LABIALIZATION IN NOOTKAN
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A well-known phonological characteristic of most of the Indian languages of the Northwest is the presence of contrasting pairs of plain and labialized dorsal consonants. In 1920 Boas observed:

The study of phonetics indicates that certain features have a limited and well-defined distribution which, on the whole, is continuous. To give an example: the extraordinary development of the series of k sounds and of laterals (l sounds) is common to the most diverse languages of the North Pacific coast, while in California and east of the Rocky mountains this characteristic feature disappears. ... The labialization of k sounds following an o or u is widely spread in the extreme Northwest, and infrequent outside of that territory.¹

Later he elaborated on this statement, in the context of making comparisons to the phenomenon as occurring in Kwakiutl:

The labialization of k sounds after o and u is a widely spread phenomenon on the Pacific coast. In Chinook when a u vowel precedes a k sound and the latter is either followed by a vowel or is a prefix, it must be labialized or followed by a vowel of the u group (HAIL I, 569). In Tlingit k sounds preceded by o or u change the following i and e to o and u (ibid. p. 165). A similar type of labialization of k after a, o, and u occurs in Kutenai (IJAL IV, p. 9).²

In his survey of the areal spread of sound features in this area, Jacobs stated that "... almost all the languages also have a set of rounded palatal phonemes; that is, gʷ and gʷ', kʷ and qʷ, k'ʷ and q'ʷ, xʷ and xʷ", and mentioned Siuslaw of coastal Oregon
as the only known (at least partial) exception to this generalization. Reviewing this paper, Hymes added Tillamook Salish and adjacent Lower Chinook and Kathlamet Chinook to the list of languages lacking this contrast. These exceptions are found in a restricted area of coastal Oregon, in which other departures from the general Northwest phonological norm also occur.

Against this background, it is hoped that a general survey of the status of labialization in the languages of the Nootkan branch of the Wakashan family (Makah, Nitinat, and Nootka) may be of interest. The general pattern found is one of neutralization of contrasts of labialization in the environment of rounded vowels, and limited or secondary contrasts in syllable-final position.

Let us begin with a consideration of Makah, in a conventional phonemic transcription preserving biuniqueness, which can also be regarded as a broad phonetic transcription. This language, like the other Nootkan languages, shows six pairs of consonants opposed with respect to labialization: the unrounded stops and fricatives /k k' x q q' x/' and their rounded counterparts /kʷ kʰ xʷ qʷ qʰ xʰ/. The language has five vowel phonemes, /a e i o u/. These occur long and short, but as only qualitative differences between vowels seem to be relevant as environments affecting consonantal labialization, contrasts of length will be largely ignored in the following discussion. Two of the vowel phonemes, /e/ and /o/, are relatively rare and to some extent morphophonemically secondary, and hence will be left out of the following discussion; however, it is clear that /o/ belongs in the same class with /u/, and /e/, with /i/ and /a/, with respect to the conditioning of labialization.
Using the symbols $K$ for the class of unrounded dorsal obstruents, $K^W$ for that of labialized dorsal obstruents, $\#$ for word boundary, and $C$ for consonants, the distribution of these dorsal consonants can be charted as follows:

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<tr>
<th>Preceding Phoneme</th>
<th>Following Phoneme</th>
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<tr>
<td>#</td>
<td>$C$</td>
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<td>$K/(K^W)$</td>
<td>$K/(K^W)$</td>
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<td>$K/(K^W)$</td>
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<td>$K^W$</td>
<td>$K^W$</td>
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<tr>
<td>$K^W$</td>
<td>$K/(K^W)$</td>
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The following examples of complete words, arranged to correspond to the pigeonholes of the chart, while probably not showing all occurring combinations of components of dorsal consonants in every environment, will serve to attest the regular pattern. The abbreviations m. for momentaneous aspect and rep. for repetitive aspect are used with some of the glosses.

# _u: kux$^W$ak hole, k"uči$^H$ hooking something (m.), xutik drinker, qux$^W$šil it's freezing, qu'yu medicine, xučak bailer.

# _a/i: kawad killer whale, kí'u'$k^W$ dish, bowl, katuk$^W$ oil, k'ílardu's fur seal, xad$^W$ak woman, qali$^W$i eye, qi'wax steelhead salmon, qa$^W$uk$^W$ lake, qidi'k dog, xaša'bis bone, xišuk$^W$ trash, k'wa$^W$ak small, k'í'čšii$^H$ itching (m.), k'wa$^W$aq$^H$i porpoise, k'widi$^H$ sticking on the floor, x$^W$akši$^H$ swelling up (m.), x'wí'ba'latx Squimalt, q'walal seagull, q'wissac pipe, q'wa'lis crane, q'wiča'k rotten, x'wa'cx$^W$ac plant sp.

C #: bubutk burnt hand, susutk he's holding hands, pi'šqpi'sq winking (rep.), ku'txku'tx drumming (rep.).
C_C: sütksi* sniffling (m.), pišqśi* winking (m.), kutši* drumming (m.).

C_u: tupkukʷ black, ʰatqukʷ belongings, ʔa·pxu· it's flying.

C_a/i: ʔu·čka·pix sea urchin, ʔatqa·yak spoon, ʔaqi·ʔas crown of head, ʰa·šqí·luxʷ turkey, ʰatxak rotten (wood), ʔatxi·yuʔu night, ba·ckʷa·d fly, kʷiškwíši bluejay, kasxʷi·yiʔ hoarse throat, ʔəʔi·tqʷaʔ bear, ʰapatqʷəl many belongings in a house, ʰapatqʷəkəyak storage place, ʰa·cxʷac plant sp.

u #: ʰisukʷ white, pu·xʷpu·xʷ blowing (rep.), wi·yu·qʷ sixty, wi·yu·qʷ it's sixty, hu·xʷu·xʷ whistle sounding (rep.).

u_C: hukʷtu·p bird, tuxʷsi* spitting (m.), pu·qʷuʔ crab sp., tuxʷcki skull.

u_u: ʔukʷu·təp rope sp., ʔi·yukʷub dipper, quxʷu ice, pu·qʷukʷ feather, tuxʷu·cid head.

u_a/i: tukʷtukʷəd Owl, ʔukʷiʔi eel, ʔí·hukʷəs I'm moving, ʰicuxʷəd person, buxʷic rattle, ʔu·qʷi·dab cover, bu·budʷaqʷ berry sp., duqʷi·təb arrowhead, duxʷac pocket.

a/i #: ʔaʔak water, duqʷik singer, ʔu·dəʔax mattress sp., su·yaq net, ha·díq goose, su·yaq it's a net, ʔakyiʔ there are many, qi·wax steelhead salmon, bi·ša·wix black cod.

a/i_C: ʰušakt dried fish, čikyup intestines, ʰa·ʔaxouʔu trout sp., hi·xdiʔ otter, pa·staqși* yawning (m.), wi·qși wind, qaʔsi* dying (m.), ʰi·ξpa·i six.

a/i_u: čakup husband, piku·ʔu basket sp., ca·xukʷ rotating, ʔa·xukʷ man, ʰi·xukʷ red.

a/i_a/i: daka sun, moon, cacakis razor clam, ʔiki·siss my son, ʰaka·ka·c pinching (rep.), ʰakitbis pitch, ʰipsi·ka·d barnacle,
The relatively restricted occurrences of syllable-final consonants elsewhere than after /u/ are indicated by parentheses in the above chart. These fall into several groups. Labialization is not inhibited by a following glottal stop, so many of the occurrences contain this consonant. In some words, many of them reduplicated forms, this occurs at the beginning of the second syllable, and a preceding short vowel has presumably been lost: kʷakʷawičiq the little ones, children, kʷakʷaˈkabila little ears (these formed from kʷaʔak little), kʷakʷaˈkwawli porpoise, lit. "broken tail", kʷaˈkwaˈkwawli Kwakiutl. In other cases the glottal stop is at the beginning of a suffix: ʰaˈxʷu there are ten, ʰiˈiˈxʷwi it's big, ˈcaˈaˈxʷwi he's spearing, tititkʷaˈxʷ wipe your hands!, perhaps cacaˈtəxʷ a man's name (nickname cacaˈtəxʷi). Many of the occurrences before other consonants are due to the apparent effect of a preceding /u/ extending to the second member of a cluster of dorsal consonants: ˈcuˈʃukʷxʷsiˈxʷ be careful, cuˈcukʷxʷtaˈs tripping over something, ˈxiˈiˈkʷbiqʷxʷs flower sp. It is more regular, though, for this not to happen, as in these forms: haˈukʷqəˈdiːc I see you're eating, ˈlaˈxukʷxʷu it was a man,
ki'u·k'xtid'i it's made out of glass. Aside from these and some probable misrecordings, only some forms based on an apparent stem *qucx*— attest preconsonantal occurrences: *qucx*'su·wi arm going through sleeve, *qu'u·cx'swi·yak vest. In word-final position, the only commonly occurring instance is in the word *xax*' ten. The labialized consonant here has probably developed as a consequence of the loss of a final */u/. The stem has an allomorph *xaxu- when before formative suffixes, e.g. *xaxu'wičx ten years, *xaxudaks I have ten. Even the allomorph with */x'/ shows the effect of a *u: contrast *xax'wu there are ten with *xax'i there are two, *xu'wi there are five. Another example is apparently due to the loss of a final */i/ without delabialization: sisitck' chips from splitting wood; the suffix present has the allomorph -ck'w(-q-) when in the second syllable or non-final: hisck'wi chips (from chopping), hihisck'iqkuk' soda crackers, lit. "resembling chips". Although there is a commonly occurring morphophonemic delabialization in final position, these examples suggest that this does not occur when the consonant is not really final on the morphophonemic level, but is rather followed by a vowel within the same morpheme. Other examples are again due to a */u/ affecting more than one member of a final cluster of dorsal consonants: *'u'uq'w q' apiqib tack, lit. "broad-headed nail".

In Makah, as in the other Nootkan languages, these labialized consonants are in contrast with sequences of consonant plus */w/, and hence could not be phonemicized as clusters of this sort. Thus we find forms such as: qakwašbap salmonberry vines, buk'wač deer, dašuk'wa·d he's strong, they say, and ku'x'wa·š duck sp. Such a
cluster has been found before /ʔ/, as well as before vowels: dakwʔas sitting and looking around outside.

In correlation with the exclusion of non-labialized consonants after /u/, a striking feature of a Makah accent in English, especially of some older speakers, is the occurrence of labialization in phrases such as took it and cook it, where the last syllable sounds like quit.

Available information on Nitinat indicates that it is just like Makah with respect to the lack of contrast of labialization contiguous to /u/. Haas and Swadesh decided that these consonants were not labialized when between two /u/’s, but, as discussed below, this probably represents a difference of analysis rather than a factual difference between the languages. There is one way in which Nitinat differs strikingly from the other Nootkan languages, however. This is that occurrences of labialized consonants in word-final position after another consonant are quite common. This has come about because the language has lost short vowels before single final consonants in the third or later syllables of a word. Thus we obtain a final labialized consonant when the lost vowel was */u/, but a contrasting non-labialized one when the vowel was */a/ or */i/ or when the final cluster was there in the first place. For example, compare Nitinat -kkʷ[R] resembling ... with Makah -kukʷ[R] id. and Nootka -kuk [R] id. Nitinat has thus made use of the word-final environment, in which there probably was previously no contrast of labialization, for the preservation of this contrast in a contiguous segment that has otherwise been lost. And as so often in sound change, when a lost feature has been moved
elsewhere, the preservation has been only partial, since it did not occur when the final consonant was not one which could be labialized.  

Brief mention may be made of Southern Kwakiutl as representing the other branch of Wakashan. This language shows the same restrictions in the neighborhood of u-like vowels — labialized consonants are prohibited before such vowels and required after them. This language seems, however, to have labialized consonants somewhat more freely in syllable-final and word-final position:  

'mené·kw' measured (vs. melé·k steelhead salmon), 'pé·kw' one to whom potlatch is given, ná·gelek' drunkard.  

Let us turn now to Nootka. Using the phonemicization of the later works by Sapir and Swadesh, we can chart the distribution of the dorsal consonants as follows:

<table>
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<tr>
<th>Following Phoneme</th>
<th>#</th>
<th>C</th>
<th>u</th>
<th>a/i</th>
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<tr>
<td></td>
<td>a/i</td>
<td>K</td>
<td>K/(K'w)</td>
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A comparison of this chart with the similarly arranged one for Makah on page 3 will show that, if we exclude the restricted or secondary occurrences that are enclosed in parentheses, the pattern of contrasts in the various environments is the same in both languages.

The relatively infrequent syllable-final occurrences of labialized consonants in Nootka are mostly before the laryngeal
or pharyngeal phonemes /? : h/. The following instances occur in Nootka Texts: four words with following /?/, yaqʷiƛ̓ itqa·̓ l̓ a what ... always wore (p. 72), ḷiłic̓ xʷa·̓ a spread-on-the-rocks (a variety of seaweed) (p. 116), hinmi·xʷaq̓ sata̓ k̓ si I was wearing feather-dance regalia on my forehead (p. 140), makʷatu̓ witas going in order to trade (p. 144); three words with following /h/, of which two are almost the same, _utf̓ a·̓ pakʷusahaan (you) be willing (p. 192), ḷа:̓ a·̓ pakʷhi (she should) be willing (p. 194), makʷa·̓ ya̓ snak̓ si I sent someone to buy ... (p. 198); and finally, just one word with following /i/, wikna·kʷi·at being caught not having ... (p. 142). The only instance of another following consonant, /qʷ/, occurs within an onomatopoetic stem entered in the stem list: ḥakʷqʷ- to make a sucking sound in copulation; imitate sound as an indication that one desires sexual intercourse (compare also ḥap-kʷ-, m. ḥap̓ k̓ ši, to make a watery sucking sound; to kiss); this occurs once in the texts: ḥakʷqʷi·n̓ a̓ k a love-signalling dance (p. 130).

The failure of Nootka /? : h/ and of Makah /?/ to inhibit labialization of preceding consonants is, of course, readily understandable from an articulatory point of view, since these sounds are formed in the throat and thus would not give rise to anticipatory movements of the tongue or lips. The pharyngeals /! h/ do not occur in Makah, and have developed in Nootka since Proto-Nootkan times from certain back velar consonants; their entry into this distributional class would correlate with this phonetic change.12

Examples from Nootka Texts of contrasting clusters of dor-
sal consonant plus /w/ are wikwe·?in not, they say (p. 16) and tuxwa·s?əwe?in he jumped out of the house (p. 22).

The differences in the treatments of Makah and Nootka displayed by the two charts appear in the occurrences after /u/.

The Makah consonants were considered to be always labialized after this vowel, whereas in Nootka labialization is shown only when a vowel /a/ or /i/ follows. An inspection of Sapir's earlier analysis of a Nootka text, which is couched in a phonetic rather than phonemic transcription, seems to confirm one's suspicion that the different notation here is not based on any significant difference between the phonetics of Nootka and these other languages, but rather reflects a difference in analysis. Sapir states that "k-sounds are labialized after o [i.e. u]". The actual transcriptions always show labialization (marked with signs of the type kw) when either a vowel or a glottal stop plus vowel follows; in word-final position or when another consonant follows, there is a fairly even balance between an indication of labialization (marked with signs of the type k̂u) and its absence, with no apparent correlation with either the particular dorsal consonant in question or with the particular following consonant.

It is clear that if one wished to employ a notation (whether morphophonemic or phonemic) which avoided redundant indications as much as possible, one would never have to mark labialization of consonants after /u/. In this connection, it is interesting to note that the Nootka phonemicization could be regarded as a less redundant notation underlying a notation of the type that we started out with for Makah. But one could go further, and omit
the indication of labialization after /u/ when /a/ or /i/ follows also, and still preserve biuniqueness.

I am convinced that there is no contrast present in this environment, and that the few occurring forms in Nootka Texts that fail to show labialization here are due to negligent omission of its mark precisely because of the lack of contrast. The following are the occurrences. On p. 86 labialization is lacking in three forms based on the stem ku'qwa to approach stealthily, stalk, hunt, but two other forms nearby show it, as does the entry in the vocabulary of the volume. On p. 106 one finds ṭu̇u̇stαqyuqals?i the one who is engaged in doctoring, but a very similar form on p. 105 shows it: ṭu̇u̇stαqyuqalsjyakuk?i the doctoring-songs belonging to (him). Two other such forms occur in one short text: ḥawi'qatukikqas may they hunger for my ... (p. 108) and ḥawi'yuqatikqas may it happen to me alone (p. 110). The final exception is constituted by a place name entered in the vocabulary, yuxak'w-at.

The fact that labialization is marked in this environment has created common alternations in Nootka when stems ending in /u/ plus dorsal consonant come to stand before another vowel. For example, ṭu̇u̇qwi urinate in the house< ṭu̇q- (male) urinates + -ii(-) in the house, on the floor. This happens even when the suffix is an incremental (or word-forming) one, which would inhibit labialization if the /u/ did not precede: nunu'kwa they sang then< nunu'k singing + -'ak now, then, at the given time. It also happens when the morpheme boundary precedes the consonant: ḥayuqwimā ten round objects< ḥayu ten + -qimā
many round objects. Similarly in Makah: bu'\vta'k four
sackfuls < bu' four + -\vta'k ... sackfuls.

This could be avoided by writing non-labialized consonants
in this environment also. This would not do away with all alter­
nations, however. They would then occur in the reverse direction
when a suffix beginning with a labialized consonant came to stand
after /u/. For example, muk'wa'\l four are gone\u < mu' four +
-kwa'\l absent, missing, lacking, would be written *muka'\l.

The main decision to be faced thus concerns the treatment of
morphemes ending in /u/ plus dorsal consonant, of the type -uK.
Alternations can be avoided either in the way just indicated, or
by considering these to be basically -uK\w and using the type of
transcription that was shown for Makah. In favor of the latter
approach would be the consideration, for at least Makah, that
phonetically the labialization is always present. If one wished
to write basic -uK together with the latter type of phonemiciza­
tion, then at least the rule for adding labialization would al­
ready be present in the language because of the cases where a
morpheme boundary precedes the consonant, as illustrated above.\v

The other environment in which a problem presents itself is
between two /u/’s. One would expect the preceding vowel to incite
labialization, and the following one to inhibit it. Phonetically
I have judged these segments in Makah to be labialized, but the
decision is difficult. Allomorphy involving this environment can
be avoided if the consonant here is considered to be non-labialized
and the previously discussed morpheme shape is considered to end
in -uK. If the consonant is considered labialized, then morphemes
beginning in Ku- would acquire labialization of this consonant when they came to stand after /u/, which would happen both in suffixation and in initial reduplication; morphemes ending in -uK would also acquire labialization before suffixes beginning with /u/, although allomorphy can be avoided here also by considering them to end in -ukw.

Although there is no distinction of labialization in the basic forms of stems that end in /u/ plus dorsal consonant, the entries in the stem list of Nootka Texts (pp. 244-316) are inconsistent in this respect, and might lead the unwary reader into thinking that a valid contrast was being indicated. Stems ending in back velars are mostly listed without labialization, as muq- phosphorescent, glowing, xuq wide, broad, and ux- to tickle, but we find also kwatuqw- dense underbrush; cluttered up, cituqw- war club. Stems in k are listed without labialization when they can be complete words, as puk book, but both with and without labialization otherwise: puk- feeling very cold, muk- galloping; deer (esp. N. Nootka) vs. mukw- stone, tukw- sea lion.

The marking of the end of the stem does not correlate well with the labialization in the durative aspect forms that are often also listed; cf. the alternations in tukw-, tuku'k sea lion vs. tu'k-, tu'kwaw- to cover with soil. Similarly for stems in x, considerable variability appears. No labialization is shown for independent words: pux sound-imitative word. Stems otherwise are mostly listed with labialization: puxw- halibut, but sometimes not: nux- to become sun-cracked. One stem is listed both ways: tux- tuxw- to shred cedar bark (old word). Parentheses are used
in one of a pair of at least etymologically related stems:
yuxw_{-} lungs vs. yuxw_{-} to float. This difference of policy
as between the handling of front and back velars has given rise
to pseudo-alternations of labialization: muxw_{-} variant of mux-
to boil. These different notations thus give a certain amount of
information about varying distributions or attestations of mor-
phemes, but none about their actual phonological properties. 19

A morpheme-final contrast of labialization in Nootkan
languages thus exists only after /a/, /i/, or another consonant.
For such cases the general policy followed in this stem list is
to write w after bound stems, e.g. caxw_{-} to hurl pointwise, to
spear, and (w_{-}) after potentially free stems and after suffixes
that may end words, e.g. satq(w_{-}) grand to look at, -yak(w_{-})
... device, instrument; useful for .... But this difference of
notation again reflects only the difference of distribution and
not differential phonological properties; labialization in either
case will be lost in the appropriate environment, e.g. caxyak
spear. 20 For these stems the fieldworker has the problem of find-
ing the evidence for labialization, since there are so many
environments in which it is lost. This may be illustrated from
Makah with the stems ?ada·k w fire and lak w_{-} to stick one's tongue
out, to lick. The labialization is attested by forms such as
?ada·kwaicis stove and lakwi·tub point on bow of canoe, lit.
"sticking-out nose". It is lost word-finally: ?ada·k fire,
before consonants other than /?/: lakši· licking (m.), before /u/:
?ada·kuζ fireplace, and before incremental suffixes, ?ada·kal
fire is burning. An interesting point is that the loss before
consonants depends on the occurrence on the morphophonemic level, even if a vowel is inserted between the two consonants by morphophonemic rules. The words laka·yak tongue, lit. "licker" and laka·la·k licking (rep.) illustrate this. 21

Finally, it may be mentioned that there is dissimilation of labialization of consonants in Makah in suffixes in otherwise non-restrictive environments. This can be illustrated by the suffix -ckʷi(-q-) debris from ...(¬ing). Labialization is seen in hisckʷi chips (from chopping) or xašckʷi skeleton, bones lying around, but is lost in tuxʷcki skull and bucki ashes. Dissimilation thus occurs after a /u/ of the preceding syllable, whether or not this is followed by a labialized consonant; it does not occur after a stem-final consonant which itself loses its labialization: qakckʷi shavings from knife-work, stem qakʷ- to whittle, cut sideways with a knife.
NOTES


4 D. H. Hymes, review of Papers from the Symposium on American Indian Linguistics Held at Berkeley July 7, 1951, Lg. 32.585-602 (1956), p. 589. For Tillamook we now also have a more recent study, Laurence C. Thompson and M. Terry Thompson, A Fresh Look at Tillamook Phonology, IJAL 32.313-319 (1966). This shows that, although the dorsal consonants appear in pairs, making a system isomorphic with that formed elsewhere by the component of labialization, the actual articulations involved are quite different, so that "Tillamook is meaningfully characterized as a language totally devoid of labial elements" (p. 316, sec. 3.3).

5 My work on Makah and comparative Nootkan was supported during 1962-64 by National Science Foundation grant GS-19 to the University of Washington. Field work on Makah has been continued during parts of the summers 1965-68 with the support of the Desert Research Institute, University of Nevada, and in the summer of 1969 with the support of the Research Advisory Board, University of Nevada, Reno.


7 This rule is stated in Mary R. Haas, Internal Reconstruction of the Nootka-Nitinat Pronominal Suffixes, IJAL 35.108-124 (1969), p. 119, sec. 6.23. Syncopation of vowels in Nitinat may also have given rise to the occurrence of non-final labialized consonants between other consonants, but information on this is lacking. On Nitinat vowel syncope see Mary Haas Swadesh and Morris Swadesh, A Visit to the Other World, p. 201, rule 5.

8 Cf., for example, André Martinet, Concerning the Preservation of Useful Sound Features, Word 9.1-11 (1953), which deals primarily with Old Irish 'infection' of consonants.

The symbols used for writing Nootka are those employed in Edward Sapir and Morris Swadesh, Nootka Texts, Tales and Ethnological Narratives, with Grammatical Notes and Lexical Materials, Philadelphia: Linguistic Society of America, 1939, with the exception that I follow Swadesh's later practice of substituting /u/ for /ο/ and /ο/ for /ο/. For discussion see Edward Sapir and Morris Swadesh, Native Accounts of Nootka Ethnography, RCPAF 1 (1955) (= IJAL Vol. 21, No. 4, Pt. 2), p. 4. I have not, however, adopted Swadesh's other innovation of transcribing long vowels with double letters. All forms and individual phonemes mentioned herein have been put into this system, regardless of the transcriptions used in the original sources.

Swadesh has mentioned this class of consonants in the context of related morphophonemic alternations: "Delabialization is mechanical before all consonants but ʔ, ʰ, and ʰ...". Morris Swadesh, Nootka Internal Syntax, IJAL 9.77-102 (1939), p. 80. Mattingly has also discovered the apparent absence of these labialized consonants, or, as he labels them in Jakobson's distinctive feature terminology, phonemes that are consonantal and flat, in syllable-final position: I. G. Mattingly, The Phonemic Structure of Nootka, NSA Technical Journal, Special Linguistics Issue, pp. 75-83 (1960), p. 79. His statement must be amended by the exceptions indicated. Mattingly is wrong in assuming that Sapir and Swadesh "do not seem to have recognized that these phonemes are also excluded as syllable finals" (p. 83, fn. 9). In addition to the above quote from Swadesh, cf. Sapir's earlier statement that "labializations regularly disappear in syllabically final position", Edward Sapir, The Rival Whalers, A Nitinat Story (Nootka Text with Translation and Grammatical Analysis), IJAL 3.76-102 (1924), p. 89, note 58.


Sapir, The Rival Whalers, p. 87, note 33.

Sapir and Swadesh, Nootka Texts, p. 23.

Ibid., p. 54.


Ibid., p. 101, note 173. I would have expected a long vowel, *mu·k'ə·ə.

Cf. Mattingly, op. cit., p. 81: "... English /k, g/ after /u,U/ are interpreted not as /k/ but as /k/", mentioning Nootka
su·kWa < sugar and čukWiyO·k < Duke of York (Nootka Texts has, probably incorrectly, čukWiyo·k). He comments further, "This is a fine instance of phonemic relativity. The same allophones of /k/ which a Russian speaker identifies with his sharp /k/ and plain /k/ are identified by a Nootka speaker with his plain /k/ and flat /kW/." Thus he seems to take this as a case of straightforward acoustic equivalences, rather than as being due primarily to Nootka phonotactic restrictions, and he was unaware of the possibility of reinterpreting the Nootka phoneme in these words as /k/. (Cf. the statements on a Makah accent in English above, p. 7.)

Similarly, Haas's statement "In Nitinat all velars and postvelars are labialized after u but not in Nootka, e.g. N ča·puk manned canoe, Nt ča·pukW id." is apt to cajole the unwary reader into thinking that some such consonants might be labialized in this environment in Nootka: Haas, Internal Reconstruction of the Nootka-Nitinat Pronominal Suffixes, p. 119, sec. 6.22.

Swadesh, Nootka Internal Syntax, p. 96; Sapir and Swadesh, Nootka Texts, p. 35.

Cf. Swadesh, Nootka Internal Syntax, p. 80: "These phonological differences may be used as criteria of suffix type only if the suffixes are of strategic form. Delabialization is mechanical before all consonants but ?, !, and h, and so this criterion cannot be applied except in the case of suffixes beginning in one of these consonants or in a vowel." He neglected to mention that it cannot be applied when the suffix begins with u either. Cf. also Mattingly, op. cit., p. 83, fn. 9: "Sapir and Swadesh ... do not seem to have recognized that these phonemes are also excluded as syllable finals, and so list many stems as having morphological alternation between a labialized and a non-labialized final." This is to the point in so far as he has in mind the irrelevance of the use of parentheses around labialization marks that was discussed above. But the syllable-final exclusion does not account for delabialization before u and before incremental suffixes.