

Sounds and writing systems of
Deg Xinag, Tsek'ene and
Witsuwit'en

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For Dene course, Leslie Saxon, U Vic

26 Sept 2016

“Practical” orthographies

- What are they?
 - Systems for writing languages using symbols that ordinary folks are familiar with with
 - Linguistic symbols
 - $\text{ɔ} \text{tʃ} \chi \text{ʃ} \text{r}$
 - are unfamiliar, strange-looking
 - slow to type

Questions about practical orthographies

- Where do they come from?
 - Understanding of *phonology*
 - This may change over time
- Who designed?
 - Trained linguist?
 - Some other interested party?

Design principles

- Abstractness
 - Sounds that are pronounced the same/differently should be spelled the same/differently.
 - Sound variations due to context are not represented.

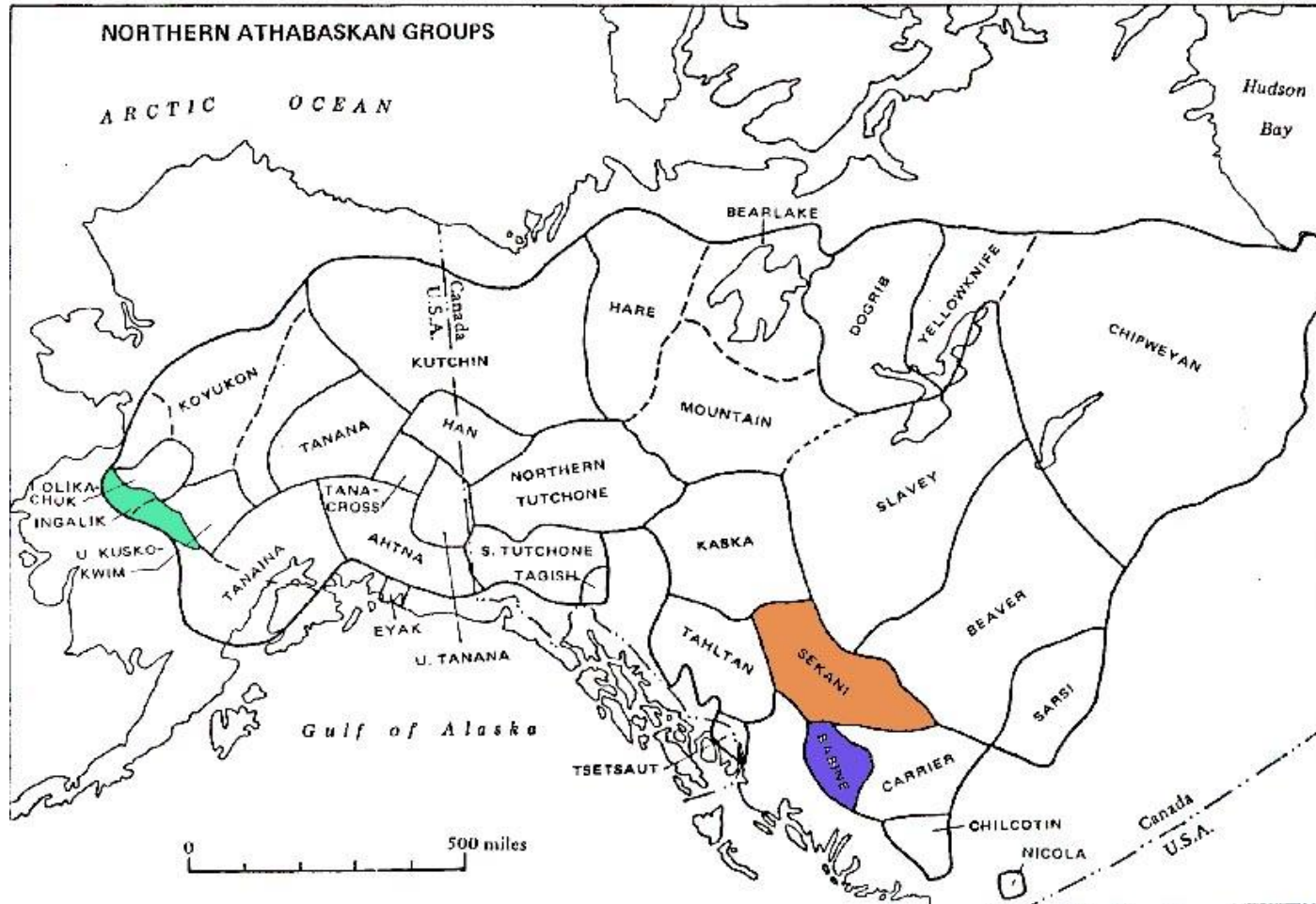
gloss	Noun (IPA)	practical	Possessed N (IPA)	practical	UR
'pack'	xêh	xée ^h	-yêl-é?	-ghée ^l é	/xét/

Design principles, cont.

- Familiarity
 - Symbols used should be those with familiar sound value whenever possible
 - Era of orthography design: what can be typed on a typewriter?
- Abstractness, familiarity may conflict



Three northern Dene languages



Deg Xinag
(Ingalik)

Tsek'ene (Sekani)

Witsuwit'en
(Babine,
Northern
Carrier)

Tsek'ene

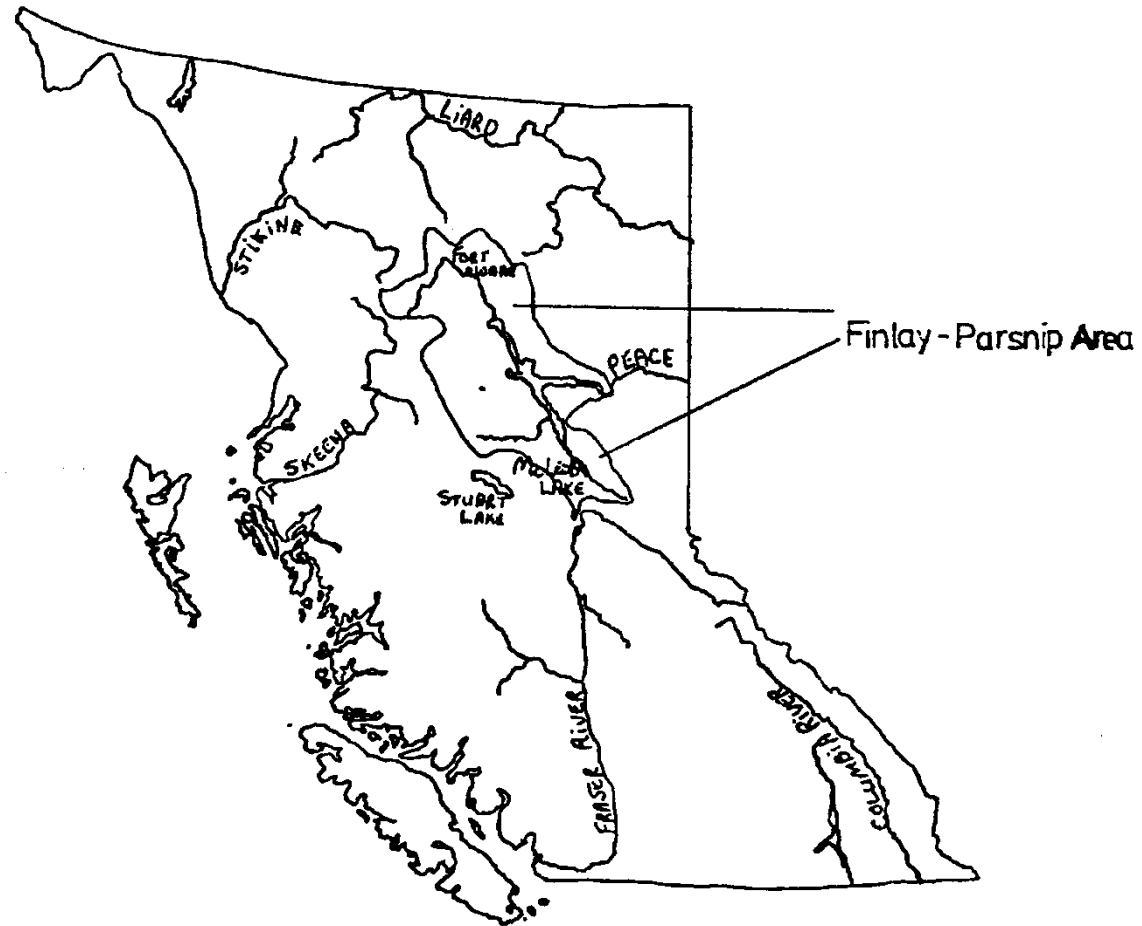


Russell Range and Finlay River, B.C.

Tsek'ene



Tsek'ene language area

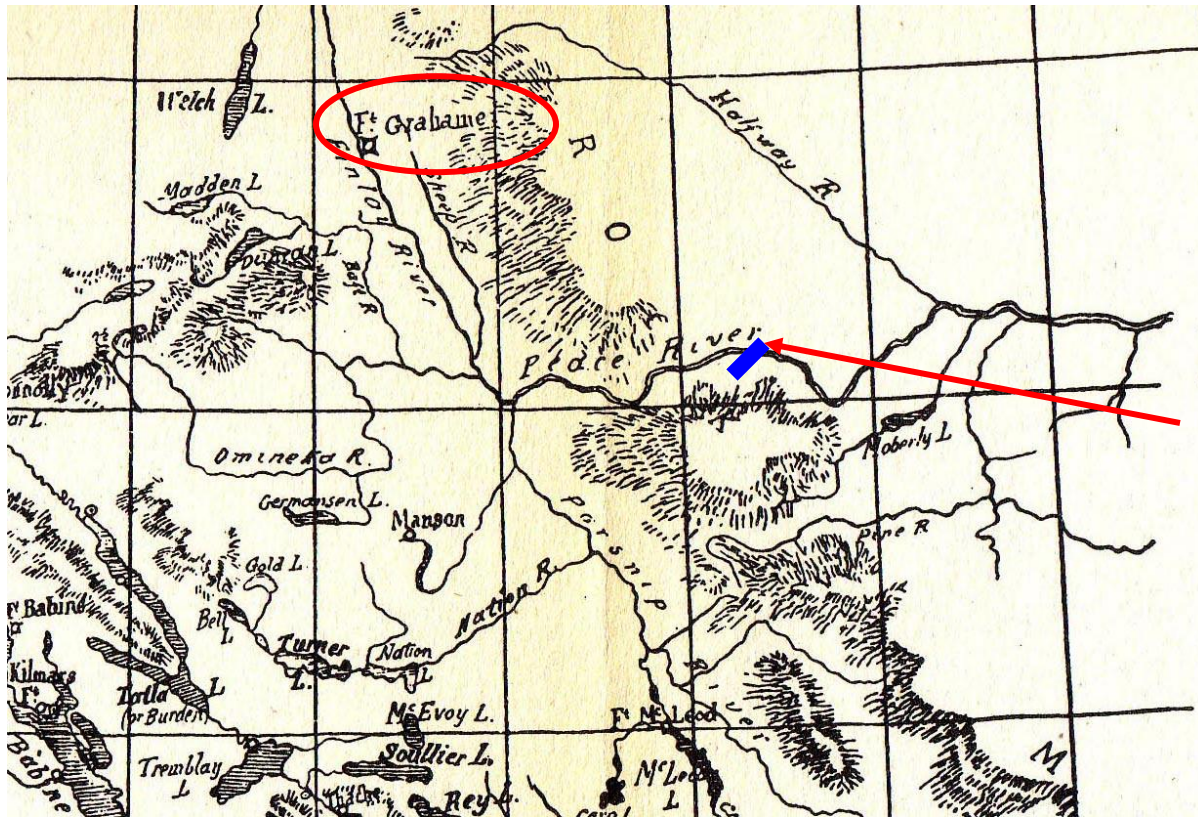


Tsek'ene language

- Closely related to Dane zaa (Beaver), especially Halfway, Moberly Lake
- > *Sekani, Siccany, Sékanais*, etc.
- Communities
 - Fort Grahame > Ingenika, Tsay Keh [tse k'eh]
 - McLeod Lake
 - Kwadacha (Fort Ware)



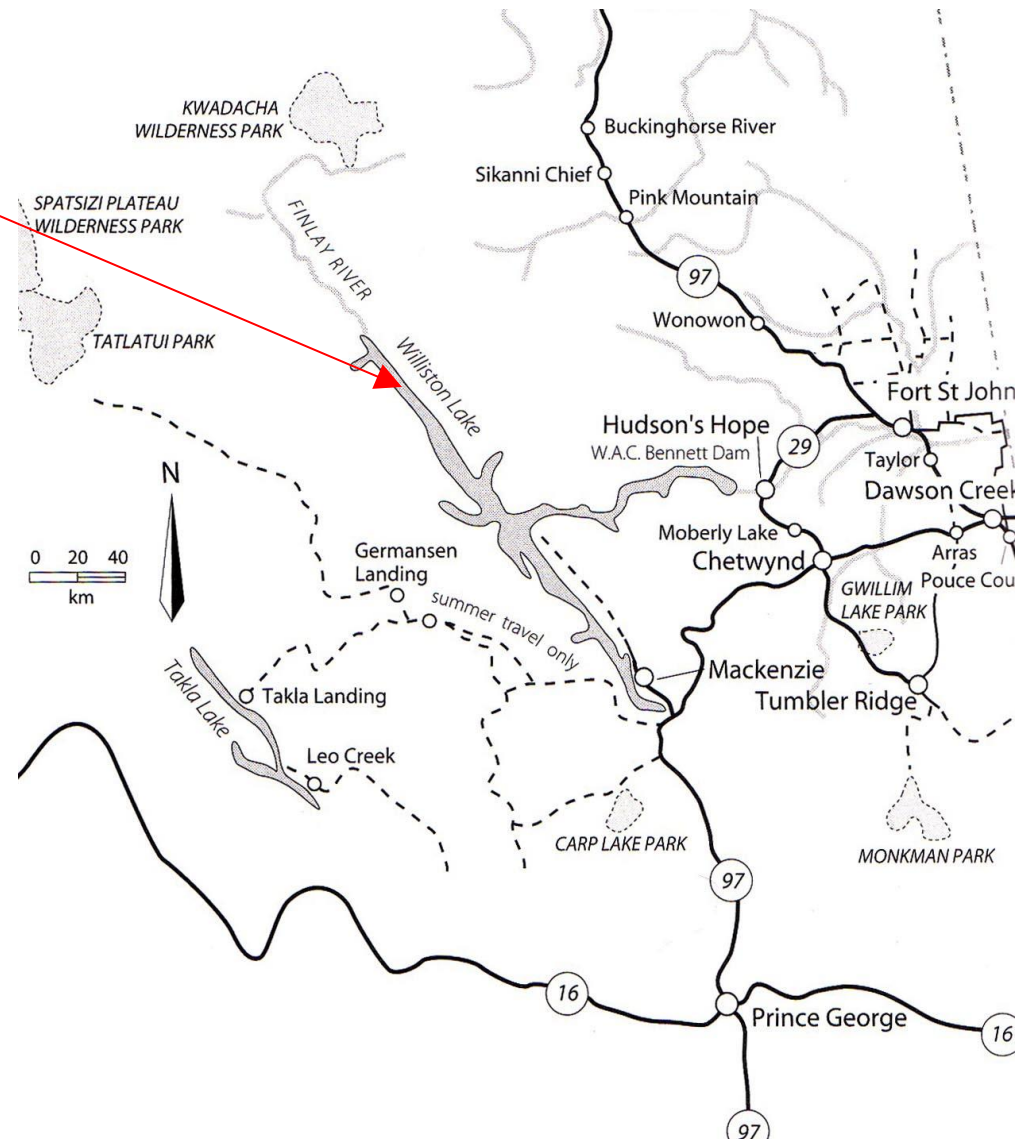
History of Tsek'ene area



1968 W.A.C. Bennett dam,
Hudson Hope B.C.

Williston 'Lake'

- Fort Grahame diaspora
 - Mackenzie and Prince George
 - Fort Ware
 - lower mainland of B.C.
 - → Ingenika → Tsay Keh



Some Tsek'ene speakers

Mike Abou



Eileen McCook



Edna McCook



Mary Charlie

Consonants

Syllable-
initial

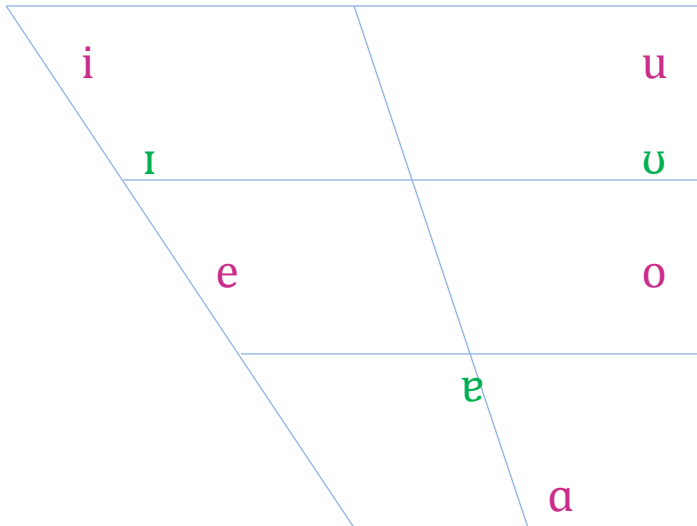
p	t t ^h t'			k k ^h k'	ʔ
	ts ts ^h ts'	tʃ tʃ ^h tʃ'			
	tʃ tʃ ^h tʃ'				
	s z	ʃ ʒ	ç	x ɣ	h
	ʃ l				
m	n				
w			j		

Syllable-
final

p	t			k	ʔ
	ts				
	tʃ				
	s z	ʃ		x ɣ	h
	ʃ l				
m	n				
w			j		

Oral vowels

- “full” vs. “reduced”



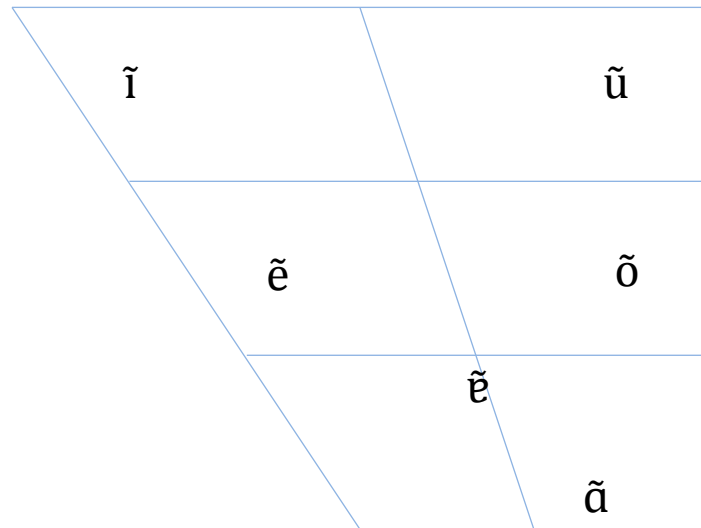
- Reduced vowels
 - Phonetically shorter
 - Not word-final

/ɪ/ and /ʊ/

- /ɪ/, /e/ in complementary distribution in prefixes
- /ɪ/, /i/ in complementary distribution in roots
- Need for /ɪ/
 - /ts'itèhʔãʔ/ 'we sent him/her'
 - /ts'ètèʔ/ 'blanket'
 - /ts^hiti/ 'hot coals'
- Need for /ʊ/
 - /səkùt/ 'my knee'
 - /səkotèʔ/ 'my coat'
 - /kùle/ 'willow'
- But /ʊ/ only next to velars

Nasal vowels

- Nasal vowels







- Almost no reduced nasal vowels, but
 - /xẽz/ ‘pus’
 - /sẽł/ ‘gaff hook’
- Nasal vowels vs. Vn
 - /łõ/ ‘correct’
 - /telson/ ‘it’s solid’

Extra long vowels

yɛtàʔ	‘he/she sat’
xɛtà:ʔ	‘our eyes’
mɛtèʔ	‘its horns’
mɛlè:ʔ	‘his dog’
xǎhtsìʔ	‘already’
sìtsì:ʔ	‘my inner ear’

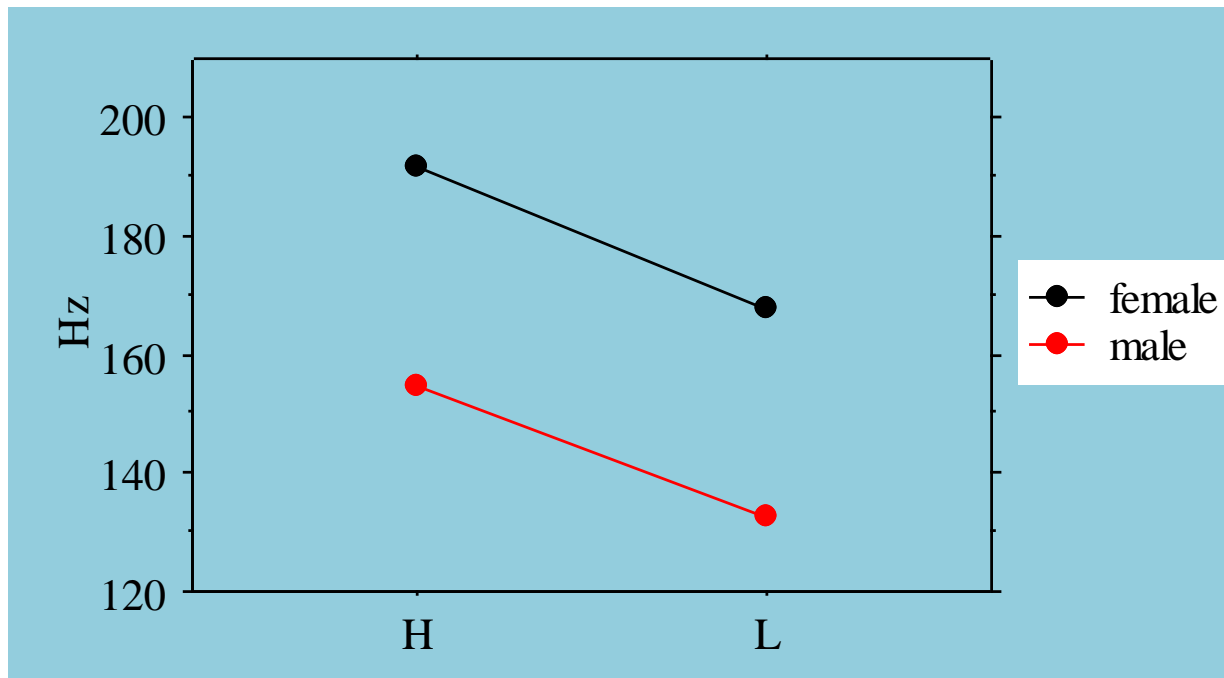
Thank you, John
Ritter of Yukon Native
Language Centre

Tones

low: à	łàwì 	‘once’
high: a	ławì 	‘stop it’
falling: â	t ^h âmah 	‘shore’
rising: ă	t ^h ăta 	‘he got hurt’



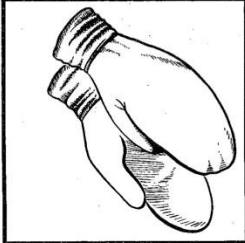
Tone vs. pitch

- Male vs. female voices
 - 3 males: lower pitch range (130-155 Hz)
 - 7 females: higher pitch range (165-195 Hz)



Orthography

- Developed by SIL linguists Dave and Kay Wilkinson
- Some “cosmetic” decisions
 - [ɬ] <lh> [x] <kh> [ç] <hy>
 - [ɛ] <u>, [u] <oo>, [i] <ee>
 - [ẽ] <e>
- Word-initial [ʔ] not written

Consonant Sounds	Syllables
 <p>kashoh shoh sh</p>	<p>chu ba k'e beh</p>
 <p>dlezhe zhe zh</p>	<p>k'e dah k'e beh</p> <p>lhut lhoo we</p>
 <p>bad b</p>	<p>yus dlezhe zus</p> <p>shu wa' ka shoh</p>

Problems with Wilkinsons' orthography

- Does not represent
 - /ʊ/
 - tone
 - extra long vowels
 - word-initial “zero” vs. glottal stop
 - [õ] ‘yes’
 - [ʔõ̃tse] ‘over here’
 - [hõ] ‘okay’

Revised orthography (consonants)

p	d t t'			g k k'	'	Syll-initial
	dz ts ts'	j ch ch'				
	dl tl tl'					
	s z	sh zh	yh	kh gh	h	
	lh l					
m	n					
w			y			

p	t			k	ʔ	Syll-final
	ts					
	tɬ					
	s z	ɟ		x ɣ	h	
	ɬ l					
m	n					
w			j			

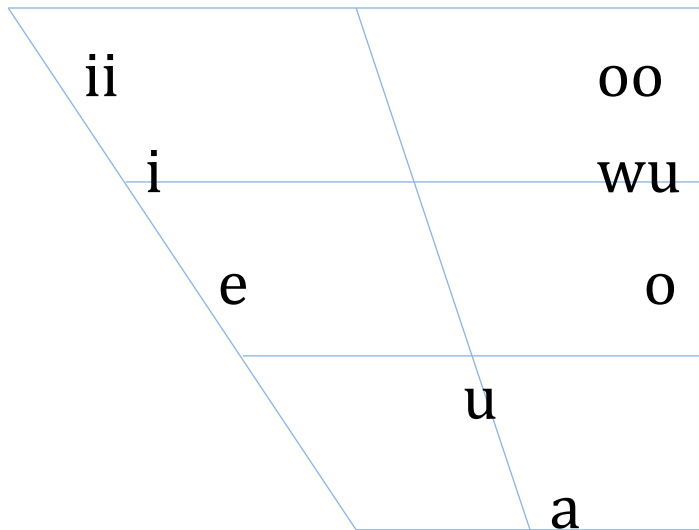
Symbols for stops and affricates

- <d>
 - Syllable-initial only, = [t]
- <t>
 - Syllable-initial = [t^h]
 - Syllable-final = [t]

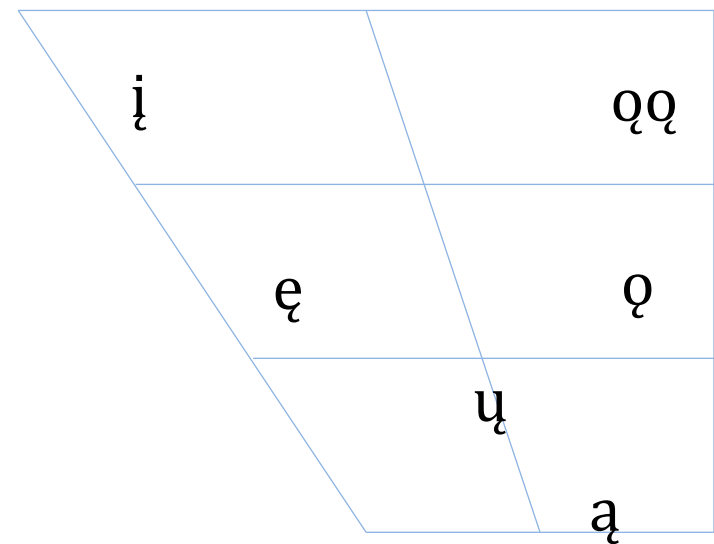
<bàt>	'mittens'	<mubàdè'>	'his/her mittens'
[pàt]		[mɛpàtè?]	

Orthography (vowels)

- Oral



- Nasal



- Extra-long: iii ee aa

Orthography (tones)

	<i>high</i>	<i>low</i>	<i>rising</i>	<i>falling</i>
a [a]	a	à	àa	aà
e [e]	e	è	èe	eè
i [ɪ]	i	ì	--	--
ii [i]	ii	ìì	ìì	ìì
o [o]	o	ò	--	--
oo [u]	oo	òò	òò	òò
u [ʊ]	u	ù	--	--
wu [ʊ]	wu	wù	--	--
aa [a:]	--	àà	--	--
ee [e:]	--	èè	--	--
iii [i:]	--	ììì	--	--

A puzzle about Kwadacha

- In all other dialects of Tsek'ene and most dialects of Beaver, *d t t' > j ch ch' / ___ [i e oo] (in roots)

- Maybe Tsek'ene-Beaver

Kwadacha

rest of Tsek'ene-Beaver

- But Tsek'ene-Beaver

Ft Grahame

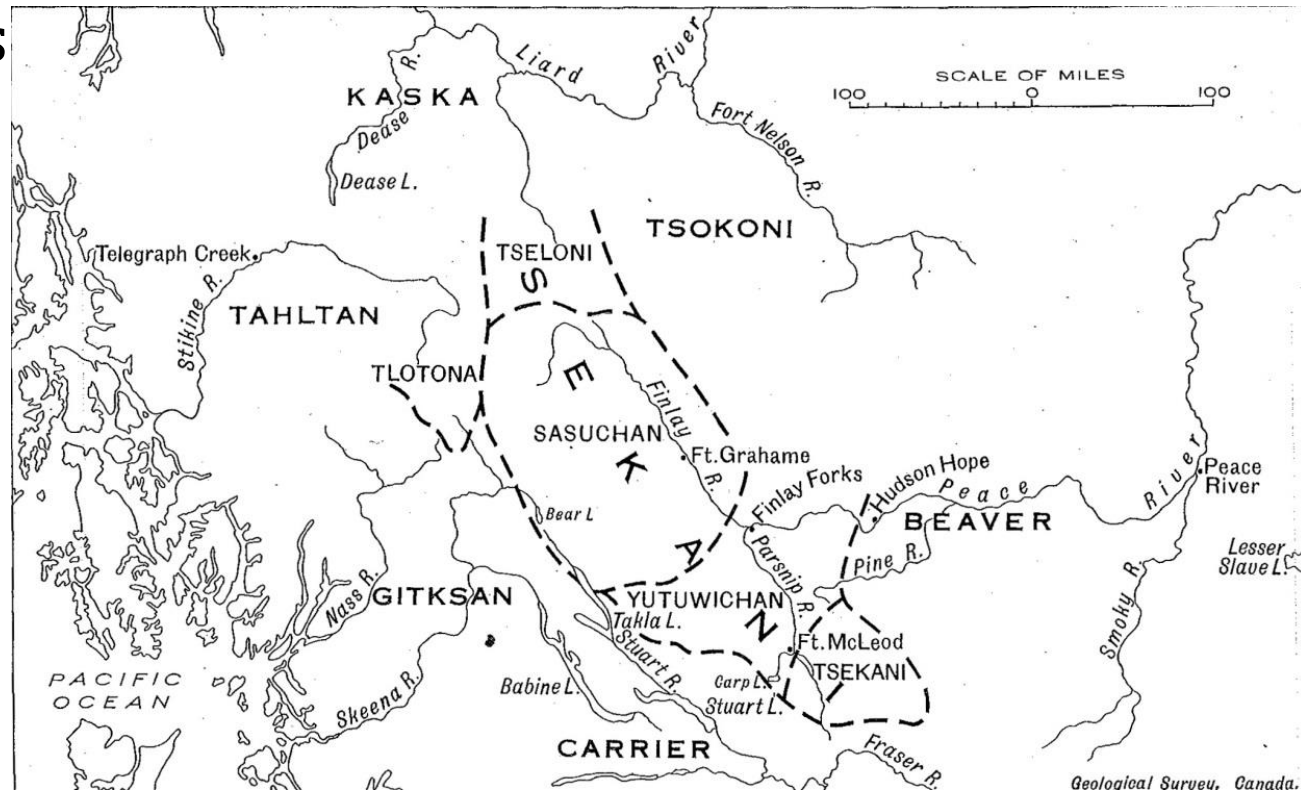
Tsay Keh

Kwadacha

Linguistic origins of Kwadacha

- 4 Tsek'ene groups
“in the early days
of the nineteenth
century”

- *Tseloni* (**Tselone**)
- *Sasuchan*
(**Sas̄stoot'a**)
- *Yutuwichan*
(**Yitsoot'a**)
- *Tsekani*
(**Tsek'ene**)



Morice, Adrien-Gabriel. 1892-1893. 'Notes Archaeological, Industrial and Sociological on the Western Dénés With an Ethnographical Sketch of the Same.' *Transactions of the Royal Canadian Institute* 4:1-222.

- Jenness 1924 interviews in McLeod Lake and Fort Grahame
 - “The *Tseloni* band amalgamated with the *Sasuchan* or Bear Lake band when Fort Grahame was established [1890], and a new band..., known to the *Tseloni* and *Sasuchan* Indians as Otzane[’Odziinè’], now occupies its old territory on Fox and Kechika rivers. The leader and creator of this band was a man named Davie or David, the son of a French-Canadian trapper and a *Sasuchan* mother. Marriage with a Tseloni woman gave him hunting rights in the old *Tseloni* territory, where he raised a family of four daughters ..”
- Davie from Fort Grahame (falling out w/ half brother)

'Àtse Davie and some relatives



Munro	Harry	Mac	Frank	'Àtse
Massetoe	Davie	McCook	Abou	Davie
son-in-law		son-in-law		
	stepson to Mac		son-in-law to Munro	

Kwadacha (Fort Ware), B.C.



Tsek'ene summary

- Missionary-designed, linguist-revised orthography
 - Writing system evolved with better phonological understanding
- Large number of vowel qualities
 - Tone and vowel quality interactions
- Issue: representation of intonation?

Deg Xinag

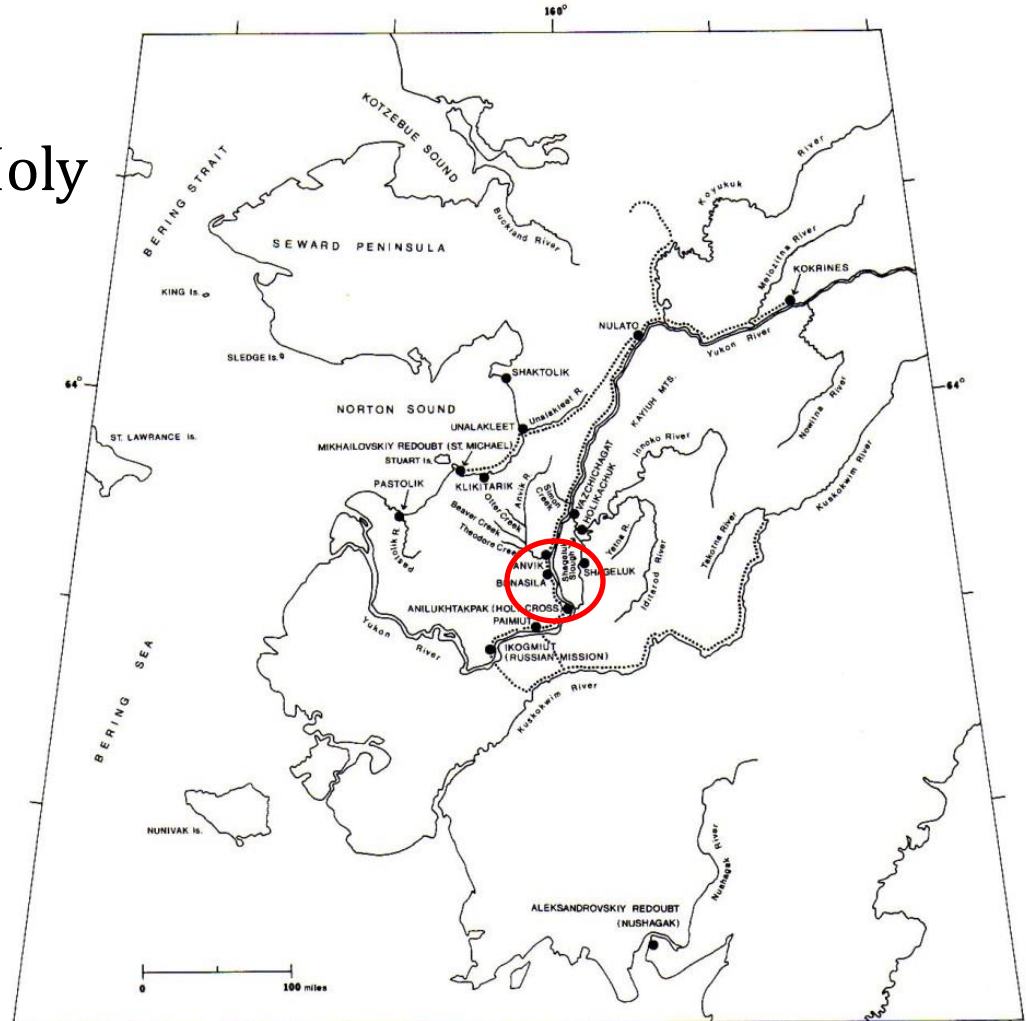
this area language



Yukon R. freezing up, near Anvik AK

Some Deg Xinag communities

- Historic
 - Anvik, Bonasilla, Holy Cross
- Modern
 - Grayling also



Some Deg Xinag speakers



*Alta Jerue
(Anvik)*

*Elizabeth Workman
(Shageluk)*



*Hannah Maillelle
(Grayling)*



More Deg Xinag speakers



*Phillip Arrow
(Shageluk)*

*Raymond Dutchman
(Shageluk)*



*Edna Deacon
(Grayling)*

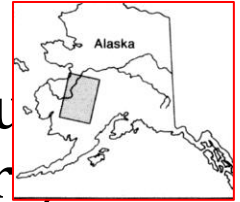
*James Dementi
(Shageluk)*



Epidemics in Deg Xinag history

- Smallpox, 1838-1839

- “based on population estimates of villages encountered by Russian explorers before and after these years, Yukon Ingalik villages lost fully two-thirds of their inhabitants...The effects of such a population loss can only be surmised, but we can assume that sickness was accompanied by starvation and serious social and economic disruption. The reduced population was forced to re-orient itself with reference to its modified-traditional lifeways at the very time when significant changes were being introduced from without. Ingalik population never recovered from the effects of this epidemic”



Syllable-initial consonants

p p ^h		t t ^h t'			k k ^h k'	q q ^h q'	ʔ
	tθ tθ ^h tθ'	ts ts ^h ts'	tʂ tʂ ^h tʂ'	tʃ tʃ ^h tʃ'			
		tɬ tɬ ^h tɬ'					
v	θ ð	s z	ʂ ʐ	ʃ		χ ɣ	h
		ɬ l					
m		n		j			

In 1962, <ɬ> was typed as l, backspace, /.

Syllable-final consonants

p		d t			g k	ɣ q	ʔ
	d̥ ð	dz ts	ɟz tʂ				
		dl tɬ					
v	θ ð̃	s z	ʂ ʐ			χ ʙ	
		ɬ l					
m m'		n ɲ n'		j j' j̥	ŋ ŋ' ŋ̥		

Only other languages with final voicing contrast

- Holikachuk
- Koyukon (Lower dialect)

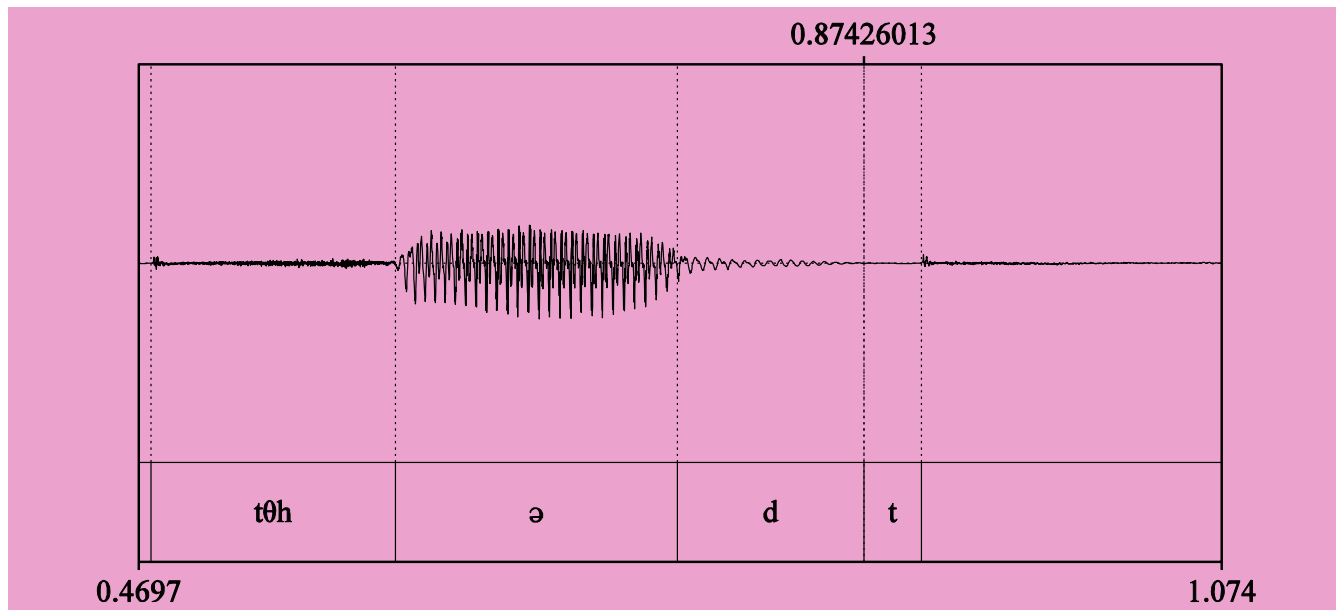
Origin of final voicing contrast

	Proto-Athabaskan	Deg Xinag
*nV > n	*t ^h əŋ ^j -e: 'trail'	t ^h əŋ
*n > ɳ	*k ^{jh} a:n 'rain'	tʃ ^h oɳ

	Proto-Athabaskan	Deg Xinag
*tV > d	*tʃəteʔ, *tʃə̃teʔ ‘robe, blanket’	ts’əd
*t’, t > t	*tɬ’ət’ ‘fart’	tɬ’ət
V reduction	*-te: ‘where, when’	-tə kətəq ^h atə ‘store’ (lit. ‘where things are bought’)

Phonetics of final voicing

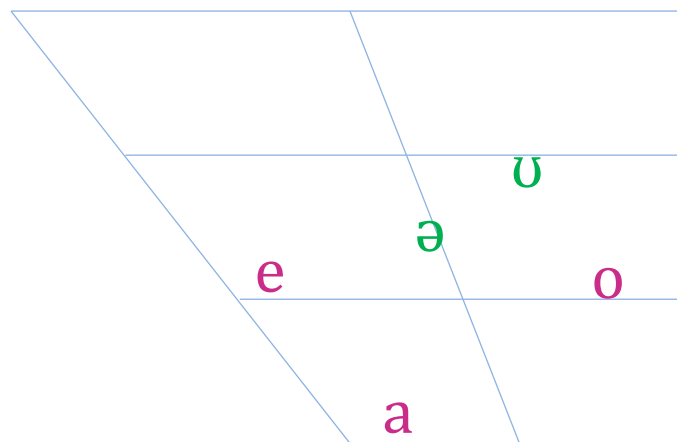
	voiced	voiceless
affricates	61%	16%
stops	38%	12%



kətθ^həd “ruffed grouse”

Vowels

- 3 “full”, 2 “reduced”



- /u/ → [ǔ] adjacent to uvular
- [e o ǔ] lower-mid: [ɛ ɔ ǔ]
- /ə/ → [ɪ] ~ [i] / ___ j, velars

Orthography (consonants)

Syllable-initial							
b p		d t t'			g k k'	gg q q'	'
	ddh tth tth'	dz ts ts'	dr tr tr'	j ch ch'			
		dl tl t'					
v	th dh	s z	sr zr	sh		x gh	h
		ʃ l					
m		n		y			
Syllable-final							
p		d t			g k	gg q	ʔ
	ddh tth	dz ts	dr tr				
		dl t					
v	th dh	s z	sr zr			x gh	
		ʃ l					
m m'		n nh n'		y yh h'	ng ngh ng'		

Symbols for stops and affricates

- <d> etc.
 - Syllable-initial = [t]
 - Syllable-final = [d]
- <t> etc.
 - Syllable-initial = [t^h]
 - Syllable-final = [t]

<dak>	'parka'	<vidag>	'his/her parka'
[tak]		[vətag]	

Orthography (vowels)

		υ/ö <u>
e <e>	ə <i>	o <o>
a <a>		

Two writing systems

II. — TEXTS.

- Rev. Chapman

4. THE SUN AND THE MOON.¹

Kai qōtco'q qōđúo'n, trún'nǐ'. Kehlú'kû yurzyě' äqú'hł-
Village large there was, they say. One family of then
children
tdík yit dǐltčě', tci'dlûkai tēnnǐ'qĕn, qa'vwû ta'rdzrû yǐhl
there lived, boys four, their younger also
sister
gihlosna'llü.
the fifth.

- Prof. Krauss

Qay xichux xidhu'onh tr'i'ne. Giłigg yozrye
axaxiłdik yit didltth'e, chilqay diniyhın, xividadr
yił giłixsnał.

Some spellings

- *yixunh* [jǒχǒŋ] ‘you (pl.)’ Kari 1978
- *Niq'ołonh Chux Deg Ghihoł: The Big Woman Was Walking Along*
– [nǒq'ołon] ~ [nq'ołon], [ɤǒhoł]


Kari, James. 1978. *Deg Xinag: Ingalik Noun Dictionary (Preliminary)*. Fairbanks: Alaska Native Language Center, University of Alaska Fairbanks.


Rock, Bertha. 1998. *Niq'ołonh Chux Deg Ghihoł: The Big Woman Was Walking Along*. McGrath, AK: Iditarod Area School District.

Rounding Assimilation

- Some imperfective forms of ‘chew’:

/k-ə-q'ǒtʂ/ [kǒ'q'ǒtʂ]  ‘he/she is chewing’

/k-ə-s-q'ǒtʂ/ [kəs'q'ǒtʂ]  ‘I’m chewing’

/k-χ-ə-q'ǒtʂ/ [kəχǒ'q'ǒtʂ]  ‘they’re chewing’

- <yidoghot> ‘he shakes it’ (Kari 1976-1977: 178)
for [jədǒɔt]

- Rounding Assimilation

– /ə/ → [ǒ] / ___ {uvular, laryngeal} {ǒ, o}

Deg Xinag summary

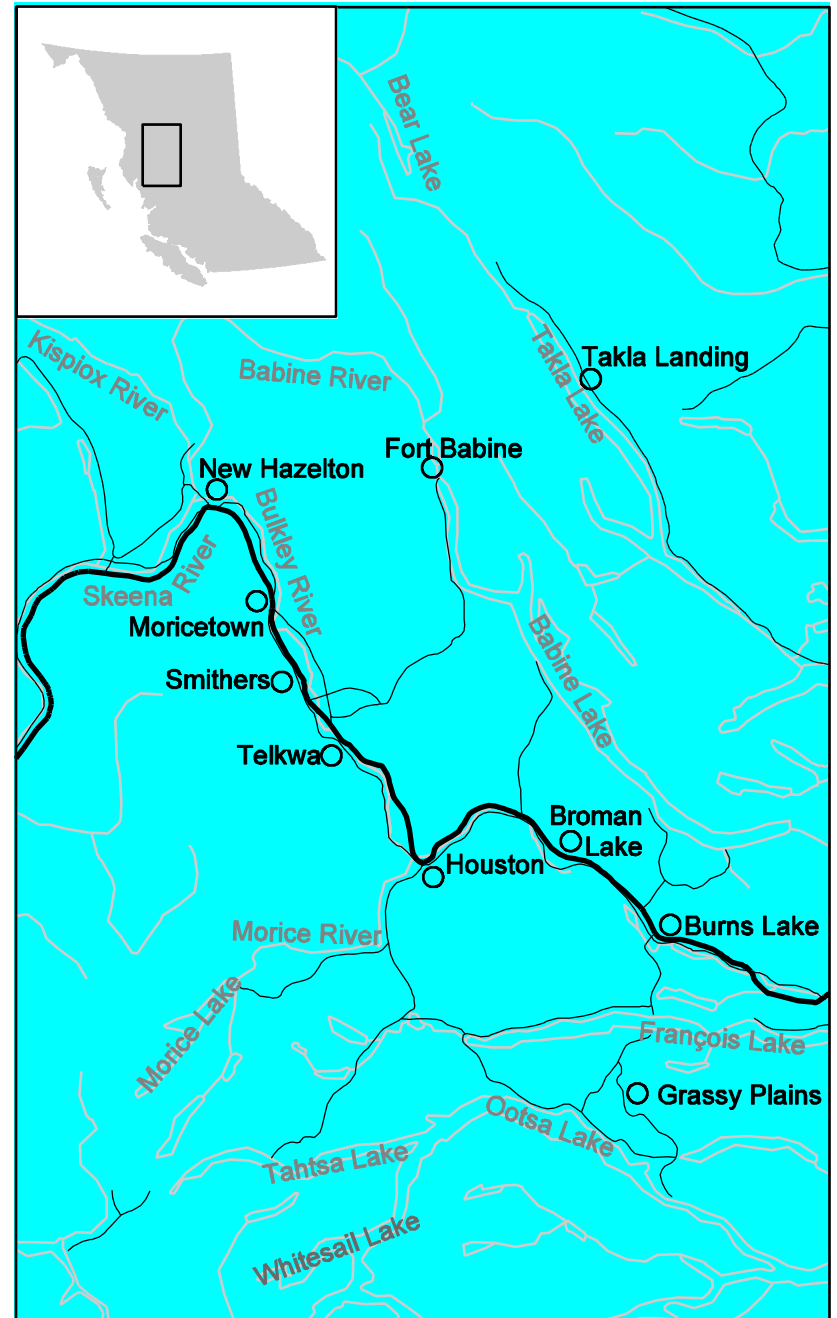
- Consonants
 - Unusually large number
 - Syllable final voicing contrast
- Vowels
 - no /i u/
 - But [i ɪ] allophones of /ə/
 - Rounding Assimilation
- Linguist designed orthography
 - <d t> has dif interpretation syll-initially, finally

Witsuwit'en



Bulkley R. at Telkwa, BC

Witsuwit'en- Babine language area



Some Witsuwit'en speakers



Lillian Morris,
Moricetown



Mabel Forsythe,
Moricetown



Helen Nikal,
Moricetown



Helen Mitchell,
Moricetown



Beatrice Morris,
Moricetown

More Witsuwit'en speakers



George Williams,
Moricetown



Andy Dennis,
Moricetown



Dan Michell,
Moricetown



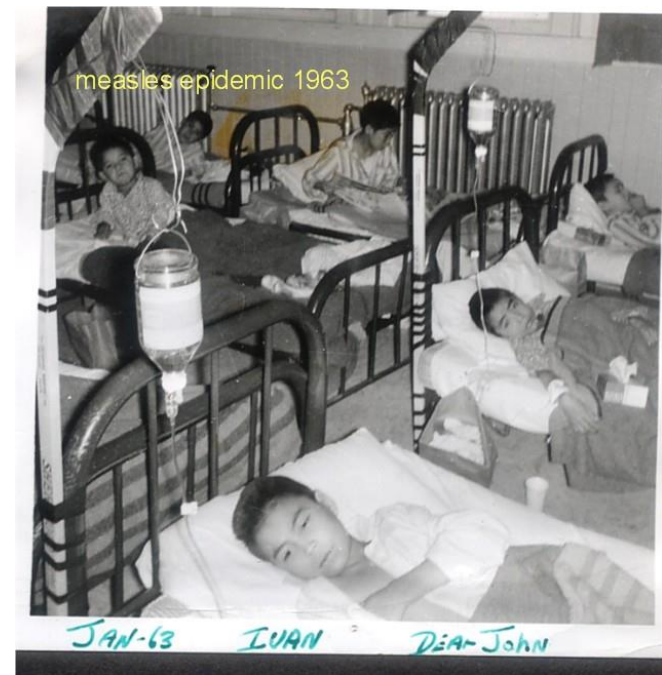
Stanley Morris,
Moricetown

Lejac Residential School

- Language suppression, 1922-1976



girls preparing for first communion



Kwadacha

Moricetown

Lejac Residential School,
Fraser Lake



Consonants

p p'	t t ^h t'	c c ^h c'	k ^w k ^w ^h k ^w '	q q ^h q'	ʔ
	ts ts ^h ts'				
	tʃ tʃ ^h tʃ'				
	s z	ç	x ^w	χ ʁ	h
	ʦ l				
m	n				
		j	w		

Allowed syllable-finally

Palatalization

- A rule of the Babine and Takla dialects
- /c c^h c' / → [tʃ tʃ^h tʃ'] / ___ V
- Witsuwit'en Babine, Takla
- [cəs] 'hook' [tʃəs]
- [ts'ac] 'bowl, plate' [ts'ac]

Consonants (orthographic)

p p'	d t t'	j c c'	gw kw kw'	g k k'	'
	dz ts ts'				
	dl tl tl'				
	s z	yh	wh	kh gh	h
	lh l				
m	n				
		j	w		

/c/- 1sg subject

- Witsuwit'en Babine, Takla
- [nəcəlcət] 'I'm scared' [nəcəltʃət] !!!
- /nəclcət/
- - Palatalization
- ə ə insertion
- [nəcəltʃət] <nicljit>
- Cf. [nətəltʃət] <nidiljit> 'we (du.) are scared'

Two consonant classes

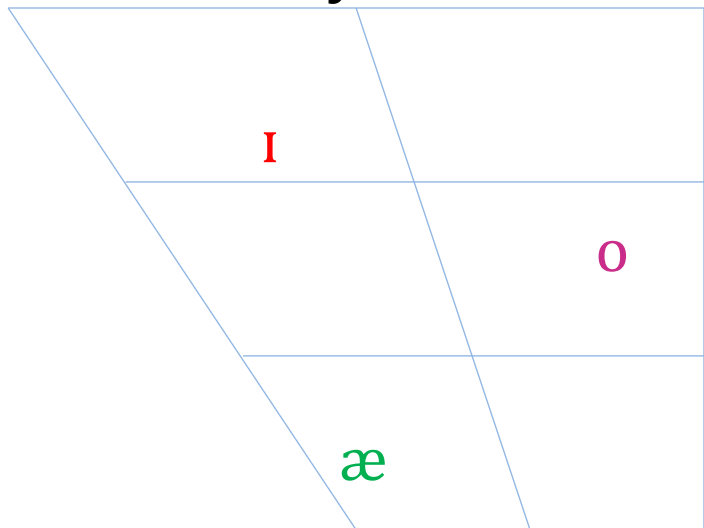
“lenis”					
p	t ts tɬ	c	k ^w	q	
	z l				
m	n	j	w	ɸ	
“fortis”					
p’	t ^h t’ ts ^h ts’ tɬ ^h tɬ’	c ^h c’	k ^{wh} k ^w ’	q ^h q’	ʔ
	s ɬ	ç	x ^w	χ	h

Hildebrandt, Henry, and Gillian Story. 1974. A Historically Oriented Study of Babine (Northern Carrier) Phonology, Burns Lake, B.C., Ms.

Story, Gillian. 1984. *Babine and Carrier Phonology: A historically oriented study*. Arlington: Summer Institute of Linguistics.

Central vowel qualities

- After lenis Cs, word-initially

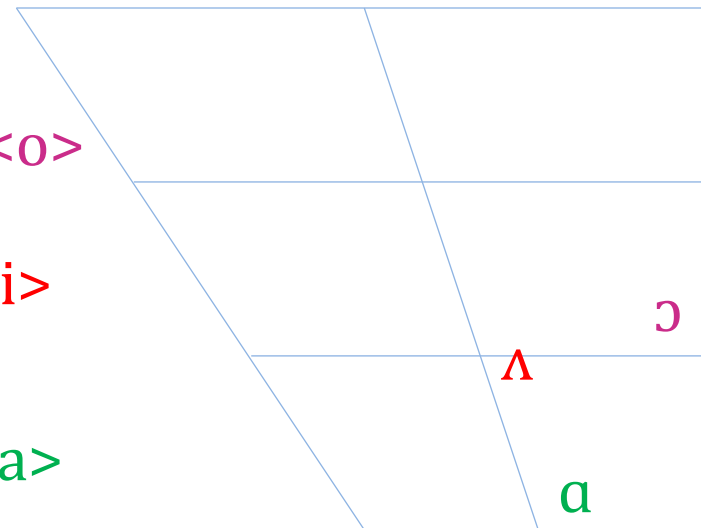


/o/ <o>

/ə/ <i>

/a/ <a>

- After fortis Cs



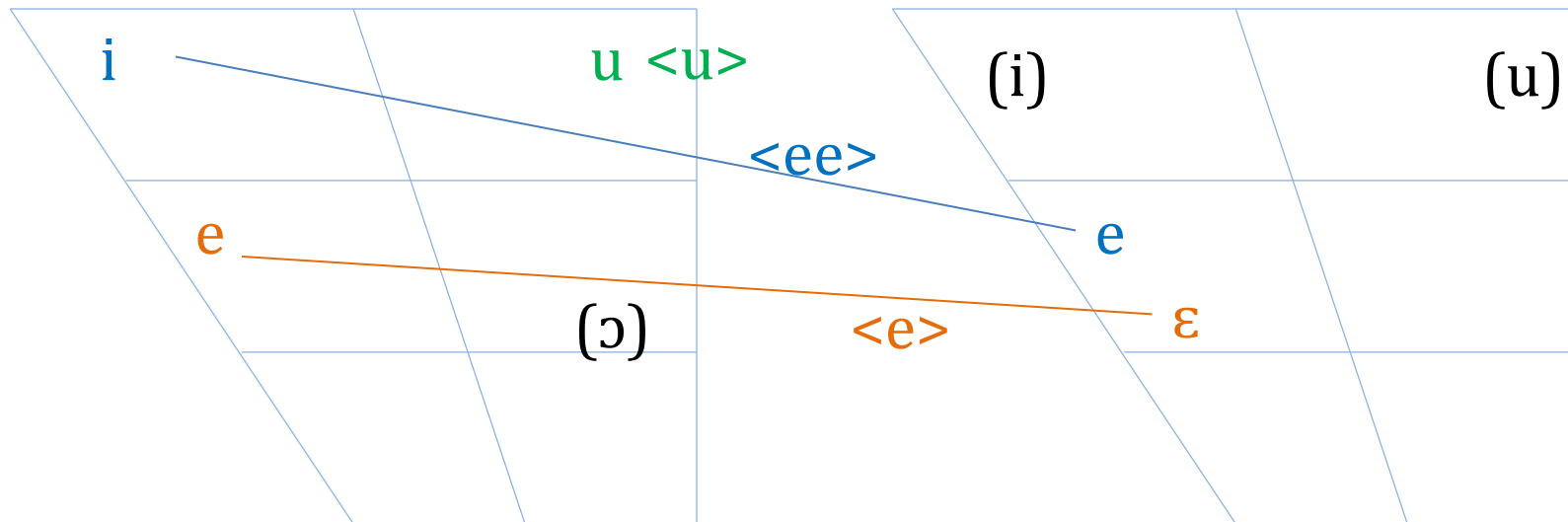
ɔ

ʌ

ɑ

Peripheral vowel qualities

- Hildebrandt system



- After lenis Cs, word-initially

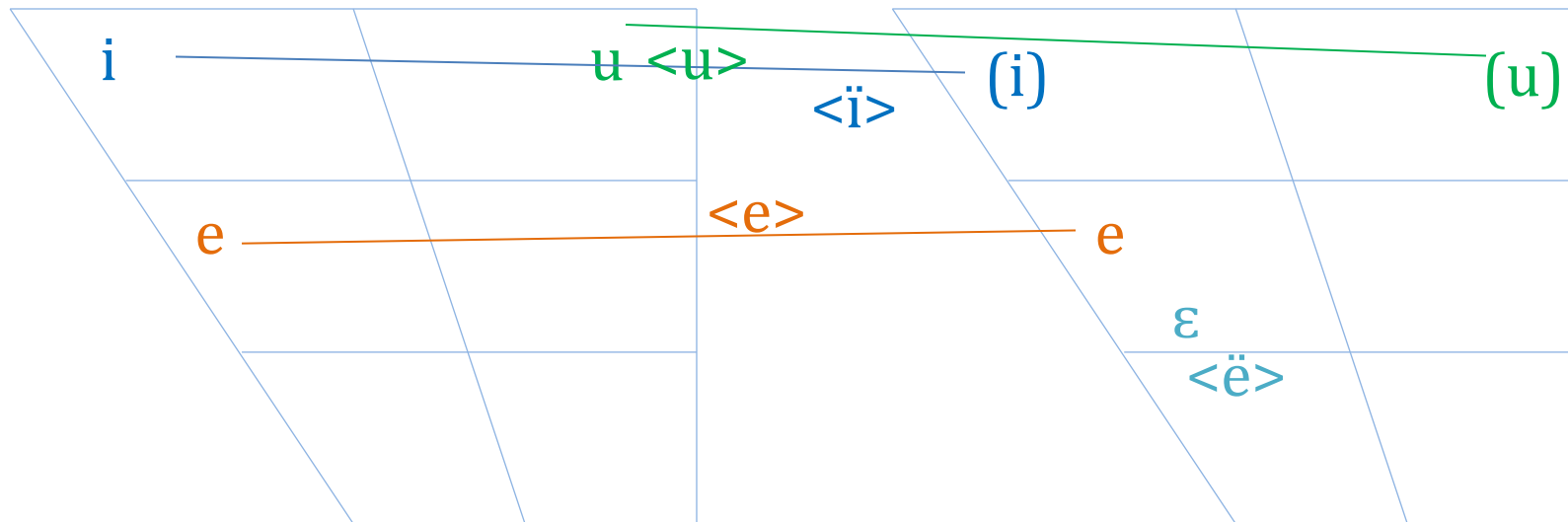
- After fortis Cs

Comparison of writing systems

	Babine	Witsuwit'en	
	<i>Hildebrandt system</i>	<i>revised Hildebrandt</i>	
1)	negizjee [neqəztʃi]	neggizgi [neqəzci]	'fox'
2)	whenicljit [x ^w enəcəltʃət]	wenigilgit [wenəcəlcət]	'I'm scared'
3)	yeilhdic [je:ɫtəc]	yeelhdic [je:ɫtəc]	'they're talking'
4)	Seezee [sezi]~[sizi]	Sizi~Sezi [sezi]~[sizi]	'Jesus'
	weusdleet [weustɫit]	weusdlit [weustɫit]	'it's not melting'
	sitl'eet [sətɫ'et]	sitl'et [sətɫ'et]	'he/she farted'
	sidlet [sətɫet]	sidlet [sətɫet]	'it's licking me'
	tl'et [tɫ'et]	tl'ët [tɫ'et]	'night'

Peripheral vowel qualities

- Revised Hildebrandt system



- After lenis Cs, word-initially

- After fortis Cs

Witsuwit'en stress

- Not reflected in writing system
- Predictable. Some of the rules:
 - Stress roots (vs. affixes)
 - Stress vowels other than [ə]
 - Stress closed (vs. open) syllables
- In case of conflict, stress-root most important

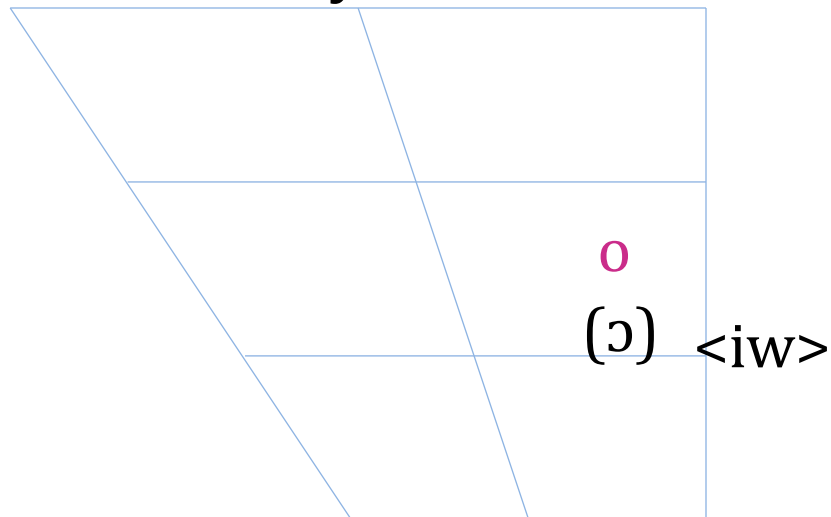
Near-minimal pairs for stress

		root	spelling
wətə'qəz	'it (area) is crooked'	-/qəz/ 'be crooked'	widiggiz
pə'təqət	'above him'	/təq/ 'up'	bidiggit
tə'ni	'person'	/təni/ 'person'	dini
'ntəni	'these people'	/tən/ 'this person'	ndini
səs'quh	'I grabbed it'	-/quh/ 'grab'	sisgguh
'səsquh	'black bear deadfall'	/səs/ 'black bear', /quh/ 'deadfall'	sis gguh

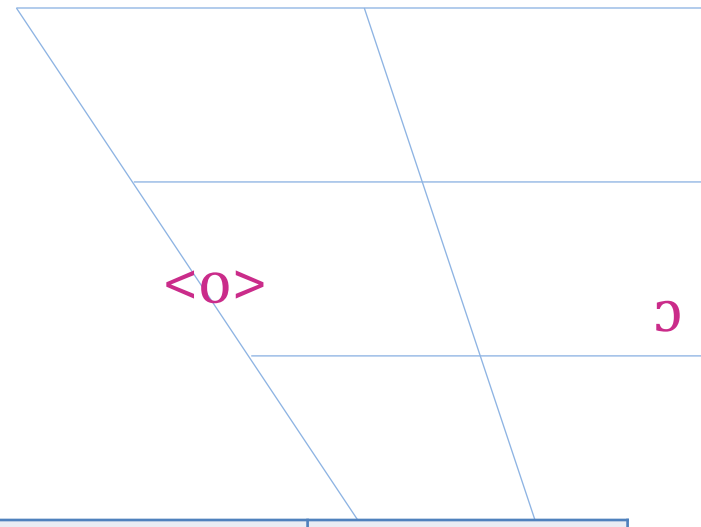
Notice: stress not written. Should it be?

[o]/[ɔ] again

- After lenis Cs, word-initially



- After fortis Cs



current			alternative
<to>	[t ^h ɔ]	'water'	<to>
<doso>	[tosɔ]	'gunny sack'	<döso>
<lhdiw>	[ɬtɔ]	'it cramped'	<lhdo>
<niwis>	[nɔ̃'wəs]	'soapberries'	<niwis>

Witsuwit'en summary

- Missionary designed, linguist revised writing system
- Major asymmetries in sound system < fortis, lenis Cs
- <i> [ɪ] ~ [ə] ~ [ʌ]
- Two potential problems
 - Does not represent stress
 - [o]/[ɔ] issue

Summary

- Deg Xinag, Tsek'ene, Witsuwit'en have different writing systems
 - Due to different phonological systems
- Writing systems are designed, may need to be later revised
- Difficult choices sometimes
 - Symbols for large vowel inventories
 - Symbols for sounds with a range of qualities

Dogidinh

~ musii chow ~ niwhnecawhlhyegh



On my way to Alta Jerue's
house, Anvik AK, 2003