

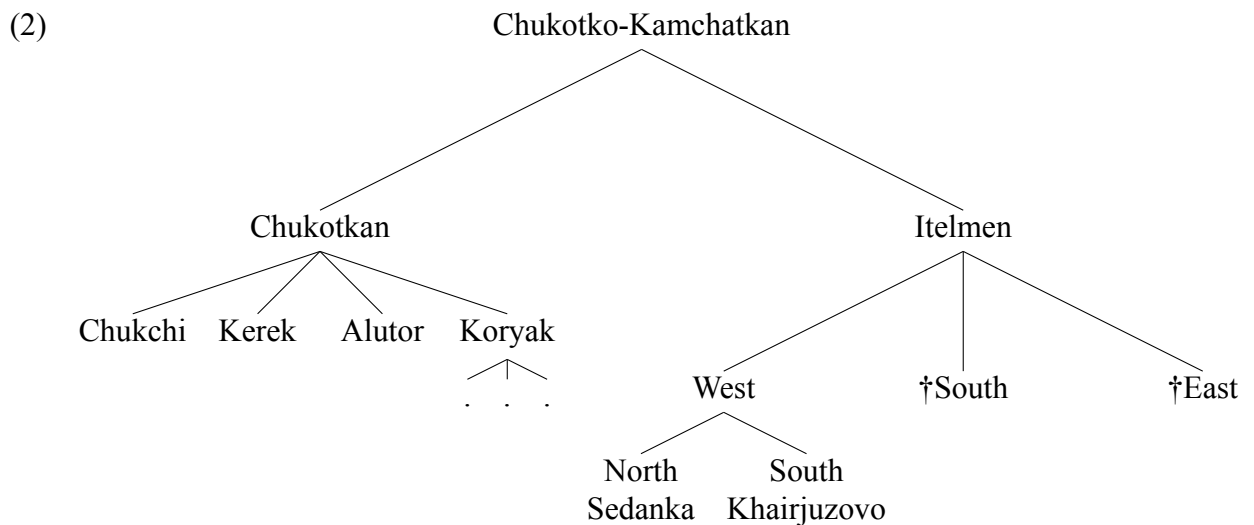
# Disharmony and Decay: Itelmen Vowel Harmony in the Soviet Period

Jonathan David Bobaljik  
University of Connecticut

Exponence Network / Division of Labour  
January 17, 2009

- (1) Overview:
- a. Decay of Vowel Harmony: Phonological to Morphological
  - b. Causes: Phonological restructuring, Loanword influence
  - c. Erosion of (evidence for) phonological harmony system
  - d. Both types attested in Chukotko-Kamchatkan
  - e. Itelmen: Decay of system recorded (20th C)

## 1 Chukotko-Kamchatkan Vowel Harmony



## 1.1 The core system

Bogoras (1922); Muravyova (1979)

Chukchi: Skorik (1961); Dunn (1999); Krause (1979); Kenstowicz (1979)

- (3) Proto-Chuktokan Vowel Inventory      (4) Chukchi Vowel Inventory

recessive	i	u	ε
dominant	e	o	a
transparent	ə		

recessive	i	u	e <sub>1</sub>
dominant	e <sub>2</sub>	o	a
transparent	ə		

- (5) All recessive vowels lower to corresponding dominant vowel in the presence of a dominant element

$$\left\{ \begin{array}{c} i \\ u \\ \varepsilon/e_1 \end{array} \right\} \rightarrow \left\{ \begin{array}{c} e \\ o \\ a \end{array} \right\} / \text{ in a word with a dominant vowel}$$

- (6) Root controls affix (prefix and suffix)

-(n)u DESIG	/milute/ ‘rabbit’	milute-nu	/wopqa/ ‘moose’	wopqa-no
	/tutlik/ ‘snipe’	tutlik-u	/orw/ ‘sled’	orw-o
ɣ(e)-...-(t)e	/milute/ ‘rabbit’	ɣe-milute-te	/rerka/ ‘knife’	ɣa-rerka-ta
INSTR	/kupre/ ‘net’	ɣe-kupre-te		
	/lili/ ‘mitten’	lili-te	/wala/ ‘knife’	wala-ta

- (7) Affix controls root

ROOT	ABS	COMITATIVE /ɣ(a)-...-ma/
/milute/ ‘rabbit’	milute-t	ɣa-melota-ma
/titi/ ‘needle’	titi-ŋə	ɣa-tete-ma
/rʔew/ ‘whale’	rʔew	ɣa-rʔaw-ma
/ləle/ ‘eye’	ləle-t	ɣa-ləla-ma

- (8) Root-Root Interaction (Incorporation)

ROOT	PREDICATE FORM	INCORPORATED	ROOT 2 GLOSS
/teŋ/ ‘good’	nə-teŋ-qin	taŋ-kawkaw	/kawkaw/ ‘zwieback’
		taŋ-čotčot	/čotčot/ ‘pillow’
/om/ ‘warm’	n-om-qen	om-peŋpeŋ	/piŋpiŋ/ ‘ash’

## 1.2 Ambivalent /e/

(9) Ambivalent /e/

**recessive** /rʔew/ ‘whale’ → ʔa-rʔaw-ma

**dominant** /rʔet/ ‘road’ → taŋ-rʔet

(10) phonetic contrast  $e_1$  vs.  $e_2$  ?

$e_1 \neq e_2$  Bogoras (1922), Skorik (1961, 22ff), Asinovskij & Volodin (1987)

$e_1 = e_2$  Mel’nikov (1948, 209) [experimental], Fortescue (1998, 128), Dunn (1999, 48): “there is no phonetic difference between” dominant and recessive [e].

Skorik also claims that the other dominant vowels (but not *e*) phonetically distinguish basic instances from those derived by harmony. See Kenstowicz (1979); Krause (1979).

## 1.3 Diacritic [+dominant] (all C-K languages with harmony)

(11) Schwa ([+dominant] as diacritic)

GLOSS	ROOT	INFINITIVE
sleep	/jəlq/	jəlq-et-ək
dark	/pəlm/	pəlm-at-ək

GLOSS	ROOT	ADJECTIVE
old	/ənpə/	n-ənpə-qin
dark	/pəlm/	nə-pəlm-qan

AFFIX	ROOT	SUFFIXED FORM
-jpə	/titi/	tete-jpə ‘from the needle’
-ytə	/milute/	melota-ytə ‘to the rabbit’

(12) Dominant root no underlying vowel (Krause, 1979, 13-14; Muravyova, 1979, 141)

ROOT	PRETERITE	GLOSS
/ŋt/	ʔe-nt-ə-lin	‘he has cut off’
/rʔ/	ʔe-rʔ-ə-lin	‘he has dug, scratched’
/tm/	ʔa-nm-ə-len	‘he has killed’
/tw/	ʔa-tw-ə-len	‘he has said’
/rw/	ʔa-rw-ə-len	‘he has split’

- (13) Dominant affixes with no underlying vowel (Krause, 1979, 13-14; Muravyova, 1979, 141)

ROOT	HARMONY FORM	GLOSS
/utt/	ott-ə-tk-ən	‘crown of a tree’
/mren/	mran-ə-kw-ən	‘mosquito guard’
/milute/	melota-l-γ-ən	‘rabbit’

**Transparency** Morphemes containing  $\{i,u\}$  are unambiguously recessive. Morphemes containing  $\{a,o\}$  are unambiguously dominant.

**Diacritic** Morphemes containing only  $e$  and/or schwa are ambiguous (though the former may in fact be phonetically distinguished in some dialects).

**Further wrinkle** Surface violations of harmony from late rules:

**Vocative** in the vocative only,  $\acute{e} \rightarrow \acute{o}$  : túmγ-ət ‘friend-PL’ vs. tumγ-ót ‘O friends!’ (Krause, 1979, 59)

**Schwa rounding** optional schwa rounding  $\text{ə} \rightarrow \text{u} / \_w$  : ətləwɟot ~ ətluwɟot ‘grand-children’ (Krause, 1979, 116)

## 2 Phonologically-Induced Collapse: Transparent $a$

### 2.1 E/A merger

Koryak and Alutor dialects are broadly divided into “E” dialects and “A” dialects. In the latter: recessive  $e$  ( $\leftarrow *e$ ) and  $a$  have merged. (Stebnickij, 1934; Muravyova, 1979, cf. Bogoras, 1917, 1922).

- (14) E-dialects

recessive	i	u	<span style="border: 1px solid black; padding: 0 2px;">e</span>
dominant	e	o	a
transparent		ə	

- (15) A-dialects

recessive	i	u	<span style="border: 1px solid black; padding: 0 2px;">a</span>
dominant	e	o	a
transparent		ə	

- (16) A-dialects: Transparent “a”

Kor: /kali/ ‘write’ = Chu: /keli/

- |    |                            |            |                     |
|----|----------------------------|------------|---------------------|
| a. | /kali/ ‘write’ + -te       | kalite     | not harmony trigger |
| b. | /kali/ ‘write’ + -jo + -te | kale-jo-ta | not harmony target  |
| c. | /jaŋ/ ‘moss’ + γe-...-lin  | γe-jaŋ-lin | not harmony trigger |

**Ambiguity** Morphemes containing  $\{i,u\}$  are unambiguously recessive. Morphemes containing  $\{e,o\}$  are unambiguously dominant. Morphemes containing only  $a$  and/or schwa are ambiguous.

**E-dialects** (incl. Chukchi) *all* full vowels participate in harmony. Recessive  $e$  alternates with  $a$ , while dominant  $e$  triggers alternations in other vowels.

**A-dialects** E/A merger yields a full vowel that does not participate in harmony. Transparent  $a$  fails to alternate (or alternates with itself).

**Note** Some morphemes with only  $a < *e$  have been reanalyzed as dominant.

## 2.2 Aside: E/A merger and dialect mixture

“The harmony of vowels ... is unstable in Koryal, and often inconsistent.... In Koryak, with its constant dialectical changes from  $a$  to  $e$ , this pair of vowels is excluded from the action of the vocalic harmony.... Owing to the intermarriage between the people of different villages,  $a$ ,  $e$ ,  $\ddot{a}$ ,  $\text{ɪ}$ , may also be used in the same place by different persons, especially when not under accent; for instance *natnako* and *natniko*. In the same way, [other vowels] interchange...” (Bogoras, 1917, 4-5).

Standard Koryak has a mix of E-dialect and A-dialect forms. Any given word is consistent in terms of its harmony behaviour. Taken as a whole, this gives three-way alternations: *nute* ~ *nuta* ~ *nota*. This may be treated by rule (Muravyova) or as dialect mixing (possibly within an individual).

## 2.3 Alutor: Internal Collapse

- Some A-dialects: further reorganization of the vowel system (Muravyova, 1979).
- Merger of all dominant:recessive pairs. Only three-way contrast in full vowels.
- Complete loss of vowel harmony.

(17) Tymlat Alutor

recessive	i	u	a
dominant	e	o	a
transparent	ə		

(18) Vyvenka Alutor<sup>1</sup>

i	u	a
i	u	a
ə		

<sup>1</sup>Length contrast in initial syllables. Muravyova (1979, 161, n.3) suggests that the loss of vowel harmony is under the influence of Eskimo (i.e., Yup'ik). Note that all Inuit-Yup'ik has only a three-vowel + schwa system. However, Eskimo influence expected further to North.

This reanalysis appears to be dependent on the prior *e/a* merger and consequent emergence of an *i-u-a* division among the recessive vowels.

### 3 Itelmen

- (19) Itelmen vowel inventory (cf. Volodin, 1976, 43)

recessive	i	u	e <sub>1</sub>
dominant	e <sub>2</sub>	o	a
transparent	ə		

- (20) Root vowel changes due to dominant affix

ROOT	HARMONY FORM	GLOSS	SOURCE
ki(j)	ke-xʔal	river-ABLATIVE	A13
isx	esx-anke	father-DATIVE	MimKp:2
kist	kest-ank	house-DATIVE	Tilval:3
kuke-	(x)an-koka-zo-nen	3.IRR-cook-ITER-3>3SG	SP 47

- (21) Affix vowel changes due to dominant root

AFFIX	ALTERNATING FORMS	GLOSS	SOURCE
-enk	isx-enk	father-LOCATIVE	Tilval:2
	laxsɣ-ank	mother-LOCATIVE	Tilval:2

**Ablaut** Idiosyncratic specification of morphemes as participating or not (or optional), regardless of vowel quality (cf. Asinovskij & Volodin, 1987; Georg & Volodin, 1999)

- (22) Most affixes with weak vowels fail to alternate

AFFIX	W/ DOMINANT ROOT	GLOSS	SOURCE
-qzu	k-čača-qzu-knen	PRT-cry-ASP-PRT	AS: 1
-βum	q-oms-qzu-βum-sx	2.IRR-leave-ASP-1.OBJ-2PL	AS: 1
-in	k'ot-in	come-3SG	S3:3
-kičen	n-alɣt-kičeʔn	1PL-spend.day-1PL	RasDan:50
-kiɫɣ	elβant-zo-kiɫɣ	fish-ITER-NOM	SP22

- (23) Most affixes with strong vowels fail to trigger harmony

AFFIX	W/ DOMINANT ROOT	GLOSS	SOURCE
-kaq	siŋ-kaq	fly-NEG.PRT	AS: 1
-aɫ	qetit-aɫ-sx	freeze-FUT-2PL	AS: 1
-čax	jimsx-čax	woman-DIM	Tilval:1
-lax	ulʰu-ɮax	little-ADJ	Tilval:1

- (24) Some roots fail to harmonize (even with affixes known to trigger VH)

esxɫin	esxɫin-xʔal	place.name-ABLATIVE	Tn:40
kist	% kist-anke	house-LOCATIVE	(variation)

- (25) Numerous disharmonic roots

zlatumx	sibling
muza, tuza	1PL, 2PL PRON
sinaŋewt, qušnaqu	names (mythical figures) < Kor.
niqa	quick(ly) < Kor. ?
oxotiɫ-	hunt < Russian

**Summary** Harmony is now entirely morphologized.

- Some morphemes diacritically specified to undergo the VH (almost no affixes)
- Some morphemes diacritically specified to trigger the process

## 4 Itelmen VH 1910-1996

The situation described above changed over the course of 3-4 generations. We have documentation from 1910, 1960s/70s, and 1990s. We can watch the decline and decay of the vowel harmony system.

### 4.1 1910

- (26) Source material: Bogoras (1922), Jochelson (Worth, 1961, 1969)

- (27) Bogoras (1922)

- 22 vowels in Itelmen
- C-K Harmony affects “almost all the vowels.” (p.678)
- However, many of Bogoraz’s examples are inconsistent with his description, even on the same page, to wit:

k’ölkımin	‘he has come’, p.678	ö (=o) dominant, i recessive
tsünülotjk	‘I live in the woods’ p.679	ü recessive, o dominant

- (28) Jochelson text collection (Worth, 1961, 1969)

- 41 texts of varying length; 277 pages (published version)

- likely transcribed by native speaker, A.M. Danilov (Bobaljik & Koester, 1999).
- accompanying concordance / dictionary (Worth, 1969)
- Total number of wordform tokens: 4285
- Harmony alternations throughout, but...
- # wordform tokens that violate harmony {i,u} + {o,a}: 861 (20%)

## (29) Harmony alternations in 1910 (Jochelson's orth)

isx 'father'	isx-enk (LOC)	esx-anke (DAT)	K2.1
kuke- 'cook'	kuke-ki (INFIN)	koke-zo-xc (ITER-IMP)	K2.27, 38
-enk LOC	isx-enk	stó-al-ank	K2.1, 5
		xonograf-ank	K2.3
-lax ADJ <sup>2</sup>	cíneŋ-lex	caca-lax	K2.10, 35
	íw-lex	ás-lax	K2.11, 4
-(g)in 3.SUBJ	íŋ-gin	ŋale-z-en	K2.2, 5
-kicen 1.SUBJ	t-pilgetí-z-kicen	t-són-kecan	K2.1, 2
	n-ŋxi-kicen	n-ánta-kecan	K2.3
-qzu ASP	k-sunŋ-qazú-knen	k-wetat-qazó-knan	K2.1

Note: some inconsistencies, even among these words (*kístank* K2.5).

- Many counter-examples to harmony can be explained

(30) Excrescent *a* [371/861 = 43% of exceptions]

“a” / C<sub>1</sub>C<sub>2</sub>, where C<sub>1</sub> = uvular, C<sub>2</sub> = sonorant

Jochelson:	ksunŋqazúknen	qazíŋqazuknen
modern:	ksunŋqzuknen	qzítqzuknen
	k-sunŋ-qzu-knen	[k]-qzít-qzu-knen
	PRT-live-ASP-PRT	PRT-get.ready-ASP-PRT

Note also stress: Jochelson's *qazú*, *qazó*, *qazí*, etc.

## (31) schwa (non distinguished from full vowel in texts, cf. Bogoras's 22 vowels)

Jochelson:	ína	kima	kantxigaan
modern:	əna	kəmma	k-əntxa-(?)an
	3SG.PRON	1SG.PRON	PRT-forget-TR.PRT

<sup>2</sup>Volodin doubts that this affix alternated in Jochelson's time, despite these forms. See Volodin (1976, 76 n.25).



(32) glide (j) written as “i”

Jochelson:	a(y)iwa	káitatān	csalai	brawoi
modern:	aʔjuβʔaj	kʼ-ajtat-an	tsal-aj	braβ-oj
	brains (VKh)	herded	fox-AUG	good < Russian

- Some morphemes were exceptional even in 1910

(33) transparent *a*

AFFIX	W/	DOMINANT ROOT	GLOSS	SOURCE
-aʔ	čki-	aʔ-ki	find-FUT-INFIN	K2.39
	cf. čke-	kaz	find-INFIN	K2.22 etc. (-kaz dominant)
	nú-	aʔ-keq	eat-FUT-NEG	K2.23
	iʔ-	aʔ-c	go-FUT-2SG	K2.5

(34) Unassimilated or partially assimilated loans

Russian	docista	dočista ‘clean / everything’
	mozit	možet ‘is.able’
	ilyá	ilja (name)
Koryak (A)	kuskʰiaqu	qujqinjaqu (name)
	sinaŋewt	jiniaŋawɣut (name) (s : j is regular)
	awi	avi ‘crab’

**Summary:** Itelmen had a typical C-K vowel harmony system as recently as 1910, with a few lexically specified exceptions (as well as loans).

**Question:** How did it get from there to its current state?

## 4.2 Itelmen mid-century

(35) Volodin (1976); Georg & Volodin (1999) [field work: 1962-1973]

(36) Vowel harmony system described essentially as in 1910:

alternations:	tʼ-iʔ-kičen	t-lay <sup>w</sup> aʔ-kečan	p.45
	wetat-qzo-ɣ <sup>w</sup> en	ʔi-qzu-ɣ <sup>w</sup> in	p.46
exceptions	FUTURE -aʔ	ADJ -laχ	1SG.OBJ -(xk)miŋ <sup>3</sup>

<sup>3</sup>This affix consistently has schwa in the material I recorded.

## (37) However:

“Harmony is most inconsistently maintained in the finite verb. If the cases with the affixes -a(ʈ) (which never controls [harmony]) and -(xk)miŋ (which never undergoes [harmony]) are put aside, it should be established that even the affixes represented by harmonic variants *-kičen ~ -kečan*, *-kinen ~ -kenan* et al. obey the demands of harmony in comparatively rare cases. Most often, the alternation does not take place: *tmaʔkičen* ‘I played’ (should have been: *tmaʔkečan*), *tk'oʔkičen* ‘I came’ (should have been: *tk'oʔkečan*), etc. The examples given above of harmonically regular verb forms look rather like exceptions.” (Volodin, 1976, 46)

(38) **1910** Productive vowel harmony; diacritic marking of exceptional morphemes

**1960s** Inventory of exceptional morphemes expanding

**1990s** Very few (classes of) morphemes participate

- What changed?

## (39) Demographics

	ca. 1700	1926	1994	2001	Sources
ethnic speakers	20-25,000 all	3,414 803	1,141 <80	<40	Stebnickij (1934); Volodin (1976) Koester & Bobaljik (1994)

## (40) Language Shift

## a. Tsarist Period: 1697-1917

Subjugation, Disease, Resources

Bilingualism through trade and indentured servitude.

By 1910, Itelmen spoken only in 8 villages on remote Okhotsk Coast

## b. Soviet Period: post 1917

Tip and Slide

Forced Russification, Loss of Prestige, Resettlement and Minoritization.

## (41) Hypothesis:

Significant rise in (Russian) loans in input shifted balance between regular forms and exceptions

## (42) Loan rates (Russian Words / Total Words) [lexeme types]:

CORPUS	# lex	russian	loan rate	notes
1910 - Jochelson	1546	130	8.4%	entire corpus
1994 - Tilval	243	48	20%	youngest fluent generation
1994 - KL	279	50	18%	youngest fluent generation

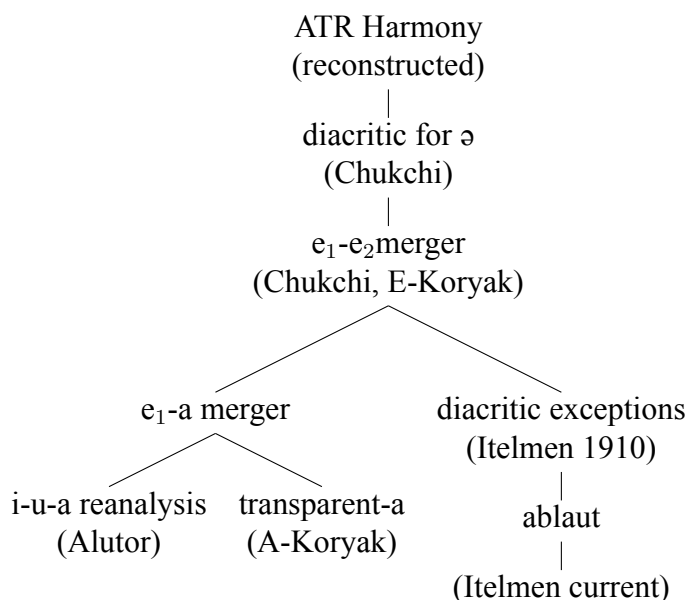
(43) Further detail: North-South asymmetry  
 Loss of vowel harmony more advanced in Sedanka dialect - adjacent to A-dialect Koryak/Alutor. Significant Koryak bilingualism / loanword influence in that dialect absent from Khairjuzovo dialects to South.

(44) Some Koryak influence

Khairjuzovo etc.	Sedanka	Koryak
kutχ	qustnaqu	qujqinjaqu (name) -njaqu “big”
n/a	sinaŋewt	jiniŋawɣut (name) (s : j is regular)
n/a	niqa	cf. Kerek: nə-jiq-ʔau; root j(ə)q- + n-...-a

### 4.3 Summary

(45)



- (46) Why was Itelmen (1910) vulnerable? (speculations)
- VH partly morphological - diacritics,  $e_1$ - $e_2$  merger
  - early loans, contact with a-Koryak, Russian
  - transparent “a” in future (etym source unknown)
  - bidirectional harmony system: disharmonic roots are exceptional. Contrast, e.g., disharmonic roots in Turkish (Clements & Sezer, 1982)

## References

- Asinovskij, Aleksandr S. & Aleksandr P. Volodin (1987) The typology of vocalic structures of the word in Chukchi-Kamchatkan languages. In *Proceedings of the Eleventh International Congress of Phonetic Sciences*, Tamaz Gamkrelidze, ed., Tallinn: Academy of Sciences of the Estonian SSR, 362–364.
- Bobaljik, Jonathan David & David Koester (1999) The first Itelmen author? *SSILA Newsletter* 17(4): 5–6.
- Bogoras, Waldemar (1917) *Koryak Texts*. Leyden: E. J. Brill.
- Bogoras, Waldemar (1922) Chukchee. In *Handbook of American Indian Languages*, Franz Boas, ed., Washington: Government Printing Office, 631–903.
- Clements, George N. & Engin Sezer (1982) Vowel and consonant disharmony in Turkish. In *The structure of phonological representations*, Harry van der Hulst & Norval Smith, eds., Dordrecht: Foris, 213–255.
- Dunn, Michael (1999) *A grammar of Chukchi*. Ph.D. thesis, Australian National University.
- Fortescue, Michael (1998) *Language relations across Bering Strait*. London: Cassell.
- Georg, Stefan & Aleksandr P. Volodin (1999) *Die itelmenische Sprache*. Wiesbaden: Harrassowitz Verlag.
- Kenstowicz, Michael (1979) Chukchee vowel harmony and epenthesis. In *Papers from “The Elements”, a parasession.*, Paul R. Clyne, William F. Hanks, & Carol L. Hofbauer, eds., Chicago: Chicago Linguistics Society, 402–412.
- Koester, David & Jonathan David Bobaljik (1994) Minority language, cultural revival and native rights in Russia: The Itel’men language as a case study. *NCSEER Working Papers* .
- Krause, Scott (1979) *Topics in Chukchee phonology and morphology*. Ph.D. thesis, University of Illinois.
- Mel’nikov, G. I. (1948) Фонемы чукотского языка. *Язык и мышление* 11: 208–229.
- Muravyova, Irina A. (1979) *Сопоставительное исследование морфологии чукотского, корякского и алюторского языков*. Ph.D. thesis, Moscow State University.
- Skorik, Piotr Ja. (1961) *Грамматика чукотского языка*, vol. 1. Moscow: Izdatel’stvo akademii nauk SSSR.
- Stebnickij, S. N. (1934) Ительменский язык. In *Языки и письменность народов севера*, G. N. Prokof’ev, E. A. Kreinovich, & Ja. P. Al’kor, eds., Moscow: Gos. Uchpedgiz, 85–104.
- Volodin, Aleksandr P. (1976) *Ительменский язык*. Moscow: Nauka.
- Worth, Dean S. (1961) *Kamchadal texts collected by W. Jochelson*. Berlin: Mouton.
- Worth, Dean S. (1969) *Dictionary of Western Kamchadal*. Berkeley: University of California Press.

**Acknowledgments** Members of the Itelmen community in Kovran, Tigil, Petropavlovsk Kamchatskij; Funding (1993-present): National Council for Soviet and East European Research (PI: D. Koester), Milton Fund of Harvard Medical School, Social Science and Humanities Research Council (Canada), University of Connecticut Humanities Institute.