On the Non-Labial Origin of Salish Labials

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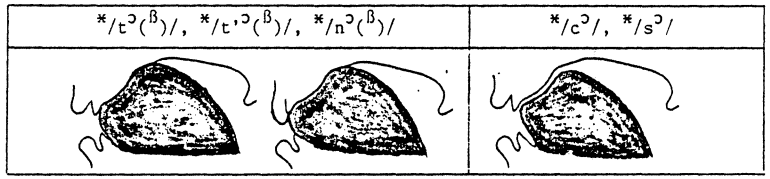
1. Introduction. The Straits Salish (henceforth St) apico-alveolar affricates /$\overset{v}{c}$/ and /$\overset{v}{c}$'/ often correspond etymologically to /p/ and /p'/ in non-St Salish (with the exception of Tillamook, for which see below), while the St velar nasal /ŋ/ usually equals /m/ in non-St Salish except Lushootseed (which has /b/) and Tillamook (Ti). Otherwise, labials as such are, though quasi-marginal, not absent in St. Ti, however, virtually lacks a labial series, and Ti /h/ and /w/ are often cognate with resp. /p/ and /m/ (or /b/) in other Salish languages, but I have been unable to detect a Ti phoneme that relates to /p'/ in non-Ti Salish; I have, at the moment, no access to a Ti dictionary (and besides, /p'/ generally has a low frequency in non-Ti Salish, cf. e.g. Shuswap /#p/ : /#p'/ = 4^{+}). In this article, I propose a method of tracing the origin of St /$\overset{v}{c}$/, /$\overset{v}{c}$'/, /ŋ/ = Ti /h/, /.../, /w/ = non-Ti /p/, /p'/, /m/ (or /b/), quoting evidence from Bella Coola and a few other Salish languages.

2. Theoretical considerations. To date, two explanations have been advanced regarding the (near-)absence of labials in St and Ti: (1) St /$\overset{v}{c}$/, /$\overset{v}{c}$'/, /ŋ/ = Ti /h/, /.../, /w/ (= non-St+Ti /p/, /p'/, /m, b/) have replaced older labials (St labials are assumed to occur only in borrowed words); (2) St /$\overset{v}{c}$/ etc. = Ti /h/ etc. = non-St+Ti /p/ etc. continue older labiovelars (*/k^{w}/, */k'^{w}/, */$ŋ^{w}$/). One proponent of the first solution is Aert H. Kuipers, who believes that **"The labial-to-palatal shift in St (which is a "mixed" language in other respects, too) may well have been typical of part of a language community, ... The phenomenon is common enough to have earned the German designation Labialscheu."** (1981: 333). Larry C. Thompson, on the other hand, has proposed that St /$\overset{v}{c}$/ etc. = Ti /h/ etc. = non-St+Ti /p/ etc. go back to older */k^{w}/ etc. (Kuipers (1981:324)); for the untenability of the latter theory (insofar as it complicates the etymology of contemporary /k^{w}/ and /k'^{w}/) read Kuipers (1981:332). Otherwise, most Salishanists ignore the problem as such, diachronic considerations not being fashionable at the moment.

2.1. A third alternative. Considering that (a) a shift from */p/ etc. to /$\overset{v}{c}$/ etc. seems rather improbable (labrets and speech modes notwithstanding), (b) Thompson's hypothesis lacks foundation, I propose that the origin of St /$\overset{v}{c}$/ etc. = Ti /h/ etc. = non-St+Ti /p/ etc. should be determined via a method that takes into account the hierarchical position

of labial phonemes, i.e. their proportional frequencies and combinatory (phonotactic) properties. In particular, I will attempt to establish that proto-Salish had EMPHATIC phonemes (transcribed here as */$t^{ɔ}(^{β})$/, */$t'^{ɔ}(^{β})$/, */$n^{ɔ}(^{β})$/), continued in St as /$\overset{v}{c}$, p/, /$\overset{v}{c}$', p'/, /ŋ, m/, in Ti as /h/, /.../, /w/, and in non-St+Ti as /p/, /p'/, /m, b/. These three consonants, along with emphatic */$c^{ɔ}$/ and */$s^{ɔ}$/, may have been characterized by contact, resp. closeness, between the DORSO-APICAL and (LABIAL+)DENTAL+PREPALATAL regions:

FIG. 1: Tentative Phonetic Reconstruction of Emphatic Consonants



EMPHASIS appears to have been in complementary distribution with RETRACTION insofar as the former feature could be associated only with DENTAL STOPS, */c/ and */s/, and */l/, while the latter could affect VELARS and */l/, so that e.g. */t/ : */$t^{ɔ}(^{β})$/ = */c/ : */$c^{ɔ}$/ = */l/ : */ɬ/ = */k/ : */q/ = */k^{w}/ : */q^{w}/. For the sporadic occurrence of */$c'^{ɔ}$/, see 5.2.2.2, while the dual nature of */ɬ/ is discussed in section 4.2.

2.2. Argument. Diachronically speaking, absence of EMPHASIS as such in most contemporary (mainly coastal) Salish does not preclude the possibility that this feature was indeed a phonemically distinctive one in prehistoric Salish; compare e.g. the discontinuation in virtually all modern Indo-European languages of */t'/, */$ǵ^{h}$)/, etc. (for */t'/ = "/d/", */$ǵ^{h}$)/ = "/$ǵ^{h}$/", etc., see Gamkrelidze (1976:403)).
Phonetically, the shift from */$t^{ɔ}(^{β})$/ + */$t'^{ɔ}(^{β})$/ + */$n^{ɔ}(^{β})$/ to /$\overset{v}{c}$/ + /$\overset{v}{c}$'/ + /ŋ/ (St), /h/ + /.../ + /w/ (Ti), and /p/ + /p'/ + /m, b/ (non-St+Ti) can plausibly be ascribed to articulatory compensation, i.e. EMPHASIS being replaced in St by PALATALITY + AFFRICATION or VELARITY, by BILABIALITY in non-St+Ti, and by ASPIRATION in Ti (but here, */$n^{ɔ}(^{β})$/ has been denasalized, and merged with */w/).
The special status of non-St+Ti labials is typologically expectable (Charles A. Ferguson (1987:251)), and parallels are found outside of Salish. For instance, Samuel E. Martin (on Japanese) wonders: **"Why is h- an additional member of the p : b set, though it shares no common feature (such as labiality or obstruence) with that pair of sounds? ..... (1) Why do h··· and F··· reduplicate as b···? (2) Why does $\overset{v}{s}$(i)··· sometimes reduplicate as b(i)···?"** (1987:5-6).

3. **Distribution of Bella Coola phonemes.** In section 11.6 of my Bella Coola grammar, I enumerate the proportional frequencies of all Bella Coola phonemes (Nater (1984:27)); below, they are listed in numbered rows. 1 = labials, 2 = dentals, 3 = alveolars, 4 = laterals, 5 = postpalatals, 6 = rounded/labialized velars, 7 = rounded/labialized uvulars, 8 = unrounded uvulars, 9 = laryngals; /ᵊm/, /ᵊn/, /ᵊl/ are the syllabic (vocalic) variants of /m/, /n/, /l/. The number following each phoneme denotes its proportional frequency.

FIG. 2: Frequency of Bella Coola Voiceless Phonemes

	PLAIN STOPS	GLOTTALIZED STOPS	FRICATIVES
1	/p/ (2.68)	/p'/ (0.56)	
2	/t/ (4.75)	/t'/ (1.04)	
3	/c/ (3.01)	/c'/ (1.78)	/s/ (8.13)
4		/ƛ'/ (0.95)	/ɬ/ (4.75)
5	/k/ (2.39)	/k'/ (1.48)	/x/ (1.65)
6	/kʷ/ (1.67)	/k'ʷ/ (0.86)	/xʷ/ (1.17)
7	/qʷ/ (1.24)	/q'ʷ/ (1.02)	/x̄ʷ/ (1.44)
8	/q/ (1.61)	/q'/ (1.38)	/x̄/ (2.58)
9		/ʔ/ (4.20)	/h/ (0.16)

FIG. 3: Frequency of Bella Coola Voiced Phonemes

	CONSONANTAL	VOCALIC
1	/m/ (3.18)	/ᵊm, ᵊmm/ (1.81)
2-3	/n/ (3.99)	/ᵊn, ᵊnn/ (0.92)
4	/l/ (3.97)	/ᵊl, ᵊll/ (0.85)
5	/y/ (2.45)	/i, ii/ (8.12)
6-7	/w/ (1.86)	/u, uu/ (6.49)
9		/a, aa/ (15.84)

We observe that plain stops, as a rule, have a higher frequency than glottalized ones, and that fricatives (except /h/), too, occur more often than glottalized stops. Furthermore, /x/ and /xʷ/ are less frequent than resp. /k/ and /kʷ/, and among all voiceless phonemes,

/s/ has the highest frequency, and /h/ the lowest; the high frequency of /s/ characterizes all Salish (where word-initial /s/ often continues prefixal /s-/), and the rare occurrence of /h/, too, is typical of other Salish. The proportional relation between (un)rounded uvular plain stops and fricatives is skewed: many instances of /x̄/ and /x̄ʷ/ continue resp. *q/ and *qʷ/ (Nater (1984:21-2), and see 4.3.1.1.2). In general, rounded velars and uvulars (including /w/ and /u/) have a lower frequency than resp. postpalatals (plus /y/ and /i/) and unrounded uvulars. Among the voiced phonemes, /a/ has by far the highest frequency, and /ᵊl, ᵊll/ the lowest; consonantal /m/, /n/, /l/ are more common than their vocalic variants, while for /w/ vs. /u/ and /y/ vs. /i/ the opposite holds. Among the voiceless and voiced-consonantal phonemes, dentals and alveolars have a higher frequency than laterals, and the latter, in turn, are more common than labials; among the vocalic sonorants, however, /ᵊm, ᵊmm/ occurs more often than /ᵊn, ᵊnn/ and /ᵊl, ᵊll/, but here, too, series 2-3 is more common than 4. Series 5-8 voiceless consonants are less frequent than voiceless labials, dentals, alveolars and laterals, but /y/, /i(i)/, /w/, /u(u)/ are, taken together, slightly more common than /m/ + /ᵊm(m)/ + /n/ + /ᵊn(n)/ + /l/ + /ᵊl(l)/.

3.1. **Compatibility and incompatibility of voiceless consonants.** Phonotactic limitations on the shape of the Bella Coola morpheme are few (Nater (1984:22-3)). Thus, consonant clusters abound, and Bella Coola is known for its voiceless words, such as /cptx̄/ 'wipe it!', /st's/ 'salt', /p'x̄ʷɬt/ 'bunchberry', /q'ɬp/ 'balsam fir'. Even entire sentences can be voiceless: /k'xɬɬcxʷ sɬx̄ʷtɬɬc/ 'you had seen that I had gone through the passage'. Below, I list two-member voiceless combinations that constitute, or are part of, Bella Coola morphemes; where phonotactic restrictions prohibit pairing of such phonemes, a minus sign appears, and the absence of acceptable clusters is marked by an asterisk.

FIG. 4: Two-Member Clusters of Non-Velar/Uvular Phonemes

	p	p'	t	t'	c	c'	s	ƛ'	ɬ
p	-	-	pt	*	pc	*	ps	*	pɬ
p'	-	-	p't	-	p'c	-	p's	-	p'ɬ
t	tp	*	-	-	tc	*	-	*	tɬ
t'	t'p	-	-	-	t'c	-	t's	-	t'ɬ
c	cp	*	ct	*	cc	-	cs	*	cɬ
c'	c'p	-	c't	-	-	-	c's	-	c'ɬ
s	sp	sp'	st	st'	sc	sc'	ss	sƛ'	sɬ
ƛ'	ƛ'p	-	ƛ't	-	*	-	ƛ's	-	ƛ'ɬ
ɬ	ɬp	ɬp'	ɬt	ɬt'	ɬc	ɬc'	*	*	ɬɬ

Note how glottalized stops are avoided (as the second member of clusters) after stops; this tendency is also observed in clusters having a velar/uvular for first member (see figs. 6 and 7), but clusters of the type shown in fig. 5 are not prone to the same bias. The identical plosive cluster /cc/ (underlined in the chart) is a hapax, occurring only in /ciccip/ 'bird' and derivations thereof. This word, however, appears to be a (petrified) double reduplication of a root */cip/ (compare Squamish /cip-cpíʔɬ-tn/ 'nest'); otherwise, double reduplications (here, the type $C_1VC_1C_1VC_2$) are not found in Bella Coola. Absence of */ɬs/ is surprising (both /ɬ/ and /s/ are very frequent in the lexicon), but consider here the Bella Coola rule whereby prefixes ending in /ɬ/ are reduced before stems with initial /s/ (Nater (1984:100)): e.g. /k'iɬ̂smaw/ "lacking one" = 'nine' becomes /k'iŝmaw/, /ʔaɬ̂sak'am/ 'wounded' = /ʔaŝak'am/, /kaɬ̂sx^{w}panił/ 'to hunt deer' = /kaŝx^{w}panił/. On the other hand, /-s/ '3 sing. intr. agent/possessor' does not cause elision of preceding /ɬ/: /ɬx̄^{w}tɬs/ 'he has gone through the passage', /ta+manɬs+tx̄/ 'his (late or absent) father'. The non-appearance of */ɬƛ'/ may be correlated with (1) the generally low frequency of /ƛ'/ and (2) the trend towards avoiding glottalized stops as second members of certain clusters (see above).

Columbian (Cl), Squamish (Sq) and Shuswap (Sh) (Kinkade (1989) and Kuipers (1967, 1969, 1974)) do not appear to have voiceless words, but the phonotactic restrictions placed on these languages are generally similar to those found in Bella Coola, and I have not seen sequences like */pp'/, */pc'/, */p'p/, */tt/, */t't/, */c't'/ in the morpheme inventories of Cl/Sh/Sq. On the other hand, Cl, Sh and Sq tolerate clusters that are avoided in Bella Coola, e.g. /pt'/ (Cl/Sh), /tp'/ (Sh), /ts/ (Sh/Sq), /ct'/ (Sh), /ƛ'q'/ (Sq). In most clusters consisting of a non-velar/uvular + velar/uvular, Sq allows glottalization to be repeated, and there are in Sq also such sporadic sequences as /ƛ'c̓'/, /q'p'/, /q'^{w}c'/. In comparison with Sq, Cl shows rather few limitations on clustering of glottalized stops; here, /p't'/, /p'c'/, /p'ƛ'/, /t'c'/, /c'p'/, /ƛ'p'/, /ƛ'c'/ exist, and among all possible clusters of non-velar/uvular glottalized stop + velar/uvular glottalized stop, the only absentee seems to be */ƛ'q'/. In contrast, Bella Coola has several non-velar/uvular + non-velar/uvular sequences that do not seem to occur in Cl/Sh/Sq, to wit: /p't/, /p'c/, /cc/, /ss/, /ƛ't/, /ƛ's/, /ƛ'ɬ/, /ɬɬ/; these may, however, be found in other Salish.

Henceforth, the terms <u>non-velar/uvular voiceless consonant</u> and <u>velar/uvular voiceless consonant</u> are replaced by resp. <u>FRONT</u> and <u>BACK</u>; in the charts that follow, I enumerate two-member clusters containing FRONT + BACK (fig. 5), BACK + FRONT (fig. 6), and BACK + BACK (fig. 7). (Again, minus signs mark predictable absence, and asterisks appear where sequences are not attested.) Clusters of special interest have been underlined.

FIG. 5: Two-Member Clusters of FRONT + BACK

	k	k'	x	q	q'	x̄	k^{w}	k'^{w}	x^{w}	q^{w}	q'^{w}	x̄^{w}
p	pk	pk'	px	pq	pq'	px̄	pk^{w}	*	px^{w}	*	pq'^{w}	*
p'	*	-	p'x	*	-	*	*	-	*	*	-	p'x̄^{w}
t	tk	tk'	tx	tq	tq'	tx̄	tk^{w}	tk'^{w}	tx^{w}	tq^{w}	tq'^{w}	tx̄^{w}
t'	t'k	-	<u>t'x</u>	t'q	-	t'x̄	t'k^{w}	-	t'x^{w}	t'q^{w}	-	t'x̄^{w}
c	ck	ck'	cx	cq	cq'	cx̄	ck^{w}	ck'^{w}	cx^{w}	cq^{w}	*	cx̄^{w}
c'	c'k	-	c'x	c'q	-	c'x̄	c'k^{w}	-	c'x^{w}	c'q^{w}	-	c'x̄^{w}
s	sk	sk'	sx	sq	sq'	sx̄	sk^{w}	sk'^{w}	sx^{w}	sq^{w}	sq'^{w}	sx̄^{w}
ƛ'	ƛ'k	-	*	ƛ'q	-	ƛ'x̄	ƛ'k^{w}	-	ƛ'x^{w}	*	-	ƛ'x̄^{w}
ɬ	ɬk	ɬk'	ɬx	ɬq	ɬq'	ɬx̄	ɬk^{w}	ɬk'^{w}	ɬx^{w}	ɬq^{w}	ɬq'^{w}	ɬx̄^{w}

/t'x/ was pronounced by the late Dr. Margaret Siwallace in the place name /q'^{w}umk'^{w}ut'xs/ (but other consultants say /q'^{w}umk'^{w}ut's/, without /x/). The absence of */pk'^{w}/, */pq^{w}/, */px̄^{w}/, */p'x̄/, */p'x^{w}/, /p'/ + BACK stop, */ƛ'x/ and */ƛ'q^{w}/ may be correlated with the low frequency of either member (cf. the non-occurrence of */q^{w}p/, */x̄^{w}p/, */xƛ'/, */q^{w}ƛ'/ in fig. 6), while absence of */cq'^{w}/ is parallelled by (1) non-occurrence of */q'^{w}c/ in fig. 6 and (2) absence of */cq'^{w}/ (as well as of */q'^{w}c/) in Squamish.

FIG. 6: Two-Member Clusters of BACK + FRONT

	p	p'	t	t'	c	c'	s	ƛ'	ɬ
k	kp	*	kt	*	kc	*	ks	kƛ'	kɬ
k'	k'p	-	k't	-	k'c	-	k's	-	k'ɬ
x	xp	*	xt	*	xc	xc'	xs	*	xɬ
q	qp	qp'	qt	qt'	qc	qc'	qs	qƛ'	qɬ
q'	q'p	-	q't	-	q'c	-	q's	-	q'ɬ
x̄	x̄p	x̄p'	x̄t	x̄t'	x̄c	x̄c'	x̄s	x̄ƛ'	x̄ɬ
k^{w}	k^{w}p	*	k^{w}t	*	k^{w}c	k^{w}c'	k^{w}s	k^{w}ƛ'	k^{w}ɬ
k'^{w}	k'^{w}p	-	*	-	*	-	k'^{w}s	-	k'^{w}ɬ
x^{w}	x^{w}p	x^{w}p'	x^{w}t	x^{w}t'	x^{w}c	x^{w}c'	x^{w}s	x^{w}ƛ'	x^{w}ɬ
q^{w}	*	*	q^{w}t	*	q^{w}c	*	q^{w}s	*	q^{w}ɬ
q'^{w}	q'^{w}p	-	q'^{w}t	-	*	-	q'^{w}s	-	q'^{w}ɬ
x̄^{w}	*	*	x̄^{w}t	*	x̄^{w}c	*	x̄^{w}s	*	x̄^{w}ɬ

We observe that among the eight permissible BACK + /ƛ'/ sequences, only *$/xƛ'/$, *$/q^{w}ƛ'/$ and *$/\bar{x}^{w}ƛ'/$ are nonextant (cf. the comments to fig. 5). In second members, glottalization is avoided after stops except /q/, but $/k^{w}c'/$ does exist (and so do /kƛ'/ and $/k^{w}ƛ'/$!). With the exception of /xc'/, glottalization is also absent after /x/ and $/\bar{x}^{w}/$, which are here as biased as resp. /k/ and $/q^{w}/$. The absence of *$/k'^{w}t/$, *$/k'^{w}c/$, *$/q^{w}p/$, *$/q'^{w}c/$ and *$/\bar{x}^{w}p/$ is probably associated with the low frequency of either member (cf. fig. 5); nevertheless, $/k'^{w}p/$ and $/q'^{w}p/$ (the combined percentages of occurrence of whose members are lower than those of the missing clusters) do exist.

FIG. 7: Two-Member Clusters of BACK + BACK

	k	k'	x	q	q'	$\bar{x}$	k^{w}	k'^{w}	x^{w}	q^{w}	q'^{w}	$\bar{x}^{w}$
k	–	–	kx	*	*	*	*	*	*	*	*	*
k'	–	–	k'x	*	–	*	*	–	*	*	–	*
x	*	*	*	*	*	*	*	xk'^{w}	*	*	*	*
q	*	*	*	–	–	$q\bar{x}$	*	*	*	*	*	*
q'	q'k	–	*	–	–	$q'\bar{x}$	*	–	*	*	–	*
$\bar{x}$	*	*	*	$\bar{x}q$	*	$\bar{x}\bar{x}$	$\bar{x}k^{w}$	*	*	$\underline{\bar{x}q^{w}}$	*	$\bar{x}\bar{x}^{w}$
k^{w}	*	*	*	*	*	*	–	–	$k^{w}x^{w}$	*	*	*
k'^{w}	*	–	*	*	–	*	–	–	$k'^{w}x^{w}$	$k'^{w}q^{w}$	–	*
x^{w}	*	*	*	*	*	*	*	*	$x^{w}x^{w}$	*	*	*
q^{w}	*	*	*	*	*	*	*	*	*	–	–	*
q'^{w}	*	–	*	*	–	*	*	–	*	–	–	$q'^{w}\bar{x}^{w}$
$\bar{x}^{w}$	*	*	*	*	*	*	*	*	*	$\underline{\bar{x}^{w}q^{w}}$	*	*

Nearly every BACK + BACK cluster is a hapax: /kx/ 'to draw a straight line on something', /k'x/ 'to see something', /sk'x/ 'black', /k'mxk'^wit$\bar{x}^{w}$/ 'geographical name', /s?ixk'^wx^w/ 'bushtail rat', /q$\bar{x}$yu/ 'odd, unusual, useless', /slaq'k/ 'dried fileted fish', /q'$\bar{x}$/ 'to carve something; rancid', /?aa$\bar{x}$qa/ 'to urinate', /?a$\bar{x}\bar{x}$a/ 'yuck!', /sawanaaxk^w/ 'raft', /?a$\bar{x}\bar{x}^{w}$ut/ 'to cough', /k^wx^w/ 'to cause something to fit', /k'^wx^wmicut/ 'to be careful', /k'^wq^wla/ 'geographical name', /x^waax^wx^wi/ 'light of weight' (= /x^waax^wi/), /q'^w$\bar{x}^{w}$/ 'to move something'. /$\bar{x}q^{w}$/ varies freely with /$\bar{x}^{w}q^{w}$/: /q^waax(^w)q^wni/ 'youngest in family', /q^waax(^w)q^wik$\dot{\text{t}}$p/ 'mountain ash'. As concerns clusters of the type BACK STOP/FRICATIVE + HOMORGANIC BACK FRICATIVE (12 possibilities), note that only */xx/, *$/q^{w}\bar{x}^{w}/$ and *$/\bar{x}^{w}\bar{x}^{w}/$ do not exist; absence of the latter two clusters may be related to the "non-phonotacticality" of e.g. *$/q^{w}q^{w}/$ (consider that $/\bar{x}^{w}/$ often continues *$/q^{w}/$: Nater (1984:21-2)). Again (cf.

figs. 4 and 6), clusters of (PLAIN) STOP + GLOTTALIZED are not found. For further details see 3.2.1.3.

3.2. **Avoidance patterns in voiceless clusters.** Below, I make a comparison between the voiceless combination types FRONT + FRONT, FRONT + BACK, BACK + FRONT, and BACK + BACK in terms of the systematic avoidance of certain pairs. In particular, it will be shown that the absence patterns in FRONT + BACK on the one hand, and BACK + FRONT on the other, are rather similar, but that there is a great difference in combinatory strength between FRONT and BACK elsewhere.

3.2.1. **Absentees.** In figs. 4-7, asterisks denote the absence of such clusters as */pt'/, */$\dot{\text{t}}$s/, */pk'^w/, */p'$\bar{x}$/, */kc'/, */xƛ'/, */kq/, *$/q^{w}\bar{x}^{w}/$. I pointed out that many such gaps have resulted from a general tendency towards avoiding glottalized stops as second members of clusters whose first member is a stop, except in FRONT + BACK. Other voids appear to be associated with the low frequency of either potential member. Interestingly, the only attested /p'/ + BACK sequences are /p'x/ and /p'$\bar{x}^{w}$/, i.e. with /x/ and $/\bar{x}^{w}/$ as second members, while in BACK + FRONT (but not in /xc'/), glottalized stops are regularly avoided after /x/ and $/\bar{x}^{w}/$ (for this anomaly, and similar ones, see further 5.2.3.1). BACK + BACK clusters were found to be extremely rare.

3.2.1.1. **Hiatuses in FRONT + FRONT.** Here, the three conspicuous absentees are */ƛ'c/, */$\dot{\text{t}}$s/ and */$\dot{\text{t}}$ƛ'/, all of which potential clusters begin in a lateral phoneme. However, /ƛ'/ is generally rare (fig. 2), while absence of */$\dot{\text{t}}$s/ was shown to be correlated with a morpho-phonotactic rule requiring that prefix-final /$\dot{\text{t}}$/ be deleted before /s/ (Nater (1984:100)). The lack of */ƛ'c/ may be associated phonetically with the uniqueness of /ƛ's/ (occurring only in the root /?aƛ's/ 'behind'), whose rarity may in turn be connected with the absence of */$\dot{\text{t}}$s/.

3.2.1.2. **Hiatuses in FRONT + BACK and BACK + FRONT.** The number of gaps in FRONT + BACK (16 + 12) differs from that in BACK + FRONT (16 + 21), but the structural similarities between their potential fillers are salient. Thus, the number of voids where labiality and/or rounding would have played a role is quite high: */pk'^w/, */pq^w/, */p$\bar{x}^{w}$/, */p'k^w/, */p'x^w/ and */p'q^w/ (labial + rounded velar/uvular); */q^wp/ and *$/\bar{x}^{w}p/$ (rounded uvular + labial); */p'k/, */p'q/ and */p'$\bar{x}$/ (labial + BACK); */cq'^w/ and */ƛ'q^w/ (FRONT + rounded uvular); */k'^wt/, */k'^wc/, */q'^wc/, */q^wƛ'/ and *$/\bar{x}^{w}ƛ'/$ (rounded velar/uvular + FRONT). Disregarding absentees such as */kt'/, */kc'/ and */xt'/, where (as in */kp'/, */k^wt'/, */q^wp'/, *$/\bar{x}^{w}c'/$ etc.) glottalized stops are systematically avoided as second members, we find that only */ƛ'x/ is devoid both of labial and rounded phonemes. Otherwise, the number of gaps in FRONT + BACK and BACK + FRONT is probably a corollary of the relatively

low frequency of BACK phonemes in general (FRONT : BACK = 27.65 : 18.49 = 1.50).
At this point, it is evident that, as far as their proportional occurrence and combinatory characteristics are concerned, the labials /p/ and /p'/ differ fundamentally from the other FRONT phonemes. We have already observed the absence of (1) /p/ before /k'^{W}/, /q^{W}/ and /$\bar{x}^{W}$/, (2) /p/ after /q^{W}/ and /$\bar{x}^{W}$/, (3) /p'/ before /k^{W}/, /x^{W}/ and /q^{W}/, as well as the expected gaps where */k^{W}p'/, */q^{W}p'/ and */$\bar{x}^{W}$p'/ might have appeared. The situation can, then, be summed up as follows:

FIG. 8: Two-Member Clusters of Labial and Rounded BACK

	p	p'	k^{W}	k'^{W}	x^{W}	q^{W}	q'^{W}	$\bar{x}^{W}$
p	∅	∅	pk^{W}	*	px^{W}	*	pq'^{W}	*
p'	∅	∅	*	-	*	*	-	p'$\bar{x}^{W}$
k^{W}	k^{W}p	(*)	∅	∅	∅	∅	∅	∅
k'^{W}	k'^{W}p	-	∅	∅	∅	∅	∅	∅
x^{W}	x^{W}p	x^{W}p'	∅	∅	∅	∅	∅	∅
q^{W}	*	(*)	∅	∅	∅	∅	∅	∅
q'^{W}	q'^{W}p	-	∅	∅	∅	∅	∅	∅
$\bar{x}^{W}$	*	(*)	∅	∅	∅	∅	∅	∅

(Superimposed parentheses appear for clusters (both extant and absent) that are discussed in 3.1 (figs. 4 and 7) and 3.2.1.3, while parenthetic asterisks represent clusters that are, although phonotactically acceptable, avoided.)

The ratio between existing clusters and absentees that are phonotactically permissible (9 : 8) indicates, again, that the feature LABIAL is tolerated only reluctantly in the vicinity of the feature ROUNDED. Now, if the (optional) feature LABIAL CONTACT (fig. 1) did play a role in the emphatic dentals (so far still hypothetical), then it is obvious why in Bella Coola, voiceless labials are (besides being infrequent) structurally deviant:

the pre-Bella Coola archi-feature (EMPHATIC +) LABIAL CONTACT / ROUNDED - which intersects the archi-feature EMPHATIC (+ LABIAL CONTACT) / RETRACTED - was not easily repeated in two-member sequences.

(The term "archi-feature" here implies that the features LABIAL CONTACT (/ß/) and ROUNDED (/^{W}/), being in complementary distribution, are identical, and that EMPHATIC (/^{ʔ}/) and RETRACTED (uvularity and /ˌ/), too, represent one (archi-)feature; see further section 4.)

In the homorganic BACK + BACK clusters /k^{W}x^{W}/, /k'^{W}x^{W}/, /x^{W}x^{W}/ and /q'$^{W}\bar{x}^{W}$/ (see 3.2.1.3), on the other hand, the feature ROUNDED is repeated. Here, however, such repetition may be due to assimilation and reduplication. Thus, /k^{W}x^{W}/ 'to cause something to fit' may (if akin to e.g. Squamish /$\check{c}$á^{ʔ}ix^{W}/ 'to get used (to things)') continue */kə(ʔ)x^{W}, ka^{ʔ}(i)x^{W}/, and the root /k'^{W}x^{W}/ 'to observe' appears to go back to */k'^{W}ək, k'^{W}ak/, cf. Squamish /k'^{W}a$\check{c}$/ (root) 'look, catch sight of' (for fricativization of */k#/ in Bella Coola see 4.3.1.1.1); /x^{W}aax^{W}x^{W}i/ (= /x^{W}aax^{W}i/) 'light of weight' may be /x^{W}aax^{W}:x^{W}i/, and /q'$^{W}\bar{x}^{W}$/ 'to move something' seems to continue */q'ə$\bar{x}$, q'ə$w\bar{x}$/, cf. Shuswap /q'$\bar{ɣ}$-em/ 'to set in motion, move'.

In Cl, Sh and Sq, */p'q^{W}/, */k^{W}p'/, */q^{W}p'/, */q'^{W}p'/ and */$\bar{x}^{W}$p'/ are not found either (neither are */k^{W}p/ and */q'^{W}p/, which do exist in Bella Coola), whereas sequences that do not occur in Bella Coola are /pk'^{W}/ (Cl, Sq), /pq^{W}/ (Cl), /p$\bar{x}^{W}$/ (Cl, Sh, Sq), /p'k^{W}/ (Cl), /p'k'^{W}/ (Cl, Sq), /p'x^{W}/ (Cl), /p'q'^{W}/ (Cl), /k'^{W}p'/ (Cl), /q^{W}p/ (Cl, Sq) and /$\bar{x}^{W}$p/ (Cl).

3.2.1.3. **Hiatuses in BACK + BACK.** Clustering of postpalatal, rounded velar and (rounded) uvular phonemes is a rare phenomenon indeed, and those BACK + BACK clusters that exist generally constitute hapaxes. "Discordance" is avoided, and pairs having such structures as postpalatal + non-postpalatal, (rounded) uvular + (rounded) non-uvular and rounded velar + (rounded) non-velar are rather scarce: /xk'^{W}/, /q'k/, /$\bar{x}$k^{W}/, /$\bar{x}$q^{W}/, /$\bar{x}\bar{x}^{W}$/ and /k'^{W}q^{W}/ are the only non-homorganic BACK clusters found in the language (of these, note that /$\bar{x}\bar{x}^{W}$/, found in /^{ʔ}a$\bar{x}\bar{x}^{W}$ut/ 'to cough', does not alternate freely with */$\bar{x}^{W}\bar{x}^{W}$/, so that /$\bar{x}\bar{x}^{W}$/ ≠ */$\bar{x}^{W}\bar{x}^{W}$/, unlike /$\bar{x}$q^{W}/ = /$\bar{x}^{W}$q^{W}/). The only three unattested clusters of the type BACK stop/fricative + homorganic fricative are */xx/, */q$^{W}\bar{x}^{W}$/ and */$\bar{x}^{W}\bar{x}^{W}$/, and we conclude that /kx/ : /k'x/ : */xx/ = /k^{W}x^{W}/ : /k'^{W}x^{W}/ : /x^{W}x^{W}/ = /q$\bar{x}$/ : /q'$\bar{x}$/ : /$\bar{x}\bar{x}$/ = */q$^{W}\bar{x}^{W}$/ : /q'$^{W}\bar{x}^{W}$/ : */$\bar{x}^{W}\bar{x}^{W}$/ = /cs/ : /c's/ : /ss/ = /*$\check{ɬ}$/ : /$\check{ɬ}$'/ : /ɬɬ/ (N.B. /*$\check{ɬ}$/ = /tɬ/: /tɬ/ 'strong', /tɬmas/ 'Indian paint', and the like, are often realized phonetically with an optionally sustained lateral affricate). (Another possible correspondence, involving /p/ and /p'/, is postulated in 3.2.2.) Sequences having the structure fricative + homorganic stop, on the other hand, are remarkably rare, /$\bar{x}$q/ and /$\bar{x}^{W}$q^{W}/ being the only such clusters on record (cf. the absence of */ɬ$\check{ɬ}$'/ mentioned in 3.2.1.1).

3.2.2. **More on emphatic phonemes: aspiration, affrication, fricativity.** Evidence of the originally EMPHATIC ± LABIAL nature of Bella Coola labials is accumulating, and syn- and diachronic aspects of /p/, /p'/ and /m/ (discussed in 4.3 ff.) will lend further support to my thesis that labials have appeared relatively late in the evolution of Salish phoneme inventories. Moreover, there is circumstantial evidence that such labials have evolved from non-labial phonemes; below, we look at some quantitative and combinatory aspects of labial and dental phonemes.

In general, fricatives have in Bella Coola a higher frequency than glottalized stops (see fig. 2), while /h/ is very rare. At the same time, we note that /p'/ and /t'/ exist, while *$/f(^{w})/$ and *$/\theta/$ do not. It is possible that their absence is correlated with the circumstance that /p/ and /t/ have aspirated allophones, unlike the BACK plain stops, which have affricative ones (Nater (1984:4)). Thus, $[k^{xy}]$: $[x^{y}]$ = $[q^{x}]$: $[x]$ = $[k^{xw}]$: $[x^{w}]$ = $[q^{xw}]$: $[x^{w}]$, but not *$[p^{f(w)}]$: *$[f(^{w})]$ = *$[t^{\theta}]$: *$[\theta]$. On the other hand, there is the marginal phoneme /h/, which can be considered to relate to $[p^{h}]$ and $[t^{h}]$ in the same way as BACK fricatives do to BACK plain/affricative stops. Note: Ti /h/ (= non-St+Ti /p/) seems to have a similarly complex distribution (Thompson (1966:315)). Nevertheless, if we presume that (1) Bella Coola /p/ and /p'/ do indeed continue *$/t^{ↄ}(^{\beta})/$ and *$/t'^{ↄ}(^{\beta})/$, (2a) a fricative **$/\theta/$ (postulated ad hoc) had coincided with (or differed only marginally from) *$/s^{ↄ}/$, and (2b) **$/\theta^{ↄ}(^{\beta})/$ (being rather complicated phonetically!) had lost (could lose) one or more features, and had (could) become indistinguishable from *$/t^{ↄ}(^{\beta})/$, *$/s^{ↄ}/$ and/or *$/w/$, then

**$/t\theta/$: **$/t'\theta/$: **$/\theta\theta/$ = **$/t^{ↄ}(^{\beta})\theta^{ↄ}(^{\beta})/$: **$/t'^{ↄ}(^{\beta})\theta^{ↄ}(^{\beta})/$: **$/\theta^{ↄ}(^{\beta})\theta^{ↄ}(^{\beta})/$

(cf. /kx/ : /k'x/ : */xx/ etc. in 3.2.1.3) may have been continued in Bella Coola as

*$/ts/$: $/t's/$: $/ss/$ = $/ps, pw/$: $/p's, p'w/$: $/(s)s, (s)w/$

(The clusters /t's/, /pw/, /p's/ and /p'w/ are as infrequent as /kx/, /q'$\bar{x}$/ etc., while structurally, */ts/ compares with */$q^{w}\bar{x}^{w}$/ as */ts/ : */$q^{w}\bar{x}^{w}$/ = /c/ : /q^{w}/.)

Alternation between */$t^{ↄ}(^{\beta})$/ (Bella Coola /p/) and */$c^{ↄ}$/ (Bella Coola /c/), discussed in detail further below (4.3.1.1), was likely occasioned by the above-mentioned shift from **$/\theta^{ↄ}(^{\beta})$/ - which could also become */$t^{ↄ}(^{\beta})$/ - to */$s^{ↄ}$/. **$/\theta$/ and **$/\theta^{ↄ}(^{\beta})$/ will be considered again in 4.3 and 4.3.4.

4. **Emphasis, retraction, rounding.** In what follows, a detailed account is given of the historical and distributive aspects of Bella Coola labial, retracted and rounded phonemes. It will be shown that the two archi-features EMPHASIS (+ LABIAL CONTACT) OR RETRACTION (henceforth AF-I) and (EMPHASIS +) LABIAL CONTACT OR ROUNDING (AF-II) not only overlap, but also that the origin of AF-I predates that of AF-II, meaning that the split of **$/K^{w}$/ (/K/ = /k, k', x/) into */K^{w}/ and */Q^{w}/ (/Q/ = /q, q', $\bar{x}$/) occurred after the division of **/K/ into */K/ and */Q/. (In general, there are - to my knowledge - no languages that oppose /K/ to /K^{w}/ and /Q^{w}/ alone, while /K/ vs. /Q/ (vs. /K^{w}/) and /K/ vs. /K^{w}/ (vs. /Q/) are quite common; where */K/ has become /$\check{C}$/, even /K^{w}/ vs. /Q/ vs. /Q^{w}/ is possible. The apparently universal tendencies (1) /Q^{w}/ ↄ /K^{w}/, (2) /Q^{w}/ ↄ /Q/, (3) /K^{w}/ ↄ /K/ and (4) /Q/ ↄ /K/ ("/A/ ↄ /B/" = "presence of /A/ implies presence of /B/") are consistent with my

thesis that /Q^{w}/ ↄ /K^{w}/ ↄ /Q/ ↄ /K/ in Salish (for /K^{w}/ ↄ /Q/ see 4.1.3).) I will quote syn- and diachronic evidence corroborating my thesis that Bella Coola (and, consequently, also most other Salish) /p/, /p'/ and /m/ continue resp. */$t^{ↄ}(^{\beta})$/, */$t'^{ↄ}(^{\beta})$/ and */$n^{ↄ}(^{\beta})$/. From here on, LABIAL CONTACT and ROUNDING will both be rendered as /^{w}/, and RETRACTION is occasionally symbolized as /^{ↄ}/, so that e.g. */$t^{ↄ}(^{w})$/ replaces */$t^{ↄ}(^{\beta})$/, and (*)/$k^{ↄ}$/ = (*)/q/, (*)/$x^{ↄw}$/ = (*)/$\bar{x}^{w}$/, etc.; the reasons for this decision will become clear in the sections that follow.

4.1. **Frequency ratios of FRONT (non-lateral) and BACK phonemes.** In what follows, we will contemplate the distribution of those Bella Coola phonemes that may, or may not, contain one of the features LABIAL, RETRACTION, ROUNDING and the feature complex RETRACTION + ROUNDING. Thus, we consider the ratios labial : dental/alveolar, rounded velar/unrounded uvular : unrounded velar, rounded velar : unrounded uvular and rounded uvular : rounded velar/unrounded uvular (but rounded uvular : unrounded velar, whose terms differ by more than one feature, will be disregarded). Here, and henceforth, "(unrounded) velar" stands for "postpalatal".

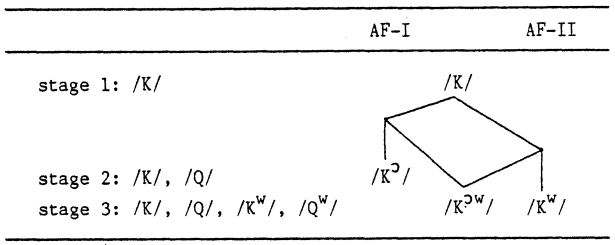
4.1.1. **Labial : dental/alveolar.** As adumbrated in section 3, labial : dental/alveolar = 3.24 : 18.71 = 0.17. Even if we ignore that /t/ and /t'/ share with /c/, /c'/ and /s/ the combined absence of the (archi-)features BACK, AF-I/II and LATERAL, we must still admit that the ratios /p/ : /t/, /p'/ : /t'/, /p/ : /c/ and /p'/ : /c'/ all are lower than 1 (one) (distinctly so /p'/ : /c'/), as is /m/ : /n/. /^{ə}m/, on the other hand, is more common than /^{ə}n/, the former differing from consonantal /m/ in some respects: in the first place, word-final /^{ə}m/ often appears to continue the suffix /-^{ə}m/ 'medium' (/-m/ after /a, i, u/, but most Bella Coola roots end in a consonant). Secondly, /^{ə}m/ may have a dual origin, viz. /^{ə}m/$_{1}$ from */$ən^{ↄ}(^{w})$/ and /^{ə}m/$_{2}$ from */$əwn(^{ↄ})$/ (cf. 5.2.2.2). Otherwise, /m, ^{ə}m/ differs from /n, ^{ə}n/ insofar as it can be followed by /s/ (Nater (1984:22)).

4.1.2. **Rounded velar/unrounded uvular : unrounded velar.** Not surprisingly, the ratios /K^{w}/ : /K/ and /Q/ : /K/ (except /$\bar{x}$/ : /x/), too, are lower than 1, as is /w, u/ : /y, i/. For the high frequency of /$\bar{x}$/, see 3.

4.1.3. **Rounded velar : unrounded uvular.** In general, /K^{w}/ : /Q/ = 3.70 : 5.57 = 0.66, this ratio suggesting that AF-I is indeed older than AF-II (the axiom here being that a phoneme's relative frequency is correlated with its "cumulative strength", i.e. is in proportion to the length of time that has elapsed since its emergence). As concerns the ratios /k^{w}/ : /q/ = 1.04 vs. /x^{w}/ : /$\bar{x}$/ = 0.45, observe the skewed distribution of /q/ and /$\bar{x}$/ described in 3.

4.1.4. **Rounded uvular : rounded velar/unrounded uvular.** The ratio /Q^W/ : /Q/ is, as expected, lower than 1, viz. 3.70 : 5.57 = 0.66, but /Q^W/ : /K^W/ = 3.70 : 3.70 = 1.00, and rounded velars and rounded uvulars thus appear to have evolved rather simultaneously, /Q^W/ being the product of the interaction between AF-I and AF-II:

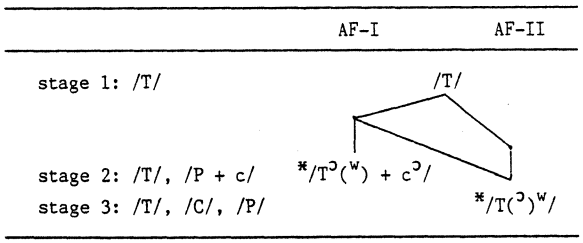
FIG. 9: The Effects of AF-I and AF-II on Velars



Note, that /p/ and /p'/, as well as some instances of /c/ and /c'/, appear to have evolved in a similar way; this parallelism is discussed below.

4.2. **The frequency and evolution of /C/ and /P/ as compared with /Q/, /K^W/ and /Q^W/.** The similarity in frequency ratio between (1a) /Q/ : /K/ (except /$\bar{x}$/ : /x/) and (1b) /C/ : /T/ (/C/ = /c, c'/, /T/ = /t, t'/) on the one hand, and (2a) (/K^W/ + /Q^W/) : (/K/ + /Q/) and (2b) /P/ : (/T/ + /C/) on the other (/P/ = /p, p'/), suggests (along with the alternation between */$t^{ↄ}$(^{W})/ and */$c^{ↄ}$/: 3.2.2) a development as outlined in fig. 10 below.

FIG. 10: The Effects of AF-I and AF-II on Dentals



As indicated, a (post-AF-II) split of */$T^{(ↄ)W}$/ into */T^W/ and */$T^{ↄW}$/ did not occur, the phonetic distinctiveness of EMPHASIS having been obscured by LABIAL CONTACT; the latter feature likely replaced the former, */$T^{(ↄ)W}$/ thus becoming */$T^{ß}$/ (characterized mainly by

CONTACT BETWEEN APEX AND UPPER LIP, while CONTACT BETWEEN DORSUM AND DENTAL+PREPALATAL REGION was at most concomitant).

There is, however, a difference (as concerns frequency ratio) between (1) /T/, /C/ and /P/ and (2) /K/, /Q/, /K^W/ and /Q^W/: even though /K^W/ and /Q^W/ each are rarer than resp. /K/ and /Q/ (as is /P/ in relation to /T/ and /C/), /K^W/ and /Q^W/ (combined) occur more often than either /K/ or /Q/ (unlike /P/ vs. /T/ and /C/). Did the high frequency of */$K^{(ↄ)W}$/ contribute toward its split into /K^W/ and /Q^W/, whereas the rarity of */$T^{(ↄ)W}$/ prevented such a rift? Or, more tersely: was the complete application of AF-I+II conditioned by the difference in frequency between */$K^{(ↄ)W}$/ and */$T^{(ↄ)W}$/? (Such relative frequency may also have played a role in the partially completed shift from */$q^{(W)}$/ to /$\bar{x}^{(W)}$/ discussed in 4.3.1.1.2. The partial replacement of */$T^{ↄ(W)}$/ by */$K^{(ↄ(W))}$/ (see 4.3.2) may have been another factor preventing a split of */$T^{(ↄ)W}$/ into **/T^W/ and **/$T^{ↄW}$/.) Could RETRACTION (and/or BACK) be substituted for EMPHASIS, and was, as AF-I and AF-II emerged, */$K^{(ↄ(W))}$/ thus liable to replace */$T^{ↄ(W)}$/? This possibility should not be ignored, since we must also consider the dual nature of /ɻ/, which was realized phonetically as either EMPHATIC (dark/velarized) or RETRACTED (retroflex). (*/ɻ/ is continued as /ɪ/ in some Interior Salish languages (such as Lillooet), as /r/ in others (e.g. Coeur d'Alene), while in e.g. Shuswap, it has left its mark on the preceding vowel.) Such a tendency, then, may account for the imbalance (/K^W/ + /Q^W/) : (/K/ V /Q/) (greater than 1) vs. /P/ : (/T/ V /C/) (less than 1). Further below (4.3.2), I will try to establish that a partial replacement of */$T^{ↄ(W)}$/ by */$K^{(ↄ(W))}$/ has in fact had an impact (at least marginally so) on older stages of Bella Coola.

4.3. **The origin of Bella Coola labials: detailed evidence.** Below, we shall examine the syn- and diachronic aspects of Bella Coola labials: (1) oscillatory relations between /P/, /T/, /C/, /K(^{W})/ and /Q(^{W})/ in Bella Coola and (2) historical-comparative data showing that in pre-Bella Coola, */T/ could vary with */C/, that */$T^{(ↄ)}$/ did not always evolve into either */$T^{ↄ(W)}$/ or */$C^{(ↄ)}$/, that */$K^{(ↄ(W))}$/ could be substituted for */$T^{ↄ(W)}$/, and that */$n^{ↄ(W)}$/ usually became */m/ in the early Salish dialect continuum, but was also liable to be replaced by */w/ (not only in pre-Ti: in Lushootseed, too, */$n^{ↄ(W)}$/ has been denasalized, and is here continued as /b/). The alternation between */$t^{ↄ(W)}$/ (here from **/$θ^{ↄ(W)}$/?) and */$n^{ↄ(W)}$/ will be considered too, reminiscent as it is of the alternations (voiceless-voiced) described by Kuipers (1981:324-5, 326-8); his astute observations need not be repeated here, and uvular-velar doublets, proto-Salish velar and uvular sonorants, glottalized sonorants and */ɻ/ will therefore be disregarded in the sections that follow.

4.3.1. **(*)/T/ alternating with (*)/C/.** Oscillation between /t/ and /c/ in Bella Coola manifests itself in a number (admittedly small) of doublets. (Similar alternations are

described in 4.3.1.1.2, 5.2.2.1 and 5.2.3.1-2.) Words and roots constituting such pairs have identical or closely related meanings: /t-/ 'non-female' and /c-/ 'female' (deictics) (Nater (1984:43)), /tay/ '(hey,) boy!' and /cay/ '(hey,) girl!' (compare /t-/ and /c-/), /tipi/ and /cipi/ (roots) 'having (doing something with) one (body part)', /tk'^{w}/ 'to dig something up' and /ck'^{w}m/ 'to pull something out', /tuk'/ 'to stretch something' and /cak'^{w}/ 'straight' (the latter also compares with Sq /təq'^{w}, taq'^{w}/ (root) 'straight'), /t(a)q'/ (root) 'thick, dense' and /cq'm/ 'curled up, shrunken', /tp/ 'covering a surface or orifice' (root) and /cupc/ 'to plug a hole' (the latter, if from /cup/ 'to pound cedar bark so as to soften it' + /-c, -uc/ 'orifice', may be of Wakash origin, cf. Haisla /zwp-/ 'to use soft material; to fill, stuff, or plug up with soft material'; for a likely Salish cognate of /cup/, consider Sh /tup-m/ 'to pound, smash up' mentioned below). There are only two examples of /t' - c'/ alternation, to wit /t'um/ and /c'u(m)/ (root) 'to suck on something', /t'x^{w}/ 'to sweep' and /c'ix^{w}/ 'to scour something', while /t'/ seems to vary with /c/ in /t'qi/ 'mesh' and /cq/ 'to make a hole in something', /nut'ax̄^{w}m/ 'to bathe' and /cax̄^{w}m/ 'to wade' (= /cax̄^{w}-m/ (cf. /s-ca:cx̄^{w}-an/ 'Tatsquan Creek'), which itself may be compared with Sq /síx̄^{w}-im/ 'walk into the water'; for /c - s/ see 4.3.1.1.2). On the comparative level, we note that Bella Coola /c/ and /c'/ are cognate with resp. /t/ and /t'/ in other Salish in several cases: /cup/ 'to pound cedar bark so as to soften it' : Sh /tup-m/ 'to pound, smash up', /ci/ (root) 'to stretch' : Sh /tal-m/ id., /kas-caw/ 'to bargain' : Sh /tew-m/ 'to buy', /puc-uc/ 'the river rises' : Sh /t-pət-p-qin/ 'flow, run over', /ciq'^{w}/ 'to break something' : Sq /t'əq'^{w}, t'aq'^{w}/ (root) 'be broken', /cak'^{w}/ 'straight' : Sq /təq'^{w}, taq'^{w}/ (root) id., /c'p/ 'blocked' : Sq /t'ap/ (root) 'watertight' (but cf. also /tac'/ (root) 'to press something down' listed in 4.3.1.1). In a few cases, Bella Coola /T/ matches /C/ in other Salish: /ti/ (root) 'firm, steady' : Sh /cɣ-ep/ 'to stand upright', /tix:tik'/ 'kindling' : Sh /cik'-m/ 'to cause to shine, illuminate' (cf. further /pik'/ 'shiny, sparkling', /mix:mik'ɬ/ 'star' and others listed in 4.3.1.1), /tx̄/ 'to hew something' : Sh /cx̄-em/ id. (cf. also Sh /px̄-m/ 'to whittle, plane' mentioned in 4.3.1.1), /qat'/ 'to pull something towards oneself' : Sq /q'ac'/ (root) 'be enfolded, embraced' (cf. 4.3.1.1: /qap'/ (root) 'to redo, rearrange, tuck, draw in').

4.3.1.1. **/P/ alternating with /T/ or /C/.** There is Bella Coola evidence that *$/T(^{ɔ})/$ could be affected by AF-II or affrication, thus varying with either *$/T^{ɔ}(^{w})/$ or *$/C(^{ɔ})/$ (= *$/c^{ɔ}$, c'/; for near-absence of *$/c'^{ɔ}/$ see 5.2.2.2). These fossilized alternations have been preserved in a number of /P - T/ and /P - C/ doublets: /pik'/ 'shiny, sparkling' and /tix:tik'/ 'kindling' (cf. also /mix:mik'ɬ/ 'star', /ck'/ (root) 'sharp, stinging', /cik'/ 'to stab something': was there a "macro-morph" *$/D(^{ɔ}(^{w}))ik'/$ 'to strike with something hard or sharp: to use a flint, make sparks, start a fire; having (been) lit, spark(ling), bright, illuminating' (*/D/ = */t, c, *Θ, n/), which in turn can be compared with e.g.

/nik'/ 'to cut the top off something', /nix/ 'to saw something', /tx/ 'to cut something with a knife', /tiq'/ 'to stitch, darn something', /tq'ɬa/ 'knife', /ciix̄/ 'to dig for something': *$/D(^{ɔ}(^{w}))ə(y)K/$ 'to hit and/or penetrate something with a hard and/or sharp thing'?), /qi:qip-í/ = /qi:qt-í/ 'small', /ɬup'-t/ (stem) 'breath, air, smell' and /ɬut'/ 'to smell something', /qap'/ (root) 'to redo, rearrange, tuck, draw in' and /qat'/ 'to pull something towards oneself' (cf. 4.3.1: Sq /q'ac'/), /pux̄/ 'to poke, prod something' and /ciix̄/ 'to dig for something' (the former may also be related to /x̄^{w}up/ 'to insert something', while the latter is tentatively brought in connection with *$/D(^{ɔ}(^{w}))ə(y)K/$ posited above), /x^{w}p/ 'to try to untangle or disengage something' and /x^{w}c/ 'to discharge or unpart something' (cf. also /ʔapx^{w}/ 'to lift something', /x^{w}p'/ 'to unhook something' and /x^{w}t'/ 'to become wrecked, to collapse'; should we also compare /tux/ 'to unravel something', and posit *$/x^{w}ət(')(^{ɔ}(^{w}))$, $x^{w}əc(^{ɔ})/$ and *$/t(^{ɔ}(^{w}))əx^{w}$, $t(^{ɔ})əwx/$ 'to separate, undo something'? (a Sh cognate of /tux/ is suggested below)), /p'iix̄/ 'to apply steam to something' and /c'ix̄/ 'to scald something' (cf. Sh /p'ix̄-m/ mentioned below). Comparative data pertaining to /P - T, C/ are: /tac'/ (root) 'to press something down' : Sh /pic'-n-s/ 'to squeeze, press down' (and /tic'-m/ 'to press, iron') (cf. also /c'p/ 'blocked' (4.3.1) and /p'c/ 'to push/hold something underwater'), /tux/ 'to unravel something' : Sh /pix-m/ id., /tx̄/ 'to hew, carve something with an adze' : Sh /px̄-m/ 'to whittle, plane', /c'um/ (root) 'smoked (fish)' : Sh /p'um'/ 'to smoke a hide', /c'ix̄/ 'to scald something' : Sh /p'ix̄-m/ 'to fry; to brand (cattle)', /pik'/ 'shiny, sparkling' : Sh /cik'-m/ 'to cause to shine, illuminate' (cf. *$/D(^{ɔ}(^{w}))ik'/$ posited above), /px/ (root) 'giving pleasure, being relishable' : Sh /cex^{w}/ (root) 'happy, glad' : Sq /cáʔ-cax^{w}/ 'be glad, happy', /p'alx/ 'to rise, get up' (*/p'al$^{\wedge}$lx/) : Sh /c'l-ilx/ 'to get up' and /s-c'lux^{w}/ 'standing' (cf. Bella Coola /p'alu/ (root) 'elevated'), /t'q/ (root) 'to adhere to a surface, be pasted on' : Sh /c-pq'-em/ 'to stick on, paste on', /c'x̄^{w}, c'aaq-/ 'white' (*/c'əq^{w}, c'əwʔq, c'aʔq/) : Sq /p'əq'/ id. (*$/t'^{ɔ}(^{w})əq'$, $t'^{ɔ}(^{w})əʔq/$), /ʔupk/ 'to send something' : Sq /wəcác$^{\vee}$/ 'to send (things)', /nu-pq't/ 'to fart' : Sq /təq'/ id., /qic'/ (root) 'shut off, secluded' : Sq /qəp'/ (root) 'close, shut' (cf. Sq /q'ac'/ (root) 'be enfolded, embraced', connected in 4.3.1 with Bella Coola /qat'/ 'to pull something towards oneself' and /qap'/ (root) 'to redo, rearrange, tuck, draw in'), /x̄c'a:c'ay/ 'sapling' : Sq /x̄áp-ay²ay/ 'young cedar'. (/x̄c'a:c'ay/ is, of course, in the first place a diminutive reduplication of /x̄c'a, qc'a/ (reshaped) 'rod, stick', which goes back to */x̄c'ay/ 'log' (Kuipers (1970:68)). However, the suggestion made here is that there has been ONE early Salish morpheme preceding BOTH Bella Coola /x̄c'a(:c'a-y)/ AND Sq /x̄áp-ay²ay/ (related to Sq /x̄p-ay'/ 'cedar'), the latter containing a root /x̄ap, x̄əp/, whose meaning is uncertain, but **"The root may have reference to a type or quality of wood, and be ultimately identical with /x̄əp'/ 'split, crack'"** (Kuipers (1967:368)). To date, we do not have a dictionary of early ("proto-")Salish suffixes, but assuming that */-ay(')/ 'flora' may be as old as Salish itself (cf. Lillooet

/-az'/ 'tree, bush, plant', Sq /-ay'/ 'bush, tree' and Bella Coola /-ay/ (non-productive) 'plant'), we sense that */x̄c'.../ 'log (, stick)' and */x̄...t(')ʔ(ʷ)/ ?'wood' are somehow related, possibly continuing */x̄(ə)c', x̄ət(')ʔ/ (stage 2) 'grow(th), expand from a central point, emerge, (begin to) protrude, penetrate etc.' Compare further Bella Coola /x̄p'/ (root) 'permeating, penetrating, saturated, through and through' and /qp'a/ 'egg'.)

We notice that (1) rare application of AF-II to dentals and (2) substitution of */C(ʔ)/ for */Tʔ(ʷ)/ are more characteristic of Bella Coola (henceforth Bc) than of other Salish: we count nine instances where Bc /t, t', c'/ correspond to /p, p'/ in Sh and Sq, but only five where Bc /p, p'/ = Sh/Sq /t, c, c'/. Note also, that the shift from NON-AFFRICATIVE STOP to AFFRICATE that characterizes */T(ʔ)/ to */C(ʔ)/ appears to have occurred more frequently than the one having yielded the /P - T/ doublets and cognate pairs, and that the former shift has a parallel in the uvular series, where */q(ʷ)/ was often replaced by (*)/x̄(ʷ)/, i.e. (AFFRICATIVE) STOP to FRICATIVE (see further 4.3.1.1.2, 5.2.2, 5.2.2.1 and 5.2.3.2). In fact, the pre-Bc uvular and rounded phonemes could generally undergo changes that are rather similar to the processes that could affect dentals and alveolars: */K(ʷ)/ could alternate with */Kʔ(ʷ)/ (AF-I), and */K(ʔ)/ with */K(ʔ)ʷ/ (AF-II); the former is treated by Kuipers (1981:325-6), and for the latter, see 4.3.1.1.1. The alternations */K(ʔ) - K(ʔ)ʷ/, */q(ʷ) - x̄(ʷ)/ and */c - s/ are detailed below.

4.3.1.1.1. **Velars and uvulars ± AF-II.** The distinction between rounded and unrounded BACK phonemes is in Bc neutralized before /u/ (/Kʷu/ and /Qʷu/, rounding being absorbed by /u/, occur with the exclusion of */Ku/ and */Qu/: see Nater (1984:4)), whereas a similar neutralization after /u/ (in favor of unrounded velars and uvulars) has not quite reached completion. Thus, although instances of /u/ + unrounded BACK are rather more numerous than /u/ + rounded BACK, there are (near-)minimal pairs such as /suq'/ 'to skin, peel something' vs. /suq'ʷ/ 'a name', /nux̄/ 'caught in a net' vs. /nux̄ʷski/ 'soapberry', /suk'/ (root) 'to blow, be wind' vs. /suk'ʷptus/ 'mountain lion'. Free variation was recorded in /st'ux(ʷ)si/ 'big wave, swell' and /tux̄(ʷ)/ 'definite, remote, plural (interrogative form)' only (for /tux̄(ʷ)/ see Nater (1984:44)). Metathesis and $C_1VC_1C_2$ reduplication (Nater (1984:107-12)) of /Kʷ, Qʷ/ + /u/ + /.../ cause loss of rounding only where the inverted or repeated /Kʷ, Qʷ/ can be assimilated to /.../ (in which case a homorganic cluster ensues). Thus, rounding is maintained in e.g. /x̄ʷuu:x̄ʷc-liwa/ 'supple, pliable' (from /x̄ʷuc/ 'to soak, soften something'), /kʷu:kʷpi/ 'grandfather' (no simplex), /ʔuq'ʷp/ (root) 'smoke' (= /q'ʷup/), while in /k'ʷuu:k'xani/ (diminutive of /k'ʷuxani/ 'butter clam') and /ʔuq'x̄/ 'to call somebody' (cf. /q'ʷux̄/ 'to invite somebody'), assimilation has taken place. On the other hand, in $C_1VC_1C_2$ reduplications of /.../ + /u/ + /K, Q/ (where /.../ is FRONT), /Kʷ, Qʷ/ regularly replaces /K, Q/ after the reduplicated /.../, witness /nu-tu:tk'ʷ-m-ik/ 'to have a sprained back' (/tuk'-m/ 'to be sprained'), /t'uu:t'kʷn-i/

(diminutive of /t'uka/ 'mink'; for /a - n/ see Nater (1984:21,108)), /c'u:c'qʷ/ 'to have sores' (cf. /c'uux̄-lx/ 'to develop sores'), /su:sqʷi-i/ = /suux̄i/ 'younger sibling' (for /q(ʷ) - x̄(ʷ)/ see 4.3.1.1.2), /ɬu:ɬkʷ/ = /ɬuk/ 'to pick something up', /st'uu:t'xʷsi-i/ (diminutive of /st'ux(ʷ)si/ 'big wave, swell'), /su:sk'ʷ/ (stem) = /suk'/ (root) 'to blow, be wind'. There are etymological indications that Bc /...uK/ and /...uQ/ usually continue */...uKʷ, ...əKʷ/ and */...uQʷ, ...əQʷ/, rounding apparently having been absorbed by /u/. Thus, /suk'/ is cognate with Sh /suk'ʷ-t/ 'to get blown away', /suux̄i/ (*/s-(ʔ)uʔqʷi(ʔ), s-(ʔ)əʔqʷi(ʔ)/; for */uʔ/ = Bc /uu/ see Nater (1977:5)) with Sq /s-(ʔ)əq'ʷɨʔtl/ 'brother, sister, cousin' and Sh /ʔuq'ʷy/ 'sibling of same sex', and /c'uux̄-lx/ with Sh /c'uɣʷ-t/ 'sore'. However, rounding in the Sh forms corresponding to Bc /suk'/ and /c'uux̄-lx/ may be secondary (automatic), as /u/ + unrounded BACK does not exist in Sh and other non-Bc Salish. Such secondary rounding (and absence of it in Bc) is found in Salish cognates of the Bc pair /suq'/ 'to skin, peel something' and /sq'/ 'to cut, tear something' (from */sə(w)q'/), cf. Sq /sq'-im'/ 'to split wood', Sechelt /səq'-t/ 'to tear', Sh /siq'-m/ 'to break, crack', Sh /x-suq'ʷ-m/ 'to skin a small furry animal', Lillooet /súq'ʷ-əm/ 'to skin an animal' (Sechelt and Lillooet data are from resp. Timmers (1977) and Van Eyk (1985)). Otherwise, there are several cases where Bc unrounded BACK not preceded by /u/ occurs beside rounded BACK (in some doublets) and/or corresponds to rounded BACK in other Salish. The four Bc doublets characterized by absence/presence of rounding are: /-mx/ 'individual, representative, native' and /-amxʷ/ 'individually, autonomously', /-nix, -nux/ = /-nuxʷ, -nxʷ/ 'beyond control + causative' (Nater (1984:68-9)), /k'x/ 'to observe (look at, see)' and /k'ʷxʷ/ (root) 'to be watchful, observe', /x̄s/ 'fat(ty), greasy' and /x̄ʷs/ 'to oil, lubricate something'. As far as /-mx, -amxʷ/ is concerned, note that /x - xʷ/ oscillation is also evident in Salish cognates: Sh /-mx/ 'people, person' and /-muxʷ/ ?'person', Sq /-miš, -məš/ and /-mixʷ, -məxʷ/ (formative suffixes, the latter one occurring **"especially in names of (groups of) people"**: Kuipers (1967:130)). Do all these continue proto-Salish */-(...-)nʔ(ʷ)ə(w)x/? (Cf. Nater (1987:22), where a set of allomorphs */-ɛ́n-wəx, -ən-wɛ́x, -ɛ́n-wə:wx, -ən-wɛ́:wx/ was posited (*/-ən-/ possibly being a connective suffix); I remain convinced that these are the (stage 1) precursors of the modern 'person(s)' suffixes.) /-nix, -nux(ʷ), -nxʷ/ is obviously related to e.g. Sh /-núxʷ/ 'be caught, affected', Sq /-nəxʷ/ 'non-volitional (transitive)', Lillooet /-nun(')/ 'consider', Sechelt /-n-ɛ́xʷ, -nɛ́xʷ/ (meaning undetermined), and may go back to */-n-ə(w)x, -n-əw-/ (cf. Nater (1984:69 and 1987:29); */-n-ə(w)x, -n-əw-/ is, then, the stage 1-2 morph-set preceding stage 3 */-n-ə(w)xʷ, -n-i(w)xʷ, -n-u-/). /k'x, k'ʷxʷ/ continues the older allomorphs (pre-AF-II) */k'ək/ and (post-AF-II) */k'ʷək(ʷ)/, cf. Sq /k'ʷaɛ̌/ (root) 'look, catch sight of'. (The deletion of */ə/ has in Bc led to fricativization of */k#/ and */k(ʷ)#/; cf. 3.1 (comments to fig. 6) and 5.2.3.1.) The doublet /x̄s, x̄ʷs/, in particular, is an indication that AF-II has been less penetrating in Bc than in other Salish (all Salish cognates of this

doublet begin in /x̄ʷ/). (AF-I, too, has occasionally failed to affect Bc, and there are a few seemingly irregular correspondences, of which should be mentioned Bc /sk'x/ 'black' = Sq /q'ix̄/ id. = Cowichan /c'q'ix̄/ id. (Nater (1977:28)); see Kuipers (1981:325-6) for more velar-uvular doublets in Salish.) Often, Bc unrounded velar/uvular appears to continue pre-AF-II */(w)K(ˀ)/ (with optional */w/), as illustrated by the following data. /tixca/ 'tongue' is cognate (and semantically identical) with Sh /tíxʷeʔck/, Sechelt /tíxʷcaɬ/, Coeur d'Alene /tixʷcv̓/, Cowichan /téxʷθəɬ/ etc. (Nater (1977:18)), and along with its suffixal equivalent /-al-ii(x)c/ (Nater (1984:77)) (= Sh /-ixʷeʔck/ and Sq /-alxʷcaɬ/), apparently continues the pre-AF-II core sequence */-ə(w)x(...)c..., -yə(w)x(...)c.../. (Comparing */-(...)c.../ with */-(u)c.../ 'mouth', and */-(y)ə(w)x(...)/ with Bc /-mx/ mentioned earlier, one wonders if */-(y)ə(w)x(...)c.../ is originally complex, i.e. 'human + mouth'. Otherwise, length in the Bc suffix (and /ʔ/ in Sh) seems to suggest that pre-Bc */-i(w)x.../ varied with */-i(w)ʔx.../ (from stage 1 */-yə(w)ʔx.../?), while Sh /-ixʷeʔck/ may continue pre-Sh */-ixʷ-əʔc.../ (from stage 1 */-yəwx-əʔc.../?).) Other reflexes of */ə(w)/ and */i(w)/ are /cx-m/ 'to disappear' (*/cə(w)x/, cf. Sq /cəxʷ/ id.), /t'ks-n/ 'to shoot something' (*/t'ə(w)ks/, cf. Sq /t'əkʷs/ 'explode, be fired (gun)'), /ciix̄, ciiq-/ 'to dig something up' (*/ci(w)q/, cf. Sq /cəqʷ, ciqʷ/ (root) 'dig up', /ciq/ 'get stabbed, speared, poked', Sh /ciq-m/ 'to dig'), /snx̄/ 'sun' (*/s-nə(w)q/, cf. Sq /s-nə́qʷ-m/ id., /nuqʷ/ 'noontime') (for Bc /x̄(ʷ)/ from */q(ʷ)/ see 4.3.1.1.2), /sx̄/ 'to scrape something' (*/sə(w)x̄/, cf. Sq /sáx̄-an'/ 'scrape', /sax̄ʷ/ (root) 'rub', Sechelt /sáx̄ʷ-at/ 'to scrape a hide', Sh /sex̄-m/ 'to scrape'), /ƛ'x̄/ (root) 'to burst, explode, rap' (*/ƛ'ə(w)q/, cf. Sh /t'qʷ-up-t/ 'to explode, go off (of firearm)'), /qla/ 'fresh water' (*/qə(w)l(...), qəwʔ/, cf. Sq /qʷu(l)/ (root) 'water', Lillooet /qʷuʔ/ id.), /qʷulun/ 'beaver' (*/qə(w)ləw(ʔ)/, cf. Sq /sqlaw'/ id., Sh /sqlew'/ id.). (Does /qʷulun/ continue a variant */qə(w)ləʔw-ən/? (In which case */-ən/ may be the formative suffix also encountered in /maax̄sa/ 'nose' (*/m-a(ʔ)qs-ən/), /tixca, tixcn-/ 'tongue' (*/t-i(w)x-c-ən/), /musa/ 'face' (*/m-us-ən/), /cuca, cucn-/ 'mouth' (*/c-uc-ən/), /maka/ 'testicle' (*/m-ak-ən/) - Nater (1984:75-8).) On the other hand, cf. Heiltsuk /qʷúlún/ (Nater (1977:52)) and Haisla /qulùnn/ (Lincoln and Rath (1986:297)). Note that Bc here resembles Wakash much more than Salish, and also that the Haisla word is apparently based on a root /qwɬ-/ (Lincoln and Rath (1986:478)); thus, it is possible that Bc /qʷulun/ is of Wakash origin, and that its resemblance to terms for 'beaver' in other Salish is coincidental. Other, equally plausible, scenarios are: (1) Wakash has borrowed the Bc word (Haisla /qwɬ-/ then being a back-formation); (2) pre-Bc Salish */qə(w)ləw(ʔ)/ has been modified under Wakash pressure; (3) the Salish and Wakash terms for 'beaver' are of substratum origin (cf. Nater (1987:47)). Kuipers (1970:65) reconstructs */s-qaláwʔ/, and suggests that the sequence */awʔ/ is originally suffixal. Although my reconstruction */qə(w)ləw(ʔ)/ differs slightly from Kuipers', I agree that */-awʔ, -əwʔ/ is a petrified suffix, because (a) the root structure CVC is

rather more common than CVCVC (Nater (1984:24)), (b) */-ən/ was compatible with (other) suffixes rather than roots (Nater (1984:75-8) and (1987:19,34,38,39)). I infer that early Salish */(s-)qal-, (s-)qəl-/ and early Wakash */q(ʷ)wL-/ (where */L/ = */ɬ, l/) ultimately derive from older (substratum) */qa(w)L-, qə(w)L-/, but that Bc /qʷulun/ is in essence a (post-substratum) Wakash-Salish hybrid, that is, */qəl.../ varied with Wakash-induced */qəwl.../, while Heiltsuk /...ún/ and Haisla /...ùnn/ may be of Salish origin (possibly via pre-Bc */...əʔw-ən/).)

Even after AF-II had evolved, */wK(ˀ)/ could still contrast with */K(ˀ)ʷ/ in pre-Bc, as evidenced by e.g. /pq'ʷ/ (root) 'fine, loose, particled' (*/tˀ(ʷ)əq'ʷ/, cf. Sq /páq'ʷ-an/ 'to scatter (feathers, seeds etc.)') vs. /nu-pq't/ 'to fart' (*/tˀ(ʷ)ə(w)q', tˀ(ʷ)ə(w)ʔq/, cf. Sq /puʔq/, /təq'/ id.), /tiix̄ʷ, tiiqʷ-/ 'to hit something with a hammer' (*/tə(y)ʔqʷ/, cf. Sq /tiq'ʷ/ 'to bump', Sh /teq'ʷ-m/ 'to nail'; also Haisla /dyqʷ-/ 'to drive in (piles, pegs, pins, skewers)') vs. /ciix̄, ciiq-/ (from */ci(w)q/, for which see above), /sq'ʷ/ 'to fly' (*/səq'ʷ/, cf. Sechelt /sə́q'ʷ/ id., Lillooet /seq'ʷ/ id.) vs. /suq'/ 'to skin, peel something' and /sq'/ 'to cut, tear something' (*/sə(w)q'/, cf. Sq /sq'-im'/ 'to split wood', Sechelt /səq'-t/ 'to tear', Sh /siq'-m/ 'to break, crack' and /x-suq'ʷ-m/ 'to skin a small furry animal', Lillooet /súq'ʷ-əm/ 'to skin an animal'), /mukʷ/ 'red' (*/nˀ(ʷ)əkʷ, kʷənˀ(ʷ)/, cf. Sq /kʷm:kʷím/ id., Sechelt /kʷəm-ím/ id.) vs. /t'ks-n/ 'to shoot something' (*/t'ə(w)ks/, cf. Sq /t'əkʷs/ 'explode, be fired (gun)'). However, Sq /-miš, -məš, -mixʷ, -məxʷ/ + Sh /-mx, -muxʷ/, Sq /ciqʷ, cəqʷ, ciq/ + Sh /ciq-m/, and Sq /sáx̄-an', saxʷ/ + Sh /sex̄-m/ + Sechelt /sáx̄ʷ-at/ suggest that */wK(ˀ)/ could also vary with */(w)K(ˀ)ʷ/; thus, the Bc particle /ʔax̄ʷ/ 'no, not' continues */ʔawq/, cf. Sq /haw-q/ 'there is not'. On the other hand, there are a few Bc words with /awk(')/, viz. /sisawk/ 'higher class dance' (maybe from */si:s-(y)əwʔk/, cf. Sq /yu(ʔ)kʷ/ (root) 'wealth, treasure (?)'), /ʔaw:k'awaɬ/ 'blind' (?from a root */k'aw/, cf. Sh /k'ew-lx/ 'old (of person)'), and /txʷukawk/ 'to go down to the river' (/txʷu-kaw-Øk/, cf. Sq /kaw, kəw/ 'descend', Sh /kew/ a root contained in /k'ʷəɬ-kəkew/ 'to fall down off something', Sechelt /cu+čáw/ 'to descend towards the water'; for Bc /txʷu-/ see Nater (1984:97), and Bc /-Øk/ = /-ik/ '(water) surface'). The one word with with /wq'ʷ/ is /ƛ'awq'ʷ/ (also /ƛ'aaq'ʷ/) 'tobacco', which is probably of Wakash origin (cf. Heiltsuk /ƛ'áwq'ʷà/ id.), and contrasts with /ƛ'aq'ʷ-t/ 'Douglas fir bark' (the inner bark being mottled red-brown, we may compare the latter with e.g. Haisla /ƛ'aqʷ-/ 'red').

4.3.1.1.2. **Stop/affricate alternating with fricative.** The Bc uvular stops /q/ and /qʷ/ alternate with resp. /x̄/ and /x̄ʷ/ in a few words and suffixes: /qikʷu, x̄ikʷu/ 'dragonfly', /qc'a, x̄c'a/ 'rod, stick', /paax̄ʷu, paaqʷu-/ 'to be afraid', /ʔaluux̄, ʔaluuq-/ 'behind, after, last', /ʔulq, ʔulx̄/ (root) 'mischievous', /ciix̄, ciiq-/ 'to dig something up', /tiix̄ʷ, tiiqʷ-/ 'to hit something with a hammer', /yalq, yalx̄/ (root) 'round, spherical',

/wiiq, wiix̄/ (root) 'to pry something open', /-aaq, -aax̄/ 'leg', /-iiq^{w}, -iix̄^{w}/ 'head', /-lqs, -lx̄s/ 'nose', /-alqi, -alx̄i/ 'neck' (the latter two contain the connective suffix /-(a)l-/, and /-qi, -x̄i/ goes back to */-qin(')/ - Nater (1987:39)). The allomorphs with /q(^{w})/ are as a rule older, and less common, than the ones with /x̄(^{w})/, the incomplete shift from */q(^{w})/ to /x̄(^{w})/ being a Bc innovation; thus, /wiix̄-/ is younger than /wiiq-/ (*/wi?q, wiq'/, cf. Sq /wiq'/ 'open (container)', Coeur d'Alene /g^{w}aq'/ 'spread apart as to part hair', Sh /wiq'-m/ 'to undo, wreck'), /paax̄^{w}u, paaq^{w}u-/ goes back to */t^{ɔ}(^{w})a?q^{w}-/ (cf. Sq /p'áq'^{w}aɬ/ 'get scared'), /-lx̄s, -lqs/ continues */-l-qs/ (cf. Sq /-qs/ 'nose, point etc.'), /-iix̄^{w}, -iiq^{w}/ compares to Sq /-(ə)q^{w}/ 'head', etc. However, not in all /q(^{w}) - x̄(^{w})/ doublets is /q(^{w})/ older than /x̄(^{w})/: /qc'a, x̄c'a/ is from older */x̄c'a(y)/ (cf. Sh /s-x̄c'ey/ 'wood, log, stick', Sq /x̄c'ay'/ 'unfinished canoe-hull'), and /c'uux̄, c'uq^{w}/ (root) 'having sores' continues */c'u(?)x̄(^{w})/ (cf. Sh /c'uy̓x̄^{w}-t/ 'sore').

In a few words, /c/ alternates with /s/: /supt, cupt/ (root) 'to whistle', /sipi, cipi/ (root) 'having (doing something with) one ... (body part)', /x̄^{w}is, x̄^{w}ic/ (root) 'restless, playful', /pus, puc-/ 'to swell', and the pair /sq'/ 'to cut, tear something' and /cq'/ 'to pull, tear (at) something'. With the exception of /cipi-/ and /x̄^{w}ic-/ (etymologies unknown), /c/ is here clearly innovative (unlike /q(^{w})/ vs. /x̄(^{w})/ in most cases!), cf. Sq /s̓úp-n/ and Sechelt /x^{w}úp-um/ 'to whistle' (for /s - *x/ see 4.3.2), Sq /pásm/ 'budding, sprouting' and Coeur d'Alene /pu?us/ 'swell, bubble', Sq /saq', səq'/ (root) 'split' and Sh /siq'-m/ 'to break, crack'. /c/ from */s/ is also attested in /cax̄^{w}-m/ 'to wade' (Sq /sí-six̄^{w}-im/), /q^{w}ilac/ 'to crush berries' (Haisla /q^{w}ilàs/ 'juice of berries'), /?lac/ 'sea cucumber' (Sq /?l.?ás/, Sechelt /?əl'ás/, Haisla /h'l̀h'as/), /?ica, ?icn-/ 'tooth' (*/yəsən, yənəs/, cf. Sq /yənís/, Sechelt /yánis/), /sk^{w}ac-ta/ 'name' (Sh /s-k^{w}est/, Coeur d'Alene /k^{w}is/ 'be named'), /scux-m/ 'fish leaps' (*/s-səwx, səx^{w}/, cf. Sh /sex^{w}-m/ 'to bathe, swim', Coeur d'Alene /sux^{w}-ilx̄/ 'fish dives'), /qaax̄acxi/ 'to tickle somebody' (*/qas, qə(y)s/, cf. Sh /qəs-qis-m/), /k^{w}tmc/ 'husband' (Sq /k^{w}tams/). */ns/ is always continued as /nc/: /x̄aq'anc/ 'crane' (Heiltsuk /qáq'áns/), /yanc/ 'driftwood' (Sh /yens/, but Lillooet /zénuc/). (Kuipers (1982:90) reconstructs */yanuc/ 'driftwood', whereas I prefer to posit stage 1 */yan(ə(w))S/ (for */S/ see 5.2.3.2), the latter having yielded pre-Bc and pre-Sh */yan(ə)s/, but pre-Lillooet */yanəwc = yanuc/. My revision of Kuipers' reconstruction is based on two considerations: (1) if Kuipers' etymon were correct, we would have expected Sh */yenuc/ or */yenc/ (/nc/ is acceptable in Sh: /pəɬtpenck/ 'April', /cncq^{w}eq^{w}lt/ 'to come to hear if there's any news'); (2) the sequence */ns/ is no longer tolerated in Bc (Nater (1984:22)), and has been replaced by /nc/.) Conversely, there are a few words with /s/ from */c/: /?asqa/ 'to be outside' and /?usqa/ 'to go outside' (Sq /?acq/ 'outside', /?ucq/ 'go outside', Sh /?úcqe/ 'to go out'), /?as/ (root) 'noun base: that which is ...' (Sq /?ac/ (root) 'surface, front'), /q^{w}als/ 'hemlock bough or needles' (Sq /q^{w}áy'ci/ 'hemlock', Sh /q^{w}elcn/ 'pine bough'), /q'^{w}s/ (root) 'leaking, running over,

flooding' (Sq /q'^{w}ac'/ 'rise (ab. tide)'), and possibly also /q^{w}s-m/ 'to sweat' (Sh /q^{w}ec/ 'warm'). Viewing the generally archaic character of the Bc language (Bc apparently having preserved more pre-AF-I and pre-AF-II forms than other Salish), one wonders if */c/ was an allophonic variant of */s/: (1a) /c/ : /s/ (= 0.37) is even less than /q(^{w})/ : /x̄(^{w})/ (= 2.85 : 4.02 = 0.71); (1b) the absence of */cq'^{w}/, */x̓'c/ and **/ts/ is compensated for by the presence of resp. /sq'^{w}/, /x̓'s/ and /tc/; (2a) */#ss/ has become /#sc/ (e.g. /scux-m/ from */s-səwx/ cited above); (2b) */c/ and */s/ were occasionally in free variation in earlier Salish other than pre-Bc (a remnant of such alternation is Sq /súyum, cúyum/ cited below, and note that Sq /c/ cannot be distinguished from /s/ in certain positions (Kuipers (1967:39)), while in Bc, not all /n, l/ + /s, c/ sequences occur (Nater (1984:22))). If (*)/c/ is indeed the result of a phonemic split, then (*)/c'/ (not from */t'^{ɔ}/!) must also be an innovation, that is, */s?/ (or */S?/, cf. 5.2.3.2) is continued as /c'/, whereas */#s-?.../ (with (*)/s-/ 'nominalizer') has been preserved. Consider the following data: /c'axam/ 'sour' : Sq /sáyam/ 'sour, bitter' : Sh /c'al-t/ 'bitter, sour, salty' (?*/say-, s?ay-, s?aɬ-/ 'acrid, sharp'), /sum/ 'to lap, sip' and /c'u, c'um/ (root) 'to suck' : Sh /c'm-em/ 'to (bite and) suck' (?*/səwn^{ɔ}(^{w}), s?əw(n^{ɔ}(^{w})), s?ən^{ɔ}(^{w})/ 'to suck'), /c'la/ 'basket' : Sh /sl-em/ 'to twine (a string)' (?*/səl, s?əl/ 'to weave, interlace'; cf. also Lillooet /c'le?/ = Thompson /c'í?a/ = Heiltsuk /c'lá/ = Tsimshian /c'əlá'/ 'basket' (Nater (1977:22))), /snq'^{w}s/ 'to be mad at somebody' : Sh /c'niq^{w}-n-s/ id. (?*/snə?q^{w}-, s?niq^{w}-/ id.), /s?ul-m/ 'what is put at stake in lahal game' : Sq /súyum, cúyum/ (root) 'spend goods or money in honor of something or somebody' (?*/s-?ul-, Sul-/ 'to use or display selected property'; cf. Bc /?ul/ (root) 'to produce, bring out, show (off)' and /?ulix/ 'to choose, select').

4.3.2. **Replacement of */T^{ɔ}(^{w})/ by */K(ɔ(^{w}))/.** As adumbrated in 4.2, pre-Bc */K(ɔ(^{w}))/ could be substituted for */T^{ɔ}(^{w})/. One reason for such replacement may have been the greater combinatory freedom in two-member clusters containing one BACK consonant, that is, whereas sequences such as */tt'^{ɔ}(^{w})/ and */t^{ɔ}(^{w})x̓'/ were not easily tolerated, there was less bias towards e.g. */tk'(^{w})/ and */k(^{w})x̓'/. This shift must have commenced rather early (it probably emerged at the same time as AF-I), and may have reached stabilization as AF-II began to evolve (so that stage 3 */T^{β}/ (from */T^{ɔ}(^{w})/) was no longer susceptible to replacement by */K(ɔ(^{w}))/). There are, however, not many traces left of this shift, and we must content ourselves with the few cognates postulated below.

*/t'^{ɔ}(^{w})/ - */k'(ɔ)^{w}/ - /lip'/ (root) 'to fold or turn something around' : /lik'^{w}/ 'to roll, turn something over' (?*/lə(y)t'^{ɔ}(^{w}), lə(y)k'^{w}, lə(w)k'/, cf. Sq /lap', ləp'/ (root) 'warped, skew', Sh /lep'-n-s/ 'to bend down (branches)' and /lk'-em/ 'to wind (string) around, to spin on a spool, to spin (thread)', Kalispel /yalk'^{w}/ 'bend, crooked', Coeur

d'Alene /dik'^{w}s/ 'turn about in going' (Kuipers (1982:90) posits */hɣyl, hyɣl/ 'to roll' (*/ɣ, ɣ/ are "darkened" vowels), assuming these to underlie e.g. Sh /yilk'^{w}-/ 'be coiled' and Coeur d'Alene /yark'^{w}/ 'be curved, crooked'; the latter are obviously related to Bc /lik'^{w}/, which - given that Kuipers' assumptions are warranted - is cognate with /ʔil/ (root) 'to go around, turn a corner' and /yalq, yalx̄/ (root) 'round')), /ɬup'-t/ (stem) 'breath, air, smell' : Sq /sɬák'^{w}am/ 'breath' (?*/ɬut'^{ɔ}(^{w}), ɬak'^{w}/; cf. also Bc /ɬut'/ 'to smell something'), /q^{w}up'/ 'to punch, hit something with the fist' : Sq /q'^{w}uq^{w}, q'^{w}əq^{w}/ (root) 'beat, strike' (?*/q(')^{w}u?t^{ɔ}(^{w}), q'^{w}uq(^{w})/), /ɬuq'/ (root) 'peeled, skinned' : Sechelt /ɬup'-íws-t/ 'to skin an animal' (?*/ɬuq'(^{w}), ɬut'^{ɔ}(^{w})/; compare also /ɬuc'/ cited below), /q'^{w}up/ 'to treat something with, expose to smoke' : Sh /p'um'/ 'to smoke a hide' (?*/q'^{w}ut^{ɔ}(^{w}), t'^{ɔ}(^{w})un^{ɔ}(^{w})/; cf. also Bc /c'um/ (root) 'smoked (fish)' cited in 4.3.1.1 and below).

*/c'(^{ɔ})/ - */k'(^{ɔ})^{w}/ (for rare */c'^{ɔ}/ see 5.2.2.2) - /k'^{w}n/ 'to point, aim at something' : Sh /xc'n-os-m/ 'to aim' (?*/k'^{w}ən, c'(^{ɔ})ən/; is Sh /...c'n-/ in turn cognate with Bc /c'i/ (root) 'to close one's eye(s)'? - see further Nater (1977:23,45)), /q'^{w}up/ 'to treat with, expose to smoke' : /c'um/ (root) 'smoked (fish)' (?*/q'^{w}ut^{ɔ}(^{w}), c'(^{ɔ})un^{ɔ}(^{w})/; compare Sh /p'um'/ cited above), /ɬuc'/ 'to strip, undress somebody' : Lillooet /ɬuq'^{w}/ (root) id. (?*/ɬuq'(^{w}), ɬuc'(^{ɔ})/; cf. Bc /ɬuq'/ above). (Are Bc /ɬuq'/, /ɬuc'/, Lillooet /ɬuq'^{w}-/ and Sechelt /ɬup'-/ extensions of a root */ɬu, ɬəw/ 'detached, loosened', which in turn may have varied with */ləw, law, liw/, cf. Bc /law, lu-/ 'loose' and Sh /lɣ̄^{w}:liɣ̄^{w}/ id.? /ɬuc'/, at least, is probably originally complex, /c'/ being comparable to /-lic'/ 'skin, sheet etc.' (in Sq /ɬuíc'a^{2}m/ 'undress', Kuipers isolates the formative suffix /-ic'a?/). /q'/, on the other hand, is less transparent, but it may be identical with the petrified Bc suffix */-(l)q'/ 'across, the other way (around)' found in e.g. /x̄lq'/ (root) 'to turn something around, move something across' (with Salish cognates, but cf. also /x̄l/ (root) 'sent, directed') and /tplq'/ (root) 'to turn something inside out' (*/t(x)-pl-(l)q'/, cf. Sh /c-x-pleq'/ 'inside out' and Bc /pl/ (root) 'to tip something'). The sequence /...uq'/ recurs in /suq'/ 'to skin, peel something', which - if from */səw-q'/ - may be related to e.g. Sh /sɣ̄^{w}:siɣ̄^{w}/ 'loose'.)

*/s(^{ɔ})/ - */x/ (if this alternation is restricted to Coast Salish, as the samples seem to indicate, */s(^{ɔ})/ should read */s/) - /supt/ (root) 'to whistle' : Sq /šúp-n/ id., Sechelt /x^{w}úp-um/ id. (?*/s(^{ɔ})ut^{ɔ}(^{w}), xəwt^{ɔ}(^{w}), x^{w}ut^{ɔ}(^{w})/; cf. Lillooet /x^{w}ítən/ 'to whistle'), /sk^{w}ac-ta/ 'name' : Sechelt /s-k^{w}iy̌/ id., Musqueam /sk^{w}ix^{y}/ id. (?*/k^{w}as(^{ɔ}), k^{w}is(^{ɔ}), k^{w}ix/; cf. Sh /s-k^{w}est/ = Lillooet /s-k^{w}écic/ 'name', the latter, like Bc, with /c/). Is there a similar relation between Bc /c/ and Sechelt /č/ in /cak^{w}/ 'long' : Sechelt /čuk^{w}/ 'far', i.e. */c(^{ɔ})ak^{w}, kəwk(^{w})/?

*/t(')^{ɔ}(^{w})/ - */k(')(^{ɔ})/ - /piƛ'/ 'dirty' : Sh /kət:ket'-t/ id. (?*/t^{ɔ}(^{w})iƛ', kəƛ'/), /ƛ'ap/ 'to go' : Lillooet /ƛ'ak/ id., Sh /t'?ek/ id. (?*/ƛ'at^{ɔ}(^{w}), ƛ'(?)ak/), /q'aw/ 'to wrap up, store something' : Sechelt /p'áwaw-at/ 'to wrap up' (?*/k'^{ɔ}aw, t'^{ɔ}(^{w})aw/; cf. Sq /q'iw'/ (root) 'envelop'), /k'lay/ 'bark of western birch' : Sq /p'éli?/ 'thin bark', Sh /p'ələn'/ 'bark of tree', Coeur d'Alene /č'el/ 'be bark', Kalispel /č'i?lélx^{w}/ 'bark' (?*/k'əl-, t'^{ɔ}(^{w})əl-/). (The Kalispel term for 'bark' has /?/ (/-elx^{w}/ being a suffix), as do Comox /p'á?yan/ 'treebark' and Thompson /p'a?yán/ 'rough bark'; Sechelt /p'əl(')án/ = Cl /p'al'án/ 'treebark' have /l'/ (glottalization being optional in the Sechelt word), while Sh and Sq have /n'#/, resp. /?#/ (Kuipers (1982:75)). We can explain such unstable (or "mobile"?) glottalization by positing a suffix */-ay', -əy'/ 'flora' (for which cf. the note on /x̄c'a:c'ay/ in 4.3.1.1) whose feature of glottalization could be transferred to the root it was combined with; this */-ay', -əy'/ may have alternated with */-an'/ (but Kuipers, who reconstructs */p'alan(?)/, does not isolate */-an(?)/ as such).)

As far as */Kəw/ and */K^{w}u/ are concerned, the former sequence often coincided with the latter one in earlier Coast (or proto-)Salish. (In reconstructing */Kəw/, I differ from Kuipers, who concludes that **"in languages where the distinction k - k^{w} was neutralized before u, the consonant in a sequence k(^{w})u could be identified either with k or with k^{w}"**. Note that in some southern Interior Salish, too, */K/ is continued as /x̌/.) Thus, for instance, */kə́wsən/ = */k^{w}úsən/ 'star' (Sq /k^{w}úsn/, Lushootseed /x̌úsəd/), */kəwɬ-, kəwl-/ = */k^{w}uɬ-, k^{w}ul-/ 'to borrow' (Sq /k^{w}úɬn/, Lushootseed /x̌ul'-/, Bc /k^{w}ul-/), */k'əwk'(^{w})-/ = */k'^{w}uk'(^{w})-/ 'skunk cabbage' (Bc /?uk'^{w}uk'/, Sq /x̌'úk'^{w}a/), */xəwk'(^{w})/ = */x^{w}uk'(^{w})/ 'to bathe somebody' (Bc /x^{w}uk'/, Sq /x̌uk'^{w}/ (root)), */xəwl-/ = */x^{w}ul-/ 'to drill, make a hole in something' (cf. Bc /x^{w}ul/ (root), Sq /x̌uy/ (root)). (Note, that Kuipers (1970:64) reconstructs */xul, xəl/ 'turn, drill (round)', which is formally and semantically similar to */sal/ 'turn, spin' (Kuipers (1970:61)). If */x^{w}ul-/ (Kuipers' */xul, xəl/) and */sal/ are indeed cognate, we have here an example of all-Salish */s - x/ alternation.) Although */K^{w}u/ could replace */Kəw/, the reverse (i.e. */Kəw/ superseding */K^{w}u/) did not happen. Thus, */k^{w}upi/ 'elder' has /k^{w}u.../ reflexes only: Bc /k^{w}u(*:)k^{w}pi/ 'grandfather' = Sq /k^{w}úpic/ 'elder sibling' = Sh /k^{w}uk^{w}py'/ 'chief', and Bc /k'^{w}ult/ 'porpoise' = Sq/Sechelt /k'^{w}únut'/, too, has apparently no cognates with */č'u.../ elsewhere (but interestingly enough, /Ku/ contrasts with /K^{w}u/ in Columbian - M.D. Kinkade, personal communication).

4.3.3. ***/n^{ɔ}(^{w})/ = modern /m/ or /w/.** In most Salish, */n^{ɔ}(^{w})/ is continued as /m/ (/b/ in Lushootseed), but in Ti it has become /w/: Ti /thəwíx^{w}/ 'earth' = Sh /tmix^{w}/ 'land, country, world' = Sq /tmix^{w}/ 'earth, land, dirt' (? = Bc /tmx^{w}/ 'river'), Ti /wə́ws/ (1) 'four', (2) 'face' = Bc (1) /mús/, (2) /musa/ = Sechelt (2) /mə?ús/ 'head' = Sh (1) /mus/, etc. Ti /m/ is scarce indeed, and the only Ti words mentioned by Thompson as containing /m/ are /nəhíləm/ 'Nehalem', /t'ilímək^{w}ɬ/ 'Tillamook (people)', /mə́wman/ '(little) boy',

/k^{w}hə?ím/ 'nephew'. (Are the latter two related to e.g. Bc /mna/ 'child', resp. /?imc/ 'nephew, niece'? Ti /...man/ suggests that Bc /mna/ (from */n^{ɔ}(^{w})ən-a?/, cf. Nater (1977: 14)) is etymologically linked with /man/ 'father' (*/n^{ɔ}(^{w})an/). Of special interest is Ti /k^{w}hə.../, which may be identical with the underlined element in Sq /k^{w}tams/ 'husband' (= Bc /k^{w}tmc/) (Kuipers (1967:340)).) It appears that denasalization of */n^{ɔ}(^{w})/ has not always been limited to (pre-)Ti and Lushootseed Salish; below, I list a number of related forms (where Bc /m/ corresponds to /w/ in other Salish): /-max^{w}/ 'reciprocal' = Sh /-wéx^{w}/ = Kalispel /-we?x^{w}/ = Lillooet /-atw'áx^{w}/ (?*/-n^{ɔ}(^{w})a(?)x^{w}, -wa(?)x^{w}/; ?cf. */-n^{ɔ}(^{w})ə(w)x/ 'people' posited in 4.3.1.1.1), /cim/ 'to get hit, bumped' = Sh /cu?/ (root) 'to hit, strike' (?*/cin^{ɔ}(^{w}), cəw?/; cf. Sq /cəx^{w}/ 'get hit'), /sma/ 'myth' = Sq /wa, wa?/ (root) ?'identity' (?*/n^{ɔ}(^{w})a(?), wa(?)/ ?'genuine'; cf. also Bc /ma/ (root) 'one'), /nm/ (root) 'to be inside, contained' = Sq /niw', nəw', nu?/ (root) 'be inside, inserted' (?*/nən^{ɔ}(^{w}), nəw?, niw?/; cf. the Bc prefix /nu-/ 'inside'), /k'm/ 'to bite something' (compare /k'ix^{w}/ 'to gnaw on something' and /ki:kyu/ 'to chew something') = Sq /č̓'əm'/ id. = Sh /k'^{w}e?-ém/ 'to chew' = Coeur d'Alene /k'^{w}i?/ 'bite' (?*/k'ən^{ɔ}(^{w}), k'əw?, k'wə?, k'^{w}ə(y)?/), /qm/ 'to encase, wrap, shelter something' (cf. /qaw/ 'to enclose, surround something') = Sq /qəms/ 'be packed together' = Coeur d'Alene /q^{w}i?/ 'be hollow' = Sh /q^{w}u?/ 'navel', /c-q^{w}u?/ 'bay' (?*/qən^{ɔ}(^{w})(-), qəw?, qwə?, q^{w}ə(y)?/). /max^{w}uuli/ 'water hemlock' may have been borrowed from Wakash (cf. Haisla /wàx(^{w})uali/ id.), but also resembles Sh /ynix^{w}/ (with /n/!) id. (substratum */n^{ɔ}(^{w})ax^{w}, wax^{w}, nə(y)x^{w}/ (root)?), while /mnk/ 'excrement' is cognate with Sh /mnek/ = Kalispel /mn'eč̬/ = Comox /mánač̬/ id. (and also Haisla /mnak/ = Heiltsuk /mnák/ id.), but may also be akin to Sechelt /wač̬/ id. (or has the latter been borrowed from Lillooet /wac/ id.?). An alternation */n^{ɔ}(^{w})/ - */w/ - */x^{w}/ (cf. Sq /cəx^{w}/ and Bc /k'ix^{w}/ and /ki:kyu/ mentioned above) may have played a role in /lim/ = Sq /lix^{w}/ 'to fall down' and /stwix/ 'Stuie' (area east of Bella Coola) may, if from */s-twi(w)x/, be compared to Sq and Sh /tmix^{w}/ 'land'.

A more detailed study of */n^{ɔ}(^{w})/ and its reflexes in modern Salish may reveal (1) whether */n^{ɔ}(^{w})/ could alternate with */n/ (cf. section 4.3.1.1 and /max^{w}uuli/ above), and (2) if */n^{ɔ}(^{w})əw/ contrasted with */n^{ɔ}(^{w})u/ at all (and more generally: if */əw/ differed from */u/ after any consonant but */K/). One would also like to determine whether */n^{ɔ}(^{w})/ was in free variation with */ŋ(^{w})/ in pre-AF-II Salish, such VARIANCE then having prevented a partial */n^{ɔ}(^{w})/ by */ŋ(^{w})/ REPLACEMENT parallelling the ones treated in 4.3.2. On the other hand, have the Interior Salish velar and uvular sonorants /ɣ/, /χ̄/ and /χ̄^{w}/ (if they are indeed "gap fillers") evolved so as to compensate for the absence of */ŋ/, */ŋ̄/ and */ŋ̄^{w}/, and did */w/ equal */ɣ^{w}/ (non-nasal counterpart of */ŋ^{w}/)? (If such was the case, we can think of the /m/ - /w/ alternation as continuing */n^{ɔ}(^{w})/ - */G^{w}/ (where */G^{w}/ = */ɣ^{w}/ or */ŋ^{w}/).) I disagree here with Kuipers (1981:333), who claims that **"A phoneme ŋ^{w} would be enough of an oddity to require strong argumentation"**. That may be true, that is,

insofar as /ŋ^{w}/ ɔ /ŋ/ (cf. section 4), but /ŋ^{w}/ is not as odd as Kuipers thinks: /ŋ^{w}/ has phonemic status in e.g. Chaplino-St. Lawrence Island (Eskimo) (which also has /ŋ/ and voiceless /ŋ̥/ and /ŋ̥^{w}/, see Krauss (1976:191)); proto-Athabascan, too, may have had */ŋ^{w}/ (Krauss and Leer (1981:63)).

4.3.4. ***/t^{ɔ}(^{w})/ alternating with */n^{ɔ}(^{w})/.** There are in Bc and Sh some /p - m/ doublets, viz. Sh /peɣ̄/ (root) 'faded, empty' and /meɣ̄/ (root) 'grey', Sh /pluk'^{w}/ 'to gather, come together' and /mlk'^{w}-um/ 'collect into one whole', Bc /pic'/ (root) 'light, pale' and /mnc'/ 'yellow, blond', Bc /pik'/ 'shiny, sparkling' and /mix:mik'ɬ/ 'star'. I have not observed this oscillation in Sq (and I have found no exclusive Bc-Sq cognates continuing */t^{ɔ}(^{w}) - n^{ɔ}(^{w})/ doublets). Bc /m/ corresponds to Sh /p/ in: /kma/ 'to be sick, in pain' = Sh /k?ep/ 'sick', /qm/ 'to encase, wrap something' = Sh /qp-em/ 'to bandage' (cf. also Bc /qaw/ 'to enclose, surround something' and /q'aw/ 'to pack, wrap, store something' listed in 4.3.2 and 4.3.3), /x̄m/ 'to bite' = Sh /x̄ep-m/ 'to chew, crunch, gnaw', /qm/ (root) 'soft, delicate' = Sh /qəp:qep-t/ 'soft (as flannel)', /mnc'/ (root) 'to squeeze, crush something' = Sh /pic'-n-s/ 'to squeeze, press down' (cf. 4.3.1.1, where I compared Sh /pic'-n-s/ with Bc /tac'/ (root) 'to press something down'). For Bc /p/ = Sh /m/, consider: /puc-uc/ 'the river rises' = Sh /(c-)m?uc/ 'rise, be high (of water)' (and cf. Enderby Sh /p?uc/ 'to swell up (as rice)' and Sh /t-pət-p-qin/ 'flow, run over' cited in 4.3.1), /puq'^{w}/ 'wide, ample, loose' = Sh /miq'^{w}-m-t/ 'sagging (e.g. stockings)'. Bc /p/ = Lillooet /m/ in /piƛ'/ 'dirty' = Lillooet /mi?ƛ'/ id. There is one triplet where Bc /m/ = Sh + Sq /p/ (and Bc + Sh /l/ = Sq /ɬ/): /ml, mil/ 'to erase something' = Sh /pil-n-s/ 'to scatter' = Sq /piɬ-án'/ 'to scatter ordered things, erase'. If the /p/ participating in /p - m/ alternation is a vestige of the unstable phoneme ****/θ^{ɔ}(^{w})/ posited in 3.2.2, then /p/ : /m/ (****/θ^{ɔ}(^{w})/ : */n^{ɔ}(^{w})/) = /ɬ/ : /l/ = /x̄/ : /χ̄/ = /x̄^{w}/ : /χ̄^{w}/ (cf. 4.3).

5. **Conclusions.** The reconstructions postulated in the preceding sections are summarized below, and it will be shown that a number of them may entail a general revision of the proto-Salish phoneme inventory as reconstructed to date.

5.1. **/P/ from /T^{ɔ}(^{w})/.** In 2.1, I argued that labials as such are not likely to have existed in proto-Salish, and an innovative reconstruction, involving emphatic phonemes, was proffered. En passant, these emphatic dentals were identified as being phonetically related to the emphatic ("retracted") alveolars */c^{ɔ}/ and */s^{ɔ}/ (for the absence, c.q. rarity, of */c'^{ɔ}/ see 5.2.2.2). In sections thereafter, the reconstruction of */T^{ɔ}(^{w})/ was corroborated by the relations (1) /T/ : /P/ = /K/ : /Q/ (4.3, 4.3.1.1), (2) /m/ : /w/ = */n^{ɔ}(^{w})/ : */G^{w}/ (4.3.3) and (3) /p/ : /m/ $\stackrel{?}{=}$ /ɬ/ : /l/ etc. (4.3.4).

5.2. **Replacements and alternations.** Below, we consider, once more, (1) */K(ˀ(ʷ))/ for */T^{ˀ}(ʷ)/ substitution, (2a) alternation between /T/ and /C/, (2b) /P - T, C/ alternation, (3a) /q(ʷ)/ : /x̄(ʷ)/ and (3b) /c, c'/ : /s/.

5.2.1. ***/K(ˀ(ʷ))/ replacing */T^{ˀ}(ʷ)/.** In 4.3.2, I postulated a number of cognates that indicate a partial replacement of FRONT by BACK, such a shift allowing for rather greater morpho-phonotactic freedom. From the doublets cited, the following alternations became apparent: /p - k/ (2 samples), /p' - k'/ (1 sample), /p' - q'/ (1 sample), /p' - k'^{ʷ}/ (3 samples), /p' - q'^{ʷ}/ (3 samples, including Bc /q^{ʷ}up'/ : Sq /q'^{ʷ}uq^{ʷ}, q'^{ʷ}əq^{ʷ}/ and Bc /ɬuq'/ : Sechelt /ɬup'-íws-t/), /c' - k'^{ʷ}/ (1 sample), /c' - q'^{ʷ}/ (2 samples), /*/s(ˀ) - *x/ (2 samples). As well, I theorized that */K^{ʷ}u/ often replaced */Kəw/ (as a rule so in /K^{ʷ}u = = K^{ʷ}u/ languages), but that */Kəw/ could also become /K̆u/ (in /K^{ʷ}u vs. K̆u/ languages). In 4.3.3, I proposed that /m - w/ (with /w/ from */ɣ^{ʷ}/ or */ŋ^{ʷ}/) alternation may also have resulted from FRONT-to-BACK shift, and it was suggested that /m/ = /x^{ʷ}/ correspondences (however sporadic) may continue a merger of the alternations /m - w/ and /x^{ʷ} - w/, the latter one being of the same type as /p - m/ = /ɬ - l/ etc. (4.3.4); for /x̄(ʷ) - ɣ̄(ʷ)/ and /ɬ - l/ see Kuipers (1981:324-5 and 327-8).

5.2.2. **The alternations /T - C/ and /P - T, C/.** Bc /t(')/ was shown to alternate with /c(')/ in a number of doublets listed in 4.3.1, and comparative data suggested that this alternation is not merely a Bc innovation. In 4.3.1.1 /P - T, C/ alternation was treated, and a number of doublets and cognates revealed that */T(ˀ) - C(ˀ)/ and */T(ˀ) - T^{ˀ}(ʷ)/, too, are quite ancient.

5.2.2.1. ***/T(ˀ) - C(ˀ)/.** The alternations (I) */T - C/ and (II) */T(ˀ) - C(ˀ)/ are obviously related, but in (II), */C^{ˀ}/ varied with */T^{ˀ}(ʷ)/ (see further 5.2.2.2). It was established that (I) has a semantic-grammatical function in Bc /t-/ 'non-female' vs. /c-/ 'female' and /tay/ 'boy!' vs. /cay/ 'girl!' (4.3.1); the gender-distinction in articles is, however, common to all coastal Salish, cf. Sq /ti+/ 'definite-present-strong-proximal plain article' vs. /ci+/ 'definite-present-strong-proximal feminine article'. Both (I) and (II) are further connected with /c - s/ and /q(ʷ) - x̄(ʷ)/ alternation (see 4.3.1.1 and 4.3.1.1.2), and one suspects, again, that /c/ (and /c'/) may have evolved as the result of phonemic splits: /s, c_1/ from */S/ (/c'/ from */S?/; for */S(?)/ see 5.3, fig. 12) and /c_2, p/ from */c^{ˀ} - t^{ˀ}(ʷ)/.

5.2.2.2. ***/T(ˀ) - C^{ˀ}, T^{ˀ}(ʷ)/.** The appearance of AF-I occasioned contrastive application of EMPHASIS to dentals and alveolars and of RETRACTION to velars (and of either to */1/), and thus, */T/ began to contrast with */T^{ˀ}/, */c/ and */s/ with */c^{ˀ}/ and */s^{ˀ}/, */K/ with

*/Q/, and */l/ with */l̓/. Then, as AF-II emerged, the feature ROUNDING became distinctive in the velar and uvular series (see 4.1.4, fig. 9), but LABIAL CONTACT merely became an optional feature in the emphatic dentals (and as such did not even develop in the emphatic alveolars) (see 4.2, fig. 10). The doublets and cognates given in 4.3.1.1 demonstrate that AF-I and AF-II were sometimes applied optionally; cf. the Bc doublets /-mx, -amx^{ʷ}/, /-nix, -n(u)x^{ʷ}/, /k'x, k'^{ʷ}x^{ʷ}-/, /x̄s, x̄^{ʷ}s/ listed in 4.3.1.1.1. It is possible that /P/ continues */wT(ˀ)/ in some cases, and that */wT(ˀ)/ : */T^{ˀ}(ʷ)/ = */wK(ˀ)/ : */K(ˀ)^{ʷ}/ (for */wK(ˀ)/ see 4.3.1.1.1). Thus, Bc /qit, qip/ (roots) 'small', /ɬut', ɬup'-/ 'to inhale', /qat', qap'-/ 'to draw or pull towards oneself' (4.3.1.1) may derive from resp. */qit, qiwt(ˀ)/, */ɬut', ɬəwt'(ˀ)/, */qat', qawt'(ˀ)/, while /x^{ʷ}p, x^{ʷ}c/ 'to unpart, untangle' and the root /qic'/ 'secluded' (= Sq /qəp'/ (root) 'close, shut') (4.3.1.1) appear to go back to resp. */x^{ʷ}ət^{ˀ}(ʷ), x^{ʷ}əc^{ˀ}/ and */qət'^{ˀ}(ʷ), qic'(ˀ)/. Since alternation between */T(ˀ)/ and */C(ˀ)/ is older (pre-AF-II) than */T(ˀ) - T^{ˀ}(ʷ)/ (post-AF-II), and since (emphatic) alveolars were not affected by AF-II, it is possible that */C^{ˀ} - T^{ˀ}(ʷ)/ variation is the relic of a partially completed shift from */c^{ˀ}/ to */t^{ˀ}(ʷ)/ (where */t^{ˀ}(ʷ)/ took the place of what would have appeared as **/c^{ˀ}(ʷ)/). On the other hand, the /p' - c'/ doublets cited in 4.3.1.1 suggest that */c'^{ˀ}/ may have existed, so that */c^{ˀ}/ : */t'^{ˀ}(ʷ)/ = */c'^{ˀ}/ : */t'^{ˀ}(ʷ)/. However, */ç'/ is not found in those Interior Salish languages where /c/ and /s/ contrast with /ç/ and /ş/; it thus appears that /p' - c'/ has evolved <u>on the analogy of</u> - and, consequently, is of more recent origin than - /p - c/.

5.2.3. **Alternation between (affricative) stop and fricative.** In 4.3.1.1.2, I showed that Bc /x̄(ʷ)/ often continues */q(ʷ)/ (vs. /q(ʷ)/ from */x̄(ʷ)/ in two cases), whereas Bc /c/ often goes back to */s/ (but /s/ certainly continues */c/ in four instances).

5.2.3.1. **/q(ʷ)/ and /x̄(ʷ)/.** The partially completed Bc shift from */q(ʷ)/ to /x̄(ʷ)/, mentioned in 3, 4.1.2 and 4.1.3, has no parallel in the velar series. However, in 3.1 (comments to fig. 6), we saw that /x/ (as if from */k/) is almost as biased as /x̄^{ʷ}/ and /q^{ʷ}/ insofar as the latter were not recorded as occurring in combination with a following glottalized stop (while /k(ʷ)x̓'/ and /k^{ʷ}c'/ are the only instances of /k(ʷ)/ + glottalized stop). On the other hand, both /q/ and /x̄/ (and /x^{ʷ}/) <u>can</u> be followed by any glottalized FRONT stop, and one wonders if the (near-)absence of <u>/K, k^{ʷ}, K(ˀ)^{ʷ}/ + glottalized stop</u> is somehow linked with the scarcity of <u>/y, w/ + glottalized stop</u> (for the low frequency of glottalized stops after sonorants, see Nater (1984:23)). Compare, in this respect, the difference in combinatory strength between the different BACK series reviewed hereunder. In 3.1 (figs. 5-7) and 3.2.1.2-3, we studied two-member voiceless clusters containing at least one BACK consonant, and avoidance patterns were considered in detail. In 4.1.2-4, the frequency ratios <u>/K^{ʷ}/ : /K(ˀ)/</u>, <u>/Q/ : /K/</u> and <u>/Q^{ʷ}/ : /Q/</u> were found to be less than 1,

while /K^{w}/ : /Q^{w}/ = 1. Now, when we compare the data from 3.1 with the figures given in 4.1.2-4, some anomalies come to the fore. Thus, (1) /K/ is generally more frequent than /K^{w}/, but less prominent than /K^{w}/ in (a) /K(^{w})F/, (b) /BK(^{w})/ and (c) /K(^{w})B/ (F = FRONT consonant, B = BACK consonant); (2) /Q/ occurs more often than /Q^{w}/, except in /BQ(^{w})/, where /Q^{w}/ is more frequent than /Q/; (3) /K/ occurs with greater frequency than /Q/ (but /$\bar{x}$/ is more frequent than /x/: section 3, fig. 2), except in (a) /FK(^{ɔ})/, where /K/ and /Q/ are evenly distributed, and in (b) /K(^{ɔ})F/, (c) /BK(^{ɔ})/ and (d) /K(^{ɔ})B/, where /Q/ is more common than /K/; (4) /K^{w}/ is as frequent as /Q^{w}/, but not so in (a) /FK(^{ɔ})^{w}/, (b) /K(^{ɔ})^{w}F/ and (c) /K(^{ɔ})^{w}B/, where /K^{w}/ outnumbers /Q^{w}/. Of these contradictory ratios, only (1a), (3b) and (4b) can be readily understood: in /K(^{w})F/ and /K(^{ɔ})^{w}F/, /K^{w}/ occurs more frequently than resp. /K/ and /Q^{w}/, because the latter two cannot be followed by a glottalized stop (with the exception of /kƛ'/ and /xc'/), while /x^{w}/ is found in several such clusters (/x^{w}p'/, /x^{w}t'/, /x^{w}c'/, /x^{w}ƛ'/); in /K(^{ɔ})F/, /Q/ prevails over /K/ due to the occurrence of /qF'/ and /$\bar{x}$F'/, whereas /kƛ'/ and /xc'/ are the only /KF'/ clusters on record. When we consider the remaining anomalies, two patterns emerge: (I) ROUNDING and RETRACTION predominate in /BB/, and the ratios /K/ : /Q/ (less than 1 (3c-d)) and /K(^{ɔ})/ : /K(^{ɔ})^{w}/ (less than 1 except in /Q(^{w})B/ (1b-c, 2)) are possibly attributable to a type of phonetic concordance similar to the one noted in 3.2.1.3 (but note that */K(^{ɔ})^{w}K^{ɔ}/ is not found, while /K^{ɔ}K(^{ɔ})^{w}/ is: /$\bar{x}$k^{w}/, /$\bar{x}$q^{w} = $\bar{x}^{w}$q^{w}/, /$\bar{\bar{x}}$x^{w}/); (II) contiguous to any voiceless consonant, /K^{w}/ outnumbers /Q^{w}/ (4a-c) (/BK^{w}/, too, is actually more common than /BQ^{w}/, that is, if we consider /$\bar{x}$q^{w}/ and /$\bar{x}^{w}$q^{w}/ to be variants of one cluster /$\bar{x}$(^{w})q^{w}/), whereas /K^{w}/ : /Q^{w}/ = 1 in general. We infer from the above data that /K(^{w})/ and /Q(^{w})/ share two characteristics: (a) /K/ and /Q/ are less numerous after /B/ than resp. /K^{w}/ and /Q^{w}/ (1b, 2); (b) /K/ and /Q/ are distributed evenly after /F/ (3a). On the other hand, there are some differences: (c) /K/ is outnumbered by /Q/ both before /F, B/ (3b, 3d) and after /B/ (3c), while (d) /K^{w}/ is more frequent than /Q^{w}/ both before /F, B/ (4b-c) and after /F/ (4a). Furthermore, (e) /x^{w}/ can (unlike /$\bar{x}^{w}$/) be followed by /F'/, and (f) all possible /qF'/ and /$\bar{x}$F'/ sequences exist, whereas /kF'/ and /xF'/ are attested only in /kƛ'/ and /xc'/. As for (c) and (d), note the difference, in terms of relative frequency, between /K/ and /Q/ on the one hand, and /K^{w}/ and /Q^{w}/ on the other.

Finally, (short vowel +) /k', q'(^{w})/ varies with long vowel + /k, q(^{w})/ in the doublets /x^{w}uk', x^{w}uuk-/ 'to bathe somebody', /ɬuk', ɬuuk-/ 'repulsive', /tiq', tiiq-/ 'to darn something', /sq'^{w}, siiq^{w}-/ 'to fly' and /-aq'^{w}s, -aaq^{w}s/ 'eye' (cf. Nater (1984:19)). These oscillations (which are phonetically similar to /q(^{w}) - $\bar{x}$(^{w})/ and /t - c/ mentioned earlier) are parallelled by /ic' - iic/ (which in turn compares to /c - s/) discussed below, and probably continue an older alternation */V?k(^{ɔ}(^{w})) - Vk'(^{ɔ}(^{w}))/.

5.2.3.2. **/c/, /c'/ and /s/.** The alveolars have much in common with the BACK series,

particularly the uvulars: (1) a division PLAIN-GLOTTALIZED-FRICATIVE; (2) historically, absence or presence of EMPHASIS/RETRACTION (*/c'^{ɔ}/, however, being at best marginal); (3) (older) alternation PLAIN STOP - FRICATIVE; (4) (in Bc) variation between SHORT VOWEL + GLOTTALIZED STOP and LONG VOWEL + PLAIN STOP. Note that (1) is shared only partly with the lateral series, where a plain stop is lacking (such a lateral stop */ƛ/ is absent in most Salish, except Comox, while in early (stage 1) Salish, */ɬ/ may have varied freely with */ƛ/ - see further 5.3, fig. 12). Alternation between /ic'/ and /iic/ was recorded in two doublets, viz. /-lic', -liic/ 'skin' and /kic', kiic-/ 'to twist, wring something', where /ic' - iic/ may go back to */ic' - i?c/. Among all voiceless phonemes, /s/ has the greatest frequency, and thus resembles /$\bar{x}$/, which ranks highest among the BACK phonemes. From 4.1.4 and 4.2 (figs. 9-10) we conclude that /c/ from */c^{ɔ}/ and /s/ from */s^{ɔ}/ have evolved at the same time as /Q/ (i.e., as a portion of alveolars and velars were modified by AF-I). AF-II, however, could not further affect */C^{ɔ}/ (while it did yield /Q^{w}/); for the suppression of **/C^{ɔ}(^{w})/ see 5.2.2.2. The alternations /t(') - c(')/ (4.3.1), */T(^{ɔ}) - C(^{ɔ})/ (4.3.1.1, 5.2.2.2), /c - s/ (4.3.1.1.2) and /Vc' - $\bar{V}$c/ (above) are similar insofar as the second member of the pairs stop and affricate, affricate and fricative and short and long vowel is PHONETICALLY LONGER than the first one. Of these alternations, */T(^{ɔ}) - C(^{ɔ})/ is of special interest, because */c^{ɔ}/ itself alternated with */t^{ɔ}(^{w})/ (4.3.1.1). In 5.2.2.2, I ventured that this oscillation may have been the result of an older shift from */c^{ɔ}/ to */t^{ɔ}(^{w})/ (rather than to **/c^{ɔ}(^{w})/), and */c'^{ɔ}/ was provisionally postulated as completing the balance */c^{ɔ}/ : */t^{ɔ}(^{w})/ = */c'^{ɔ}/ : */t'^{ɔ}(^{w})/ (or: */t^{ɔ}(^{w})/ : */t'^{ɔ}(^{w})/ = */c^{ɔ}/ : */c'^{ɔ}/). Alternation between /c/ and /s/ was shown to go back to a pre-Bc shift */s/ to /c/ (illustrated with a number of doublets and lexical agreements between Bc and other Salish and/or Wakash) in 4.3.1.1.2, while instances of Bc /s/ from */c/ are quite rare. I further speculated that /c/ and /c'/ may not have had phonemic status in earlier Salish; this surmise, initially based on distributive and comparative considerations, was reiterated in 5.2.2.1, where I proposed that Bc /s/ and /c$_{1}$/ may continue */S/ (= */s, c/, see 5.3, fig. 12) (Bc /c'/ going back to */S?/), while Bc /c$_{2}$/ and /p/ possibly derive from */c^{ɔ} - t^{ɔ}(^{w})/. Analogously, */c^{ɔ}/, too, may have been an allophonic variant of a fricative (*/s^{ɔ}/), the (near-)absence of */c'^{ɔ}/ then being a corollary of the low ratio */s^{ɔ}/ : */s/.

5.3. **Pre-Bc phoneme inventories.** In section 4, I proposed that the features EMPHASIS OR RETRACTION (AF-I) and ROUNDING OR LABIAL CONTACT (AF-II) have emerged at different stages in the evolution of pre-Bc Salish. Although the uvular fricative /$\bar{x}$/ is quite predominant in Bc (4.1.2, 5.2.3.2), the ratio /k(')/ : /q(')/ = 3.87 : 2.99 = 1.29 is a good measure of the relative antiquity of AF-I (morpheme-initially, Sh /K/, too, is more common than /Q/), and in 4.1.3, the ratio /K^{w}/ : /Q/ = .66 confirmed that the origin of AF-I antedates

that of AF-II. (N.B.: the ratio /#K/ : /#Q/ is in Sh slightly more than 1. In Sq (where /#$\overset{v}{c}$ + #k/ : /#q/ = 81 : 80 = 1.01 only!), on the other hand, /#$\overset{v}{c}$' + #k'/ : /#q'/ = 80 : 85 = 0.94 (but /#$\overset{v}{s}$/ : /#$\bar{x}$/ = 43 : 67 = 0.55, not much lower than Bc /x/ : /$\bar{x}$/ = 0.64). One is awaiting more data, e.g. from Sechelt and Comox.) One realizes, then, that the concept "proto-Salish" should be abolished, and that a tiered division of early Salish into (1) pre-AF-I, (2) post-AF-I = pre-AF-II and (3) post-AF-II Salish (henceforth "Stages 1-3", cf. 4.1.4, 4.2) makes more sense. Consider now:

FIG. 11: Early Salish Dental Phonemes

Stage 1	Stage 2^E	Stage 2^W	Stage 3^E	Stage 3^W
/t/	/t/	/t/	/t/	/t/
/t?/	/t'/	/t'/	/t'/	/t'/
(/ɔ/)	/$t^ɔ$/	/$t^ɔ$/	/t, ç/	/t, c/
	/$t'^ɔ$/	/$t'^ɔ$/	/t'/	/t'/
(/w/)			/$t^ɔ(^w)$/	/$t^ɔ(^w)$/
			/$t'^ɔ(^w)$/	/$t'^ɔ(^w)$/

(E = Eastern (Early Salish), W = Western (Early Salish))

FIG. 12: Early Salish Alveolar and Lateral Phonemes

Stage 1	Stage 2^E	Stage 2^W	Stage 3^E	Stage 3^W
/s/	/s/	/s/	/s/	/s/
/S/	/c/	/c/	/c/	/c/
/S?/	/c'/	/c'/	/c'/	/c'/
	/$c^ɔ$/	/c/	/ç, $t^ɔ(^w)$/	/c, $t^ɔ(^w)$/
/n/	/n/	/n/	/n/	/n/
(/ɔ/)	/$n^ɔ$/	/$n^ɔ$/	/n/	/n/
(/w/)			/$n^ɔ(^w)$/	/$n^ɔ(^w)$/
/L/	/ɬ/	/ɬ/	/ɬ/	/ɬ/
/L?/	/ƛ'/	/ƛ'/	/ƛ'/	/ƛ'/
/l/	/l/	/l/	/l/	/l/
(/ɔ/)	/l̓/	/l/	/l̓/	/l/

(/L/ = /ɬ, ƛ/, /S/ = /s, c/)

It remains to be determined whether an independent phoneme */ɔ/ did exist at Stage 1; if so, what was its phonetic value? Was it e.g. the pharyngal stop /ʕ/ (cf. Sapir (1939))? Note further, that */n/ and */$n^ɔ(^w)$/ have here been categorized as VOICED ALVEOLARS, so that */s/ : */n/ = */$s^ɔ$/ : */$n^ɔ$/ = */ɬ/ : */l/.

FIG. 13: Early Salish Velar Phonemes

Stage 1	Stage 2^E	Stage 2^W	Stage 3^E	Stage 3^W
/k/	/k/	/k^y/	/k(^{y})/	/k^y/
/k?/	/k'/	/k'^{y}/	/k'(^{y})/	/k'^{y}/
/x/	/x/	/x^y/	/x(^{y})/	/x^y/
/ɣ/	/ɣ/	/$ɣ^y$/	/ɣ(^{y})/	/y/
/y/	/y/	/y/	/y/	/y/
/w/	/w/	/w/	/w/	/w/
(/w/)			/k^w/	/k^w/
			/k'^{w}/	/k'^{w}/
			/x^w/	/x^w/
			/$ɣ^w$ = w/	/w/

Optional palatalization of unrounded velars is assumed to have played a role in Stage 3^E Salish, because */K(^{y})/ is continued as /č/ in some Interior Salish languages.

FIG. 14: Early Salish Uvular Phonemes

Stage 1	Stage 2^E	Stage 2^W	Stage 3^E	Stage 3^W
(/ɔ/)	/q/	/q/	/q/	/q/
	/q'/	/q'/	/q'/	/q'/
	/$\bar{x}$/	/$\bar{x}$/	/$\bar{x}$/	/$\bar{x}$/
	/$\bar{ɣ}$/	/$\bar{x}$, $\bar{ɣ}$/	/$\bar{ɣ}$/	/$\bar{x}$/
(/w/)			/q^w/	/q^w/
			/q'^{w}/	/q'^{w}/
			/$\bar{x}^w$/	/$\bar{x}^w$/
			/$\bar{ɣ}^w$/	/$\bar{x}^w$/

At Stage 2^{W} (due to Wakash linguistic pressure?), */x̄/ began to merge with */x̄/, while Stage 3^{W} */x̄^{w}/ failed to evolve altogether.

5.4. **Early Salish */ʔ/, */h/ and */w/.** Like modern Salish, pre-AF-I/II Salish possessed two laryngal phonemes, viz. */ʔ/ and */h/. If one, like Kuipers (1967:22), considers the latter as a sonorant, then */h/ : */ʔ/ = */n/ : */n'/ = */l/ : */l'/ etc. (But note that */h/ was apparently much rarer than */ʔ/. As far as morpheme-initial */h/ is concerned, Kuipers (1970:69) reconstructs only (127) */həwy (huy), hwəy/ 'cease, finish' (cf. Bc /huyp/ 'cry uttered by dancer(s) after completion of a dance'), (128) */həyr, hyir, hyar/ 'roll, round', (129) */həyq^{w}, hyaq^{w}/ 'fire(wood)', to which he (1982:89-90) adds: (127.1) */hay/ 'to quiet down', (127.2) */s-(h)ayas/ 'to play' (while (128) is revised as */hɣyl, hyɣl/ 'to roll'). In other positions, too, */h/ seems to have been quite scarce; Kuipers (1970:56,63,67) posits */wh, uh/, */ih/, */əh/ and */x̄h/ only in (4) */pawh, puh/ 'blow (pant, breathe), swell', (6) */p'ih, p'iʔ, p'i-c'/ 'squeeze, press (grab, push)', (74) */k'ih, k'i-t/ 'near' and (119) */x̄əhc, x̄huc (x̄ʔuc)/ 'complete, four'. Is co-presence of */w, u/ and/or */y, i/ accidental?) On the other hand, the phoneme /w/ belongs with the rounded velars (and in Coast Salish, with the rounded uvulars as well), but it is possible that during Stages 1-2, it fitted in the same category as */ʔ/ and */h/ (*/ɔ/ as well?), so that */ʔ/ : */h/ : */w/ = */k/ : */x/ : */ɣ/ = */S/ : */s/ : */n/ = */L/ : */ɬ/ : */l/. (For /w/ as a (voiced) laryngal, cf. Kuipers (1974:20) and Van Eÿk (1985:2).) Tabularly represented, then, the Stage 1 Salish phoneme inventory may have been as follows:

FIG. 15: Stage 1 Phonemes

FRONT				BACK			
						/ɣ/	/ə/
				/k/	/x/		
	/S/	/s/	/n/			/y/	/i/
/t/				/ʔ/	/h/		
	/L/	/ɬ/	/l/			/w/	/u/
				(/ɔ/)			/a/

P.S. During the preparatory stages of this paper, my Bella Coola - English dictionary was as yet in print, but copies can now be ordered from the Canadian Museum of Civilization.

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