

# Foundations of Uralic etymology

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Version 1.4 (last updated 30 November 2021)



Co-funded by the  
Erasmus+ Programme  
of the European Union

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# Heart of Uralic studies

- historical phonology and lexicology are at the very heart of Uralic studies!
- fields of study that are used to explain and prove genealogical relatedness of languages
- mastery of Uralic historical phonology and lexicology is what tells Uralicists apart from the rest of humankind
- after the course you will never look at words the same as before
- a Uralicist is at least as interested in what is being said as what words are used to say it

# Goals of the course

- to understand the nature of historical-comparative method
- to gain basic knowledge of Proto-Uralic (PU)
- to gain basic knowledge of intermediary proto-languages of Uralic language (Proto-Finnic (PF), Proto-Saami (PS), Proto-Mordvin (PMd), Proto-Mari (PM), Proto-Permic (PP), Proto-Khanty (PKh), Proto-Mansi (PMs), Hungarian and Proto-Samoyed (PSam))
- to develop an ability to assess the age and origin of words based on their phonotaxis and semantic properties
- to build up a mental apparatus that allows one to apply sound changes and see what historical forms underlie different current forms of words in different branches of Uralic

## Goals of the course II

- to become familiar with the main sound changes in different branches of Uralic
- to develop an ability to “transform” Finnish words into Saami and Mordvin by applying sound changes
- to know the most common contacts that the Uralic languages have had and the borrowings produced by these contacts
- to be able to pinpoint problems and inconsistencies in Uralic phonology
- to introduce the most up-to-date research and the latest trends

## Goals of the course III

- to become familiar with the most commonly used marking conventions used in Uralic etymology, Uralic Phonetic Alphabet (UPA), (most commonly called suomalais-ugrilainen tarkekirjoitus (SUT) in Finnish)
- to know the main etymological sources: etymological dictionaries and data bases
- to learn how to read etymological dictionaries independently and critically assess claims made in them

# Literature for the course

- Pekka Sammallahti 1988: Historical phonology of the Uralic languages (<http://kirnis.kapsi.fi/papereita/Ural-HistoricalPhonology.pdf>)
- Ante Aikio (manuscript): Proto-Uralic ([https://www.academia.edu/40193033/Proto\\_Uralic](https://www.academia.edu/40193033/Proto_Uralic))
- Tapani Lehtinen 2007: Kielen vuosituhat. SKS.
- Kaisa Häkkinen 1990: Mistä sanat tulevat. Suomalaista etymologiaa. SKS.
- Kaisa Häkkinen 2013: Nykysuomen etymologinen sanakirja. WSOY
- SSA = Suomen sanojen alkuperä. Etymologinen sanakirja (pt. Erkki Itkonen & Ulla-Maija Kulonen)

# Literature for the course II

- LÄGLOS = Lexikon der älteren Germanischen Lehnwörter der Ostseefinnischen Sprachen. A.D. Kylstra - T. Hofsta - Sirkka-Liisa Hahmo - Osmo Nikkilä. Amsterdam: Rodopi 1992-2014.
- Yhteissuomalainen etymologinen sanakirja  
[https://sanat.csc.fi/wiki/Luokka:Yhteissuomalainen\\_sanasto?fbclid=IwAR0KIN5axp4o\\_16k3ASDg1hhTD1AWBQPFZSwua5HFoAwhzUNewHXzuNp1GY](https://sanat.csc.fi/wiki/Luokka:Yhteissuomalainen_sanasto?fbclid=IwAR0KIN5axp4o_16k3ASDg1hhTD1AWBQPFZSwua5HFoAwhzUNewHXzuNp1GY)
- Ante Aikio's articles about historical phonology and etymology  
(<https://samas.academia.edu/AnteAikio>)
- AA's draft of Uralic etymological dictionary  
[https://www.academia.edu/41659514/URALIC\\_ETYMOLOGICAL\\_DICTIONARY\\_draft\\_version\\_of\\_entries\\_A\\_%C4%86\\_](https://www.academia.edu/41659514/URALIC_ETYMOLOGICAL_DICTIONARY_draft_version_of_entries_A_%C4%86_) )



Excercise: which of these Finnish words are of old age?  
which are not? why?

*professori*

*muna*

*kana*

*tipu*

*traktori*

*banaani*

*tomaatti*

*leipuri*

*myrkky*

*varis*

*tiili*

*tällainen*

*katti*

*käsi*

*paatti*

*tarkka*

*vuori: -en*

*vuori: -in*

*samea*

*opettaja*

*ravinto*

*kukka*

*pasta*

*lima*

*silmä*

*mämmi*

*kuula*

*tuuli*

## You can also make the same exercise with Hungarian vocabulary

*család*

*unoka*

*paradicsom*

*ebben*

*tojás*

*testvér*

*fér*

*ez*

*vér*

*apa*

*professzor*

*szív*

*víz*

*város*

*traktor*

*kéz*

*madár*

*barack*

*konyha*

*ájto*

# Characteristics of a new word

- new semantic fields: technology, raw materials, artefacts, religion, moral values
- word-initial consonant clusters: *krokotiili* ‘crocodile’, *strutsi* ‘ostrich’ (in literary Finnish, Southwestern dialects (lounaismurteet) and Ostrobothnian dialects (pohjalaismurteet); most Finnish dialects don’t presently have word-initial consonant clusters)
- *f*: *faarao*, *feminiini*, *filosofi*
- word-initial *b*, *g*, *d*, word-internal *d* unaffected by consonant gradation: *banaani*, *gorilla*, *data*, *lada*: *ladan* (cf. *kade*: *kateen* ‘envious’, *sade*: *sateen* ‘rain’)
- lack of vowel harmony: *tällainen* ‘like this, this kind of’, *olympialaiset* ‘Olympic games’, *parfyymi* ‘perfume’
- lack of consonant gradation (astevaihtelu in Finnish): *tipu*: *tipun* ‘chick’, *data*: *datan*

## Characteristics of a new word II

- word-internal 3 consonant clusters: *myrkky* ‘poison, venom’, *myrsky* ‘storm’
- long vowels in non-initial syllables: *tomaatti*, *karpaasi* ‘big, strong man’
- long monophthongs *ee* and *oo*: *tee*, *ooppera* (Proto-Finnic \**ee* and \**oo* became diphthongs in Finnish, PF \**tee* ‘road’ > Fi *tie*, PF \**nooli* ‘arrow’ > Fi *nuoli*)
- *ti* (*tipu* ‘chick’, *tiili* ‘brick’) (in old words change \**ti* > *si*, that can be seen for example in the inflected forms of *käsi* ‘hand’ (: *käden*: *kättä*, *kätenä*), *mesi* ‘mead’ (: *meden*: *mettä*, *metenä*)
- *i* stem (*lakki* ‘cap’, *kuppi* ‘cup’, *bussi* ‘bus’) (in older words *-i* alternates with *e*: cf. *kivi*: *kiven* ‘stone’, *salmi*: *salmen* ‘strait’, *lampi*: *lammen* ‘pond’)

# Characteristics of slightly newer words

- geminates *-mm-*, *-nn-* (*mämmi*, *nänni*, *kämmi*), geminates *-ll-*, *-rr-* the same thing (*halli*, *pallo*, *tarra*, *narri*, *hurri*)
- a long vowel or diphthong before a consonant cluster (*paatti*, *tuoppi*, *kuoppa*, *kuokka*)
- a long vowel in the first syllable of an A stem (*kuula*, *piira*)
- long *aa*, *ää* (*määrä*, *vaari*, *saali kaara*, *saari*)
- ending in *-s* (*varis*, *rakas*)
  
- ending in *-e* (*kone*, *perhe*, *vene*, *lähde*) (these words still end in a consonant in some dialects: *pereh*, *veneh*), the whole group of words originally ended in a consonant

Put the words in chronological order from older to younger

*kivi*

*data*

*risti*

*fööni*

*tieto*

*saari*

*taivas*

*pappi*

*ihme*

*lumi*

*rauta*

*kuningas*

*flunssa*

*kirkko*

*läävä*

Canonical phonotactical form in Uralic

**(C)V(V)(C)CV-(C)CV(C)**

# Substance and structure

- language consists of both material substance (phonemes, letters, words, etc.) and its organization (language structure, syntax)
- Sequences of symbols of different kinds, sound waves, letters, signs etc. make up the substance. Structure on the other hand is what gives order to these sequences of symbols
- Some fields of study within linguistics like syntax concentrate on language structure, in historical phonology and lexicology, the main focus is on the language material
- Ferdinand de Saussure 1916: signifié ~ signifiant
- Antoine Meillet 1925: external versus internal factors



# What drives change in language?

- change in pronunciation, often for the sake of consuming less energy for pronunciation (classic Neogrammarian view)
- analogy, i.e. changes that restructure the language system so that it is more transparent and logical (classic Neogrammarian view)
- borrowing of elements from other languages (classic Neogrammarian view)
- code-switching, i.e. using many languages in communication (the latter half of 20th century)
- the wish to express oneself in an interesting, personal way (language sociology in the 1970s), “invisible hand” (Keller), changes tied to societal roles
- normativity, i.e. learning, orthographies, power relations
- education (explicit model behaviour acquired through education)
- media & fashions (implicit model behaviour)

# Etymology and historical phonology

- initially languages were thought to be related largely based on surface level similarities found in lexicon and at different levels of morphology. Gradually systematic recurring phonological correspondences were established, which also allowed the reconstruction of proto-languages
- etymology and historical phonology are tightly bound together and form a feedback loop (Häkkinen 1987). Known phonological correspondences are used in establishing cognates (Gleichsetzung) and in assessing their correctness. It is possible to find previously undiscovered cognates just by applying known phonological correspondences. In this case they don't provide new information but do reaffirm the validity of old assumptions. Usually new discoveries in historical phonology also lead to the discovery of previously unknown cognates and to the reassessment of old cognate sets

One cannot exist without the other

**historical phonology**



**etymology**

# The comparative method

- rooted in less than rigorous comparisons made since the Renaissance (language family trees)
- János Sajnovics 1770: *Demonstratio. Idioma ungarorum et lapporum idem esse.*
- Sir William Jones 1776: Latin, Greek and Sanskrit stem from the same ancestor
- the beginning of 19th century: comparison of lexicon and syntax, the notion of sound laws (Franz Bopp, Rasmus Rask, brothers Grimm)
- the 19th century Neogrammarians (*Junggrammatiker*): writing historical phonology of singular languages, research of loanword layers (Karl Brugman, August Leskien, Karl Verner)

# Notable milestones

- Wilhelm Thomsén *Über den Einfluss der Germanischen Sprachen auf den Finnisch-Lappischen. Eine Sprachgeschichtliche Untersuchung* 1869 / 1870  
→ scientific loanword research (cf. Mikkola 1890 *Die Ostseefinnischen Lehnwörter der Russischen*)
- Hermann Paul *Prinzipien der Sprachgeschichte* 1880  
→ theoretical basis of the Neogrammarian school and the regularity of sound change
- the later half of the 20th century: typology, internal borrowing = borrowing within a language family/between branches, substrates in the comparative method

# The comparative method

- diversity and variety are explained from a singularity known as a proto-language
- proto-language is an abstraction postulated based on the properties common to synchronic languages (Finnish, Karelian, Veps, Estonian, Votic, Livonian etc. → Proto-Finnic, Swedish, Danish, Icelandic, German, English, Gothic etc. → Proto-Germanic, Polish, Slovenian, Bulgarian, Russian etc. → Proto-Slavic)
- a few key terms **cognacy** (etymologically related words), **sound law** (Lautgesetz), perhaps better to use the more neutral **sound change**. Correspondences between modern languages derived from a proto-language through regular sound changes
- a sound correspondence between Finnish and Hungarian, word-initial *p*- in Finnish corresponds to *f*- in Hungarian: *puu* ~ *fa* 'tree', *pää* ~ *fej* 'head', *poika* ~ *fiú* 'boy, son', *pesä* ~ *fészek* 'nest', *pelätä* ~ *fél* 'to fear'

# Sound change

- there are two types of sound change, **absolute** and **conditioned**. In absolute change all instances of the sound in question are subject to change. In conditioned change, the change is dependent on the sound environment. Some typical factors for conditioned changes are:
  - 1) stressed and unstressed environments behave differently
  - 2) word-initial and word-internal positions often develop differently
  - 3) sounds often develop differently when preceded by a front vowel versus a back vowel
  - 4) assimilation to a neighbouring sound
- on a closer look the comparative method doesn't so much compare words but sound sequences
- note that phonological correspondence and sound change are two different things!

# Typical sound changes

- *\*ti, te > či, če > se, si, se*, cf. Fi *käsi ~ käden ~ kätenä* (< *\*käte : käten : kätenä*), Latin *centum* [k] > French *cent* '100' [s]; Latin *centum* ~ Lith *šimtas* (< *\*kmtom*)
- *\*kV\_front > č*: Sw *kära, kyrka* 'church' (~ Fi *kirkko*, cf. Votic *čirikkö*), Latin *caballus* ~ French *cheval* 'horse'
- *\*kV\_back > h*: Fi *kala* ~ Hung *hal*, Ru *bogatyj* ~ Fi *pohatta*
- *s, š > h*: Fi *hapan* ~ Md *šapamo* ~ Hung *savanyú* 'bitter', Sw *sju, sjuk*
- epenthetic vowels in clusters with a lateral: Sl *\*mleko* > Ru *moloko* 'milk', Fi *pölkkypää* > dial. *pölökkypää*



## Typical sound changes II

- chain shifts are typical of vowels, change in one part of the vowel system sets in motion a number of other changes, cf. the so-called Great Vowel Shift in English, Saami
- vowel lengthening in voiced environment: Fi *kärme* → *käärme* ‘snake’, *parma* → *paarma* ‘horse fly’
- rhotacism : *s* > *r*, cf. Fi *kuningas* ‘king’ < PGerm \**kuningaz* → Icelandic *konungur*, Sw *kung*, Latin *genus*: *generis*
- all types of assimilations, dental/alveolar nasals becoming velarized preceding a *k* (*pankki*, *punkki*), voiceless consonants becoming voiced between vowels (Fi *pata*, *sata* ~ Karelian *sada*, *pada*)

# Compare

- Sound laws are exceptionless: *Die Lautgesetze kennen keine Ausnahme* (Leskien)
- Every word has its own history: *Chaque mot a son histoire* (Meillet)
- Exceptions to sound change are usually explained by analogy, dialectal/internal borrowing or by some unknown conditioning factor
- Derivation, semantic change, borrowing, contamination, analogical leveling etc. make so that exceptionless sound laws very rarely explain every single detail of a word's history

# What is analogy?

- analogy is a counterforce to sound change
- “sound laws are regular, but cause irregularity; analogy is irregular, but increases regularity” (Hermann Paul)
- *lehti: lehden: lehteä* < *\*lešte : lešte: lešetä*
- *\*ti > si*      *\*š > h*      *\*kt > ht*
- *\*lakti : lakten: lakteta > laksi : lahden: lahtea* →
- *lahti: lahden: lahtea*

# Two parts of the comparative method

1. Internal reconstruction: based on the internal variation within one language:  
(*sormus* : *sormuksen* < \**sormukse*, *luukas* : *luukkaan* < \**luukkas* ~ *luukkasen*,  
*joutsen*: *joutsenen*, *sydän*: *sydämen*)
  - can be applied to proto-languages as well
2. Comparative reconstruction: based on several languages

Fi *peura*      Ka *petra*      Est *põder*      < PF \**petra*/\**pëtra* ‘deer;  
elk’

Fi *seura*      Ka *sepra*      Est *sõber*      < PF \**sepra*/\**sëpra*  
‘company’

# Phonemes and words

Finnish	p	ä		ä			
		y	d	i	n		
Saami	b	á	kŋ	i			
		a	đ	a			
Erzya	p	e					
		u	d'	e	m	e	
Mansi	p	ä	ŋk				
	v	ä	l	ø	m		

# Phonemes and words

Hungarian

f

e

j

v

e

l

ő

Komi

p

o

m

v

e

m

PU

\*p

ä

ŋ

i

\*w

ü

ð

i

m

i

# Phonemes and words: comparison

Finnish	p	i		i
	k	ä	s	i
Saami	b	a	tn	i
	g	ie	ht	a
Erzya	p	e	j	
	k	e	d'	
Mari	p	ü	j	
	k	i	d	

# Phonemes and words: comparison

Komi	p	i	ń
	k	i	
Khanty	p	e	ŋk
	k	a	t
Hung	f	o	g
	k	é	z



# Internal reconstruction

*käsi: käden: kättä < \*käte : käten : kätetä* ‘hand’

*lasi: lasin: lasia* ‘glass’

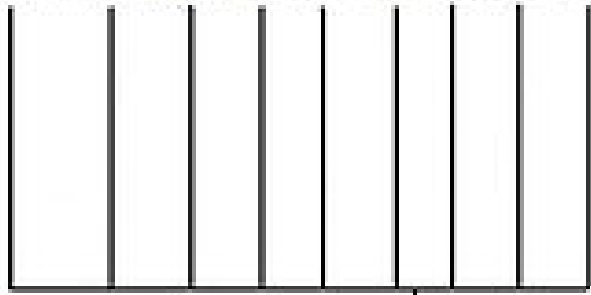
*kuusi: kuusen: kuusta < \*kuuse : kuusen : kuusetä* ‘spruce’

*lehti: lehden: lehteä < \*lešte : lešten : lešetä* ‘leaf’

*lahti ~ laksi: lahden: lahtea < \*lakte : lakten : lakteta* ‘bay’

# Taxonomy of Uralic languages I

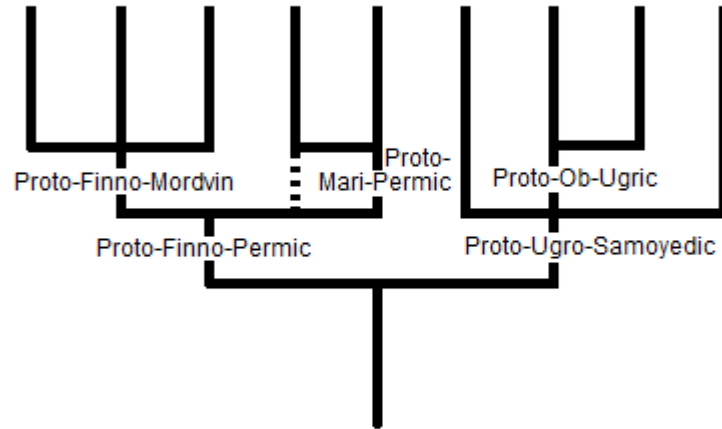
Saami Bälmeonnuozzi Mordva Mari Permi Utkusi Mansi Hanti Samoyedi



Uralilainen kantakieli

(Uralilainen sukupuu Tapani Salmisen mukaan (1999))

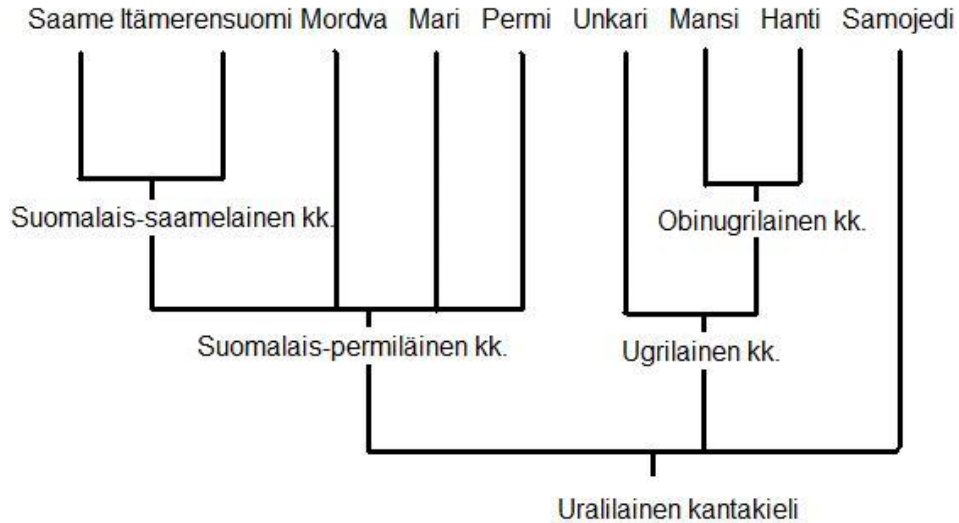
Saami Finnic Mordvin Mari Permic Hungarian Mansi Khanty Samoyed



Jaakko Häkkinen 2007

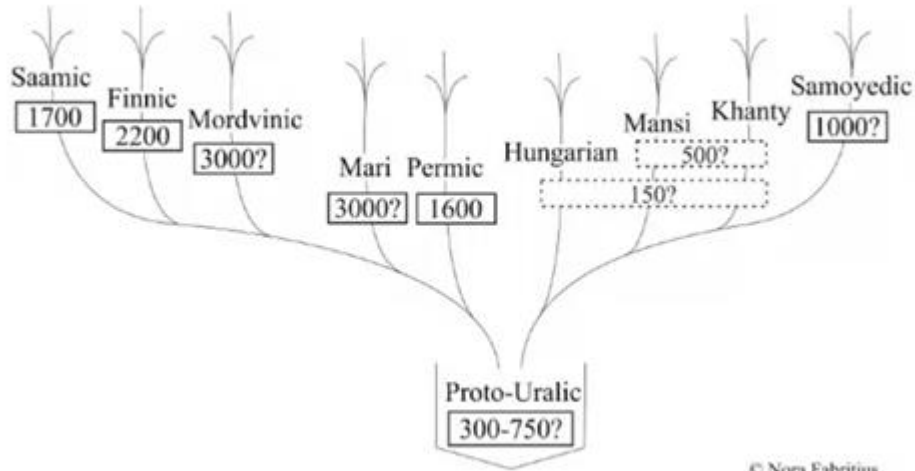
Proto-Uralic

# Taxonomy of Uralic languages II



*Uralilainen sukupuu Ulla-Maija Kulosen mukaan (2002).*

# Shared vocabulary between branches



# Proto-Uralic lexicon

- How many words can be reconstructed for PU?
- UEW = Uralisches etymologisches Wörterbuch, Károly Rédei et. al. 750 words (divided into Proto-Uralic + Proto-Finno-Ugric + Finno-Permic proto-languages)
- Janhunen 1981: Uralilaisen kantakielen sanastosta: 150 certain PU words i.e. such words that have a cognate in Samoyedic (later research has found around 20-30 new cognates that follow regular sound correspondences)
- Sammallahti 1988: 350 words (Proto-Uralic + Proto-Finno-Ugric + Finno-Permic, stricter criteria for cognates than in UEW)
- Ante Aikio, Uralic etymological dictionary (UED) in progress : even 900 words, lists all cognates between any two Uralic languages (excluding neighbouring languages with long lasting contacts like Finno-Saamic)

# Three layer structure

Modern languages (Votic, Skolt Sami, Udmurt, Hungarian, Vach Khanty, Erzya, Hill Mari, Tundra Nenets etc.)



Immediate proto-languages for individual branch (Proto-Finnic, Proto-Saami, Proto-Mordvin, Proto-Mari)



Proto-Uralic/Proto-Finno-Ugric

## Three layer structure II

- proto-languages for individual branches (välikantakieli in Finnish) are based on the comparison between the dialects of a language, Proto-Mari is based on the comparison between Meadow Mari, Hill Mari, Northwestern dialects, Volga dialect etc., Proto-Mansi on the comparison between Tavda Mansi, Konda Mansi, Pelymka Mansi, Sosva Mansi etc.
- the goal is to explain observed variation in modern languages to a common, often invariable, ancestor
- Proto-Uralic is a so-called second level reconstruction in that it's based on the comparison between these lower level proto-languages
- internal reconstruction can be applied to Proto-Uralic and other proto-languages as well

# Phonology of Proto-Uralic

## a) consonants

Stops	sibilants	affricates	nasals	liquids	spirants	semi-vowels
<i>k</i>	<i>s</i>	<i>č</i>	<i>m</i>	<i>l</i>	<i>š</i>	
<i>t</i>	<i>ś</i>	<i>ć</i>	<i>n</i>	<i>r</i>	<i>š'</i>	<i>j</i>
<i>p</i>	( <i>š</i> )		<i>ń</i> <i>ŋ</i>		<i>x</i>	<i>w</i>

## b) vowels

### 1st syllable

<i>i</i>	<i>u</i>	( <i>ü</i> )
<i>e</i>	<i>o</i>	<i>ë</i>
<i>a</i>	<i>ä</i>	

### 2nd syllable

<i>i/i</i>
<i>a/ä</i>



# Notation I

- ‘ on top of letters (ś, ṅ) denotes palatalization
- ð = dental spirant (same phoneme as in English *th: the, that*), often also marked as d
- x or γ = velar spirant (same place of articulation as in *k* or *g*, but with constricted air flow that causes friction)
- w = bilabial, same phoneme as in English *what, where*
- č (c) = a so-called back or “cacuminal” affricate
- ć = palatal affricate

## Notation II

- ü = close labial front vowel, <y> in Finnish orthography
- ĩ (i) = close illabial mid vowel, close to Russian <ы>
- ë (e) = central illabial mid vowel

on the 2nd syllable notation:

- in most words only two possibilities, a close vowel i/i (traditionally e, nowadays sometimes also a reduced ə) or an open vowel ä/a whose frontness/backness is determined by vowel harmony
- the front-back distinction of i/i is often omitted in notation, cf. PU \**kamti* 'lid' (it would be more precise to reconstruct \**kamtĩ*, but given that the vowel harmony is an automatic and predictable process it's not always implicitly marked)

# Proto-Uralic phonotaxis

- canonical 2-syllable structure (C)V(C)CV
- pronouns can be monosyllabic, a few 3-syllabic words are also reconstructable, perhaps originally derivations
- suffixes typically (C)CV(C?)
- second-syllable vowels determined by vowel harmony
- stress on first syllable
- long mid vowels in Finnic, \**ee*, \**oo*, were thought to arise from the vocalization of an earlier \**x*, PU \**käxli* ‘language, tongue’ > PF \**keeli* (Janhunen, Sammallahti), but nowadays long mid vowels are more commonly seen as a Proto-Finnic innovation (so-called Lehtinen’s law, PU \**käli* > PF \**keeli*)

# Proto-Uralic morphology

## Cases

sg	pl	
N -	- <i>t</i>	> Fi NOM
G - <i>n</i>	?- <i>j</i>	> Fi GEN
A - <i>m</i>	?- <i>j</i>	> Fi ACC
L - <i>nA</i>		> Fi ESS, INESS, ADESS
Abl - <i>tA</i>		> Fi PART, ELAT, ABL
D/Lat - <i>kV, -η, n</i>		> Fi GEN?, ILL, ALL
carit. - <i>ktA</i>		> Fi ABESS carit. suf.
		ktVmV-

# Proto-Uralic morphology II

“finite conjugation”

1. *-m -mAjn -mAt*
2. *-n / -t -tAjn -tAt*
3. *- -kV -t*

Proto-uralic had three series of possessive suffixes that had arisen from personal pronouns through agglutination (*-mV*, *-tV*, *-sV*). Dual possessive suffixes were marked by *-n* and plural possessive suffixes by *-t*

# Proto-Uralic morphology III

Several infinite verb endings can be reconstructed for Proto-Uralic:

- *-jV* *-mA* *-sA* *-ktAmA* *-k* *-pA* *-tA*
- imperative *k*, *-kA*, conditional *-ne*
- ?basic word order SOV
- postpositions, no prepositions
- ?3rd person clauses were nominal (*\*lintu lentäpä = lintu lentää*).
- unclear whether adjectives and adverbs formed their independent word classes

# (Late) Proto-Finnic

## a) consonants

stops	sibilants	affricates	nasals	liquids	spirants	semi-vowels
<i>k</i>	<i>s</i>	<i>c</i>	<i>m</i>	<i>l</i>		<i>j</i>
<i>t</i>			<i>n</i>	<i>r</i>	<i>h</i>	<i>v</i>
<i>p</i>			( <i>ŋ</i> )			

## b) vowels

### 1st syllable

<i>i, ii</i>	<i>u, uu</i>	<i>ü, üü</i>
<i>e, ee</i>	<i>o, oo</i>	
<i>a, aa</i>	<i>ä, ää</i>	

### 2nd syllable

<i>i</i>	<i>u</i>	( <i>ü</i> )
<i>e</i>	<i>o</i>	
<i>a</i>	<i>ä</i>	

### diphthongs

# Exercise 1

Which of the following “Finnish words” could be inherited from Proto-Uralic and which couldn’t? (you can assume the words are in their most basic form)

*puli*    *tartsa*    *möka*    *siila*    *krotta*    *kimo*    *läiriö*    *päilä*    *vema*  
*pums*    *nehvettä*    *käylä*    *oppa*    *juo*    *nuopa*    *looppi*    *runski*    *mähli*  
*kaalu*    *luuka*



## Exercise 2

Which of the following words can be old, which cannot and why?

*numi*   *höpö*   *höpi*   *numa*   *nuuma*   *nuumi*   *killi*   *piila*   *sukko*  
*sukka*   *suukka*   *suukki*   *suu*   *kurkka*   *suppi*

## Exercise 3

What can be said about the age of the following words on phonotactic grounds?

*kuuma vaaksa sumu sauna mäki*

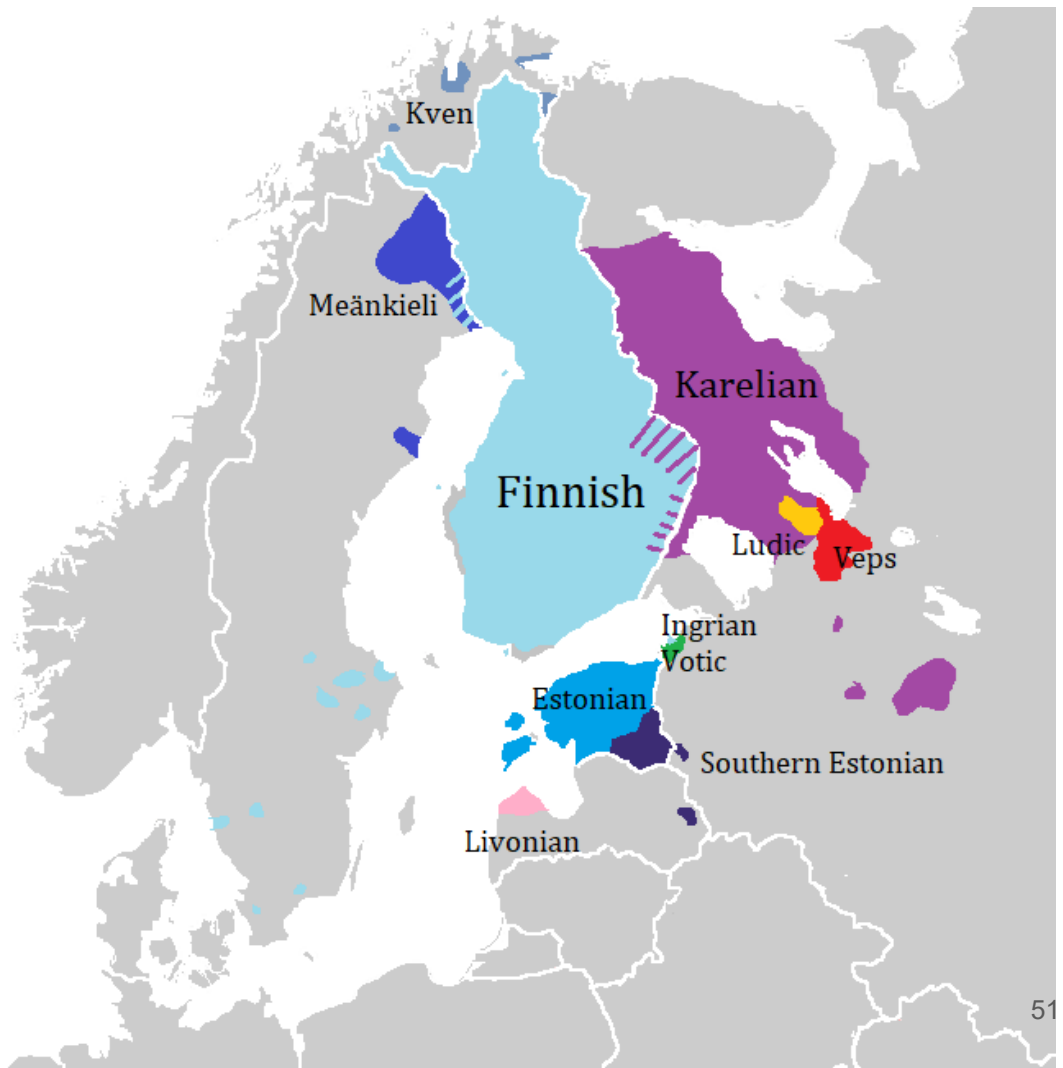
*niemi lasso kilpi varsta kuula*

*taukki duffeli hiki läski tuska*

*keino kukka hattu suuri saari*

# Finnic languages

Wikipedia map



# Areal linguistics of Finnic

7-11 living languages (status of Lude, Meänkieli, Kven disputed)

Extinct languages east of the modern language border (Eastern, probably also Southern type)

Main “big” languages of Finnish and Estonian consist of dialects with very different roots, actually representing different language forms (Western vs. Eastern Finnish, Northern vs. Southern Estonian)

# Areal linguistics of Finnic

Terho Itkonen 1980s: three groups - Southern (Southern Estonian = Võru / Setu, Livonian), Northern (Finnish, Estonian), Eastern (Savo dialects, Karelian, Veps, etc.)

Sammallahti 1977, Kallio 2000s: main historical division between the Southern group (South Estonian, Livonian) vs. the rest, the differences between northern languages minor

Main differences:

\*-kt- > -ht- (North) ~ \*-kt- > -tt- (South) Fi. *lähde* ~ EstS *lätteq* 'spring, brook'

\*č

# From Proto-Uralic to Proto-Finnic

- PU \*x and \*ŋ were eliminated between vowels producing long vowels: PU \*mäxi ‘land, earth’ > PF \*maa, PU \*këŋjiri ‘curved object’ > PF \*kaari, PU \*piŋi ‘tooth’ > PF \*pii, in labial contexts however PU \*ŋ > PF \*v: \*sunji ‘summer’ > PF \*suvi, PU \*wäŋjiw ‘son-in-law’ > PF \*vävü
- this vocalization resulted in long vowels and monosyllabic words (that in Proto-Uralic were limited to pronouns)
- loss of palatal correlation i.e. \*ń, \*ś, \*d’ were depalatalized into \*n, \*s and \*d respectively: PU \*ńäli- ‘to swallow’ > PF \*neele- (> Fi *niele-*), PU \*śarwi ‘horn’ > PF \*sarvi, PU \*d’ëmi ‘bird-cherry’ > PF \*toomi (see also next)
- PU \*d’ and \*d coincided into PF \*t

## From Proto-Uralic to Proto-Finnic II

- PU affricate \*č underwent deocclusion to \*t, PU \**pečä* ‘pine’ > PF \**petä-gä* > Fi *petäjä*, PU \**künčä*- ‘to dig’ > PF \**küntä*- > Fi *kyntää*
- however an affricate was preserved in South Estonian in cluster \*čk: PU \**pučki* ‘hollow tube’ > PF \**pucki* > Fi *putki*, EstS *pütsk*, EPF \**kačku* ‘smoke’ > PF \**kacku* > Fi *katku*, EstS *katsk*
- \**tj* > PF \**ci* (> Fi *si*) : EPF \**tika* ‘pig’ > PF \**cika* > Fi *sika*, EstS *tsiga*
- note that the change affected also PF secondary \**t* (PU < \*č, PU \**d*, \**d'*): PU \**künči* ‘fingernail’ > *künti* > PF \**künci* > Fi *kynsi*, EstS *küüdś*, PU \**śüd'i* ‘charcoal’ > *süti* > PF *süci* > Fi *sysi*, EstS *hüdsi*
- \*š > \**h*: \**šinjiri* ‘mouse’ > Fi *hiiri*, \**šalna* ‘frost’ > Fi *halla*, \**mekši* ‘bee’ > Fi *mehiläinen* (in this instance the whole \**kš* cluster > *h*)

## From Proto-Uralic to Proto-Finnic III

- word-initial semivowel \*w disappeared preceding a labial vowel: PU \**wolka* > PF \**olka* > Fi *olka* (~ Hung *vall*), PU \**wosa* ‘merchandise’ > PF \**os-ta-* > Fi *ostaa* (~ Udm *vuz*) (a change shared by Saami and Mordvin)
- word-initial \**ji* > *i*: PU \**jiša-j* > Fi *iho* ‘skin’, PU \**jilma* > Fi *ilma* ‘air, weather’, PU \**jikä* ‘year’ > Fi *ikä* ‘age’
- consonant cluster assimilations: \**ln* > *ll*: *halla* ‘frost’ (< EPF \**šalna* < Baltic)
- \*-*mt-* > *nt*: *kansi* ‘lid’ (< PU \**kamti*)
- \*-*ŋś-* > *is*: *seisoa* ‘to stand’ (< PU \**saŋśa-*)



## Three Proto-Finnic changes and their order

\*-*kt*- > *ht*: PU \**läkti*- ‘to leave’ > Fi *lähte*-, \**kakta* > *kahta* (partitive) (note that in South Estonian not \**kt* > *ht*, but \**kt* > *tt*, cf. PF \**läktek* ‘spring (water source)’ > Fi *lähde*, EstS *lätteq*)

- \**ti* > \**ci* > *si*: EPF \**kakti* > Fi *kaksi* (alternations like *yksi: yhden* ‘one’ (nominative: genitive), *kaksi: kahden* ‘two’ would seem to indicate that \**ti* > *si* is older than \**kt* > *ht*)

- \**š* > *h*: PU \**lešti* ‘leaf’ > Fi *lehti* (ergo \**š* > *h* is older than \**ti* > *si*)

# Proto-Finnic: word-final position I

- word-final *\*-m* > *-n*: PU *\*śüdämi* ‘heart’ > Fi *sydän*: *sydäme-* (note that this change has been shared by Mordvin (~ *śed’en*)
- labial vowels emerged through combinations with semivowels *\*-Vw* and *\*Vj*:  
PU *\*käläw* ‘in-law’ > Fi *käly*, PU *\*nataw* ‘in-law’ > Fi *nato*, PU *\*tala-j* > Fi *talo* ‘house’, PU *\*repä-j* ‘fox’ > Fi *repo* (note the semivowel has been preserved in some Eastern Finnic forms, *reboi*, *taloï*)
- note that Finnic and Saami share this innovation: Fi *pato* ‘dam’ ~ SaN *buođđu*, Fi *käly* ~ SaN *gálojeatni*)

## Proto-Finnic: word-final position II

- word-final *\*k, \*š* > *h* >  $\emptyset$ : *\*veneš* ‘boat’ (~ SaN *fanas* : *fatnasa*) > *\*veneh* > *venhe* > *vene*, EPF *\*läkte-k* > PF *\*lähdek* > *lähde*
- many of the words ending in *h* are originally derivations: *lähteä* > *lähde*, *laittaa* > *laite*, *elää* > *ele*, others are loans *kone*
- in Finnish what is left of the word-final *\*k, \*š* is gemination, in South Estonian they remain as a glottal stop

# Proto-Finnic vowel changes I

- long vowels emerged in PF through the loss of \*x, \*ŋ and \*w in positions between vowels, word-internal \*-j- resulted in a diphthong (in Finnish and Karelian long mid vowels \*ee and \*oo became diphthongs *ie* and *uo*)
- PU \**mēxi* 'land, earth' > Fi *maa*, PU \**mūŋä-* > PF \**möö-* > Fi *myö-* 'along' PU \**luwi* 'bone' > Fi *luu*, PU \**täji* 'louse' > Fi *täi* (in some originally 3-syllabic words these changes resulted in 2-syllabic words: PU \**kīŋiri* 'curved object' > Fi *kaari*)
- diphthongs also arose when syllable-final \*ŋ, \*w and \*j were vocalized: PU \**joŋsi* 'bow' > Fi *jousi*, PU \**lewli* 'spirit' > PF \**leülü* > Fi *löyly* 'sauna steam', PU \**kojra* 'dog' > Fi *koira*, PU \**nājdi* 'girl' > PF \**nājti* > Fi *neiti*
- vowel *ö* appeared, probably first in diphthongs \**keühä* 'poor' > Fi *köyhä*, but soon it spread to new positions, especially in expressive vocabulary
- in South Finnic vowel *ë* (<*ö*>) initially in combinations *e-a* and *o-e*: Fi *seura* 'company' ~ Est *sõber* 'friend', Fi *peura* 'deer' ~ Est *põder* 'elk', Fi *tosi* 'truth, true' ~ Est *tõde*, Fi *ovi* 'door' ~ Est *õu*
- there is some debate whether the South Finnic mid vowel *ë* is actually original and *ë* was fronted in North Finnic
- combinations of an obstruent and a liquid also gave diphthongs in Finnish: Fi *nauris* 'turnip' ~ Karelian *nakris/nagriž*, Fi *neula* 'needle' ~ Ka *niekla*, Fi *kaula* ~ Ka *kagla*, Fi *peura* ~ Ka *petra*, Fi *seura*, Ka *siebra*

# Proto-Finnic vowel changes II

- PU \*ä-ä changed to PF \*a-i, the so-called \*tä/wä ‘winter’ > *talvi* change: PU \*säppä ‘bile’ > Fi *sappi*, exceptions are typically such where derivative suffixes have blocked the change: PU \*sälä- ‘to get (in a boat), mount’ > Fi *sälyttää* ‘to load, put a burden on’
- PU \*ë > PF \*a: PU \*ñëli ‘arrow’ > \*ñali > PF \*nooli, PU \*sëni ‘sinew’ > \*sani > PF \*sooni
- disharmonic (not following front-back vowel harmony) combinations expanded from *i-a* (also in Saami, Mordvin, Mari) to other combinations as well *e-a*: *kerä* ~ *kerä*
- first-syllable *aa* and *ää* are younger than other long vowels and are never older than Proto-Finnic, words like *saari*, *sääri*, *väärä*, *määrä*, *sääri* are either originally 3-syllabic and arose through the loss of a word-internal consonant like \*ŋ or are loanwords like Fi *määrä* < ORu *мѣра*, Fi *läävä* < ORu *хлѣв*. Some of the words like *saari* are of unknown origin
- long vowels in old words never occur before second syllable open vowel, that’s why words like *tuuli* ‘wind’, *huuli* ‘lip’ are older than *kuula* ‘hard ball’, *syylä* ‘wart’, the latter are either loans like *kuula* < Swedish *kugel* or arose through vocalization *syylä* < \*süklä, *teeri* ‘grouse’ < \*tetri

# Research history of Finnic long vowels

- traditional view (maintained for example by Erkki Itkonen in the 60's) was that Finnic long vowels, \*ee, \*oo(> Fi *ie, uo*), \*uu, \*ii, represent an archaism and were present already in Proto-Finno-Ugric but have since disappeared in other branches
- Juha Janhunen proposed in the 80's that long vowels in Finnic originated from the vocalization of a short vowel and \*x and that they largely corresponded to Proto-Samoyed vowel sequences: PU \**tuxli* 'wind' > PSam \**tuəj* ~ PF *tuuli*, PU \**käxli* 'language, tongue' > PSam \**käəj* ~ PF \**keeli*
- Ante Aikio in 2012 showed that Samoyed vowel sequences largely do not correspond to Finnic long vowels and rehabilitated the idea already put forward by Meri Lehtinen that long mid vowels \*ee and \*oo arose through secondary lengthening, the background of long \*uu and \*ii seems to be more complicated (but at least partly they represent earlier V+semivowel)
- according to this lengthening sound change put forward by Aikio (sometimes dubbed Lehtinen's law) PU \*a > PF \*oo and PU \*ä > PF \*ee in Pre-Finnic *i*-stems before single voiced non-dorsal consonants (typically \*m, \*n, \*l, \*r): PU \**śali* 'gut' > PF \**sooli*, PU \**käli* 'language, tongue' > PF \**keeli*
- note that this change also occurs in PU \*ä-ä words: PU \**pälä* 'half' > \**pali* > PF \**pooli* and words reflecting PU \*ë: PU \**sëni* 'sinew' > \**sani* > PF \**sooni*, indicating that \**tälwä* > *talvi* change and \*ë > a preceded Lehtinen's law in Pre-Finnic

# Exercise

What do these PU words become in modern Finnish?

<i>*ńurmi</i>	<i>*pilwi</i>	<i>*piŋi</i>	<i>*sewi-</i>
<i>*säŋi</i>	<i>*šođka</i>	<i>*pata</i>	<i>*täktä</i>
<i>*tälwä</i>	<i>*waji</i>	<i>*wuđ'i</i>	<i>*wäki</i>
<i>*šaŋka</i>	<i>*läkti</i>	<i>*kačka-</i>	<i>*wotta-</i>
<i>*towli</i>	<i>*mëksa</i>	<i>*kali-</i>	<i>*nüdi</i>

## Exercise 1: Finnic

The following words have disappeared from Finnish, help etymologist to reconstruct them to modern Finnish

*\*ńomala* 'hare'   *\*kompa* 'wave'   *\*ukti* 'path, road'

*\*śăčă* 'water'   *\*tăwîw* 'lungs'   *\*woča* 'fence'

*\*ńëkćimi* 'tongue, gills'



# Exercise 1: Finnic

* <i>an̄ti</i> ‘spear’	* <i>apta-</i> ‘to bark’	* <i>čan̄a-</i> ‘to shit, strike’	* <i>čeči</i> ‘wild duck’
* <i>čän̄i</i> ‘smoke’	* <i>eña</i> ‘tame’	* <i>keča-</i> ‘to understand, know’	
* <i>kenči-</i> ‘to look for’	* <i>konti-</i> ‘to hunt, murder’		* <i>koppi</i> ‘mold’
* <i>koska</i> ‘older female relative’		* <i>küji-</i> ‘to follow, track’	
* <i>kupsa-</i> ‘to extinguish’	* <i>kämä</i> ‘shoe, boot’	* <i>leksi-</i> ‘to carve’	* <i>monki</i> ‘body’
* <i>muča</i> ‘sickness’	* <i>mälki</i> ‘breast’	* <i>nerka</i> ‘cartilage’	* <i>nä/elmä</i> ‘mouth’ * <i>od’a</i> ‘raw, meat’
* <i>pakta-</i> ‘to pursue’	* <i>panča-</i> ‘to open’	* <i>peljä</i> ‘ear’	* <i>pejka</i> ‘psychedelic mushroom’
* <i>počaw</i> ‘reindeer’	* <i>šara</i> ‘dry’	* <i>señti-</i> ‘to clear, cut open’	
* <i>šona</i> ‘sled’	* <i>särä</i> ‘fiber, tendon’	* <i>tejmi</i> ‘soft’	* <i>wajñi(-)</i> ‘spirit, to breath
* <i>wanča-</i> ‘to cross, move cautiously’		* <i>woča-</i> ‘to wait’	* <i>worka-</i> ‘to sew’

Read the dialogue in “Proto-Uralic”; how would you translate it?

Lukima (luki-w) ükti: Tumti-kta-ma

- Muna kënta-uralan šarnaja wolim. Tuna ken wolit?
- Muna sämän kälen šarnaja wolim. Tä kođwana enä kënta-uralata em šarna. Muna tuniktam kënta-uralam.
- Tuna enä kënta-uralam šarnat. Alkamakotana/alka-w-kota-j-na tulijit-menijit?
- Alkamakotana esim wolik. Suņina alkamakotak menim.
- Para. Men šarnamin enämpä münjämpä.
- Näkimäk.

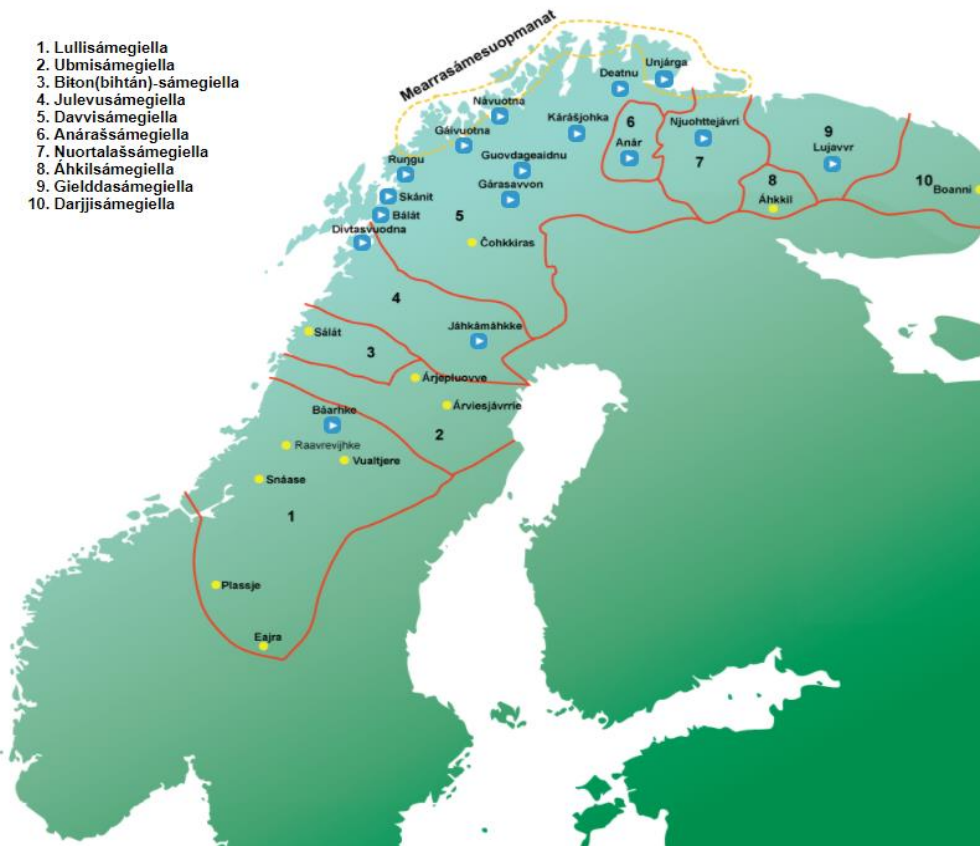
# Saami languages

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## Suopmankárta

Suopmankárta lea digitála oahpponeavvu man bokte oahppit ja earát geat berošit sámi suopmaniin sáhttet gullat iešgudet guovllu suopmaniid. Muhtin jietnafillaidd leat fitnen Sámi arkiivvas, ja muhtin jietnafillaidd leat ožžon priváhta olbmuid muitalit oanehis máidnasa dahje muitalusa. Jos don háliidat du guovllu suopman galgašii gullot dás, de áinnas sáddes midjiide jietnafilla. Mii lasihat dan kártii.  
*Dieđuid jietnafillaidd birra gávnnat dás.*

1. Lullisámegiella
2. Ubmisámegiella
3. Biton(bihtán)-sámegiella
4. Julevusámegiella
5. Davvisámegiella
6. Anárasámegiella
7. Nuortalássámegiella
8. Áhkilsámegiella
9. Gielddasámegiella
10. Darjjisámegiella



# Areal variation of the Saami languages in a historical context

Nine living languages: Southern, Ume, Pite, Lule, Northern, Inari, Skolt, Kildin, Ter Saami

One recently extinct language Akkala Saami (last speaker died in 2003)

Other languages known from the 19th century: Kemi, Kuolajärvi, Kittilä, languages of sockenlappar (parish Saami) in Central Sweden

Division to languages based mainly on morphophonological criteria

If division was made mainly on lexical criteria, the Sea Sami dialects (classified as dialects of Northern Saami) would stand apart

# Areal variation of the Saami languages in a historical context

Mostly agglutinative (south) vs. fusional (center, east) morphology

Southern Saami (+ Ume Saami) as the historical old periphery

- the most Finno-Ugrian morphology, with different suffical case endings for genitive and accusative (-*n*, -*m*), locative & elative (-*sne* ~ -*ste*)
- no consonant gradation (but, as in other Saami languages, notable vowel alternations) \*NB Ume Saami has gradation of geminates

Eastern periphery (Kildin, Ter) with archaisms

- no denasalisation (-*mp-*, -*nt-*, -*ŋk-*, etc. ~ -*bb-*, -*dd-*, -*gg-*)

veksi  
lihtárat  
áivvit

Oarje: -ik/it/in: muitit, huikit,  
- láhppon kontráksuvdna nž dáfus  
- násalaid dissimileren; bm/dn/krj  
- pártitiiva láhppon

Sámesuoipmaniid váldorádjá (jmf Sammalahsti)

Nuorta: -šk/št/šn: muštit, huškit,  
- produktiivalaš nž  
- násalaid geminánttat; mm/nn/ŋŋ/nñ  
- produktiivaš pártitiiva

Apokope-guovlu; deattuhs  
stávval jávká; jokk (johka),  
kidd (gitta), luoss/luozz (luossa)

Alit rájá nuortabealde:

- lokatiiva  
- biehttanvearba dušše preseansas  
- akkusatiiva ja genitiiva dábálaččat  
gahččet oktii

Alit rájá oarjabealde:

- inessiiva ja ellatiiva  
- biehttanvearba  
preseansas ja  
preterihtás  
- akkusatiiva ja  
genitiiva sierrá  
hámiin



**Metafonija;** vokálarievdan go sátni sojahuvvo  
SámLul; gæljoeh - gylje, lihtie - læhtan  
SámAnár; moonnad - mana  
Sám Nuort; kuullad - kooll

**Syntákša-ášši:** Nominalpredikátiiva =  
cealkka gonnes vearbála váilu, lea dábalaš  
darjesámegielas ja lulesámegielas.

SámLul: Laara saemie. (Laara lea sápmi)  
SámLul: Piere gáetsne (Piere lea goadis)

# Proto-Saami phoneme inventory

## a) consonants

stops	sibilants	affricates	nasals	liquids	spirants	semivowels
<i>k</i>	<i>s</i>	<i>č</i>	<i>m</i>	<i>l</i>	<i>ɔ̃</i>	<i>j</i>
<i>t</i>	( <i>š</i> )	<i>ć</i>	<i>n</i>	<i>r</i>		
	<i>v</i>					
<i>p</i>			<i>ŋj</i>			
			<i>ŋ</i>		( <i>h</i> )	

## b) vowels

### first syllable

*i, ie*      *u, uo*  
*ea*      *oa*  
*a*      *á*

### second syllable

*ē*  
*ō*  
*ë*

# From Proto-Uralic to Proto-Saami: sibilants and affricates

- \*ś > SaaN č

PU \*śilmä ‘eye’ > Proto-Saami \*ćělmē > SaaN čalbmi (~ Fi *silmä*)

PU \*śelkä ‘back’ > PS \*ćielkē > SaaN čielgi (~ su *selkä*)

PU \*śormi ‘finger’ > PS \*ćuormē > SaaN čuorbma (~ Fi *sormi* ~ Md *śur*)

PU \*śata ‘100’ > PS \*ćuotē > SaaN čuohti (~ Fi *sata* ~ Md *śado*)

It has also been proposed that this change took place in the common predecessor of both the Proto-Saami as well as the Proto-Finnic; in the latter, a separate change \*č > s would have taken place

- \*š > s

\*širvi ‘elk’ > PS \*sěrvē > SaaN sarva (~ Fi *hirvi*)

\*šalna ‘frost’ > PS \*suolnē > SaaN suoldni (~ Fi *halla*)

\*šüvä ‘good’ > PS \*sěvē- > SaaN savvi-t ‘heal (a wound)’ (~ Fi *hyvä*)

\*šajna ‘hay’ > PS \*suoinē > SaaN suoidni (~ Fi *heinä*, Southern Estonian *hain*)



# From Proto-Uralic to Proto-Saami: sibilants and affricates

\*s and \*č were both preserved:

PU \**sēni* ‘vein’ > PS \**suonē* > SaaN *suotna* (~ Fi *suoni*)

PU \**čuŋki-* ‘push’ > PS \**coŋkë-* > SaaN *coggat* (~ Fi *tunke-*)

NB! In Proto-Saami a secondary *š* emerged. It mainly occurs in onomatopoeitic - descriptive vocabulary (In Finnic \**š* > *h*): *šuvvat* ‘to rush’

In some cases, *š* is used as a substitute of Fi. *h* in borrowings, rendering layers of borrowings:

PF \**paha* ‘bad’ > SaaN *buošši* ‘bad-tempered’

old borrowing

Fi *paha* ‘bad’ > SaaN *bahá* ‘bad’

new borrowing

# From Proto-Uralic to Proto-Saami: strengthening of the middle consonantism

\**nimi* > *namma* (Nom.) : *nama* (Gen-Acc.) (~ Fi *nimi*) 'name'

\**sëni* > *suotna* (Nom.) : *suona* (Gen-Acc.) (~ Fi *suoni*) 'vein'

\**melä* > *mealli* (Nom.) : *meali* (Gen-Acc.) (~ Fi *mela*) 'oar'

\**jäŋe* > *jiekŋa* (Nom) : *jieŋa* (Gen-Acc.) (~ Fi. *jää*) 'ice'

\**suxi-* > *suhkka-* (Inf.) : *suhka-* (1PSg) (~ Fi *sou-ta-*) 'row'

# Consonantal gradation in Finnic and Saami

The Finnic and Saami languages both represent the **consonant gradation**. This means the strengthening / weakening of the consonantism between the 1st and the 2nd syllable, as well as in the suffixal position. Within Finnic, the gradation is not present in Veps and Livonian. Within Saami, it is not present in Southern Saami.

Different theories exist regarding the origin of the gradation. For instance:

Setälä 1920s: Proto-Uralic gradation

Lauri Posti 1950s: Innovation under Germanic interference

Korhonen 1981: Common Saami-Finnic innovation

Sammallahti 1998: Separate innovation in Finnic and Saami

Helimski 1990s: probably some PU background (with reference to similar innovation in Samoyed)

Likely, CG is not a joint innovation of Finnic and Saami. In Saami, the gradation is typically of strengthening character (in front of the original 2. syllable suffix), whereas in the Finnic, the gradation is of weakening character. The weak grade occurs in front of the closed syllable (that ends in a consonant), and the strong grade in front of the open syllable (that ends in a vowel).

# From Proto-Finnic to (Proto-)Saami: denasalization

In all of the Saami languages west of Skolt Saami (i.e. Skolt, Inari, Northern, Lule, Pite, Ume and Southern Saami) the combinations of nasal and homorganic stop or affricate turned into medial stops

<i>*kunta</i> > PS <i>kontē</i> > <i>goddi</i> (~ Fi <i>kunta</i> )	‘group of men (for hunting)’
<i>*sompā</i> > PS <i>soampē</i> > <i>soabbi</i> (~ Fi <i>sompā</i> )	‘rim of a ski pole’
<i>*oŋki</i> > PS <i>*vuonkē</i> > <i>vuogga</i> (~ Fi <i>onki</i> )	‘fishing rod’
<i>*kunši</i> > PS <i>końćē</i> > <i>gožža</i> (~ Fi <i>kusi</i> )	‘urea’

In the easternmost Saami (Kildin, Ter) this change did not occur, turning it to one of the oldest phonematic changes diverging the Saami languages

# From Proto-Finnic to Proto-Saami: other consonantal changes

- *wo* > *o* in the beginning of the word (jointly with Finnic)

*\*wolka* > PS *\*oalkē* > SaaN *oalgi* 'shoulder' ~ Fi *olka* (~ Hung *vall*)

- PS *\*uo* (< PU *\*a*, *\*ë*, *\*o-i*) > *vuo* in the beginning of the word

*\*ëla* > PS *\*vuolē* > SaaN *vuolli* 'low' (~ Fi *ala*)

*\*amta-* > PS *\*vuomtē-* 'give' > SaaN *vuovdit* 'sell' (~ Fi *anta-* 'give')

*\*oŋki* 'fishing rod' > PS *\*vuonkë* SaaN *vuogga*

From Proto-Uralic to Proto-Saami: vowels, *\*a-a* > *uo*

*\*kala* > PS *\*kuolē* > SaaN *guolli* ~ Fi *kala* ~ MdE *kal* ~ Hung *hal*  
'fish'

*\*pala* > PS *\*puolē-* > SaaN *buolli-t* ~ Fi *pala-* ~ MdE *palo-* 'burn'

*\*kanta* > PS *\*kuontē-* > SaaN *guoddi-t* ~ Fi *kanta-* ~ MdE *kando-*  
'bring'

*\*taka-na* > PS *tuokē-n* > SaaN *duohkin* ~ Fi *takana* 'behind'

## From Proto-Uralic to Proto-Saami: vowels, *\*a > uo*

The change *a > (v)uo* also makes it possible to discern the borrowings from Finnish from the inherited lexicon: SaaN *áddit* ‘give’ is a Finnish borrowing from *anta-* ‘give’ (< *\*amta*), *ándagassii* ‘forgive’ < *anteeksi*, is an even newer borrowing (received after denasalisation)

Similar phenomenon is also to be seen in Germanic borrowings, and the vowel reflexes give datings for the borrowings

SaaN <i>vuordit</i> ‘wait’ < Germ. <i>*wardō</i> > Swedish <i>vård</i> ‘care’	old borrowing
SaaN <i>várddahit</i> ‘to guard’ < Germ. <i>*wardō</i>	newer borrowing
SaaN <i>luoikat</i> ‘loan, rent’ < germ. <i>*laikō</i> > Norwegian <i>leie</i>	old borrowing
SaaN <i>láikit</i> ‘loan’ < germ. <i>*laikō</i>	newer borrowing

## From Proto-Uralic to Proto-Saami: *\*i, \*ü > a*

<i>*nimi</i> > SaaN <i>namma</i> ~ Fi <i>nimi</i>	‘name’
<i>*pilwi</i> > SaaN <i>balva</i> ~ Fi <i>pilvi</i>	‘cloud’
<i>*(j)ilma</i> > SaaN <i>albmi</i> ~ Fi <i>ilma</i>	‘air, sky’
<i>*kiri-</i> > SaaN <i>garra</i> ~ Fi <i>kire-ä</i>	‘tight’
<i>*süli</i> > SaaN <i>salla</i> ~ Fi <i>syli</i>	‘lap, fathom’
<i>*wüðimi</i> > SaaN <i>ađa</i> ~ Fi <i>ydin</i>	‘nucleus, inner part’

Again, the word pairs that do not follow this pattern, are borrowings: Fi *ilma* ‘air’ corresponds to *albmi* ‘sky’, but SaaN *ilbmi* ‘air’ is a borrowing from Finnish



# From Proto-Uralic to Proto-Saami: vowels \*o and \*e

1st syllable \*o, \*e history is related to the 2nd syllable vowel

- \*o > oa, \*e > ea if 2nd syllable had an open vowel (\*a, \*ä)

\*elä- 'live' > PS *ealē-* > SaaN *ealli-t* (~ Fi *elä-*)

\*pesä 'nest' > PS *peasē* > SaaN *beassi*

- \*o > *uo* if 2nd syllable had a close vowel

\*koški 'rapids' > PS \**kuoškä* > SaaN *guoika* (~ Fi *koski*)

\*soski- 'to chew' > PS \**suoskä-* > SaaN *suoska-t*

# From Proto-Uralic to Mordvin languages: consonants

- the general trend in Mordvin (Erzya and Moksha) was that the number of consonant phonemes arose significantly through voicing of stops and sibilants ( $p, t, k \sim b, d, g$ ,  $s, \acute{s} \acute{\acute{s}} \sim z \acute{z}$ )
- palatalization spread to all consonants excluding velars (new phonemes  $p', t', b', d', l', r'$ , also  $\acute{n}$  ja  $\acute{s}$  remained as independent phonemes).
- geminated obstruents were shortened
- some essential tendencies in Mordvin:
- voicing of obstruents next to a sonorant

PU *\*kanta-* 'carry' > E *kando-* M *kandø-*

PU *\*lämpi* 'warm' > E *l'embe* M *l'ämbä*

PU *\*tuŋki-* 'to cram' > E *tongo-* M *tongø-*

PU *\*śülki-* 'to spit' > E *śel'ge-* M *śөл'gø-*

PU *\*särki* 'roach' > E *seŕge* M *śärgä*

# Mordvin: obstruents

- single stops and sibilants were voiced between vowels:

PU *\*kota* 'hut' > *kudo* 'house'

PU *\*käti* 'hand' > E *ked'*, M *käd'*

PU *\*weti* 'water' > *ved'*

- *\*k* and *\*p* changed into semivowels between vowels and certain other positions:

PU *\*šepä* 'neck' > E *šive* M *šivä* 'collar'

PU *\*wäki* 'strenght' > E *vij* M *vi*

PU *\*turpa* > E *torvo* M *tørva* 'lip'

PU *\*kakti* '2' > E *kavto* M *kafta*

- geminates were shortened to single consonants

PU *\*säppä* 'bile' > E *sepe* M *šäpä*

## Mordvin: palatalization

- usually in Mordvin all consonants preceding a front vowel have been secondarily palatalized, that's why the old opposition between palatal and non-palatal consonants, *ś* ~ *s*, *ń* ~ *n*, is reliably typically only found before back vowels:

PU *\*śilmä* 'eye', *\*śata* '100', *\*süli* 'lap, armful' > E *śel'me*, M *śel'mä*, E *śado*, M *śada*, E *sel'*, M *śel'*

PU *ńomala* 'hare' > E *ńumolo* M *ńumøl*

PU *\*nüdi* 'shaft' > E M *ńed'* 'shaft' (~ Fi *nysi*)

PU *\*kuńa-* 'to close one's eyes' > E M *końa-*

PU *\*künärä* 'elbow' > E *keńeń*, M *keńør*

## Mordvin: spirants and affricates

- PU \* $\delta$ ,  $\delta'$  > *d*, *d'*

PU \**wu $\delta$ 'i* 'new' > E M *od* (~ Fi *uusi*)

PU \**kad'a-* 'to leave' > E *kado-*, M *kad $\emptyset$ -* (~ Fi *kadota*)

PU \**š $\ddot{u}$  $\delta$ ämi* 'heart' > E *šed'ej*, *šed'enj* M *šed'i*

- PU \**č* remains an affricate

PU \**woča-* 'to wait' > E *učo-*

PU \**pečä* 'pine' E *piče* M *pičä* (Fi *petä-jä*), new affricate from Russian and other loans

## Mordvin: nasals

- \**ŋ* mostly disappeared from Mordvin dialects (except for Southwestern dialects of Erzya):

PU \**kun̄i* ‘moon’ > E M *kov* (E dial *koŋ*)

PU \**pin̄i* ‘tooth’ > E M *pej* (E dial *pev*, *peŋ*)

PU \**šin̄iri* ‘mouse’ > E *čejer* M *šejer*’ (notice the regular word-initial correspondence E *č* ~ M *š*)

PU \**jan̄ša-* ‘to grind’ > E M *jaža-*

- other nasals have remained as such, except for word-final *-m* > *-n*

# Shared changes with Finnic?

- loss of word-initial \*w- preceding a labial vowel:

PU \**woli-* 'to be' > E *ul'e*, M *ul'∅* (~ Fi *ole-*)

PU \**wüdimi* 'core' > E *ud'em* (~ Fi *ydin*)

PU \**woča-* 'to wait' > E *učo-*

- note that also word-initial \*j- often disappears word-initially (remains in some Moksha dialects:

PU \**jäsini* > mdE *ežne*, M (*j*)*äžňä*)

- *m* > *-n* word-finally:

PU \**sewim* 'I eat' > Md *seven* [~ Fi *syön*], for some reason old genitive marker *-n* was palatalized to *ň* (*modaň* [< *mutan*] 'earth's' (~ Fi *muta*); BUT WHY?

# Mordvin: vowel changes I

- Erzya and Moksha vowel systems differ quite considerably: the former has a vowel system consisting of 5 vowels (*u, i, e, o, a*), in addition to these the latter has 2 reduced vowels (allophones of each other?) and *ä*. In many cases the PU vowel system has been better preserved in Moksha. Main vowel changes are:

- PU \**a(-a)*, \**ë* > Md *a*

PU \**kala* 'fish' > E M *kal*

PU \**panča-* 'to open' > E *panžo-*

PU \**mëksa* 'liver' > E *makso*, M *maksa*

PU \**ńëli* 'arrow' > E M *nal*

PU \**sëni* 'sinew, vein' > E M *san*

- PU \**e-ä* > Md *i*

PU \**enä* > E *ińe*, M *ińä* 'big' (~ Fi *enä*, SaN *eatni*)

PU \**kesä* 'summer' > E *kize* M *kizä* (~ Fi *kesä*, SaN *geassi*)

PU \**lešmä* > E *l'išme* M *l'išmä* 'horse' (~ Fi *lehmä* 'cow')



## Mordvin: vowel changes II

- PU *\*i, \*ü, \*e-i* > Md *e*

PU *\*keri* ‘skin, bark’ > E M *keř*

PU *\*meti* ‘mead’ > E M *med’*

PU *\*šilmä* ‘eye’ > E *šel’me*, M *šel’mä* (Fi *silmä*, SaN *čalbmi*)

PU *\*kiwi* ‘stone, rock’ > E M *kev* (~ Fi *kivi*)

PU *\*külmä* ‘cold’ > E *kel’me*, M *kel’mä*

- PU *\*u* > E M *o* (cf. same change in Saami)

PU *\*sula* ‘thaw’ > E M *sola* (~ Fi *sula*)

PU *\*kuḏa-* ‘to weave’ > E M *koda-* (~ Fi *kuto(a)* SaN *godđi-*)

PU *\*tuli* ‘fire’ > E M *tol* (~ Fi *tuli*, SaN *dolla*)

# Mordvin: vowel changes III

- PU \*o, \*a-i > M E u

PU \*kota 'hut' > E *kudo* M *kud* (~ Fi *kota*, SaN *goahti*)

PU \*sođka 'common goldeneye' > E *sulgo* M *sulga* (~ Fi *sotka*, SaN *čoađgi*)

PU \*orja 'slave' > E *urē*, M *urä* (~ Fi *orja*, SaN *oarji*)

PU \*kali- 'to die' > E M *kulo-*

PU \*šali 'gut' > E *šulo*, M *šula*

- PU \*o > u blocked by velar nasal

PU \*jonʃi 'bow' > E *jonks*

- PU \*ä > E e, M ä

PU \*käli 'language, tongue' > E *kel'*, M *käl'*

PU \*käti 'hand' > E *ked'*, M *käd'*

PU \*pälä 'half' > E *pel'*, M *päl'*

## Mordvin: vowel changes IV

- 2nd syllable *i* disappeared following a single consonant and a cluster ending in a sibilant:

PU \**weti* ‘water’ > E M *ved*’

PU \**uni* ‘sleep’ > E M *on*

PU \**suksi* ‘ski’ > E M *soks*

PU \**joŋsi* ‘arrow’ > E *jonks* (~ Fi *jousi*, SaN *juoksa*)

- after consonant clusters and geminates, 2nd syllable \**i* was reduced. Proto-Mordvin reduced vowel is reflected by different full vowels in Erzya and Moksha, in oblique cases the original Proto-Mordvin reduced vowel appears in Moksha

PU \**pučki* ‘hollow tube’ > E *počko* M *počka* (\**počkøń*)

# Mordvin: vowel changes V

- 2nd syllable *a* has remained as such following a close vowel in the first syllable

PU *\*muda* > E M *moda* 'earth' (~ Fi *muta*)

- after open and mid vowels the 2nd syllable *a* was reduced

PU *\*śata* '100' > E *śado* M *śada* (: *śadøń*)

PU *\*kalma* > E *kalmo* M *kalma* (: *kalmøn*)

There are exceptions to this reduction: PU *\*kala* > E M *kal* (also PU *\*wala* 'song' > E M *val* 'word')

- reduction also in 2nd syllable *ä*

PU *\*śilmä* 'eye' > E *śel'me* M *śel'mä* (: *sel'møń*)

PU *\*säppä* 'bile' > E *sepe* M *säpä* (: *säpøń*) ~ Fi *sappi*

# Exercise

To what PU protoform the words below can reflect. In many cases there are several possibilities. Try to reconstruct them all.

<i>alku</i>	<i>ala</i>	<i>puoli</i>	<i>kieli</i>	<i>kusi</i>	<i>kyntä-</i>	<i>kato-</i>	<i>suomi</i>
<i>kuusi</i>	<i>siili</i>	<i>työ</i>	<i>jänne</i>	<i>kynä</i>	<i>kaari</i>	<i>ääri</i>	<i>lähde</i>
<i>tähti</i>	<i>tunke-</i>	<i>täi</i>	<i>koi</i>	<i>lämmin</i>	<i>ampua</i>	<i>ui-</i>	<i>yö</i>
<i>syö</i>							

## Mari: general

- two main dialects and literary standards: Meadow Mari (M) and Hill Mari (H)
- other relevant dialects for Proto-Mari (PM) reconstruction are North-Western dialect (NW), Volga and Upša (mostly relevant for the recovery of Proto-Mari recuded close vowels (PM \**ũ*, \**ĩ* and \**ü̃*) as Meadow Mari has mostly lost the distinction between recuded and full vowels (PM \**ũ* and \**u* coinciding as *u*, PM \**ũ̃* and \**ü* as *ü*), Hill Mari back reduced vowel *ə̂* <ы̂> continues PM \**ũ*, but PM \**ĩ* and \**ü̃* have coincided as front reduced vowel *ə* <ӱ̂>
- Proto-Mari still had two separate sibilants \**s* (< PU \**s*) and \**š* (< PU \**ś* and \**š*) that are in most Mari dialects both continued by *š*, but remain distinct most consistently in East Mari dialect of Malmyž where PM \**s* is in complementary distribution with *s* (preceding back vowels) and *ś* (preceding front vowels)

# From Proto-Uralic to Mari 1 (stops)

- the treatment of PU single stops varies, PU \**k* is lost completely between vowels:

PU \*(*j*)*ikä* ‘year, age’ > PM \**i* > M *ij*, H *i* ‘year’ (Meadow Mari *j* is a secondary hiatus filler)

PU \**luka* ‘10’ > PM \**lu* > M H *lu* ‘10’

PU \**wäki* ‘strength’ > PM \**wi* > M *wij*, H *wi*

- PU \**p* > PM \**w*,  $\emptyset$  (conditions are probably tied to 2-syllable development, but are fairly uncertain)

PU \**kopa* ‘skin’ > PM \**kŭwə* ‘husk’ > M *kuwo* ‘husk’

PU \**repäsə* ‘fox’ > PM \**rŭwəž* > M *rəwəž*, H *ərwəž*

PU \**šepä* ‘neck’ > PM \**šü* > M *šüj*, H *šü*

## From Proto-Uralic to Mari 2 (stops)

- PU \**t* > PM \**t* (word-finally), \**ḑ* (word-internally), \**č* (after PM \**ɨ*) (develops into a voiced z between vowels, stays an affricate in clusters and word-finally)

PU \**kota* ‘hut’ > PM \**kuḑə* ‘summer hut/kitchen’ > M *kuḑo*, H *kuḑə*

PU \**kāti* ‘hand’ > PM \**kit* > M H *kit* (note that in Cyrillic orthography morphophonological voiceless/voiced distinction is ignored in favour of the voiced, nominative *kit* <кид> : accusative *kiḑə̄m* <кидым>)

PU \**pitä-* ‘to hold, cling to’ > PM \**pīće-* > M *pəže-*, H *pəze-* ‘to hold, cling to’

PU \**šeṭa* ‘100’ > PM \**šüḑə* > M *šüḑö*, H *šüḑə*

PU \**weti* ‘water’ > PM \**wǖt* > M *wüt*, H *wət* (note what was said regarding the Cyrillic orthography regarding *kit*)



# From Proto-Uralic to Mari 3 (nasals)

- PU \**ŋ* > mostly PM \**ŋ* (fortified to *ŋg* in Hill Mari)

PU \**poŋi* ‘bosom’ > PM \**poŋəš* > M *poməš* (!), H *poŋəš*

PU \**tüŋi* ‘stem’ > PM \**tũŋ* > M *tüŋ*, H *təŋg* ‘stem, stump’

PU \**wăŋiw* ‘son-in-law’ > PM \**wiŋə* > M *wenɛ*, H *wiŋə*

- but loss in 2 cases (perhaps connected to the change PU \**n* > PM  $\emptyset$  described below)

PU \**jăŋi* ‘ice’ > PM \**i* > M *ij*, H *i*

PU \**piŋi* ‘tooth’ > PM \**pü* > M *püj*, H *pü*

- PU \**n* > PM  $\emptyset$  (succeeding PM \**i* and \**ü* in \**i*-stems)

PU \**meni-* ‘to go’ > PM \**mie-* > M *mije-*, H *mie-*

PU \**peni* ‘dog’ > PM \**pi* > M *pij*, H *pi*

# From Proto-Uralic to Mari 4 (spirants)

- PU \* $\delta$  is uniformly lost in all positions

PU \**a $\delta$ ma* ‘sleep’ > PM \**om*( $\emptyset$ ) > M *omo*, H *om*

PU \**ku $\delta$ a-* ‘to weave’ > PM \**koe-* > M *kue-*, H *koe-*

- PU \* $\delta'$  > PM \* $\delta$  (in \**A*-stems) / loss (\**i*-stem)

PU \**ka $\delta'$ a-* ‘to leave’ > PM \**ko $\delta$ e-* > M *ko $\delta$ e-*, H *ko $\delta$ e-*

PU \**šo $\delta'$ a* ‘war’ > PM \**šu $\delta$ ala-* ‘to curse’ > M H *šu $\delta$ ala-*

PU \**šü $\delta'$ i* ‘charcoal’ > PM \**šü* > M *šüj*, H *šü* ‘coal’

PU \**wu $\delta'$ i* ‘new’ > PM \**u* > M *u*, H *u*

# From Proto-Uralic to Mari 5 (sibilants)

- PU \*š and \*ś > PM \*š (voiced to ž V\_V)

PU \**aška/il* ‘step’ > PM \**ǎškəl* > M *oškəl*, H *aškəl*

PU \**šeŋta* ‘100’ > PM \**šüðə* > M *šüðö*, H *šüðə*

PU \**šonta* ‘dung’ > PM \**šǎndə* > M *šondo* ‘urine’, H *šandə* ‘excrement’

- PU \*s > PM \*s > Malmyž s/ś, š elsewhere in Mari (voiced V\_V)

PU \**kow/ysi* ‘spruce’ > PM \**koz* > M H *kož*, Malmyž *koz*

PU \**męksa* ‘liver’ > PM \**moks* > M H *mokš*, Malmyž *moks*

PU \**sala-* ‘to steal’ > PM \**soləšta-* > M H *šoləšta-*, Malmyž *solə̂šta-*

PU \**seŋi* ‘sinew, vein’ > PM \**sün* > M *šön*, Malmyž *śün*, H *šün*

## From Proto-Uralic to Mari 6 (clusters)

- in syllable-final positions, simplification occurs in many clusters:

PU \**epti* 'hair (on the head)' > PM \**üp* > M H *üp*

PU \**ku/olmi* '3' > PM \**kŭm* > M *kum*, H *kə̂m*

PU \**künči* '(finger)nail' > PM \**küč* > M *küč*, H *kəč*

PU \**pučki* 'hollow stalk' > PM \**pŭč* > M *puč*, H *pəč* 'hollow plant stalk, tube'

# From Proto-Uralic to Mari 7 (denasalization)

- denasalization, loss of nasals before an original *\*i* in the following syllable?

PU *\*anti* ‘root, branch, sprout’ > PM *\*āḍar* ‘sprout, shoot, branchy’ > M *oḍar*, Nw *aḍar*

PU *\*jäntiŋ* ‘tendon’ > PM *\*j̄ḍäŋ* > M *jəḍaŋ*, H *jəḍäŋ*

PU *\*kenči-* ‘to look for, search’ > PM *\*kičälä-* (frequentative derivation in Mari) > M *kəčala-*, H *kəčälä-*

PU *\*kunti* ‘length’ > PM *\*kūt* > M *kut*, H *kəʔ* (could also be explained by simplification of word-final clusters)

PU *\*luki-nti-* ‘to count, read’ (frequentative derivation) > PM *\*l̄ḍa-* > M *luḍa-*, H *ləḍa-*

PU *\*seŋti-* ‘to clear (wood)’ > PM *\*s̄ḍä-* > M *š̄ḍa-*, H *š̄ḍä-* ‘to clear (forest)’

- one clear exception:

PU *\*lunta* ‘goose, duck’ > PM *\*l̄ḍə* > M *luḍo*, H *ləḍə*

# From Proto-Uralic to Mari 8 (vowels)

- PU \*a > PM \*o and \*â

PU \*apta- ‘to bark’ > PM \*opte- > M H opte-

PU \*kala ‘fish’ > PM \*kol > M H kol

PU \*kamti ‘lid’ > PM \*komðəš > M H komðəš

PU \*kanta- ‘to carry’ > PM \*kânde- > M konde-, H kande-

PU \*kali- ‘to die’ > PM \*kole- > M H kole-

PU \*wanča- ‘to cross; move cautiously’ > PM \*wânče- > M wońče-, H wanče- ‘to cross’

- but PU \*a > PM \*u (conditioned perhaps by the labial element in the second syllable)

PU \*nataw ‘spouse’s sister’ > PM \*nuðə > M nuðo, H nuðə̂

PU \*śarwi ‘horn’ > PM \*šur > M H šur

# From Proto-Uralic to Mari 9 (vowels)

- PU \*e > PM \**ũ* or \**ĩ* (CV-stems \**ü* or \**i*, no reduced vowels in monosyllabic stems in general) (conditions unknown)

PU \**čečä* 'uncle' > PM \**čũčə* > M *čüčö*, H *čəčə*

PU \**keri* 'bark' > PM \**kũr* > M *kür*, H *kə*

PU \**šepä* 'neck' > PM \**šü* > M *šúj*, H *šü*

PU \**terä* 'edge, blade; shore' > PM \**tũr* > M *tür*, H *tə*

PU \**elä*- 'to live' > PM \**ĩle-* > M *ile-*, H *əle-*

PU \**meni-* 'to go' > PM \**mie-* > M *mije-*, H *mie-*

PU \**peni* 'dog' > PM \**pi* > M *pij*, H *pi*

PU \**pesä* 'nest' > PM \**pizäkš* (derivation) > M *pəžaš*, H *pəžäš*

# From Proto-Uralic to Mari 10 (vowels)

- PU \**e̯* > PM \**ü* (PM \**ür* > *ör*, irregular lowering to *ö* in some cases as well), \**o* (preceding a velar consonant)

PU \**e̯ja-* 'under, below' > PM \**ül-* > M H *ül-*

PU \**me̯ksa* 'liver' > PM \**moks* > M H *mokš*, Malmyž *moks*

PU \**me̯ja* 'berry' > PM \**mür* 'strawberry' > M H *mör*

PU \**ńe̯rka* 'cartilage' > PM \**nür̥ə* > M *nöryö*, H *nöryə*

PU \**se̯ni* 'sinew, vein' > PM \**sün* > M *šön*, Malmyž *śün*, H *šün*

- some developments where exact conditions are not entirely clear, \**o* perhaps also in labial clusters/geminates

PU \**e̯ppi* 'father-in-law' > PM \**owə* > H *owə̂* (one would rather expect consonant stem PM \*\**op* here)

PU \**δ'e̯mi-pu/awi* 'bird-cherry' (\**pu/awə* 'tree, wood') > Pre-Mari \**δ'e̯mpV* > PM \**lombə* > M *lombo*, H *lombə̂*



# From Proto-Uralic to Mari 11 (vowels)

- PU \**i* > PM \**ĩ*

PU \**kirä*- ‘to hit, cut’ > PM \**kĩre*- > M *kə̃re*-, Kilmez *kire*-, H *kəre*- ‘to hit, forge, hammer, thresh’

PU \**kiški*- ‘to throw, pour’ > PM \**kĩške*- > M *kə̃ške*-, Kilmez *kiške*-, H *kəške*- ‘to throw, pour’

PU \**pilwi* ‘cloud’ > PM \**pĩl* > M *pə̃l*, Kilmez *pil*’, H *pəl*

PU \**pitä*- ‘to hold, cling to’ > PM \**pĩce*- > M *pə̃ze*-, Kilmez *pize*-, H *pəze*- ‘to hold, cling to’

PU \**šilmä* ‘eye’ > PM *šĩn-čä* (obscure derivation) > M *šĩńča*, H *səncä*

- notable exception

PU \**nimi* ‘name’ > PM \**lũm* > M *lüm*, H *ləm* (also irregular *l*, seems to be mirrored in Mordvin E M *l'em*, vowel correspondence and initial consonant does raise doubts about the validity of the comparison)

# From Proto-Uralic to Mari 12 (vowels)

- PU \*o > PM \*u, PM \*ũ (adjacent to labial consonants)

PU \*kota ‘hut’ > PM \*kuðə ‘summer hut/kitchen’ > M *kuðo*, H *kuðə*

PU \*oksa ‘branch’ > PM \*uks > M H *ukš*, Malmyž *uks*

PU \*ora(-p/wa) ‘squirrel’ > PM \*ur > M H *ur*

PU \*soksi ‘worm’ > PM \*suks > M H *šukš*, Malmyž *suks*

PU \*kopa ‘skin’ > PM \*kũwə ‘husk’ > M *kuwo* ‘husk’, Volga *kũwə*

PU \*moški- ‘to wash’ > PM \*mũška- > M *muška-*, H *məška-*

PU \*woča- ‘to wait’ > PM \*wũče- > M *wuče-*, H *wəče-*

PU \*wosa ‘merchandise’ > PM \*wũzale- ‘to sell’ > M *užale-*, H *wəžale-*, Malmyž *uzale-*

## From Proto-Uralic to Mari 13 (vowels)

- PU \**u* > PM \**ǔ* (> M *u*, Volga *ǔ*, NW *ǒ*, H *ə*) (note that you cannot tell PU \**o* and \**u* apart based on Meadow Mari forms alone)

PU \**lumi* ‘snow’ > PM \**lǔm* > M *lum*, H *lə̃m*

PU \**kunśi-* ‘to urinate’ > PM \**kǔža-* > M *kuža-*, H *kə̃ža-*

PU \**luki-* ‘to count, read’ → \**luki-nti-* (frequentative) > PM \**lǔḍa-* > M *luḍa-*, H *lə̃ḍa-*

PU \**pučki* ‘hollow stalk’ > PM \**pǔč* > M *puč*, H *pə̃č* ‘hollow plant stalk, tube’

PU \**tuli* ‘fire’ > PM \**tǔl* > M *tul*, H *tə̃l*

# From Proto-Uralic to Mari 14 (vowels)

- PU \**ü* > PM \**ũ* (> M *ü*, Volga *ũ*, NW *ũ*, H *ə*) (note that you cannot tell PM \**ü* (< PU \**e*) and PM \**ũ* (< PU \**ü*) apart on Meadow Mari alone)

PU \**künčä*- ‘to dig’ > PM \**kũňče*- > M *künče*-, NW *kũňče*-

PU \**künči* ‘(finger)nail’ > PM \**kũč* > M *küč*, H *kəč*

PU \**tüŋi* ‘stem’ > PM \**tũŋ* > M *tüŋ*, H *təŋg* ‘stem, stump’

- especially next to a palatal PU \**ü* also PM \**ĩ*

PU \**kütki*- ‘to tie’ > PM \**kĩčke*- > M *kəčke*-, H *kəcke*-

PU \**sükiši* ‘autumn’ > PM \**šĩžə* > M *šəže*, H *šəžə*

# From Proto-Uralic to Mari 15 (vowels)

- PU \*ä > PM \*e, PM \*i (PM \*ir > er, PM \*e > H ä preceding a velar), PU \*jä- > PM \*j̥-

PU \*jäntiŋ ‘tendon’ > PM \*j̥ḏäŋ > M j̥ḏaŋ, H j̥ḏäŋ

PU \*kälä- ‘to wade’ > PM \*kelä- > M kela-, H kelä-

PU \*käti ‘hand’ > PM \*kit > M H kit

PU \*läkti- ‘to leave’ > PM \*lektä- > M lekta-, H läktä- ‘to leave, go out’

PU \*lämi ‘broth’ > PM \*lem > M H lem

PU \*näri ‘nose’ > PM \*nir > M H ner

PU \*pälä ‘half’ > PM \*pel(ə) > M pel, H pelə

PU \*tälwä ‘winter’ > PM \*tel(ə) > M tele, H tel

## From Proto-Uralic to Mari 16 (vowels)

- Mari verbs are divided into two conjugations: I conjugation or the so-called *-am-*conjugation (1 person singular) and II conjugation or the so-called *-em-*conjugation, *am-*conjugation verbs typically reflect Uralic *\*i-*stems and *em-*conjugation verbs Uralic *\*A-*stems, individual counterexamples are easy to come by, however, cf. PU *\*kali-* ‘to die’ > PM *\*kole-*
- Mari nouns are either consonant stems (C)VC(C) (PM *\*tül* ‘fire’) or vowel stems \*(C)VC(C)ə (PM *\*mүнə* ‘egg’, in addition to these main two there exist cases where Mari dialects point to different stems. Consonant stems are more likely to be PU *\*i-*stems and vowel stems *\*A-*stems, but the exact developments still require more research

# Exercise: Mari

Reconstruct Proto-Mari forms based on the dialectal forms given (pay special attention to vowel reduction, follow the majority principle and ignore singular exceptions):

M *jumo*, Volga *jūmo*, NW *jōmō*, H *jə̃mə̃* ‘god’

M *kinde*, Volga *kindε*, NW H *kində* ‘bread; cereal, corn’

M *kə̃žət̃*, Kilmez *kiz̃it̃*, NW H *kə̃zət* ‘now’

M *künčä-*, NW *kü̃nce-* ‘to dig’

M *kürä-*, Volga *kürä-*, NW *kürä-*, H *kərä-* ‘to tear’

M *lũdo*, Volga *lũdo*, NW *lōdō*, H *lə̃də̃* ‘duck’

M *lũdo*, NW H *lũdə̃* ‘gray’

M *nur*, Volga *nūr*, NW *nōr*, H *nə̃r* ‘field’

M *nörö*, H *nörə* ‘flexible, pliable’

M *šũdo*, NW H *šũdə̃* ‘plant, gras, hay’

M *šula*, Malmyž *sula*, Vo *šūla*, NW *šōla*, H *šə̃la* ‘melts’

M NW H *šur* ‘horn’

M *šur*, Vo *šūr*, NW *šōr*, H *šə̃r* ‘shit, excrement’

# Permic languages: general

- Permic languages, Udmurt and Komi (further divided into Zyrian, Permyak and Jažva)
- several reductive sound changes word-internally, loss of voiceless stops, simplification of most clusters as a result many of the originally 2-syllabic stems have become monosyllabic and originally 3-syllabic stems (such as many derivations) 2-syllabic
- the following gives a general outline of how Proto-Uralic developed into Permic languages, the list of developments is not exhaustive
- several different Proto-Permic vowel reconstructions (E. Itkonen, Lytkin, Rédei, Sammallahti, Csúcs, Zhivlov) have been proposed, this treatment follows mainly Zhivlov 2010, 2014 and Metsäranta 2020, it should be noted that the main difference between the systems concerns the Proto-Permic value of vowel phonemes, not the Uralic background of these vowels and they are based on more or less the same vowel correspondences between Udmurt and Komi



# From Proto-Uralic to Permic 1 (consonants)

- loss of voiceless stops PU *\*k*, *\*p* and *\*t* as well as PU *\*ǵ*, *\*w* and *\*x* between vowels:

PU *\*jexi-* 'to drink' > PP *\*ju-* > Udm *juj-* Komi *ju-*

PU *\*kopa* 'skin' > PP *\*ku* 'husk' > Udm Komi *ku*

PU *\*kuǵa-* 'to weave' > PP *\*kj-* > Udm. *kuj-* Komi *kj-*

PU *\*käti* 'hand' > PP *\*ki* > Udm Komi *ki*

PU *\*luki-* 'to count, read' > PP *\*lijd* 'number, count' > Udm Komi *lijd* (notice that the Permic word is formally a derivation PU *\*luki-nta*, not just the stem)

PU *\*luwi* 'bone' > PP *\*lj* > Udm Komi *lj*

PU *\*mexi* 'earth' > PP *\*mu* > Udm Komi *mu*

PU *\*sükiś(i)* 'autumn' > PP *\*sǵijl* > Udm *siǵijl*, *śiǵijl*

PU *\*weti* 'water' > PP *\*vâ* > Udm *vu*, Komi *va*

# From Proto-Uralic to Permic 2 (consonants)

- loss of PU \*k after a liquid

PU \**koδ'ka* 'spirit' > PP \**kul'* > Udm *kij'* 'severe fever, typhoid', Komi *kul'* 'evil spirit'

PU \**kulki-* 'to go, flow' > PP \**kijl-* > Komi *kijal-* 'to float downstream'

PU \**kärki* 'black woodpecker' > PP \**kijr* > Udm Komi *kijr*

PU \**tulka* 'feather, wing' > PP \**tijl* > Udm *tijlj*, Komi *tijl*

PU \**worka-* 'to sew' > PP \**vur-* > Udm *vurj-*, Komi *vur-*

- doesn't seem to occur in \*Rp or \*Rt:

PU \**mertä* 'human, man' > PP \**mört* > Udm *murt*, Komi *mort*

PU \**turpa* 'lip' > PP *tjrp* > Udm *tjрпи*, Komi *tjrp*

## From Proto-Uralic to Permic 3 (consonants)

- PU sibilants (\*s, \*ś and \*š) and affricates (\*č and \*ć) coincide and are voiced between vowels (note that the original quality of the PU sibilants is easily recovered from Permic evidence):

PU \*čečä ‘uncle’ > PP \*čož > Udm *čuž-* ‘maternal relative’, *čužmurt* ‘maternal uncle’ (*murt* ‘human, man’), Komi *čož* ‘maternal uncle’

PU \*kaća- ‘give as gift’ > PP \*kož- > Udm *kužim* ‘gift’, Komi *kožin* ‘dowry’

PU \*pesä ‘nest’ > PP \*poz > Udm *puz* ‘egg, testicle’, Komi *poz* ‘nest’

PU \*wiša(-ra) ‘green’ > PP \*vež > Udm *vož*, Komi *vež*

# From Proto-Uralic to Permic 4 (clusters)

- consonant clusters and geminates are often simplified resulting in simple voiceless stops/sibilants/affricates (for some reason simplification is more prevalent in nouns, less so in verbs), in PU \*kS clusters also a metathesis occurs:

PU \**ipsi* ‘smell’ > PP \**is* > Komi *is* (*is-*, *isk-*)

PU \**kočka* ‘eagle’ > PP \**kuč* > Udm Komi *kuč*

PU \**kupsa-* ‘to extinguish’ > PP \**kjs-* > Udm *kjsj-* Komi *kus-*

PU \**küpsi-* ‘to ripen’ > PP \**kiš-* > Udm *kišmal-*, Komi *kišmj-*

PU \**käski-* ‘to order, command’ > PP \**käs-* > Udm *kosj-* ‘to order, wish’, Komi *kešj-* ‘to promise’

PU \**läkti-* ‘to leave’ > PP \**lijkt-/\*lokt-* ‘to come’ > Udm *lijktj-*, Komi *lokt-*, J *lok(t-*)

PU \**meksa* ‘liver’ > PP \**mus* > Udm *mus*, Komi *mus* (note that the word is a so-called k-stem in Komi, for example relative *muskiš*)

## From Proto-Uralic to Permic 5 (clusters)

PU \**moški-* ‘to wash’ > PP \**mjšk-* > Udm *mjški-*, *miški-*, Komi *mjški-*

PU \**oksi-* ‘to vomit’ > PP \**ošk-* > Udm *ęski-*, Komi *vos-*, Jažva *us-*

PU \**pučki* ‘hollow stalk’ > PP \**pič(k-)* ‘insides’ > Udm *puš(k-)*, *puč(k-)*, Komi *pič*

PU \**sakka*/*\*sejka* ‘thick’ > PP \**suk* > Komi *suk* ‘thick (of liquids), thick, dense (of forest etc.)’

PU \**seksa* ‘Siberian pine’ > PP \**susj* > Udm *susj-pu*, Komi *sus*

PU \**se(w)ptä-* ‘to feed, bait’ > PP \**soč-* ‘to burn (transitive)’ > Udm *suti-* Komi *sot-*

PU \**säppä* ‘gall’ > PP \**säp* > Udm *sep*, Komi *sep*

PU \**tukti* ‘crossbar (in a boat)’ > PP \**tjk* > Komi *tjk*

# From Proto-Uralic to Permic 6 (denasalization)

- denasalization, consonant clusters consisting of a nasal consonant and a stop/affricate/sibilant become voiced and lose their nasal element, PU *\*mt*, *\*nt* > PP *\*d*, PU *\*mp* > PP *\*b*, PU *\*ŋk* > PP *\*g*, PU *\*nč* > PP *\*ž*, *\*ž*, PU *\*nś* > PP *\*ž*, *\*ž*

PU *\*ampa-/\*eŋpa-* 'to shoot' > PP *\*ub-* > Udm *ibj-*

PU *\*amta-* 'to feed, give to drink' > PP *\*ud-* 'give to drink' > Udm *udj-*, Komi *ud-*

PU *\*jäŋkä* 'bog' > PP *\*jeg-/\*jäg* > Komi *jegjr*, *jegjr* 'boggy forest'

PU *\*leŋti/\*lanta* 'lowland' > PP *\*lud* 'meadow' > Udm Komi *lud*

PU *\*luki-nta* 'number, count' > PP *\*lijd* 'number, count' > Udm Komi *lijd*

PU *\*kunśi(-)* 'urine, to urinate' > PP *\*kjž* > Udm *kjž*, *kiž*, Komi *kuž*

PU *\*künči* '(finger)nail' > PP *\*gijži* > Udm *gijži*, Komi *gijž*

PU *\*ponči* 'tail; hem' > PP *\*bož* > Udm *bijž*, Komi *bež*

PU *\*wanġkaw/\*weŋkaw* 'handle' > PP *\*vugi* > Udm *vugi*, Komi *vug*

## From Proto-Uralic to Permic 7 (miscellaneous)

- PU \* $\delta$  >  $\emptyset$  (V\_V), / (in clusters)

PU \**ku $\delta$ a-* ‘to weave’ > PP \**kj-* > Udm. *kuj-* Komi *kj-*

PU \**näj $\delta$ i* ‘girl, daughter’ > PP \**nij* > Udm *nij*, Komi *niv*, *nij*

PU \**šo $\delta$ ka* ‘common goldeneye’ > PP \**śul* > Udm *pestro-śulj*, Komi *śuv-čež*

- PU \* $\delta'$ , \**lj* > PP \**l'*

PU \**δ'e $\eta$ mi* ‘bird-cherry’ > PP \**l'e $\eta$ m* > Udm Komi *l'e $\eta$ m*

PU \**ka $\delta$ 'a-* ‘to leave’ > PP \**kol'-* > Udm *kij'j-*, Komi *kol'-*

PU \**nelj $\delta$*  ‘4’ > PP \**no $l'$*  > Udm *ńij'*, Komi *ńol'*

# From Proto-Uralic to Permic 8 (miscellaneous)

- PU *\*lm* (also *\*δm*, which seems to imply that *\*δm* coincided with *\*lm* already in Pre-Permic) > PP *\*n(m)*

PU *\*aδma* 'sleep' > PP *\*un(m-)* > Udm *um*, *un(m-)*, Komi *on(m-)*, *un(m-)*

PU *\*külmä* 'cold, frost' > PP *\*kijn(m-)* > Udm *kijn*, *kijn(m-)*, Komi *kijn*

PU *\*šilmä* 'eye' > PP *\*šin(m-)* > Udm Komi *šin(m-)*

- pre- and post-consonantal semivowels disappear

PU *\*kojra* 'male animal' (perhaps rather *\*kojira*) > PP *\*kijr* > Komi *kijr*

PU *\*kuwli-/kowlī-* 'to hear' > PP *\*kijl-* > Udm *kijl̥-*, Komi *kijv-*

PU *\*näjdi* 'girl, daughter' > PP *\*nijl* > Udm *nijl*, Komi *nijv*, *nijl*

PU *\*pilwi* 'cloud' > PP *\*pil* > Udm *pil'em*, Komi *piv*

PU *\*tälwä* 'winter' > PP *\*täl* > Udm *tol*, Komi *teyv*



# From Proto-Uralic to Proto-Permic 9 (miscellaneous)

- PU \*ŋ > PP \*ŋ (survives as a velar nasal in Udmurt dialects, otherwise has largely coincided with other nasals (*n* and *ń*))

PU \*peŋä 'head, end' (traditionally \*pǎŋi) > PP poŋ 'end' > Udm *pum*, (Kazan) *puŋ*, Komi *pon*, *pom*

PU \*piŋi 'tooth' > PP \*piŋ > Udm Komi *piń*

PU \*tüŋi 'stem' > PP \*diŋ > Udm *diń*, (Kazan) *diŋ*, Komi *din*

- in some inherited vocabulary we find voiced stops in word-initial position, it is unknown what are the exact conditions for this:

PU \*küŋči '(finger)nail' > PP \*gǰi > Udm *gǰi*, Komi *gǰ*

PU \*ponči 'tail; hem' > PP \*bož > Udm *biž*, Komi *bež*

PU \*tüŋi 'stem' > PP \*diŋ > Udm *diń*, (Kazan) *diŋ*, Komi *din*

## From Proto-Uralic to Permic 10 (vowels)

- second-syllable vowel has been a conditioning factor for some vowel developments in Permic, when this is the case vowels are handled as vowel combinations, e.g. \*e-ä, syllable-structure has also had an impact, in monosyllabic words we often find different reflexes than in 2- or 3-syllabic words

# From Proto-Uralic to Permic 11 (vowels)

- PU \**a* (except preceding a palatal consonant, where PP \**o*), \**o-a*, \**e* > PP \**u* > Udm *u*, *i* (typically next to palatal consonants, sometimes perhaps triggered by second syllable *i*) ~ Komi *u*

PU \**kaδ'a*- 'to leave' > PP \**kol'*- > Udm *kij'i-*, Komi *kol'*-

PU \**kali*- 'to die' > PP \**kul-* > Udm *kulj-*, Komi *kuv-*

PU \**panča*- 'to open' > PP \**puž-* > Udm *pužaltj-* 'to roll up, wrap up', Komi *puž-* 'to roll back, fold up'

PU \**saxi*- 'to arrive; get' > PP \**su-* > Udm *suti-* 'to catch up with' (a derivative PU \**saxi-pta-*), Komi *su-* 'to catch up with, meet, arrive'

PU \**śali* 'gut' > PP \**śul* > Udm *śul*, Komi *śuv*

PU \**wančaw* 'root' > PP \**vuži* > Udm *viži*, Komi *vuž*

# From Proto-Uralic to Permic 12 (vowels)

PU \**kočka* 'eagle' > PP \**kuč* > Udm Komi *kuč*

PU \**ođ'a* 'raw, meat' > PP \**ul'* > Udm *ij'* 'moist, wet, raw', Komi *ul'*

PU \**ora(-p/wa)* 'squirrel' > PP \**ur* > Komi *ur*

PU \**wosa* 'merchandise' > PP \**vuz-* 'to sell' > Udm *vuza-*, Komi *vuzav-*

PU \**eja-* 'under, below' > PP \**ul-* > Udm Komi *ul-*

PU \**meksa* 'liver' > PP \**mus* > Udm *mus*, Komi *mus*

PU \**teṛka* 'crane' PP \**turi* > Udm Komi *turi*

## From Proto-Uralic to Permic 13 (vowels)

- PU \**e̞-i* > PP \**e̞* (when succeeded by a single sonorant (\*N (examples of mainly \**m* and \**n*), \*R (\**l*, \**r*)), otherwise can't be told apart from \**a* or \**o-a*)
- rather than being an innovation, this could and probably should be regarded as an archaism as Permic seems to have preserved the original quality of the PU vowel)

PU \**δ'e̞mi* 'bird-cherry' > PP \**l'e̞m* > Udm Komi *l'e̞m*

PU \**se̞ni* 'sinew, vein' > PP \**se̞ŋ* > Udm Komi *se̞ŋ*

PU \**še̞mi* 'scale' > PP \**še̞m* > Udm Komi *še̞m*

# From Proto-Uralic to Permic 14 (vowels)

- PU \*e-ä > PP \*ɔ > Udm *u* (uniformally) ~ KomiZ *o*, SysU (Upper Sysola of Komi Zyrian) *o*, J *o*

PU \*elä- 'to live' > PP \*ɔl- > Udm *ulj-*, Komi *ov-*, J *ol-*

PU \*pečä 'pine' > PP \*pɔžejm > Udm *pužjm*, Komi *požejm*

PU \*pesä 'nest' > PP \*pɔz > Udm *puz* 'egg, testicle', Komi *poz* 'nest', J *poz*

- PU \*e-i > PP \*o > Udm *u*, (dial. also *u*, *ø*) ~ KomiZ *o*, SysU *o*, J *ú* (stressed)

PU \*keri 'bark' > PP \*kor > Udm *kur* (Beserman *kər*), Komi *kor*, SysU *koɹ*

PU \*lewli 'spirit, soul' > PP \*lolj > Udm *lul*, (SW *lul*), Komi *lov*, SysU *loɹ*, J *lúl*

PU \*peli- 'to fear, be afraid' > PP \*pol- > Udm *pulj-*, Komi *pov-*, SysU *poɹ-*, J *púl-*

- Notable irregular exception:

PU \*meni- 'to go' > PP \*mu/iŋ- > Udm *mijj-*, Komi *mun-*

# From Proto-Uralic to Permic 15 (vowels)

- PU *\*i-i* > PP *\*i*

PU *\*nimi* 'name' > PP *\*ńim* > Udm Komi *ńim*

PU *\*pilwi* 'cloud' > PP *\*pil* > Udm *pil'em*, Komi *piv*

PU *\*witti* ~ *\*wijti* '5' > PP *\*vit* > Udm *vit'*, Komi *vit*

- PU *\*i-ä*, *\*i-a* > PP *\*e*

PU *\*iskä-* 'to believe' > PP *\*eskj-* > Udm *oskj-*, Komi *eskj-*

PU *\*kirä-* 'to beat, hit' > PP *\*ker-* > Udm *kora-*, Komi *kerav-*

PU *\*wiša(-ra)* 'green' > PP *\*vež* > Udm *vož*, Komi *vež*

- Notable exception:

PU *\*šilmä* 'eye' > PP *\*šin(m-)* > Udm Komi *šin(m-)*

# From Proto-Uralic to Permic 16 (vowels)

- PU \**o-i* > PP \**o* (several exceptions: when preceded by \**m*, already \**mo-* > \**mu-* in Pre-Permic, PU \**oji* results in a contracted vowel \**j̥*) > Udm *j̥*, *e̥* ~ KomiZ *vo-* word-initially and *o* following \**k-*, *e̥* elsewhere, in Permyak *e̥* and Jaźva *ω*

PU \**koji* ‘dawn’ > PP \**kj̥* > Komi *kja*

PU \**kowsi* ‘spruce’ > PP \**kqz* > Udm *kjz*, Komi *koz*, P *kez*

PU \**oksi-* ‘to vomit’ > PP \**ošk-* > Udm *eškj̥-*, Komi *vos-*, P *eš-* Jaźva *ws-*

PU \**moški-* ‘to wash’ > PP \**mj̥šk-* > Udm *mj̥škj̥-*, *miškj̥-*, Komi *mj̥škj̥-*

PU \**ponči* ‘tail; hem’ > PP \**bož* > Udm *bjž*, Komi *bež*

PU \**soski-* ‘to chew’ > PP \**soškj̥-* > Udm *sj̥skj̥-*, Komi *seškj̥-*



## From Proto-Uralic to Permic 17 (vowels)

- PU \**u* and \**ü* largely coincide resulting in PP \**i* (dialectally fronting to *i* often happens in palatal contexts, unexplained rounding to *u* in some cases)

PU \**kunśi*(-) ‘urine, to urinate’ > PP \**kiž* > Udm *kiž*, *kiž*, Komi *kuž*

PU \**lumi* ‘snow’ > PP \**lijmi* > Udm *lijmi*, Komi *lijm*

PU \**puna-* ‘to spin, twist’ > PP \**pijn-* > Udm *puni-*, Komi *pijn*

PU \**sula* ‘thaw, to thaw’ > PP \**sij* > Udm *sij-mi-*, Komi *sij-*

PU \**tuli* ‘fire’ > PP \**tij* > Udm *tij*, Komi *tij-kerť* ‘tinderbox’ (literally “fire-iron”)

## From Proto-Uralic to Permic 18 (vowels)

PU \**küji* 'snake' > PP \**kij* > Udm *kij*, Komi *kij* 'river lamprey (a fish)'

PU \**külmä* 'cold, frost' > PP \**kijn(m-)* > Udm *kijn*, *kijn(m-)*, Komi *kijn*

PU \**küpsi-* 'to ripen' > PP \**kiś-* > Udm *kiśmal-*, Komi *kiśmi-*

PU \**kütki-* 'to tie' > PP \**kitki-* > Udm *kitki-* 'to harness'

# From Proto-Uralic to Permic 19 (vowels)

- PU \**ä* > PP \**ä* > Udm *o/e* and *a* (preceding *l*) ~ Komi *e*, PP \**i* (in CV words)

PU \**käski*- ‘to order, command’ > PP \**käs*- > Udm *kosj*- ‘to order, wish’, Komi *keşji*- ‘to promise’

PU \**käti* ‘hand’ > PP \**ki* > Udm Komi *ki*

PU \**lämä* ‘scab’ > PP \**läm* > Udm *lom*, Komi *leṃ*

PU \**pälä* ‘half’ > PP \**päl* > Udm *pal*, Komi *peṽ*

PU \**sälä*- ‘to get in (a boat, a sled)’ > PP \**säl*- > Komi *seṽ*-

PU \**säppä* ‘gall’ > PP \**säp* > Udm *sep*, Komi *sep*

# From Proto-Uralic to Permic 20 (vowels)

- PU \**ä-i* > PP \**i* (preceding a single sonorant, both primarily and secondarily single)

PU \**čäŋi* ‘smoke’ > PP \**čij* > Udm *čjn*, *čij*, Komi *čjn*

PU \**käli* ‘language; tongue’ > PP \**kij* > Udm *kij* ‘language; word, speech’, Komi *kij*

PU \**lämi* ‘broth’ > PP \**lijm* > Udm *lijm* ‘(fish)soup, broth’

PU \**näjōi* ‘girl, daughter’ > PP \**nij* > Udm *nij*, Komi *nij*, *nij*

PU \**näri* ‘nose’ > PP \**nijr* ‘nose, snout’ > Udm Komi *nijr*

- Notable exceptions:

PU \**jäŋi* ‘ice’ > PP ? > Udm *je*, Komi *ji* (irregular loss of \**ŋ* and atypical vowel correspondence)

PU \**tälwä* ‘winter’ > PP \**täl* > Udm *tol*, Komi *teɤ* (Komi reflex is to be expected, Udmurt *o* in lieu of *a* (preceding *l*) is unexpected)

# Exercise 1: Permic

List the possible reconstructions for these Permic words (these are inherited words and as such do have actual Uralic reconstructions, but ignore them for the time being and list all the forms that are theoretically possible based on Permic)

Udm *in*, *in(m-)* 'sky', Komi *jen(m-)* 'god'

Komi *keṃ* 'footware'

Udm *muš*, KomiJ (*mal'a*) *múš* 'bee'

Udm *ńeł*, Komi *ńeṽ* 'arrow'

Udm Komi *śur* 'horn'

Udm Komi *tug* 'tassel'

Udm *tj*, Komi *tj* 'lake'

Udm *vižj-*, Komi *vuž-* 'to cross'

Udm *al* 'lap, knees', Komi *el-ež* 'lap'

Udm *punj*, (Beserman *pəne*), Komi *pon*, SysU *poŋ*, J *pún* 'dog'

Udm *kertti-*, Komi *keṛt-* 'to tie'

Komi *tom*, SysU *toṃ*, J *túm* 'young'

## Exercise 2: Permic

Jažva Komi has a number of unstressed vowels, vowels *i* (~ *í*), *u* (~ *ú*) and *u* (~ *ú*) can be either stressed or unstressed (accent marks stress here, assume the vowels without an accent in Jažva are unstressed), *ə* (an open-mid illabial back vowel IPA /ʌ/) is always unstressed, by comparing the Komi Zyrian and Jažva forms given below, try to determine the rule for when the vowels are stressed or unstressed in Jažva:

*i* ~ *í*

Z *čer* 'axe' ~ J *ćír*      Z *eža* 'lawn' ~ J *íža*      Z *id* 'barley' ~ J *id*      Z *iz* 'stone' ~ J *iz*

Z *jem* 'needle' ~ J *ím*      Z *ńim* 'name' ~ J *ńim*      Z *vež* 'green' ~ J *víž*

*u* ~ *ú*

Z *jur* 'head' ~ J *jur*                      Z *kol'* 'to leave' ~ J *kúl'*                      Z *kuv-* 'to die' ~ J *kul-*

Z *mus* 'liver' ~ J *musk*                      Z *pon* 'dog' ~ J *pún*                      Z *śur* 'horn' ~ J *śur*

Z *tom* 'young' ~ J *túm*

## Exercise 2: Permic

*ω ~ ú*

Z *koz* 'spruce' ~ J *kúz*

Z *kul'* 'evil spirit' ~ J (va) *kul'*

Z *męd* 'second, another' ~ J *múđ*

Z *muž-* 'to get tired' ~ J *muž-*

Z *ńęv* 'arrow' ~ J *ńúł*

Z *tev* 'wind' ~ J *túł*

Z *ul'* 'moist, wet, raw' ~ J *ul'*

*ө*

Z *gįž* '(finger)nail' ~ J *gөž*

Z *kįv* 'language; speech, word' ~ J *kөл*

Z *lijm* 'snow' ~ J *lөm*

Z *niž* 'dull' ~ J *nөž*

Z *pįdeš* 'bottom' ~ J *pөdés*

# Ugric I

- the position of Ugric languages (Mansi, Khanty and Hungarian) in Uralic taxonomy is somewhat controversial. They are mostly grouped together into their own Ugric branch, but reconstructing their common ancestor, Proto-Ugric, has been challenging if not wholly impossible
- within the Ugric languages, Mansi and Khanty, are thought to form their own Ob-Ugric branch, but there are unresolved issues concerning the reconstruction of this node as well
- in many recent articles having to do with historical phonology, Proto-Ob-Ugric has not been utilized and instead developments from Proto-Uralic to Proto-Khanty and Proto-Mansi have been treated separately



## Ugric II

- the amount of common Ugric vocabulary is only around 120-150, vocabulary reconstructed for other nodes (Proto-Finnic, Proto-Mari, Proto-Samoyed) is 500-2000
- many of the common Ugric innovations are structural rather than phonological or lexical
- order of case and possessive suffixes: px+cas (*ház-am-ban*)
- ablative -l- (cf. Hung sociative -val/-vel)
- locative case series with \*nA
- object conjugation from 3rd person \*sV

# Ugric III

- Mansi dialects/languages (not an exhaustive list, but rather the main dialects and those subdialects which are mainly used in the examples given)

S(outh Mansi) = Tavda (T)

E(ast Mansi) = Lower, Middle and Upper Konda (KndL, KndM, KndU)

W(est Mansi) = Pelymka (Pel), North and South Vagilsk, Lower and Middle Lozva

N(orth Mansi) = Sosva (So), Upper Lozva (LozU)

- Khanty dialects/languages (not an exhaustive list)

S(outh Khanty) = Demjanka (Dem), Konda (Knd), Irtys (Irt)

E(ast Khanty) = Vakh (V), Vasjugan (Vj), often together as VVj (the so-called Far East), Surgut (Sur)

N(orth Khanty) = Kazym (Kaz), Obdorsk (Obd)

# Ugric IV

- the Ugric languages do, however, share a group of at least seemingly common sound changes:
- PU \*s, \*š (the latter is a marginal sound in PU) > (Ugr \*θ?) > PMs \*t (> t everywhere), PKh \*l > KhE (V) l, (Vj) j- (initially), l, S (Irt Dem Knd) t, N (Kaz) t, (Obd) l, Hung ø (loss)

PU \*sala- ‘to steal’ > PMs \*tūl- > MsE (KndL) *tulməχ*, N *tūlmaχ* ‘thief’ > PKh \*lal- > KhE (V) *laləm-*, (Vj) *jaləm-*, S *totəm-*, N *tətəm-* ‘to steal’

PU \*sälä- ‘to get in (a boat, a sled)’ > PMs \*tāl- > MsS *tāl-*, E (KndL) *töäl-*, N *tāl-* ‘get in (a boat, a sled), mount’, PKh \*läl- > KhE (V) *lel-*, (Vj) *jel-*, S *tet-*, N (Obd) *lel-*, Hung †*ell-* ‘to mount a horse’

PU \*šinjiri ‘mouse’ > PMs \*täŋkər > MsS E W *täŋkər*, N *taŋkər*, PKh \*läŋkər > KhE (V) *löŋkər*, (Vj) *jöŋkər*, S *teŋkər*, N (Kaz) *teŋkər*, Hung *egér*

# Ugric V

- note that the change includes not just the Anlaut, but other positions as well:

PU \**pesä* 'nest' > MsS *pitī*, W *pit'*, N *pit'i*, KhE *pěl*, S *pit*, Hung *fészek* (hard to explain as a regular cognate, unless the Hungarian reflects an earlier obscured compound/derivative *fé-szek*)

PU \**meḵsa* 'liver' > PMs: \**mīṭ*: \**majt-* > MsS *majət*, E (KndU) *meṭ*, N *mājt*, KhE *muyəl*, S *muxət*, N (Kaz) *mōḵət*, (Obd) *măḵəl* (epenthesis, PU \**ks* > PKh \**γəl*), Hung *máj*

# Ugric VI

- PU \*ś (alternatively nowadays often also \*ć) (> Ugr \*s) > PMs \*š/\*s, PKh \*s, Hung <sz> /s/

PU \*śeṃi ‘scale’ > PMs \*sṃm̄ > MsS *sām* E (KndL) *sām*, E W *seṃ*, N *sām*, PKh \**sām* > KhE *sam*, S *som*, N (Kaz) *сoм*, (Obd) *sam*

PU \*śeṭa ‘100’ > PMs \*šṭ̄ > MsS *sāt*, E (KndL) *šāt*, E *seṭ*, W *šeṭ*, N *sāt*, PKh \**sāt* > KhE *sat*, S *sot*, N (Kaz) *сoт*, (Obd) *sat*, Hung *száz*

PU \*śilmā ‘eye’ > PMs \*šām > MsS E (KndL) *šām*, E (KndM, KndU) *sām*, W *šām*, N *sam*, PKh \**sām* > KhE S *sem*, N (Kaz) *sem*, (Obd) *sem*, Hung *szem* (*szēm*)

- note that the sibilants have undergone similar changes (PU \*ś > PS \*s, PU \*s > PS \*t) in Samoyedic as well, which has been the main impetus for the attempts to reconstruct a common proto-language for Ugric and Samoyedic languages, dubbed East Uralic (J. Häkkinen 2007), this interpretation has not reached general acceptance, however

# Ugric VII

- PU \*Nś > Ugr \*Nć (this innovation might just be smoke and mirrors created by the reconstruction itself as many researchers nowadays instead of a palatal sibilant reconstruct a palatal affricate (e.g. Zhivlov 2014))

PU \**kunśi(-)* ‘urine; to urinate’ > MsS *końć-*, E *χońś-*, W *kuńś-*, N *χuńś-* ‘to urinate’, KhE *kõs-*, S N *χõs-*, Hung *húgy* ‘urine’

- PU \**η* > Ugr \**ηk*

PU \**jǎŋi* ‘ice’ > Ugr \**jǎŋkə* > MsE *jǎŋk*, N *jǎŋk*, KhE *jǎŋk*, S *jeŋk*, N (Obd) *joŋk*, Hung *jég*

PU \**piŋi* ‘tooth’ > Ugr \**piŋkə* > MsS *pǎŋ*, E *pǎŋk*, N *puŋk*, KhE *pǎŋk*, S N *peŋk*, Hung *fog*

PU \**sǎŋi* ‘air, weather’ > Ugr \**θǎŋkə* > Hung *ég* ‘sky’

- Note that this change is a tendency to which there are several exceptions. The conditions of the change are unknown as well. For example, the fortification does not affect the following words:

PU \**sunji* ‘summer’ > MsE *toj*, N *tuw*, KhE N *lǒŋ*, S *tǒŋ*

PU \**wǎŋiw* ‘son-in-law’ > KhE *wonj*, S N *wenj*, Hung *vő* (*veje*, *vője* ‘his son-in-law’)

## From Proto-Uralic to Khanty 1 (vowels)

- PU \**a-i* > PKh \**a* (→ I-umlaut \**i*)

PU \**aḍi-* ‘to sleep’ > PKh \**ilā-* > KhE *ǎla-*, S *ǎt-*, N (Kaz) *ǒt-*

PU \**kali-* ‘to die’ > PKh \**kilā-* > KhE *kǎla-*, S *χǎt-*, N (Kaz) *χǎt-*, (Obd) *χǎl-*

PU \**śali* ‘gut, intestine’ > PKh \**sal* > KhE *sol*, S *sut*, N (Kaz) *sɔt*, (Obd) *sol*

PU \**wari* ‘hill’ > PKh \**war* > KhE *wor* ‘ridge, range of hills’

## From Proto-Uralic to Khanty 2 (vowels)

- PU \**a-a* > PKh \**ā* (→ I-umlaut \**ǐ*)

PU \**aḍma* ‘sleep, dream’ > PKh \**āləm* > KhE *aləm*, S *otəm*, N (Kaz) *ɔtəm*, (Obd) *aləm*

PU \**kaḍ'a-* ‘to leave’ > PKh \**kǐj-* ~ \**kij-* > KhE *kǎj-*, S N *χǎj-*

PU \**kanta-* ‘to carry’ > PKh \**kāntəm-* > KhE *kantəm-*, S *χontəm-* ‘to carry on one’s back’

- Also PKh \**ū* (regularly after a labial consonant, PU \**kala* is apparently purely irregular. It’s perhaps noteworthy that in Mansi PU \**a-a* > PMs \**ū* is fully regular)

PU \**kala* ‘fish’ > PKh \**kūl* > KhE *kul*, S *χut'*, N (Obd) *χul*

PU \**pala* ‘piece (of food)’ > PKh \**pūl* > KhE *puł*, S *pül*, N (Obd) *pul*

PU \**panča-* ‘to open’ > PKh \**pūñč-* > KhE *puñč-*, S *püñč-*, N (Obd) *pus-*



# From Proto-Uralic to Khanty 3 (vowels)

PU \*e > PKh \*i

PU \*meni- 'to go' > PKh \*min- > KhE S *měn-*, N (Kaz) *mǎn-*, (Obd) *mañ-*

PU \*neljä '4' > PKh \*nilə > KhE *ńělə*, S *ńětə*, N (Kaz) *ńǎť*

PU \*peli- 'to fear' > PKh \*pil- > KhE *pěl-*, S *pět-*, N (Kaz) *pǎť-*, (Obd) *paļ-*

PU \*pesä 'nest' > PKh \*pil > KhE *pěl*

- Also note that sometimes PU \*e > PKh \*ǟ (→ I-umlaut \*ī) (conditions unknown)

PU \*keri 'tree bark' > PKh \*kār > KhE *kār*, S *kár*, N (Kaz) *kar*, (Obd) *kār*

PU \*šepä 'neck' > PKh \*šāpəl (derivation) > KhE *sāwəl*, S *sápət*, N (Kaz) *sapət*, (Obd) *sápəl*

# From Proto-Uralic to Khanty 4 (vowels)

- PU \**e* > PKh \**ā* (→ I-umlaut \**ĭ*)

PU \**ńeĵi* ‘arrow’ > PKh \**ńāl* > KhE *ńal*, S *ńot*

PU \**ńeĵka* ‘cartilage’ > PKh \**ńārəγ* > KhE *ńarəγ*, S *ńorə*, N (Obd) *ńar*

PU \**seĵi* ‘sinew, vein’ > PKh \**lān* > KhE (V) *lan*, (Vj) *jan*, S *ton*

PU \**seĵsa* ‘Siberian pine’ > PKh \**lĵyəl* > KhE (V) *lĵyəl*, (Vj) *jĵyəl*, S *teχət*

PU \**śeĵta* ‘100’ > PKh \**sāt* > KhE N *sat*, S *sot*

- Also PKh \**ū*

PU \**meĵsa* ‘liver’ > PKh \**mūγəl* > KhE *muyəl*, S *muxət*, N (Obd) *măχəl*

## From Proto-Uralic to Khanty 5 (vowels)

- PU \**i* > PKh \**ä* (in East Khanty rounding to *ö* when preceding a velar consonant)

PU \**kiwi* ‘stone’ > PKh \**käy* > KhE *köy*, S N *kew*

PU \**nimi* ‘name’ > PKh \**näm* > KhE S N *nem*

PU \**piŋi* ‘tooth’ > PKh \**päŋk* > KhE *pöŋk*, S N *peŋk*

PU \**śilmä* ‘eye’ > PKh \**säm* > KhE S N *sem*

PU \**wiḏi-* ‘to strike, kill’ > PKh \**wäl-* > KhE *wel-*, S *wet-*, N *wel-*

## From Proto-Uralic to Khanty 6 (vowels)

- PU \**o-i* > PKh \**a*

PU \**koysi*/\**kowsi* 'spruce' > PKh \**kal* > KhE *kol*, S *χol*, N (Kaz) *χøʔ*

PU \**oŋti* 'hollow (in a tree)' > PKh \**aŋət* > KhE *oŋət*, N (Kaz) *øŋət*

PU \**ponči* 'tail, hem' > PKh \**pač* > KhE *poč* 'occiput'

PU \**soski-* 'to chew' > PKh \**layəl-* > KhE (V) *loyəl-*, (Vj) *joyəl-*, S *toχət-*, N (Kaz) *ʔoχət-*

# From Proto-Uralic to Khanty 7 (vowels)

- PU \**o-a* > PKh \**ā*

PU \**kojra* ‘male animal’ > PKh \**kār* ‘reindeer bull’ > KhE *kar*, S *χor*, N (Obd) *χar*

PU \**kota* ‘hut’ > PKh \**kāt* ‘house, dwelling’ > KhE *kat*, S *χot*, N *χat*

PU \**šoḍka* ‘common goldeneye (bird)’ > PKh \**sāj* > KhE *saj*, S *soj* (note the palatal assimilation \**ś-ḍ* > \**ś-ḍʹ*)

PU \**woča* ‘fence, fishing weir’ > PKh \**wāč* ‘village, town’ > KhE *wač*, S *woš*, N *woš*

- Also PKh \**ū*

PU \**kompā* ‘wave’ > PKh \**kūmp* > KhE *kump*, S *χump*, N (Kaz) *χōmp*, (Obd) *χump*

# From Proto-Uralic to Khanty 8 (vowels)

- PU \**u* > PKh \**ɔ̄* / \**u* / \**a* (considerable unexplained variation)

PU \**kulki*- ‘to go, flow’ > PKh \**kɔ̄yəl*- ‘to step, run’ > KhE *kɔyəl*-, S *χoχət*-, N (Kaz) *χoχət*-

PU \**kuwli*- ‘to hear’ > PKh \**kɔ̄l*- > KhE *kɔl*-, S *χut*-, N (Obd) *χol*-

PU \**kuńa*- ‘to close one’s eyes’ > PKh \**kuń*- > KhE *kõń*-, S N *χõń*-

PU \**muna* ‘egg’ > PKh \**maŋ* > KhE *moŋ* ‘penis’, N (Obd) *mon*

PU \**mura(-kka)* ‘cloudberry’ > PKh \**marək* > KhE *moreək*, S *mureχ*, N (Obd) *moreχ*

PU \**sula*- ‘to melt’ > PKh \**lulā*- > KhE (V) *lõla*-, (Vj) *jõla*-, S *tăt*- N (Obd) *läl*-

PU \**suŋi* ‘summer, thaw’ > PKh \**luŋ* > KhE (V) *lõŋ*, (Vj) *jõŋ*, S *tõŋ*, N (Kaz) *tõŋam* ‘snowless spot on the ground’

PU \**tulka* ‘feather, wing’ > PKh \**tuγəl* > KhE *tõγəl*, S *tõχət*, N (Obd) *tõχəl*

## From Proto-Uralic to Khanty 9 (vowels)

- PU \**ü* > PKh \**ü*

PU \**künči* '(finger)nail' > PKh \**küŋč* > KhE *köŋč*, S *köŋč*, N (Obd) *kus*

PU \**śüďi* 'charcoal' > PKh \**süj* > KhE *söj*

PU \**sükiś(i)* 'autumn' > PKh \**süγəs* > KhE *söŋγəs*, S *sěwəs*, N (Obd) *sus* (sibilant assimilation in Khanty \**sükəś* > \**śükəś*, cf. Hung *ősz* 'autumn', in Finnish syncope. cf. Estonian *sügis*)

# From Proto-Uralic to Khanty 10 (vowels)

- PU \**ä* > PKh \**ä* (in East Khanty rounding to *ö* preceding a velar consonant)

PU \**käli* ‘language, tongue’ > PKh \**käl* ‘word, news’ > KhE *köl*, S *ket*, N (Kaz) *keʃ*

PU \**käti* ‘hand’ > PKh \**kät* > KhE *köt*, S *ket*, N (Kaz) *kaʃəʃ* ‘front paw of a bear’

PU \**pälä* ‘half’ > PKh \**peʃək* > KhE *peʃək*, S N *pelək*

PU \**sälä-* ‘to get in (a boat, a sled)’ > PKh \**lä-* > KhE (V) *le-*, (Vj) *jel-*, S *tet-*, N (Obd) *le-*

PU \**wäki* ‘strength’ > PKh \**wäy* > KhE *wöy*, S *wey*, N (Obd) *wej*

- PU \**ä-i* > PKh \**ü* (preceding a velar)

PU \**läkti-* ‘to leave, get out’ > PKh \**lüyət-* > KhE *lüyət-*, S *tiwət-*

PU \**mäki* ‘hill’ > PKh \**müy* > KhE (Vj) *müy*, S *miy<sup>w</sup>* ‘hummock, hillock’



# From Proto-Uralic to Khanty 11 (ablaut)

- the development of Khanty vowels is complicated by a phenomenon known as ablaut and/or umlaut
- morphophonological alternation, in which a first syllable open vowel alternates with either a mid vowel or a close vowel
- triggered usually by an inflectional or a derivational suffix that has not always survived, zero suffixes triggering the high ablaut/umlaut also occur
- the original conditioning factors are sometimes possibly obscured by morphological leveling and generalization and/or by the loss of the word representing the original ablaut grade

# From Proto-Uralic to Khanty 12 (ablaut)

I grade, high ablaut grade

for example, PKh suffixal *\*ā* ja *\*ĭ* trigger the high ablaut grade

- PKh *\*a* → PKh *\*j*

PU *\*kali-* ‘to die’ > PKh *\*kijā-* > KhE *kāla-*, S *χăt-*, N (Kaz) *χăt-*, (Obd) *χăl-*

PU *\*śali* ‘gut, intestine’ > PKh *\*sal* > KhE *sol*, S *sut*, N (Kaz) *sɔt*, (Obd) *sol*

→ PKh *\*sijā* > KhE *sălə*, N (Kaz) *sőt-keʃ* ‘belt in a reindeer harness’

PU *\*ańi* ‘sister-in-law’ > PKh *\*jńkĭ* > KhE (V) *ăńəkĭ*, (Vj) *ăńkĭ*, S *ăńəxə*, N (Kaz) *ăńxi* ‘wife of a male relative of an older generation; stepmother’

# From Proto-Uralic to Khanty 13 (ablaut)

- PKh \**ā* → PKh \**ĭ*

PU \**woča* ‘fence, fishing weir’ > PKh \**wāč* ‘village, town’ > KhE *wač*, S *woš*, N *woš*

→ PKh \**wič* ‘border’ > KhE (Sur) *wič*, S *wič*, N (Kaz) *wüş*

PU \**kanta-* ‘to carry’ > PKh \**kāntəm-* > KhE *kantəm-*, S *χontəm-* ‘to carry on one’s back’

→ PKh \**kĭnt* ‘basket for carrying on the back’ > KhE *kĭnt*, S *χent*, N *χĭnt*

- PKh \**ä* → PKh \**i*

PU \**jäŋi* ‘ice’ > PKh \**jäŋk* ‘ice’ > KhE *jöŋk*, S *jeŋk*, N (Kaz) *jeŋk*, (Obd) *joŋk*

→ PKh \**jiŋk* ‘water’ > KhE S *jěŋk*, N (Kaz) *jĩŋk*, (Obd) *jiŋk*

PU \**iskä-* ‘to believe’ > PKh \**äyəl-* > KhE *öyəl*, S *ewəł-*, N (Kaz) *ewəł-*

→ PKh \**iylä* (imperative) > KhE *ěylä mänä* ‘believe me’

## From Proto-Uralic to Khanty 14 (ablaut)

- PKh \**ā̄* → PKh \**ī*

PU \**keri* 'tree bark' > PKh \**kār* > KhE *kär*, S *kár*, N (Kaz) *kar*, (Obd) *kär*

→ PKh \**kīr* 'snow-crust' > KhE W *kir*, N *ker*

PU \**lewl-tä-* (< PU \**lewli-w*) > PKh \**lā̄lt-* > KhE *lält-*, W *tättə-*, *tät-*, N (Kaz) *tatt-*, (Obd) *lält-* 'to breathe'

→ PKh \**līl* > KhE *lil*, S *tit*, N (Kaz) *řř*, (Obd) *lil* 'breath, spirit, life'

PKh \**ā̄mp* 'dog' > KhE *ämp*, S N (Obd) *ämp*, N (Kaz) *amp*

→ PKh \**īmpəm* 'my dog' > KhE *impəm*

# From Proto-Uralic to Khanty 15 (ablaut)

U grade

typical, for example, of possessive forms

- PKh \**ā* → PKh \**ō*

PU \**aδma* ‘sleep, dream’ > PKh \**āləm* > KhE *aləm* ‘sleep’

→ PKh \**ōlməm* > KhE *ulməm* (1st person singular) ‘my sleep’

PU \**kota* ‘hut’ > PKh \**kāt* ‘house, dwelling’ > KhE *kat*, S *χot*, N *χat*

→ PKh \**kōtəm* > KhE (V) *kutəm* ‘my house’, cf. (Vj) *katəm*, infrequently also *kutəm* (leveling)

## From Proto-Uralic to Khanty 16 (ablaut)

PU \**aḍma* ‘sleep, dream’ > PKh \**āləm* > KhE *aləm* ‘sleep’, S *otəm*, N (Kaz) *ɔtəm*, (Obd) *aləm*

→ PKh \**ōləm* ‘dream’ > KhE *uləm*, N (Kaz) *wɔtəm*, (Obd) *wulem*

PU \**ara(w)* ‘old riverbed, oxbow lake’ > PKh \**ōrəj* > KhE *uri*, S *urə*, N (Kaz) *wɔri*, (Obd) *wuri*

PKh \**ɔ̄γ* ‘head’ > KhE *ɔγ*, S *uχ*, N *ǒχ*

→ PKh \**ūγəm* > KhE *uγəm* ‘my head’

# From Proto-Uralic to Khanty 17 (consonants)

- many of the main consonant changes have been mentioned already in the previous section that dealt with shared innovations in Ugric languages

- PU \* $\delta'$  > PKh \**j*

PU \**ka $\delta'$ a-* 'to leave' > PKh \**kj̄-* ~ \**kij-* > KhE *kăj-*, S N *χăj-*

- PU \* $\delta$  > PKh \**l*

PU \**nü $\delta$ i* 'handle, stem' > PKh \**nül* > KhE *nöļ*, S *nět*, N (Obd) *naļ*

PU \**wi $\delta$ i-* 'to strike, kill' > PKh \**wäl-* > KhE *wel-*, W *wet-*, N *wel-*

## From Proto-Uralic to Khanty 18 (consonants)

- in consonant clusters metathesis and epenthesis are common
- PU *\*ks*, *\*kš* > PKh *\*γəl*

PU *\*meḱsa* ‘liver’ > PKh *\*mūγəl* > KhE *muyəl*, S *muχət*, N (Obd) *măχəl*

PU *\*wokši* ‘thin’ > PKh *\*wayəl* > KhE *woyəl*, N (Kaz) *oχət*

- PU *\*sk* > PKh *\*γəl*

PU *\*soski-* ‘to chew’ > PKh *\*layəl-* > KhE (V) *loγəl-*, (Vj) *joγəl-*, S *toχət-*, N (Kaz) *toχət-*



# From Proto-Uralic to Khanty 19 (consonants)

- PU *\*kt* > PKh *\*γət*

PU *\*ekta-* ‘to hang’ > PKh *\*j̄yət-* ‘to set a trap’ > KhE *jyət-*, S *eχət-*, N (Kaz) *ixət-*

PU *\*ukti* ‘passage, way’ > PKh *\*ɔ̄yət* ‘isthmus between two lakes or rivers over which boats are hauled’ > KhE *ɔyət*, S *oχət*, N (Kaz) *oχət*

PU *\*tukti* ‘crossbeam’ > PKh *\*tuyət* > KhE *töyət*, S N *töχət*

note PU *\*?kektä* ‘2’ > PKh *\*?kāt* (attributive) > KhE *kāt*, S *kět*, N (Obd) *kát*

- PU *\*tk* > PKh *\*γət*

PU *\*meṭka* ‘passage’ > PKh *\*mūyət* ‘anabranh’ > KhE *muγət*, N (Kaz) *möχət*

# From Proto-Uralic to Khanty 20 (consonants)

- PU \**pt* > PKh \**pət*

PU \**apta-* 'to bark' > PKh \**āpət-* > KhN (Kaz) *ɔpət-*, (Obd) *apət-*

PU \**epti* 'hair (on the head)' > PKh \**āpət* > KhE *awət* ~ PKh \**ɔpət* > hntE *upət*, N (Kaz) *ɔpət*, (Obd) *opət*

- PU \**lk* > PKh \**γəl* (note metathesis > epenthesis)

PU \**mälkə* 'breast' > PKh \**mäγəl* > KhE *möγəl*, S *meyət*, N (Obd) *mewəl*

PU \**tulka* 'feather, wing' > PKh \**tuyəl* > KhE *töγəl*, S *töχət*, N (Obd) *töχəl*

# From Proto-Uralic to Khanty 21 (consonants)

Other:

- PU \**jt* > PKh \**ć*

PU \**ajta* / \**ejta* 'fence' > PKh \**āć* 'fence, enclosure' > KhE *at'*, S *ot'*, N (Kaz) *ɔś*

## Exercise: Khanty

Which PU proto-forms the Khanty words can reflect? (try finding all the possible PU reconstructions)

PKh \*čičijm > KhE čičijm ‘bear cub’

PKh \*jyət- ‘to set a trap’ > KhE jyət-, S eχət-, N (Kaz) iχət-, (Obd) eχət-

PKh \*küč- > KhE kōč-, S kōč-, N (Obd) kus- ‘to glow, smoulder’

PKh \*lär ‘root fiber, thin root, stripe’ > KhE (V) ler, (Vj) jer, S ter, N (Obd) ler

PKh \*sām ‘scale’ > KhE sam, S som, N (Obd) sam

## From Proto-Uralic to Mansi 1 (vowels)

- PU \**a-i* > PMs \**ā*

PU \**ańi* ‘sister-in-law’ > PMs \**āńəγ* > MsS *āńi* ‘paternal uncle’s wife’, E *oń*, N *ɔńij*  
‘stepmother, older brother’s wife’

PU \**kali-* ‘to die’ > PMs \**kāl-* > MsS *kāl-*, E *χōl-*, W *kōl-*, N *χɔl-*

PU \**waji* ‘grease’ > PMs \**wāj* > MsS *wāj*, W *wōj*, N *wɔj*

## From Proto-Uralic to Mansi 2 (vowels)

- PU \**a-a* > PMs \**ū* / \**ĩ* (preceding a velar that is in turn labialized)

PU \**aḍma* ‘sleep, dream’ > PMs \**ūləm* > MsS *ōləm*, E (KndL) *uləm*, W (Pel) *wuləm*, N *ūləm*

PU \**aŋa-* ‘to open, take off’ > PMs \**ĩŋk<sup>w</sup>ə-* > MsS *āŋk-*, E (KndL) *aŋx<sup>w</sup>-*, (KndU) *eŋk<sup>w</sup>-*, W (LozL) *eŋk-*, N *āŋk<sup>w</sup>-*

PU \**kačka-* ‘to bite’ > PMs \**kūš-* ‘sting (of nettles)’ > MsS *kōš-*, N *χūs-*

PU \**kaḍ'a-* ‘to leave’ > PMs \**kūl'-* > MsS *kōl'-*, W (LozL) *kūl'-*, N *χūl'-*

PU \**pala* ‘piece (of food)’ > PMs \**pūl* > MsS *pōl*, E (KndU) N *pūl*

## From Proto-Uralic to Mansi 3 (vowels)

- PU \**e* > PMs \**i*

PU \**meni-* 'to go' > PMs \**min-* > MsS *miń-*, E W N *min-*

PU \**pele-* 'to fear' > PMs \**pil-* > MsS *pil'-*, E N *pil-*, W (Pel) *pil-*, *pil'-*

PU \**pesä* 'nest' > PMs \**pit'i* > MsS *pit'ī*, W *pit'*, N *pit'i*

PU \**weti* 'water' > PMs \**wit* > MsS *üt'*, E *wit'*, W *wüt'*, N *wit*

# From Proto-Uralic to Mansi 4 (vowels)

- PU \**e* > PMs \**ĩ* (Mansi is instrumental in distinguishing between PU \**a* and \**e*)

PU \**epti* 'hair (on the head)' > PMs \**ĩt* > MsS *ā̄t* 'braid', E (KndM) W (Pel) *ēt̄*, N *ā̄t* 'hair'

PU \**mexi* 'earth' > PMs \**mĩ* > MsS *mε̄*, W *mē*, E (KndL) N *mā*

PU \**mexsa* 'liver' > PMs \**mĩt*: \**majt* > MsS *majt*, E (KndM) *mēt̄*, *mājtt* (plural), W (LozL) *mēt̄*, *majtt* (plural), N *majt*

PU \**nejli* 'arrow' > PMs \**ñĩ* > MsE (KndM, KndU) *ñēl̄*, W *ñēl*, N *ñāl*

PU \**sēni* 'sinew, vein' > PMs \**tĩn* > MsS *tā̄n*, E (KndM, KndU) *tēñ*, W *tēñ*, N *tā̄n*

PU \**šēta* '100' > PMs \**šĩt* > MsS *šā̄<sup>et</sup>*, E (KndM) *sēt̄*, W *šēt̄*, N *sāt* (in addition to Mansi, also Mari \**šüðə* '100' points to PU \**e*)



## From Proto-Uralic to Mansi 5 (vowels)

- PU \**i* > PMs \**ä*

PU \**nimi* 'name' > PMs \**näm* > MsS *näm*, W (Pel) *nām*, N *nam*

PU \**piḍi* 'high, long' > PMs \**päl-* > MsE *pält*, W *pält*, N *palit*

PU \**śilmä* 'eye' > PMs \**šäm* > MsS E (KndL) *šäm*, E (KndM, KndU) *säm*, W *šäm*, N *sam*

PU \**wiḍi-* 'to strike, kill' > PMs \**äl-* > MsS *äl-*, E W *äl-*, N *al-*

## From Proto-Uralic to Mansi 6 (vowels)

- PU \**o-a* > PMs \**ĩ* / \**ū* (word-initially)

PU \**kojra* ‘male animal’ > PMs \**kĩr* > MsW *keṛ*, N *χār*

PU \**onśa* ‘meat, share’ > PMs \**ūńć* > MsW *wuńś*, N *ūś* ‘buttocks, ass’

PU \**śoδka* ‘common goldeneye (bird)’ > PMs \**sĩl'* > MsS *sāl'*, E (KndL) *sāl'*, E (KndM) W *seḷ'*, N *sāl'* (note Mansi *l'* (< PU \**δ'*, palatal assimilation \**ś-δ* > \**ś-δ'* already in Pre-Mansi)

# From Proto-Uralic to Mansi 7 (vowels)

- also note the examples where the result of PU \**o-a* seems to have been PMs \**u* (no clear rule, in the examples below preceding a labial consonant, but the development is not exclusively found in this context)

PU \**kompa* ‘wave’ > PMs \**kump* > MsW *kup*, N *χump*

PU \**śojma* ‘sound, noise’ > PMs \**suməl-* ‘to be heard, sound, ring, crackle’ > MsE *sǫməl-*, W N *suməl-* (cf. PMs \**suj* ‘sound’ > MsS *soj*, E *sǫj*, W N *suj* (< PU \**śoji* ‘sound’), the development PU \**oj* > PMs \**uj* is regular and has perhaps influenced the vocalism of the verb)

PU \**śopa* ‘piece of clothing’ > PMs \**šup* ‘shirt’ > MsS *šop*, N *sup*

## From Proto-Uralic to Mansi 8 (vowels)

- PU \**o-i* > PMs \**ā* (preceding \**γ* and \**kt*), \**oj* > PMs \**uj*

PU \**koysi*/\**kowsi* ‘spruce’ > PMs \**kayt* > MsE N *χowt*, W (LozL) *kayt*

PU \**koji* ‘male’ > PMs \**kuj* > MsE *χoj*, W *kuj*, N *χuj*

PU \**korpi* ‘woods’ > PMs \**kārəp* ‘grove, forest’ > MsS *kārp*, E *χōrəp*, W *kōrp*, N (LozU) *χōrp*

PU \**ponči* ‘tail, hem’ > PMs \**pānši* ‘bird’s tail’ > MsE *ponš*, N *pōnši*

PU \**soski-* ‘to chew’ > PMs \**tayt-* > MsS *tawt*, E N *towt-*, W (Pel) *täyt-*

# From Proto-Uralic to Mansi 9 (vowels)

- PU \**u* > PMs \**a* / \**u* / \**â* / \**ū* (there is significant and mostly unexplained variation in reflexes)

PU \**kunśi*(-) ‘urine; to urinate’ > PMs \**kuńć*- > MsS *końć*-, E *χońś*-, W *kuńś*-, N *χuńś*- ‘to urinate; sting (of an ant)’

PU \**kuńa*- ‘to close one’s eyes’ > PMs \**kâń*- > MsS *koń*-, E *χ<sup>w</sup>oń*-, N *χoń*-

PU \**luka* ‘10’ > PMs \**lâw* > MsS E W N *low*

PU \**lunta* ‘goose’ > PMs \**lūnt* > MsS *lōnt*, W (Pel) *lunt*, N *lūnt*

PU \**muna* ‘egg’ > PMs \**man* > MsS E (KndL) *man*, W (Pel), N (LozL) *mon*, N (So) *mūñi* (!)

PU \**suksi* ‘ski’ > PMs \**tâwt* > MsS *tōt*, E (KndL) W (Pel) N *towt*

PU \**sunji* ‘summer, thaw’ > PMs \**tuj* > MsS E (KndL) *toj*, N *tuw*

# From Proto-Uralic to Mansi 10 (vowels)

- PU \**ü* > PMs \**ä*

PU \**künči* '(finger)nail' > PMs \**k<sup>w</sup>änš* > MsS *künš*, E (KndL) *k<sup>w</sup>äš*, N *käš*, N *kos*

PU \**külä* 'dwelling' > PMs \**k<sup>w</sup>äl* 'house' > MsS *kül*, E (KndL) *k<sup>w</sup>äl*, W (Pel) W *k<sup>w</sup>äl*, *käl'*, N *kol*

PU \**nüdi* 'handle, stem' > PMs \**näl* > MsS E (KndL), *näl*, W (Pel) *näl*, N *nal*

- PU \**ä* > PMs \**ā*

PU \**kälä*- 'to wade' > PMs \**k<sup>w</sup>āl-* 'to arise, go ashore' > MsS *k<sup>w</sup>āl-*, E (KndL) *k<sup>w</sup>öäl-*, N *k<sup>w</sup>āl-*

PU \**kāti* 'hand' > PMs \**kāt* > MsS *kāt*, E *köät*, W N *kāt*

PU \**pälä* 'half' > PMs \**pāl* > MsS *pāl*, E *pöäl*, N *pāl*

PU \**säppä* 'gall' > PMs \**tāp* > MsS *tāp*, E *töäp*, N *tāp*

PU \**tälwä* 'winter' > PMs \**tāl* > MsS *tāl*, E *töäl*, W N *tāl*

# From Proto-Uralic to Mansi 11 (consonants)

- for many of the main consonant changes, see the first section about common Ugric sound changes
- PU \**δ'* > PMs \**l'*

PU \**δ'eṃi* 'bird-cherry' > PMs \**l'ijm* > MsS *l'ēm*, E (KndL) *l'ām*, E (KndU) *l'eṃ*, N *l'ām*

PU \**kaδ'a-* 'to leave' > PMs \**kūl'-* > MsS *kōl'-*, N (LozA) *kūl'*, N *χūl'-*

PU \**koδ'ka* 'spirit' > PMs \**kul'* > MsW *kul'* 'forest spirit', N *χul'* 'sickness spirit'

- PU \**δ* > PMs \**l*

PU \**aḍma* 'sleep, dream' > PMs \**ūləm* > MsS *ōləm*, E (KndL) *uləm*, W (Pel) *wuləm*, N *ūləm*

PU \**nüḍi* 'handle, stem' > PMs \**näl* > MsS E (KndL), *näl*, W (Pel) *nāl*, N *nal*

# From Proto-Uralic to Mansi 12 (consonants)

- PU \*č , \*čk > PMs \*š (in some Mansi dialects has developed further into s and can't be told apart from the reflexes of PU \*ś)

PU \*čęči 'wild duck' > PMs \*šļš > MsE (KndM) seš̄, W (Pel) šęš̄, N sās

PU \*kačka- 'to bite' > PMs \*kūš- 'to sting (of nettles)' > MsS kōš-, N χūs-

- PU \*k > PMs \*γ (has in many dialects developed further into a semi-vowel or has been altogether lost)

PU \*luka '10' > PMs \*lāw > MsS E W N low

PU \*soski- 'to chew' > PMs \*tayt- > MsS tawt, E N towt-, W (Pel) täyt-

PU \*suksi 'ski' > PMs \*tāwt > MsS tōt, E (KndL) W (Pel) N towt (note also the metathesis!)

PU \*wāki 'strength' > PMs \*wāγ > MsS wāw, E (KndL) wōä, N wāγ



## From Proto-Uralic to Mansi 13 (vowels)

- PU *\*p* and *\*pp* > PMs *\*p*, *\*pt* > PMs *\*t*

PU *\*šepä* ‘neck’ > PMs *\*šip* ‘collar, neck’ > MsE (KndL) *šəp*, E (KndM, KndU) *səp*, W (Pel) *šip*, N *sip*

PU *\*säppä* ‘gall’ > PMs *\*tāp* > MsS *tāp*, E *töäp*, N *tāp*

PU *\*epti* ‘hair (on the head)’ > PMs *\*j̥t* > MsS *āṭ* ‘braid’, E (KndM) W (Pel) *eṭ*, N *āt* ‘hair’

# Exercise 1: Mansi

Can these Mansi words be cognates with the Finnic words? Explain your reasoning:

MsS *küš-*, E (KndL) W *kāš-*, N *kos-* ‘to smoulder’ ~ Fi *kyteä* ‘id.’

MsW (Pel) *kul'əm*, N *χul'əm* ‘spawning bed of fish’ ~ Fi *kutea* ‘to spawn’

MsS *tār*, E (KndL) *täär*, W N *tār* ‘root; fiber’ ~ PF \**soore* > Livonian *sūorj* ‘tendon, fiber, vein’

MsS *pāl'-*, E (KndL) W *pōl'-*, N *pɔl'-* ‘to freeze’ ~ PF \**pala-* ‘to burn’, \**palele-* ‘to feel cold’ > Fi *palaa*, *palella*

MsS *pāt-*, E (KndL) *pāt-*, N *pat-* ‘to fall, moult (of birds)’ ~ Fi *pitää* ‘to hold’

MsE (KndL) *äyt-*, N *ayt-* ‘to believe’ ~ Fi *uskoa* ‘to believe’

## Exercise 2: Mansi

Based on Finnic and Mansi cognates, should one reconstruct first-syllable \**a* or \**e* for PU?

MsE (KndU) *ūp-*, W (Pel) *wūp-* ‘to tear with teeth, bite (of a bear etc.)’ ~ Fi dial. *appaa* ‘devour, gobble’, Veps *apta*, Estonian *apama* ‘to drink (child language)’ (→ Fi *ape* (genitive *appeen*) ‘animal food’)

MsW (Pel) *keñt*, N *χānta* ‘storehouse pillar’ ~ Fi *kanto* ‘tree stump’

MsS *lajl-kāñra*, E (KndU) *keñər* ‘hollow of a knee’ ~ Fi *kaari* ‘curve, boat rib’

MsS *sām*, E (KndM, KndU) W (Pel) *señm*, N *sām* ‘scale’ ~ Fi *suomu*

# From Proto-Uralic to Hungarian 1 (general)

- Old Hungarian (from 10th century to 11th)
- Modern Hungarian
- Csángó
- some information about lost Ugric/Hungarian languages from middle Uralic, Volga (Magna Hungaria) and Ukraine (Etelköz, Levédia)

## From Proto-Uralic to Hungarian 2 (consonants)

- PU \*s, \*š > Hung  $\emptyset$  (loss)

PU \**sula*- ‘to melt’ > Hung *olvad*

PU \**süli* ‘lap, fathom’ > Hung *öl*

PU \**säppä* ‘bile’ > Hung *epe*

- PU \*ś > Hung sz /s/

PU \**śarwi* ‘horn’ > Hung *szarv*

PU \**śilmä* ‘eye’ > Hung *szem*

## From Proto-Uralic to Hungarian 3 (consonants)

- PU \**k-* > Hung *h-* (preceding a back vowel, also found in North Mansi and North and South Khanty)

PU \**kala* ‘fish’ > Hung *hal*

PU \**kali-* ‘to die’ > Hung *hal*

- PU \**k-* > Hung *k-*

PU \**kiwi* ‘stone’ > Hung *kő* (:*köve-*)

PU \**käti* ‘hand’ > Hung *kéz*

# From Proto-Uralic to Hungarian 4 (consonants)

- PU \*-t- > Hung -z-

PU \**kota* 'hut' > Hung *ház* 'house'

PU \**meti* 'mead' > Hung *méz*

PU \**weti* 'water' > Hung *víz*

- new word-internal *t* from clusters, PU \**tk* > Hung *t*

PU \**kütki-* 'to tie' > Hung *köt-*

- PU \*-k-, \*-p- > loss

PU \*(*j*)*ikä* 'year' > Hung *év* (OHung *é*)

PU \**síki* 'hair, thread' > Hung *sző-* 'to weave, spin'

- new word-internal *p* from PU geminate \**pp*

PU \**ëppi* 'father-in-law' > Hung *ipá* (-*a* originally 3SG possessive suffix reanalyzed as part of the stem)

## From Proto-Uralic to Hungarian 5 (consonants)

- PU \**p*- > Hung *f*-

PU \**pala* ‘piece (of food) > Hung *falat* ‘mouthful, bit, bite’

PU \**pesä* ‘nest’ > Hung *fészek*

PU \**pälä* ‘side, half’ > Hung *fél*

- PU \**ḏ*' > Hung *gy* (palatal *d*), PU \**ḏ* > Hung *l*

PU \**aḏi*- ‘to sleep’ > Hung *al-szik*

PU \**kaḏ'a*- ‘to leave’ > Hung *hagy*



# From Proto-Uralic to Hungarian 6 (consonants)

- denasalization of clusters containing a nasal and a stop/affricate/sibilant
- PU \**mp* > Hung *b*

PU \**kempa* 'wave' > Hung *hab* 'foam'

- PU \**ŋk* (both primary and secondary Ugric \**ŋ* > \**ŋk*) > Hung *g*

PU \**jāŋi* 'ice' > Hung *jég*

- PU \**mt*, *nt* > Hung *d*

PU \**amta-* 'to give' > Hung *ad*

- PU \**nč* > Hung *r*

PU \**künči* 'nail' > Hung *köröm*

PU \**ponči* 'tail' > Hung *fark*

- PU \**nś* > Hung *gy*

PU \**kunši(-)* 'to urinate, urine' > Hung *húgy*

## From Proto-Uralic to Hungarian 7 (vowels)

- syncope (so-called Horger's law or the law of two open syllables): *uru-szág* > *ország*, gave rise to alteration *szerelem*: *szerelmet*
- the loss of stem vowel results in compensatory lengthening in 1st syllable vowel: PU *\*kāti* > Hung *kéz*, PU *\*weti* > Hung *víz*, PU *\*weri* > Hung *vér*
- Hungarian vowel history is very complicated and many unclear cases remain
- PU close vowels (*\*i*, *\*u* and *\*ü*) are usually lowered:

PU *\*nimi* 'name' > Hung *név*

PU *\*luki-* 'to count, read' > Hung *olvas*

PU *\*puna* 'hair' > Hung *fan*, *fon* 'pubic hair'

PU *\*sükiši* 'autumn' > Hung *ősz*

## From Proto-Uralic to Hungarian 8 (vowels)

- PU \**e̊-a* > Hung *a*

PU \**męksa* 'liver' > Hung *máj*

- PU \**e̊-i* > Hung *i* (back vocalic)

PU \**ńeji* 'arrow' > Hung *nyíl*

- labialization of PU \**i* adjacent to \**w*

PU \**kiwi* 'stone' > Hung *kő*

PU \**witti* '5' > Hung *öt* (perhaps through \**wüt* > \**üt*)

PU \**wiđi* 'to hit, kill' > Hung *öl*

## From Proto-Uralic to Hungarian 9 (vowels)

- contraction of semivowels gives monosyllabic long vowels

PU \**kiwi* ‘stone’ > Hung *kő* (: *köve-*)

PU \**wäñiw* ‘son-in-law’ > Hung *vő* (through *veje-* or something similar)

Hung *hó* ‘snow’ (: *hava-*)

Hung *szó* ‘word’ (: *szava-*)

## From Proto-Uralic to Hungarian 10 (cognates)

- PU inherited words very often contain some obscure derivational or reanalyzed possessive suffix in Hungarian

PU \**luki-* ‘to count, read’ > Hung *olvas*

PU \**męksa* ‘liver’ > Hung *máj*

PU \**pesä* ‘nest’ > Hung *fészek*

PU \**pojka* ‘son, boy’ > Hung *fiú*

PU \**sula-* ‘to melt’ > Hung *olvad*

PU \**säppä* ‘bile’ > Hung *epe*

# Old Hungarian 1



(Kis, Kr.e.3500 körüli [agyagtábla](#).)

**S**ermo sup sepuclurum.  
me yogmuc. ysa pur' ef' chomuy uognuc. Deny miloffben  
teruntve deve miy isemcut adumit. ef' odurta vola neki  
paradisumit hazoa. **E**s' mend paradimben uolov gumicentil  
mmda neki ehne. **H**eon riluroa wt ig' fa gumice tvl. **G**e-  
mmdoa neki merer in' eneye. ysa ki nopun endul oz gumilf  
tvl. halahec halalaal holz. **H**adlana choltat teruntve isten  
tvl. ge' feledve. **E**ngede urdung ure'vimec. ef' evce oz' tilyt  
gumilftvl. ef' oz' gumilfben halatur evce. **E**s' oz' gumilfitec vyl  
keleruy uola vize. hug' turehuat mige' zocozta vola.  
**N**am heon muga nec. ge' mend w' fonanc' halatur evce.  
**H**orogu vec isten. ef' veteve wt' ez' muncas' vilagbele. ef' leyn  
halahec ef' puculhec feze. ef' mend w' nemenee. **K**ic oz' ve.  
miy vogmuc. **H**ug' ef' tiv' lamatuc szuntuchel. ila' ef' num  
igg' ember' mulchoria ez' vermut. ysa' mend oz' chuz' iarov  
vogmuc. **V**imagguc urome isten' kegihner' ez' lelic' ert. hug'  
iorgosun w' neki. ef' kegiggen. ef' bul'kassa' mend w' bunet.  
**S**vimagguc' s'en' ach'kem' mariat. ef' bovdug' michael' archangeht.  
ef' mend' ang' **e**lcit. hug' umaggonoe' erette. **E**s' umagguc'  
szent' peter' uror. kinec' odur' hotoln' ovdonia. ef' ketine.  
hug' ovga' mend w' bunet. **S**vimagguc' mend' sz' entucut.  
hug' legimec' neki' seged' urome' scine' elcut. hug' isten' iv' u'  
mad'laguemia' bul'kassa' w' bunet. **E**s' z' oboducha' wt' urdung'  
ildetui' tvl. ef' pucul' kan'oz'via' tvl. ef' vez' esse' wt' paradisu'  
nugul'abelt. ef' oggun' neki' mumbi' uruz'agbele' uror. ef'  
mend' iovben' rez'et. **E**s' keas'ituc' urom'chuz' charmul. **K**irt.  
**S**eer'ehmel' bratym' umaggus' ez' segin' ember' lilki' ert.  
kinec' ez' nopun' restet' tumetive. hug' ur' ur' kegihnehel  
abraam. ysaac. iacob. kebeleben' helhezic. hug' bir'lag'ny  
iv'ua' mend w' sz' entu' ef' un'itret' cuz'icun' iov  
felevl' ioch'ot'ma' ilezie' vvt. **E**s' tiv' bennetuc. clamate' in' **K**  
**H**ic faciat' sacerdos' s'mone' p'lo.  
quanta' gra' d'ni' ef' gratificauerat' p'mum' adam' patre'  
h'm. s' drabolo' suadente' du' peccatit. quid' sibi' e' oib' suis'  
posteras' te' p'meruit. ecce' s'f' uiderit' oculis' uestris'

## Old Hungarian 2

ug scolano. Wylag<sup>noo</sup> kexdecurul fugua: rohtone  
ez nem leve wala. hug fey lean. fioc sculhessen.  
fey segnes tubere. tistan maradhassun. es nekunc  
byrunc benne ne leyessen. Tudync lacuc k fey lean  
nac qui vleben care chudalau fioc. furiste musia.  
cocy yndeti. ug hug ana salutate. de qui legennety  
dea opus nem tuduc. Sz oz ysten mynt<sup>noo</sup> elmeriuc.  
quit scoplex nem illohet. mert ha ysten ex num uo  
ua beunc bynuc lelhetneyc. Amen.

Om̄s ei sp̄ am̄st. sic. re. heb. 1. duo no. li. s. am̄ia. da. diue p̄e elanca.  
danda h̄i angl̄i ad custodia. lo digtas huane ne .1. de p̄ admira. ap̄adit.  
q. d. h̄o q. memor. es. re. om̄ia. h̄ie. sp̄ec̄i. q. d. ad h̄i p̄ te reputas esse. esse.  
n̄ angli. p̄uat. ex. 7. n̄ t̄y. f̄nos. 7. diac̄os. h̄os anglos admitt. om̄i. ist̄ia.  
est. aut̄. f̄ mult̄i. angli. s. n̄ras. obtoneo. off̄e. anḡi. si. d. ap̄a. m̄. d. d.



# Old Hungarian 3

- Rovasírás = Hungarian “runes”
- Halotti beszéd és könyörgés (around 1000)
- Tihányi alapítólevél
- current case markers still separate suffixes/postpositions
- verb paradigms differed from modern Hungarian
- vowel qualities often don't match modern Hungarian



# From Proto-Uralic to Proto-Samoyed 1 (consonants)

- PU \*s, \*š > PSam \*t (in all positions)

PU \*pesä 'nest' > PSam \*petä (SW \*pitä) > NenT *pid'a*, Ngan *hiṭi*, SlkTaz *piti*

PU \*meksa 'liver' > PSam \*miṭə̂ > NenT *mid*<sup>ə</sup>, Ngan *mitə*, SlkTaz *miṭi*

PU \*sunji 'summer, thaw' > PSam \*tə̃ŋ ~\*tə̃ŋə̂ > Ngan *tə̃ŋə*, SlkTaz *taŋi*

PU \*sala- 'to steal' > PSam \*tälä- > NenT *tal'e-*, Ngan *tolj-*, SlkTaz *teji-*

PU \*koska 'aunt, grandmother' > PSam \*kâtâ > NenT *χada* 'grandmother', Ngan *kotu* 'mother's or father's older sister'

PU \*kupsa- 'to extinguish' > PSam \*kə̃ptâ- > NenT *χə̃pta-*, Ngan *kə̃btu-*, SlkTaz *qapti-*

## From Proto-Uralic to Proto-Samoyed 2 (consonants)

- PU \*ś > PSam \*s (in all positions)

PU \*śaḍa- ‘to fall, rain’ > PSam \*sårå- > Ngan *soru-*, SlkTaz *seṛi-* ‘to rain’, derivative  
PSam \*sårö ‘rain’ > NenT *saío*, Ngan *sor<sup>u</sup>a*

PU \*śälä- ‘to cut open’ > PSam \*sälä- ‘to sharpen, grind’ > NenT *šelə-* ‘to grind the antlers against a tree (of reindeer)’, Ngan *šeli* ‘sharpness’, *šeli-* ‘to sharpen’, SlkTaz *sɛli-* ‘to sharpen’

PU \*moški- ‘to wash’ > PSam \*māsə- > NenT *masə-* ‘to wash’, (derivative) SlkTaz *musijti-* ‘to wash’

# From Proto-Uralic to Proto-Samoyed 3 (consonants)

- PU \**ḍ* > PSam \**r* (in all positions)

PU \**eḍi* 'front' > PSam \**eri/ə* > NenT *ji<sup>ə</sup>há* 'next to, opposite to', Ngan *hírini* 'opposite to, in front of', SlkTaz *īrj* 'earlier, long ago'

PU \**nüḍi* 'handle, stem' > PSam \**nir* > SlkTaz *nir* 'stem'

PU \**kuḍa* 'morning' > PSam *kəṛə̃* > SlkTaz *qarj* 'morning'

PU \**piḍi* 'high, long' > PSam \**pirə̃* 'height' > NenT *pi<sup>ə</sup>*, Ngan *hirə*, *hirəḍi?*

- PU \**ḍ'* > PSam \**j* (in all positions)

PU \**ḍ'emi* 'bird-cherry' > PSam \**jẽm* > SlkTaz *čejm*

PU \**kaḍ'a-* 'to leave' > PSam \**kâjă-* > NenT *χaje-*, Ngan *koi-*, SlkTaz *qəčj-*

PU \**muḍ'a* > PSam \**mə̃jâ* 'earth' > Ngan *mou* 'earth' (if the vowel assimilation is not noted, *məu*), SlkTaz *mači* 'tundra, forest', Kam *mija* 'mountain'

# From Proto-Uralic to Proto-Samoyed 4 (consonants)

- PU \*l > PSam \*j (word-initially, syllable-finally l remains a lateral preceding PU \*e)

PU \**lämpi* ‘warmth’ > PSam \**jämpə* ‘clothing, clothes’ (SW \**jempə*) > NenT *jempə*- ‘to get dressed, dress’, Ngan *d’enh’a* ‘clothing’, *d’embiʔ*- ‘to get dressed, dress’

PU \**šilmä* ‘eye’ > PSam \**səjmä* > NenT *sæwə*, Ngan *šejmi*, SlkTaz *saji* (!)

PU \**talwa*- ‘to lead, bring’ > PSam \**tåjwâ*- ~ \**tåjwê*- > NenT *tæwə*- ‘to reach, catch up, overtake’, Ngan *tojbu*- ‘to transport’

PU \**lemp̄i* ‘pond, swamp’ > PSam \**lijmp̄ə* > NenT *limp̄ə*<sup>ə</sup> ‘bog’, Ngan *l’ünhə*, SlkTaz *lijmbj* ‘muddy place’

- word-internally, the development depends on the stem (vowel):

PU \**pala*- ‘to eat up’ > PSam \**pälä*- > NenT *pal’e*-, SlkTaz *pōlj*- ‘to swallow’

PU \**kala* ‘fish’ > PSam \**kälä* > NenT *χal’a*, Ngan *kolj*, SlkTaz *qeļj*

PU \**kali*- ‘to die’ > PSam \**kâê*- > NenT *χa*-, Ngan *kuo*-, SlkTaz *qu*-

# From Proto-Uralic to Proto-Samoyed 5 (consonants)

- PU \*x disappears

PU \**tuxə* 'lake' > PSam \**to* > NenT *to*, Ngan *turku* (derivative < PSam \**to-rkå*),  
SlkTaz *to*

# From Proto-Uralic to Proto-Samoyed 6 (consonants)

- Several different simplifications, \*k disappears in all clusters: PU \*ks, \*sk, \*kt, \*tk > PSam \*t, \*kś > PSam \*s, \*čk > PSam \*c:

PU \*meḵsa 'liver' > PSam \*miṭə̂ > NenT *mid*<sup>ø</sup>, Ngan *mitə*, SlkTaz *miṭi*

PU \*poski 'cheek' > PSam \*pāt- > (derivations) NenT *padu*, Ngan *hotuo*, SlkTaz *putij*

PU \*eḵta- 'to hang' > PSam \*iṭā- > NenT *ḡida-*, Ngan *ḡiti-*, SlkTaz *iṭi-*

PU \*meṭka 'passage' > PSam \*miṭā > SlkTaz *miṭi* 'way, track'

PU \*pučki 'hollow stalk' > PSam \*pucə̂ 'insides, interior' > NenT *pud*<sup>ø</sup>, *ḡam pud*<sup>ø</sup> 'core of a tree', *pudo* 'spinal cord', EnF *puḡuj* 'spinal cord', *puḡoḡo* 'body; the person himself', Ngan *hütəḡə* 'body', *hüḡəku* 'spinal cord', SlkOb Tym *puž*, Ket *puča* 'inside, interior; soul; stomach; navel; seed; core; pipe (instrument); barrel (of a gun)', Mat *hudu* 'self'

- note that PSam \*t and \*č have remained separate in some Selkup dialects, elsewhere in Samoyed the reflexes often coincide

# From Proto-Uralic to Proto-Samoyed 7 (vowels)

- PU \**a-a* > PSam \**â-â* / PSam \**â-ä* (following a lateral and \**δ'*), also PSam \**a-(ə)*

PU \**kaja* 'sun, dawn' > PSam \**kâjâ* 'sun' > Ngan *kou* 'sun', SlkTaz *qečj* 'heat'

PU \**kanta-* 'to carry' > PSam \**kântâ-* > NenT *χana-*, Ngan *kontu-*, SlkTaz *qeŋti-* 'to carry (away), take'

PU \**sala-* 'to steal' > PSam \**tâlâ-* > NenT *tal'e-*, Ngan *tolj-*, SlkTaz *teŋj-*

PU \**wančaw* 'root' > PSam \**wâncō* > NenT *wano*, Ngan *bəntu*, SlkTaz *qontj*, Ket *qonžə*

PU \**kama* 'skin, shell' > PSam \**kamə̂* (SW \**kämə̂*) > NenT *śaw<sup>ə</sup>* 'scale', SlkTaz *qə̄mj*

- PU \**a-i* > PSam \**a-(ə)*

PU \**aŋti* 'spear, blade' > PSam \**aŋtə̂* > NenT *ńant<sup>ə</sup>* 'blade, point', SlkTaz *ə̄ŋti* 'blade'

PU \**kari* 'skin, bark' > PSam \**kar* (SW \**kär*) > NenT *śar* 'surface, skin'

## From Proto-Uralic to Proto-Samoyed 8 (vowels)

- PU \**e-ä* > PSam \**e-ä* (can be distinguished from the reflexes of PU \**i:n* and \**ü* only based on Nganasan, SW reconstructed invariably PSam \**i*)

PU \**čečä* ‘uncle’ > PSam \**cecä* (SW \**cicä*) > NenT *t'ída* ‘uncle (mother’s younger brother)’, Ngan *tijid'a* (derivative), SlkKet *čiče, čiča*

PU \**pesä* ‘nest’ > PSam \**petä* (SW \**pitä*) > NenT *pid'a*, Ngan *hiṭi*, SlkTaz *piti*

PU \**elä-* ‘to live’ > PSam \**elä-* ~ \**jelä-* (SW \**ilä-* ~ \**jilä-*) > NenT *jil'e-*, Ngan *ñili-*, SlkTaz *ili-*

- PU \**e-i* > PSam \**e*

PU \**meni-* ‘to go’ > PSam \**men-* (SW \**min-*) > NenT *min-* Ngan *mijn-*

PU \**weti* ‘water’ > PSam \**wet* (SW \**wit*) > NenT *jiʔ*, Ngan *biʔ: biðə* (acc/gen), SlkTaz *ün, üt*, Kam *bu*



# From Proto-Uralic to Proto-Samoyed 9 (vowels)

- PU \**e*-*a* > PSam \**i*

PU \**ekta*- 'to hang' > PSam \**jtâ*- > NenT *ŋida*-, Ngan *ŋiti*-, SlkTaz *jt̪i*-

PU \**eja*- 'under' > PSam \**ij̥ə̂-nâ* 'under' > NenT *ŋil<sup>ə</sup>na*, enM *iron*, Ngan *ŋil'ənu*

PU \**meksa* 'liver' > PSam \**mij̥ə̂* > NenT *mid<sup>ə</sup>*, Ngan *mitə*, SlkTaz *m̪t̪i*

- note that Mansi and Samoyedic play a key role in distinguishing PU \**a* and PU \**e*, that have largely coincided in the more Western languages.
- PU \**e*-*i* > PSam \**e* (\**i* before clusters beginning with a nasal)

PU \**lempi* 'pond, swamp' > PSam \**lij̥mpə̂* > NenT *limpəd<sup>ə</sup>* 'bog', Ngan *l'üŋhə*, SlkTaz *limbi* 'muddy place'

PU \**nej̥i* 'arrow' > PSam \**nej̥* > Mat *nej*, *nej̥*

PU \**seŋi* 'sinew, vein' > PSam \**ceŋ* > NenT *teʔ*, Ngan *taŋ*, SlkTaz *teŋ*, Tym *čat*, Ket *čän*, *čeŋ*

# From Proto-Uralic to Proto-Samoyed 10 (vowels)

- PU *\*i-ä* > PSam *\*ə-ä*

PU *\*šilmä* ‘eye’ > PSam *\*səjmä* > NenT *sæwə*, Ngan *šejmi*, SlkTaz *sajl* (!)

- PU *\*i-i* & *\*ü-i* > PSam *\*i(-ə)*

PU *\*nimi* ‘name’ > PSam *\*nim* ~ *\*nüm* > NenT *num*, Ngan *nim*, SlkTaz *nim*

PU *\*šüδ'i* ‘charcoal’ > PSam *\*sijə* > NenF *tŭn šijə* ‘glowing coal (*tŭn* ‘fire.GEN’), SlkTaz *siči*, Kam *siʔ*, Mat *ki* ‘glowing coal’

- NB! PU *\*wi-* > PSam *\*wü-*

PU *\*witti* ~ *\*wijti* ‘5’ > PSam *\*wüət* ‘10’ > NenT *juʔ*, Ngan *biiʔ*, SlkTaz *kön*, *köt*

# From Proto-Uralic to Proto-Samoyed 11 (vowels)

- PU \**o-a* > PSam \**â-â*

PU \**kompā* ‘wave’ > PSam \**kâmpâ* > NenT *χampa*, Ngan *koŋhu* (singular) (strong grade, open syllable): *kombu?* (plural) (weak grade, closed syllable), SlkTaz *qōmpj*

PU \**ojwa* ‘head’ > PSam \**âjwâ* > NenT *ŋæwa* ‘head’, Ngan *ŋojbu* ‘chief, top, leader’, Mat *ajba* ‘head’

PU \**ńoma* ‘hare’ > PSam \**ńâmâ* > NenT *ńawa*, Ngan *ńomu*, SlkTaz *ńoma*

PU \**šoδ’a* ‘war’ > PSam \**sâjâ(-râ)* > Ngan *souru* ‘warrior’, PSam \**sâjo-mê* > NenT *saju*<sup>ø</sup>, *sajuw*<sup>ø</sup> ‘soldier, warrior, enemy; army’

- but:

PU \**kopa* ‘skin’ > PSam \**kopâ* > NenT *χoba*, Ngan *kuhu*, SlkTaz *qopj* ‘skin, hide’

# From Proto-Uralic to Proto-Samoyed 12 (vowels)

- PU \**o-i* > PSam \**â-ə̃*

PU \**koški-* ‘to dry, be dry’ > PSam \**kâsə̃-* > NenT *χasə-*, Ngan *kosə-* ‘to dry’, SlkTym (3rd person singular) *kūzəra* ‘to lower (water level)’

PU \**ponči* ‘tail’ > PSam \**pāncə̃* > NenT *pan<sup>ə</sup>*, Ngan *hontəə*, SlkTym *pōnčar* ‘hem’

- PU \**u-a* > PSam \**ə̃-â*

PU \**juka* ‘river’ > PSam \**jə̃kâ* > NenT *jəχa*, SlkTaz *čaqi* (Also North Saami *johka* clearly points to PU \**u*, although to an \**i*-stem)

PU \**kupsa-* ‘to extinguish’ > PSam \**kə̃ptâ-* > NenT *χəpta-*, Ngan *kəbtu-*, SlkTaz *qapti-*

PU \**muna* ‘egg’ > PSam \**mə̃nâ* > Ngan *mənu* ‘egg’, SlkTym *man* ‘penis’, Ket *manne*

PU \**mura* ‘cloudberry’ > PSam \**mə̃rā̃nkâ* > NenT *mərãnka*

## From Proto-Uralic to Proto-Samoyed 13 (vowels)

- PU \**u-i* > PSam \**u(-ə)*

PU \**tuli* ‘fire’ > PSam \**tuj* > NenT *tu*, Ngan *tuj*, SlkTaz *tü* ‘campfire, fire’

PU \**tumti-* ‘to feel, know’ > PSam \**tumtə̄-* > NenT *tumtə̄-* ‘to recognize’, Ngan *tumtə̄-* ‘to remember’

PU \**ukti* ‘passage, way’ > PSam \**ut* ~ \**utə̄* > NenT *ηuʔ* ‘track’, Ngan *ηutə̄* ‘way, road’

- but, PU \**u-i* > PSam \**o* or PU \**o* > PU \**u* elsewhere?:

PU \**kusi-* ‘to cough’ > PSam \**kot* ‘cough’ > NenT *χoʔ*, Ngan *kuʔ*, SlkTym *kot* ‘cough’

PU \**lumi* ‘snow’ > PSam \**jom-* ‘to snow’ > Ngan *d'üm* ‘snow’, SlkTym *t'om-na* (3rd person singular) ‘it snows’

# From Proto-Uralic to Proto-Samoyed 14 (vowels)

- PU \*ä-ä > PSam \*ä-ä (SW \*e-ä)

PU \*äjmä 'needle' > PSam \*äjmä > NenT *ńt̄ba*, Ngan *ńejmj*, Mat *ime*

PU \*päjwä 'sun, heat' > PSam \*päjwä > Ngan *hejbj* 'heat'

PU \*pälä 'half' > PSam \*pälä > NenT *pel'a*, Ngan *helj*

- PU \*ä-i > PSam \*ä

PU \*käri- 'to wrap, tie, thread' > PSam \*kär- ~ \*kärə- (SW \*ker- ~ \*kerə-) 'to dress, put on (clothes)' > NenT *serə-* 'to dress', Ngan *serə-*, Slk. *šer-*, Kam *šēr-*, Mat *ker-*

PU \*lämi 'broth' > ?PSam \*jämejə > NenT *jeweja* 'broth', Ngan *d'eməə* 'porridge made of blood, meat, flour and water'

# From Proto-Uralic to Proto-Samoyed 15 (lexicon)

- a few lexical isoglosses separating Samoyedic from other Uralic languages:

body parts:

PSam \**kem* ‘blood’ > NenT *χem*, Ngan *kam*, SlkTaz *kem* pro PU \**weri* ‘blood’

PSam \**kəŋä* ‘(finger)nail’ > NenT *χəda*, Ngan *kətu*, SlkTaz *qatj* pro PU \**künči* ‘(finger)nail’

PSam \**pəŋä* ‘gall’ > NenT *pəďə*, Ngan *hotj*, SlkTaz *patj* pro PU \**säppä* ‘gall’

PSam \**temä* ‘tooth’ > NenT *t’iä*, Ngan *čimi*, SlkTaz *timj* (possibly a derivative of \**sewə-* ‘to eat’ → \**se(w)-mä*) pro PU \**piŋi* ‘tooth’

PSam \**utä* ‘hand’ > NenT *ŋuda*, Ngan *d’ütü* (< \**jutä!*), SlkTaz *utj* pro PU \**käti* ‘hand’

# From Proto-Uralic to Proto-Samoyed 16 (lexicon)

numerals:

PSam \**nakur* '3' (SW \**nakə̄r* ~ \**nakə̄jr*) > NenT *ńaxər*, Ngan *nagür*, SlkTaz *noqır*,  
Ob *nagur* pro PU \**kolmi*/*\*kulmi*

PSam \**tättə̄* '4' > NenT *t'etə̄*, Ngan *četə̄*, SlkTaz *tettj* pro PU \**neljä*

PSam \**sə̄mpə̄lan̄kə̄* '5' > NenT *sə̄mpə̄l'an̄kə̄*, Ngan *sə̄nhəl'an̄kə̄*, (cf. *sə̄mbə̄mtj*  
'fifth'), SlkTaz *sompjla* pro PU \**wijti* ~ \**witti* '5' (> PSam \**wüt* '10')



# From Proto-Uralic to Proto-Samoyed 17 (lexicon)

others:

PSam \**mat* ‘hut, dwelling’ > NenT *maʔ* ‘hut’, Ngan *maʔ*, SlkOb, Ket, Tym *mād* ~ *māt* ‘house’ pro PU \**kota* ‘hut’

PSam \**pi* ‘night’ > NenT *pi*, Ngan *hii* pro PU \**eji* / \**üji* ‘night’

PSam \**təmã* ‘mouse, rat’ > Ngan *təmuŋku*, SlkTaz Tym *tama* ‘mouse; lemming’ pro PU \**šinjiri* ‘mouse’

PSam \**węn* ‘dog’ > NenT *weʔ*, ( → *weńeko*, *weńako*), Ngan *baŋ*, SlkTaz *kanak* pro PU \**penä(ji)* ‘dog’ (however, the Ugric language have a different word for ‘dog’ as well, cf. MsN *aamp*, Hung *eb* ‘dog; pooch, mutt’)

# From PSam to Tundra Nenets 1 (consonants)

- prothetic nasal in words beginning with a vowel (a similar development is found in Nganasan)
- PSam \*V- > NenT *ŋV-* (preceding a (historical) back vowel and *ə*), *ńV-* (preceding a front vowel)

PSam \**eptə̂* 'hair' > NenT *ŋebtə̂*

PSam \**jnəpə̂* 'father-in-law' > NenT *ŋinəbə̂*

PSam \**äjmä* 'needle' > NenT *ńĩba*

PSam \**ämä* 'mother' > NenT *ńéba*

## From PSam to Tundra Nenets 2 (consonants)

- palatalization of consonants preceding a front vowel

PSam \**pälä* ‘half’ > NenT *pel'a*

PSam \**petä* ‘nest’ > NenT *pidá*

PSam \**päpä* ‘younger sibling’ > NenT *peba*

PSam \**tälä-* ‘to steal’ > NenT *tal'e-*

## From PSam to Tundra Nenets 3 (consonants)

- PSam \**k* > NenT *χ* (preceding a back vowel)

PSam \**kāmpā* 'wave' > NenT *χampa*

PSam \**kātā* 'grandmother' > NenT *χada*

PSam \**kopā* 'skin' > NenT *χoba* 'skin, hide'

- PSam \**k* > NenT *ś* (preceding a front vowel, word-initially), *ć*

PSam \**käjmä* 'female' > NenT *śibako*

PSam \**kälü* 'brother-in-law' > NenT *śel<sup>ə</sup>*

PSam \**pirkä* 'high' > NenT *pirća* 'high, long (vertically)'

## From PSam to Tundra Nenets 4 (consonants)

- note the difference between Janhunen's and Helimski's reconstructions, Helimski reconstructs PS *\*a* instead of Janhunen's *\*ä*:

PSam *\*kär* (Janhunen, SW) / PSam *\*kar* (Helimski) > NenT *śar* 'surface, skin'

PSam *\*kät* (Janhunen, SW) / PSam *\*kat* (Helimski) > NenT *śaʔ* 'face'

PSam *\*pä* (Janhunen, SW) / PSam *\*pa* (Helimski) > NenT *pa* 'tree'

# From PSam to Tundra Nenets 5 (consonants)

- PSam \**t*, \**č* > NenT *ʔ* (word/syllable-finally) / *d* (between vowels)

PSam \**ut* ‘passage, way’ > NenT *ɲuʔ* ‘track’ / PSam \**utå* ‘hand’ > NenT *ɲuda*

PSam \**wåc* ‘fence’ > NenT *waʔ*

- PSam \**-m-* > NenT *-b-*, *-w-* (V\_V)
- PSam \**-nt-*, \**-nc-* (> \**-nt-*) > NenT *-n-*

PSam \**påncə* ‘hem’ > NenT *pan<sup>ə</sup>*

PSam \**kåntå-* ‘to carry’ > NenT *χana-* ‘to carry (away)’

PSam \**kuntə* ‘length’ > NenT *χun<sup>ə</sup>*

PSam \**wånco* ‘root’ > NenT *wano*

PSam \**juntå* ‘horse’ (← Old Turkic *yuntǎ*) > NenT *juna*, *juno*

## From PSam to Tundra Nenets 6 (consonants)

- PSam \*-ń- > NenT -j-

PSam \**įńa* 'tame' > NenT *ɲijə*

- PSam \*w- (preceding a front vowel) > NenT j-

PSam \**wet* 'water' > NenT *jiʔ*

PSam \**wäsa* 'iron' > NenT *ješa* 'iron, metal, money, jewellery'

## From PSam to Tundra Nenets 7 (vowels)

- PSam \**a*, \**ǎ*, \**ǎ̃* > NenT *a*

PSam \**kar* ‘skin, bark’ > NenT *śar* ‘surface; skin’

PSam \**tak(ə)* ‘behind’ > NenT *t'aχə-*

PSam \**kǎ̃* ‘to die’ > NenT *χa-*

PSam \**kǎlä* ‘fish’ > NenT *χal'a*

PSam \**tǎrkǎ* ‘branch’ > NenT *tarka* ‘fork, branch’

PSam \**ǎjǎ* ‘meat, body’ > NenT *ŋaja* ‘skin, body’



# From PSam to Tundra Nenets 8 (vowels)

- PSam \*e, \*i > NenT *i*

PSam \**enäkkå* (← \**enä*) > NenT *rińeka* ‘older brother; father’s younger brother’

PSam \**pirə* ‘height’ > NenT *pir<sup>ə</sup>*

- PSam \**e* > NenT *e*

PSam \**jepsə* ‘cradle’ > NenT *jebc<sup>ə</sup>*

PSam \**keɲ* ‘blood’ > NenT *χem*

- PSam \**i* > NenT *i*

PSam \**jlə-nå* ‘under’ > NenT *ɲil<sup>ə</sup>na*

PSam \**miɲə* ‘liver’ > NenT *mid<sup>ə</sup>*

# From PSam to Tundra Nenets 9 (vowels)

- PSam \**o* > NenT *o*

PSam \**kopå* 'skin' > NenT *χoba* 'skin, hide'

PSam \**korå* 'male animal' > NenT *χora* 'male animal, reindeer bull'

PSam \**opå* 'glove' > NenT *ηoba* 'mitten'

- PSam \**u* > NenT *u*

PSam \**jumpə̂* 'moss' > NenT *jumpə* 'lump, peat, turf'

PSam \**ut* 'passage, way' > NenT *ηuʔ* 'track'

- PSam \**ü* > NenT *u*

PSam \**jür* '100' > NenT *jur*

PSam \**wüt* '10' > NenT *juʔ*

# From PSam to Tundra Nenets 10 (vowels)

- PSam \*ä > NenT e

PSam \**kätə*- ‘to wrap up (a child)’ > NenT *śedə*- ‘to wrap up a child, lay a child in its cradle’

PSam \**kälü* ‘brother-in-law’ > NenT *śel*<sup>ə</sup>

PSam \**ämä* ‘mother’ > NenT *ńeá*

- PSam \*ə̂ > NenT ə

PSam \**kəťá* ‘(finger)nail’ > NenT *χəda*

PSam \**kə̂ncə̂* ‘sled’ > NenT *χən*<sup>ə</sup>

PSam \**mə̂râ* ‘beach’ > NenT *məra* ‘(sand)beach’

# From PSam to Tundra Nenets 11 (vowels)

- vowel contractions and long vowels (emerging from combinations of vowel + semi-vowel)
- PSam \**āj* (in closed syllables) > NenT *æ* (*äe*)

PSam \**āj* 'foot, leg' > NenT *ηæ*

PSam \**kājkẽ* 'spirit' > NenT *χæχ<sup>o</sup>* 'protecting spirit, idol'

PSam \**kājma* 'marrow' > NenT *χæwa*

PSam \**kājto* 'sickness' > NenT *χædo* 'epidemic'

PSam \**ājwå* 'head' > NenT *ηæwa*

- PSam \**əj* > NenT *æ* (*äe*)

PSam \**pəj* 'stone, rock' > NenT *pæ*

PSam \**səjmä* 'eye' > NenT *sæw<sup>o</sup>*

# From PSam to Tundra Nenets 12 (vowels)

- PSam \*aj/\*äj/\*ej > NenT *ī*

PSam \**kajwå* 'spade' > NenT *śīwa*

PSam \**käjmä* 'female' > NenT *śībako*

PSam \**pajmå* 'boot' > NenT *πίwa*

PSam \**pej-* 'to fear, be afraid' > NenT *πί-*

PSam \**äjmä* 'needle' > NenT *ńība*

PSam \**ajsä* 'father' > NenT *ńīsa*

- PSam \**uj* > NenT *u*

PSam \**uj* > NenT *ηu* 'tent pole'

PSam \**jutə̂* 'to dream (about something)' > NenT *jude-*

# From PSam to Nganasan 1 (general)

a few general remarks:

- in old literature also Tavgi (not to be confused with Taigi (Mator))
- minimal dialectal differences, that are not usually referenced in etymological studies
- in Samojedischer Wortschatz C = Castrén, some archaisms like noting *f*- instead of *h*-

## From PSam to Nganasan 2 (consonants)

- PSam \**w* > Ngan *b*

PSam \**tājwā-* > Ngan *tojbu-* ‘to transport’

PSam \**wālā* ‘song’ > Ngan *bəlj* ‘song’

PSam \**wārā* ‘edge, ridge’ > Ngan *bəru* ‘mountain, cliff’

PSam \**ājwā* ‘head’ > Ngan *nojbu* ‘chief, top, leader’ (fairly typical semantic change, cf. Latin *caput* ‘head’ > French *chef* ‘chief, leader, Spanish *jefe*), there exists also Ngan *nojbuo* ‘head’ (< PSam \**ājwājə*)

## From PSam to Nganasan 3 (consonants)

- PSam \**j-* > Ngan *d'-* (Castrén still had *j-*, dialectally also *jali* 'day')

PSam \**jàə* 'earth, land, place' > Ngan *d'üo* 'sand, powder' (C *jua* 'sand, ashes')

PSam \**jəpto* 'goose' > Ngan *d'ebtu*

PSam \**jalä* 'light, day, sun' > Ngan *d'ali* 'day'

- PSam \**-t* > Ngan *ʔ* (also transcribed as " ")

PSam \**wet* 'water' > Ngan *biʔ*



## From PSam to Nganasan 4 (consonants)

- PSam \**jC* > Ngan *jC* (Nganasan is the only language where syllable-final PSam \**j* has mostly been preserved, although PSam \**jt* > Ngan *č, t'*)

PSam \**kajwâ* 'spade' > Ngan *kajbu*

PSam \**kâjkə̂* 'spirit' > Ngan *kojkə* 'idol'

PSam \**kâjtə̂* 'sickness' > Ngan *kočə*

PSam \**kâjmâ* 'marrow' > Ngan *kojmu* 'brain'

PSam \**səjmä* 'eye' > Ngan *šejmi*

# From PSam to Nganasan 5 (consonants)

- PSam \*V- > Ngan usually *ŋV-* (preceding a back vowel), *ɲ-* (preceding a front vowel)

PSam \**amtə* 'horn' > Ngan *ŋamtə*

PSam \**opā* 'glove, mitten' > Ngan *ŋuhu*

PSam \**äjmä* 'needle' > Ngan *ɲejmɨ*

PSam \**enä* > Ngan *ɲinj* 'older brother; father's younger brother, older male cousin'

- PSam \**p* > Ngan *h* (Castrén *f*)

PSam \**kämpā* 'wave' > Ngan *korhu: kombu-*

PSam \**lempä* 'eagle' > Ngan *lijhɨ*

PSam \**petä* 'nest' > Ngan *hiɲi*

PSam \**pa* 'wood, tree' > Ngan *h<sup>u</sup>aa*

PSam \**päjwä* 'sun, heat' > Ngan *hejbi* 'heat'

## From PSam to Nganasan 6 (consonants)

- PSam \**k*- > Ngan *ś*- (preceding PSam \**ä*, \**e* and \**i*)

PSam \**kitä* '2' > Ngan *śiti*

PSam \**käəj* 'language, tongue' > Ngan *śiəd'ə* (derivative?)

PSam \**känkə*- 'stay overnight' > Ngan *śeŋkə*-

PSam \**kärə*- 'to get dressed, dress' > Ngan *śerə*-

- PSam \**c* > Ngan *t* (like in most Samoyed languages)

PSam \**cecä* 'uncle (mother's younger brother)' > Ngan *tijid'a* (derivative)

PSam \**wāncō* 'root' > Ngan *bəntu*

# From PSam to Nganasan 7 (vowels)

- Nganasan is essential in reconstructing Proto-Samoyed vowel sequences
- first syllable developments

PSam \**ãə̂* > Ngan *uo*

PSam \**kãə̂* ‘to die’ > Ngan *kuo-*

PSam \**wãə̂ʔã* ‘word’ > Ngan *buoɔu*

PSam \**a* > Ngan *a*

PSam \**ã* > Ngan *o*

PSam \**o* > Ngan *u*

PSam \**e* > Ngan *ɨ, i*

## From PSam to Nganasan 8 (vowels)

PSam \* $e$  > Ngan  $a$

PSam \* $i$ , \* $ü$  > Ngan  $i$

PSam \* $j$  > Ngan  $i$

PSam \* $u$  > Ngan  $u$

PSam \* $ä$  > Ngan  $e$

PSam \* $\hat{e}$  > Ngan  $\emptyset$

- NB! Note that there are context-dependent exceptions to many of the general developments outlined here, for example PSam \* $w\hat{a}$ - > Ngan  $b\emptyset$ -, PSam \* $\hat{e}$  > Ngan  $e$  (preceding or succeeding \* $j$ )

# From PSam to Nganasan 9 (vowels)

- second syllable

PSam \**ǎ* > Ngan *u*

PSam \**ǣ* > Ngan *i*

PSam \**ǣ̃* > Ngan *ə*

# From PSam to Selkup 1 (general)

a few general remarks:

- in earlier literature also Ostyak-Samoyed
- Selkup dialects form a continuum, where differences between neighbouring dialects are negligible, but at the ends the difference between the dialects has been compared to the difference between Komi and Udmurt
- North dialects: TazM, TazU, Baikha & Turukhan, Karasino, Yelogui (Helimski) / ел. туп. (Bykonja)
- Middle dialects: Тым, Нарым (Helimski) / тым, вас, об. Ч. (Middle Ob Чумылкуп) (Bykonja)
- South dialects: ObM, ObU, (Chaya, Chulym) (Helimski) / об. С., Ш (Bykonja)
- Ket dialects: KetM, KetU

## From PSam to Selkup 2 (consonants)

- PSam \*j- > PSIk \*t'- > SlkTaz č-, Tym. č́-, Ob t'- (word-internally voiced in part of the dialects)

PSam \*jumpə̂ 'moss' > PSIk \*t'umpə > SlkTaz čumpi, Tym čumb(e), Ob t'umbe, t'ump, Ket čumbe, č́umbe, t'umbe

PSam \*juntə̂ 'horse' > SlkTaz čunti, Tym č́und(e)

PSam \*ǰǰə̂ 'meat, body' > PSIk \*uət'ə > SlkTaz wečj, Tym wad', K wət't'ə

- PSam \*jw > PSIk \*l't'

PSam SW \*tǰjwǰ 'tail' (based on Nganasan \*təjwǰ?) > PSIk \*tal't'u > SlkTaz talči, Tym tald', Ket tald'u



## From PSam to Selkup 3 (consonants)

- PSam \**k* (preceding a front vowel) > PSIk \**ś-* > SlkTaz *š*, Tym *š*, Ob *s-*, Ket *s-*

PSam \**kājmä* 'female' > PSIk \**śūma* > SlkTaz *šūma* 'wood grouse hen', Tym *šūma*, Ob *sūm*, *sōw* 'female animal, mare, wood grouse hen', Ket *sūm(e)*

- PSam \**w-* > PSIk \**q-*

PSam \**wāncō* 'root' > PSIk \**qončə* > SlkTaz *qonti*, Ket *qonžə*

## From PSam to Selkup 4 (vowels)

- PSam \**a* > PSIk \**ā* > SlkTaz *ɔ̄*, Tym *ā*, Ket *ā*

PSam \**amtə* ‘horn’ > SlkTaz *ɔ̄mtj*, Tym *āmd*, Ket *āmdə*

- PSam \**āj* > PSIk \**ū* > SlkTaz *ü*, Tym *ö*, *ū*, Ket *ū*

PSam \**kājto* ‘sickness’ > PSIk \**qūtu* ‘sickness’ > SlkTaz *qütj*, Tym, *qöde*, Ket *qūdə*, *qötə*, *qütu*

PSam \**kājma* ‘marrow’ > PSIk \**qūmə* > SlkTaz *qümü*, Tym *qöwə*, Ket *qūwə*, *qū*

PSam \**sājma* ‘sound, noise’ > PSIk \**sūmə* > SlkTaz *sümü*, Tym *sūw*, Ket *sūwə*

## From PSam to Selkup 5 (vowels)

- PSam \**ǎ* > PSIk \**uə* > SlkTaz *ē, e*, Tym *uə̂*, Ket *uə̂, ue, ö*

PSam \**kǎlä* ‘fish’ > PSIk \**quələ* > SlkTaz *qēj̄, qēj̄*, Tym *quə̂l*, Ket *quə̂l(ə), qɔ̄l*

PSam \**sǎrǎ-* ‘to rain’ > PSIk \**suərə-* > SlkTaz *sēr̄j̄-*

- PSam \**ə̂* > PSIk \**a* > usually *a*

PSam \**mə̂nǎ* ‘egg’ > slkTym *man*, Ket *mannē* ‘penis’

PSam \**pə̂tǎ* ‘gall’ > SlkTaz *pat̄j̄*, Tym *pad(e)*

PSam \**tə̂ŋə̂* ‘summer, thaw’ > SlkTaz *tan̄j̄*

- PSam \**uj* > PSIk \**ū*

# Exercise 1: Samoyed

Based on the Samoyedic cognates, reconstruct the PS and PU proto-forms (Proto-Uralic forms might be theoretical and there might be more than one possibility):

NenT *jińa*, Ngan *bjñj*, SlkTaz *ũñj* 'strap'

NenT *məχa*, Ngan *məku*, SlkTaz *moqal* 'back'

NenT *nara* 'spring (before the ice melts, while the snow-crust still supports walking)', Ngan *noru* 'spring'

NenT *num* 'sky', SlkTaz Ket *nom* 'sky'

NenT *śeŋkə-*, Ngan *śeŋkə-*, SlkTaz *šäqqj-* 'stay overnight'

NenT *wanjk<sup>ə</sup>* 'hole, cave, den', Ngan *bəŋgüʔtūo*

## Exercise 2: Samoyed

Based on the Tundra Nenets and Selkup words, reconstruct the PS proto-form and their theoretical reflexes in Nganasan:

NenT *jamp*<sup>ə</sup> 'long (horizontally)', SlkTaz *čumpi*

NenT *jəχa*, SlkTaz *čaqi* 'river'

NenT *mería* 'wind', SlkTaz *merqi*

NenT *parka*, SlkTaz *porqi* 'parka; a piece of clothing'

NenT *poŋka* 'net', SlkTaz *poqqi*

NenT *sampə-* 'to conjure, perform magic', SlkTaz *sumpi-*

NenT *śamdə-* 'to be covered in soot', SlkTaz *qčnti* 'soot', Ket *qāmdə*