Montana Salish epenthesis and consonant class division

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In this presentation, I show that...

1 Epenthetic schwa in Montana Salish is driven by the Syllable Contact Law (Vennemann 1988)

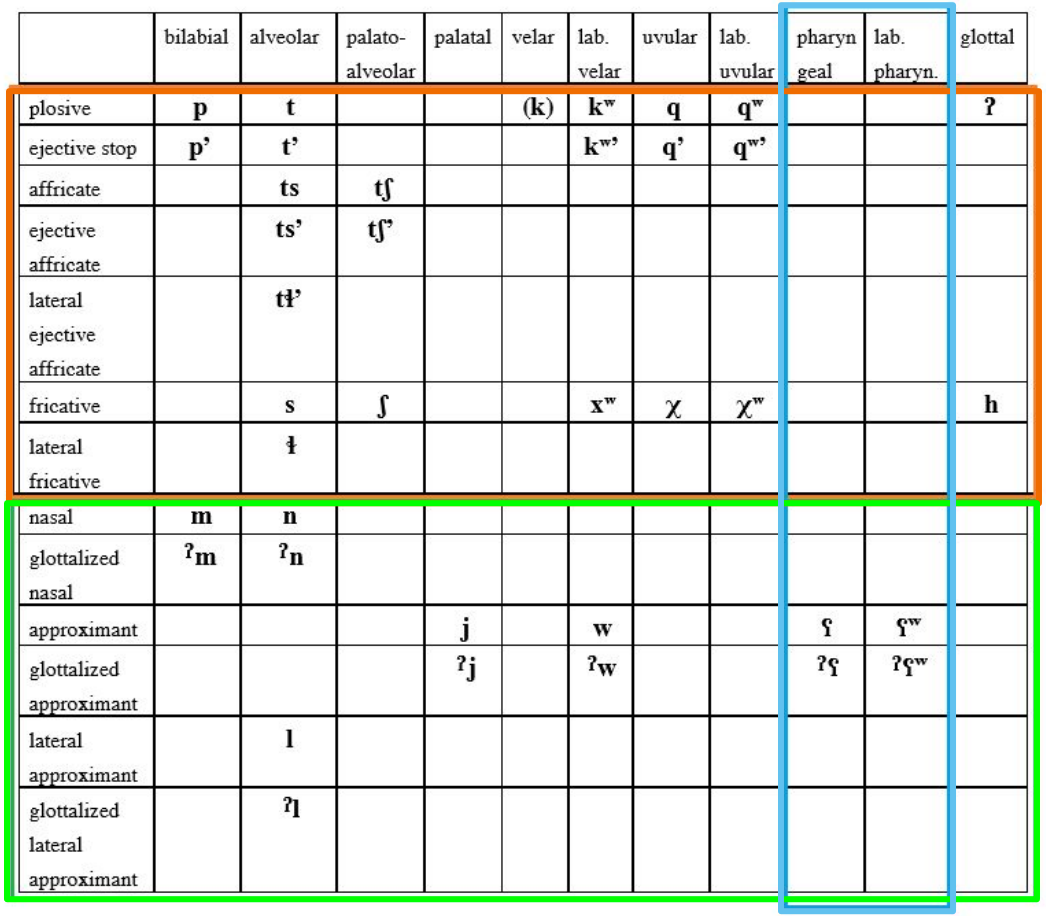
2 The behavior of epenthetic schwa at syllable boundaries shows that consonant class division in Montana Salish may not be as simple as **Obstruents** and **Sonorants** -- the data suggests a further division of **Obstruents, Sonorants,** and **Pharyngeals.**

Roadmap

1. Introduction to topic and relevant Montana Salish phonology
2. Epenthesis: obstruents and sonorants
3. Epenthesis: pharyngeals
4. Vennemann’s Law
5. Conclusion

Montana Salish phonology

Figure 1: Consonant chart from Flemming, Ladefoged, Thomason (2008:6), but with consonant categories (**obstruents**, **sonorants**, **pharyngeals**) added by me



	bilabial	alveolar	palato-alveolar	palatal	velar	lab. velar	uvular	lab. uvular	pharyngeal	lab. pharyn.	glottal
plosive	p	t			(k)	kʷ	q	qʷ			ʔ
ejective stop	p’	t’				kʷ’	q’	qʷ’			
affricate		ts	tʃ								
ejective affricate		ts’	tʃ’								
lateral ejective affricate		tɬ’									
fricative		s	ʃ			xʷ	χ	χʷ			h
lateral fricative		ɬ									
nasal	m	n									
glottalized nasal	ʔm	ʔn									
approximant				j		w			ʕ	ʕʷ	
glottalized approximant				ʔj		ʔw			ʔʕ	ʔʕʷ	
lateral approximant		l									
glottalized lateral approximant		ʔl									

Montana Salish phonology: syllable structure

Syllable structure in Salish languages has been a point of debate, mostly due to the extensive consonant clusters found in the language. Not much, if any, work has been done specifically on Montana Salish, though there has been extensive interest in the syllable structure of other Salish languages...

Bagemihl 1991: Simple Syllable Hypothesis (Bella Coola)

Bates and Carlson 1992: modified SSH (Spokane)

I will assume a more generous syllable structure for Montana Salish...

Montana Salish phonology: syllable structure

CVC: púsˑ ‘cat’

CCVC: tɬáɖˑ ‘hot’

CVCC: sáʕn ‘tame/gentle’

CV: kʷu 2SG pronoun

CC: pá.ʔəl.qs ‘grey dress’ (only if there is no adjacent vocalic/sonorous segment)

? **CVC.C(V)C ; CV.CVCCC**

Montana Salish phonology: schwa and epenthesis

Schwa epenthesis in Montana Salish, described in Flemming, Ladefoged, and Thomason (2008) as:

> "Sonorants may not follow obstruents in a cluster, the two are always separated by a vowel" (2008:13)

✘ OS ✔ OVS

Goal: provide an account of this schwa epenthesis behavior (specifically the interaction of pharyngeals) AND show that Vennemann's Law captures the patterns.

Interlude: epenthetic versus excresent?

Levins 1987 -- excrescent vowels don’t interact with phonology; epenthetic vowels are inserted by phonological rules

Kinkade 1993, 1998 -- excrescent when in the presence of sonorants

Typologically common in Salish languages to allow OO but but OS

Parker 2011 -- unites both using gestural phonology

Bird & Czaykowska-Higgins 2016 -- note a split between word-final clusters and elsewhere clusters that might correspond to epenthetic versus excrescent elements

Montana Salish phonology: Rule-based epenthesis

Rule A states that a schwa appears between an obstruent (O) and a sonorant (S).

Rule A: **0 → ə / O _ S**

/ʔesl̓íwti/ → ʔe.sə.l̓íw.ti ‘chapped’

Epenthesis: obstruents and sonorants

A note on methodology.

#CC, C.C, CC.C, CC#

I go through all possible consonant configurations and identify where epenthesis occurs. I do this in two parts:

Section 2 is obstruents and sonorants

Section 3 is obstruents/sonorants and pharyngeals

Simple clusters at syllable boundaries (C.C)

C1/C2	O	S
O	xʷíc'š.txʷ 'You gave me (something)'	ʔe.sə.líw.ti 'chapped'
S	q'áwʔ.χeʔ 'yellow bell (flower)'	q'ejʔ.mín 'paper'

1 /ʔeslíwti/ → ʔe.sə.líw.ti 'chapped'

Rule A accounts for these

prediction:
✔ OO
✔ OS
✔ SO
✔ SS

Complex clusters at syllable boundaries (CC.C)

C1/C2	O	S
O	xʷálč.st 'reach (for something)'	tšít.s(ə)n.t(ə)m 'he met him'
S		es.ca?l.mí 'he's sick'

1 /tšítsntm/ → tšítsəntəm
tšít.sən.təm

2 Rule A accounts for all these

prediction:
✔ OO
✔ OS
? SO
✔ SS

Word-initial clusters (#CC)

C1/C2	O	S
O	stém’ ’what’	smén’x^{w} ’tobacco’
S	lk^{w}ú ’(be) far’	m’əl’m’əl’té ’quaking aspen’

1 #OS epenthesized cluster (one exception): səm̓ú ‘mare’

prediction:
✔ #OO
✘ #OS
? #SO
✘ #SS

Word-initial clusters (#CC)

Ok so we need an adjustment to Rule A.

Rule A’: **0 → ə / XO _ S** where X represents any segment (accounts for #OS)

But this doesn’t account for #SəS…

? Rule A”: 0 → **ə / #S_S**

Word-final clusters (CC#)

C1/C2	O	S
O	xʷíc'štx' you gave me (something)'	xʷíč'šstəm 'they gave him (something)'
S		mulm 'catching fish'

1 Thought on syllabification? Doesn't affect word final clusters, but an interesting puzzle

2 Rule A' accounts for all this

prediction:
✔ OO#
✔ OS#
? SO#
✔ SS#

Interlude conclusion:

Rule A’ correctly captures almost all cases of clusters, with two exceptions:

səmú ‘mare’ (only instance of #OəS I have found, all others are #OS)

#SS → #SəS (and interestingly, SS# is fine)

Next up: Pharyngeals.

Consider: if pharyngeals pattern as sonorants then we predict epenthesis in O.ʕ environments (and not #Oʕ)

Simple clusters at syllable boundaries (C.C)

C1/C2	O	ʕ/S
O	(NA)	ʔe.sə.ʕáts 'it's tied/staked'
ʕ/S	ʔe.sə.jaʕ.sqé 'shy/reserved'	ja.ʕʔə.mim 'gathering (as, rocks)'

1 /jaʕʔmim/ → ja.ʕʔə.mim

2 Interestingly, #ʕ.S clusters *do* epenthesize!

(as if ʕ was an obstruent)

prediction:
✔ oʕ
✔ ʕo
✘ ʕs

Complex clusters at syllable boundaries (CC.C)

Depending on syllabification of tricky obstruent clusters (OO.ʕ):

stʕán ‘antelope’ → stə.ʕán

stšsʕó ‘sunset’ → stšsə.ʕó

sχʕáp ‘air’ → sχə.ʕáp

prediction:	
✔	oʕ
?	ʕo
?	ʕs

They seem to follow the epenthesis Rule A’

Word-initial clusters (#CC)

#oʕ səʕáptəní ‘Nez Perce’

prediction:	
✘	#oʕ
?	#ʕo
?	#ʕs

Rule A’ doesn’t work here.

0 → ə / XO _ S

1 All instances of word initial pharyngeals have an underlying vowel except this proper noun

Word-final clusters (CC#)

C1/C2	O	ʕ/S
O	(NA)	
ʕ/S	páʕs 'face is pale, gray'	sáʕn 'tame/gentle'

1 ʕO# doesn't epenthesize

2 ʕS# doesn't epenthesize -- patterns with the SS# clusters

prediction:	
?	oʕ#
✔	ʕo#
✔	ʕs#

Interlude conclusion: Pharyngeals

1 Word-internal OʕC clusters do epenthesize (expected)

2 Word-internal clusters with ʕS do epenthesize (not expected)

3 Word-edge clusters with pharyngeals behave as sonorants (expected)

We could think about this in two ways: (a) word internal pharyngeals pattern with obstruents (b) the rule of epenthesis for sonorants could be modified somehow to have the preceding consonants an obstruent or a pharyngeal

Theoretical considerations: Vennemann's Law

Syllable Contact Law:

"A syllable contact A$B is the more preferred, the less the consonantal strength of the offset A and the greater the consonantal strength of the onset B."

(Vennemann 1988:40)

Goal: avoid rising sonority over a syllable boundary

Consider: the SCL is only concerned with syllables in contact (excludes word-initial environments)

Vennemann's Law:

Note how epenthesis maps onto the gradience of sonority between obstruents and pharyngeals, pharyngeals and sonorants, and obstruents and pharyngeals.

ʔesʕáts →	ʔe.sə.ʕáts	**(O.ʕ)**	'It's tied/staked'
jaʕ'mim →	ja.ʕ'ə.mim	**(ʕ.S)**	'gathering (as, rocks)'
ʔeslíwti →	ʔe.sə.líw.ti	**(O.S)**	'chapped'

Vennemann's Law

OBSTRUENTS → PHARYNGEALS → SONORANTS

O.O	never get epenthesis ✔
O.ʕ	always get epenthesis ✔
O.S	always get epenthesis ✔
ʕ.O	never get epenthesis ✔
ʕ.ʕ	(no data)
ʕ.S	**always get epenthesis ✔**
S.O	never get epenthesis ✔
S.ʕ	(no data)
S.S	**accounts for word-internal but not #SS ✘**

Conclusion

1 The clusters that have schwa insertion all have an underlying increasing sonority

2 Inserting a schwa corrects the sonority arc between segments so that the coda of the first syllable is now vocalic and the onset of the following syllable is no longer more sonorous than its preceding syllable coda.

Conclusion

3 Noted some interesting categorical behavior of obstruents, pharyngeals, and sonorants that maps onto the Syllable Contact Law

4 However, we must consider what it means to have pharyngeals be classified as sonorants but have a sub-categorical sonority distinction…?

Perhaps there is a categorical distinction between pharyngeals and sonorants? (O, Ph, S)

And consider #SS having epenthesis; perhaps there is even more gradience at play within sonorants…?

Thanks!

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Abby Cohn

Salish Working Group

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