

Reconstructing Proto-Yeniseian Laterals and Rhotics

К реконструкции праенисейских латеральных и ротических согласных

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Language Classification Moscow School

Sergei A. Starostin
(1953 – 2005)

1. Painstakingly accurate compilations of lexical data
2. Bold consideration of linguistic classification at increasingly deep time depths
3. Rigorous reconstructions of individual families (Starling), many representing seminal contributions to their respective fields



George Starostin (son)

Two key books on Yeniseian studies

- First comprehensive reconstruction of the Proto-Yeniseian sound system by S. A. Starostin.
- Reconstructed Proto-Yeniseian phonology contained five liquids:

*|

*|j

*r₁

*r₂

*rj

- This paper reexamines the evidence and reduces the number to 3: *tʈ, *ʈ, *r

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АНТРОПОЛОГИЯ
ЭТНОГРАФИЯ
МИФОЛОГИЯ
ЛИНГВИСТИКА



1982 г.

КЕТСКИЙ
СБОРНИК

ЛИНГВИСТИКА

1995 г.

Two sources for the Proto-Yeniseian reconstructions in this presentation:

1. Vajda, Edward, *Etymological Thesaurus of the Yeniseian Languages* (work in progress, expected to be appr. 800 pages)
2. Vajda, Edward, “The Yeniseian Language Family”, 60-page chapter, to be published in the following volume:

The Languages and Linguistics of Northern Asia: A Comprehensive Guide (The World of Linguistics, 10) Hardcover – February 16, 2024

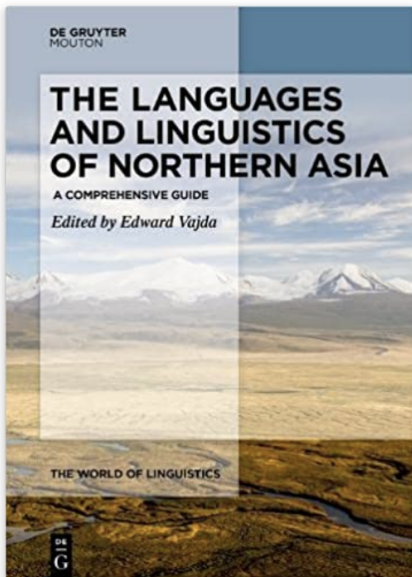
by Edward Vajda (Editor)

[See all formats and editions](#)

Hardcover

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The *Languages and Linguistics of Northern Asia: A Comprehensive Guide* surveys the indigenous languages of Asia's North Pacific Rim, Siberia, and adjacent portions of Inner Eurasia. It provides in-depth descriptions of every first-order family of this vast area, with special emphasis on family-internal subdivision and dialectal differentiation. Individual chapters trace the origins and expansion of the region's widespread pastoral-based language groups as well as the microfamilies and isolates spoken by northern Asia's surviving hunter-gatherers. Separate chapters cover sparsely recorded languages of early Inner Eurasia that defy precise classification and the various pidgins and creoles spread over the region. Other chapters investigate the typology of salient linguistic features of the area, including vowel harmony, noun inflection, verb indexing (also known as agreement), complex morphologies, and the syntax of complex predicates. Issues relating to genealogical ancestry, areal contact and language endangerment receive equal attention. With historical connections both to Eurasia's pastoral-based empires as well as to ancient population movements into the Americas, the steppes, taiga forests, tundra and coastal fringes of northern Asia offer a complex and fascinating object of linguistic investigation.



[See this image](#)

Ket ethnicity and language in Central Siberia

- Ket is the only surviving member of the **Yeniseian** (or Yeniseic, Yenisseic) family
- Population today: about 1400, including many with partial Ket ancestry
- All Kets speak Russian; perhaps **fewer than 20 fluent speakers** remain



Yenisei River



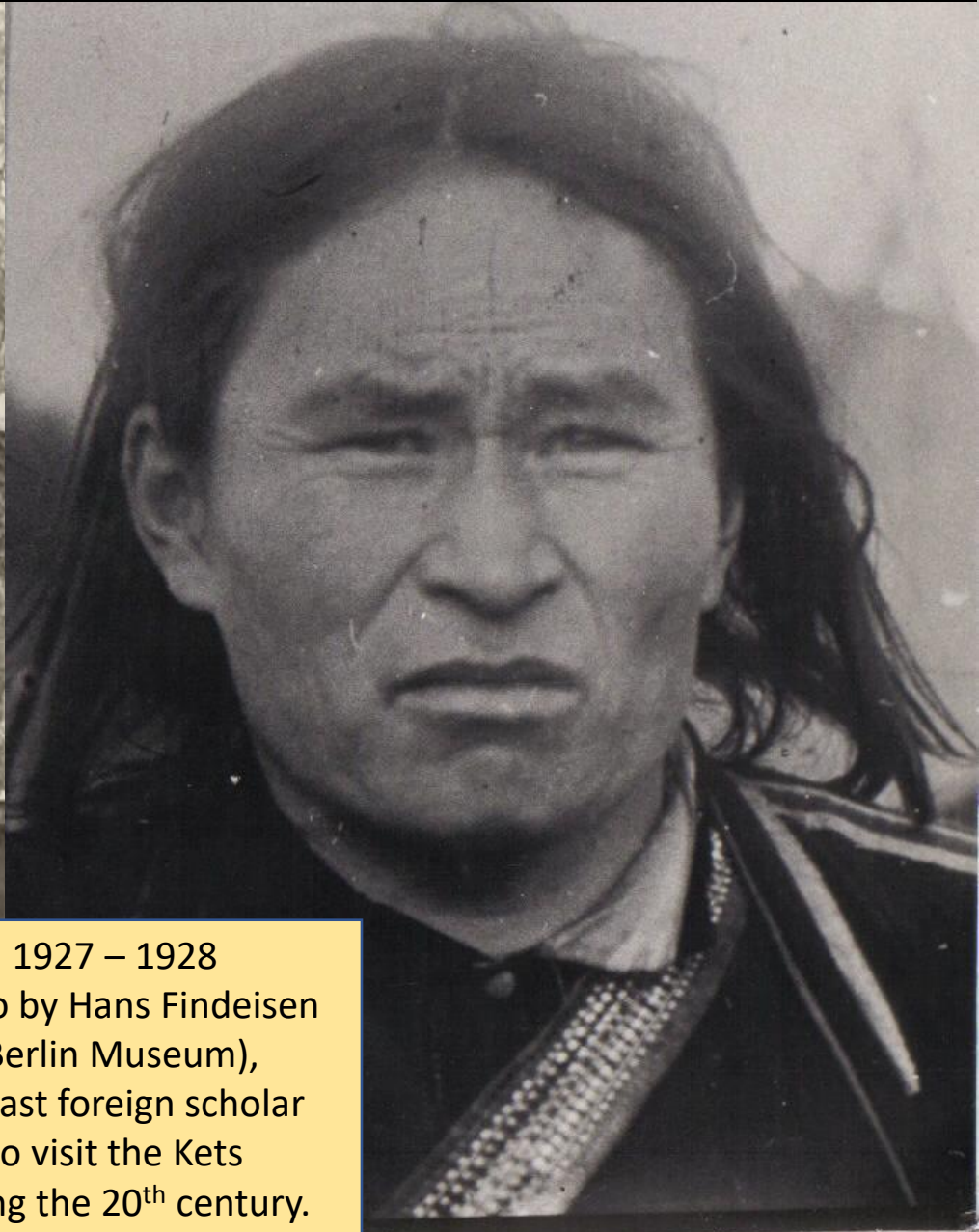
Tengdalang (Valentina Romanenkova)
– one of the last fluent Ket speakers



The Ket people were Siberia's last hunter-gatherers
Their language is not genealogically related to other Siberian families

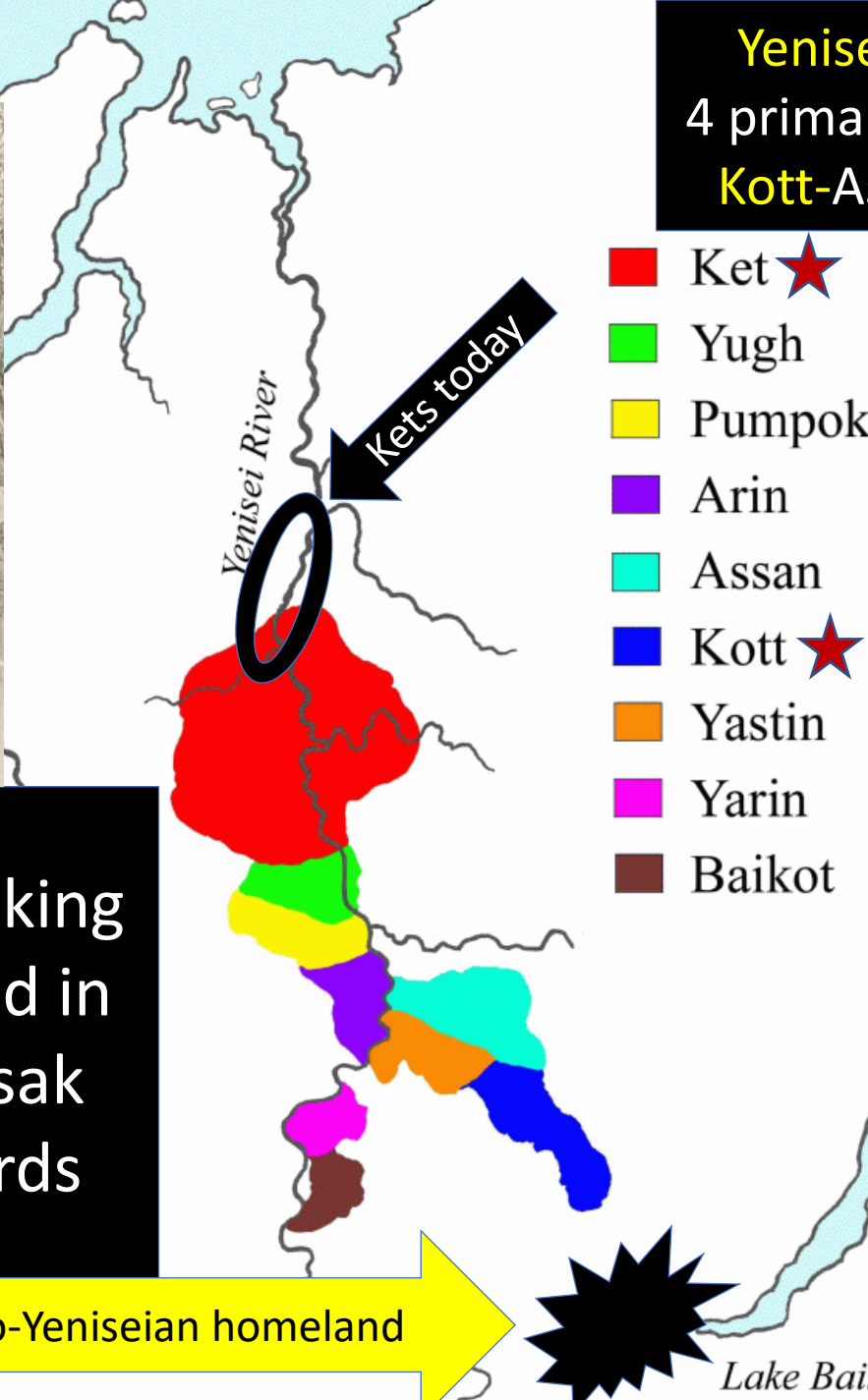


Photo from Russian Academy of Science
1906 Anuchin Expedition, the first scientific study of the Kets



1927 – 1928
Photo by Hans Findeisen (Berlin Museum), the last foreign scholar to visit the Kets during the 20th century.

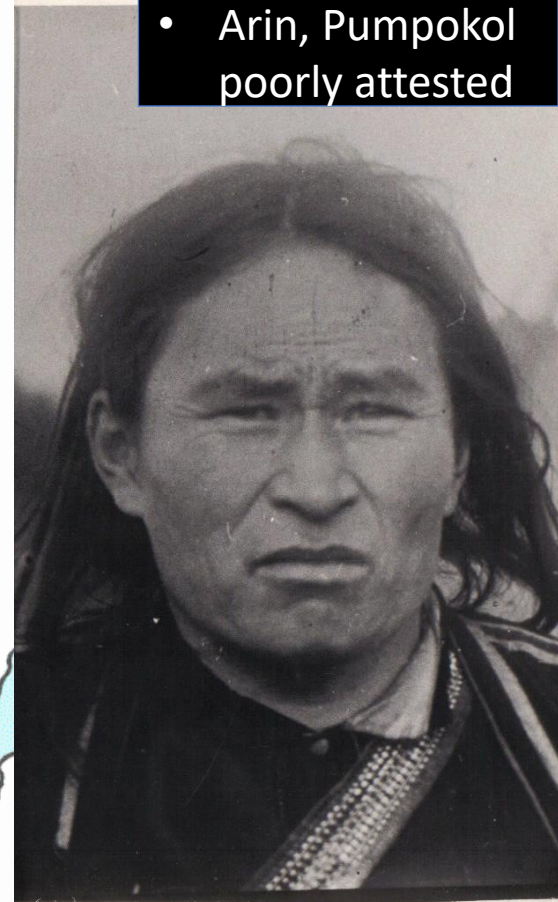
Arctic
Ocean



Yeniseian language family
 4 primary branches: **Ket**-Yugh,
Kott-Assan, Arin, Pumpokol

- Ket ★
- Yugh
- Pumpokol
- Arin
- Assan
- Kott ★
- Yastin
- Yarin
- Baikot

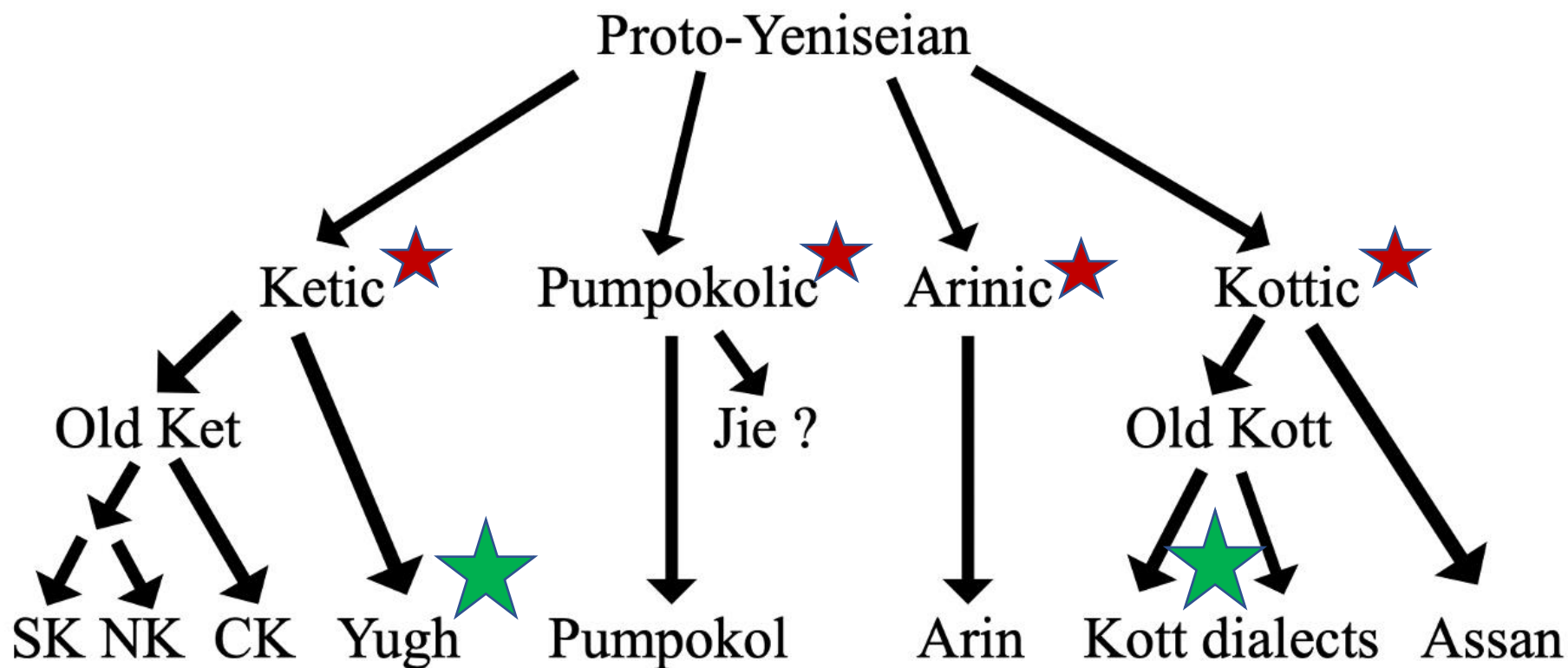
- **Ket** and **Kott** are crucial for reconstructing Proto-Yeniseian
- Arin, Pumpokol poorly attested



Yeniseian-speaking groups attested in 17^c Tsarist yasak (fur tax) records

Probable Proto-Yeniseian homeland

Internal diversification of the Yeniseian family



★ Four primary branches

- **Ketic** and **Kottic** are the most important in terms of available data
- Arin and Pumpokol data are generally too sparse to do more than reinforce what can be seen from comparing the other two branches.
- Ket dialects collapsed all laterals and rhotics into a single phoneme
- **Yugh** retains three liquid phonemes: /l/, /lʲ/, /r/

★ Comparing Yugh with Kott is key for reconstructing PY laterals and rhotics

The modern Ket consonant inventory (all dialects)

bilabial	dental	lateral	palatal	velar	uvular	glottalic
	/s/ [s, sʲ, š]					/h/ [h, ɣ, p]
	/t/			/k/ [k, g, ɣ]	/q/ [qʰ, ɕ, G, q]	
/b/ [b, β, p]	/d/ [d, ɾ, t]					
/m/	/n/ [n, nʲ]	/l/ [tʰ, l, l̥, lʲ]		/ŋ/ [ŋ, ɣ]		
			/j/ [j, ç, j]			

Three allophones of modern Ket phoneme /l/

[tʰ] – word-initial pre-affricated voiceless lateral

[l ~ lʲ] – voiced lateral liquid medially and sometimes word-finally; often semi-palatalized, but in free variation, not forming minimal pairs

[l̥] – voiceless lateral liquid generally found only at the end of falling tone words

The 20th century Yugh consonant inventory

bilabial	labiovelar	dental	lateral or rhotic	palatoalveolar or palatal	plain velar	uvular
	/f/	/s/ [s, š, z, ž]				/χ/ [χ, ʁ]
		/t/		/č/	/k/ [k, g]	
/b/ [b, p]		/d/ [d, t]		/dj/ [dj, tʃ]		
/m/		/n/	/l/ [ɫ, l, ɭ]	/lj/	/ŋ/ [ŋ, g]	
			/r/	/j/ [j, ʝ, ɟ]		

- Yugh /r/ derives from a merger of PY rhotic *r and lateral *l, probably pronounced [ɫ]
- Yugh /l/ is a reflex of PY lateral *tɫ
- The uncommon Yugh palatal /lj/ is innovative, derived from coalescence of PY *r or *l with a velar segment

bilabial	labiodental	dental	lateral or rhotic	palatoalveolar or palatal	plain velar	uvular
	/f/	/s/ [s, š, z, ž]				/χ/ [χ, ʁ]
		/t/		/č/	/k/ [k, g]	
/b/ [b, p]		/d/ [d, t]		/dʲ/ [dʲ, tʲ]		
/m/		/n/	/l/ [ʎ, l, ʎ]	/lʲ/	/ŋ/ [ŋ, g]	
			/r/	/j/ [j, ʕ, j]		

Origin of Yugh
palatalized phoneme

/lʲ/

- ***aspwlan**, PK ‘clouds’ > Ket *aspulan*, Yugh *asfwulin* ~ *asfw:lʲ* id. > *asfw:lʲ*, Yugh (ADJ) ‘cloudy’, ‘nebulous’ < PK **aspwul* ‘cloud’ + **Vŋ^w* (ADJ suff., reduced to vowel length, softness of /lʲ/)
- ***dulken**, PK ‘stem’, ‘handle’ < **dul* ‘stalk’ + **ken* ‘wood’ > SK *dū·l* (PL *dulan*), NK *dūlʲi* (PL *dū·lʲen*), Yugh *dū·lʲ* id. (PL *dū·lʲin* [-*in* < **ken* ‘wood’])
- ***xurVŋ^w**, PY (ADJ) ‘wet’ < **xur* ‘rain’, ‘moisture’ + **Vŋ^w* (ADJ) > Ket *ū·l* ~ *ulen*, Yugh *ū·lʲ* ‘wet’

Remember that all laterals and rhotics merged to /l/ in modern Ket.

PY **-t* and **-r* in auslaut

PY reconstruction	Ket <u>̄·l</u>	Yugh <u>̄r</u>	Kott	Arin	Pumpokol <u>ul</u>
<i>*xut</i> 'water' <u>̄·l</u>	<u>̄·l</u>	<u>̄r</u>	<u>ul</u>	<u>kul</u>	<u>ul</u>
<i>*xur</i> 'rain', 'moisture' <u>̄·l</u>	<u>̄·l</u>	<u>̄r</u>	<u>ur</u>	<u>kur</u>	<u>ur</u>
<i>*xur-Vŋ^w</i> '[it is] wet' <u>̄·l</u>	<u>̄·l</u> ~ <u>ulɛŋ</u>	<u>̄·lʲ</u>	<u>ur-[a]</u>	<u>kur-[a]</u>	<u>ur-g-[a]</u>

- No evidence that native PY **r* appeared word initially, except in a few clippings: Assan *(he)rajali* ~ *grajali* 'food', *(he)rajbatovač* 'table' (cf. Kott *herajaŋ* 'eating')
- Sonorant consonants are disfavored word-initially in PY (and still in Modern Ket)
- However, word-initial laterals are common in Ket and can be reconstructed for PY, as well, suggesting they were obstruents rather than sonorants.

PY *-tʃ in auslaut

PY reconstruction	Ket <u></u>	Yugh <u></u>	Kott	Arin	Pump.
* <u>g^watt-Vŋ^w</u> ‘small’, ‘growing’ (ADJ)	<u>dū-l</u> ‘child’ <u>dwl-tij</u> ‘small boat’	<u>dūl</u> ‘child’ <u>dwl-tɬx</u> МИЗИНЕЦ	<u>dʲal</u> ~ <u>jal</u> ‘child’	<u>kalh-on</u> ~ <u>kalg-on</u>	<u>hil-un</u>
* <u>butʃ</u> ‘leg’	<u>bū-l</u>	<u>būl</u>	<u>pul</u>	<u>pil</u>	<u>bul</u>
* <u>ipatt</u> ‘aspen tree’ < * <u>jep</u> ‘leaf’ + * <u>watt</u> ‘spin’ PL * <u>ipatt-n</u>	<u>ū-l</u> ~ <u>ɯwl</u> PL <u>ū-lŋ</u>	<u>ɯfwl</u> PL <u>ɯfwlɯŋ</u>	<u>îpal</u> PL <u>îpatn</u>	-	-
* <u>baŋ-pett</u> ‘mushroom’ ‘earth-growth’	<u>bolba</u>	<u>baŋfwl</u>		<u>penbetu</u>	

- Reductions of complex auslaut articulation yielded length in Ket/Yugh but not in Kott
- Sporadic t ~ l alternations

Evolution of auslaut laterals and rhotics in the Ketic branch

Proto-Yeniseian	*tʃ	*ʃ	*r
Proto-Ketic	*ʃ	merged to *r	
Yugh	/l/	/r/ except where *r+K > /lj/	
Ket	all merged to /l/		

- Yugh /r/ cognate with Kottic, Arin, Pumpokol /r/ supports reconstructing **PY *r**
- Yugh /r/ cognate with Kottic, Arin, Pumpokol /l/ supports reconstructing **PY *ʃ**
- Yugh /l/ cognate with Kottic, Arin, Pumpokol /l/ supports reconstructing **PY *tʃ**

Additional processes in the other daughter branches?

- Arin sporadically (?) rhotacized auslaut PY *tʃ and *ʃ, as in the compound *proron* ‘leggings’ (cf. Arin *pil* ‘leg’, also Yugh *o’l* ‘covering’)
- Kott *čogár* ‘snow sled’, but Yugh *soul*, Arin *šal*, Pump. *zell* ~ *cel* id.

Reflexes of word-initial PY *ʈ

PY reconstruction	Ket	Yugh	Kott	Arin	Pump.
*ʈam ~ *ʈem 'small'	^t ʈam[t] 'crumb' im[git] 'dwarf'	^t ʈam[turɔl] 'bug'	im[garaxon] 'flea'	ʃam[xuja] 'beetle'	-
*ʈejm (ADJ) 'flat', 'even' *ʈejm-ja 'board'	SKet ē·m 'flat' ^t ʈa'm 'board' (PL ^t ʈē·min)		-	ʃamu 'roof'	-

- Word initial *ʈ was normally retained as a lateral only before back vowels.
- Before front vowels, it became [j] and later elided, raising and/or lengthening the following front vowel.
- This explains why virtually all Ket words with anlaut [ʈ] are followed by back rather than front vowels.

Irregularities in the development of PY anlaut *ʈ

- Alternations between lateral + back vowel and zero onset + front vowel with no clear conditioning factor.

*ʈepja, PY ‘snow shovel’ < *ʈap ‘flat object’ + *ja (NMLZ) > Ket $e^ʔp$ (PL $e:\eta$), Yugh $e^ʔp$ (PL $efw\eta$) ‘snow shovel (large flat board with handle)’; ? ≈ Kott_(C) $i\dot{p}$ (PL $i\eta \sim e\eta$) ‘ski’

> $d\hat{i}\hat{a}f\dot{o}l \sim d\hat{i}\hat{a}f\dot{a}l \sim d\hat{i}\hat{a}f\dot{u}l$, Kott_(C) ‘board’ < metathesis of NMLZ $d\hat{i}\hat{a}$ (< *ja) + *lep ‘flat piece of wood’); ≈ SK $la^ʔm$, NK $l\bar{e}\cdot m$ ‘board’, Ket $\bar{i}\cdot m$ ‘flat’

≈ $ku\dot{l}ep \sim ku\dot{l}\hat{e}p$, Kott_(C) ‘shovel’ (PL $ku\dot{l}\hat{e}p\eta$) < ku ‘digging’ (? ≈ PK *qud^j ‘dig, poke, scrape’) + *lepja ‘board’

* $la^ʔm$, PK ‘board’ < *ʈē·m ‘flat’, ‘even’, ‘smooth’ > SK $la^ʔm$ (PL $l\bar{e}\cdot m\omega\eta$) ‘board’, ‘table’, CK, NK $l\bar{e}\cdot m$ (PL $lem\omega\eta$) id.; Yugh $la^ʔm$ (PL $lem\omega\eta$) ‘board’; Ket_(Ad, vW) $\dot{l}am$ ‘floor’; also Ket $la^ʔm$ (PL $lamen$), Yugh $l\bar{a}m \sim la^ʔm$ (PL $lam\omega n$) ‘side’

≈ $\dot{l}amu$, Arin_(H) ‘roof’ (probably PL form of ‘board’)

†**abja**, PY ‘tongue’ < *†aw ‘extend’ + *ja (NMLZ)

➤ ***alap(e)**, OArin ‘tongue’ > Arin _(M, W, VW, KI) *álap*, _(H) *elep* id.

➤ ***alûp**, OKott ‘tongue’ > Kott _(H) _(M, W, VW, KI) *alup*, _(C) *alûp* ~
alup (PL *alupaŋ* ~ *alupan*), Assan _(M, W, KI) *alûp*, _(VW) *alup* id.

> **alûpfun** ~ **alûppun**, Kott _(C) ‘mute’, Yugh *ejfan* id. < *lɒb ~ *ēj
‘tongue’ + *pɒn ‘without’

≈ ***lab-**, PK (initial combining form) > *labtʲaɢŋ ‘biting’,
*laptʲedej ‘chomp (while eating)’

➤ ? ***ē·je**, PK ‘tongue’ > *Ket *ē·j* (PL SK *èj*, NK *è:ji*, CK *è:j* ~ *è:jɒ*),
Yugh *ēj* (PL *e:ḥj* ~ *eŋniŋ*), Ket _(M, W, VW, KI) *ej*, _(Ad 1) *ii*, _(Ad 2) *ij*, Yugh
_(M) *ej*, Yugh_P _(W, VW) *aj* id.

? ≈ **iilɨgɨl**, Pump. _(KI) ‘tongue’ [? two synonyms pronounced in
succession: native Yen. *iilɨ* ‘tongue’ and loanword *kɨl* ‘tongue’
← Mong. *kajl ‘tongue’ or Uralic *käle ‘tongue’]

Irregular long-distance assimilation or prefix *al ~ *il ?

***lage**, PY 'star' < ***ta** 'extend (rays), scintillate' + ***ge** (NMLZ)

➤ ***alaga**, OKott 'star' [regular prothetic *a-* anlaut lateral, ≠ T 1982 who claims *al-* is pref.] > Kott_(C) *alaga* ~ *alak* ~ *aláx* (PL *alagan* ~ *alakη*, POSS *alagei*), Assan_(M, W, VW, KI) *alák* 'star'; ≅ Kott_(M, W, VW, KI) *alagán*,_(H) *alakan*, Koibal_(Mes, P) *alagan* 'star[s]' [PL -*n*]

➤ Arin_(M, W, KI) *ilqoj*,_(VW) *ilkoj*,_(H) *ilxok* 'star'

➤ Proto-Ket-Yugh (= Proto-Ketic) ***qo:^hqe** 'star' > NK *qo?* (PL *qo:n*), SK *qòv* (PL *qo:n*), CK *qò:ve* (PL *qo:n*), Yugh *χo:^hχ* (PL *χoχwn*), Ket_(M) *kóágo*,_(W) *kaágo*,_(VW, KI) *kóógo*,_(Ad) *ko*,_(KI) *xogen* [PL -*en*], EKet_(Mes) *xogh*, Yugh_(M) *xogen* [PL -*n*] 'star'

➤ Pumpokol *kaken* 'stars'

Reflexes of word-initial PY *tʰ

PY	Ket	Yugh	Kott	Arin	Pump.
* <u>tʰad</u> 'offspring'	- <u>kat</u> , also <u>kʌ't</u> 'children of the same mother'		- <u>kat</u>	- <u>lat</u>	- <u>lat</u>
* <u>tʰete</u> 'winter'	<u>k̄̃·t</u> ~ <u>k̄̃·te</u>	<u>k̄̃t</u>	<u>kete</u>	<u>lot</u>	<u>lete</u>
* <u>tʰen</u> 'bright' * <u>tʰen-ex</u> 'dawn' [= bright day]	<u>kʌ'n</u> 'bright' <u>k̄̃·n</u> ~ <u>k̄̃·ni</u> 'dawn'		<u>kinîx</u> ~ <u>kinîg</u> 'dawn'	<u>o-lum-alači</u> 'dawn begins'	
* <u>tʰin^w</u> 'new'	<u>ki'</u>	<u>ki'</u>	<u>ki</u>	-	-
* <u>tʰin^w-še</u> 'new one'	<u>kis</u>	<u>kì:ḥs</u>	<u>kig-[a]</u>	<u>luj-š</u> 'fresh'	-
* <u>tʰeq</u> 'dirt' [*- <u>ja</u> in Ket]	<u>t̄̃·q</u> 'clay'	<u>tʰʌ'x</u> ~ <u>tʰʌ'q</u> 'dirt'	<u>urtêg</u> 'lake' [<u>ur</u> 'water']	-	<u>tik</u> 'dirt'
* <u>tʰuxa</u> 'perch'		<u>tʌ'</u> (PL <u>tʌʌn</u>)	<u>tug[an]</u> (PL)	<u>iʃuga</u>	<u>tou</u>
* <u>tʰib</u> 'dog'	<u>tī·p</u>	<u>čīp</u>	<u>alšip</u>	<u>ilčep</u>	<u>ci</u>
* <u>tʰin</u> 'one'	<u>sī·n</u> 'once'	<u>sīn</u> 'once'	<u>alšin-</u> = <u>la</u> 'only'	-	-

- Lateral quality retained most consistently in Arin
- Fate of word-initial PY *tʰ in the other branches dictated by syllable rhyme (front vs. back vowel, coda place of articulation)

Reflexes of word-initial PY *tʰ

PY	Ket	Yugh	Kott	Arin	Pump.
* <u>tʰad</u> 'offspring'	- <u>kat</u> , also <u>kʌ't</u> 'children of the same mother'		- <u>kat</u>	- <u>lat</u>	- <u>lat</u>
* <u>tʰojte</u> 'winter'	<u>k̄x̄·t</u> ~ <u>k̄x̄·te</u>	<u>k̄x̄t</u>	<u>kêti</u>	<u>lot</u>	<u>lete</u>
* <u>tʰuwd'a</u> 'rope'	<u>ku't</u> (PL <u>kū·den</u>)		<u>kûra</u>	<u>lu[lap]</u>	<u>lut</u>
* <u>tʰiwd'r</u> 'lard, oil'	<u>kw't</u>		<u>kîr</u>	-	<u>leo[xoxar]</u> 'gall bladder'
* <u>tʰen</u> 'bright' * <u>tʰen-ek</u> 'dawn' [= bright day]	<u>kʌ'n</u> 'bright' <u>k̄x̄·n</u> ~ <u>k̄x̄·ni</u> 'dawn'		<u>kinîx</u> ~ <u>kinîg</u> 'dawn'	<u>o-lum-alači</u> 'dawn breaks'	-
* <u>tʰin^w</u> 'new'	<u>ki'</u>	<u>ki'</u>	<u>ki</u>	-	-
* <u>tʰin^w-še</u> 'new one'	<u>kîs</u>	<u>kî:^hs</u>	<u>kig-[a]</u>	<u>luj-š</u> 'fresh'	-

- Lateral quality retained most consistently in Arin, and Pumpokol.
- Ketic and Kottic underwent the change of PY anlaut *tʰ to voiced *g, later devoiced to *k. This occurred at different times in each branch.
- Proto-Ketic *g rounded an adjacent *a to /o/ before devoicing, as in Ket ko't 'rump' (vs. Kott kar 'vagina') both from PY *tʰad'r 'rump'
- Ket determiner *k that rounds preceding agreement marker < *g

More possible evidence of word-initial PY *tʃ ?

Previous slide: Word-initial PY *tʃ most often became Proto-Ketic *g, which devoiced to /k/ in Modern Ket and Yugh.

PY	<u>Ket</u>	<u>Yugh</u>	Kott	Arin	Pump.
* <u>tʃeq</u> 'dirt' [*-ja in Ket]	<u>t̄·q</u> 'clay'	<u>tʃλ'χ</u> ~ <u>tʃλ'q</u> 'dirt'	<u>urtêg</u> 'lake' [ur 'water']	-	<u>tik</u> 'dirt'
* <u>tʃuxa</u> 'perch'	<u>tλ'</u> (PL <u>tλλn</u>)		<u>tug[an]</u> (PL)	<u>iʃuga</u>	<u>tou</u>

(Above) Word-initial PY *tʃ > *t (less often *ʃ) in syllables with velar or uvular obstruent coda.

(Below) Word-initial PY *tʃ > *č before *l in syllable without a velar coda.

PY	<u>Ket</u>	<u>Yugh</u>	Kott	Arin	Pump.
* <u>tʃib</u> 'dog'	<u>tī·p</u>	<u>čīp</u>	<u>alšip</u>	<u>ilčep</u>	<u>ci</u>
* <u>tʃin</u> 'one'	<u>sī·n</u> 'once'	<u>sīn</u> 'once'	<u>alšin-</u> =la 'only'	-	-

this root for Kott/Assan 'one' appears only in compounds meaning 'one hundred'

Conclusions

- PY had two lateral phonemes: *tɬ and *ɬ.
- PY Laterals were obstruents, could appear word-initially.
- PY had only one rhotic phoneme *r - a sonorant that normally appeared only medially or finally, like other PY sonorant consonants.
- Processes of vowel ablaut, length, and tone must be considered when reconstructing PY consonants.
- These results might add to S. A. Starostin's work on reconstructing lateral affricates at deeper levels of relationship between language families.

Спасибо!

