Sonorant voicing ([SV]) in Comox-Sliammon[1]

Gloria Mellesmoen
University of British Columbia

Abstract: Rice and Avery (1989) argue that there are two types of voicing systems found cross-linguistically. There are Type I languages, which have a laryngeal [voice] feature, and Type II languages, which have a sonorant voicing [SV] feature. The development of resonants into voiced obstruents in Salish was cited as evidence for [SV], but synchronic voicing patterns have not been considered. The present paper argues that Comox-Sliammon has a Type II voicing system and has [SV] instead of [voice]. The diachronic development of the voiced obstruents (/g/ and /ǰ/) is considered. Finding that the intermediate voiceless obstruent proposed by Thompson and Sloat (2004) is less compatible with a Type II voicing system, I propose that the voiced obstruents in Comox-Sliammon came directly from the resonants and have a [SV] feature retained from Proto-Salish (*w and *y). This can also account for the development of voiced obstruents in other Salish languages.

Keywords: sonorant voicing, voiced obstruents, voicing, Comox-Sliammon, phonological features, Proto-Salish

1 Introduction

Cross-linguistically, there are two main types of voicing: laryngeal and spontaneous voicing. Laryngeal voicing is distinctive for obstruents; a [voice] feature distinguishes voiced and voiceless segments (Chomsky & Halle 1968). Spontaneous voicing is traditionally associated with sonorants, though Rice and Avery (1989) argue that obstruents can have this type of voicing in certain languages. They distinguish two types of voicing systems: those where voiceless and voiced obstruents pattern together (Type I languages) and those where voiced obstruents pattern with the sonorants (Type II languages). In order to account for the Type II languages, Rice (1993) proposes Sonorant Voice, [SV], as an alternative to the traditional feature [sonorant].

Rice and Avery (1989:80) suggest that the historical development of voiced obstruents from resonants in Salish might be evidence for the languages having [SV], rather than [voice].[2] Rice (2013:5) further highlights the shift from nasal

[1] I am very thankful for the patience of the Comox-Sliammon speakers who have shared their language with me, including Phyllis Dominic, Joanne Francis, Jerry Francis, Karen Galligos, Marion Harry, Freddie Louie, Elsie Paul, Margaret Vivier, Betty Wilson, and Maggie Wilson. I am also grateful to the ʔayʔaǰuθəm Lab at UBC for their encouragement and ideas.
[2] *Resonant* is the term used in the Salish literature for sonorant segments.

consonants to voiced obstruents in Twana and Lushootseed as evidence for Type II voicing. While the Salish language family is used to provide diachronic support for [SV] and a distinction between Type I and Type II languages, the synchronic voicing systems of Salish languages are unexplored.

In this paper, I provide a description of the voiced obstruents (/g/ and /ǰ/) in Comox-Sliammon, a Central Salish language, evaluating whether the voicing patterns are more consistent with a Type I (Laryngeal) or Type II (Sonorant) language, ultimately concluding that it can be characterized as Type II and that there is little evidence for a [voice] feature.[3] I also evaluate if this synchronic analysis fits with Thompson and Sloat's (2004) proposal for how Proto-Salish **y* became /ǰ/ in Comox-Sliammon. Finding their analysis less compatible with a Type II voicing system, I provide an alternate proposal for the development of voiced obstruents in Comox-Sliammon, as well as other Salish languages.

2 Voiced obstruents in Comox-Sliammon

Comox-Sliammon (ʔayʔaǰuθəm) is a Central Salish language spoken in British Columbia. It is critically endangered with an estimated 36 fluent speakers remaining as of 2014 (FPCC 2014). There are a total of 43 consonants, with two voiced obstruents, /g/ and /ǰ/, which are the reflexes of the Proto-Salish resonants **w* and **y*, respectively (Blake 1992; Blake 2000; Kuipers 2002).

The voiced obstruents in Comox-Sliammon are well-described (i.e. Blake 1992; Blake 2000; Watanabe 2003; Davis 2005). Blake (2000) lists the surface realizations of /ǰ/ as [ǰ ~ y ~ i ~ e ~ č] and /g/ as [g ~ w ~ u ~ o ~ k ~ xʷ]. Examples of each surface realization are shown in (1) for /ǰ/ and (2) for /g/.[4]

(1)	a.	[ǰ]	=	/huǰ-it/	[hoǰit]	'ready'
	b.	[y]	=	/huǰ/	[hoy]	'stop, finish'
	c.	[i,ǰ]	=	/ʔǰ•ʔǰ=umiš/	[ʔiʔaǰumɨš]	'very beautiful'
	d.	[č,ǰ]	=	/tǰ•taǰ̓•aǰ̓=us/	[tɩčtaʔǰeʔǰɩs]	'cheeks'
						(Blake 2000:47)

(2)	a.	[g]	=	/hig=us/	[hegus]	'chief'
	b.	[w,g]	=	/hi•hw•hig=us/	[hɛhəwhegʊs]	'small chiefs'
	c.	[u,g]	=	/łw•łagt̓/	[łuːłagɩt̓]	'herring (pl)'
	d.	[k]	=	/t̓ig=qin=tn/	[t̓ɩkqetən]	'dessert'
	e.	[xʷ]	=	/k̓ʷn-ng/	[k̓ʷənəxʷ]	'see him/her'
						(Blake 2000:47,327)

[3] I follow the notation of Watanabe (2003) and use APA and represent underlying forms, except where phonetic brackets are used to indicate surface form.

[4] Stress is not marked because it is fixed-initial (Watanabe 2003:20–23). Due to its predictable distribution, schwa is not present in underlying forms from Blake (2000).

Blake (2000) finds that the voiced obstruents ([ǰ] and [g]) occur in an onset position, the glides ([y] and [w]) in a coda position, and the vowels ([i~e] and ([u~o]) as nuclei. The voiceless allophones occur exclusively in coda positions, with [č] and [k] before another voiceless obstruent and [x^w] word-finally.

2.1 Evidence for voicing type

Rice (2013) gives four types of evidence that distinguish Type I languages, where voiced and voiceless obstruents pattern together, or Type II, where voiced obstruents and sonorants pattern together. These types, given in Table 1, include variation in voicing, target patterning, trigger patterning, and historical patterns.

Table 1: Sources of evidence for two voicing patterns (from Rice 2013)

Evidence	Type I Language	Type II Language
Variation in voicing	Variation within obstruents	Variation between voiced obstruents and sonorants
Alternations: target patterning	Target alternations between voiced and voiceless obstruents	Target alternations between voiced obstruents and sonorants
Trigger patterning	Voiced obstruents are triggers	Voiced obstruents and sonorants are triggers
Historical patterns	Shifts within obstruents	Shifts from obstruent to sonorant

As the development of voiced obstruents from resonants in Salish languages is suggested to involve a [SV] feature (Rice & Avery 1989:80), I hypothesize that voicing patterns in Comox-Sliammon will be more consistent with a Type II language. The synchronic evidence (the first three types in Table 1) is evaluated in Section 2, while the diachronic development is considered in Section 3.

2.1.1 Variation in voicing: Type II

Rice (2013) uses phonetic variation to distinguish Type I and Type II languages. Type I languages may show variation in degree of voicing in obstruents, while Type II languages show variation between voiced obstruents and sonorants.

Nasals can be realized as voiced obstruents in Comox-Sliammon, consistent with a Type II voicing pattern. Gibbs (1877) transcribes *b* and *d* more frequently than *m* and *n* in the Island dialect. As shown in Table 2, *b* and *d* in Gibbs (1877) correspond to [m] or [n] in modern Mainland Comox.[5,6] However, this is not categorical, as he transcribes a word-final *m* in 'river', matching modern Mainland Comox.

Table 2: Gibbs' (1877) vs. (modern) Mainland Comox-Sliammon transcriptions

Gibbs (1877)	(Modern) Mainland Comox-Sliammon	Translation
bo-osh'	[moʔos]	'head'
datt	[nat]	'night'
soh-sed	[θoθɩn]	'mouth'
tai-gib	[t̓ʌgəm]	'moon'
kwut'-tim	[q̓ʷatəm]	'river'

Unlike Gibbs (1877), Harris (1981) does not report [b] and [d] in his Island Comox data. He further describes inconsistency in the distribution of [b] and [d] between Gibbs (1877), Tolmie and Dawson (1884), and Sapir (1915). If the alternation between nasals and voiced stops is phonetic variation, it is not surprising to find differences across speakers and lexical items.

Previous descriptions of the Mainland dialect have also found [b] and [d] in place of nasal segments. Blake (2000:27) provides two examples where variability occurs in a word final position, [ǰɛ́q̓ʷʌm ~ ǰɛ́q̓ʷʌb] 'sweat, perspire' and [čítuxʷʌn ~ čítuxʷʌd] 'wild blackberry'. Davis (1970) suggests that this is generally restricted to the oldest speakers of the Mainland dialect. Working with speakers of the language in 2018, I have not found much evidence of [b] and [d].

Though modern speakers may not produce [b] and [d], they exhibit another type of phonetic variation that is consistent with a Type II language. Blake (2000:25) documents the pre-nasalization of word-initial /g/ in the Mainland dialect, describing it as "a phonetic effect which is variable". Figure 1 shows an example of [ᵑg], produced at the beginning of the word *gəq̓it* 'open'. There are visible formants in the spectrogram leading up to the stop release, consistent with pre-nasalization. To illustrate the phonetic variability in pre-nasalization, a corresponding word-initial /g/, produced by the same speaker, is given in Figure 2. Figure 2 is the spectrogram for the word *giǰa* 'earth'. Though there is pre-voicing, evident from the voicing bar at the bottom of the spectrogram, there are no formants or audible nasalization.

[5] There is an *s* in 'mouth' in Gibbs (1877) where I transcribe [θ] because Proto-Salish **c* corresponds to /s/ in the Island dialect and /θ/ in the Mainland one (Kuipers 2002:3).
[6] Data not otherwise attributed comes from my own fieldwork sessions with speakers of Comox-Sliammon over a two-year period.

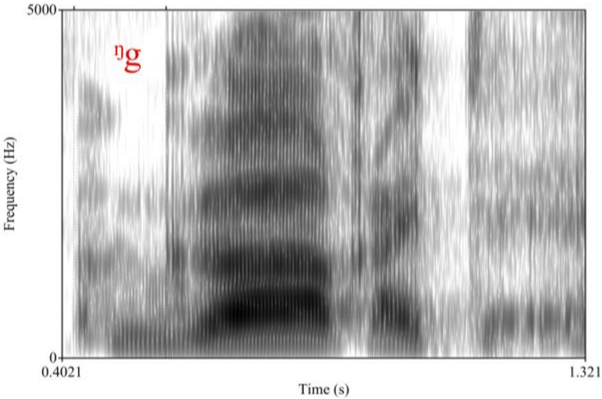

Figure 1: Pre-nasalized word-initial /g/

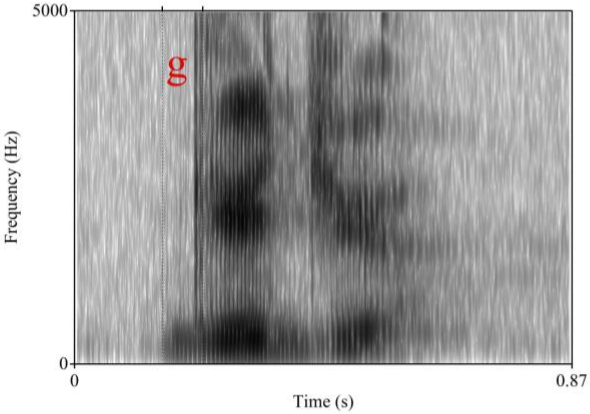

Figure 2: Word-initial /g/ without pre-nasalization

While Blake (2000) only found pre-nasalization with /g/, yielding an asymmetry with /ǰ/, the speaker in Figure 1 and 2 occasionally realizes an initial /ǰ/ with pre-nasalization. An example of this is shown in Figure 3, where there are formants before the stop release of the affricate in the production of the word *ǰuθutič* 'I push'. The corresponding spectrogram in Figure 4 shows an example of a word-initial /ǰ/ in *ǰəǰənixʷ* 'little fish', from the same speaker, with no visible formants and no audible nasalization preceding the stop release. This variability in a word-initial position is found for different speakers and lexical items.

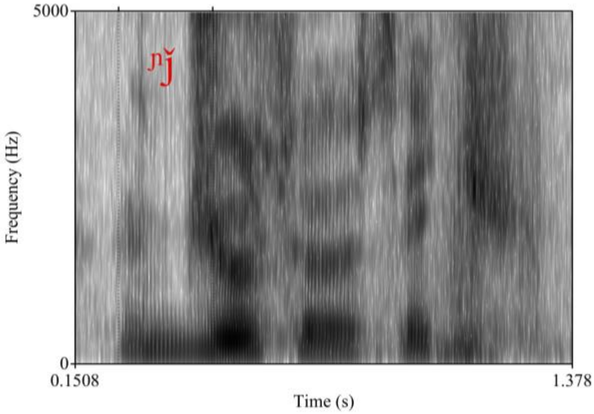

Figure 3: Pre-nasalized word-initial /ǰ/

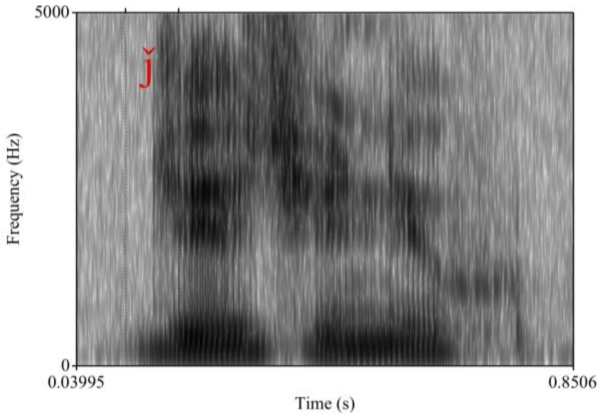

Figure 4: Word-initial /ǰ/ without pre-nasalization

The production of /m/ as [b] and /n/ as [d] and pre-nasalization of /g/ and /ǰ/ suggest a link between voiced obstruents and resonants in the modern grammar. This synchronic variation is consistent with Rice's (2013) Type II languages.

2.1.2 Target patterning in alternations: Type II

The patterning of phonological targets in alternations is the second type of evidence Rice (2013) considers in separating Type I and Type II voicing systems. Glottalization processes in Comox-Sliammon target resonants and voiced obstruents, providing support for a Type II voicing pattern.

Resonants in Comox-Sliammon, like in other Salish languages, can be either plain or glottalized (Blake 2000). Glottalization can be lexically specified or occur as part of a morphological process, such as imperfective or diminutive reduplication (Watanabe 2000:385,394). The data in (3) show glottalization accompanying imperfective reduplication (CV-). Consistent with a Type II language, glottalization can be assigned to a resonant (3a–c) or voiced obstruent (3d–e).

(3)	a.	luq̓ʷum	'be stuck'	lu•l̓uq̓ʷum	'be getting stuck'
	b.	mač̓at	'grease it'	ma•m̓ač̓at	'greasing it'
	c.	wuwum	'sing'	wu•w̓uwum	'singing'
	d.	gayatas	'he asked her'	ga•g̓ayatas	'he is asking her'
	e.	ǰaqnəxʷ	'watch something'	ǰa•ǰ̓aqnəxʷ	'watching something'
					(Watanabe 2003:395–396)

Comparing ejective obstruents with the glottalized resonants and voiced obstruents provides further evidence for a Type II voicing system. Blake (2000:56–59) suggests that the laryngeal feature constricted glottis, [cgl], is present in both ejective and glottalized consonants. Cross-linguistically, this can result in laryngeal feature agreement and the same phonological processes may target obstruent and sonorant segments specified with laryngeal features (Steriade 1997; Blevins 2003). This is not the case in Comox-Sliammon, however, as ejectives and glottalized resonants are not subject to the same alternations. In (4a–b), ejectives remain ejective in CVC plural reduplication, while glottalized resonants are copied as plain resonants in (4c–d).

(4)	a.	gəq̓	'open'	gəq̓•gəq̓	'all of them opened'
	b.	ʔaq̓at	'chase him'	ʔəq̓•ʔaq̓at	'chase him all around'
	c.	kʷum̓t	'kelp'	kʷum•kʷum̓t	'lots of kelp'
	d.	qin̓qin	'duck'	qən•qin̓qin	'ducks'
					Watanabe (2003:373,375)

The data in (5) confirm that voiced obstruents pattern with the resonants, rather than with the ejectives. The glottalization on the voiced obstruent in the base is not present on the corresponding segment in the reduplicant.[7]

(5)	a.	/χəǰ̓-/	χəǰiš	'rock'	χəyχəǰ̓iš	'rocks'
	b.	/čuǰ̓-/	čuy̓	'child'	čəyčuy̓	'children'

The fact that voiced obstruents and resonants are targeted by glottalization processes that do not affect the voiceless obstruents is evidence that Comox-Sliammon has a Type II voicing system.

2.1.3 Trigger patterning in alternations: Type I

Rice (2013) finds that some languages allow voiced obstruents and sonorants to trigger voicing alternations, to the exclusion of voiceless obstruents. This fits with a Type II language and is used as evidence for two types of voicing.

[7] I only have data with /ǰ̓/ at this time, but I assume /g̓/ would behave the same.

While the data thus far has suggested that Comox-Sliammon behaves like a Type II language, Blake (2000) describes voicing alternations in Comox-Sliammon that are triggered by voiceless obstruents. Examples of this alternation from (1) and (2) are restated in (6).

(6)	a.	[č,ǰ]	=	/tǰ•taǰ̓•aǰ̓=us/	[tıčtaʔǰeʔǰıs]	‘cheeks’
	b.	[k]	=	/t̓ig=qin=tn/	[t̓ıkqetən]	‘dessert’

(Blake 2000:47,327)

A voiceless obstruent ([k] or [č]) occurs before another voiceless obstruent, rather than the predicted resonant ([w] or [y]) that generally occurs in a coda position. While the data in (6) show voicing agreement in obstruent clusters, (7) shows that resonants are unaffected by a following voiceless obstruent.

(7)	a.	qəmsat	‘put away’
	b.	məmkʷatas	‘he is eating it’
	c.	punpun	‘spoons’
	d.	lulq̓it	‘a little bit stuck’
	e.	ʔaχiθawtxʷ	‘bedroom’
	f.	taytayqaθut	‘moving from here to there’

Voicing agreement in obstruent clusters is more consistent with a Type I voicing system, with a [voice] feature. The voiceless obstruents act as a trigger for devoicing, only affecting the voiced obstruents, /g/ and /ǰ/. Voicing agreement suggests that a feature, such as laryngeal [voice], may be needed.

Sonorants are exempt from voicing agreement, though they do interact with voiceless obstruents in other phonological processes. This is shown in (8), where two examples of sonorant-obstruent interactions are given.[8] In (8a), the /n/ in the root *k̓ʷən* ‘to see’ is deleted before the /t/ of the control transitivizer. A similar deletion pattern is found when a /n/ occurs before a /θ/ (Watanabe 2003:14). Additionally, the second person object suffix *-anapi* is sometimes produced as [-ampi], as in (8b), showing place assimilation between a nasal and a voiceless obstruent.

(8) a. k̓ʷət
k̓ʷən-t
see-CTR
‘He sees it.’

b. ʔaq̓nampič
ʔaq̓-n-anapi-č
chase-NTR-2PL.OBJ-1SG.IND
‘I am chasing you all.’

[8] Glossing abbreviations used in this paper are: 1SG.ERG = 1st person singular ergative subject, 1SG.IND = 1st person singular indicative subject, 2PL.OBJ = 2nd person plural object, 3ERG = 3rd person ergative subject, 3OBJ = 3rd person object, CAUS = causative transitivizer, CTR = control transitivizer, FUT = future, IMPF = imperfective, INCH = inchoative, MDL = middle, NTR = non-control transitivizer, PL = PLURAL, PST = past, and STV = stative.

Though obstruent and sonorant segments may interact in phonological processes in Comox-Sliammon, the voicing agreement is restricted to obstruents. The fact that voicing agreement is limited to obstruent clusters, to the exclusion of sonorant segments, is more consistent with a laryngeal [voice] feature, fitting a Type I system.

2.2 Summary of synchronic voicing evidence

A preliminary summary of the synchronic evidence is given in Table 3. Given that the voiced obstruents in Comox-Sliammon developed from resonants, it was predicted that the language would have Type II patterns. As an interim generalization, it appears that Comox-Sliammon shows evidence of both Type I and Type II voicing patterns, which makes it unclear how Comox-Sliammon voicing should be categorized.

Table 3: Interim summary of Comox-Sliammon voicing (following Rice 2013)

Evidence	Type I Language	Type II Language
Variation in voicing		X
Alternations: target patterning		X
Trigger patterning	X	

While it is possible that Comox-Sliammon has a third type of voicing, a mix of Type I and II, this requires both [voice] and [SV]. In this case, the inclusion of [voice] is motivated by a single agreement pattern. The following section examines the distribution and frequency of the voiceless surface forms of /g/ and /ǰ/ to ascertain whether [voice] is necessary.

2.3 Evidence for [voice] revisited

The fact that the voiced obstruents can become voiceless and that this can be triggered by an adjacent voiceless obstruent may be evidence for [voice]. The key generalizations are that /g/ becomes [xʷ] in a word-final position, while /g/ and /ǰ/ become [k] and [č], respectively, before a voiceless obstruent (Blake 2000:47). Despite these patterns, the occurrence of the voiceless allophones is far from categorical or systematic in Comox-Sliammon.

2.3.1 [xʷ] from /g/

The non-control and causative transitivizers are used as evidence for [xʷ] being a surface form of /g/ (Blake 1992; Blake 2000; Watanabe 2003). This is contingent on examples with third person object where the non-control transitivizer is *-əxʷ*, from /-ng/, and the causative one is *-sxʷ*, from /-stg/, in these forms. In both cases, the third person object must be null. An example of each transitivizer is provided in (9), glossed to reflect these assumptions.

(9) a. q^{w}a•q^{w}ay-sx^w-as Bruno Daniel
CV•q^{w}ay-stg-as Bruno Daniel
IMPF•talk-CAUS-3ERG Bruno Daniel
'Bruno is talking to Daniel.'

b. niy-əx^w-an-uł sǰasuł
niy-ng-an-uł sǰasuł
forget-NTR-1SG.ERG-PST yesterday
'I forgot it yesterday.'

In (9), [x^w] occurs before ergative suffixes. However, /g/ is expected to surface as [g] in an onset position. This predicts that the verb in (9a) should actually be **q^{w}aq^{w}aysgas* and the one in (9b) should actually be **niyəganuł*. However, in the non-control and causative paradigms, [x^w] always occurs with a third person object, regardless of its position in the word.

There are also many lexical items where /g/ becomes [w] in a word-final position, rather than [x^w]. The data in (10) show word-final /g/ realized as [w] with a grammatical affix in (10a), reduplicant in (10b), and bare root in (10c). Corresponding forms where /g/ remains faithful are given for comparison.

(10) a. čił-im-iw | čił-ig-im
dance-MDL-PL | dance-PL-MDL
'They are dancing.' | 'They are dancing.'

b. yəw̓ | yəg•əw
dry.up | dry.up•INCH
'dried up' | 'It's getting dried up.'

c. təw̓ | təg-it
ice | ice-STV
'ice' | 'frozen'

Word-final /g/ is often [w] while the [x^w] in the non-control and causative transitivizers does not alternate. While this challenges the generalization that /g/ is [x^w] when word-final, it is only a problem if one assumes [x^w] comes from a /g/. If one adopts the analysis in (11), following Mellesmoen (2017), and treats *-x^w* as overt third person object agreement, [x^w] is no longer a problem.

(11) a. q^{w}a•q^{w}ay-s-x^w-as Bruno Daniel
CV•q^{w}ay-st-x^w-as Bruno Daniel
IMPF•talk-CAUS-3OBJ-3ERG Bruno Daniel
'Bruno is talking to Daniel.'

b. niy-əx^w-an-uł sǰasuł

niy-ng-xʷ-an-uł	sǰasuł
forget-NTR-1SG.ERG-3OBJ-PST	yesterday
'I forgot it yesterday.'	

The morpheme breakdown in (11) marks *-xʷ* as overt third person agreement and comes from /xʷ/, not /g/. This accounts for why it does not alternate with [g] when in an onset position. Adopting this analysis, [xʷ] can be left out of the analysis of /g/ because all the evidence for it comes from the non-control and causative examples.[9] This means that [xʷ] cannot be taken as evidence for an alternation between voiced and voiceless obstruents.

2.3.2 [k] from /g/ and [č] from /ǰ/

The strongest evidence for obstruent voicing comes from agreement in obstruent clusters, where /g/ and /ǰ/ surface as [k] and [č] before a voiceless consonant (Blake 2000). The examples of this given in (6) are restated in (12).

(12)	a.	[č,ǰ]	=	/tǰ•taǰ̓•aǰ̓=us/	[tıčtaʔǰeʔǰıs]	cheeks
	b.	[k]	=	/t̓ig=qin=tn/	[t̓ıkqetən]	dessert

(Blake 2000:47,327)

For feature agreement to occur, there must be a feature related to obstruent voicing, such as [voice]. However, the actual occurrence of [k] and [č] is marginal in the literature. The only examples given in Blake (2000) are in (12).[10]

Voicing agreement is not found in most lexical items with obstruent clusters. The examples in (13) demonstrate how /ǰ/ or /g/ can surface as [y] or [w], instead of [k] and [č], before a voiceless obstruent. This is observed for stops, fricatives, and affricates across different places of articulation.

(13)	a.	/č̓ag=tn/	[č̓ɛwtən]	'helper'	(Blake 2000:337)
	b.	/χʷǰ-t/	[χʷeyt]	'stretch'	(Blake 2000:286)
	c.	/tg̦=qin/	[tuw̦qɛn]	'answer back'	(Blake 2000:421)
	d.	/ǰ-ǰƛ̓	[ǰəyƛ̓]	'running'	(Blake 2000:386)
	e.	kʷan=igs-m	[kʷanewsʌm]	'rest'	(Blake 2000:399)
	f.	t̓ᶿaǰ=tn	[t̓ᶿaytən]	'sun umbrella'	(Blake 2000:368)
	g.	qag̦θ	[qaw̦θ]	'potato'	(Blake 2000:36)
	h.	ǰ-ǰkʷ	[ǰɛykʷ]	'rubbing'	(Blake 2000:176)
	i.	q̓ʷaǰ̓χ	[q̓ʷey̓χ]	'firewood'	(Blake 2000:351)
	j.	hg-higus	[h̦ʌwh̦egʊs]	'chiefs'	(Blake 2000:365)
	k.	k'ig-k'igm	[k̓ɛwk̓egım]	'coyote'	(Blake 2000:371)

[9] This has the advantage of making /ǰ/ and /g/ symmetrical in phonological behaviour.
[10] The only example from my own elicitation data is *qəkqigaθ* 'deer'.

In (13a) and (13c), /ǰ/ and /g/ surface as glides before /t/ and /q/, respectively. These environments match those in (12), where agreement occurs. Further, voicing assimilation does not apply in the opposite direction. The voiced obstruents in (14) are not devoiced, even though voiceless consonants follow.

(14)	a.	ɬaχg-t	[ɬaχgʌt]	‘to destroy it’	(Blake 2000:371)
	b.	t-tg=qin̓	[tətgaqɛn̓]	‘answering back’	(Blake 2000:39)
	c.	χp̦ǰaʔan=kʷu	[χʌp̦ǰɛʔʌnkʷu]	‘back eddy’	(Blake 2000:435)
	d.	ɬikʷ=ǰan	[ɬikʷǰɛn]	‘to repair a net’	(Blake 2000:345)

Voicing agreement in obstruents clusters is quite limited. More often, a voiced obstruent will be realized as a glide before another consonant. The voicing agreement in obstruent clusters does not appear to be productive and therefore does not provide strong motivation for [voice].

2.4 Comox-Sliammon: Type II language

The evidence considered in this paper allows Comox-Sliammon to be classified as a Type II language in the voicing typology proposed by Rice and Avery (1989). The potential exception to this was found in the voiceless surface forms of /g/ and /ǰ/, which are more consistent with a [voice] feature in a Type I system. However, the voiceless allophones of /g/ and /ǰ/ are very marginal and do not represent phonologically regular alternations. Setting these aside as exceptions, the grammar of Comox-Sliammon adheres to the Type II patterns described by Rice (2013). This suggests that [SV] is sufficient to account for the data. A [voice] feature is not needed in Comox-Sliammon.[11]

A [SV] feature, present on resonants and voiced obstruents, allows them to be targeted to the exclusion of the voiceless obstruents. Blake (2000:49) achieves a similar result with the use of the traditional feature [sonorant], which is assigned to voiced obstruents as well as resonants. Though many of the generalizations and motivations are similar to those described in Blake (2000), I adopt the [SV] feature proposed by Rice and Avery (1989) and Rice (1993) instead of [sonorant]. [SV] captures that this is a distinct type of voicing that is not restricted to sonorant consonants and, crucially for the Comox-Sliammon data, is found with obstruents as well.

3 The diachronic development of voiced obstruents

The fourth type of evidence that Rice (2013) presents is diachronic. Type I systems show a shift in voicing between obstruents, while shifts between

[11] Though this is not knockdown evidence by itself and does not really fit elsewhere, it is relevant to note that voiceless obstruents replace voiced obstruents in loanwords from English. For example, the /g/ and /b/ in the English word *gumboots* become /k/ and /p/ in [kæmputs] and the /ǰ/ in *engine* becomes /č/ in [ʔɛnčɩn]. This suggests, minimally, that voicing in English is different than voicing in Comox-Sliammon.

sonorants and obstruents are found in Type II systems. The development of nasals from voiced obstruents in Twana and Lushootseed, other Central Salish languages, are given as examples of this Type II pattern.

Proto-Salish **y* and **w* became /ǰ/ and /g/ in Comox-Sliammon, respectively, consistent with a Type II voicing system. Further, the synchronic facts do indicate that Comox-Sliammon voiced obstruents are specified for spontaneous voice ([SV]), rather than laryngeal voice ([voice]). The simplest explanation for this is that /ǰ/ and /g/ have retained sonorant voicing, despite becoming obstruents. The voiced obstruents have retained [SV] and therefore can be targeted by the same phonological processes that affect resonants, such as glottalization, to the exclusion of voiceless obstruents.

While proposing the retention of [SV] fits with contemporary patterns in Comox-Sliammon, it diverges from the previous account of this change. Thompson and Sloat (2004) reconstruct an intermediate **č* between Proto-Salish **y* and /ǰ/. Though this analysis unifies the patterns found in different Central Salish languages, it is less cohesive with the Type II voicing patterns found in Comox-Sliammon. The change between a voiceless and voiced obstruent is characteristic of a Type I language and further suggests the presence of a [voice] feature, mediating the shift from voiceless to voiced obstruent. Reconstructing a voiceless obstruent between the **y* in Proto-Salish and /ǰ/ in Comox-Sliammon suggests that the features associated with sonorant voicing were originally present, lost, and then regained. It is unclear what would motivate this.

3.1 An alternate analysis

As suggested at the outset of Section 3, the simplest explanation for the development of voiced obstruents in Comox-Sliammon is that they retain the same voicing specification as the Proto-Salish resonants.

Unlike Thompson and Sloat (2004), I do not reconstruct an intermediate step between **y* and /ǰ/ for Comox-Sliammon. Instead, I propose that /ǰ/ came directly from **y*, retaining [SV] and thus maintaining the type of voicing associated with a resonant. This captures the historical connection between resonants and voiced obstruents while accounting for the Type II voicing patterns present in the synchronic grammar. This does not require a [voice] feature. This analysis can also be extended to the development of Proto-Salish **w* into /g/, which Thompson and Sloat (2004) do not consider.

Comparing reflexes of Proto-Salish **y* and **w* given in Kuipers (2002) allows for several generalizations. There are the languages where Proto-Salish **w* and **y* remain /w/ and /y/, including Squamish and Bella Coola. These can be separated from languages where **y* has shifted. Only **y* shifted in Lillooet and Thompson. In others, including Lushootseed and Comox-Sliammon, both **y* and **w* shifted. There are no languages where only **w* shifted.

Reflexes of Proto-Salish **y* in the shifting languages are either voiced or voiceless. The voiceless variant /č/ occurs in Straits, while voiced obstruents occur in the other ones (Thompson & Sloat 2004). One of the diachronic developments that sets Straits apart from the other Central Salish **y*-shifting languages is that Proto-Salish **k* developed past a **č* to /c/, /s/, or /θ/, depending on the dialect (Kuipers 2002). It is likely that Proto-Salish **k* began to shift before **y* did, given that the change is found in more languages. If **k* had already shifted past a **č* when **y* began to change, there would be no risk of losing the contrast between words with Proto-Salish **y* and **k*. The other Central Salish **y*-shifting languages also underwent the **k* > /č/ change, but did not undergo the subsequent shift that occurred in Straits.[12] The presence of /č/ in these languages, from Proto-Salish **k*, could serve to block **y* becoming /č/. In this case, retaining the [SV] feature associated with resonants would distinguish the reflexes of **y* and **k*. A testable prediction is that the reflexes of **y* (and likely **w*) in dialects of Straits should not show evidence of sonorant voicing in their phonological patterns.

The development of **w* parallels **y*. For example, Straits has a voiceless obstruent, /kʷ/, while the other languages have a voiced one, /g/ or /gʷ/. Additionally, similar phonological alternations are found. In Comox-Sliammon, /g/ only surfaces as [g] when in an onset position, paralleling how /ǰ/ is only realized as [ǰ] when it is in the onset of a syllable. Reflexes of **w* also show evidence of sonorant voicing, with /g/ patterning like a resonant.

Proto-Salish **w* not shifting in Lillooet and Thompson may also be due to their phonemic inventories. Of the **y*-shifting languages, Lillooet and Thompson are the only ones to have /ɣ/ (Kuipers 2002). Van Eijk (2011:4) describes /ɣ/ and /ɣ̓/ in Lillooet as resonants which are “the velarized counterparts of y ẏ”. He further suggests that /w/ and /ẇ/ can be treated as the “rounded counterparts of ɣ ɣ̓” (Van Eijk 2011:253). This suggests that /ɣ/ and /ɣ̓/ have sonorant qualities, much like the voiced obstruents that develop from Proto-Salish **w* in other languages, and that they are quite similar in place of articulation to /w/ and /ẇ/. The failure of Proto-Salish **w* to shift in Lillooet and Thompson may be explained by the fact that they already have /ɣ/ in their phonemic inventories, which is a voiced velar obstruent that behaves like a resonant.[13] Producing /w/ closer to an obstruent, with a narrower constriction or more turbulent airflow, would bring it closer to the realization of /ɣ/. Thus, while Lillooet and Thompson underwent **y*-shifting, /ɣ/ is a likely candidate to block a parallel development of Proto-Salish **w*.

4 Future questions

Glottalization must also be considered in the treatment of resonants. There is a gap in the distribution of glottalized resonants in some Salish languages. Glottalized resonants do not occur word-initially in Comox-Sliammon (Blake

[12] I set aside the Interior Salish languages, given that reflexes of **y* are not palatal and **k* > /č/ shift (or lack thereof) is likely less relevant. This is a question for future work.
[13] The presence of /ɣ/ in Lillooet and Thompson provides a potential explanation for why Proto-Salish **y* developed into /z/, rather than an affricate. Already having a fricative-like resonant may have guided the development of Proto-Salish **y* toward a similar manner of articulation to promote some sort of symmetry in the sound system.

2000) and are reportedly rare in Lillooet (Bird et al. 2008), which both underwent *y-shifting. However, Bird et al. (2008) also report that Thompson does not demonstrate a similar onset restriction, suggesting that there may be a more complicated interaction between glottalization and the word-initial position.[14] If the word-initial position was where *y-shifting originated, there may be a correlation with whether glottalization is licensed in a word-initial position and with what frequency it occurs.

Thompson and Sloat (2004) report stylistic alternations involving Proto-Salish *y that are outside the scope of this paper to consider, though they suggest a more complicated layer in its development. For example, the use of [y] or [ǰ] in Quinault in diminutive constructions corresponds to the degree of diminutiveness. Thompson and Sloat (2004) also report unexpected surface forms in the speech of characters in stories in Comox-Sliammon and Lushootseed, spirit-related speech in Straits, and female-related speech in Lushootseed. Other exceptions include adverbs, which are found to not always undergo the expected shifts in Lushootseed, Quinault, and Lummi, as well as in the semantic domain of garments in Lushootseed and Twana. It is unclear if the same applies for *w, though this is something that should be examined in future work. If the changes between Proto-Salish *y and *w are truly parallel, the reflexes of *w should also show similar stylistic alternations.

More generally, the development of Proto-Salish *w deserves further study. In this paper, I suggest the presence of /ɣ/ in Lillooet and Thompson may block *w-shifting. Though *ɣ is reconstructed in Proto-Salish, it only occurs in the Interior Salish languages (Kuipers 2002). Little is known about its acoustics, though Van Eijk (2011) speculates that it is articulated like a retracted [y] in Lillooet. Examining [ɣ] and contrasting it to [y] and [w] in these languages may prove useful in understanding why (or if) /ɣ/ would have blocked *w-shifting. The development of Proto-Salish *y and *w deserves further examination in the Interior Salish languages.

5 Conclusion

The evidence presented in this paper argues for a [SV] feature in Comox-Sliammon, rather than [voice]. Comox-Sliammon is a Type II language under Rice and Avery's (1989) typology of voicing systems. This is not consistent with reconstructing an intermediate voiceless obstruent between the Proto-Salish glides and the Comox-Sliammon voiced obstruents. Instead, it is more likely that [SV] was retained in their development, suggesting no intermediate step. More broadly, the actual identity of the resulting obstruents across different Salish languages appears to be influenced by the other ongoing changes and

[14] Jimmie (1994) only lists one /ż̓/-initial root, *ż̓əχ*. It is possible that word-initial glottalization is permitted in Thompson, but has a much more limited distribution for word-initial /z/ from Proto-Salish *y than other resonants.

their phonemic inventories. Overall, a laryngeal [voice] feature is not needed for a synchronic or diachronic analysis.

References

Bird, S., Caldecott, M., Campbell, F., Gick, B., & Shaw, P. A. (2008). Oral–laryngeal timing in glottalised resonants. *Journal of Phonetics, 36*(3), 492–507.

Blake, S. J. (1992). *Two aspects of Sliammon phonology* (Master's thesis, University of British Columbia).

Blake, S. J. (2000). *On the distribution and representation of schwa in Sliammon (Salish): Descriptive and theoretical perspectives* (Doctoral dissertation, University of British Columbia).

Blevins, J. (2003). The phonology of Yurok glottalized sonorants: Segmental fission under syllabification. *International Journal of American Linguistics, 69*(4), 371–396.

Chomsky, N., & Halle, M. (1968). *The sound pattern of English*. New York: Harper & Row.

Davis, J. H. (1970). Notes on Mainland Comox phonology. *Papers for ICSNL, 5*.

Davis, J. H. (2005). High consonants, articulatory transitions, and nonhigh vowels in Comox. *Papers for ICSNL, 40*, 89–97.

First Peoples' Cultural Council. (2014). Report on the Status of B.C. First Nations Languages. Retrieved from http://www.fpcc.ca/files/PDF/Language/FPCC-LanguageReport-141016-WEB.pdf

Gibbs, G. (1877). Vocabulary of the Ko-mookhs. In J. W. Powell, *Contributions to North American ethnology, vol. 1* (269–283). Washington: Department of the Interior.

Harris, H. R. (1981). *A grammatical sketch of Comox* (Doctoral dissertation, University of Kansas).

Jimmie, M. (1994). *A prosodic analysis of Nłek̓epmx reduplication* (Masters thesis, University of British Columbia).

Kuipers, A. H. (2002). *Salish etymological dictionary (No. 16).* Linguistics Laboratory University of Montana.

Mellesmoen, G. 2017. Overt third person object agreement in ʔayʔaǰuθəm. *Papers for ICSNL 52*, 171–194.

Rice, K., & Avery, P. (1989). On the interaction between sonorancy and voicing. *Toronto Working Papers in Linguistics, 10*.

Rice, K. (1993). A reexamination of the feature [sonorant]: the status of ‘sonorant obstruents’. *Language*, 308–344.

Rice, K. (2013). Sonorant obstruents revisited. Paper presented at the International Conference on Phonetics and Phonology, Tokyo, Japan.

Sapir, E. (1915). Noun reduplication in Comox. A Salish language of Vancouver Island, Canada. *Department of Mines, Geological Survey, Memoir, 63*, 4.

Steriade, D. (1997). Phonetics in phonology: the case of laryngeal neutralization. Ms.

Thompson, N.R. & Sloat, C.D. (2004). New insights concerning Proto-Salish *y in Coastal Salishan. In D. B. Gerdts & L. Matthewson (Eds.), *Studies in Salish linguistics in honor of M. Dale Kinkade* (377–404).

Tolmie, W. F., & Dawson, G. M. (1884). *Comparative Vocabularies of the Indian Tribes of British Columbia: With a Map Illustrating Distribution*. Dawson Bros.

Van Eijk, J. (2011). *The Lillooet language: Phonology, morphology, syntax.* UBC Press.

Watanabe, H. (2003). *A morphological description of Sliammon, Mainland Comox Salish: With a sketch of syntax*. Endangered Languages of the Pacific Rim, Faculty of Informatics, Osaka Gakuin University.