as the vowel correspondences regularly reflecting Proto-Mari first-syllable **ŭ* (with the exception of NW *onoka*) (TschWb: 873), seem to indicate that at the time of the borrowing of this particular word, Mari was still a fairly uniform language, phonologically perhaps even identical with Proto-Mari. If Russian *внук* were borrowed separately into already diverged Mari dialects, one would expect to find more variation in the way in which *vn-* was substituted like we find in Mordvin between Erzya and Moksha. It should also be said that there seems to be no phonological objection to regarding the Proto-Mari **ŭnəka* as an even earlier loanword similar to Old East Slavic **vŭnukŭ* (PM **w-* at least is irregularly dropped in certain native words as well, cf. PU **worka-* 'sew' > PM **ŭrge-*, PU **workama* > PM **wŭrgem* 'clothes'). Veps *vunuk* is also difficult to interpret. Perhaps the word was borrowed from Russian with the initial *vun-* being a substitution for *vn-*, or it was borrowed from an earlier form more similar to Old East Slavic. The final *-a* in Erzya and Mari might indicate that the words were borrowed from the genitive form *внука* instead of the nominative.

Why, then, has 'grandchild' been such an attractive term for borrowing? Questions of why are always difficult to answer definitively when it

comes to borrowing. One could perhaps claim that the fact that 'grandchild' specifically has been so prone to borrowing somehow reflects the reality in which these minority languages exist, and where language change to Russian has been a common occurrence, resulting in a situation where the grandparents speak the minority languages while their grandchildren are often Russian-speakers (see also Section 3.1.4 about the borrowing of a term for 'grandmother' from Russian). Although this might be partly true for the current situation, it would be rather anachronistic to project the current situation of these languages that far back into the past for it to be relevant for most of the loanwords in question. It seems that many of the languages that have borrowed the Russian word also have had an existing word for 'grandchild' that has not completely fallen out of use, cf. MdE *bujo* 'grandchild', Komi *peľ̮en šuį́ś* 'grandchild' (*peľ̮-e̮n* grandfather-INSTRUMENTAL *šu-į́ś* call-PARTICIPLE.PRESENT, lit. "someone who calls someone else grandfather"). Thus, they seem to have had no real need to borrow the word and the concept could have been expressed some other way.

One explanation could be that the Russian word is just convenient. It is short and phonologically simple, or at least easily adaptable, and as such quite easily adopted even with limited proficiency in the language. It is however difficult or even impossible to assess such nebulous concepts as convenience, especially in a historical context. All in all, the borrowability of 'grandchild' is most likely due to a combination of sociolinguistic and practical factors.

3.1.4. Borrowed terms for 'grandmother'

A term for 'father's mother' (FM) is seemingly borrowed more often than a term for 'mother's mother' (MM), but on closer inspection this difference turns out to be nonexistent. According to Mészáros (2001: 170), which we have used as the source for our data on Mordvin, the word *baba* is in both Erzya and Moksha used only of 'father's mother', which is true for a number of Erzya and Moksha variants. However, in many other variants no such distinction is made and the word simply refers to 'grandmother' in general (MdWb: 108). Both Erzya and Moksha have terms which specifically refer to 'mother's mother', in Erzya *vasolbaba* or *mazibaba* (*vasolo* means 'distant, far away' and can be used as a way to specify relatives on the mother's side, cf. *vasolboďa* 'mother's father', *mazi*

'beautiful')[15] and in Moksha *ščava* (an (obscured) compound, the first component of which is cognate with E *čiče* 'older sister's husband' and the second with *ava* 'woman, wife; mother, mother-in-law').[16] In other words, *baba* can mean either 'father's or mother's mother' in both Erzya and Moksha, but if the distinction needs to be made, it is done to denote mother's mother. In Erzya it is done by qualifying the word *baba* with *vasol-* or *mazi-* and in Moksha by using an independent lexeme. Perhaps this is why Mészáros reports *baba* to mean 'father's mother', since as a standalone word it can refer primarily to 'father's mother' but also more broadly to 'grandmother'. In any event, we can conclude that despite the different numbers, there is no actual discrepancy in the borrowability of 'father's mother' and 'mother's mother' and the distinction we find in some Erzya and Moksha variants has come about secondarily.

Most of the Uralic languages in our data set do not make a distinction between FM and MM. This is the case, for instance, with SaaS *aahka* 'bestemor; gammel kvinne; (dial.) woman, wife' (< PS **ākkā* 'wife; old woman' ← Finnic, cf. Fi *akka* 'wife; old woman') and Finnish *mummo*, *mummu* 'grandmother; old woman' (← Swe dial. *mummu*, *mumm* = *mormor* 'mother's mother'), but also in more eastern languages discussed in more detail below.

As with 'grandchild', 'grandmother' also appears in our materials as one of the most borrowed categories largely due to the popularity of a single term borrowed from Russian (*баба* '(informal) old woman, (Lallwort) grandmother, (coll.) woman)': Hill Mari *papa* 'grandmother; old woman', Komi *bab* 'grandmother; old woman', MdE M *baba* with varying dialectal meanings 'old woman; wife; grandmother; father's mother; mother-in-law; father's uncle's wife; midwife', and Veps *bab* 'grandmother; old woman; midwife'. With the exception of Meadow Mari, the languages that have borrowed the term 'grandchild' from Russian have borrowed the term for

15. Interestingly, a similar expression exists in Meadow Mari, *koβa* 'grandmother', *mündâr koβa* 'mother's mother' (*mündâr* 'distant, far away'). This in all likelihood reflects the fact that a wedded couple tended to live with the husband's family away from at least the immediate vicinity of the mother's relatives, making them more "distant" geographically speaking.
16. Similarly to Moksha, reflexes of PU **čečä* are used to convey the meaning 'relative of mother's side' in compounds also elsewhere in Uralic, cf. MariH *papa* 'grandmother', *čəžə papa* 'mother's mother', Udm *čuž-anaj* (*anaj* 'mother') 'mother's mother', *čuž-murt* 'mother's brother' (*murt* 'human').

'grandmother' from Russian as well. The overlap and correlation is interesting, but as discussed in the previous section, causal links are difficult to establish.

'Grandmother' being featured among the kinship categories with the largest number of loanwords in the Uralic languages is in line with what has been found in earlier typological surveys with a global sample. In WOLD, 'grandmother' has a relatively high borrowed score of 0.27 and it is among the kin categories with the largest number of loanwords in the WOLD dataset (Honkola & Jordan, in press, Table 1). Words denoting 'grandmother' can change rather quickly with one term falling out of use and being replaced by another term regardless of whether they are borrowed or not. One possible explanation for this relatively high turnover is that words meaning 'grandmother' are often polysemous with 'old woman'. Words denoting women often can go through pejoration, as a result of which they are no longer suited to be used as kinship terms.

One of the Proto-Finnic terms for 'grandmother' was probably **ämmä*. Some of its reflexes still mean 'grandmother' in Finnish dialects and in Karelian. The semantics of Vote *ämmä* 'mother-in-law' and Est *ämm* 'id.' can be explained as secondary, as it can be reliably assumed that **anoppi* was the term for 'mother-in-law' in Proto-Finnic based on its wide distribution elsewhere in Uralic. The meaning of Livonian *ämma* 'mother' (< PF **ämmä*) might be due to confusion with *jemā* 'mother' (< PF **emä* 'mother'). In standard Finnish *ämmä* is nowadays categorically derogatory, cf. *pahasuinen ämmä* 'foul-mouthed bitch' and consequently has fallen out of favor as a kinship term. The Finnish word for 'mother' *äiti* is a Germanic loanword (cf. PGrm **aiþīn ~ aiþōn* 'mother' > Gothic *aiþei* 'mother', ON *eiða* 'id.'). It has largely replaced the earlier PF **emä* 'mother' (> Est *ema* 'mother', Liv *jemā* 'id.') in this semantic slot in Finnish, although this is not the case throughout Finnish dialects where *emä* was a neutral term for mother, especially in the Karelian isthmus and neighboring areas (SMS: s.v. *emä*).

Pejoration has probably played a part in why *äiti* came to replace *emä*. It is unlikely that the meaning 'mother' could produce pejoration, rather the explanation for why *emä* in some Finnish dialects is negatively connotated and occurs as part of pejorative expressions is probably due to the word's polysemy, which covers both 'mother' and 'female animal', i.e. "animal mother". Words meaning 'female animal' are often used as insults or in an otherwise pejorative manner, cf. Russian *сука* 'bitch (female

dog); (vulgar) bitch (contemptible person)' (the Russian word is ultimately cognate with Swe *hund* 'dog', Latin *canis* 'id.', etc.). Similar usage where 'female dog' is used as an insult is found in many languages, cf. English *bitch*, Finnish *narttu*. Not all words denoting women are likely to undergo pejoration; it in large part depends on the polysemy of the word. It is unlikely that a word meaning only 'grandmother' could come to be used as a derogatory term on its own, rather any such use results from the polysemy of the word, most often from co-occurring meanings such as 'old woman'. If pejoration occurs, the resulting lexical gap can be filled with a loanword, but pejoration and borrowing are two independent processes.

3.2. Which languages have borrowed kin terms?

The Uralic languages vary notably in how many kin categories they have a borrowed kin term. The Mordvin languages and Hill Mari have the largest number of categories with loans (ca. 20 categories in each) while the Samoyedic languages Tundra Nenets, Taz Selkup, and Nganasan do not have any, and Forest Enets has only one (Table 3). The same general pattern holds also when we take into account the size of the kin category inventory in a language, that is, when calculating the percentage of kin categories with loanwords from all kin categories existing in the language in question (Table 3). Taking the inventory size into account is necessary, as the number of kin categories in a language may vary depending, for example, whether there is relative age distinction for sibling terms (i.e. instead of having a term only for 'sister' and 'brother' – two categories – there are terms for 'elder sister', 'younger sister', 'elder brother', and 'younger brother', so four categories).

On average 20.4% of kin categories have known loanwords in our sample of Uralic languages (with a median of 19.1%). This means that, on average, one fifth of kin categories in the Uralic languages has a loanword. In eight languages the percentage is as high as ca. thirty or more; these eight languages include languages from all the western subgroups of the Uralic family (Finnic: Veps 31.0%, Saami: North Saami 33.3% and South Saami 29.2%, Mordvin: Erzya 40.7% and Moksha 53.5%, Mari: Hill Mari 36.7%, and Meadow Mari 29.1%, Permic: Komi-Zyrian 39.4%; Table 3). The average percentage (20.4%) is higher than what was found with the global dataset of WOLD. In the calculations made by Tadmor (2009) the semantic field of kinship was found to have 15% of loanwords, whereas in Honkola & Jordan

Table 3: Frequency of borrowed kin terms in Uralic languages. # of kin categories with loanwords presents the raw count of categories with loanwords in each studied language. % of kin categories with loanwords shows the proportion of kin categories with loanwords from all kin categories documented in a language. The table has been sorted by values in the latter column.

	# of kin categories with loanwords	% of kin categories with loanwords
Moksha Mordvin	23	53.5
Erzya Mordvin	22	40.7
Komi-Zyrian	15	39.4
Hill Mari	18	36.7
North Saami	14	33.3
Veps	9	31.0
South Saami	14	29.2
Meadow Mari	16	29.1
Udmurt	13	22.6
Skolt Saami	10	19.2
Sosva Mansi	7	18.9
Finnish	6	14.6
Livonian	5	13.5
Hungarian	5	12.8
Estonian	3	6.8
Forest Enets	1	4.5
Kazym Khanty	1	2.8
Tundra Nenets	0	0
Taz Selkup	0	0
Nganasan	0	0

(in press), who used a subset of the kin categories included in the WOLD data, the number of loanwords dropped to 13.6%. It is likely that the differences in kin categories included in these studies partly explain the differences in the percentages, but as the data-collection procedure and criteria of what counts as a loanword is the same, these numbers should roughly be comparable with each other.

In what follows we will be looking at the possible reasons why kinship terms have been so readily borrowed in some of the languages of our sample and, conversely, why in some of the languages in our sample there are so few borrowed kinship terms. These questions obviously are very much tied to the historical sociolinguistic situation, which we do not and cannot know in detail with any level of certainty. For that reason, much of what follows will be inherently speculative. We can make certain assumptions about the nature of contacts, for example, between Mari and Chuvash based on the amount and type of linguistic influence observed as a result of those contacts, but we cannot, for example, know what the percentage of medieval Mari people bilingual in Chuvash was. Comparisons are also drawn to the overall number of loanwords in a selection of languages in order to provide a wider overall perspective.

As mentioned earlier, the Mordvin languages, Erzya and Moksha, have the largest number of kin categories with loanwords (Table 3). The effect of borrowing on Mordvin kinship terminology has been a long, chronologically layered, and gradual process. In Mordvin, the majority of these loanwords are from Russian, but the Mordvin languages have also borrowed kin terms from (Mishar) Tatar and Chuvash. Mordvin also has a few loanwords that clearly predate what could feasibly be considered Mordvin and were likely borrowed already into Pre-Mordvin, i.e. a dialect of Proto-Uralic that would eventually give rise to Proto-Mordvin and the modern Mordvin languages. These loanwords include E *miŕďe* 'husband', M *miŕďä* 'id.' < Pre-Mordvin **mertä* ← PII **m̥rtá-* 'dead' or Pre-Indo-Iranian **mérto-* 'mortal, human' (Holopainen 2019: 143–146), E *sazor* 'younger sister', M *sazər* 'id.'< Pre-Mordvin **sasar* ← PII/PI **swasar-* 'sister' (Mészáros 2001: 172; Holopainen 2019: 222–224; Metsäranta 2023: 162–167) and E *ťejťeŕ* 'daughter', M *śťiŕ* < Pre-Mordvin **tüktärə* ← Baltic, cf. Lith *duktė* : *dukter-* (Mészáros 2001: 171; Metsäranta 2023: 167–172) (cf. also Appendix 2). All the different prehistorical and historical loanword layers, (Indo-)Iranian, Baltic, Chuvash, Tatar, and Russian (Bartens 1999: 13–19; Grünthal 2012: 307) are more or less featured also in borrowed kinship terminology, although for certain words to be counted as kinship terms is more a historical happenstance brought on by semantic change rather than anything else, cf. E *miŕďe*, M *miŕďä* (see Section 3.1.2).

The presence of kin terms among some of these earlier loanword layers is somewhat surprising. Independent early (Indo-)Iranian loans in Mordvin are few (7 to be exact) and typically denote either material and

immaterial culture: 'goat', 'god', 'gold', 'husk of grain', and 'iron' (Holopainen 2019: 339). Given the amount of words and their semantics, one could justifiably argue that Pre-Mordvin only had casual, perhaps even indirect, trade contacts with (Indo-)Iranian. The word denoting sister fits poorly into this scenario, as its presence would imply a familial relationship. Perhaps the remaining few (Indo-)Iranian words represent just the tip of the iceberg, i.e. perhaps the bulk of loanwords disappeared and the relationship between the Pre-Mordvin and (Indo-)Iranian was closer than the amount of loanwords suggests (although it will become clear in later paragraphs that the amount of loanwords is a poor metric in trying to define the sociolinguistic nature of contacts). It is also entirely possible that the context for borrowing was not familial, but rather the word which nowadays means 'sister' was earlier used in addressing or showing reverence, as such polysemy does occur in world's languages, e.g. Brahui *addī* 'sister; term of address to a woman' (DatSemShift).

Geography is probably the main answer as to why Mordvin has borrowed words from different sources at different times. It is thought that Mordvin and its linguistic predecessor have been spoken in the area between Oka and Sura rivers for thousands of years (Bartens 1999: 13). This location, close enough to the European steppes to expose the Mordvin speakers to different linguistic influences but far away enough to prevent them from getting drawn into the nomadic lifestyle of the steppes, has undoubtedly been a major contributor. Other contributing factors are less easy to identify.

The other major branch of Uralic that has borrowed its kinship terms *en masse* is Mari. For Mari, the most central lexifier has been the Chuvash language. If in Mordvin the process of borrowing has been more gradual in nature, in Mari the effect of borrowing has been more abrupt. As attested by a number of Middle Mongolian loanwords that have found their way into Mari via Chuvash, the contacts between Mari and Chuvash can hardly predate the Mongol conquest of Volga Bulgaria in 1236 (Bereczki 1994: 14–16).

In general, Chuvash loanwords are common throughout the Mari lexicon. The overall amount of Chuvash loanwords in Mari, calculated from *Tscheremissisches Wörterbuch* (TschWb), is around 500 (Saarinen 2010: 339). Chuvash loanwords have a wide distribution, which is usually thought to signify that they were borrowed before the disintegration of the Mari-speaking area starting in the late 16th century. We can therefore

state with some level of confidence that in the course of around 300 years, Mari borrowed around 10% of its basic vocabulary from Chuvash. In total the percentage of borrowed kinship terms is around 30% (Table 3), slightly higher in Hill Mari, and all the terms, with the exception of MariM *marij* 'Mari; man, husband', MariH *marə̑* (< Iranian) and perhaps MariM *jeŋga* 'elder brother's wife', MariH *jeŋgä* (< Tatar), have been borrowed from Chuvash. If anything, borrowing is even more prevalent in kinship terms than elsewhere in the lexicon.

It is interesting to contrast the Chuvash numbers and situation against the Tatar loanwords in Mari. The amount of Tatar loanwords in TschWb is around 700 (op. cit.). There are significant dialectal differences, however, with the amount of loanwords varying from around 200 in Hill Mari to 2100 in the eastern dialects. The uneven distribution quite clearly means that the Tatar loanwords were, for the most part, borrowed only after the Mari people had already become geographically dispersed.

What the Tatar loanwords in Mari demonstrate especially when contrasted with Chuvash, is that the total amount of loanwords, the "raw numbers", is a poor predictor for the borrowing of kinship terms and instead the right type of contacts are needed for the transmission of kinship terms. What exactly was the deciding factor with the Mari contacts between Chuvash and Tatar that resulted in kinship terms being borrowed on a large scale in one but not in the other? One could hypothesize that the pervasiveness of Chuvash influence throughout the Mari lexicon, including kinship terminology, could not have happened without large-scale bilingualism and intermarriage between linguistic groups. This might be true as a general rule, but although bilingualism might be a predictor for the borrowing of kinship terms, it does not necessarily result in borrowing of kinship terms, as we can learn from the Forest Enets example below.

There are probably several historical, geographical, and sociolinguistic factors – and even reasons related to the history of science and availability of research materials – as to why there at least appears to be so few borrowed kinship terms in the Siberian Uralic branches Mansi, Khanty, and Samoyedic. The history of science reason we are alluding to here is that there has been far less etymological research done on Mansi, Khanty, and especially Samoyedic. Although the Samoyedic languages have come more into focus in historical phonology in the last four decades and etymological research has been carried out into their lexicon (Janhunen 1977; 1981; Sammallahti 1988; Aikio 2002; 2006), it is still heavily centered on

inherited vocabulary, i.e. identifying cognates for Samoyedic words in other branches of Uralic and elsewhere in Samoyedic. Language-specific etymology has been almost non-existent and none of the Samoyedic languages have their own etymological dictionaries. The lack of etymological research combined with the fact that lexical sources, i.e. dictionaries, are often modest in scope, at least partly explains why Samoyedic languages seemingly have so few borrowed kinship terms. For example, the dictionary we used for Nganasan, Kosterkina et al. (2001), has around seven thousand words, while dictionaries for many of the minority languages on the European side, North Saami, Mari, Komi, and Udmurt are in the thirty thousand to forty thousand range. This state of affairs obviously has an impact.

Mansi, Khanty, and the Samoyedic languages are spoken in relatively isolated and sparsely populated areas in northwestern Siberia. While these languages are not (necessarily) nowadays as geographically isolated as they were earlier, it must be borne in mind that e.g. Russian – a major source of kin terms for many of the Uralic languages on the European side – has come in contact with these languages only relatively recently, for example with Forest Enets only since the 1950s (Siegl 2013: 36). Thus, Russian has had the potential to be a significant lexifier for many of these languages only for a short while and the result of these contacts has often been rapid language shift to Russian rather than lexical borrowing.

Before intensive contacts with Russian started, Tundra Nenets was the dominant language of the region and Forest Enets speakers usually had good skills in Tundra Nenets. Intermarriage between Tundra Nenets and Forest Enets speakers was common and their progeny was brought up bilingually (op. cit.). Forest Enets has borrowed lexemes from Tundra Nenets, but despite widespread bilingualism, this has not resulted in an influx of loanwords at least in the realm of kinship terminology from one language to another. Additionally, it is interesting to note that even though Forest Enets speakers have also been in contact with Evenki and Dolgan speakers, these contacts have left no linguistic traces, because a Russian-based pidgin, Govorka, was used for interethnic communication with non-Samoyedic peoples (op. cit.). Nowadays, the situation is very different, however. After World War II the use of Forest Enets rapidly declined and language change has taken place, resulting in the younger generation of Forest Enets people being functionally monolingual in Russian (op. cit. 51–55). Thus, it is likely that Forest Enets simply has not had the

time necessary for Russian loans to be disseminated through its lexicon before the language change, and for that reason it does not have a significant amount of such loans.

From Mansi we have a few more examples of how long-lasting contacts and the number of loanwords in themselves are not reliable predictors for the presence of borrowed kinship terms in individual languages. The Mansi people have been in at least some kind of contact with Russians for some 1000 years[17] and even under their rule for 400 years. Despite the fact that there are at least 500 Russian loanwords spread across the Mansi dialects, only one of them is a kinship term (a term for 'father'). A Russian loan for 'father' is found in more than one dialect (Kálmán 1961: 16–24; 129), but not from the variety we collected kinship terms from (Sosva).

The situation between Mansi and Komi is rather similar to that between Mansi and Russian. A significant part of the Mansi populace still resided west of the Ural mountains until the 15th century, in an area between the rivers Kama and Chusovaya (Rédei 1970: 76–77). This is the earliest the Mansi could have been in contact with the speakers of Komi. Considering the fact that 85% of Komi loanwords in Mansi (338 in total) are found in northern Mansi (of which 138 exclusively there), it seems likely that most of the Komi loanwords were introduced into Mansi in Siberia. The majority of the loanwords were probably introduced into northern Mansi by Komi speakers who migrated there from west of the Urals in the course of the 18th and 19th centuries, with the epicenter in northwestern Siberia. All in all, the contacts between Mansi and Komi have lasted for centuries and Komi loanwords in Mansi number in the hundreds. Nevertheless, similarly to Russian loans in Mansi, the number of borrowed kin terms from Komi to Mansi is very low, as the only kinship term we find among them is MsSo *ǭjka* 'man, husband, old man' ← Komi, cf. Komi-Permyak *ajka* 'man, husband', Komi-Jaźva *ajka* 'husband', Komi-Zyrian *ajka* 'husband's father' (Rédei 1970: 91). Russian and Komi loans in Mansi show that even otherwise extensive borrowing does not necessarily manifest itself in kinship terminology, i.e. not all kinds of contacts are conducive for the borrowing of kinship terminology.

17. Although this contact for several hundred years seems to have been mainly "mute fur trade" (Kálmán 1961: 18).

4. Conclusion and future directions

In this paper, we have examined the borrowability of kinship terms in Uralic languages. We found that the kinship categories with the most loanwords are affinal categories, such as those denoting spouse's siblings and sibling's spouses as well as husband and wife. The consanguineal category with the largest number of loanwords was 'grandchild', and terms denoting mother and father were among the most borrowed ones. The Uralic languages with the largest number of borrowed kinship terms were the Mordvin languages Erzya and Moksha, Komi-Zyrian, and Hill Mari. There were several Uralic languages such as Tundra Nenets and Nganasan with zero borrowed kinship terms.

We examined certain contact situations more closely in order to try to determine why some languages have borrowed kinship terms and why some have not. We have not attempted to answer only the question "is the word occupying category X a loanword in language Y?" but have looked at some of the intralinguistic reasons affecting each category such as semantic change as well as extralinguistic factors at play. Lexicon is a huge open-ended system within a system, and researching even a small sliver of it on the level of a whole language family is a tremendous undertaking. As the formation of any part of the lexicon is a long-lasting historical process that is always unique to a specific language, it is very difficult to make generalizations about it. Either the generalizations are too vague to be meaningful, or they are generally true on the macro level but not necessarily true for a specific language. This can be seen from our sample as well. There are languages that have borrowed a large part, half or more than one third, of their kinship terms, there are languages that have borrowed none and everything in between, but this can usually only be determined by taking a closer look at a specific language. We also found that neighboring, understood rather loosely here, languages often are quite similar when it comes to the borrowing of kinship terms.

It was noted earlier (see Section 1) that the most securely reconstructable kin terms in Uralic languages are terms for different in-laws, e.g. PU **ɐppə* 'father-in-law', **mińä* 'daughter-in-law', **wäŋəw* 'son-in-law', etc. At first glance, this etymological observation might seem to be at odds with our general findings that kinship categories such as 'wife's brother', 'sister's husband', 'wife's sister', etc. were among the categories with largest number of borrowing events (Section 3). Given that for the reconstruction of

kinship terms (or any word for that matter), it is not necessary for them to survive in every single Uralic language or even every branch of Uralic, both statements can be true at the same time. As a result, in our language-family-wide study of kinship terms affinal categories had the largest number of loanwords while being more reconstructable for Proto-Uralic than consanguineal categories. This simply means that some languages (especially true for the branches at the far ends of the Uralic continuum, i.e. Saami, Finnic, Mansi, Khanty, and Samoyedic) have preserved the earlier terms while others have borrowed new ones that might or might not have replaced the earlier kinship terms.

The effect of language contact does not limit itself purely to loanwords. Due to the definition of loanword applied here, we had to exclude calques as well as loan blends (derivations and compounds) and phrasal expressions from our examination, although the individual parts they are composed of can be and often are borrowed. We include loanwords, calques, and loan blends in our study where we specifically focus on convergences in Circum-Baltic languages. In that paper we found that certain semantic borrowings actually have a larger spread than loanwords (Milanova et al. submitted manuscript). This emphasizes the need to include also this material when studying how borrowing has affected the kinship terminologies of the Uralic languages as a whole.

Borrowability of kinship terms is only one aspect of kinship terminology that can be studied with our dataset and with the Kinbank database (Passmore et al. 2023). Another aspect that can be studied and on which we currently focus, is to try to reconstruct the Proto-Uralic kinship system or at least parts thereof (Metsäranta et al. manuscript). Until now, Proto-Uralic kinship has mainly been studied from an etymological point of view with the focus on the reconstruction of the kinship terms themselves, while the structure (i.e. which kin categories exist separately and which are merged) has received very little attention. Proto-Uralic kinship can, however, also be examined from the point of view of different structural patterns that can persist even when the term itself is replaced due to borrowing.

As an example of an intriguing point that can be discussed with this approach is the case of terms for 'brother' and 'sister' in Proto-Uralic. By saying that these terms cannot be reconstructed for Proto-Uralic (Aikio 2022: 24), it is already implied that we should be able to reconstruct them. However, distinction of one's siblings by sex into 'brother' and 'sister' is

a distinctly European pattern, and fewer than 20 percent of the world's languages have this type of classification (Murdock 1968: 4). In the Uralic language family the westernmost languages have this European pattern, possibly as a result of borrowing, while in the eastern languages there is more variation including relative age distinction, e.g. 'elder brother/sister', 'younger brother/sister' or 'elder brother/sister' and 'younger sibling'. A culturally unbiased comparative treatment of Uralic kinship terms is needed, as it is not immediately obvious which of the sibling patterns observed in modern Uralic languages is what Proto-Uralic is expected to have had.

Exploring the historical development of kinship patterns is the current focus of our project, but it goes without saying that there is still plenty left to be explored in Uralic kinship terminology and its system within the scope of linguistics, but also with a multidisciplinary approach where genetic, archaeological, and anthropological evidence including residence and marriage patterns are taken into account. For example, studies on how kinship terminologies change both intrinsically and as a result of external contact are needed, and the ongoing change in the Saami system (see Section 1) provides an exceptional possibility to study the topic. While contact studies can give us insight into the (relative) time of contact, a multidisciplinary approach with archaeogenetic research can link the research with both time and space, such as the Proto-Finnic homeland, which has been a hotspot for prehistorical kin-term borrowing. In this way the research which started from individual kinship terms, can give us insight into the lives of the actual people that lived in the past.

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Language abbreviations

Bulg	Bulgarian
Chu	Chuvash
EnF	Forest Enets
Est	Estonian
Fi	Finnish
Hung	Hungarian
KhKaz	Kazym Khanty
KhN	North Khanty
Latv	Latvian
Lith	Lithuanian
Liv	Livonian
LPF	Late Proto-Finnic
MariH	Hill Mari
MariM	Meadow Mari
MdE	Erzya Mordvin
MdM	Moksha Mordvin
MPF	Middle Proto-Finnic
MsN	North Mansi
MsSo	Sosva Mansi
NenT	Tundra Nenets
ON	Old Norse
PGrm	Proto-Germanic
PF	Proto-Finnic
PI	Proto-Iranian
PII	Proto-Indo-Iranian
PM	Proto-Mari
PN	Proto-Norse
PS	Proto-Saami
PSam	Proto-Samoyedic
Ru	Russian
SaaN	North Saami
SaaS	South Saami
SaaSk	Skolt Saami
Scand	Scandinavian
Swe	Swedish
Ta	Tatar
Udm	Udmurt

Kin term abbreviations

f	female (speaker)
m	male (speaker)
BW	brother's wife
C	child
CC	grandchild
DH	daughter's husband
eB	elder brother
eBW	elder brother's wife
eZ	elder sister
eZH	elder sister's husband
F	father
FF	father's father
FM	father's mother
H	husband
HB	husband's brother
HeB	husband's elder brother
HeZ	husband's elder sister
HyB	husband's younger brother
HyZ	husband's younger sister
HZ	husband's sister
M	mother
MM	mother's mother
W	wife
WB	wife's brother
WeB	wife's elder brother
WeZ	wife's elder sister
WyB	wife's younger brother
WyZ	wife's younger sister
WZ	wife's sister
yB	younger brother
yBW	younger brother's wife
yZ	younger sister
yZH	younger sister's husband
ZD	sister's daughter
ZH	sister's husband
ZS	sister's son

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Appendix 1: Kin categories

Table 1: Original 115 kin categories used in the data collection. Distinction based on the gender of the speaker (male/female) was used in the data collection but is not presented here. The list was developed in the Kinbank project (see Passmore et al. 2023 for further details). The categories which do not have kin terms in Uralic languages (cousins by parent's sibling's age, cousins by the relative age of the cousin and co-spouses) are indicated with an asterisk (*).

Description	Parameter
sibling	G
brother	B
sister	Z
elder brother	eB
younger brother	yB
elder sister	eZ
younger sister	yZ
parent	P
father	F
mother	M
child	C
son	S
daughter	D
ancestor	A
grandparent	PP
father's father	FF
father's mother	FM
mother's father	MF
mother's mother	MM
grandchild	CC
son's son	SS
son's daughter	SD
daughter's son	DS
daughter's daughter	DD
father's brother	FB
father's sister	FZ
mother's brother	MB
mother's sister	MZ
father's older brother	FeB
father's younger brother	FyB
father's older sister	FeZ
father's younger sister	FyZ

Description	Parameter
mother's older sister	MeZ
mother's younger sister	MyZ
mother's older brother	MeB
mother's younger brother	MyB
brother's son	BS
brother's daughter	BD
sister's son	ZS
sister's daughter	ZD
older brother's son	eBS
younger brother's son	yBS
older brother's daughter	eBD
younger brother's daughter	yBD
older sister's son	eZS
younger sister's son	yZS
older sister's daughter	eZD
younger sister's daughter	yZD
father's sister's daughter	FZD
father's brother's daughter	FBD
mother's brother's daughter	MBD
mother's sister's daughter	MZD
father's brother's son	FBS
father's sister's son	FZS
mother's brother's son	MBS
mother's sister's son	MZS
*father's older brother's son	FeBS
*father's younger brother's son	FyBS
*father's older sister's son	FeZS
father's younger sister's son	FyZS
*father's older brother's daughter	FeBD
*father's younger brother's daughter	FyBD
*father's older sister's daughter	FeZD
father's younger sister's daughter	FyZD
*mother's older brother's son	MeBS
*mother's younger brother's son	MyBS
*mother's older sister's son	MeZS
*mother's younger sister's son	MyZS
*mother's older brother's daughter	MeBD
*mother's younger brother's daughter	MyBD
*mother's older sister's daughter	MeZD
*mother's younger sister's daughter	MyZD
*father's brother's older son	FBeS

Description	Parameter
*father's brother's younger son	FByS
*father's sister's older son	FZeS
*father's sister's younger son	FZyS
*father's brother's older daughter	FBeD
*father's brother's younger daughter	FByD
*father's sister's older daughter	FZeD
*father's sister's younger daughter	FZyD
*mother's brother's older son	MBeS
*mother's brother's younger son	MByS
*mother's sister's older son	MZeS
*mother's sister's younger son	MZyS
*mother's brother's older daughter	MBeD
*mother's brother's younger daughter	MByD
*mother's sister's older daughter	MZeD
*mother's sister's younger daughter	MZyD
spouse	E
husband	H
wife	W
husband's father	HF
husband's mother	HM
wife's father	WF
wife's mother	WM
brother's wife	BW
sister's husband	ZH
wife's brother	WB
wife's sister	WZ
husband's brother	HB
husband's sister	HZ
*co-wife	co-W
*co-husband	co-H
father's wife (not mother)	FW(notM)
mother's husband (not father)	MH(notF)
son's wife	SW
son's wife's mother	SWM
son's wife's father	SWF
daughter's husband	DH
daughter's husband's mother	DHM
daughter's husband's father	DHF
father's sister's husband	FZH
father's brother's wife	FBW
mother's sister's husband	MZH
mother's brother's wife	MBW

Table 2: Additional categories, i.e. categories which were not included in the Kinbank template but which were added here. The categories are sorted from most to least common in the Uralic family.

Description	Parameter
younger brother's wife	yBW
elder brother's wife	eBW
husband's elder brother	HeB
wife's younger brother	WyB
husband's younger sister	HyZ
elder sister's husband	eZH
wife's elder brother	WeB
wife's elder sister	WeZ
husband's younger brother	HyB
husband's elder sister	HeZ
wife's sister's husband	WZH
younger sister's husband	yZH
wife's brother's wife	WBW
wife's younger sister	WyZ
husband's brother's wife	HBW
husband's sister's husband	HZH
husband's elder brother's wife	HeBW
father's elder brother's wife	FeBW
mother's elder brother's wife	MeBW
father's younger brother's wife	FyBW
father's elder sister's husband	FeZH
mother's younger brother's wife	MyBW
mother's elder sister's husband	MeZH
wife's elder sister's husband	WeZH
husband's younger brother's wife	HyBW
husband's younger sister's husband	HyZH
father's younger sister's husband	FyZH
mother's younger sister's husband	MyZH
elder brother's wife (f speaker)	feBW
wife's younger brother's wife	WyBW
wife's younger sister's husband	WyZH

Appendix 2: Loanwords by branch[1]

Saami

Proto-Saami loans

1. SaaN *áhkká* 'wife; old woman', S *aahka* 'grandmother; old woman', Sk *ä'ǩǩ* 'wife' < PS **ākkā* 'wife; old woman' ← Finnic, cf. Fi *akka* 'wife; old woman' (Aikio 2009: 244)
2. SaaN *bárdni* 'son, boy', S *baernie* 'boy, (unmarried) son', Sk *pä'rnn* 'boy' < PS **pārnē* ← Scand, cf. ON *barn* 'child', Swe *barn* (Qvigstad 1893: 101; Sammallahti 1998: 230)
3. SaaS *dektier*, *daktere* '(married) daughter' < PS **tę̆ktēr*, **tę̆ktārę* ← PN **duhter-* (> ON *dóttir* 'daughter') (Aikio 2020: 17; Metsäranta 2023: 167–172)
4. SaaN *eanu* 'uncle (mother's brother; mother's male cousin; nephew or niece (to their uncle), cousin's child (to their mother's male cousin))', S *jyöne* 'mother's brother or male cousin', Sk *jään*, *jeän* 'maternal uncle' < PS **eanōj* ← PF **enoi* 'maternal uncle' (Kuokkala 2018: 39; Aikio 2020: 45–47)
5. SaaN *gállis* 'husband; old man', S *gaellis* 'husband', Sk *kää'lles* 'old man; husband' < PS **kāllēs* ← PN **karlaz* > ON *karl* 'man; man of the common people' > Elfdalian *kall* 'man; husband' (Qvigstad 1893: 161–162; Sammallahti 1998: 128–129; Kroonen 2013: 285)
6. SaaN *guoibmi* 'comrade, companion; husband, wife; neighbor' < PS **kuojmē* ← PF **kaima* 'namesake' (SSA 1: 276)

1. A few notes on the material presented in Appendix 2. First, the appendix does not aim to provide an exhaustive list of all the possible cognates in a given branch, but rather only includes the languages we surveyed and is there to inform the reader about the lexical basis of our calculations. As a result, the Saami forms for example only include North, South, and Skolt Saami. If the cognates are not kin terms, i.e. not belonging to any of the categories listed in Appendix 1, they have not been listed Appendix 2. This means for example that although Fi *lanko* 'sister's husband; spouse's brother' has a cognate in Estonian *lang* 'affinal relative', the Estonian word is not mentioned in the material, as it does not refer to any specific kin-term category.

7. SaaN *máhka* 'brother-in-law, uncle, husband of a relative that is not *spile* or *sivjjot*', S *maake* 'man that is married to one's older female relative: aunt's husband; older sister's (or female cousin's) husband; man of one's wife's kin that is younger than her: one's wife's younger brother or male cousin; one's wife's brother's (or sister's) son', Sk *maakk* 'older sister's husband; father's sister's husband' < PS **mākᵋ* ← Scand, cf. ON *mágr* 'male in-law' (Qvigstad 1893: 229–230; Pelto 1962: 68–69; Sammallahti 1998: 129)
8. SaaN *mánná* 'child', S *maana* 'id.' < PS **mānā* ← Scand, cf. Swe *man* 'man' (Sammallahti 1998: 253)
9. SaaN *muoʈʈá* 'mother's younger sister or female cousin; nephew or niece (older sister's child to their aunt)', S *muahra* 'mother's younger sister or female cousin', Sk *mue'đđ* 'mother's younger sister' < PS **muoϑā/ē* ← Germanic, cf. PGrm **mōþō(n)* 'mother's sister' (unattested derivation) ← **mōder-* 'mother' (Kümmel 2015: 121–129)
10. SaaN *neahpi* 'nephew or niece (to their uncle); cousin's child (female cousin's, to their mother's male cousin)', S *neapede* '(man's or boy's) sister's or female cousin's son or daughter; (man's) sister's grandchildren' < PS **neapē* / **neapātᵋ* ← Finnic, PF **nᵋpada* > Fi (dial.) *nepaa* 'cousin, cousin's child', Est *nõbu* 'cousin' (← Baltic) (SSA 2: 213)

    It is not entirely certain that the Saami group of words was borrowed from Finnic in its entirety. It has been suggested that at least SaaN *neahpi* could have been borrowed from Germanic, cf. ON *nefi* 'nephew, cousin's son; relative' (SKES: 373)
11. SaaN *viellja* 'brother', S *vielle* 'id.', Sk *villj* 'id.' < PS **vieljᵋ* ← PF **velji* 'brother' (Aikio 2014: 68)

Post-Proto-Saami loans

1. SaaS *gaalla* 'husband' ← Scand, cf. Swe *karl* 'man, husband', Jämtlandic, Elfdalian *kall* 'man, husband'
2. SaaN *gálgu* 'wife; old woman' ← ? Scand, ON **kelg* < *kelling* 'wife' (Qvigstad 1893: 161)
3. SaaS *geellege* 'wife' ← ? Scand, cf. ON *kelling* 'wife'

    According to Qvigstad SaaN *gálgu* 'wife; old woman' is borrowed from **kelg* < *kelling* 'wife'. He does not mention the South Saami word, but it seems quite probable that the South Saami word is not entirely unrelated.

4. SaaN *eamit* 'housewife; (female) owner; solitary woman who does her own cooking; wife' ← Finnic, Fi *emäntä* 'lady (of the house); housewife; hostess, matron; wife, spouse' (SSA 1: 104–105; Sammallahti 1998: 240–241)
5. SaaS *eejhtegh* 'parents' ← Scand, cf. ON *ættingi* 'relatives' (Qvigstad 1893: 86)
6. SaaN *isit* 'head of the household; man, husband' ← Finnic, Fi *isäntä* 'master, lord (of a household; host' (SSA 1: 229; Sammallahti 1998: 249)
7. SaaN *máttar* 'forefather, ancestor' < PS **māndə̮r* ← Finnic, cf. PF **mandə̮r* > Fi *manner* 'mainland, continent' (SSA 2: 147)

   The somewhat peculiar looking semantic connection can probably be explained through metaphor, cf. SaaS *maadtere* 'hut wall, especially the bottom part', Ter *māndą r* 'mainland; strip of land on which the hut wall is erected and embankment on the outer wall'.
8. SaaS *måare*, *mååre* 'mother' ← Scand, cf. Swe *mor* 'mother'
9. SaaSk *nee'vesǩ* 'son's wife' ← Karelian *ńeveskä* (Itkonen, T. I. 1943: 52; Korhonen 1977: 80)
10. SaaN *sivjjot* 'relative of the opposite sex through marriage; husband's brother or male relative; sister's husband or male relative (to their wife's sister); wife's sister or female relative; brother's wife (to their husband's brother)', SaaS *sïbjege* 'man's older brother's or male cousin's wife; husband's younger brother or cousin (in relation to older brother's or male cousin's wife)' ← Scand, cf. ON *sifjungr* 'relative' (Qvigstad 1893: 288)
11. SaaN *spile* 'wife's sister's husband, brother-in-law; wife's brother's wife, sister-in-law' ← Scand, cf. ON *svilar* 'brothers-in-law' (Qvigstad 1893: 314)
12. SaaSk *svaaik*, *svaajâk* 'wife's sister's husband' ← Russian *свояк* 'brother-in-law' (Juutinen 2022: 43)
13. SaaN *váhnemat*, *vánhemat* 'parents' ← Finnic, cf. Fi *vanhemmat* 'parents' (Sammallahti 1998: 265)
14. SaaSk *zee'tt* 'son-in-law' ← Russian *зять* 'son-in-law, brother-in-law' (Juutinen 2022: 54)

Finnic

Proto-Finnic loans

1. Fi *lanko* 'sister's husband; spouse's brother' < PF **lanko* ← Germanic, cf. PGrm **ga-langaz* > Old High German *gilang* 'brother-in-law, relative', PGrm **bi-langaz* > Old Low German *bilang* 'related; joined, connected' (LägLoS II: 167; SSA 2: 44–45)
2. Veps *mur'zain* '(young) wife' < LPF **morcijan* < MPF **mortijami* ← Baltic, cf. (accusative forms) **martjan* ~ **martjam*, Lith *martì* 'bride; young wife (until the birth of first child); daughter-in-law; sister-in-law', Latv *mārša* 'brother's wife', Old Prussian *martin*, *martan* 'bride' (SSA 2: 172, Junttila 2015: 56; 94; 145; EVE: s.v. *morcijan*)
3. Est *nõbu* 'cousin' < LPF/MPF **nẹpada* ← Baltic, cf. Old Lithuanian *nepotis*, *nepuotis*, *nepatis* 'grandchild; nephew; cousin's son' (SSA 2: 213; Junttila 2015: 89; EVE: s.v. *nëpada*)
4. Fi *sisar* 'sister', Veps *sizar* 'id.' < LPF/MPF **sisar*, Est *sõsar* 'sister', Liv *sõzār* < LPF/MPF **sẹsar* ← Baltic, cf. Lith *sesuõ* : *seseĩs* 'sister' (SSA 3: 187; Junttila 2015: 95; Kallio 2018: 255)

   Finnish and Veps, on one hand, and Estonian and Livonian, on the other, reflect slightly different PF proto-forms, which is perhaps due to parallel borrowing.
5. Fi *tytär* 'daughter', Est *tütar* 'id.', Veps *tütär* 'id.', Liv *tidār* 'id.' < LPF **tüt̆tär* < MPF **tüttäri* ← Baltic, cf. Lith *duktė* : *dukter-* (Junttila 2015: 96; 176; Metsäranta 2023: 167–172)

   The Finnic words have traditionally been considered cognate with SaaS *dektier*, *daktere* '(married) daughter' and MdE *ťejťeŕ* 'daughter', M *śťiŕ* (SSA 3: 349). The words were thought to reflect a common proto-form, e.g. West Uralic **tüktärə*, but there is no way of regularly deriving the Finnic geminate **-tt-* from an earlier **-kt-*. The Saami word has also been explained as a separate Scandinavian loan (Aikio 2020: 17), so it is perhaps best to approach the words as separate loanwords in Saami, Finnic, and Mordvinic.
6. Fi *äiti* 'mother' < LPF **äitei* ← Germanic, cf. PGrm **aiþīn* ~ *aiþōn* 'mother' > Gothic *aiþei* 'mother', ON *eiða* 'id.' (LägLoS III: 429–430; Kroonen 2013: 15)

Post-Proto-Finnic loans

1. Veps *bab* 'grandmother' ← Ru *баба* 'grandmother'
2. Veps *bratan* 'male cousin' ← Ru *братан* 'male cousin'
3. Veps *däd'* 'uncle' ← Ru *дядя* 'uncle'
4. Liv *mārššа* 'daughter-in-law' ← Latv *mārša* 'sister-in-law' (LW: 218)
5. Fi *mummo*, *mummu* 'grandmother; old woman' ← Swe dial. *mummu*, *mumm* = *mormor* 'mother's mother' (SSA 2: 178)
6. Veps *mužik* 'man, husband' ← Ru *мужик* 'boor, peasant; man, old man'
7. Fi *pappa* 'grandfather' ← Swe *pappa* 'father' (SSA 2: 311)
8. Veps *sestrii* 'female cousin' ← Ru (*двоюродная*) *сестра* 'female cousin'
9. Liv *švǭgâr* 'brother-in-law' ← Latv *švager* 'brother-in-law' (LW: 398; Winkler 2014: 219)
10. Fi *vaari* 'grandfather' ← Swe *far* 'father' (SSA: 386)
11. Veps *vunuk* 'grandchild' ← Ru *внук* 'male grandchild'
12. Liv *znūot* 'son-in-law' ← Latv *znuōts* 'son-in-law; brother-in-law' (LW: 401)

Mordvin (Erzya and Moksha)

Pre-Proto-Mordvin loans

1. E *miŕďe* 'husband', M *miŕďä* 'id.' < Pre-Proto-Mordvin **mertä* ← PII **m̥rtá-* 'dead' or Pre-Indo-Iranian **mérto-* 'mortal, human' (Holopainen 2019: 143–146)

   Usually thought to have been borrowed either from PII **m̥rtá-* 'dead' or Pre-Indo-Iranian **mérto-* 'mortal, human' as PU **mertä*, whence also Udm *murt* 'human, person; alien, strange, foreign', Komi *mort* 'human' (< Proto-Permic **mɔrt*). The Permic words could be interpreted as later loans from PI **marta-*, although the phonological match between Mordvin and Permic is formally flawless.
2. E *sazor* 'younger sister', M *sazər* 'id.' < Pre-Proto-Mordvin **sasar* ← PII/PI **swasar-* 'sister' (Mészáros 2001: 172; Holopainen 2019: 222–224; Metsäranta 2023: 162–167)
3. E *ťejťeŕ* 'daughter', M *śťiŕ* 'id.' < Pre-Proto-Mordvin **tüktärə* ← Baltic, cf. Lith *duktė* : *dukter-* (Mészáros 2001: 171)

Post-Proto-Mordvin loans

1. M *aka* 'elder sister; father's or mother's younger sister' ← Chu *aɢi̯*, *aɢi*, *akka*, *aɢaj* 'elder sister' (Paasonen 1897: 27; Mészáros 2001: 172)
2. M *akĺä* 'husband's elder sister' ← Ta, cf. dial. *ayĭ la* 'mother-in-law', 'aunt' (Paasonen 1897: 27; Mészáros 2001: 176)
3. E *aťa* 'paternal grandfather; old man', M *aťä* 'paternal grandfather' ← Turkic

   According to Mészáros (2001: 169) of Finno-Ugric origin, but Turkic origin is more probable, cf. Ta *ata*, *äti* 'father', Chu *atťɛ* 'father'
4. E *ava* 'mother', M *ava* 'wife' ← Chu *aвi*, *aвaj* 'mother' (Mészáros 2001: 169; 17)
5. E *baba* 'old woman; wife (old); grandmother; father's mother', M *paba*, *baba* 'father's mother' ← Ru *баба* 'old woman' (MdWb: 110)

   Mészáros (2001: 170) lists the Mordvin word as a Tatar loan without citing a loan original, but according to MdWb it comes from Russian; the latter possibility seems more likely.
6. E *balduz*, *paldus* 'wife's sister', M *baldəz*, *paldəs* 'id.' ← Ta *balduz* 'sister-in-law; wife's (younger) sister' (Paasonen 1897; Mészáros 2001: 176)
7. E *baĺźa* 'wife's younger brother', M *baźä*, *paĺźä*, *paźä* 'id.' ← Mishar Tatar *baźa* 'wife's sister's husband' (Paasonen 1897: 43; Mészáros 2001: 176)
8. M *baťka* 'wife's father' ← Ru *батька* 'dad, father' (Mészáros 2001: 174)
9. E *brat* 'brother', M *brat* 'id.' ← Ru *брат* 'brother' (Mészáros 2001: 171)
10. E *ćora* 'son', M *ćora*, *śora* 'id.' ← Chu *čora*, *čura* 'servant, slave' (Paasonen 1897: 48; Mészáros 2001: 171)
11. E *ďeda* 'father's father' ← Ru *дед* 'grandfather; old man' (Mészáros 2001: 169)
12. E *duga*, *dugan* 'younger brother', M *duga* 'id.' ← Ta *tugan* 'one's own; relative; brother' (Paasonen 1897: 56; Mészáros 2001: 172)
13. E *ezna* 'older sister's husband; son-in-law', M *äzna* 'id.' ← Ta *jiznä* 'older sister's husband' (Paasonen 1897: 33; Mészáros 2001: 174; 176)
14. E *koźejka*, *koźajka* 'wife' ← Ru *хозяйка* 'hostess' (Mészáros 2001: 174)
15. E *mačka* 'wife's mother' ← Ru *мачка* 'mom' (Mészáros 2001: 174)
16. M *matka* 'wife's mother' ← Ru *матка* '(animal) mother' (Mészáros 2001: 174)
17. E *nuka* '(male) grandchild', M *unək* 'id.' ← Ru *внук* '(male) grandchild' (Mészáros 2001: 171)

18. E *nućka* ‘grandchild’ ← Ru *внучек* (genitive *внучка*) ‘grandson’ (MdWb: 1363)

    According to Mészáros (2001: 171) the Erzya word was borrowed from Russian *внучка* ‘(female) grandchild’. This remains a possibility, but MdWb expresses a different view, according to which the word was borrowed from the diminutive of *внук* i.e. *внучек*.
19. E *paťa* ‘elder sister; father’s or mother’s sister’, M *paťä* ‘elder brother’ ← Slavic, cf. Ru *батя* ‘father’, Bulg *баща*, *бате*, *батьо*, *бачо* ‘elder brother; uncle’

    According to Mészáros (2001: 171–172) either of Finno-Ugric or Baltic origin. Neither option strikes one as probable. Instead, the Mordvin word is probably of Slavic origin, cf. Hungarian *bátya* ‘elder brother’ that was borrowed from Slavic as well.
20. E *pľemjańńik* ‘nephew’, M *pľəmäńńək* ‘id.’ ← Ru *племянник* ‘nephew’ (Mészáros 2001: 173)
21. E *pľemjańńića* ‘niece’, M *pľəmäńńəća* ‘id.’ ← Ru *племянница* ‘niece’ (Mészáros 2001: 173)
22. E *svojačeńica* ‘wife’s older sister’ ← Ru *свояченица* ‘sister-in-law’ (Mészáros 2001: 176)
23. E *svojak* ‘wife’s (older) sister’s husband’, M *svəjak*, *svajak* ‘id.’ ← Ru *свояк* ‘brother-in-law’ (Mészáros 2001: 177)
24. E *šuŕiń*, *šuŕeń* ‘brother-in-law, wife’s brother’, M *šuŕəń* ‘id.’ ← Ru *шурин* ‘brother-in-law, wife’s brother’ (Mészáros 2001: 176)
25. E *ťeťa* ‘father’, M *ťäťä* ‘id.’ ← Ru *мятя* ‘father’ (Veršinin 2009: 436)

    According to Mészáros (2001: 169), the Mordvin word is of Finno-Volgaic origin, but this explanation is treated as uncertain even by the author herself. Veršinin (2009: 436) suggests that the Erzya word was borrowed from Russian. A Russian origin for the Mordvin words seems much more likely considering that even a back-vocalic variant *taťa* is found in a number of Erzya dialects (MdWb: 2396). Also the fact that intervocalic *ť* has escaped voicing between vowels indicates that the word is a rather recent addition to the Mordvin lexicon.
26. E *ťošča* ‘wife’s mother’ ← Ru *мёща* ‘wife’s mother’ (Mészáros 2001: 174)

Mari

Pre-Proto-Mari loans

1. MariM *šüžar* 'younger sister', MariH *šə̑žar* 'id.' < PM **sŭzar* < ? Pre-Proto-Mari **susar* ← PII/PI **swasar-* 'sister' (Holopainen 2019: 222–224; Metsäranta 2023: 162–167)

Proto-Mari or Common Mari loans

1. MariM *aβa* 'mother', MariH *äβä* 'id.' < PM **äwä* ← Chu *aʙi*, *aʙaj* 'mother' (Räsänen 1920: 109)
2. MariM *ača* 'father', MariH *äťa* 'id.' < PM **äťa* ← Chu *atťɛ* 'father' (Räsänen 1920: 239)

   Räsänen classifies the Mari word in a category of words common to both Mari and Chuvash whose origin is unknown. Considering that Chuvash loans are rather ubiquitous in Mari kinship terminology and the fact that the word is phonologically clearly a rather recent addition to Mari vocabulary, it is still quite probably a loan from Chuvash to Mari.
3. MariM *aka* 'elder sister; parent's (father's or mother's) younger sister', MariH *äkä* 'elder sister; mother's sister; father's younger sister' < PM **äkä* ← Chu *aɢi*, *aɢi*, *akka*, *aɢaj* 'elder sister' (Räsänen 1920: 112)
4. MariM *aza* 'child', MariH *äzä* 'id.' < PM **äćä* ← Chu *aᴅźa* 'child' (Räsänen 1920: 111)
5. MariM *βate* 'wife', MariH *βätə* 'id.' < PM **wätə* ← Chu *vaᴅə̑* 'old' (Räsänen 1920: 120)
6. MariM *marij* 'Mari; man, husband', MariH *marə̑* id.' < PM **marə(j)* ← Iranian, cf. Old Indian *márya-* 'young man' (Holopainen 2019: 135–136)
7. MariM *ońo* 'father-in-law', MariH *ońə̑* 'id.' < PM **ońə* ← Chu *χonə̑m* 'my father-in-law', *χuńə̑m* (Räsänen 1920: 166)

   In Hill Mari *ońə̑* exists alongside the inherited Uralic *oβə̑* 'father-in-law' (< PU **ęppə* 'father-in-law')
8. MariM *ońaka* 'husband's or wife's elder sister', MariH *ońaka* 'id.' < PM **ońaka* ← Chu *χuńaɢa* 'wife's elder sister' (Räsänen 1920: 166)
9. MariM *ońə̑ska* 'husband's or wife's elder brother', MariH *ońə̑ska* 'id.' < PM **ońəska* ← Chu *χońə̑ska* 'wife's brother' (Räsänen 1920: 166)

10. MariM *posana* 'wife's sister's husband', MariH *pasana* 'id.' < PM **påśana* ← Chu *poźana*, *puźana* (Räsänen 1920: 180), cf. Udmurt *buśon(o)*
11. MariM *šoľo* 'younger brother', MariH *šoľa*, *šoľə̑* 'id.' < PM **šoľə* ← Chu *šə̑llə̑m*, *šə̑llu*, *šə̑ľlə* '(my) younger brother' (Räsänen 1920: 211)
12. MariM *tulače* 'son's wife's mother; daughter's husband's mother', MariH *tə̑klacə*, *tə̑γə̑lacə̑* 'id.' < PM ?**tŭ(k)laćə* ← Chu *tə̑χlaʣ́ə̑* 'wife's or husband's sister or other female relative' (Räsänen 1920: 225)
13. MariM *tular* 'son's wife's father; daughter's husband's father', MariH *tə̑klar* 'id.' < PM ?**tŭ(k)lar* ← Chu **tə̑γlar* (Räsänen 1920: 225)

Post-Proto-Mari loans

1. MariM *jeŋga* 'elder brother's wife', MariH *jeŋgä* 'id.' ← (Chu) ← Ta *ǯiŋgä* 'daughter-in-law' (Räsänen 1923: 30)
2. MariM *ńoγa* 'child' (cf. Mari dial. *ńuγar*, *ńoγar* 'the small ones') ← ? Ta, cf. Kyrgyz *nögör* 'servant' (Räsänen 1923: 47)
3. MariH *roδə̑* 'family, stock; grandfathers, great-grandfathers' ← Ru *род* 'family, kin'
4. MariH *ťeťä* 'child' ← Ru *дитя* 'child' (dated)
5. MariH *ťoťa* 'grandfather' ← Ru *мятя* 'father'
6. MariM *unə̑ka* 'grandchild', MariH *ə̑nə̑ka* 'id.' ← Russian *внук* 'male grandchild'

Permic

Pre-Proto-Permic loans

1. Udm *suzer* 'younger sister' (~ Komi *sozor* 'Fadenbruch im Gewebe') < Proto-Permic **sɔzVr* < Middle Proto-Permic **sasar* ← PII/PI **swasar-* 'sister' (Metsäranta 2023: 162–167)

Komi

1. Komi *bab* 'grandmother' ← Ru *баба* 'grandmother' (Kalima 1910: 37)
2. Komi *baťˊ* 'father' ← Ru *батя* 'father' (Kalima 1910: 40)
3. Komi *bratan* 'male cousin' ← Ru *братан* 'male cousin'
4. Komi *ćeľaďˊ* 'children' ← Ru *челядь* 'servants' (Kalima 1910: 150)

5. Komi *ďaď* 'uncle (father's or mother's brother, aunt's husband); stepfather' ← Russian *дядя* 'uncle' (Kalima 1910: 45)
6. Komi *ďed* 'grandfather' ← Ru *дед* 'grandfather' (Kalima 1910: 46)
7. Komi *plemjannik* 'nephew' ← Ru *племянник* 'nephew' (Kalima 1910: 106)
8. Komi *plemjannića* 'niece' ← Ru *племянница* 'niece' (Kalima 1910: 106)
9. Komi *svesťa* 'wife's sister' ← Ru *свестья* 'wife's sister' (Kalima 1910: 135)
10. Komi *ťesť* 'wife's father' ← Ru *тесть* 'wife's father' (Kalima 1910: 145)
11. Komi *ťët* 'aunt, father's or mother's sister; stepmother' ← Ru *мёта*, *мётя* 'aunt' (Kalima 1910: 147)
12. Komi *ťęša* 'wife's mother' ← Ru *теща* 'wife's mother' (Kalima 1910: 147)
13. Komi *vnuk* 'male grandchild' ← Ru *внук* 'male grandchild' (Kalima 1910: 167)
14. Komi *vnučka* 'female grandchild' ← Ru *внучка* 'female grandchild' (Kalima 1910: 167)
15. Komi *źať* 'sister's husband; daughter's husband' ← Ru *зять* 'son-in-law, brother-in-law' (Kalima 1910: 171)
16. Komi *šurin* 'wife's brother' ← Ru *шурин* 'brother-in-law (wife's brother')' (Kalima 1910: 142)

Udmurt

1. Udm *agaj* 'elder brother; father's brother' ← Ta *agaj* 'uncle (honorific term used of older men)' (Csúcs 1990: 95)
2. Udm *aka* 'elder sister; father's sister, uncle's wife' ← Chu *aɢi̯*, *aɢi*, *akka* 'elder sister' (Wichmann 1903: 38)
3. Udm *anaj* 'mother' ← Ta *ana* 'mother', *änej* 'Mütterchen', *anaj* (Csúcs 1990: 104)
4. Udm *apaj* 'elder sister' ← Ta *apaj* 'honorific vocative for elder sister' (Csúcs 1990: 105–106)
5. Udm *ataj* 'father' ← Ta *ätej*, *ataj* 'Väterchen, lieber Vater' (Csúcs 1990: 112)
6. Udm *brat* 'brother' ← Ru *брат* 'brother'
7. Udmurt *bulťi̯r* 'wife's sister; second wife (after the death of the first)' ← Chu *pulɒ̯ĭ̯r*, *polɒ̯ĭ̯r* 'wife's younger brother or sister; husband's younger brother or sister' (Wichmann 1903: 49)
8. Udm *buśon(o)* 'wife's sister's husband' ← Chu *poźana*, *puźana* (Wichmann 1903: 52), cf. MariM *posana*, H *pasana*

9. Udm *ďaďa*, *ďaďaj* 'father; uncle' ← Ru *дядя* 'uncle'
10. Udm *kart* 'husband' ← Ta *kart* 'old man' (Csúcs 1990: 207)
11. Udm *ken* 'son's wife' ← Chu *kin*, *ќiń* 'son's wife, younger brother's wife' (Wichmann 1903: 71–72)
12. Udm *kudo* 'daughter's husband's father; son's wife's father' ← Chu *χοда* 'Freiwerber; son-in-law's or daughter-in-law's father' (Wichmann 1903: 77–78)
13. Udm *tukľaći* 'daughter's husband's mother; son's wife's mother' ← Chu *тоχlåć́* 'Brautwerberin' (Wichmann 1903: 109)
14. Udm *šįdnar* 'husband's brother' ← Chu (WotjWsch: 247)

Khanty

1. KhKaz *aki* 'father's older brother; mother's older brother; husband's father; husband's older brother; father's older sister's husband; mother's older sister's husband' ← MsN, cf. MsSo *aki* 'term of respect for an older relative; father-in-law; father's older brother; mother's older brother; husband's older brother; husband's father's older or younger brother or husband's mother's older or younger brother; grandfather' (UED: 42–43)

Mansi

1. MsSo *āpšʹi* 'younger brother; brother's son; (younger male) cousin' ← KhKaz *apśi* 'younger brother; father's younger brother; older brother's son (younger than ego); father's brother's son (younger than ego)' (DeWoS: 149–150)
2. MsSo *jaγlaŋ* 'stepfather; mother's sister's husband' ← KhN, cf. KhKaz *jĭwłeŋ* 'stepfather; mother sister's husband' (DeWoS: 326–327; Karjalainen 1913: 230)
3. MsSo *kil* 'wife's (older or younger) sister; sister's husband; wife's sister's husband' ← KhN, cf. KhKaz *kĭłi* 'wife's older or younger sister; wife's older or younger brother's daughter; wife's older or younger sister's husband' (DeWoS: 620)
4. MsSo *nij* 'mother's sister' ← Khanty, cf. KhKaz *nĭj* 'mother's younger sister' (WogWb: 497)

5. MsSo *ńāwram* 'child' ← Khanty, cf. KhKaz *ńawrɛm* 'child' (WogWb: 524; DeWoS: 1038)
6. MsSo *ōjka* 'man, husband, old man' ← Komi, cf. Komi-Permyak *ajka* 'man, husband', Komi-Jaźva *ajka* 'husband', Komi-Zyrian *ajka* 'husband's father' (Rédei 1970: 91)
7. MsSo *pānt* 'husband's younger brother; sister's son (name used by mother's sister)' ← Middle Iranian **band-* 'to bind' > Old Persian *ba^{n}daka-* 'vassal' (Korenchy 1972: 63; Holopainen 2019: 183–184)

Hungarian

1. Hung *bátya* 'elder brother' ← Slavic, cf. Bulg *баща*, *бате*, *батьо*, *бачо* 'elder brother; uncle' (EWUng: 87)
2. Hung *gyerek*, *gyermek* 'child' ← WOT **ǰärmek*, **ǰärmik*, **ǰämrik* (EWUng: 495–496; WOT: 384–386)
3. Hung *mostoha* 'stepmother' ← Slavic, cf. Bulg *мащеха* 'stepmother' (EWUng: 998)
4. 125. Hung *unoka* 'grandchild' ← Slavic, cf. Serbo-Croatian *unuk* 'grandchild' (EWUng: 1578)
5. 126. Hung *sógor* 'brother-in-law' ← Austrian High German *swoger* 'brother-in-law' (EWUng: 1342)

Samoyedic

Forest Enets

1. EnF *ńabaku* 'elder sister' ← NenT *ńabako* 'elder sister; father's younger sister; father's brother's daughter (older than ego)' ← NenT *ńaba* 'stepmother; older brother's wife' < PSam **äpå* 'ältere Schwester' (Janhunen 1977: 21)

   The presence of prothetic initial nasal, which is typically not a feature of Forest Enets, points to a borrowing from Tundra Nenets where said nasal is an expected regular development. A loan origin of the Forest Enets word is further supported by the existence of EnF *abaa* 'elder sister; father's or mother's younger sister', the regular reflex of PSam **äpå*, whence also NenT *ńaba* and *ńabako*.

Appendix 3: Kin categories with loanwords

Kin categories with loanwords in Uralic languages ranked by the total number of borrowing events. (f) in the Kin category column indicates it is a category specifically when the speaker is female. Parameter column introduces the abbreviations of the kin categories. Plus sign indicates categories where the age distinction (e = elder, y = younger) has been merged into one category. The table has been sorted by the total number of borrowing events. The column with a maximum of one borrowing event per language has a § in cases when a term in the kin category in question has been borrowed both into the proto-language and into the individual languages in one of the subgroups; in the case of merged categories the § sign indicates that two categories exist in one language (e.g. Erzya has both WZ and WeZ) and these have been counted separately. # of languages with loanwords is the total number of languages where the kin term in question has a loanword. Asterisk in polysemy column indicates that at least in one of the languages the kin term is polysemous (i.e. linked to more than one kin category). The number in the coexistence column indicates in how many languages the borrowed kin term coexists with a term with no evidence of borrowing.

Kin category	Parameter	# of borrowing events (total)	# of borrowing events (max. 1 / lang.)	# of languages with a loanword	Polysemy	Coex.
sister's husband	ZH+eZH	11	9 §	10	*	3
husband's brother	HB+HeB+HyB	10	10	12	*	0
wife's brother	WB+WyB+WeB	10	10 §	10	*	1
wife	W	9	7 §	8		4
grandchild	CC	9	7	7		2
husband	H	8	8 §	10		3
wife's sister	WZ+WeZ	8	8 §	8	*	0
wife's sister's husband	WZH+WeZH	7	7	8	*	0
child	C	7	7 §	7		4

Kin category	Parameter	# of borrowing events (total)	# of borrowing events (max. 1 / lang.)	# of languages with a loanword	Polysemy	Co-ex.
father's father	FF	7	5	5	*	3
father's mother	FM	6	6	6	*	3
elder sister	eZ	6	5	6	*	1
father	F	6	5	6		2
mother	M	5	5	6		2
daughter's husband	DH	5	5	5	*	4
mother's mother	MM	5	5	5	*	2
sister's son	ZS	5	4	5	*	1
sister's daughter	ZD	5	4	5	*	2
brother	B	4	4	6		1
mother's brother	MB	4	4	6	*	1
younger brother	yB	4	4	5	*	3
mother's sister	MZ	4	4	4	*	1
brother's son	BS	4	4	4	*	1
father's brother's son	FBS	4	4	4	*	2
father's sister's son	FZS	4	4	4	*	2
mother's brother's son	MBS	4	4	4	*	2
mother's sister's son	MZS	4	4	4	*	3
brother's wife	BW+eBW	4	4	4	*	0
mother's father	MF	4	3	3	*	2
father's brother	FB	4	3	3	*	0
wife's mother	WM	4	3	3		2
daughter	D	3	3	7		0
younger sister	yZ	3	3	5		0
son	S	3	3	5		1
mother's younger sister	MyZ	3	3	5	*	0

Kin category	Parameter	# of borrowing events (total)	# of borrowing events (max. 1 / lang.)	# of languages with a loanword	Polysemy	Co-ex.
wife's father	WF	3	3	4	*	2
elder brother	eB	3	3	3	*	2
father's sister	FZ	3	3	3	*	1
brother's daughter	BD	3	3	3	*	1
son's wife	SW	3	3	3		2
father's sister's husband	FZH+FeZH	3	3	3	*	0
mother's sister's husband	MZH+ MeZH	3	3	3	*	0
father's younger sister	FyZ	2	2	3	*	0
son's wife's mother	SWM	2	2	3	*	0
son's wife's father	SWF	2	2	3	*	0
husband's father	HF	2	2	3	*	2
husband's sister	HeZ+HZ	2	2	3	*	1
parent	P	2	2	2		0
ancestor	A	2	2	2		0
father's sister's daughter	FZD	2	2	2	*	1
father's brother's daughter	FBD	2	2	2	*	1
mother's brother's daughter	MBD	2	2	2	*	1
mother's sister's daughter	MZD	2	2	2	*	1
father's wife (not mother)	FW(notM)	2	2	2	*	1
mother's husband (not father)	MH(notF)	2	2	2	*	0

Kin category	Parameter	# of borrowing events (total)	# of borrowing events (max. 1 / lang.)	# of languages with a loanword	Polysemy	Co-ex.
daughter's husband's mother	DHM	2	2	3	*	0
daughter's husband's father	DHF	2	2	3	*	0
sister	Z	2	1	4		1
father's elder brother	FeB	1	1	1	*	0
mother's elder brother	MeB	1	1	1	*	0
spouse	E	1	1	1		1
wife's brother's wife	WBW	1	1	1	*	0
sister's son (female speaking)	fZS	1	1	1	*	0
elder sister's son (female speaking)	feZS	1	1	1	*	0
elder sister's daughter (female speaking)	feZD	1	1	1	*	0
sister's husband (female speaking)	fZH	1	1	1	*	0
mother's brother's wife	MBW	1	1	1	*	0
father's brother's wife	FBW	1	1	1	*	0

Appendix 4: Kin categories without loans

Relatively common kin categories with no borrowed kin terms in Uralic languages. The 20 categories listed here exist in three or more languages covering more than one subgroup of the Uralic tree (Samoyedic languages with no borrowed kin terms were not included under such criteria). This criterion was set to include only kin categories which are at least somewhat common in Uralic languages, as there were several categories which existed in less than three languages and/or covered only one subgroup.

Kin category	Parameter
sibling	G
grandparent	PP
son's son	SS
son's daughter	SD
daughter's son	DS
daughter's daughter	DD
father's younger brother	FyB
father's elder sister	FeZ
mother's elder sister	MeZ
elder brother's son	eBS
younger brother's son	yBS
elder brother's daughter	eBD
younger brother's daughter	yBD
elder sister's son	eZS
younger sister's son	yZS
elder sister's daughter	eZD
younger sister's daughter	yZD
husband's mother	HM
husband's brother's wife	HBW
husband's sister's husband	HZH