

References

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Bella Coola Phonotactics

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0. This report is a follow-up on the author's "Bella Coola Phonology" (*Lingua* 49:169-187); we now take a more in-depth look at the structure of Bella Coola morphemes. Emphasis is put on (a) the number of phonemes in given morphemic units, and (b) the environmental conditions governing the sequential arrangement of phonemes.

1. Since (a) diphthongs like ia, ua, ui are, within the limits of Bella Coola morphemes, extremely rare, and (b) the doubled "vowels" aa, ii, uu, mm, nn, ll (the latter three vocalic) often alternate with single ones, we can assume for this occasion, and also for the sake of pure simplicity, that VV sequences are not permissible in Bella Coola: the above sequences are treated as being monophonemic.

2. In the tables that follow in 3 are listed all possible structures, from the shortest morphemes (consisting of one phoneme) on to longer ones. "C" stands for any obstruent or consonantal sonant; "V" represents any vocalic sonant, either single or doubled, or the true vowel a (or aa). Bella Coola elements having a "V" as initial phoneme are

restricted to two categories: enclitics and suffixes.

Occasionally, however, we find "petrified" roots that begin in a "V" - this is undoubtedly the result of loss of initial glottal stop.

Note that table I contains 2 formations, table II: 3, table III: 5, table IV: 8, etc. The underlined numbers form the well-known sequence of Fibonacci integers.

3. Here follow the structural formulae for morphemes containing from one phoneme up to eight phonemes:

I: C, V

II: CC, VC, CV

III: CCC, VCC, CVC, CCV, VCV

IV: CCCC, VCCC, CVCC, CCVC, CCCV, VCVC, VCCV, CVCV

V: (CCCCC), (VCCCC), CVCCC, CCVCC, CCCVC, CCCCV, VCVCC,
VCCYC, VCCCV, CVCVC, CVCCV, CCVCV, (VCVCV)

VI: (CCCCCC), (VCCCCC), CVCCCC, CCVCCC, CCCVCC, CCCVC,
(CCCCCV), VCVCCC, VCCVCC, (VCCCVC), (VCCCCV), CVCVCC,
CVCCVC, CVCCCV, CCVCVC, CCCVCV, VCVCCV,
(VCVCCV), (VCCVCV), CVCVCCV

VII: (CCCCCC), (VCCCCC), (CVCCCC), (CCVCCCC), CCCVCCC,
(CCCCVCC), (CCCCCVC), (CCCCCV), (VCVCCCC), (VCCVCCC),
(VCCCCVCC), (VCCCCVC), (VCCVCCV), CVCVCC, CVCCVCC,
CVCCCCV, CCVCVCC, CCVCCVC, CCVCCCC, CCCVCVC,
CCCVCCV, (CCCCVCV), (VCVCVCC), (VCCVCCV), (VCVCCCC),
(VCCVCVC), (VCCVCCV), CVCVCCV, CVCVCCV,

CVCCVCCV, CCVCVCCV, (VCVCVCCV)

VIII: (CCCCCC), (VCCCCC), (CVCCCC), (CCVCCCC),
(CCCCVCC), (CCCCVCCC), (CCCCCVCC), (CCCCCCCVC),
(CCCCCCC), (VCVCCCC), (VCCVCCCC), (VCCCVCCC),
(VCCCCVCC), (VCCCCVC), (VCCCCCV), (CVCVCCCC),
CVCCVCCC, CVCCCVCC, (CVCCCCVC), (CVCCCCV), (CCVCVCCC),
CCVCCVCC, CCVCCCCVC, CCVCCCCV, (CCCVCVCC), (CCCVCCVC),
(CCCVCCV), (CCCCVCV), (CCCCVCCV), (CCCCVCCV),
(VCVCVCCC), (VCVCCVCC), (VCVCCCCVC), (VCVCCCCV),
(VCCVCVCC), (VCCVCCVC), (VCCVCCCCV), (VCCCVCCV),
(VCCCVCCV), (VCCCCVCCV), CVCVCCVCC, CVCVCCVC, CVCVCCCCV,
CVCCVCVC, CVCCVCCV, CVCCCCVCC, CCVCVCVC, CCVCVCCV,
CCVCCVCCV, (CCCVCCV), (VCVCVCCV), (VCVCCVCCV),
(VCCVCVCCV), (VCCVCCV), CVCVCCVC

The parenthetical forms do not occur in Bella Coola; it seems that the relative occurrence of morpheme structures is almost inversely proportional to the number of phonemes they contain. Also, many forms in parentheses contain clusters of C's numbering three or over - the tolerance towards such sequences is apparently limited.

Items consisting of over eight phonemes are so marginal, that I have not considered it relevant to enumerate all possible constructions with more than eight phonemes.

In 4, all monomorphemic items are listed in order of length.

4. In what follows, I present Bella Coola morphemes, without their English translations, these having no relevance to the contents of this paper.

Items not provided with any additional symbol are free forms; items preceded by a hyphen are suffixes; prefixes are followed by a hyphen; infixes are both preceded and followed by a hyphen; proclitics are followed by the "plus" sign; the latter symbol also precedes enclitics; the radical sign serves to show that an item is a "petrified" root, i.e. one that is always combined with an affix.

When an item has more than two distinct meanings, this is indicated in parentheses: "(1/x)" = "this sequence represents x morphemes".

As to the transcription of some phonemes, note that "ł" stands for "X"; "X" represents the uvular fricative; the glottal stop is spelled throughout as "7".

C: -p, -t, -c (1), -c (2), +č, s-, -s, -n-, -ł, -k, x-, +k^w, +k^w, -x^w, -x

V: -a (1), -a (2), -i(i), -i-, -m

CC: V-ps (1), V-ps (2), px, V-pq^w, V-pc, p̄s, p̄x, V-tp (1), V-tp (2), tc, t̄k, tk, tx (1), tx (2), tk^w, tk^w, -tx^w, tq, tx (1), tx (2), tq^w (1), tq^w (2), tx^w, tc, ts, tk^w, tx^w, tq, cp, ct, c̄k, +ck, V-ck, cx, ck^w, cx^w, cq,

c̄q, cq^w (1), cq^w (2), cp, c̄s, c̄ł, V-ck, V-cX, c̄x^w, sp, sc, -sł, sk (1), sk (2), sx, sk^w, sx^w (1), sx^w (2), sq, sX, sq^w, łp, -łp, łł, łc, V-łł (before V), łk, V-łk^w, łk^w, V-łk^w (1), V-łk^w (2), łq, łq, -łq, V-łX, łq^w, V-łq^w, łp, łł, łk^w, V-łq, V-łX, V-łk^w, ks, -ks, kł, V-kł, kx, kc, kx, xp, V-xs, xł-, k^ws, k^wł, k^wł, k^wx^w, k^wp, k^ws, k^wł, V-x^wp, x^wp, x^wt, x^wc, V-qp, V-qc, qł, qł, V-qp, q̄s, qX, Xp, Xt, xs, V-Xł, Xł, q^wt, q^wp, V-q^ws, q^wł, q^wX^w, X^ws, X^wł

VC: -mc, -mx, -nk, -lt, -lx, -łq, -ap, -am, -an, -al-, -ał, -ak, -aaq/-aaX, -aX^w, -aw, -im, -ił (1), -ił (2), -ik, -iX, -iiq^w/-iiX^w, -uc, -us, -ul, -ul

CV: V-pl (1), V-pl (2), V-łm, ma, -ma, V-mi, mu, tm-, ta+, -ta, V-ti, ti+, tii, tu+, tu, +tu, +tuu, tu, ci+, cm, V-cm, c̄n, +c̄n, V-ci, cu, sl, si-, +su, 7n, V-nm (1/4), -nm, ml, na, V-na, -na, nu-, -nu, V-lu, +lu, +lu, ła+, ła, V-ł, ła, ka+, V-ka, km, V-kł, xm, k^wm, k^wn, k^wl, +k^wu, V-k^wn, +k^wu, x^wl, V-qm, qm, V-qa, V-qm, Xm (1), Xm (2), V-Xł, V-Xi, V-q^wi, V-X^wl, ya (1), ya (2), 7u-, 7a-, wl, wat, V-wa

CCC: psx, plt, p̄lt, t̄xt, c̄kt, stq^w, sc̄ł, sc̄q, s̄łq, s̄łk^w, skx, sk^wp, V-sk^wc, sk^wł, V-sx^wł, sqc, sxp, V-sxp, sXc, sq^wł, łX^wt, kłx, kłt, qłp, qłk^w, V-q^wsk

VCC: -lst, -lxs, -iks/-lks, -ams, +atX^w, -anł, -amk, -ank, -als, -alx^w, -all, -aq̄s, -aq^ws, V-aq^wł, -ayx, -uks

CVC: V⁻pac, pac['], pax^w, paaX, pay, V⁻pic['], V⁻pis, pi[']X,
 pik['], pi[']a, pus, V⁻pun, pu[']z, puX, puuX, V⁻puq^w, V⁻pac,
 pas, V⁻piiX, 7mt, V⁻mnc, V⁻mnc['], mn[']l (1), mn[']l (2),
 mnk, mil, V⁻mac, +mas, man, V⁻mal, V⁻ma[']l, V⁻maw,
 -min, mik['], -mut, mus, mu's¹⁾, -mu[']l-, muk^w, V⁻muq^w,
 tmp, tmx^w, tlk^w, tlq^w, V⁻tap, tam-, V⁻tac['], tas, -tan,
 +taX, V⁻tay, V⁻tip, -tim, tiil, V⁻tik['], tix, tiq['],
 tiiX^w, +tuc['], V⁻tup, V⁻tuc, -tu[']l, tuk['], tux, +tuX,
 tnX^w, tas, tak^w, taX, tax^w, taaX^w, tin, V⁻tup, tum,
 tuuc, -can, cn[']l, V⁻cnk^w, cap, can, ca[']l, cak^w, ca[']k^w,
 V⁻cax^w, V⁻cay, cim, cik['], cix, V⁻cik^w, ciX, ciiX,
 ciq^w, cup, cum, cut, -cut, cls, ca[']l, cit, cix^w, ci*x^w¹⁾,
 ciX, V⁻cup, V⁻cus, V⁻cuq^w, smt, snX, slq^w, V⁻sak['],
 saq^w, sim, six, sum (1), sum (2), sul, V⁻suk['], suq['],
 V⁻suq^w, nmp, V⁻nmk['], -nmx, 7nc, 7nl['], nap, nan, V⁻nic,
 nik, nix, -nix, niiX^w, nup, V⁻nu[']l, nuX, V⁻7lq['], V⁻7lx,
 V⁻lam, law, V⁻lip['], lim, -lit, -lic['], lis, -lik, V⁻lik['],
 V⁻lix, -lik^w, lik^w, liX^w, V⁻laaX, la[']y, liX, V⁻liq^w,
 lu[']l, lum, lu[']t, V⁻lu[']c, V⁻lu[']l, V⁻lu[']k, V⁻lu[']l/luuk, V⁻lu[']d,
 V⁻lms, la[']l, V⁻laq^w, laX^w, laad^w, la[']k, kas-,
 V⁻kan (1), V⁻kan (2), V⁻kal, ka[']l-, kaw, kip['], kic['],
 V⁻kin, -kmt, km[']l, knc, V⁻klx, kam-, V⁻ka[']l, V⁻kim,
 kax^w, kay, kis-/kil-, V⁻kix^w, xip, xap['], xil, k^wml,
 k^wit, k^wil, V⁻k^wil['], V⁻k^wup, k^wus-, V⁻k^wul, V⁻k^wul,

¹⁾ See "Bella Coola Phonology", 1.7 (page 172, l. 5 fr. top).

k^wul-, V⁻k^wal, k^wim, V⁻k^wup, k^wus, x^wid['], x^wum, x^wuk['],
 v⁻x^wul, qnk, qaap, V⁻gap['], qat, daX, qaaX, qay, qaw,
 V⁻qip, V⁻qic['], qls, V⁻qam, qaat, V⁻qal, qay (1/4),
 qaw, V⁻qim, qis, V⁻qil, V⁻Xlq, V⁻Xam, V⁻Xic, Xic (1),
 Xic (2), Xi[']l, Xi[']z, V⁻q^wls, q^wlx^w, q^wax^w, q^wit, q^wup,
 q^wuc['], q^wul, q^wuX, V⁻q^way, V⁻q^wup, V⁻q^wum, q^wuX, x^way,
 V⁻x^wic, V⁻X^wis, X^wiq['], x^wup, V⁻X^wum, X^wuc, V⁻X^wul,
 X^wud['], V⁻haw, -nap, 7at, 7at['], 7ac, 7as- (1/3), 7al[']l,
 7al[']l-, V⁻7aaX, V⁻7aq^w, 7ax^w, -naX^w, V⁻7ay, 7aw, -naw,
 V⁻7aw, V⁻7ip, 7ip['], 7im, 7it- (1), 7it- (2), -7it,
 V⁻7ic, V⁻7ic['], 7is- (1), 7is- (2), 7in, V⁻7il, 7il['],
 7iz['], 7ix-, 7ik^w, V⁻7id['], 7iX, 7ix^w, 7iiX^w, yax^w, V⁻yaX,
 V⁻yaX^w, yaw, V⁻yup, yum, V⁻yul, V⁻yux^w, 7um, V⁻7uc['],
 7us- (1/5), 7un- (1), 7un- (2), wnc, V⁻7ul, 7ul[']l,
 7uq^w, 7ux^w, V⁻wac, wa[']c, V⁻was, wal, way,
 win (1), win (2), V⁻wil['], wix, V⁻wiiX/wiiq

CCV: p[']km, pla, pwi, mna, V⁻tpi, -tnm, tka, -twa, tli,
 y[']tka, tqi, tq^wm, tq^wl, cna, cxm, ck^wm, ck^wl, cq^wm,
 cx^wi, -cwa, cla, cxm, -stu-, spu, sma, stn, sti-,
 stn, V⁻ski, skl, V⁻sX^wa, 7na, 1tn, 1tm (1), 1tm (2),
 1lm, lk^wm, lk^wl, lk^wa, V⁻lqm, V⁻lqm, lx^wm, lla, lxa,
 V⁻lX^wi, kma, knm, xli, V⁻k^wma, k^wni, k^wla, V⁻k^wlu,
 qpa, qla, qlm, V⁻qlm, V⁻qcm, V⁻qlu, Xca, V⁻Xsa, Xya,
 q^wsm, q^wli, q^wpm, q^wna, V⁻X^wtn, V⁻X^wnm

VCV: -anm, -ana, -ani, -ali, +alu/alu, -ila

CCCC: *pX^wlt*, *stx^wc*, *skst*, *sqsk*, *v⁻k^wpst*, *qpst*

VCCC: -alst

CVCC: *laqs*, *lupt*, *luuXt*, *lamk*, *lawq^w*, *kact*, *kamk*, *kipt*,
k^wayX, *k^wumc*, *k^wult*, *v⁻qacX*, *qayt*, *qinX*, *qlst*, *qlsx^w*,
qak^wc, *q^wals*, *v⁻q^waws*, *q^wapX*, *q^wanc*, *X^walt*, *huyp*,
7aps, *7apx^w*, *7aml*, *v⁻7ask*, *7asx^w*, *7alx*, *7alk^w*, *7alx^w*,
7atq, *7ais*, *7ax^ws*, *7ax^wl*, *7aqs*, *v⁻7aXc*, *7aaXl*, *7ayk*,
7awl, *7ipc*, *plst*, *paaXl*, *pays*, *pucq*, *puk^ws*, *palx*,
mntx^w, *mnck*, *mack^w*, *v⁻ma^{*}sk*¹), *maaXc*, *mikt*, *v⁻mikl*,
mik^wl, *v⁻muk^wt*, *tak^ws*, *tums*, *tayx*, *taws*, *ciix^wt*, *cupc*,
clkt, *cayx*, *cayX*, *smlk*, *7nXt*, *snq^ws*, *sack^w*, *sast*,
siks, *supt*, *sutk*, *sunx^w*, *naqt*, *naws*, *nist*, *niqx*,
laakc, *-lanx^w*, *-layx*, *layX*, *v⁻litx^w*, *+luks*, *7iipc*,
7imc, *7ick^w*, *7ict*, *v⁻7ick*, *nuks*, *nuxs*, *7ilt*, *7ilk*,
7ilk, *v⁻7iikl*/*7ikl*, *7ixl*, *v⁻7ik^wl*, *v⁻yaml*, *yanc*,
v⁻yalq/*yalX*, *v⁻7upk*, *7utp*, *7ulX*, *ways*, *wayx*, *wisx^w*,
v⁻winc, *wilx*, *wixs-*, *wixl+*, *hact*

CCVC: *-tmax^w*, *v⁻tkil*, *tqan*, *tq^wnl*, *v⁻twin*, *tmiix^w*, *tx^wu^{*}l*¹),
cyap, *cyaaX^w*, *spik^w*, *spul*, *spuX*, *smak*, *v⁻stap*, *v⁻stam*,
stan, *stup*, *stuq*, *stls*, *staX^w*, *scal*, *v⁻scay*, *scux*,
scap, *sciX*, *scup*, *tq^wlx*, *snaaX*, *snu^wl*, *slaX*, *slis*,
slix, *sliiX^w*, *sluq*, *slul*, *skip*, *skim*, *sxnc*, *sqal*,
sqim, *sXan*, *sq^wal*, *v⁻sq^wup*, *v⁻sq^wum*, *sq^wuc*, *sq^wul*,
v⁻sq^wum, *sX^wat*, *sX^wil*, *v⁻s7ay*, *syut*, *7lac*, *v⁻syul*,
7pik, *7mil*, *7taaX*, *7nu^{*}s*¹), *v⁻7wa^{*}s*¹), *v⁻7x^wus*,

7X^wus, *7yuk*, *knix*, *knum*, *klax^w*, *klat*, *klay*, *kyuk*,
xnas, *k^wpa^l*, *k^wmay*, *k^wtmc*, *k^wcaaX*, *k^wcus*, *k^wyay*,
x^wna^l, *qcus*, *qlum*, *v⁻qlam*, *qlaX*, *qlum*, *qluk*, *q^wwas*,
v⁻Xmaac, *q^wlas*, *q^wlax^w*, *q^wwaax*, *v⁻7yum*

CCCV: *psxm*, *psk^wn*, *tq^wla*, *tksn*, *tq^wla*, *cX^wln*, *spyu*, *v⁻stnm*,
stx^wm, *v⁻scli*, *skma*, *sksi*, *skli*, *sqma*, *sq^wsn*, *ltnm*,
7X^wta, *7knii*, *7X^wcn*, *k^wq^wla*, *qxyu*, *cX^wm*

VCV: -nnak, -anaac, -anaw, -almx, -alas, -aliic, -imut,
-ulmx, -uli(i)c

VCCV: -apsm, -alXi, -aaXla, -ulla

CVCV: *paaX^wu*, *puutii*, *pu^wm*, *v⁻palu*, *pu^wm*, *7mtm*, *mnta*,
v⁻mnca, *maci*, *maka*, *mila*, *mi^wa*, *v⁻mucm*, *musa*, *mulm*,
muuX^wa, *tmk^wa*, *taala*, *v⁻tipi*, *tuupa*, *tu(u)lu*, *tuka*,
caaXa, *cipa*, *v⁻cipi*, *cika*, *cuca*, *caaX^wm*, *cima*, *cikm*,
cik^wa, *cip^wi*, *sacm*, *sala*, *v⁻saka*, *sak^wm*, *sax^wa*, *v⁻sawa*,
v⁻sipi, *sicm*, *sikm*, *sucm*, *suxa*, *suuXi*, *na^wm*, *v⁻naqa*,
naaX^wm, *nutm*, *-nuli*, *nuk^wi*, *v⁻laqa*, *lixm*, *v⁻lix^wm*,
-liwa, *-luni*, *laqa*, *lima*, *lula*, *7aki*, *7aki*, *7ima*,
7ina, *kilm*, *kawn*, *kita* (1), *kita* (2), *xa7m*, *k^wusi*,
k^wusu, *k^wlsi*, *k^waca*, *x^wilm*, *qama*, *qana*, *qaali*, *v⁻qa^wm*,
v⁻qism, *qik^wu*, *qixa*, *v⁻qnla*, *qatm*, *qicm*, *qism*, *v⁻Xapa*,
Xamu, *Xatii*, *Xala*, *Xila*, *q^waax^wn*, *q^wuna*, *q^walm*, *q^wala*,
X^wax^wi, *X^wiiXn*, *X^wuta*, *ha7m*, *hanu*, *ha7u*, *7aci*, *7aci*,
7anu-, *7aki*, *7aya*, *7ak^wa*, *7ak^wa* (1), *7ak^wa* (2),

7ak^wi, 7aaXn, V-7ayu, 7ipu, 7ica, 7icu, +7isu, 7iina,
7inu, 7ixa, 7iiXm, yatn, V-yaasii, yaki, V-kaacii,
7uci, V-7ułka, 7uuXi, V-wika

CVCCC: muX^włt, V-muX^włt, caltx^w, cipsx, nupqt, nustq,
nusłp, nusłx^w, nuk^wpt, q^walxs, 7astx^w, 7alps, 7isck^w,
7isqs, 7ustx^w, 7usXł, wncłt, 7ulXł

CCVCC: cwaast, cyawł, sputx, smiks, stulk^w, sculk, slaqk,
slaws, V-sliłq^w, słaXt, skalk^w, sk^wult, V-sx^wuiks,
sqapc, V-sqatx, sq^walk^w, s7ayt, swakx, V-7nayx,
-slanx^w, kmatk, k^wwams, qluq, q^wlitq

CCCVC: tłmas, t^wsus, splił, stx^wus, stwix, -stwix^w-,
stwin, scpił, scmas, skyaaX, sk^wyan, sX^wlik, sq^wcil,
k^wx^wmay, qxtis, q^wx^wnaak

CCCCV: pltkn

VCVCC: -alayx

VCCVC: -anwas, -aynix

VCCCV: -altwa, -alcwa

CVCVC: plq^wit, pałac, pucut, pułas, puuXin, mnłat,
mamis, papnt, papnl, mayas, -minic, -minik, milix^w,
takan, taqaaX, -timut, -tinic, -tinik, tamas, cllik,
V-cataw, V-citum, V-cumis, cmataaq, capaX, caamas,
caxam, cik^wic, smmam, satix, salmt, sakam/sikam,
saaX^wan, sinal, silin, siqaaX, sulut, nmkis, nanaaX,
-nalus, -nimut, V-numuc, nucun, nuxim, nuk^wum, nuq^waat,

lamas, lahal, lituX^w, lisaak, łalas, łukis, ɬaçan,
ɬiXin, ɬulay, kntaw, kltiil, kapay, kamal+, kacan,
kanus-, kiłaaX, V-kapat, kapuc, kaqas, V-kawał,
kipuuc, kinax^w, k^wanat, k^wlwas, qamac, qaaXam, qiliq,
V-qllis, qamiiX, qatix, V-qacuuł, qanas, qanuuk^w,
qak^wuł, V-Xaqak^w, Xayuł, Xawis, XilaaX, q^wacił,
q^wanił, q^walas, q^winaw, q^winix, q^wilac, q^wikił,
q^wikiis, q^wucik, q^wulun, q^wuuX^wuuX, q^wumuus, V-Xaalis,
V-Xulis, huuq^wat/7uuq^wat, 7amat, 7amuł, V-7aciw,
V-7asim, 7anis, 7anus-, 7almk, 7aluuX, 7alix^w, 7ałay,
7aq^wan, 7a7iis, V-7ayaw, 7imlk, +7ituk, +7icik,
7isut, 7inax^w, 7inix-, V-7inut, +7iluk, +7iłuuk,
7ilix^w, 7ilul, V-7ixaas, 7ix^wuł, 7iqim, 7iq^wuc,
yalit, V-yaqas, yaXat, ya7is, yutlx, 7umat, 7utak,
7unik^w, 7ulix, 7uk^wum, 7uk^wuł, 7uqal, V-wapat, wanuk^w,
V-walis, waakas, wiżaX, wikit

CVCCV: panya, piisla, pucla, puctn, piiXla, pulk^wm,
mnłk^wa, maaXsa, muq^wła, talyu, tixca, salya, sissi,
na7mu, nucnm, nusXł, nulti, nukcu, łalya, łu7ya, kalqm,
kayxii, k^wn7na, k^wasla, k^wałna, k^wałla, k^wucxi, qalXm,
qalqa, qaaXla, q^waacwa, q^wasta, q^wuux^wwa, q^wasta,
hamsa, V-hilta, 7apsu, 7atma, 7acta, 7ascm, 7asqa,
7asya, 7ałk^wu, 7ak^wna, 7aqsn, 7aaXqa, 7aX^wni, +7itka,
7itq^wu, 7ista, V-7issa, 7iiXsa, V-yaatwii, yalli,
V-yaXci, yaXłn, 7utpii, 7usqa, wlXła, V-7ułca, 7ułqn,
watxii, wastu+, 7uyyu

CCVCV: smawn, stlk^wa, staʔm, stala, sx^wilm/sx^wulm,
sqala, sqili, sq^wusa, sq^walm, sq^wusa, sx^wa^wa, s7ulm,
k^wmani, k^wmusm, k^wtusm, k^wwaaxa

CVCCCC: 7ankpc, wanq^wll

CCVCCC: psayxt, stawlt, skamck, skawlt, skilxt, sq^wayX^w,
s7ayks, s7ixk^wx^w

CCCYCC: cklakt, sclaaX^w, sckiill, s17imc, skculk, k^wbwalt,
q^wpulX

CCCCVC: sq^wX^wlun

VCVCCC: -alimck

VCCVCC: -aylayx

CVCVCC: pilikt, papink, masunx^w, maq^wanc, talaws, tupilc,
cimilt, cupakt, sisawk, si7iki^w, sutaa^wll, nanitk^w,
v^wnuqatq, nuqaaXp, nuXalk, nuX^wlst, nu7aws, nu7upc,
ɬaaq^way^w, ɬaaq^witk^w, Xaqanc, XiXays, q^wuculk^w, q^wilays,
q^wusalq, v^w7amitk, v^w7acaax^w, 7anayk, 7alatk, 7ituuXt,
7ik^wlst, yacalt, 7utitk, wičlks, wičinX^w

CVCCVC: pisman, pu7yaas, mackin, v^wtixcam, v^wtustiq,
nusk^wum, saplin, sityaaX, silyas, sumX^wul, suk^wwaat,
nus^wlik^w, nusXiq, laplit, la7lay, liiX^wnix, kasmiw,
kascaw, kamwas, kank^wuus, v^wkinwas, +k^witk^wuk, qacqil,
qaaklis, v^wqaaXq^wik, q^wumniq^w, hawyat, 7apsul,
7atmaak^w, 7asmu·s¹), v^w7astam, v^w7astip, 7astas,
7ancns, 7almul, v^w7alcim, v^w7alkil, 7ai7ik^w, 7axx^wut,

7iōtuus, 7iłt^wll, 7iłcay, yallak, v^wyal7ay, v^w7ustam,
wax^wwas, wiłpun

CVCCCC: tan'ni, sacq^wla, nuX^wski, lawpla, ɬiq^wkn, qanXtu,
Xaw7li, v^wq^wuusX^wll, 7apsiis, 7al^wtk^wi, 7al^wcX^wm, 7alsqa,
7awsti, 7iXqlm, waXcya

CCVCVC: tñiiX^wul, cqamin, cq^wiikas, smatmx, stakaw,
stanik^w, scumay, scayuc, scixin, scuuXin, smanik,
sliq^wuc, sximnk, sk^wupik, sqaluc, sXayaX^w, sq^winax^w,
s7ayul, swalut, qciiX^wal

CCVCCV: pnaaXta, spažtn, stilwa, stumca, stux^wsi, scunX^wa,
sluxta, sk^wacta, sXilla, sq^waaXq^wa, Xnul7a

CCCVCC: sk^wlatn, sx^wnata

VCVVCV: -a7iniX^w

CVCVCC: plXani, max^wuuli, mutana, cipasa, sm7ula, sakima,
nukacu, nuqaci, lamatu, ɬuk^wala, ɬak^wani, ɬaayaqm,
ɬupana, xalasu, k^wncala, k^wuxani, qlx^wila, qamica,
qalayu, qawaci, Xayaqa, v^wq^wuulikn, q^wuluci, q^wuqani,
q^waq^wina, q^wumuk^wa, 7a7mma, 7acaya, 7anała, 7almci,
7aalacii, 7axati, 7iniq^wi, 7ixa7i, 7unusi-, 7uq^wuuni

CCCVCCC: sq^wlitq^w, ɬX^wcaytX^w

CVCVCCC: tapalst, v^w7anusqX

CVCCVCC: paktulk, maxsays, sackayX^w, siqyulx, siq^wyuus^w,
nixciqs, k^wmk^witX^w, q^wumk^wuts, 7a17apq, 7a17ik^w, yalkayx,

ʔusnaax^w‡
 CVCVCCV: cayxli‡, cawt̪mim, sayxnaas, sis̪ksum, sukw̪ntus,
 V-ʔacq^wtut, ɬat̪cyaax, yulk^wmay, ɬumx7it, ɬuq^wsmay
 CVCCCCV: tanksta, kaatxsyā
 CVCVCC: naak^wank, scixalt, slalimc, skw̪ulukt, skwaniks,
 sx^waxilk, s7ix^wat̪k^w, syupalx^w, swanat̪k^w
 CVCVCCV: sc̪lx^wut, seiknūt, xmanwas, kmanwas, qtaysal,
 staltax
 CCVCCCCV: kmapsta
 CCCVCCV: tx^wnayaax, sx^wpanit^w
 CCCVCCV: scqaaXqa, scq^wasma
 CVCVCVC: tuniwas, cupinaat, cawika‡, sacalan, sa7lk^wuus,
 ɬalamin, ɬaq^wamunt, kanawit, qataxi‡, q^waciny,
 x^wuq^wulis, ɬanalas, V-7alacix^w, ɬatiq^wis, ɬamanut,
 7ipacut, 7ila7it, 7usuk^wlt, V-wlkacut, wakayak, witaalaw
 CVCVCCV: plki7wa, culapla, sitaaXsu, qaaXacxi, Xa7isla,
 ɬutu7wa, walasya, ɬimanta
 CCVCVCCV: sk^watiwa, ɬyanahu, V-stutani
 CVCVCCV: tultaya, tixtala, sl7lapa, sixmana, naxliwa,
 nax^wtana, nusqnaXm, ɬa7laya, q^waykila, ɬat̪k^wilm,
 ɬatiqixa, 7ix^wsila
 CCVCVCC: sk̪unstayc, sk̪innakt

CVCCCCC: slayk^wuc
 CVCCCCV: s̪unk^wcta
 CVCCCC: ɬaasaluus‡, ɬawandaXk^w, laaq^wamays
 CVCCCC: nuʔumtaaX, malasyut, nuq^wittaaX^w, kaniłmay,
 kaniłkas, kalastak^w, kimiłqan, k^watasyan, qinaq^wli‡,
 ɬilitmay, yalaxtay, yaq^wutlas
 CVCVCCV: ZipacXti, ɬaqatxyu
 CVCVCCV: ca7yamuus, kalyaakas, x^winnimut, nutkamaax
 CVCVCCV: ɬalyannm, nuscaaXta
 CVCVCCV: qapsmuim, cipsxili, q^wumsxiwa, ɬayxcmqa
 CCVCVCVC: skllatap
 CCVCVCVC: ɬq^wika7ya, Xlamanta
 CVCVCCVCC: ɬ^wuq^wayaytx^w
 CVCVCCVCC: yax^wm7mayl
 CVCVCCVCC: nusq^walayx, k^wa7yalaqs, ɬaskaniqs
 CCVCVCCV: twala7it
 CCVCVCCV: sk̪apcaniit
 CCVCVCCV: snanyantu
 CVCVCCVCC: V-masalaniX^w
 CVCVCCVCC: q^wumaanak^wla
 CVCVCCVCC: paaqi7yala, taluuXmana, qaaXapwala, qaaXacxili
 CVCVCCVCC: sistulila, ɬixt̪ax^wani
 CCVCVCCVCC: skat̪nclayx
 CVCVCCVCC: max^watalaga, Tayatilaaxa
 CCVCVCCVCC: sk^wak^wixtala

CCVCCCVCCV: s^wayksa^wna
 CVCCVVCVC: k^wiXlakilak^w, waylmkila^w
 CVCVCCVVC: q^wuyusticas
 CCVCCVCCVCC: tx^wu^waylik^t
 CVCVCCVVCV: i^wicanliana
 CVCVCCVVCVCC: qaps^walapst
 CVCVCCVCCVVC: 7a^wuslanay

5. The only items containing the diphthongs mentioned in 1 are: miaysila, nuakila, nuik^w, 7iknuas.

6. Most formations consisting of eight phonemes and over concern non-Salish elements, such as proper names, which are mainly borrowings from some Wakashan language.

7. It is not always easy to draw a sharp line between compound words and monomorphemic ones: the longer the (alleged) affix, the easier it seems to separate it. There can be no doubt that many of the numerous words beginning in e.g. s-, nu-, 7a^w- are historically compound. There are also many items that seem to involve "petrified" suffixes: consider, for instance, the great amount of forms ending in -m (this suffix can best be translated as "medium(izer)").

8. The following percentages will give an impression of the relative occurrence of each phonotactic class; within the inventory of some 1700 morphemes, classes "C", "V",

"CC",, "CVCCVCCVVC" occur proportionally as follows:

C - 0.88%, V - 0.29%, CC - 7.06%, VC - 1.47%, CV - 4.41%, CCC - 1.59%, VCC - 0.94%, CVC - 19.35%, CCV - 3.94%, VCV - 0.35%, CCCC - 0.35%, VCCC - 0.06%, CVCC - 6.53%, CCVC - 5.12%, CCCV - 1.29%, VCVC - 0.53%, VCCV - 0.23%, CVCV - 7.35%, CVCC - 1.06%, CCVCC - 1.41%, CCCVC - 0.94%, CCCCV - 0.06%, VCVCC - 0.06%, VCCVC - 0.12%, VCCC - 0.12%, CVCVC - 8.53%, CVCCV - 3.76%, CCVCV - 0.94%, CVCCCC - 0.12%, CCVCC - 0.47%, CCCVCC - 0.41%, CCCVC - 0.06%, VCVCCC - 0.06%, VCCVCC - 0.06%, CVCVCC - 2.06%, CVCVCCV - 2.76%, CVCCCV - 0.88%, CCVCVC - 1.18%, CCVCCV - 0.65%, CCCVCV - 0.12%, VCVVCV - 0.06%, CVCVCV - 2.12%, CCCVCCC - 0.12%, CVCVCCC - 0.12%, CVCCVCC - 0.7%, CVCVCCV - 0.59%, CVCCCCV - 0.12%, CCVCVCC - 0.53%, CVCVCCV - 0.35%, CCVCCCCV - 0.06%, CCCVCVC - 0.12%, CCCVCCV - 0.12%, CVCVCCV - 1.23%, CVCVCCV - 0.47%, CVCVCCV - 0.18%, CVCCVCCV - 0.7%, CCVCCVCC - 0.12%, CVCVCCVCC - 0.12%, CVCVCCVCCV - 0.12%, CVCVCCVCCV - 0.12%, CVCVCCVCCV - 0.23%, CVCVCCVCCV - 0.12%, CVCVCCVCCV - 0.23%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.12%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.18%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.23%, CVCVCCVCCV - 0.12%, CCVCCVCCV - 0.06%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.06%, CVCVCCVCCV - 0.06%

CVCVCCVCCV - 0.12%, CCVCCVCCV - 0.06%, CCVCCCCVCCV - 0.06%, CVCVCCVCCV - 0.12%, CVCVCCVCCV - 0.06%, CCVCCVCCVCC - 0.06%, CVCVCCVCCV - 0.06%, CCVCCCCVCC - 0.06%, CVCVCCVCCV - 0.06%

9. The basic structure of the Bella Coola morpheme can be defined as follows:²⁾

"A Bella Coola morpheme begins in either #V or #Ca;
 if in #Ca, then if in #V, then
 ↓ ↓
 this phoneme/cluster this V is followed either by # or (CaV)b; (CaV)b
 is followed either by # or V; if by V, then is, in turn, followed either by # or Ca#."
 ↓
 this V is followed either by # or (CaV)b; (CaV)b is, in turn, followed either by # or Ca#."

This definition condenses the sequences:

- (1) #(...)VCa#
- (2) #(...)VCaV(...)#
- (3) #CaV(...)#
- (4) #Ca#

In what follows in 10, I enumerate all existing sequences that derive from these abstractions - note that M, N, and L are used to render the vocalic counterparts of respn. consonantal m, n, and l. Each sequence is illustrated with examples from the 1700 word inventory.

²⁾ a stands for any of the numbers 1,2,3,4 - Ca means "a C's in a row"; b represents any whole number equal to or over 1, but under 8 - (CaV)b means "b CaV sequences"; # indicates a word- or morpheme-boundary.

10.1. In this section are listed all morphemes with the structures #(...)VCa# and #(...)VCaV(...)#.

Mp - tmp, nmp; Mt - 7mt, smt, -kmt, salmt; MtV - 7mtm,
 cmtaaq; Mc - k^wtmc, -mc; McV - 7almci; Ms - V^wms;
MstV - s[']lmstayc; Ml - k^wml, k^wml, 7ilmkl; Mlk - smlk;
Mk - 7almk; MkV - nmkis, wismkilak^w, waylmkilak^w; Mk -
 v^wnmk; Mx - -mx, -nmx, -almx, -ulmx; Mx^wV - kmx^witx^w;
Mk^wV - tmk^wa; Mx^w - tmx^w; MqV - 7ayxcmqa; M7V - sm7ula;
M7mV - yax^wm7may¹; MmV - smmam, 7a7mma; Mt - papnt;
MtV - mnta, kntaw; Mtx^w - mntx^w; Nc - V^wmnc, knc, sxnc;
NcV - V^wmnc, k^wncala; Nck - mnck; Nc - mnc, wnc; Nclt -
 wnc¹lt; Ns - 7ancns; Nl - 7nl, tq^wnl; Nl - mn¹, cn¹,
 papnl; NlV - V^wqnla, mnlat; Nlk^wV - mnlk^wa; Nk - mnk,
 qnk, -nk; Nk^w - v^wcnk^w; NX - snX; Nxt - 7nXt; Nq^ws -
 snq^ws; NX^w - tnx^w; N7nv - k^wn7na; NW - nnak; Lt - -lt;
LtV - kltiil; Ltx^wV - scltx^wul; Ls - 'cls, qls, v^wls,
 stls; LsV - k^wlsi; Lst - qlst, plst, nuX^wlst; Ls^w -
 qlsx^w; Lk - 7imlk; LkV - v^wwlkacut; Lks - wi'cks, -lks;
Lkt - clkt; Lx - v^wklx, -lx; Lk^w - tlk^w; Lk^wV - sa7lk^wus;
Lk^wV - stlk^wa; Lx^wV - qlx^wila; Lq - 7lq, -lq, v^wXlq; LX -
 7lX; LXV - plXani; LX^wV - wlXla; Ls - -lXs; Lq^wV -
 plq^wit; Lq^w - tlq^w, slq^w; LX^w - q^wlx^w, 7a7lx^w; L7ly -
 sl7lapa, cl7lik; Llv - clik, v^wllis, skllatap; LwV -
 k^wlwas; Up - tup, v^wtun, cup, v^wcup, nup, lup, q^wup,
 X^wup, v^wyup, stup, v^wsq^wup; UpV - tuupa, k^wupi, cupinaal,

tunilic, sk^wupik, tunana, tuwiwas; uc - cuuc, nu7upc;
upt - supt; upk - v⁻7upk; up - V⁻k^wun, q^wup; un^v -
syupalx^w, cupakt; ut - lu^t; ut - cut, -cut, -mut,
syut, -imut, pucut, -timut, sulut, -nimut, 7isut, v⁻7inut,
7axX^wut, swalut, 7aq^wamuut; utv - nutm, X^wuta, sutaall,
mutana, yutlx; utk - sutk; utx - sputx; ut - lu^t; utv -
7utika^t, 7utak, 7utitk, 7utu7wa; utv - 7utpii; utp -
7utv; uts - q^wumk^wuts; uc - V⁻numuc, -uc, tuc, tuuc,
X^wuc, kapuc, sqaluc, slaykX^wuc; ucy - V⁻mucm, cuca,
V⁻X^wuci, 7uci, pucut, q^wuluci; ucxy - k^wucxi; ucly -
pucla; uc - suc^t; ucq - pucq; uc - +tuc, lu^c, q^wuc,
V⁻7uc, sq^wuc; ucy - sucm, q^wucik, q^wuculk^w; uctv - puctn;
us - pus, -us, V⁻pus, mus, mu^s¹), V⁻cus, k^wus-, 7us-,
1nu^s¹), V⁻tx^wus, 7x^wus, k^wcus, q^wcus, tx^wsus, stx^wus,
-nalus, kanus-, q^wumuus, 7anus-, 7asmu^s¹), kank^wus,
sa7lk^wus, ca7yamuus, say7walus; usv - musa, k^wusi, k^wusu,
sq^wusa, sq^wusa, kmusm, q^wusalq, cuusila, 7unusi-, nusilawat;
ustv - V⁻tustiq, q^wuyusticas; uslv - 7a17uslanay; usl -
siq^wyuust; uskw - nusk^wum; usqv - 7usqa; usq - nusqaaXm;
usXv - nusXiq; usq - nusq^wakayx; usnv - 7usnaax^wl;
ustx - 7ustx^w; usXtv - V⁻q^wusXlm; usXl - 7usXl; ul -
pu^t, snu^t; ul - su^t, -u^t, -mu^t, -tu^t, V⁻nu^t, V⁻lu^t, q^wu^t,
7u^t, tx^wu^t¹), snu^t, slu^t, sq^wu^t, V⁻syu^t, qak^wu^t, kayu^t,
7amu^t, 7ix^wu^t, sumX^wu^t, 7almu^t, s7ayu^t, 7an7acq^wtu^t,
sc1tx^wu^t, sciknu^t, 7a7anu^t, malasyu^t; ulv - pu^tm, pu^tm,

v⁻7ula, sm7ula, k^wuo^wulis, sistulila; ultv - nulti;
lcv - V⁻7ulca; ulc^w - pulk^wm; ulqv - 7ulqn; ul7v -
Xnu7a, tx^wul7aylik; ullv - yaq^wullas, -ulla; ulk -
scul^t, skcul^t, baktul^t; ulk^w - q^wucul^w; uk - V⁻luk,
7yuk, kyuk, oluk, +7ituk, +7iluk, +7i1uuuk; ukv - tuka;
ukt - sk^wulukt; uks - V⁻sx^wuoks, -uks, +luks; uk - tuk,
V⁻suk, V⁻luk, 7uk, x^wuk, 7uk^wuk; ukv - lu^kis, nukacu;
ux - tux, scux; uxv - suxa, k^wuxani; uxtv - sluxta; uk^w -
muk^w, qanuuk^w, wanuk^w; uk^wy - nuk^wi, nuk^wum, lu^kwala,
q^wumuk^wa; uk^wwy - suk^wwaat; uk^wt - V⁻muk^wt; uk^wy -
7usuk^wlt; uk^wptv - suk^wptus; uk^ws - puk^ws; ux^w - V⁻yux^w;
ux^wsV - stux^wsi; uqV - nuqaci, q^wuqani; uq - suq, V⁻lu^d,
X^wuq, stuq, sluq; uqV - 7uqal; uqs - qluqs; uX - puX,
puuX, +tuX, nuX, q^wuX, q^wuX, snuX, 7aluuX; uXv - suuXi,
7uuXi, vuuXi, nuXalk, scuuXi; uXmv - laluuXman; uXt -
7ituuXt, luuXt; uq^w - V⁻cuq^w; uq^wv - nuq^wiltaax^w, huuq^wat/
7uuq^wat, q^wuq^wayayt^w; uq^wtv - tuq^wtaqs; uq^w - V⁻puq^w,
V⁻muq^w, V⁻suq^w, 7uq^w; uq^wv - nuq^waat, nuq^ways, 7uq^wuuni;
uq^wsmv - 7uq^wsmay; uq^wtv - muq^wla; ux^w - litux^w; uX^wv -
muuX^wa, nuX^w1st, q^wululuuX^wu, 7uX^wl, q^wuuX^wuuX; uX^wv -
q^wuuX^wwa; uX^wskv - nuX^wski; uX^wltv - V⁻muX^wlt; uX^wlt -
muX^wlt; u7yv - nu7aws; u7yv - lu7ya, pu7yaas; u7wv -
7utu7wa; um - tum, t^wum, cum, c^wum, sum (1), sum (2), l^wum,
7um^wum, x^wum, V⁻7anuq^wum, q^wum, V⁻X^wum, yum, 7um, V⁻sq^wum,
knum, qlum, q^wum, 7i7yum, nuk^wum, sisksum; umv - cituma,
V⁻cumis, q^wumuus, 7umat, scumay, q^wumuk^wa, 7anumaaXm,

ɔ'wmaanaakwla; umk'wV - q'wumk'wuts; umc'V - stumca; umxwV - sumX ul; umny - q'wumniqw; umty - nu?umtaax; umc - k'wumc; ums - tums; umsxV - q'wumsxiwa; umklV - 7umq'wumklika; umx7V - 7umx7it; umqly - cumqlaqs; un - V-pun, nucun, 7un- (1), 7un- (2), o'w

ulun, sq'wX

lun, wiłpun; uny - 7unusi-, 7uq'wuuni, 7unikw, -luni, q'una; und'wV - sunq'wuc, unk'wV - scunxw'a; unxw - sunxw, masunxw; unk'wctV - s7unk'wcy;a; ul - V-Xw

ul, -ul, V-Xw

ul, V-yul, V-7ul, s

ul, 7i

ul; ulv - mulm, -ulmx, -uli(i)c, tu(u)lu, -nuli, lula, sulut, lulay, q'w

ulun, V-Xw

ulis, 7ulix, s7ulm, maxwuuli, v-q'wuulikn, q'wuluci, q'wululuuXwu, sk'wulukt, culapla; ultv - tultaya; ult - sk'wult, k'wult; ulx - siqyulx; ulkw - stulkw; ulk'mV - yulkwmay; ulx - 7ulX, q'wulX; ulXt - 7ulXt; uyV - q'wuyusticas; uyyV/uy7yV - 7uy(?)yu; ip - V-tip, xip, V-qip, V-7ip, V-7astip; ipV - V-tipi, cipa, V-cipi, V-sipi, 7inacut, 7ipu, cipasa, kipuuc; int - kipt; ipc - 7ipc, 7iipc; ipsxV - cipsxili; ipsx - cipsx; ip - V-lip, kip, 7ip, skip; ionV - skipnakt; ipy - 7iptuus; it - cit, -lit, q'it, 7it-, -7it, v1q'wit, yalit, 7umx7it, twala7it; itV - kita (1), kita (2), cituma, lituxw, +7ituk, sqitiłp, 7ituut, sitaaXsu; itk'V - +7itka; itk'wV - +k'witk'wuk; itxwV - litxw'm; itq'wV - 7itq'w'u; itmV - 7ilitmay; ityV - sityaaX; itk - 7utitk, V-7amitk; itk - nanitk', laaq'witk'; itq - q'wlitq; itqk - sq'wlitqk; itxw - kmxk'witxw; it - k'wit; itV - witaalaw;

ic - V-Xwic, V-nic, V-7ic, -aliic, -uli(i)c, -minic, -tinic; icV - 7ica, 7icu, q'wuyusticas, 7icaplilana; ickw - 7ickw; ic - nupic, -lic, kic, V-qic, Xic (1), Xic (2), V-7ic, nustic, cik'wic; icV - q'icm, sicm, +7icik, wiciks, qamica; ict - 7ict; ickV - 7ickalimck; is - pis, lis, q'is, V-Xwis, 7is- (1), 7is- (2), slis, q'xtis, mamis, V-cumis, nmkis, lukis, V-q'llis, Kawis, q'w*ikiis*, V-Xwaalis, V-Xwulis, 7anis, 7a7iis, ya7is, V-walis, qaaklis, 7aliq'w*is*, Xw'q'w*ulikis*; isV - qism, q'ism, 7isu, Lisaak, 7isut, sisawik, ta7wisilaqs, wismkilakw; istV - 7ista, sistulila; issV - sissi, V-7issa; ismV - pisman; islV - piisla, Xa7isla; ist - mist; isv - wisXw; isc'w - 7isckw; isksV - sisksum; ił - pił, V-k'w*ił*, xił, 7ił; iłV - wiłaX; ił - tił, kił-, -ił (1), -ił (2), k'w*ił*, V-q'ił, Xił, V-7alkił, 7ił, wilwił, V-tkił, sX*ił*, lmił, splił, scpiił, -minił, -tinił, kltił, q'w*acił*, q'w*anił*, q'w*ikił*, qacqil, cayXlił, sxw*panił*, kanawil, qataXił, 7ila7ił, qinaq'w*lił*; iłV - miła, +7iluuk, 7iłixw, 7iłul, 7ila7ił, 7icaplilana; iłpV - wiłpun; iłtV - V-hiłta, nuq'w*iltaaXw*; iłtV - 7iłtmł; iłcV - 7iłcay; iłkV - kanilkas; iłqV - kimilqan; iłq'wV - sliłq'wamams; iłmV - kanilmay; iłlV - sXiiłla; iłc - tupilc; ił - sckiill; ił' - 7ił'; ik - cllik, -ik, -lik, q'w*ucik*, 7asik, +7icik, V-q'w*aaXq'w**ik*, snanik, skw*ubik*; ikV - cikm, V-wika, q'w*ikił*, wikat, cq'w*iikas*, V-q'w*uulikn*, cawikat, 7umq'wumklika, cq'w*ika7ya*; iknV - sciknuł; ikt - txwul7aylikt; iks - 7a7iks, smiks,

-iks; ikl - V⁻iikl; ik - pi^k, mik^k, V⁻tik^k, cik^k, nik^k, V⁻lik^k, wik^k; ikV - ci^ka, si^km, sikam, q^wikiis, w^kikin^w; iknV - 7iknuas; ikt - mik^kt, pilikt; iks - si^ks, sk^wanik^ws; ikl - V⁻mik^kl, si7ikl; ix - tix, cix, six, nix, -nix, V⁻lix, lix, 7ix-, wix, slix, knix, stwix, -aynix, satix, qilix, qatix, 7inix-, 7ulix; ixV - lixm, 7ixa, V⁻7ixaas, scixin, 7ixa7i, scixalt; ixcV - tixca, tixcamul, nixciqs; ixtV - tixkala; ixmV - V⁻sixmi, sixmana; ixs - wixs-; ixl - 7ixl, wixl+; ixk^wx^w - s7ixk^wx^w; ik^w - V⁻cik^w, -lik^w, 7ik^w, nus^wik^w, 7unik^w, 7al7ik^w, stanik^w; ik^wV - cik^wa, qik^wu; ik^wl - V⁻7ik^wl; ik^w - sik^w, lik^w, spik^w, nuik^w; ik^wV - cik^wic, 7ik^w1st; ik^wl - mik^wl; ix^w - cix^w, ci*x^w 1), V⁻lix^w, V⁻kix^w, -stwix^w-, milix^w, 7ilix^w, V⁻7alacix^w; ix^wV - 7ix^wu1; iq - wiiq; iqyV - siqyulx; iqs - 7askaniqs, nixciqs; iq - piq, tiq, x^wiq, V⁻X^wiq, V⁻7iq, sniniq, nus^wiq, V⁻tustiq; iqV - siqaaX, 7iqim; idX - niqX; iqkV - 7iqlikn; ix - V⁻piiX, -iX, ciX, ciiX, ciX, 7iX, 7iiX (1), 7iiX (2), sciX, qamiiX; ixV - qiixa, x^wiiXn, 7iiXm, liXin, Xixays, 7iXiXi, 7alqiixa; ixsV - 7iiXsa; ixtV - sk^wak^wikala, tixtiiXalam; ixlV - piiXla, k^wixlakilak^w; iq^w - iiq^w; iq^wV - 7aliq^wis, ciq^wi; iq^w - ciq^w, liq^w, q^wumniq^w; iq^wV - 7iniq^wi, 7iq^wuc, sliq^wuc; iq^wyV - siq^wyuusl; ix^w - tiiX^w, niiX^w, liX^w, 7ix^w, 7iiX^w, tmiiX^w, sliiX^w, -a7iniX^w, V⁻masalaniX^w, -iiX^w; ix^wV - s7ix^walk^w; ix^wsV - 7ix^wsila; ix^wnV - liiX^wnix; ix^wt - ciiX^wt; ix^wc -

smixmiX^wc; iy - si7ikl; iw - plki7wa; izyV - paaqi7yala; im - cim, -im, -tim, sim, lim, nuxim, k^wim, qim, 7im, skim, sqim, V⁻7asim, 7iqim, 7al7alcim, cawl^wmim; imV - sakima, kimi^wqan, -imut, cima, lima, -timut, -nimut, 7imlk, 7imanta, cimilt; imc - 7imc, s^w7imc, slalimc; imck - -alimck; in - tin, kinkin, 7in, win (1), win (2), twin, stwin, puuXin, silin, liXin, mackin, saplin, c^wamin, scixin, scuuXin, lalamin; inV - sq^winax^w, -a7iniX^w, q^waq^wina, q^wacinay, qinaq^wli^k, liina, 7iina, 7inu, -minic, -mini^k, -tinic, -tini^k, sinak, kinax^w, q^winaw, 7inax^w, 7inix-, cupinaal, V⁻7inut; inkV - kinkin; innV - x^winnimut, 7alminnimut; inwV - V⁻kinwas; inc - V⁻winc; ink - papink; inX - qinX; inX^w - w^kinX^w; il - mil, xil, V⁻7il; ilV - -ila, 7ilitmay, cipsxili, nusilawat, qaaXacxili, 7aya^wlilaXa, mila, 7alk^wilm, Xila, milix^w, silin, qilix, q^wilac, +7iluk, sx^wilm, sqili, pilikt, q^wilays, kilm, x^wilm, XilaX; ilwV - stilwa; ilt - 7ilt, cimilt; ilk - 7ilk, sx^wax^wilk; ilx - wilx; ilxt - skilxt; iltmV - miltmaq^ws; iw - kasmiw, V⁻7aciw; iwV - tupiwas, sk^watiwa, q^wumsxiwa, -liwa; ap - -ap, tap, cap, nap, l^wap, qaap, -nap, cyap, V⁻stap, scap, skillatap; apV - V⁻Xapa, papnt, papnl, V⁻kapat, kapuc, V⁻wapat, papink, tapalst, sl7lapa, stantapi^wm; apcV - skapcani^k; apsV - 7apsul, -apsm, 7apsu; aplV - sanlin, culapla, li^wicapli^kana; apwV - qaaXapwala; apc - sqapc; aps - 7aps; apx^w - 7aox^w; apq - 7al7apq; apX - q^wapX;

aps7V - qaps7alapst; apsmV - qansmuulm; ap' - xap', V-qap';
ar' - capax, kapay; anstV - kmapsta; apst - qaps7alapst;
at - qaat, 7at, sX^wat, klat, mnlat, nuq^waat, V'kanat,
k^wanat, huuq^wat/7uuq^wat, 7amat, yaXat, 7umat, V-wapat,
wikat, sukwaaat, hawayat, nusilawat; atV - qatm, Xatii,
yatn, V-cataw, satix, qatix, sk^wlatn, sX^wnata, lamatu,
7axati, qataXił, sk^watiwa, k^watasyan, skllatap, smatmx;
atxV - V-sqatxiix^w, watxii; atq^wV - nuqatq^wucm; atmV -
7atma; atlV - qaqtali; atwV - yayaatwii; atk - kmatk,
7alatk; atx^w - +atx^w; atxyV - 7aqatxyu; atxsyV - Xaattxsa;
at' - V-qat, 7at; ati - max^watalaqa; at'mV - 7atmaak^w;
ac - V-pac, V-pac, V-mac, V-qac, 7ac, V-wac, waac, 7lac,
V-Xmaac, -anaac, paalac, qamac, q^wilac; acV - k^waca, 7aci,
q^wacił, 7aciwl, yacalt, nukacu, 7acaya, q^wacinay,
V-7alacix^w, V-qacuł; actV - sk^wacta; ackV - mackin;
ack' - sackayx^w; acxV - qaaXacxi, qaaXacxili; acwy -
q^waacwa; acqV - qacqil; ack^w - sack^w; ack^w - mack^w;
acX - V-qacX; acq^w1V - sacq^wla; acq^wtV - 7an7acq^wtul;
ac' - pac, V-tac, wac; acV - maci, sacm, 7aci, kacan,
7acaaXł, nuqaci, qawaci, 7aalacii, sacalan; actV - 7acta;
as - pas, +mas, tas, tas, kas-, k^wak^was, 7as- (1/3),
V-was, V-lwa^s¹), xnas, q^wwas, q^wlas, -alas, tlmas,
scmas, -anwas, mayas, tamas, caamas, lamas, 7alas, kaqas,
k^wlwas, qanas, q^walas, V-7ixaas, V-yaqas, waakas, pu7yaas,
silyas, kamwas, V-kinwas, 7astas, wax^wwas, cq^wiikas,

sayxnaas, xmanwas, kmanwas, tuiwas, 7analas, kanikkas,
yaq^willas, kalyaakas, q^wuyusticas, 7iknuas; asV - yayaasli,
7asimlt, 7asik, masunx^w, cipasa, xalasu, wasila,
masmasalaniX^w; astV - q^wasta, q^wasta, wastut+, 7astamks,
V-7astip, 7astas, kalastak^w; ascV - 7ascm, kascaw;
asc' - 7ascay; askV - 7askaniqs; asqV - 7asqa; asmV -
kasmiw, 7asmu's¹), scq^wasma; aslV - k^waasla; asyV -
7asya, walasya, malasyul, k^watasyan; ast - sast, cwaast;
ask - V-ma^ssk¹); ask' - V-7ask'; ask^w - 7asx^w; astx^w -
7astx^w; at'V - 7ała, 7ałañul; at's - V-7ała's; at'tV - spałañt;
at - V-mał, -ał, cał, căł, 7ała, k^wał, V-k^wał, 7ała,
7ała-, scał, sqał, k^wał, x^wał, sinał, kamał+, V-kawał,
qtaysał, cawikal; at'V - +alu, nalm, 7ała, paalac,
7ała, 7ałañx^w, xalasu, k^wncala, qala, 7anala, nusq^walayx,
7ałaq^wis, 7ayałilaaxa, qalm, skaluclayx; alcV - 7ała7alcim;
alc'yV - 7ałcyaaX; alkV - yalkayx; alk' - V-7ała'kile; alk^wV -
7ała^wu; aloV - qala; al7V - 7ała7ik^w, V-yal7ay, twala7it,
7ała7usłanay; almV - 7ałañul; alnV - k^walna; allV - k^walla;
alyV - salya, 7alyannm; alt - k^wpwalt; alx^w - 7ała^w;
all - sutaał, -all; alk^w - sq^walk^w, s7ix^walk^w, swanalk^w;
alps - 7alps; altx^wV - nupałtx^wiknm; ak - smak, -ak, -nnak,
q^wx^wnaak, lisaak, 7utak, yallak; akV - maka, 7aki, yaki,
takan, waakas, wakayak, stakaw, kalyaakas, 7aq^wakila,
k^wiXlakilak^w, nuakila; aktV - paktułk; aklV - qaaklis;
akt - ćklakt, ćupakt; akc - laakc; ak' - V-sak'; aky -

v⁻7aXc; a^wl - 7aaXl, paaXl, sciaaXl, 7acaaxl; a^ws - caqaaaks; a^wk - 7awanaaXk^w; a^wcyy - waXcya; a^wqly - 7aaXqlmxani; a^wy - naaq^wu, ɬaaq^wayl, ɬaaq^witk^w, q^waq^wina, ɬaq^wamuut, laaq^wanays, yaq^wułlas, tayaq^wila, ɬaq^wakila; a^wmy - ɬaq^wmayos; a^wly - qinaq^wlil; a^ws - saq^w, v⁻ɬaq^w, ɬaaq^w, v⁻qaq^w; a^wy - 7aq^wan, maq^wanc; a^ws - -aq^ws; a^wl - taq^wl, v⁻aq^wl; a^wx - taX^w, -ax^w, taax^w, ɬaX^w, q^wax^w, 7ax^w, -naX^w, v⁻yax^w, cyaax^w, staX^w, q^wlaX^w, sxayaX^w, nuq^wiltaaX^w; a^wv - paax^wu, naax^wm, q^waax^wn, X^wax^wi, saax^wan, sX^wax^wa, maX^watalaqa, nutax^wm, cax^wm, caax^wm; a^wny - 7aX^wni; a^wV - xa7m, ha7m, ha7u, 7a7iis, ya7is, sta7m, -a7iniX^w, 7a7mma, 7ama7ick, 7ixa7i, sa7lk^wuus, 7iła7ił, Xa7isla; a^wmV - na7mu; a^wlV - ɬa7laya; a^wv - ta7wisilaqs; a^wyV - ca7yamuus, cq^wika7ya, k^wa7yalaqs; a^wm - tam-, -am, lalam, kam-, v⁻qam, v⁻Xam, v⁻stam, v⁻qlam, caxam, smmam, sakam/sikam, qaaXam, v⁻7astam, v⁻7ustam; a^wV - qama, Xamu, mamis, tamas, ćaamas, lamas, kamal+, qamac, qamiiX, 7amat, 7amuł, 7amitk, cqamin, sq^waamismx, qamica, 7ama7ick, lamatu, ɬaq^wamuut, leaq^wamays, ca7yamuus, ɬalam, nutkamaaX, Xlamanta, tixcamul; a^wsV - hamsa; a^wwV - kamwas; a^wmS - -ams; a^wl - 7aml, v⁻yaml; a^wk - ɬamk, -amk; a^wk - ɬank'; a^wck - skamck; a^wn - man, -an, -tan, can, nan, v⁻kan, v⁻wan, tqan, stan, sXan, sk^wyan, takan, saax^wan, ɬaqan, kačan, 7aq^wan, bisman, sacalan, kimilqan, k^watasyan; a^wlV - -anm, -ana, -ani, -anaac,

v⁻saka, sakam, sakima; a^wx - swakx; a^wV - caxam, 7axati; a^wsV - maxsays; a^wlV - yalaxłay; a^wV - naxliwa; a^wk - tak^w, cak^w, v⁻Xaqak^w, 7atmaak^w, kalastak^w, wismkilak^w, k^wiXlakilak^w; a^wy - sak^wm, 7ak^wa, ɬaxłak^way, qak^wul, ɬak^wani, spak^wank, sk^wak^wiXłala; a^wc - qak^wc; a^ws - tak^ws; a^wnV - pak^wnix; a^wlV - q^wumaanak^wla; a^wk - cak^w; a^wV - 7ak^wa (1), 7ak^wa (2), 7ak^wi; a^wnV - 7ak^wna; a^wp - pax^w, -lax^w, kax^w, v⁻x^waax^w, yax^w, -tmax^w, klax^w, kinax^w, 7inax^w, sq^winax^w, -nmax^w; a^wV - sax^wa, max^wuuli, yax^wm7maył; a^wtV - nax^wtana; a^wwV - wax^wwas; a^ws - 7ax^ws; a^wl - 7ax^wl, 7usnaax^wl; a^w - v⁻paaq, -aaq, cmtaaq; a^wV - ɬaqa, naqaqa, ɬaqas, ɬaayaqm, maX^watalaqa, ćaaqaluusł, yaqasuuł; a^wtV - qaqtalp; a^ws - 7aqs, -aqs; a^w - XaXa^w; a^wV - v⁻laqa, ɬaqan, v⁻Xaqak^w, Xaqanc, Xayaqa; a^wsV - 7aqsn; a^wmV - 7aqmiiXalp; a^wt - v⁻naqt; a^ws - ɬaqs; a^wk - slaqk, a^w - aaX, paaX, +taX, ɬaX, qaX, qaaX, v⁻7aaX, v⁻yaX, snaaX, słaX, ɬtaaX, qlaX, q^wwaaX, skyaaX, ćapaX, siqaaX, nanaaX, wiłaX, sityaaX, 7a1cyaaX, tx^wnyayaX; a^wV - caaXa, 7aaXn, qaaXam, yaXat, v⁻yaXas, k^wwaaXa, k^waaXila, ćataXil, qaaXacxi, nusqaaXm, qaaXapwala, qaaXacxili, 7ayałilaaXa, naXnx, nulaXlX, ɬaaXalta, 7anumaaXm; a^wtV - pnaaXta, ɬaaXta, nuscaaXta; a^wcV - v⁻yaXci; a^wsV - maaXsa, sitaaXsu; a^wlV - yaXłn, ɬaaXlawals; a^wqV - 7aaXqa, scqaaXqa; a^wyV - v⁻q^waaXq^wik, sq^waaXq^wa; a^wxV - 7ax^wut; a^wlV - qaaXla, -aaXla; a^wp - nuqaaXp; a^wt - słaXt, slklaaXt; a^wc - maaXc,

-anaw, ¹naniłp, qana, hanu, 7anu-, nanaaX, kanus-, ¹wanat,
 , qanas, qanuuk^w, ¹anil, 7anis, 7anus-, wanuk^w, ¹mani,
 nanitk^w, 7anayk, stanik^w, snanik, plXani, mutana,
 tatkanałp, ¹yak^wani, ¹xubana, ¹uxani, q^wuqani, sk^waniks,
 swanałk^w, sx^wpanił, ¹kanawił, 7analas, 7anała, 7ażanuł,
 7anumaaXm, sixmana, 7yanahu, 7awanaaXk^w, kaniłmay, kaniłkas,
 7askaniqs, ¹umaanak^wla, 7aluuXmana, ¹icapiłana; antV -
 7imanta; antV - spanyantu; ancV - 7ancns; ançnV - ¹tan'ni,
ank^wV - kank^wuus; annV - 7alyannm; anyV - panya, spanyantu,
anwV - xmanwas, -anwas, kmanwas; anc - q^wanc, yanc,
 maq^wanc, Xaqanc; anł - -anł; ank - spak^wank, -ank; anx^w -
 -lanx^w/slanx^w; anxtV - qanxtu; ankstV - tanksta; ankpc -
 7ankpc; anqll - wanqll; al - V⁻mal, V⁻kal (1), V⁻kal (2),
 V⁻dal, wal, sq^wal, lahal, 7uqal; alV - -ali, +alu, -almx,
 -alas, -aliic, V⁻palu, taala, sala, qaali, Xala, q^walm,
 q^wala, -alayx, salmt, -nalus, 7alas, q^walas, V⁻X^waalis,
 7almk, 7aluuX, yalit, V⁻walis, stala, sqala, sq^walm,
 -alimck, talaws, 7alatk, sqaluc, swalut, iuk^wala, 7almci,
 slalimc, 7aalacii, sacalan, ¹alamin, 7analas, V⁻7alacix^w,
 witaalaw, walasya, tixłala, V⁻tiiXłalam, malasyuł, kalastak^w,
 yalaxłay, ¹a7yalaqs, say7walus, twalał7it, 7aluuXmana,
 qaaXapwala, max^watalaqa, sk^wak^wiXłala, qaps7alapst;
altV - staltmx; alqV - kalqm, -alqi; alXV - qalXm, -alXi;
almV - tq^walmik; allV - yalli, yallak; alyV - talyu, ¹alya,
 kalyaakas; alt - X^walt, scixalt; als - q^wals, -als; alk -

nuXalk; alx - 7alx, ¹alx; alk^w - 7alk^w, skalk^w; alx^w -
 -alx^w; alq - V⁻yalq, ¹wusatq; altwV - -altwa; alcwV -
 -alcwa; alsqV - 7alsqa; altx^w - caltx^w; alst - tapalst,
 -alst; alxs - q^walXs; aw - V⁻maw, -aw, law, kaw, qaw,
 qaw, hawhaw, 7aw, -naw, V⁻7aw, yaw, -anaw, V⁻cataw,
 kntaw, q^winaw, V⁻7ayaw, kascaw, stakaw, witaalaw; awV -
 V⁻sawa, ¹kawn, V⁻kawał, smawn, Xawis, qawaci, cawikal,
 7awanaaXk^w, nusilawat; aws - q^waq^waws, taws, naws, slaws,
 talaws, nu7aws; awl - 7awl, ¹cyawl; awk - sisawk; awq^w -
¹awl^w; awyV - hawayat; awplV - lawpla; awsty - 7awst;
awłmV - cawłmim; aw7lv - Xaw7li; awłt - stawłt, skawłt;
ay - pay, tay, cay, la7lay, ¹ay, ¹key, qay, qay (1/4),
 V⁻q^way, X^way, 7ay, way, V⁻scay, s7ay, klay, k^wX^wmay,
 k^wyay, 7ałay, ¹axłak^way, ¹ulay, kap¹ay, 7iłcay, V⁻yał7ay,
 scumay, yulk^wmay, 7uq^wsmay, q^wacinay, kaniłmay, 7ilitmay,
 yalaxłay, 7ał7usłanay; ayV - mamayu, 7aycaym, V⁻7ayu,
 mayas, Xayuł, V⁻7ayaw, sXayaX^w, s7ayuł, ¹aaayaqm, qalayu,
 Xayaqa, 7ayałilaXa, tx^wnayaax, tultaya, tayaq^wila,
 q^wuq^wayaytx^w, wakayak; aysV - qtaysal, miaysila; aykV -
 q^waykila; aymV - s7aymis; aynV - -ayinx; aylv - -aylayx,
 tx^wuł7aylikt; ayt - qayt, s7ayt; ayc - s¹mstayc'; ays -
 pays, ways, nunuq^ways, Xixays, q^wilays, maxsays, laaq^wamays;
aył - ¹aaq^waył, yax^wm7maył; ayk - 7anayk; ayk' - 7ayk';
ayx - tayx, ¹cayx, -ayx, wayx, V⁻7nayx, -a(y)layx; ayX -
 k^wayX, ¹cayX, layX; ayłX^wV - slayłX^wuc; ayksV - s7ayksa7na;

ayxčV - 7ayxcmqa; ayxnV - sayxnaas; ayxlV - 'cay'lit; ay7wV - say7walus; aytX^w - ɿX^wcaytX^w, q^wuq^wayaytX^w; ayks - s7ayks; ayxt - osayxt; ayqs - ɿaq^wmayqs; ayXt - s^wayXt; ahV - 7yanahu, lahal.

10.2. In this section are enumerated all morphemes having the structure #Cay(...).

pa - V⁻pac, pac, v[,]ak^wnix, pax^w, paax, pay, naak^t, pays, paaX^wu, paalac, papnt, papn^t, panya, papink, paktulk, paaqi7yala; k^wpa - k^wpal; sna - spak^wank, snanyantu; sx^wpa - sx^wpanit; pa - pac, pas, palx, panitp; qa - qoa; ta - ta+, -ta, tao, tam-, V⁻tac, tas, -tan, taqaaX, +taX, tay, tak^ws, taq^wl, taala, takan, talyu, talaws, tanksta, ta7wisilaqs, tayaq^wila; sta - V⁻stap, stan, stam, stalmx; s̄ta - s̄talp; ɿX^wta - ɿX^wta; qta - qtaysal; ta - tas, tak^w, taX, taX^w, taaX^w, tayx, taws, tamas, tan'cni, tapalst, tatkanaip; sta - staX^w, sta7m, stala, stawit, stanik^w; ɿta - ɿtaaX; ca - can, can, -can, cał, cak^w, cak^w, cay, caaXa, caltx^w, V⁻cataw, ca7yamuus; kca - kcaacay; sca - scal, V⁻scay; ɿX^wca - ɿX^wcaytX^w; ca - cał, caaqaluusi, caaX^wm, cayx, cayX, capaX, caamas, caxam, cayXlił, cawlmim, cawikal; Xca - Xca; sca - scañ; sa - V⁻sak^w, saq^w, sack^w, sast, sacm, sala, sak^wm, sax^wa, V⁻sawa, satix, salmt, sakam, saak^wan, salya, saulin, sacq^wla, V⁻sakima, sackayX^w, sayxnaas, sacalan, sa7lk^wuus, say7walus; Xsa - Xsaasay; psa - osayxt; ɿa - ɿa, ɿap, ɿał, V⁻ɿaq^w, ɿax^w, ɿaq^w/ɿawq^w,

ɿamk, ɿali, ɿaki, ɿa'qan, ɿaaq^waył, ɿaaq^witk^w, ɿak^wani, ɿayaqaqm, ɿalamin, ɿaq^wamuut, ɿa7laya, ɿaq^wmayqs, ɿaq^wakila; s̄ia - s̄iaxt; la - la+, laaxta/laaxalta, lay, laq^s, laqa, lałas, laxłak^way, lałyta, lawpla, lałuuXmana; p̄la - p̄la; ɿla - ɿla; tq̄la - tq̄la; ka - ka+, V⁻ka, kas-, V⁻kan, V⁻kal (1), V⁻kal (2), kal-, kaw, kact, kanani, kapay, kamal+, kacan, kanus-, kalqm, kayxi, kasmiw, kascaw, kaniłmay, kaniłkas, kalastak^w, kalyaakas; tka - tka; tk̄a - V⁻tk̄a; ska - skalk^w; ka - kam-, V⁻kał, kax^w, kay, kamk, kawn, V⁻kapat, kapuc, kaqas, kamwas, kank^wuus, kanawil; sk̄a - skałuclayx, skapcanił, skamck, skawłt; xa - xap, xa7m, xalasu; k^wa - k^wak^was, k^wanat, k^waasla, k^waaXila, k^watasyan, k^wa7yalaqs, k^wayX; sk^wa - sk^wacta, sk^watiwa; k^wa - V⁻k^wal, k^waca, k^walna, k^walla; sk^wa - sk^waniks; ɿk^wa - ɿk^wa; x^wa - V⁻x^waax^w; qa - V⁻qa, qaap, V⁻qan, qat, V⁻qal, qax, qaaX, qay, qaw, qapsmuulm, V⁻nuqatq, qacX, qalX, qaaqx, qayt, qama, qana, qiali, qamac, qaaXam, qalqa, qaqatli, qaqtaip, qaaXila, qacqil, qaaXklis, qanXtu, qamica, qalayu, qawaci, qaaXacxi, qaaXanwala, qaaXacxili, qans7alapst; tqa - tqan; sqa - sqanc, sqala, sqaluc; coa - cqamin; scqa - scqaaXqa; qa - V⁻qam, qaat, V⁻qacuł, V⁻qal, qay (1/4), qaw, qak^wc, qatm, qamiix, qatix, qanas, qanuuk^w, qak^wuł, qaxławals, qataXil, qawltaqs; s̄ua - s̄qal, sqatxiiX^wak; Xa - V⁻Xam, XaXaq^w, V⁻Xapa, Xamu, Xatii, Xala, V⁻Xaqak^w, Xayuł, Xawis,

Xa'cmayus, Xaqanc, Xaw7li, Xayača, Xaatxsysa, Xa7isla;
Xa - Xa; sXa - sXan, sXayaX^w; d'a - d'ax^w, d'als, q'aaX^wn,
q'aaq^waws, q'acil, q'anił, q'alaś, q'aacwa, q'asta, q'acinay,
q'aaX^wikłp; sq'a - sq'wal, sq'aałismx, sq'aaXq^wa; id'a -
ta'alm; scq'a - scq'wasma; q'a - q'apX, V-q'ay, q'anc,
q'alm, q'ala, q'alaś, q'asta, q'aq'ina, q'aykila; sq'a -
sq'alk^w, sq'alm, sq'ayXł; X'a - X'ay, X'alt, X'ax^wi,
V-X'alis; sX'a - sX'ayX^wm, sX'at, sX'ax^wa; za - 7at, 7at,
7ac, 7acta, 7as- (1/3), 7al-, 7al+, V-7aaX, V-7aq^w, 7aX^w,
V-7ay, 7aw, V-7aw, 7aps, 7apsł, 7apx^w, 7aml, 7asx^w,
V-7ask, 7alx, 7alk^w, 7alx^w, 7alq, V-7ałs, 7ax^ws, 7ax^wł,
7aqs, V-7aXc, 7aaXł, 7ayk, 7awl, 7aci, 7aci, 7anu-, 7ali,
7ała, 7ak^wa, 7ak^wa (1), 7ak^wa (2), 7ak^wi, 7aaXn, V-7ayu,
7astx^w, 7ałps, 7aaXqłmxani, 7amat, 7amł, 7asim, V-7aciw,
7asik, 7anis, 7anus-, 7almk, 7aluuX, 7ałlx^w, 7ałay, 7aq'an,
7ałiis, V-7ayaw, 7apsu, 7atma, 7ascm, 7asqa, 7asya, 7ałk^wu,
7ak^wna, 7aqls, 7aaXqa, 7aX^wni, 7ank'pc, V-7amłtk, 7acaaxłmx,
7anayk, 7alatk, 7atmaak^w, 7asmu's¹), V-7astam, 7astas,
V-7astip, 7ancns, 7ałmuł, 7ał'ałcim, V-7ałkłł, 7ał7ik^w,
7aX^wut, 7alsqa, 7awsti, 7a7mma, 7ama7ick, 7acaya, 7anała,
7almci, 7aalacii, 7axati, 7an7acq^wtuł, 7ałcyaaX, 7analas,
7anumaaXm, V-7alacix^w, 7ałiq^wis, 7ałanuł, 7ałqiiXa,
7admiXalp, 7awanaaXk^w, 7alyannm, 7ayxcmqa, 7askaniqs,
7ayalilaaXa, 7ał7usłanay; s7a - s7ay, s7ayt, s7ayks,
s7ayul, s7ayksa7na; ma - +ma, -ma, V-mac, man, V-mal,

V-mał, V-maw, mack^w, V-ma-sk¹), maaXc, maci, maka, V-mayu,
mamis, mayas, maaXsa, masunx^w, maq'wanc, mackin, max^wuuli,
maxsays, malasyuł, V-masalaniX^w, max^watalaqa; sma - sma,
smatmx, smak, smawn; tma - -tmax^w; kma - kma, kmapsta;
xma - xmanwas; k'ma - V-k'ma; Xma - V-Xmaac; k'ma - k'matk,
kmaswas, kmani; skma - skma; sqma - sqma; tlma - tlmas;
scma - scmas; wa - wa+, V-wa, V-wac, waac, wac, V-wan,
wal, way, ways, wayx, V-wapat, wanuk^w, wawalis, waakas,
wakayak, watxii, wastu+, wanqłł, wax^wwas, waXcya, wasila,
walasya, waylmkilak^w; twa - V-twa, twalał7it; cwa - cwa,
cwaast; swa - swakx, swalut, swanałk^w; lwa - lwa's¹);
k'w'wa - k'w'waaXa; g'w'wa - q'w'was; g'w'wa - q'w'waaX; k'w'pwa -
k'w'pwałt; na - na, V-na, -na, nap, nan, naxliwa, naXn,
-nap, -naw, -naX^w, V-naqt, naws, nałm, naqqa, naaX^wm,
nanaaX, -halus, na7mu, nanitk^w, nax^wtana; pna - pnaaXta;
cna - cna; sna - snaaX, snanik, xna - xnas; x'na - x'nał;
7na - V-7na, 7nayx; q'w'na - q'w'na; mna - mna, mnaakays;
tx'na - tx'w'nayaak; sX'na - sX'w'nata; q'w'X'na - q'w'X'w'naak;
la - V-lam, -lax^w, law, laakc, -lanx^w, lalaqa, -layx,
layX, lamas, lahal, lamatu, laaq^wamays; cla - cla; kla -
klax^w; kla - klat, klay; gla - qla, V-qlam; gla - qlax;
7la - 7lac; sla - slaX, slaqk, slaws, -slanx^w, slalimc,
slayłXuc; k'w'la - k'w'la; Xla - Xlamanta; g'w'la - q'w'lax^w,
q'w'las; sk'w'la - sk'w'latn; ckla - ckłakt; k'w'q'w'la - k'w'q'w'la;
ya - ya, yax^w, yayaX, V-yax^w, yaw, V-yamł, yanc, V-yalq,

yatn, yayaasii, yaki, yalit, yaqasuul, yaXat, yaXasila,
ya7it, yayaatwii, yalli, yayaXci, yaXin, yacalt, yallak,
V-ya17ay, yaXkayx, yaXaxlay, yaq^wullas, yax^wm7mayl;
cya - cyap; cya - cyaax^w, cyawi; k'ya - k'yay; Xya - Xya;
Zya - Zyanahu; skya - skyaaX; sk'ya - sk'yan; ha - hawhaw,
ha7m, hanu, ha7u, hamsa; pi - V-pic, pis, vił, pik, piq,
piisla, vilikt, pisman; tpi - V-tpi; spi - spik^w; scni -
scnił; pi - V-piiX, piiXla; ti - ti+, V-ti, -ti-, tii,
V-tip, -tim, tił, tixtik, tix, tiq, tiiX^w, V-tipi, -timut,
-tinic, -tinik, tixca, tixcamuł; sti - sti-, stilwa;
qXti - qXtis; ti - tin, tixłala, tixtiiXłalam; ci - ci+,
cim, cik, cix, V-cik^w, ciX, ciix, ciq^w, ciiX^wt, cipa,
V-cipi, cika, cipsx, cituma, cimilt; sci - V-sci, scixalt;
ci - V-ci, cit, cik, cix^w, ci*x^w¹), ciX, cima, cik^wa,
ciq^wi, cipasa, cik^wic, cipsxili; sci - sciX, sciknuł,
scixin; si - si-, sim, six, sik^w, V-sipi, sicm, sikm,
siks, sisaałmx, sinal, silin, sikam, siqaaX, sissi, siisxmi,
sisawt, si7ikł, sityaaX, silyas, siq^wyuusł, siqyulx,
sisksum, sitaaXsu, sixmana, sistulila; sksi - sksi; li -
li, lima, lina, liXin, liqłkn, licapliłana; li - lix, li^w,
liiX^wnix, lima; sli - slipnakt; ki - kip, kic, kinkin,
kilim, kilaaX, kimiłgan; ski - V-ski, skip; cki - +cki;
scki - sckił; ki - kipuuc, kil-/kis-, V-kix^w, kipt,
kita (1), kita (2), kinax^w; tki - V-tkił; ski - skim,
skilxt; xi - xip, xil; sxi - sximnk; k'wi - k'wit, k'wił,

y-k'wił; k'wi - k'wim, +k'witk'uk, k'wiXlakilak^w; x'wi - x'wilm,
x'wił, x'innimut; cx'wi - cx'wi; sx'wi - sx'wilm; qi - V-qip,
V-qic, V-qism, qinX, qik^wu, qiiXa, qilix; tqi - tqi;
sqi - sqitiłp, sqili; qi - qim, qicm, qican, qis, qism,
V-qil, qinaq^wlił; sqi - sqim; xi - V-Xi (1), V-Xi (2),
V-Xic, Xic (1), Xic (2), Xilaax, Xil, Xil, Xila, Xixays;
sxi - sxiilla; q'wi - V-q'wi (1), V-q'wi (2), q'wit, q'winaw,
q'wilac, q'ikił, q'ikiis; cq'wi - cq'wiikas, cq'wika7ya;
sq'wi - sq'winax^w; q'wi - q'wilays; X'wi - V-X'wic, V-X'wis,
X'wicm, X'wiXn; sX'wi - sX'wił; YX'wi - V-YX'wi; zi - V-7ip,
7ip, 7im, 7it-, -7it, V-7ic, V-7ic, 7is- (1), 7is- (2),
7in, V-7il, 7il, 7il, 7ix-, 7ik^w, V-7iq, 7iX, 7iiXm,
7iiXłp, 7iq'uc, 7iX^w, 7iiX^w, 7ipc, 7iipc, 7iptuus, 7imc,
7ick^w, 7ict, 7ickalimck, 7ilt, 7ilk, 7il^k, V-7iikł, 7ixł,
7isck^w, V-7ik^wł, 7iX^wsila, 7ipacut, 7ipu, 7ica, 7icu,
+7isu, 7iina, 7inu, 7ixa, 7iiXm, 7imlk, 7imanta, +7ituk,
+7icik, 7isut, 7inax^w, 7inix-, V-7inut, +7iluk, +7iuk,
7iłix^w, 7iłul, 7ixaasnix, 7ix'ul, 7iqim, +7itka, 7itq^wu,
7ista, V-7issa, 7iiXsa, 7ituuXt, 7iłt^mł, 7iłcay, 7iniq^wi,
7ixa7i, 7iXiXi, 7ila7i, 7ilitmay, 7iñuas; s7i - s7ixk^wx^w,
s7ixwak^w; s7i - s7imc; hi - hihiłta; mi - mil, -mi-,
-min, mik, V-miltm, mikł, mixmikł, mik^wł, mila, mila,
mixmikala, -minic, -minik, milix^w, miaysia, V-mi; tmi -
tmiiX^w; smi - smiks, smixmiX^wc; lmi - lmil; wi - win (1),
win (2), wilwil, wił, wix, V-wiiX, wiśX^w, winwinc, wilx,

wixs-, wixkt, ^{v-}wika, wi^kaX, wiktat, wi^klks, wi^kinX^w, wi^kbun,
 witaalaw, wis^mkilek^w; pwi - pwi; twi - ^{V-}twin; stwi -
 stwix; stwi - stwin; ni - ^{V-}nic, nik, nix, -nix, niiX^w,
 nist, niqX, -nimut, nixciqs; smi - sminiā, sminya; kni -
 knix; k'ni - ^{k'}ni; lknii - lknii; li - ^{V-}lip, lim, -lit,
 -lic, lis, -lik, ^{V-}lik, lixlix, -lik^w, lik^w, ^{V-}lix^w, liX^w,
^{V-}litx^w, -liwa, litX^w, lisaak; tli - tli; sli - slis,
 slix, sliq^wuc, sliiX^w, sliq^wamams; xli - xli; q'li - q^wli;
q'wli - q^wlita; sqli - solit; scli - ^{V-}scli; skli - skli;
sq'wli - sq^wlitq^w; sX'wli - ^{V-}sX^wli; pu - puutii, pus, ^{V-}pun,
 pu^km, pu^k, puX, puuX, pupq^w, pucq^w, puk^ws, pucut, puuXin,
 pucla, puctn, pu7yaas; spu - spu^k, spuX, sputx; q'pu -
 q^kpulX; pu - pu^km, bulk^wm; spu - spu; tu - tu+, +tu, -tu-,
 +tuu, +tuc, tup, tum, tuc, -tu^k, tuk, tux, tuX, tums,
 tuuna, tu(u)lu, tutustiq, tultaya; stu - stup, -stu-,
 stuq^w, stulk^w; tu - tu, ^{V-}tup, tum, tuuc, tuka, tui^kc,
 tuq^wtaqs, tuiwas; st'u - stumca, stux^wsi; cu - cup, cum,
 cut, -cut, cuca, cupinaal, cumcumis, cuusila; scu - scux,
 sculk, scumay, scunX^wa; k'cu - ^{V-}k'cu; k'wcu - k^wcus; skcu -
 skculk; cu - cu, ^{V-}cup, ^{V-}cus, cucq^w, cunakt, culapla;
scu - scup, scuuXin; q'cu - q'cus; su - +su, sum (1), sum
 (2), su^k, ^{V-}suk, suq^w, supt, sutk, suc^kmx, sunx^w,
 sunq^wuc, sucm, suxa, suuXi, sulut, suataal, sumX^wu^k,
 su^kwaat; t'w'su - t'X^wsus; lu - lu^k, lu^kay, lu^kana; lu -
 +lu, lun, lum, lut, lu^k, ^{V-}lu^k, ^{V-}lu^k, ^{V-}lu^k,

lu^kt, luu^kt, lula, lukis, lu7ya, lu^kala; shu - shu^k, shu^w
 k^wu - +k^wu, ^{V-}k^wu^k, k^wus-, V⁻k^wul, k^wu^k-, V⁻k^wu^k, k^wuk^wpi,
 k^wusi, k^wusu; sk'w_u - sk^wunik, sk^wulu^k; k'w_u - +k^wu, k^wus,
^{V-}k^wun, k^wumc, k^wult, k^wucxi, k^wuxani; sk'w_u - sk^wult;
x'w_u - x^wum, ^{V-}x^wul, x^wuk; sX'w_u - sx^wulm; stx'w_u - stx^wus;
q'w_u - q^wup, q^wuc, q^wu^k, q^wuX, q^wuuX^wuuX, q^wuna, q^wucik,
 q^wulun, q^wuuX^wwa, q^wucu^kw, q^wuq^wuusX^km, q^wuq^wuulikn,
 q^wuluci, q^wululuX^wu, q^wuqani, q^wuyusticas; sq'w_u - sq^wuc,
^{V-}sq^wup, sq^wu^k, sq^wusa; q'w_u - q^wup, q^wum, q^wuX, q^wumuus,
 q^wusalq, q^wumnia^w, q^wumuk^wa, q^wumk^wuts, q^wumsxiwa,
 q^wuq^wayaytX^w, q^wumaanak^wla; sq'w_u - ^{V-}sq^wum, sq^wusa; X'w_u -
 X^wup, ^{V-}X^wum, X^wuc, ^{V-}X^wul, X^wuq^w, X^wuta, X^wuX^wuci, ^{V-}X^wulis,
 X^wuq^wu^kis; tX'w_u - tX^wu^k (1); lX'w_u - lu^kus; lx'w_u - ^{V-}lx^wus;
mu - mu, -mut, -mul-, mus, mu^ks (1), mulm, muk^w, ^{V-}muq^w,
 mux^wmuk^wt, ^{V-}mucm, musa, muuX^wa, muX^wit, muq^wka, mutana;
kmu - kmusm; zu - zu^k, zum, zu^kikal, ^{V-}zuc, zu^ks (1/5),
 zu^kn- (1), zu^kn- (2), ^{V-}zul, zu^kt, zu^kq^w, zuX^w, ^{V-}zunk, zu^kt,
 zu^ktrii, zu^klX, zu^ki, ^{V-}zu^ka, zuuXi, zu^ktx^w, zu^kxi, zu^klX^w,
 zuuq^wat, zumat, zu^ktak, zu^knik^w, zu^klX, zu^kdal, zu^ksqa, zu^kca,
 zu^klqn, zu^kyyu, zu^ktitk, ^{V-}zustam, zu^kunusi-, zu^kuuni, zu^kmx7it,
 zu^ksnaax^wl, zu^ksmay, zu^ktu7wa; szu - s7ulm, s7unk^wcta;
Xnu - Xnu^k7a; nu - nu-, -nu, nup, ^{V-}nu^k, nuX, nutm, -nuli,
 nuk^wi, nuk^wum, nuq^waat, nulti, nuXalk, numuq^ways, nuX^wist,
 nu7aws, nusk^wum, nusXi^k, nuX^wski, nukacu, nuqaci, nusqaaX^w,
 nupa^ktx^wiknm, nuq^wiltaaX^w, nusq^walayx, nusilawat, nuik^w,

nua'cila; snu - snu^ʔ; lnu - lnu^s¹); knu - knum; lu - v⁻lu, +lu, +luks, -lumi; slu - sluxta, sluq; glu - qlum, qluq; qlu - qlum, v⁻qlu, qluk; sq^wX^wlu - sq^wX^wlun; yu - v⁻yip, yum, yutlx, v⁻yul, yuyux^w, yulk^wmay; syu - syut, syupalx^w; lyu - lyuk; kyu - kyuk; spyu - spyu; qxyu - qxyu; hu - huyp; tM - tm-, tmo, tmx^w, tmk^wa; k^wtM - k^wtmc; sM - smt, smlk, smmam, sm7ula; lM - v⁻lms; s'lM - s'lmstayc; lM - lm; q1M - qlm; kM - km, -kmt, kml, kmxk^witx^w; pkM - pkm; l'kM - lkm; xM - xm; psxM - psxm; k^wM - k^wm, k^wml; l^wM - l^wm; stx^wM - stx^wm; qm - qm, v⁻qm; qM - v⁻qm (1), v⁻qm (2); l^wM - v⁻lqm; XM - Xm, v⁻Xm; tq^wM - tq^wm; lX^wM - lX^wm; ZM - v⁻Zm, Zmt, Zmtm; nm - v⁻nm (1/3), -nm, nmp, nmnmk, nmkis; tnM - -tnm; knM - knm; stnM - v⁻stnm; ltnM - ltnm; l1M - l1m; tN - tntn; stN - stn; ltn - ltn; x^wtN - v⁻x^wtn; tn - tnX^w; stN - stn; cN - cnk, v⁻cnk^w; lX^wcN - lX^wcn; c'N - cn, +cn; sN - snX, snq^ws; tksn - tkns; sq^wsN - sq^wsn; c'XlN - c'Xln; kN - kntaw; p1tkN - p1tkn; kN - knk; sxN - sxnc; k^wN - k^wn, k^wn7na, k^wncala; psk^wN - psk^wn; k^wN - k^wn; qN - qnk; qN - v⁻qnla; tq^wN - tq^wn²; 7N - 7n, 7nc, 7n²; mN - mnmc, v⁻mnc, mnk, mnk, mntx^w, mnck, mnklat, mnk^wa; wN - wnc, wncit; pL - plst, plq^wit, plxani, plki7wa; tl - tlk^w, tlq^w; stL - stlk^wa; sl - stls; cl - cl(7)lik; cl - cls, clkt; scL - scltx^wul; sl - sl, slq^w, sl7laaa; l1 - l1; ll - ll; kl - klkl, kltiil; kl - v⁻kl, klx; skL - skl, skllatap; k^wL - k^wl; k^wL -

k^wlsi, k^wlwas; x^wL - x^wl; qL - qlx^wila; q'L - q'ls, q'lst, q'lsx^w; XL - v⁻Xl, v⁻Xlq; q^wL - v⁻q^wls, q^wlx^w; tq^wL - ta^wl; X^wL - v⁻X^wl; ZL - 7lq, 7lx; mL - ml; wL - wlXla, wl, wlwlkacut.

10.3. Many Bella Coola morphemes consist of obstruents only (see also "Bella Coola Phonology", Appendix); these elements, having the structure #Ca#, are now enumerated.

ps - v⁻ps (1), v⁻ps (2), psx, v⁻k^wpst, qpst; p1 - plt; px - px; pq^w - v⁻pq^w; pc - v⁻pc; ps - ps; p1 - plt; px - vx; pX^w - px^wlt; tp - v⁻tp (1), v⁻tp (2); tc - tc; tl - tl; tk - tk; tx - tx (1), tx (2); tk^w - tk^w; tk^w - tk^w; tx^w - tx^w, stx^wc; tq - tq; tX - tX (1), tX (2); tq^w - stq^w; tq^w - tq^w (1), tq^w (2); tX^w - tx^w; tc - tc; ts - ts; tk^w - tk^w; tx^w - tx^w; tq - tq; tX - tXt; cp - cp; ct - ct; c1 - c1, sc1; ck - ck, ck1; ck - v⁻ck; cx - cx; ck^w - ck^w; cx^w - cx^w; cq - cq; cq - cq; cX - v⁻cX; cq^w - cq^w (1), cq^w (2); cp - cp; cs - cs; c1 - c1; ck - v⁻ck, ckt; ca - scq; cX - v⁻cX, cX1; cX^w - cX^w; sp - so; st - stx^wc, stq^w, skst, v⁻k^wpst, qpst; sc - sc1; sc - sc, scq; sl - slk^w; sk - skq, -si; sk - v⁻q^wsk, sask; sk - sk, skx, skst; sx - sx, psx; sk^w - sk^wp, v⁻sk^wc, sk^wc; sk^w - sk^w; sx^w - sx^w (1), sx^w (2), v⁻sx^wl; sq - sqc; sq - sq, sask; sx - sx, sxp, v⁻sxp, sx^wc; sq^w - sq^wl; sq^w - sq^w; l1 - l1; l1 - slk^w; lq - v⁻lq; lX - v⁻lX; lq - lq, -lp, qlp; lt - plt, klt, plt, vx^wlt; lt - lt; lc - lc;

ll - -ll; lk - lk'; lx - ktx; lk^w - V-lk^w, qlk^w; lk'^w - lk^w; lx^w - V-lx^w (1), V-lk^w (2); la - ta; la' - ta', -ta'; sto; lx - V-lx; la' - V-la'; lx^w - V-lx^wt; kn - V-kn; kt - c't; ks - ks, -ks; kł - V-kł, kłt, ktx; kx - kx; kç - kç; ks - skst; kł - kłt; kx - kx, skx; xp - xp; xs - V-xs; xt - xt-; k^wp - sk^wp; k^wc - V-sk^wc; k^w'c - sk^w'; k^ws - k^ws; k^wy - k^wy; k^wł - k^wł; k^wx^w - k^wx^w; k^wp - V-k^wost; k^ws - k^ws; k^wł - k^wł; x^wp - V-x^wp; x^w'p - x^w'p; x^wt - x^wt; x^wc - x^wc; x^w'c - stx^wc; x^wy - V-sx^wy; qo - V-qo; qc - V-qc; qc' - sqc'; qł - V-qł'; qł - qł; qp - V-qp, qpst; qs - qs, sqsk; ql - V-qlk^w, qlp; qx - qx; xp - sxp; xp' - xp'; V-sx^wp; xt - xt, t^bxt; xs - xs; xy - xy'; xl - V-xl, cxl; q^wt - q^wt; q^ws - q^wsk; q^wł - sq^wł; q^wp - q^wp; q^ws - V-q^ws; q^wł - q^wł; q^wx^w - q^wx^w; x^wt - lX^wt; x^ws - x^ws; x^wł - x^wł, bX^wlt.

11.0. In this chapter I will discuss the frequency and combinatory characteristics of phonemes.

11.1. The individual phonemes are distributed proportionally over the 1700 word inventory as follows:

/a/, /aa/ - 15.84%; /s/ - 8.13%; /i/, /ii/ - 8.12%; /u/, /uu/ - 6.49%; /t/ - 4.75%; /ł/ - 4.75%; /r/ - 4.2%; /n/ - 3.99%; /l/ - 3.97%; /m/ - 3.18%; /c/ - 3.01%; /p/ - 2.68%; /x/ - 2.58%; /y/ - 2.45%; /x/ - 2.39%; /w/ - 1.86%; /M/ - 1.81%; /c/ - 1.78%; /k^w/ - 1.67%; /x/ - 1.65%; /q/ - 1.61%;

/k/ - 1.48%; /x^w/ - 1.44%; /ł/ - 1.38%; /q^w/ - 1.24%; /x^w/ - 1.17%; /t/ - 1.04%; /q^w/ - 1.02%; /ł/ - 0.95%; /N/ - 0.92%; /k^w/ - 0.86%; /L/ - 0.85%; /p/ - 0.56%; /h/ - 0.16%.

11.2.0. The phonemes are arranged in the clusters listed in 10; of these sequences, some are of limited occurrence, others appear to be hapaxes. Furthermore, certain clusters are, although theoretically possible, not found; other sequences are simply inadmissible.

11.2.1. The following clusters are not allowed: ³⁾

T^b₁T^b₁, T^b₁T^b₁, T^b₁T^b₁, T^bT^b₁, Ch, hc, T^b7, 7T, R₁R₁, aR, RR, Ra, Ku, Kw, ts, ns/Ns, lc/Lc, ww, ww, uw, iy, yL. The only items containing RR and Ra are enumerated in 5; lc is found only in the suffix -alcwa (which may be analyzable as -al + -cwa); Ns occurs only in the borrowed word Zancns "orange(s)".

11.2.2. Clusters subject to severe restrictions typically involve KK, K^wK, KK^w, and K^wK^w sequences. The following matrix will give the reader some idea of the low frequency of these clusters.

³⁾ T = obstruent; T^b = occlusive; T^d = glottalized occlusive; C = obstruent/consonantal sonant; R = sonant; R = vocalic sonant; K = unrounded velar/uvular; K^w = rounded velar/uvular.

	-k	-k'	-x	-k ^w	-k' ^w	-x ^w	-q	-q'	-x	-q ^w	-q' ^w	-x ^w
k-	*	*	+	-	-	-	-	-	-	-	-	-
k'	*	*	+	-	*	-	-	*	-	-	*	-
x-	-	-	-	+	-	-	-	-	-	-	-	-
k ^w -	-	-	-	*	*	+	-	-	-	-	-	-
k' ^w -	-	*	-	*	*	+	-	*	-	+	*	-
x ^w -	-	-	-	-	-	-	-	-	-	-	-	-
q-	-	-	-	-	-	*	*	+	-	-	-	-
q'	+	*	-	-	*	-	*	*	+	-	*	-
X-	-	-	-	+	-	-	+	-	+	+	-	+
q ^w -	-	-	-	-	-	-	-	*	*	*	-	-
q' ^w -	-	*	-	-	*	-	-	*	-	*	*	+
x ^w -	-	-	-	-	-	-	-	-	-	-	-	-

Asterisks denote inadmissible clusters; plus, resp.
minus signs indicate the occurrence, resp. nonoccurrence
of clusters.

11.2.3. It is some significance that after /m/, /M/, /n/, /N/, /l/, /L/, /w/, and /y/, the frequency of glottalized stops is extremely low - this phenomenon suggests that both vocalic sonants and combinations of /a/, /i/, /u/ plus consonantal sonant behave like diphthongs - note, in this respect, that also after /aa/, /ii/, and /uu/ the occurrence of glottalized stops is

very limited (see also "Bella Coola Phonology", 7.1).

If, on the basis of their diphthongal behavior, we now re-interpret vocalic sonants as a combination of shwa (or syllabicity) plus consonantal sonant, it becomes evident that this shwa/syllabicity, glottal stop, and glottalized stops are closely related structurally.

Consider:⁴⁾

- (1) /V'T/ ... /VVT/ (BCP:7.1)
- (2) [VRV] ... [V:R^C] (BCP:1.7)
- (3) [VR] ... [V:R] (BCP:7.2.1)
- (4) [V'T] ... [V:T] (BCP:5.3.1)
- (5) [R:] ... [ER:] (BCP:5.2.0)

If we assume that, say: on some "supra-phonological" level, glottalization, glottal stop, lengthening, and syllabicity are basically identical, we could rewrite (1) through (5) as follows:

- (I) (V^T) ... (V^T)
- (II) (VRV) ... (V^{R^C})
- (III) (VR) ... (VR)
- (IV) (V'T) ... (V^T)
- (V) (R) ... (R)

⁴⁾ : indicates lengthening; R̄ = æ; E = ə; BCP = "Bella Coola Phonology".

Note, that in (II) indicating "glottalization" is redundant. The above, seemingly far-fetched, abstractions suggest a process of metathesis, in this case shifting of a glottal feature, which can be compared to the observation made in RCP:4.2.2.1:

[^oRⁿ] ... [^öWERⁿ],

which we can now interpret "supra-phonologically" as:

(^wRⁿ) ... (^wERⁿ).

11.2.3.1. The claim I have made in 11.2.3 finds additional corroboration in historical evidence, where glottalization seems to continue older shwa. If the following etymologies are sound, two shifts have taken place in Bella Coola: ⁵⁾

- (a) CET^p → C^t_p
- (b) T^bET^f → T^bT^f.

<u>Contemporary</u>	<u>Older</u>	<u>Cognate</u>
numqt "to fart"	-pE(?) -q-	Sq. pu ² q <u>id.</u>
ck ^w "to pull"	cEk ^w	Sh. ck ^w -um <u>id.</u>
7lo "to think"	lEq/lEx	Sh. V ⁻ lex "mind, intelligence, knowledge"
łt "to spike"	łEt	Sh. łEt ^w -um <u>id.</u>

⁵⁾ T^f stands for any fricative obstruent; Sq. = Squamish; Sh. = Shuswap; Cd. = Coeur d'Alene; Kal. = Kalispel.

<u>Contemporary</u>	<u>Older</u>	<u>Cognate</u>
łc "to press down"	łEc	Sh. łac-m "pound, smash"
tk ^w "to dig up"	tEK ^w	Sh. s-tuk ^w -cn "scooping net"
x ^w t "to cave in"	x ^w Et	Sh. V ⁻ x ^w (E)t "come to an end"
k ^w s "engaged (to marry)"	(k ^w Es)	Sh. s-k ^w est "name"
cf. sk ^w acta "name"	(V ⁻ k ^w as)	Cd. k ^w is(-t) "be named"
q ^w s-m "to flood, ooze"	q ^w Es-, q ^w as-, q ^w En(-)s	Sh. q ^w en-s "to soak"
V-qłk ^w "to use"	qFł-	Sq. qEłEw7a'l's-tn "implement used in making mats"
łłt "to brace, prop up, support"	łEł-	Sq. čil "upper part, top"
łs "to bend sth."	pEs	Sq. pEc "be bent, folded" (c/s unexpl.)
kx "to see, look"	kEx	Kal. čsít "watch, guard"

11.2.3.2. Again, the identification of syllabicity and glottalization is not entirely without foundation: in 11.1 we saw that glottalized stops have a rather low frequency. When we now turn our attention to morphemes that consist of obstruents only ("whispered words") we find, however, that out of some 120 items, more than 50%

contain one or more glottalized stops - I have no doubt that many of these go back to forms involving TE and ET sequences.

11.2.4. Sequences that are theoretically possible, but nevertheless nonexistent in my notes, are:

nm, n^t, n^c, n^l, n^k^w, n^q, n^x^w; n^m, n^M, n^N, n^l, n^L, n^k, n^y, n^k^w, n^x^w, n^q, n^p, m^m, m^M, m^t, m^l, m^y, m^k^w, m^x^w, m^q, m^X, m^a^w, m^q^w, m⁷: Mo, Mw, Mt, Mc, Mn, M^k, M^l, My, M^k^w, M^q, MX, M^q^w, M^k^w, MX^w; w^p, wt, wt, wc, w^c, wn, w^l, wl, wk, wx, w^k^w, w^k^w, wx^w, wq, w^q, wX, wq^w, wX^w; uh; t^p, t^c, t^l; t^t, tx, ty; c^o, ct, cs, c^l, cd^w, cx^w; c^w, cx^w; n^b, np, nm, n^l, nl, nL, nx, nk^w, nq, nq^w; N^b, N^p, N^m, N^w, N^t, N^l, N^k, Nx, Ny, N^k^w, Nx^w, Nq, N^q, Nq^w; i^m, i^w, i^c, iⁿ, i^N, i^x, i^q^w; ls, l^l; lp, l^p, l^t, l^c, ln, l^N, l^l, l^t, lk, lk^w, lq, lq^w, lq^w, lx^w; Lp, L^p, Lm, Lt, L^c, Ln, L^l, L^t, Lk, Ly, Lq; k^b, kt, kc; xp, xt, x^l, xl; yp, y^p, yw, yt, yc, yn, y^l, y^k^w, y^k^w, yx^w, y^q, yq^w, y^q^w, yX^w; ih: k^w^p, k^w^t, k^w^m, k^w^M, k^w^w, k^w^c; x^w^N, x^w^l, x^w⁷; qt, qn; qⁿ; X7; q^w^p, q^w^p, q^w^M, q^w^t, q^w^c, q^w^c, q^wⁿ, q^w^l; q^w^m, q^w^t, q^w^c, q^w^N, q^w^l; x^w^p, x^w^m, x^w^t, x^w^c, x^w^l, x^w⁷

The non-occurrence of certain clusters seems to be compatible with the low frequency of either (both) member(s).

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