ORIGIN OF THE NOOTKA PHARYNGEALS

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With the recognition of pharyngeal phonemes in Salish languages, a survey of the evidence on the origin of the Nootka pharyngeals may be opportune. This evidence shows unequivocally that these phonemes are relatively recent developments in this language, and do not go as far back as Proto-Nootkan, much less Proto-Wakashan. This paper could not have been written were it not for the exemplary work on Nootka of Edward Sapir and Morris Swadesh.

The pharyngeal obstruents of Nootka, two in number, are perhaps best described by Sapir and Swadesh in the phonetic key to their 1939 Nootka Texts. They are !, a 'glottal stop pronounced with the pharyngeal passage narrowed by the retraction of the back of the tongue toward the back of the pharyngeal wall', and ̣, which is 'h pronounced with the pharyngeal passage thus constricted'. In their chart of consonants this class of phonemes is labeled as 'laryngealized glottals'. Other descriptions of these sounds are interesting to compare. Sapir had previously described the ! as a 'peculiarly harsh and choky glottal stop ... resembling Arabic 'ain', a 'strangulated-sounding laryngeal stop, similar in resonance to Arabic 'ain', a 'laryngeated ('strangulated') glottal stop, phonemically distinct from ?', and a 'laryngeated glottal stop'. Haas and Swadesh called the comparable sound in Kitinat a 'laryngeal glottal stop'. Swadesh was generally succinct in his later characterizations, calling this a 'glottal stop with pharyngeal constriction', a 'pharyngealized glottal stop', and 'like ?', but with tongue drawn back'. The fricative was also described by Sapir as a 'strangulated-sounding h ... resembling Arabic ḥā', a 'strangulated-sounding laryngeal spirant, Arabic ḥā', 'velarized aspiration', and a
'laryngeated h, similar to Arabic h'. In his book *Language* Sapir contented himself with calling it merely a 'peculiar h-sound'. Swadesh characterized this as 'h with pharyngeal constrictions (as Arabic "emphatic h")', 'pharyngealized aspiration', a 'pharyngealized spirant (Arabic h')', 'aspiration with pharyngeal timbre', and 'like h, but with the tongue drawn back in the throat (laryngealized breath, as in Arabic)'.

As a symbol for the pharyngealized glottal stop Sapir used $\ddot{\text{e}}$ (opposed to $\ddot{\text{e}}$ for plain glottal stop) in his first report of 1911, after which he switched to, and stuck with, the symbol ! that is being used herein. (This symbol is, of course, to be regarded as a shortened form of the symbol for glottal stop with the same subscript dot indicating pharyngealization that is used in the symbol $\ddot{\text{h}}$. This same symbol was used by Naas and Swadesh for this sound in *Kitinat*. Swadesh also used this symbol in his early publication, but subsequently adopted the symbol customarily used for Arabic 'ain in larger and smaller versions, $\ddot{\text{e}}$ and $\ddot{\text{e}}$. In his paper for this conference Terry J. Klokeid has used the symbol $\ddot{\text{h}}$ for the Kitinat sound. Although the symbol implies a "glottalized glottal stop", he refrained from placing it in the pigeonhole in his chart that would be implied by this rubric.

For the pharyngeal fricative Sapir at first used $\ddot{\text{h}}$ but later switched to the $\ddot{\text{e}}$. In his early publications Swadesh used $\ddot{\text{h}}$, but later reverted to Sapir's earlier $\ddot{\text{h}}$. In the popular context of his book *Language*, Sapir employed a plain $\ddot{\text{h}}$.

These pharyngeals have arisen in a consonantal system which distinguishes many points of articulation and in which the non-glottal stops and affricates and the resonants occur in plain and glottalized pairs. There are the voiceless stops and affricates /p t f s s' c c' k k' w q q' w/; glottalized stops and affricates /p' t' f' s' s'' c c'' k k'' w q q'' w/; voiceless fricatives, in positions matching all except the two forward-most voiceless stops, /$\ddot{\text{a}}$ s $\ddot{s}$ x x' x''/; voiced nasals and semivowels /n n' w y'/, and their glottalized counterparts /$\ddot{n}$ n' $\ddot{w}$ y'/. The language has five vowels /i e a o u/', all of which may occur followed by the length phoneme /•/.
The Nootkan correspondences involving these pharyngeal phonemes can be tabulated as follows. The Kwakiutl and Proto-Wakashan consonants are the same as the Proto-Nootkan:

<table>
<thead>
<tr>
<th>Proto-Nootkan</th>
<th>Makah</th>
<th>Nitinat</th>
<th>Nootka</th>
</tr>
</thead>
<tbody>
<tr>
<td>*q</td>
<td>q</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>*q'w</td>
<td>q'w</td>
<td>!</td>
<td>!</td>
</tr>
<tr>
<td>*x</td>
<td>x</td>
<td>x</td>
<td>h</td>
</tr>
<tr>
<td>*x'w</td>
<td>x'w</td>
<td>x'w</td>
<td>h</td>
</tr>
</tbody>
</table>

Most of the facts implied by this table have been long recognized, but statements of them are scattered and often incomplete. In his early report Sapir stated the development of Proto-Wakashan non-labialized *q and *x to Nootka ! and h. Later he stated the development of both plain *x and labialized *x'w to Nootka h, and also the preservation of *x and *x'w in both Nitinat and Makah. Haas and Swadesh also noted the correspondence of Nitinat x to Nootka h. These two passages seem to be the only ones that mention the retention of x or x'w into other Nootkan languages, and the preservation of *q and *q'w in Makah has never been pointed out. Sapir apparently mentioned *q'w as a source for ! only once (in the context of morphophonemic rather than comparative evidence). Swadesh more recently described the four [Proto-]Wakashan sources of the Nootka pharyngeals, without reference to other Wakashan languages.

Before discussing further the evidence indicating that these pharyngeals are an innovation in Nootka, examples of presumed cognate sets between Nootka and Makah which illustrate the relevant correspondences will be given.

Because of some striking differences in distribution among the phonemes in question, it seems appropriate to make a distinction between stems and suffixes, and within the stems, between initial and non-initial environments. Taking up first the stops, there are many sets pointing to stem-initial *q:

N. !akʷ-!, N. !akʷə- to cut with a knife, whittle, sharpen with knife; M. qak- to whittle, cut sideways with a knife.
N. lamica-q-, lamicapt maple (Acer douglasii, mountain maple) : M. qabic-q-, qabicaqbab cottonwood.
N. lamiq-, lamiq horse clam : M. qabi-q id.
N. lamask(-q-) flounder : M. qalas'ku' flounder sp.
N. lap- lap-ak"- , lapa-\k willing, m. a'puk\i(\#) :
L. qap-, lap-\k id.
N. lapak"-, lapak\a- to hug : M. qapk"- id.
N. latiq-, m. latiq\i(\#) to thank; latiqak thankful :
M. qatiq- to thank.
N. latx\w-, latx\ak shrunken, curled up, curly : M. qatx\w- curly.
N. latx-, latu' beaver : M. qataw id.
N. la'\u-k\(W-) lake : M. qa'\u k\(W-) id.
N. la'\i\i-, la'\i\i\i eyebrow : M. qi'qi\i id.
N. le'qi- laceration, wound : M. qe'qi\i scar
N. lic-, lic'a' menstruating for the first time : M. qi'\eyit to menstruate, menstruation.
N. li\h-, li\ha' li\hak crying, weeping, mourning : M. qi\h-,
qi\hak to cry, (dog) to howl.
N. li'k\(W-) pair of brothers; li'k\(W-)a'syi(-q-) brother of
a male : M. qik-, qiki- brothers (reciprocally).
N. li\h-, liya'-, liya'- plume : M. qi'\iti\i id.
N. li\i\i-, \inik'\i dog : M. qi\i\i-, qi\i\i' dog; wrinkled purple
snail sp.
N. limat-q-, limin navel : M. qibat-q-, qibat\d umbilical
cord; navel (limited to the former meaning by those who use
huluk\skub for navel).
N. limatq-, limatqa water whirling in whirlpool : M. qibatq-,
qibatqak whirlpool (probably etymologically identical with the
preceding set).
N. liq-, m. liq\i(\#) to sing out, yell out as in a game, at
end of song, dance, etc. : M. qi\q- to yell.
N. li\it-, li\ita' to lie : M. qi\t- to tell lies.
N. lu'sap- alien, Salish : M. quasap- strange in language,
Clallam.
N. ṭus-pat- ṭus-patu-q-, ṭus-patu bladder, stomach:
M. ṭusot-, ṭusoti stomach, belly; stomach float.
N. ṭuyi medicine: M. ṭu-y id.

There are fewer instances of sets exemplifying non-initial *'q, and in all of them this consonant is medial rather than final. This is in accordance with a general Kootkan limitation on stem structure, which disallows stem-final glottalized consonants. However, many instances of *'q (and other glottalized stops) must have occurred in Proto-Wakashan as link phonemes at the junction of stem and suffix due to the morphophonemic process of "hardening" (glottalization as applied to voiceless stops), which is discussed below. Indeed, some of these examples have probably arisen from this process as applied to stems which are now otherwise unattested:

N. ma:-it-q-, mama:ltayu bullhead: M. mamaq'a small brown bullhead sp. found in rivers.
N. mil-at-, mila:t sockeye salmon (when in lake): M. biqa:t sockeye salmon.
N. ta!al-, ta!ala standing, walking with aid of staff: M. taqa:l- in taqalib cane.
N. wa!a:iš- wa!a:iš, wa!a:iš harlequin duck, Histrionicus histrionius: M. waca'aix bird sp. resembling a small penguin.
N. wa!it-, wa!it frog: M. wa!iıt id.
N. i:al:ı-, i:aliči eyebrow: M. iq'ič id.
N. i:alič cave: M. qa:lič id.

Also relevant here is the following comparison:
N. nu!aq-, m. nu!aqšič to swallow: M. duqʷ-, m. duqʷšič id.

Although at first blush this seems to attest an irregular correspondence of Kootka! either to Naka:ka zero, with vowel contraction, or else to non-glottalized qʷ, Sapir gave what is certainly the correct explanation in connection with his comparison of the Nootka word with Kwakiutl *nuqʷ- to swallow. He derived the word from an earlier form *nuqʷaq-, which would be made from a stem *nuqʷ- plus a fossilized suffix with "hardening" property, *-'aq, which he compared to -'aq in, into. The occurrence in
Makah, a Nootkan language, of the monosyllabic stem duqʷ greatly enhances the probability of this reconstruction.

Only three possibly cognate suffixes have been noted which contain *q initially or medially:

N. -'aqʷ (after consonants), -'aqʷ (after vowels and variant after consonants), m. -'aqstu(*), gifted in, given to ...; expert ...-er: M. -'aqʷ (after consonants), -'aqʷ (after vowels and consonants) (male) expert ...-er, professional ...-er; given to ...(-ing); of ... temperament, character.

N. -'aqt-, (after consonants), -'at- (after vowels), m. -'aqtu, it. -'aʔaʔ[Tʷ] to move down: M. -'aqat [sometimes L], -'aqʷ moving down.

N. -'in [L], m. -'aʔ to make ... sound (cf. also -'in [L;R] making a sound of ...): M. -qad to sound like ..., to hear ...(-ing), to feel (like) ..., to seem like .... This suffix is probably contained in these two words, which have developed idiomatic meanings:

N. 'ixi-k-'in(-q-) turtle: M. 'iixi-kqad id.

N. 'uubu-'in gasoline boat: M. 'uubuqwaθad id. (cf. 'uubuq̱ pounding noise, esp. pounding with stick on board during bone game).

Cognate sets pointing to *qʷ are fewer in number, and this phoneme is found only initially in stems, not medially in stems, or in suffixes. Furthermore, in accordance with a pan-Wakashan prohibition of labialized consonants before u, this consonant occurs only before *a and *i.

N. 'iʔac-, 'iʔacák white and wrinkled of body from soaking in water: M. qaʔac-, qaʔacák soft from soaking; partly dried fish.

N. 'aʔnuw orane: M. qʷaʔlis id.

N. 'aʔ- 'aʔak limber, pliable: M. qʷaʔ-, qʷaʔaʔk flexible, pliable, easy to bend.

N. 'iʔč-, 'iʔčaʔk rotten: M. qʷiʔč-, qʷiʔčaʔk rotten, infected.

N. 'iʔč-, 'ay-iʔč autumn (cf. -'iʔč- -'iʔč season of, year of ...): M. qʷaye-'iʔč, qʷaye-'iʔč end of summer, autumn (cf. -'e-'iʔč, -'e-'iʔč ... season) (perhaps etymologically related to
the preceding set).

N. *!′kʷa-či(*) to have legs buckle under one, supporting posts weaken (cf. perhaps -kʷači because of ...): Mi. qʷi kal:

landslide.

N. *l̓ inmi(q-) snail: Mi. qʷitda-q-, qʷiti da·bac snail, slug.
N. *l̓ uma,q-, l̓ uma q̓ ak green: Mi. qʷabaq-, qʷabaq̓ ak green, yellow.

This last set would have had *a as the first vowel, and may attest a change of this vowel to u when after *qʷ and before a labial consonant, a sound correspondence which, although uniquely exemplified, is not contradicted by any other examples. This would amount to a retention of the lost labialization by the following vowel.

The following examples have been noted of an irregular correspondence of Nootka ! to Makah ?:

N. ḥa·icx- to sneeze: Mi. həq̓ icx- (morphophonemically ḥa·icx- because of reduplication with ḥa-) id.

N. l̓ a·hu·s(.-) place name: M. ?a·xu·sat̓x Ahouset.
N. l̓ a·i̓ x ḥave: M. ḥaq̓ ix id.

The most likely explanation of this apparent correspondence would seem to be borrowing from Nootka into Makah. The borrowers would be unlikely to hear a difference between ! and their ?.

This is made more likely in the first example by the unparalleled correspondence of Nootka ḥ to Makah h, showing a similar phonetic relationship, and in the second example by the fact that the Ahouset are a central Nootkan group. In view of the observation that each of these stems contains two pharyngeals, a hypothesis of pharyngeal "infection" was also entertained. That is, that an earlier *? (or possibly *h) had become the pharyngeal ! (or h) when in the same word with another (probably following) pharyngeal.

This hypothesis seems contradicted, however, by a fair number of stems in which ? and h occur along with pharyngeals. Some stems of this type are hũ′i·̓i̓-ʔath Nootka tribe, hũ-, hũ̓ a· to breathe, blow, ḥah this (referring to entities in the speech context), ḥa·, ḥa·i̓ h· night, ma·ʔa·h sisters, ḥa·u·k(̓i̓-) lake, and ḥa·u·-,
A correspondence of a Nootka cluster q to Makah q occurs at the beginning of the following suffixes:

\[N. \text{-q?icha for ... many years; ... year : li. } \text{-qiix (for) ... years; ... year; to be ... years old.}\]

The very neat agreement with Kwakiutl \(\text{-}?enx ... season, year\) shows that the cluster *q? was present already in Proto-Wakashan; the Makah coalescence to q is here the innovation.40

It may not be amiss to mention here also a putative further development of *! that strikes me as implausible. Sapir suggested that a Nootka n- may go back to a cluster *!n- in the comparison of N. ni-, niya: to sew and niq-, niqa: id. with Kwakiutl qen-, qan- id.41 The Nootka forms would go back to earlier *!ni-, *!niq-, from still earlier *qni-, *!qni-. We would thus have had ablauting forms *qni- : *qan- in Proto-Wakashan, which can be paralleled at least when the initial consonant is a laryngeal q or h, and the coalescence of the cluster to the glottalized nasal would be parallel to the development of various glottalized voiced continuants from clusters of q + voiced continuant (e.g. n from *?n) which Sapir convincingly demonstrates. The trouble with this suggestion is that the chronology is out of whack. Makah has the form diq- to sew, which when compared to N. niq- points to a *niq- already in Proto-Nootkan, before the development of Nootka !. Moreover, although an initial cluster *!n- is thinkable, a cluster *!qn- seems inconceivable to me at any stage of Whackan. Thus it seems that the stem would have had to go through stages with *!Vn- and *!Vn- before losing the vowel and thus acquiring the cluster *!n-.

There is no reason to expect such a vowel loss, however; several stems with initial ! + vowel + nasal have been compared above (e.g. !amiq-, !ana-q(-q), !imat-q-, !imi(q-), !uma-q-). One possibility that might be considered (if this equation is to be maintained) would be to start from a form like *!Vn- and assume metathesis to give Nootkan *!Vq-, with subsequent loss of the glottalization of the -q before suffixes beginning with consonants, followed by
analogical segmentation of the -q to give ni-. The discrepancy in vowels would still constitute a difficulty. (For an example of metathesis within Nootkan, cf. M. nayaq-, nayaqak baby, child: M. ya-daq-, ya-daqaq id.)

Turning now to the fricatives, there are a number of sets pointing to stem-initial *x:*

N. hači- hačxʷi- deep down : M. xači- id.
N. ham-ax known, designated, singled out, ham-up knowing, recognizing : M. ẓaabu to know, recognize.
N. ḥani-ša boasting : M. xad- to brag, be conceited (?).
N. ḥat-, ḥata- to receive an application of hair oil; ḥat-ma(q-) hair oil : M. ḥat- in ḥata’ub hair tonic.
N. hačio-, hačimisaqsu female’s brother : M. xačupsi’qs brother, male cousin (of a female).
N. haš-, rep. hašu-ša making sound of trying to get bone out of throat; hašiʔ(‘) having bone stuck in the throat : M. xaš-, xaš’a’is bone.
N. haʔu-, haʔu- to exchange, replace, do in turn : M. xuʔu- to change (e.g. clothes, money), exchange, trade, do in response (e.g. answer).
N. hi-?, hiya hiʔak gliding snake-fashion; hiyiq-, hiʔyi snake : M. xi-?, xiʔukʷ (snake, worm, insect, person) to crawl, (four-legged animal) to walk, (four-wheeled vehicle) to go; xiʔ in xiʔtuʔp animal.
N. hiškʷiʔ place name : M. xiškʷiʔ-ʔatx Hesquit.
N. hu-, huyu- to bail, use a bailer, spill from a container : M. xu- to bail (perhaps etymologically related to hut-xut- below).
N. huʔu-ʔaʔ-is(‘) place name (Uchucklesit) : M. xuʔuʔxʷis id.
N. hupt-, hupta- snoring : M. xuʔuʔ-bitad to snore, snoring.
N. huq-, huqʷa hollowed object (e.g. canoe, dish, etc.) inverted, capsized : M. xuqʷ hollowed object (e.g. basket, pot cover) inverted, turned opening downwards, tipped over, spilled from. N. hut-, hutu- to splash, throw liquid with the cupped hand (cf. also hustq-, hustqa- to make a splash) : M. xut- to splash.
An even larger number of sets pointing to medial or final postvocalic *x in stems have been noted (contrast the stop *q, which is more prevalent initially than medially). In most of these examples the *x is final (again contrast *q which does not occur finally); some of the instances of medial *x may well originally have been final in stems that are now unrecognizable.

M. ciḥ-, ciḥak sour : L. cix- id.
M. ciḥat-, ciḥati arrow : L. cixat-, cixati id.
M. liḥ-, liḥak fabric-like object spread out covering (something) (cf. also liḳ-, liḳak id; ḥix-, ḥixak lightly covered over; ḥixw-, ḥixak fabric opened out) : L. ḥix- id.
M. liwaḥ-, liwaḥak cloudy : L. liwaḥ-, liwaḥak cloudy, liwaḥbis cloud.
M. ḥiḥ-, ḥiḥak moving pointwise, traveling in canoe; ḥiḥ-, ḥiḥak paddling (cf. also ḥiḥat-, ḥiḥata salmon jump as in spawning; paddling hard) : L. ḥix- to ride in a canoe, boat, automobile; ḥi-x-, ḥi-xak to paddle a canoe.
M. ṣah-, ṣahak flatwise; flatwise against, alongside (cf. also ṣax-, ṣaxak vertically flat; ṣuḥ- holding the hand flat against surface) : L. ṣax- id.
M. ḥiḥ-, ḥiḥuk red : L. ḥix-, ḥixuk ṣid.
M. ṣih-aq(W-) skin, hide, fur, outer covering : L. ṣixaq hide, leather.
M. maḥ- to collapse, fall down; maḥ-, d. (it. in form) mahatš trapping (birds) with drop-trap : L. bax- to trap (bears, robins) with drop-trap (cf. baxayak boar trap, trap; baxa‘baxšyak robin trap).
M. miša-wi-y- miša-wi-h- q-, miša-wi-h black cod : L. biša-wiḥ id.
M. maḥ-ayi-, maḥhayiqsu female’s sister, female cousin; maḥaḥ sisters : L. baḥaḥ- sisters (reciprocally); baḥaxsi’s qas sister, female cousin (of a female).
M. nahtaḥ-, nahtaḥ mallard duck : L. daxa‘-tač id.
M. niḥ-, niḥuk uprooted tree, stump; snag : L. diḥ- in diḫišu’u stump.
N. pih-, pih- to observe, study, judge; look in mirror (cf. also kih-, kih- to aim, sight, look through; distance glasses): pih-, pih- to look in the distance with a spyglass, telescope, binoculars (cf. pixiyak spyglass, telescope, binoculars).

N. qah-, qahak dead; beaten; dead-tired; broken-down (machine); (tool) rendered useless; qah- to kill; qaha- dying off (cf. perhaps kwa-, kwakak dead (vegetation, shell-fish)): qah-, qahak to die, dead, paralyzed.

N. tušk-, tušku- codfish; tuška-wix ling cod.

N. la'hu'-s(-) place name: M. ?a-xu-satx Ahouset.

N. lih-, liha- lihak crying, weeping, mourning: N. qix-, qixak to cry, (dog) to howl.

A distinctive fact about the distribution of *x is its occurrence as the second member of a two-consonant cluster at the end of stems. In this environment the consonant may conceivably have acted as a sort of stem-formative suffix. What semantic value it may have had is obscure, but one notes that several of the words have onomatopoetic force:

N. hu'aqh later (cf. hu'a- again, back): M. hu'ayx still, to still be ...(ing).

N. k'ith-, k'itha- to tap, knock (cf. also k'inh- to peck; to make a hollow sound): M. kutx- to drum.

N. kaph-, kapha- to flap the wings: M. kapi- (bird, airplane) to fly; to flap the wings; floppy (ears).

N. kaph-, kapha- to slam broad object against: M. kapi- to slap, smack, clap hands.

N. kiphit-q- kiph-a-q- kihin-q-, kihin big barnacle:
M. kipi'xa-d large poisonous barnacle sp. (cf. also kipsi'ka-d barnacle); and perhaps kip- to comb

N. path-, pathak decayed: M. patx-, patxak rotten wood.

N. 'at- 'atih-, m. 'a-thsi- night: M. 'atxi- 'atxi- evening, night.

N. 'uyaqh-, 'uyaghmis news, narrative, tradition:
M. 'uk'ya-x-, 'uk'ya-xbis news, true story.
The -m- in the Hootka variants ə-imhəq- ə-imhən big barnacle implies that a vowel formerly intervened before the h, as in the -bi·x- of the Lakah form tiibi·xə·d; because of this the example may belong with the preceding or following groups, as illustrating postvocalic *x in stem or suffix. Otherwise the consonants preceding the h are voiceless stops (ptq). It is uncertain whether the correspondence N. -qh : M. -x in the first and last items is due to a regular sound change involving loss of *q in Lakah.

The correspondence N. kwi- : M. ku- assumed in the comparison kwi̍th- : kutx- can be paralleled in the comparison N. kwix-, kwixa- to suck; dancing a certain wolf-ritual dance with sucking sounds: L. kux̌- to suck, kiss. On the other hand, one finds a Lakah kwi- in this set: N. kwis- , kwis- snow : M. kwis- snow, to snow.

The fricative *x occurs in a larger number of suffixes than does the stop *q. The examples illustrate this first initially in suffixes, then medially or finally:

N. -̓hsa̍ longing, desiring to eat ... : M. -̓xsa̍ id.

N. -(q)̓hsa [L] along the edge, bank; [R·c+L] at the brink : L. -̓xs [R·+L] (at) the brink (of, e.g., a cliff, bank, dock); [R] distributed over a bush, tree (e.g., berries, snow).

N. -̓hta̍ ... instrument : M. -̓xta id. (attested only on words for hunting and fishing implements).

N. -̓hta- -̓hta̍ǩ- , -̓hta̍k apart; divided off, out to sea : M. -̓xta̍- , -̓xta̍k apart, separated.

N. -̓xtin made of ... : M. -̓xtid id.

N. -(m)a̍̓h first person singular indicative (present); -a̍̓h(sa) first person singular purposive (so that I) (incremental suffixes) : M. -̓ax first person singular possessive suffix on kinship terms (my).

N. -̓a̍̓hs (after consonants), -qs (after vowels) in a vessel : M. -̓a̍̓xs, -aq̌̓s (after consonants), -qs (after vowels) in a receptacle, container, or hollowed object (e.g., bowl, dish, shell, box, pot, chest, pocket), larger enclosure (e.g., a hollow, a
house with respect to internal characteristics), canoe, automobile; to have caught ... fish.

N. -ahü(á) - (after consonants), -a'hü(á) - (after vowels and occasionally after consonants), -ahüā, m. -ahü(i), -ahawi, n. caus. -ahüp -n- in front (cf. also -hü(á) -, hüā id., and perhaps -sy'a'hu(á), -sy'a'hu on the face of a cliff, and the following set): i. -axü- id.

N. -ashü(á) -, -ashüā, n. -ashü(y) n. caus. -ashüp -m- on the chest, breast : K. -as̄ü(á), -as̄üā chest; on, in the chest.

N. -atah [L] lying in wait for, trying to get ... ; [R] ready to, about to ... : K. -a'tax [R+L] to hunt ... ; [R] about to ... .

N. -(a')ath residing; -'ath -'ath belonging to ... tribe: K. -'a(·)tx (person or group) residing at ... , (belonging to) ... tribe or group (Usually behaves morphophonemically as an incremental suffix, i.e., affecting only voiceless stops, not contracting with preceding vowel. The alternation of vowel length is constrained by rhythmic factors: the vowel is short when the preceding syllable is long or when the stem contains four or more syllables; it is long when the stem contains no more than three syllables, all of them short; both lengths occur when the stem contains two or three syllables, the last short and the others long.).

N. -sa'th ... many tribes; ... tribe : K. -sa'tx ... kind of people, tribe (probably etymologically related to the preceding set).

K. -chi married to ... ; having sexual intercourse with ... : K. -cxî-, -cx married to ... ; (having) ... spouse(s). This suffix is perhaps to be recognized also in this word:

N. kʷa·chi(o-) grandchild's spouse; spouse's grandparent (cf. ka·quo-, kʷu·c grandchild) : K. kʷa·cx id.

N. -i'čh -i'čh season of, year of ... : K. -'e·čx, -'e·iĉx ... season.

N. -q'ičh for ... many years; ... year : K. -q'ičx (for) ... years; ... year; to be ... years old (probably etymologically related to the preceding set).

N. -mín̄ (incremental suffix) plural : K. -badä (collective) plural.
N. -'yina (d. and m.) suffering from excess of ...; ...-ing excessively; m. to die of ...; n. -yix to die of ....

As is true of the labialized stop *qʷ, the labialized fricative *xʷ is less well attested than its plain counterpart, and occurs in a more restricted range of environments. But whereas the stop occurs only stem-initially, this fricative occurs only non-initially, and postvocically, in stems and possibly one suffix. (In Kakah initial xʷ is very rare, as is initial xʷ.)

As is the case with *x, most of these occurrences are final in their stems, and those that are not may well originally have been. The majority of occurrences of *xʷ are after *u, where *x does not occur. Since the discrimination between *x and *xʷ is made on the basis of the Kakah forms, this inevitably reflects a phonotactic restriction of that language, which allows after u only the labialized members of the plain/labialized pairs of consonants. However, this restriction, which is true also of Kwakiutl and Nitinaht, was probably present also in the proto-language.

N. ḥiḥ-, ḥiḥa- ghost, supernatural (cf. ḥiḥ-ʔayita-q-supernatural bird of a certain kind): m. ḥixʷa ghost, devil; bug, worm; penis.

N. ḥihat-, ḥihat a in a state of fright: m. ḥixʷat- to be scared, startled (perhaps etymologically related to the preceding set).

N. huhtak(ʷ-) knowing how to do: m. huxʷtak- id.
N. kun(ʷ-) open, hollow: m. kuxʷ-, kuxʷak hole.
N. tuːh-maq-, tuːhmapt spruce: m. tuːxʷu-bap tree sv.
N. tuhʷ-, tuːxiti head: m. tuːxʷ-, tuːxʷu-cid id.
N. ʔiːh(ʷ-), inc. ʔi-ʔaši(ʔ) big, large, great, important: m. ʔiːxʷ-, inc. ʔi-ʔaš- big, large.

N. ʔuː being he, she, it, that, they (d. of ʔu- he, she, it, that, they): m. ʔuxʷ- id.

Only this one example has been noted of a possible occurrence of *xʷ in a suffix. If the comparison is valid, it may illustrate a change of *a before *xʷ to Kakah u;

N. -naːh seeking ...: m. -duxʷ to look for ..., seek ...
An interesting correspondence of a Nootka cluster \( \chi \) to Makah \( \chi^W \) has been found at the beginning of two suffixes:

N. -l\( \text{wak} \) [L] using ... : M. -\( \chi^W \)al with, by means of, using ...

N. -\( \text{hlilm} \) ending in women's names : L. -\( \chi^W \)i-\( \text{lub} \) daughter; female of consanguineal relatives of descending generations.

This would go back to Proto-Nootkan *\( \chi^W \), with Nootka showing the regular change of *\( \chi \) to \( \text{h} \) whereas Makah merged the cluster to a labialized fricative as a result of the loss of glottalization of continuants which has taken place in this language.

Two other irregular correspondences involving these fricatives have been noted. Makah \( \chi \) is matched by Nootka \( \text{w} \) in:

N. pa-wac nest; nestling, young (of animal) : M. pa-\( \chi \)ac nest, hive.

Nootka \( \text{w} \) seems to correspond to Makah \( \chi \) in this comparison:

N. -\( ' \text{ihta} \) at the point, end, at the nose : M. -\( 'i\text{t} \) id.

A possible Kwakiutl cognate agrees with Makah in having \( \chi \): - \( i\text{hta} \) outside of nose, point of land \( 45 \) (cf. -ba end of long horizontal object \( 46 \)).

Let us now attempt to summarize the types of evidence available for assuming a relatively recent origin for these pharyngeals. This will be grouped into four categories: economy in family tree, loss of contrasts, morphophonemics, and secondary origin of apparently unchanged phonemes.

In terms of the family tree, innovations in Nootka are made probable by the occurrence of the corresponding non-pharyngeal phonemes \( /q \ q^W \ x \ x^W/ \) in some or all of the languages of each of the two branches of the family, Kwakiutlan and Nootkan. The time depth between these two branches is much greater than that within either of them. Sapir early stated that Kwakiutl and Nootka "differ perhaps as much as Slavic and Latin", \( 47 \) and much later estimated that their "degree of genetic relationship ... is hardly greater than that of, say, Russian and German". \( 48 \) Swadesh apparently considered these languages somewhat closer,
"about as far apart as English and Scandinavian", whereas he felt that the "dialects" within each branch "are not as far apart as English and Dutch". Later he calculated the time depth between Nootka and Kwakiallt as 29 centuries. Thus if the pharyngeals were assumed to be the older, more conservative, forms, we would have to make the uneconomical assumption of parallel and independent changes to the non-pharyngeal phonemes in both branches.

The only possible flaw in this type of reasoning would occur within the Nootkan branch itself. Some have thought that Nitinat and Makah are related more closely to one another, forming one branch of this family, while Nootka forms the other. If this is the case, the occurrence of ! in languages of both branches, Nootka and Nitinat, would imply its presence in Proto-Nootkan. However, the fact that the pharyngeal development in Nitinat is only partial, not extending to the fricatives, may indicate that it is due to the stimulus of the geographically close Nootka. It is, moreover, not obvious that Makah and Nitinat are really closer to each other than either one is to Nootka.

Turning to more internal features of the languages in question, the second type of evidence for an innovation in Nootka is the loss of a contrast between the plain and labialized pairs of phonemes *q/q" and *x/x" when they became pharyngeals. There must have been a contrast between *q and *q" in Proto-Nootkan at least initially before *a and *i. This contrast is preserved in Makah but lost in Nootka and Nitinat. Thus we have the same initial consonant within Nootka word pairs such as !ana1̍a(-q-) flow:da : !a-nums crane and !it- to lie : li̍t- rotten, but contrasting consonants in the cognate Makah forms qalaqwu : q'wa-lis and qit- : q'wa-š. Similarly there must have been a contrast between *x and *x" at least non-initially when not contiguous to *u. This contrast was lost when the consonants became h in Nootka, but was retained in Nitinat as well as in Makah. A pair of stems exemplifying this is Nootka či̍:hat- arrow : či̍:hat- in a state of fright as contrasted with Makah č:i̍:at- : či̍:at-. Since there is
no differential environment to account for the acquisition of these contrasts in Makah (and Nitinat), it follows that these languages display the more conservative state of affairs. One must hasten to admit, however, that strictly on the basis of the topology of contrasts this does not exclude the possibility of there having been originally contrasting pairs of plain and labialized pharyngeals *i*/i' and *u*/u'w. In this case, the members of the pairs would have merged in Nootka but remained separate and moved forward in the mouth in Makah (and in part in Nitinat). This possibility is essentially excluded by phonetic considerations, since the loss of labialization in Nootka must be understood as a concomitant of the shift to a pharyngeal position of articulation due to physiological or acoustic incompatibility.53

A third type of evidence can be obtained from morphophonemic alternations involving these pharyngeals, of which there are several different patterns. The stop is involved in the morphophonemic process known as "hardening", which is common to all Wakashan languages. A number of suffixes have the hardening property (symbolized by a morpheme-initial morphophoneme 'i'), which is manifested in the conditioning of a series of changes to the final consonant of a preceding morpheme (stem or suffix). As applied to morpheme-final voiceless stops and affricates, the change is to their glottalized counterparts. Thus k hardens to k in wiki's do not ...54 < wik not, nothing + -'i' second person singular present imperative, and x hardens to x in wa·'axim go now and say ...55 < wa· m. to say + -'ax now, then, at the given time + -'im second person singular future imperative.56 But the postvelar stops q and q' both harden to i'.57 Examples are ca·yi'ik to invite Tsayik members58 < ca·yiq doctoring ceremonial; initiated in ca·yiq + -'i(x) [L] to go for, take, invite, and ti·u·k sat down on the rocks59 < tiq'w to sit + -'u'(x) on the rocks. This single outcome from two inputs thus recapitulates the loss of contrasting labialization, and the pharyngeal i patterns in this respect like the glottalized postvelar stops *q and
An irregular alternation between ' and ' is found at the beginning of the allomorphs of the suffix -'aq̚, -'aq̚, gifted in, given to ...; expert ...-er. The alternant with ' occurs only after vowels; both alternants occur after consonants. The Makah cognate shows a similar alternation between ' and q:

- 'aq̚, -'aq̚. A similar formal relationship is found between two near-synonymous suffixes: -'in [L;R] making a sound of ... and -!in [L], m. -'aq̚ to make ... sound. One surmises that the variants in !- may have arisen by hardening of the common -q that occurs on combing forms of stems, with subsequent resegmentation.

Also relevant here may be Swadesh's attempt to find a vestige of an old Nosan interchange of front and back k-sounds in the comparison of !u̇- more, completely; closer, further to ku̇-a little ways, a short distance. If accepted, this would be further evidence that the former developed from *qu̇-.

A different kind of synchronic relationship is found in a suggestion that a popular etymology based on a phonetic resemblance between !awi- < *qawi- and qawi- may account for the belief that a certain mythical bird, !awi-pli-kwas, literally "sparrow-daughter", says qawi repeatedly in June and thereby creates the salmonberries (qawi·). It would seem that for such a belief to arise this way and survive, either the change *q̚ > ! would have to have been fairly recent, or else the feeling for a relationship between q and ! may have been kept alive by the morphophonemic alternation between them.

Turning to the pharyngeal fricative, we may observe that its...
morphophonemic behavior under "hardening" or "softening" is in a sense the converse of that of the stop. It acts as input rather than output, but its dual origin is paralleled by two different outputs, which require that the one phoneme /h/ be taken as representing two different morphophonemes, h and hW. The former (< *x) resists hardening, whereas the latter (< *xW) hardens to w. Contrast these two examples: qaq 'as dead on the ground < qaq-dead + *'as on the ground; *i'was large on the ground < *i·hW-large + *'as.64 There is a similar double behavior in connection with the less common process of "softening" (symbolized by a suffix-initial morphophoneme '); contrast this pointed at the beach (e.g., a canoe that has come to land) < *xii- to move pointwise, travel in a canoe + -is on the beach65 with *i·wait* to get big, grow up < *i·hW-large + -a·ei* incitative.66 We find in Nootka the expected correlation of x and xW to the Nootka morphophonemes h and hW. Morpheme-final x resists hardening, while xW hardens to w: *ixi·waI* red nose < *ix- red + -'iIt at the nose, point vs. *i·wait* large nose < *i·xW-large + -'iIt. Similarly, xW softens to w in Nootka: kwiaI* hole in the floor < kwixW-hole + -'iI in the house, on the floor. Within Nootka this evidence for a dual origin of /h/ is made more probable by the parallel behavior of the front velar fricatives x and xW; the former resists hardening and softening while the latter gives the same results as hW. An example of the hardening of xW to w is *avaq* spear inside, having a spear stuck in one < *caxW* to hurl point foremost + -'aq* inside, within.67 The Nootka-Nakah comparisons made above confirm this historical supposition in that all instances of Nootka hW correspond to Nakah xW; although the reverse is not completely true, in that most but not all instances of Kahkah xW are matched by Nootka hW, this can probably be explained as due to secondary factors, mostly merely because the consonant occurs in the middle of a stem or at the end of a word or before incremental suffixes, environments in which the distinction between h and hW would not be manifested (and therefore the
morphemes in question could just as well be said to contain h\7).68

Perhaps a different alternation symptomatic of the origin of h is to be observed in the irregular one between h and q in the allomorphs of the suffix -'aha (after consonants), -qa (after vowels) in a vessel. This suggests that the h comes from an *x, which would differ from q only by the stop/fricative feature, and not also in position of articulation. As expected, hakah shows an x : q alternation in the cognate suffix (compared above). The origin of this alternation is obscure, but one cannot refrain from comparing the Kwakiutl change of dorsal stops to fricatives when preceding another consonant. 69 Conceivably such an alternation may have been present at some point in the pre-Nootkan period. We might then take a hint from Sapir's explanation of alternating suffix shapes such as postconsonantal -nuk\7-, postvocalic -nk\7- [R] at, on, of the hand (hakah -duk\7, -tk [R] id.) as derived from *'-Vnuk\7-, 70 and derive the suffix in question from *'-aqVs, with later development of postconsonantal *'-aqVs, postvocalic *-qVs (as the other suffix would have passed through *'-nuk\7- and *-nuk\7-), followed by spirantizing of the *q in the former allomorph and later loss of the *V in the latter (parallel to the change *'-nuk\7- > -nk\7-). This would thus be an isolated survival of a spirantizing process which was otherwise analogically weeded out. The speculative nature of this reconstruction should be emphasized, and it should also be pointed out that Sapir considered the lack of regular spirantizing of k-stops in Nootka to be a conservative feature of this language. 71

A final example of synchronic relationships may be found in Swadesh's attempt to find another vestige of Mosan interchange of front and back k-sounds in a comparison of \ham-at known, designated, singled out to kamat known, definite; (caus.) knowing, implying, of course, an earlier *xam- behind the former. 72 Hakah shows the x- in xabap to know, recognize, compared above to Nootka \ham-up knowing, recognizing, which contains the same stem.

The fourth point of evidence concerns the relative infrequency
and apparent recency of the Kootka phonemes /q qʷ x xʷ/. The reader may well have wondered how these phonemes could be present in the inventory when earlier phonemes like these have changed to the pharyngeals. But an inspection of the lexical items in which they occur strongly suggests that there was a time when such phonemes were indeed lacking, and that they have been reintroduced largely in loanwords and in neologisms such as names and onomatopoetic words. This would be a straightforward case of the filling of holes in a pattern, as the position of articulation would have been maintained by the voiceless stops /q qʷ/, giving the following pattern of obstruents in the back of the mouth:

\[
\begin{array}{cccc}
  k & kʷ & q & qʷ \\
  k & kʷ & x & xʷ \\
\end{array}
\]

Indeed, Kitinanat is apparently in a similar situation with respect to its glottalized stops, not having filled the gap created by the change of *q and *qʷ to ʔ.

Let us now consider these four Kootka phonemes one by one, starting with the least frequent. The phoneme /qʷ/ is found in only ten morphemes, in seven of which it is in initial position. Four of those are personal names: qʷanisič, qʷalisič; qʷa·sawin, qʷa·suwin; qʷala·ca·cut; qʷityat-č̣. (the last two men's names). The l's in two of these point to borrowings, probably from Kitinanat or Nakah. With qʷal/nisič compare perhaps Nakah qʷa·lis čran, and with qʷityat-č̣ compare Nakah qʷitya·t ṃịn; less probable is a comparison of Nakah qʷa·la·š račcoon to qʷala·ca·cut. Then there is one place name, qʷiniq-č̣, one group name, qʷa·yikim-č̣at Frazer River Indians, and one bird call, qʷa·yi·niš 'ca·yiq', as said by a certain kind of bird. This leaves just three words of a more miscellaneous type, which are just the ones in which the qʷ is non-initial: či.qʷaš-, či.qʷašak šima, ḥi.yu.qʷaʔa(q-) plaaing slimy, and tani.qʷa fač root beater.

The occurrences of the unrounded stop q are only slightly more numerous. It is found in 14 stems, with an extra occurrence.
probably due to reduplication (qatˈxqə·tx-in). The q is initial in all but two of these. The majority of these are names of one sort or another. Personal names are the following: qatˈxqə·tx-in (woman's), qiˈtap (young man's), ciˈqaˈmit (Nanaimo man's), and qaˈshukʷ-iˈʔi· (man's). With this last compare Makah qaˈshukʷ dentalia (said to be a "Canadian word" beside local čiti·dukʷ), qaˈshukʷ-šit (a place name), and qaˈshukʷa·yiˈičsaq, a woman's name, literally "one wearing dentalia", nickname qaˈši. There is one group name which has q- as a variant of presumably more common q-: qaˈxu·miš-ʔa Vancouver Indian (note the well-known Salish suffix -miš, which has much the same force as the added Nootka -ʔat). Five place names begin with this phoneme: qaˈnimək, ʔiˈya·wiˈca, ʔininitim, qiˈxa·o·i·t, and ʔuˈmu·ˈuˈuʃ Comox. Finally, there are four stems with other types of meanings: qaˈš-, qaˈšak unfriendly through quarreling, qaˈl-, qaˈšak wuˈdded (water), qaˈna·ʔa·ʔa wolf, and qaˈsqt-qa, qaˈnuˈmiš edible berry of a certain kind (resembling gooseberry). This last may plausibly be compared with Makah əˈqaˈt–q-, əˈqaˈduˈu row, əˈqaˈtəbap swamp honeysuckle, twinberry, 75 literally "row plant". Note that four of these stems also contain xi.

The fricatives x and xʷ are more frequent than these stops. One possible partial explanation for this might be the retention of these sounds in Mitinut, which would serve as a likely source for borrowing into Nootka. The labialized fricative xʷ is found in 25 stems, with two extra occurrences, again doubtless due to (Salish) reduplication (xʷiˈxʷiˈxʷa, xʷiˈxʷi(-q–) xʷi·xʷa). Six of these are names of various kinds: xʷiˈli (another -l- implying borrowing), ʔiˈcaˈxwiya (boy's), xʷiˈxʷiˈxʷaˈuq (little girl's), yuˈxʷaˈyica (Nanaimo man's), xʷiˈxʷiˈxʷaˈN (Salish woman's), caˈxʷa·txʷa (place name). Two other stems clearly refer to Salish items: xʷi·xʷi(-q–) xʷi·xʷa Salish masked dance; dancing this dance and ʔiˈxʷa·ʔat Salish tribe. The latter must be the Elwah of the northern Olympic Peninsula, Makah ʔiˈxʷa·ʔa·tx. This leaves the following, of more varied meanings, in all of which
the x is stem-final: ściw, ściwak scratched, torn of flesh (cf. ściw—ściw, ściwak having one's flesh torn by hook, weapon; ściw, ściwa to get one's flesh torn); ściw, ściwa to pull on, ściw-i'a to drag; ściux, ściuwa to tickle; ściw, ściwak sickly; ściwx, ściwak soft and yielding (but not breakable); ściwx, ściwak fabric opened out; ściw, ściwak lightly covered over; ściwx, ściwak fat; ściwx, ściwak level, not hilly, not marred by bumps, swellings, etc.; śix, śixi(?) to make a stride; ściw, ściwak (beside śix, śixak) red-hot, red, brown; ściwx (also ściwx), ściwxak having the eyes open; ściwx, ściwa confused, in a turmoil, boiling; śix, śixak scattered, śixak to become scattered; ściw, ściwak expanded, ściwak to expand, become expanded; ściw, ściwak opened out, having the leg spread apart; and ściw, ściwak scattered about.

The words containing the fourth phoneme of this set, x, are much more numerous, but names and words of special stylistic force constitute a large proportion of them. Several personal names are specifically identified as belonging to individuals of other tribes, to wit: Nakah man's: ya-kwa-xi, nqicxa?a; Kitinat man's: wak-?i, sati-xum; Kitinat woman's: wa-xu-wu-ouk; and Vancouver Indian's: cu-laxin cu-naxin. Other personal names contain this phoneme only in the suffix -xin, which is inconsistently set off by a hyphen in our source: tama-xin (compared to tam-, tama-singing a certain kind of song [chiefly at girl's puberty ceremony]), hu-kwa-xin, yaś-xin, kixinaxin, and the already-mentioned cu-laxin. Although this is supposed to be a suffix in men's names, one or two women's names seem to show it: naqwašin, perhaps also qatqa'tx-in. Variants of this suffix may be -xin and -xum; the former in ci-nic-xin, qu-kwa-xin, xi-?ižin, the latter in ?iyu-xum, as well as in the Kitinat name sati-xum (the last four identified as men's names). The man's name da?uwe-tx suggests the Nakah suffix -a(?)tx residing at ..., belonging to ..., tribe or group. Other personal names containing this phoneme
are the following: sex unspecified: ʔi·naxt-a; man's: ʔuxt-aʔa,
hanaʔpi, wiwiməzőlaq, baʔbaʔxtid, ʔatx-ʔiʔi, kwaʔzux, qi·xaytən
qixaytən, xaʔwak-əp, xanikaniʔ, xaʔk-ʔiʔi, xiʔyaʔxtiləp, xuʔn-a,
xaʔxtəq-ək, yangat-ʔiʔi (hypocoristic for yangatə); woman's:
ʔəʔinyaxʔə (perhaps from stem ʔana- at a proximate time [immediately
before or immediately after]; immediately; at first; for the first
time), xaʔbaʔxuʔwəʔək, naxiʔ, kaxkaxtəxəʔat, xuʔwiʔiʔəqə,
xiaʔətuʔwəʔək, xaʔqəʔat, and səʔəʔuxwəʔək.

This phoneme also occurs in the following three names for
Salish groups: piʔələxwəʔəth Salish tribe, quxuʔmiʔəth
(also q-) Vancouver Indian, qi·waxəʔəth Parksville Indian.
Salish origin is specified for xaʔxuʔ old Salish place name in
Kopachasath country, and probable for these other Kopachasath
place names: yuʔxukʷəʔat, ciʔx, and sətaʔxumʔəʔə. These other place
names also show an x: hupx-uʷ-əʔə, nanixqə, kicux-əʔs, ʔi·xaʔə-ʔiʔt,
xaʔʔəʔyinaq, and cəxəʔə (Ash River).

Turning to words of other types, we may note first half a
dozens with clear onomatopoeic reference. These are hax sound of
breaking, kwaʔ(t)xə· to break (of brush); to make a
sound in underbrush, ʔinyaʔxə· ʔinyaʔxə women saying 'kaha' wakaʔə'
in applause, xuʔxə interj. representing rattling sound in throat of
dying person; sound of kuxməin 'rattle', qaʔx (interj.) cry of
Haven, and ʔax interj. sound of wolves 'grunting'.

In addition to the last two examples, the following belong to
the realm of mythology or the supernatural: qiʔx mythical name of
mink, xiʔxəʔin(ʔə) supernatural being of a certain kind (= ʔaʔmaʔuʔə),
and hinkiʔəxuʔxəʔa (in wolf language; meaning unknown).

Finally, there is one word used only by or to children;
kaʔx sore, hurt.

Among words of more varied meanings there are just eight that
begin with ʔax: xəʔxə· unmarried, divorced, divorced woman;
separated from husband, xəʔ(ʔə) disc-shaped bone, vertebra, in
whale, ʔix- xicax crumbled, crushed, ʔiʔ- ʔiʔək trash, ʔut-
xuʔə to cut (uncommon word), xuʔ- xuʔ-ʔə, xuʔ- xuʔəʔa· slimy,
\( x^i x^i \) — bird of a certain species, and \( xun\text{-}xun\text{-}wi(-q-) \) jellyfish. (With these last two reduplicated animal names, cf. also \( xux\text{-}ux \) oyster, with syllable-final \( x \).) This leaves some thirty-six other stems with non-initial \( x \), most of which are mentioned in the following remarks.

In connection with the stylistic impact of \( x \) that emerges from the foregoing examples, one might mention the use of the cluster \(-\dot{x}x-\) infixed after the first syllable of the word in the special style for speaking of or to greedy people.\(^78\) However this does not add much to our argument, for the other dorsal and pharyngeal fricatives have similar functions: \(-\ddot{\text{oh}}-\) is infixed for speaking of or to left-handed people,\(^79\) and \(-x-\) is inserted in the speech of the culture-hero kwatyt.\(^80\)

Several of the stems containing \( x \) can be compared to Nkah ones of similar form and meaning. This suggests that these Nootka morphemes may be borrowed from Nkah, or from possibly similar Kitimat forms. The following comparisons are arranged to include this phoneme first initially, then postvocically, and lastly after consonants:

N. \( \ddot{x}a\ddot{x}a \), \( \ddot{x}a\ddot{x}a\) unmarried, divorced, divorced woman; separated from husband: K. \( \ddot{x}a\ddot{x}a \), \( \ddot{x}a\ddot{x}a\) widow, widower, unmarried (woman).  
N. \( \ddot{x}a\ddot{x}\)(-\(\ddot{x}\)) disc-shaped bone, vertebra, in whale: K. \( \ddot{x}a\ddot{x} \), \( \ddot{x}a\ddot{x}\)bis bone.

N. \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) alimony: L. \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) \( \ddot{x}u\ddot{x}. \) bone, phlegm.

K. \( xun\text{-}xun\text{-}wi(-q-) \) jellyfish: K. \( xulu\text{-}wac \) id.
K. \( k'ix\)\(\ddot{x} \), \( k'ix\)\(\ddot{x}\) to get running sore: K. \( k'ix\) having gonorrhoea.

N. \( kax\) to break, burst: K. \( kax\) id.
K. \( kix\)\(\ddot{x}\)\(\ddot{x}\) cloth: K. \( kix\)\(\ddot{x}\)\(\ddot{x}\), \( kix\)\(\ddot{x}\)\(\ddot{x}\) id.

N. sanax\(\ddot{x}\) dried bullrushes: K. \( ola\dot{x}a\dot{x} \) mat of cattails.

Note also these resemblant Halkomelem Salish words for cattail mat: Cowichan, Musqueam s\(\ddot{a}\)\(\ddot{a}\)\(\ddot{a}\)s\(\ddot{a}\)\(\ddot{a}\)s\(\ddot{a}\)s\(\ddot{a}\), Chiliwack s\(\ddot{a}\)\(\ddot{a}\)\(\ddot{a}\)s\(\ddot{a}\)\(\ddot{a}\).

N. \( kax\)\(\ddot{x}\)-\(\ddot{x}\)\(\ddot{x}\)\(\ddot{x}\)\(\ddot{x}\) of a certain variety: K. \( kax\)\(\ddot{x}\)\(\ddot{x}\)\(\ddot{x}\)\(\ddot{x}\)\(\ddot{x}\)
small fish sp. that formerly drifted ashore.
K. nayp- naypʷ-, naypʷa- naypʷak having the eyes open:
K. lup- id.
K. sitx-; sitxʷ to get torn; sitx-, sitxʷak torn: K. sitx- to get torn, ripped.
One atom containing xʷ also closely resembles a lakah form;
K. șux-, șuxʷa- to tickle: K. șuxʷ- id.
Further evidence that we are dealing with two layers of vocabulary is afforded by the existence in Kootka of doublets, pairs of stems of identical or related meanings, of which one contains k and the other x. In some instances (especially kax-, šix-) the form containing x seems to show the more specialized meaning, as might be expected when this is the borrowed one. Two suggested comparisons show these consonants initially, and five show them finally in stems:
haš-, reg. haš-ša-ša making sound of trying to get bone out of throat; haši- (L) having bone stuck in the throat: šaš(.-) disc-shaped bone, vertebra, in whale.
haši- wealthy; of the chief class, chief; haša-ša-, hašaša young man, son (cf. aʔ̓a̓wa [1] destined for, makings of . . . ?
< destined to be a chief ?) : xaš-ša-ša man's name.
čaš- wrinkled: čaš- id.
kaš-, kasha- to become chafed, burst skin; breakers, round thing breaks; log opens a split; kaš-, kašak chafed skin, flesh; (log) opened by wedge: kax- to break, burst.
kašk-, kašak flatwise; flatwise against, alongside: šašk-, šašak vortically flat.
šiš-, šišuk red: šix-, šixak (beside šixʷ-, šixʷak) red-hot, red, brown.
niš-, nišuk uprooted tree, stump; anag: niš-, nišak tangled.
There are also a few doublets involving the consonants ʔ and xʷ finally in stems:
šiš-, šiša- ghost, supernatural: šixʷ-, šixʷak ši-šuk sickly.
fabric-like object spread out covering (something): ściw-, ściwak lightly covered over.
ściw-, ściwak red: ściw-, ściwak (beside ści-, ściak)
rod-blot, red, brown.

A significant proportion of the occurrences of Nootka χ are as the second member of a two-consonant cluster at the end of stems. As mentioned above in the case of χ in the same environment, this makes it look like a sort of stem-formative suffix. Consequently, the possibility exists that the χ has been extended analogically to some of these stems. The probability of this is increased by comparisons that can be made between some pairs of stems of identical or related meanings with and without a final χ. The structural relationships between the members of these sets are probably not homogeneous, however; some of them can perhaps be regarded as allmorphs of the same stems:
ściw-, ściwak soft, yielding earth in which one sinks easily: ściw-, ściwak id.
ściw-, ściwak dark-colored, dirty: ści-. id.
ściw-, ściwak stretched out; extending out lengthwise; ściw-, ściwa to stretch out: ści-, ściak; ści-, ściwa-. id.
hap-, hair, fur: hap-, hap-yp id.
ściw-, kściw(χ)-, kściw χ- to break (of brush); to make a sound in underbrush; kściw χ-, kściw(χ)-ak brushy; kściwak-, kściwak is broken brush: kściw-ak-, kściw-ak branches; ritual branches.
kściw-ak-, kściw-ak stuck, glued on: kściw-ak-, kściw-ak-. id.
ściw-, ściwak whitish: ściw-, ściw-ak-, ściw-ak white: ściw-, ściwak ściw-ak white clay used for face painting; white coloring substance.
ściw-, ściwak rough (surface, country; actions), dirty: ściw-, ściwak bad.
sić-, sici to get torn; sī-, sici ak torn: sī-, sici to become split; to split grass for weaving.
ściw- (also ściw-) opened out, having the legs spread apart: ściw-, ściwak id.
ściw-. is glutton: ściw-, ściwak, ściw fat (shell-fish).
There may also conceivably be a metaphorical semantic relationship between these two stems:  
\( q\dot{a}\dot{a}x \), \( q\dot{a}\dot{a}x \dot{a}k \) muddied (water) : \( q\dot{a}k \), \( q\dot{a}k \) unfriendly through quarreling.

Similarly, there are a few pairs of stems with and without final postconsonantal \( z \):  
\( \dot{a}i\dot{a}x \), \( \dot{a}i\dot{a}x \dot{a}k \) fabric opened out : \( \dot{a}i\dot{a}c \), \( \dot{a}i\dot{a}c \dot{a}k \) fabric-like object spread out covering (something).

\( \dot{k}\dot{a}x \), \( \dot{k}\dot{a}x \dot{a}k \) plump : \( \dot{k}\dot{a}c \) fat, obese.

\( \dot{y}a\dot{a}x \) (also \( \dot{y}a\dot{a}x \)) opened out, having the legs spread apart : \( \dot{y}a\dot{c} \), \( \dot{y}a\dot{a}c \) id.

The possible semantic force of such a suffix \(-x/x^w\) is uncertain, but some observations can be made about the semantic categories to which many of the stems ending in \( x \) or \( x^w \) belong (aside from names and onomatopoetic words that have already been pointed out). Many of them seem to have a pejorative aura about them. There are several implying dirtiness: \( \dot{a}\dot{a}x \) - reckless, rash; dirty, \( \dot{p}\dot{a}\dot{a}x \) - rough, dirty, \( \dot{\dot{s}}\dot{a}\dot{a}x \) - dark-colored, dirty, and \( q\dot{a}\dot{a}x \) - muddied (water). The following imply confusion or disarray:

\( \dot{\dot{n}}\dot{a}\dot{a}x \) - scattered, \( \dot{\dot{a}}\dot{a}\dot{a}x^w \) - scattered about, \( \dot{\dot{m}}\dot{a}\dot{a}x \) - Ꙡ(x) to become scattered, trampled, mussed, \( \dot{\dot{a}}\dot{\dot{a}}x \) - tangled, \( \dot{\dot{\dot{n}}}\dot{a}\dot{a}x \) - confused, in a turmoil, boiling, and \( \dot{\dot{a}}\dot{\dot{u}}\dot{\dot{a}}x \) in a confused bunch, clump. These shade into others suggesting damage or injury: \( \dot{k}\dot{a}x \) - to break, burst, \( \dot{k}\dot{\dot{w}}\dot{a}(t)\dot{x} \) - to break (of brush), \( \dot{\dot{k}}\dot{\dot{a}}\dot{x} \) - spoiled (meat or fish) because of an interruption in the smoking process, \( \dot{s}\dot{\dot{\dot{x}}} \) - torn, and \( \dot{\dot{d}}\dot{\dot{x}} \) - scratched, torn of flesh. Related to these, finally, may be others implying disease: \( \dot{\dot{a}}\dot{\dot{a}}\dot{a}k \dot{a}k \) - sick, \( \dot{\dot{d}}\dot{\dot{a}}x \) - sickly, \( \dot{\dot{a}}\dot{\dot{a}}\dot{a}x \) - faint, weak, \( \dot{\dot{k}}\dot{\dot{x}} \) - to get running sore, and perhaps \( \dot{a}\dot{\dot{x}} \) sore, hurt (children's word). Some other semantic spheres are noticeable, especially the following group implying opening out: \( \dot{\dot{t}}\dot{a}\dot{x} \) - having the arms, legs, extended, \( \dot{\dot{y}}\dot{a}\dot{a}x \), \( \dot{\dot{y}}\dot{a}\dot{a}x^w \) - having the legs spread apart, \( \dot{\dot{\dot{u}}}\dot{\dot{a}}x \) - stretched out; extending out lengthwise; to stretch out, and \( \dot{\dot{y}}\dot{a}\dot{a}x \) - opened out (e.g. old canoe, box). Note also the following two pairs of words of similar meanings: \( \dot{\dot{\dot{a}}}\dot{a}x \) - soft and yielding (but
not breakable), ʔi'-əx- soft, yielding earth in which one sinks easily; and ʔwitx- stuck, glued on. ʔinix- stuck together.

A final bit of evidence that we are dealing with two separate lexical strata can be garnered from the co-occurrence of the phonemes under consideration. That is, there is a tendency for stems that contain more than one occurrence of such phonemes to combine members of the set /ʔ, h/ or members of the set /q, w, x/, but not to combine members of the one set with members of the other. Let us consider first examples of the latter set, comprising the presumably secondarily introduced phonemes. Recurrences of the same phoneme are not necessarily significant, as most of them are clearly due to frozen or unrecognized reduplication. The following show more than one ʔ (the meanings of these forms have been given in the preceding discussion): baxbaʔxtid, ʔatxʔatzilwat, ʔuxux, ʔatqaʔtx-in, xiixiʔ-in, xiyaʔxtiʔap, xiyaʔtuʔuʔw, ʔuxulx, ʔunuxun-wi(-q), ʔuxux, yaʔkaxiʔx. There are two forms (of Salish origin) that show more than one w: ʔiwixʔiʔwa, ʔwiʔiʔw(-q) ʔwiʔxwa; and one form with two q's: qatqaʔtx-in. More significant are the forms showing a co-occurrence of q and x; this is true of the form last mentioned, plus these three: qax-x, qaxak; qiʔxaʔc-i-t, ʔuxuʔmiʔʔath (beside variant with q-).

Considering now the set of presumably indigenous pharyngeal phonemes, there are a number of words showing recurrences of the same phoneme. With more than one ʔ are: ʔal-ə, ʔaliʔu wild-clover root, ʔaʔataʔ-q-, ʔaʔataʔt kelp, ʔaʔwiʔpiʔ(ʔw) sparrow, ʔaʔaʔ scarce, ʔaʔah comfortable, ʔaʔas-wa, n. ʔaʔwa to excuse oneself, give an excuse, ʔaʔaʔ-ʔi planning, ʔaʔaʔ-ʔi(ʔ) to make an involuntary watery sound in the throat (indicates that one will fail in an enterprise), ʔaʔaʔat-aʔ man's name, ʔaʔiʔ-, ʔaʔiʔ eyebrow, ʔaʔiʔ cave, ʔaʔin-api calling out, ʔiʔsiniʔ, ʔiʔsiniʔ a univalve shell, and ʔiʔ-ʔi engaging in procedure of trying to find traces of the Wolf Ritual novices who have been carried away in the mouths of the wolves. In addition to instances of reduplication, as many as three of these (ʔaʔwiʔpiʔ-ʔi(ʔw), ʔaʔin-api, ʔiʔ-ʔi)
may owe their second to "hardening" of an underlying q. The following show more than one h: hahasa-q- feeling fresh, energetic, habi-si(q-) gathering a certain kind of black snail-like shellfish, called haylishup, ha-hu-p- advising, instructing, hanah naked, hapti-q- hapti-q- hapti: ceremony, procedure to ward off evil or to gain good luck, hihi-q wolf punishment for disobedience in Wolf Ritual, hiihita(q-) root of a certain variety, and hu-h interj. initiating growling. There are also several stems that embody combinations of the two different pharyngeal phonemes i and h: hijicr- to sneeze, puh'u- (beside pux'u-) cry of whale, !ah-, !abak uncovered, bare of covering, !ah-, !aha- to dive, swim; salmon go upstream, !aha-, n. !aha(n-) to turn away from, to go in opposite direction, ¡a-h't-, ¡a-h'tak remaining with temporarily, for a while, for a short while, ¡a-hu's (-) place name, ¡olah- comfortable, ¡i-3h- autumn, ¡ih-, ¡iba- ¡ibak crying, weeping, mourning, ¡ihi-, ¡i-hi'q shout used when one sees supernatural thing, to turn it into medicine, ¡ha- sound uttered in Wolf Ritual in trying to rid oneself of wolf spirit, ¡he-p shout used in Wolf Ritual sucking out of wolf spirit, and ¡hu- imitative of growling, used in Wolf Ritual. In contrast to all the foregoing examples, there are just two words that combine phonemes from these two different sets: i and x in ¡ax interj. sound of wolves 'granting', and i and x in ¡a-Checkpoint boy's name.

Pausing now to take stock, we may try to ask why the language developed these pharyngeals. Kinkade has rightly emphasized the relative rarity of such sounds in the world's languages. A cursory survey of the families where these seem most clearly to be indigenous developments, Salish, Sakashan, Northwest Caucasian, Cushitic, and Semitic, leads to a tentative typological generalization that two preconditions would be necessary to the development of pharyngeals: the presence of glottalized consonants, and of contrasting k- and q- series of consonants. Occasionally some languages meeting these specifications, such as Nootka, must have experienced undue crowding of consonants at the back of the
mouth and relieved this by moving some of them back to the pharynx. In Nootka the loss of the contrastive labialization would not have been a powerful opposing factor; the functional load of this was low and it has not given rise to any known homonyme. Altitat may attest an intermediate stage through which Nootka may have passed, in which the pharyngealized stop may have been treated phonologically as a glottalized counterpart to the glottal stop; with the development of the pharyngeal fricative, pharyngealization would have become a distinctive feature distinct from glottalization.
NOTES


6. Ibid., p. 267. (SWES p. 242.)


14. Swadesh, Nootka Internal Syntax, pp. 77-78.


17. Roberts and Swadesh, Songs of the Nootka Indians, p. 310.

The first publication to use this was his Abnormal Types of Speech in Nootka, 1915.

Roman Jakobson characterized this transcription as "ingenious" as used by C. Reinhof for the Arabic 'ain (voiced pharyngeal fricative but with glottal closure in some allophones in some dialects), p. 113 of Nufaxxma -- The 'Emphatic' Phonemes in Arabic, in Ernst Pulgram, ed., Studies Presented to Joshua Whitmough. The Hague: Nouton and Co., 1957, pp. 105-115. The Reinhof article referred to is Was sind emphatische Laute, und wie sind sie entstanden?, Zeitschrift für Eingeborenen-Sprachen 11 (1920-21).

Mary Haas Swadesh and Morris Swadesh, A Visit to the Other World.

Swadesh, Nootka Internal Syntax.

Swadesh, A Structural Trend in Nootka; Swadesh, Rosan I (but misprinted as a raised dot, p. 29); Swadesh, Rosan II; Sapir and Swadesh, Native Accounts of Nootka Ethnography; Roberts and Swadesh, Songs of the Nootka Indians, Part II, Linguistic and Ethnologic Aspects of Nootka Songs, by Morris Swadesh, pp. 310-327 (Introduction, and Part I, The Music, by Helen H. Roberts, pp. 201-309, which were prepared earlier, use Sapir's later symbols).


The earliest publication that I have seen which uses h is Sapir, Time Perspective in Aboriginal American Culture (Nootka words with pharyngeals occur on pp. 440, 442, 450, 451 of SWES). The following publications of the same year have not been available to me: Edward Sapir, Phonetic Orthography and Notes to "Nootka", in Franz Boas, ed., Vocabularies from the Northwest Coast of America, Proceedings, American Antiquarian Society 26:4-18 (1916); Edward Sapir, Phonetic Orthography and Notes to "Nootka", in Phonetic Transcriptions of Indian Languages, Smithsonian Miscellaneous Collections 66:6.1-15 (1916). In his Abnormal Types of Speech in Nootka (1915) Sapir used h together with H.

Swadesh, Nootka Internal Syntax; Mary Haas Swadesh and Morris Swadesh, A Visit to the Other World, p. 195 (referring to Nootka).

Occurrences on pp. 29, 79, 142 of the original edition.

The symbols used for these segmental phonemes are those of Sapir and Swadesh, Nootka Texts, with the exception that I follow Swadesh's later practice of substituting /u/ for /o/ and /o/ for /o/. For discussion see Sapir and Swadesh, Native Accounts of Nootka Ethnography, 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.

Sapir, Some Aspects of Nootka Language and Culture, p. 16.

Sapir, Time Perspective, p. 451 in SWES (note footnote 35).
31 Mary Haas Swadesh and Morris Swadesh, A Visit to the Other World, p. 195.
33 Swadesh, Rosan 1, p. 37.
34 My work on Lakah and comparative Nootkan was supported during 1962-64 by National Science Foundation grant GS-19 to the University of Washington. Field work on Lakah has been continued during parts of the summers 1965-66 with the support of the Desert Research Institute, University of Nevada.
35 Unless otherwise indicated, the source used for Lakah forms is the extensive morpheme list in Sapir and Swadesh, Nootka Texts, III. The Primary Structural Elements of Nootka, pp. 235-334. Statements about occurrence or non-occurrence made below are to be understood as made with reference to this source. The dialect primarily represented therein is that of Barkley Sound and Alborni Canal (see p. 10). Abbreviations used: caus., causative; d., durative; inc., inceptive; it., iterative; L., Lakah; m., momentaneous; N., Nootka; rep., repetitive. Symbols for shape of stem required by certain suffixes: R, normal CV- reduplication; R', reduplication with lengthened vowel (CV-); R-o, reduplication with lengthened vowel and infixed c (CV-c-); L, lengthening of stem vowel. (May be combined with one of these types of reduplication); T', iterative reduplication CVC- or CVw- together with lengthening of the first two and the last vowel and shortening of the intervening vowels. The symbol " after a vowel indicates that it is of variable length, long if in the first or second syllable of a word, otherwise short. Some instances of such vowels in Lakah have probably gone unrecognized due to their not being attested in environments calling for both lengths; these would be shown as long or short depending on the attestation. I have not retained the typographically unfortunate practice of using shorter and longer preceding hyphens to indicate the distinction between incremental and formative suffixes; instead the incremental suffixes are labeled as such. I have taken the liberty of writing the morphophonemes indicating "glottalizing" or "hardening" and "softening" (') after instead of before these suffix-initial hyphens. It should be noted that the "glottalizing" morphophonemes in incremental suffixes are actually different from the "hardening" ones in formative suffixes, although both are indicated by the same symbol. (Cf. the use by Haas and Swadesh of the symbols ' and ' for the parallel distinction between ultimate semi-hardening and "hardening" suffixes, A Visit to the Other World, p. 200.) The morphophonemic symbols used for Lakah are subject to revision. When two forms are given separated by a comma, ordinarily these are the combing form and the durative aspect. For other details, see Nootka Texts, pp. 215-241, 316-317.
36 Sapir, Glottalized Continuants, p. 264 (p. 240 in SwES).


38 For an example of this sort of thing see Walter Lehn, Emphasis in Cairo Arabic, Lg. 39, 29-39 (1963). In this dialect the "emphasis", which includes articulatory features of velarization and pharyngealization, is a property of whole syllables, rather than of individual vowels and consonants within syllables.

39 On the other hand, in favor of an earlier - in !aqič cave would be an etymology connecting it with the stem -aq, inc. "aqič spacious, big in two dimensions, esp. applicable to an opening, perhaps with added -q(al on the ground.

40 See Sapir, Glottalized Continuants, pp. 256, 262 (232, 238 in SwES) for discussion. By comparing this Nootka suffix with -i'm -i'm season of, year of ... he isolated the -q- as a separate morpheme. The Kwakiutl suffix has besides -x̂ang the alternate -'erx, and in fact it looks as though these might be regarded as two separate morphemes in a semantic relationship similar to that between the Nootka suffixes. See the examples in Boas, Kwakiutl Grammar, pp. 242, 305. Sapir had compared the Nootka and Kwakiutl morphemes already in 1911, Some Aspects of Nootka Language and Culture, p. 18, citing the Kwakiutl form as -(x)̂angx.

41 Sapir, Glottalized Continuants, p. 267 (SwES p. 243).

42 The reader has perhaps not observed live barnacles. They have modified feathery feet that rhythmically brush plankton and organic matter into their mouths in what might well be regarded as a combing action.

43 Boas, Kwakiutl Grammar, p. 214, column 1; Mary Haas Swadesh and Lorris Swadesh, A Visit to the Other World, p. 200, rule 1, paragraph 1.

44 Swadesh cites this as ku·h hole, Nosan II, p. 235.


46 Ibid., pp. 238, 336.

47 Sapir, Some Aspects of Nootka Language and Culture, p. 15.

48 Sapir, Glottalized Continuants, p. 254, footnote 3a (p. 230, footnote 5 in SwES).

49 Swadesh, A Structural Trend in Nootka, p. 106.

50 Swadesh, Nosan I, pp. 26, 41.

51 Swadesh lists the languages as Nootka proper and Litinitat-Kakah, A Structural Trend in Nootka, p. 106. Although Sapir at first
subsumed Makah under Southern Nootka or Kitinat (Some Aspects of Nootka Language and Culture, p. 15; The Rival Whalers, p. 76), he later listed three branches of the family, Nootka, Kitinat, and Makah (Glotalized Continuants, p. 254, footnote 4 (p. 230, footnote 6 in SWES); Sapir and Swadesh, Nootka Texts, p. 10).

52 Cf. Philip Drucker, The Northern and Central Nootkan Tribes, BAE-B 144 (1951), pp. 3-4: "The relationship between Kitinat and Makah remains to be classified, particularly. We have no information as yet as to whether they are more closely allied to each other than to Nootka proper, or if all three dialects are equally divergent."


54 Sapir and Swadesh, Nootka Texts, p. 27.


56 For other examples see Sapir, Glottalized Continuants, p. 254 (pp. 230-231 in SWES).

57 Sapir, The Rival Whalers, p. 82, note 1, and p. 90, note 62. This is true also of Kitinat. Cf. Larry Haas Swadesh and Morris Swadesh, A Visit to the Other World, p. 200. Confirmed also by Terry J. Klokeid, personal communication.

58 Sapir and Swadesh, Nootka Texts, p. 104. Other examples of q hardened to #: Sapir, The Rival Whalers, p. 99, note 159; Sapir, Glottalized Continuants, p. 254 (p. 231 in SWES); Swadesh, Nootka Internal Syntax, pp. 86, 93.

59 Sapir and Swadesh, Nootka Texts, p. 42.


61 It is interesting to note that Sapir gave a form corresponding to this Makah form as a starred form lying behind Nootka titles. Cf. The Rival Whalers, p. 85, note 13.


63 Sapir and Swadesh, Nootka Texts, p. 219, note 134.

64 Ibid., p. 238.

65 Swadesh, Nootka Internal Syntax, p. 94.


67 Swadesh, Nootka Internal Syntax, p. 94.

68 Sapir was completely aware of this correlation between historical origin and morphophonemic behavior; cf. The Rival Whalers, p. 83, note 3; Glottalized Continuants, pp. 254-255, 256 (pp. 231, 233 in SWES).
69 Boas, Kwakiutl Grammar, p. 211, column 2, rule 5.
70 Sapir, Glottalized Continuants, p. 260 (SWES p. 236).
71 Sapir, Some Aspects of Kootka Language and Culture, p. 16.
72 Swadesh, Basan 1, p. 29 (meanings taken from Kootka Texts).
73 Cf. Sapir, Some Aspects of Kootka Language and Culture, p. 16: "The velar q and x, while somewhat infrequently found in Kootka, are not the regular Kootka representations of Kwakiutl q and x"; and Time Perspective in Aboriginal American Culture, p. 451 in SWES: "Kootka possesses both (velar voiceless spirant) and (labialized velar voiceless spirant), though these are not common sounds; original Sakashan (Kwakiutl-Kootka) x and have both regularly developed to q (velarized aspiration)."
76 The Hopachananth were an originally Salish-speaking group who gave up their language in favor of Kootka. Cf. Sapir, Abnormal Types of Speech in Kootka, p. 194 in SWES; Time Perspective, p. 453, footnote 41 in SWES.
77 There is some reason to think that this word may have been given erroneously in Kootka Texts as containing an x when it really contains the front x. It occurs in an earlier article, Edward Sapir, Kootka Baby Words, IJAL 5.118-119 (1929), with the subscript dot. But a revision of symbols was adopted before the publications of the late '30's, wherein the dot was used for the back instead of the front dorsal fricative. The dot may have been kept inadvertently in transcribing this word into the later stem list, when it should have been removed. Further evidence for this possibility is found in another word which occurs nearby in the same source, with the same final symbol, but which appears with an -x in Kootka Texts: hux children's word used to warn child, chicken, dog, etc., away; expression indicating fatigue.
78 Sapir, Abnormal Types of Speech in Kootka, p. 184 in SWES.
79 Ibid., pp. 183-184.
80 Ibid., p. 186; Sapir and Swadesh, Kootka Texts, p. 211.
81 The cattail plant itself is called salixsabap, literally "cattail-nut-plant". Cf. Arna Gunther, Ethnobotany of Western Washington, p. 21.


There is a difference of opinion among the experts as to whether a series of consonants in Proto-Semitic were of "emphatic" or "glottalized" type, but many linguists prefer the latter interpretation. Cf. J. Cantineau, Le consonantisme du sémitique, Semitica 4,79-94 (1951-52), pp. 91-93 (with further references); also in agreement: André Martinet, Remarques sur le consonantisme sémitique, Bulletin de la Société de Linguistique de Paris 49:67-78 (1953). Incidentally, Proto-Semitic as seen by Martinet comes to look much like a northwest coast language, containing also the lateral affricates 🍖 and 🍗. A brief statement of the opposing viewpoint is found in Leslau, loc. cit. A possible parallel to the Kootka change *q > ! may be shown by Aramaic, wherein the consonant reconstructed by Martinet as *

86

Could this old orthographic q have been * millennia ago. Of course these Semitic sound changes differ from the Kootka ones in that they are mergers with pharyngeals that were already present in the languages.
The pharyngeals in Georgian and Ossetic seem less well attested, but both these languages would meet these specifications. The descriptions of both that Hockett consulted were made by Hans Vogt. (Cf. the discussion of Vogt's description of Interior Salish pharyngeals in Kinkade, op. cit., pp. 228-231.) If this generalization holds up, it might throw some light on the question of glottalized vs. emphatic consonants in Semitic. Glottalized consonants would have to have been present, not necessarily in Proto-Semitic, which already possessed pharyngeals, but at the stage of pre-Proto-Semitic in which these pharyngeals arose. After the pharyngeals developed, they would have acted as "manner consonants" for a shift of the distinctive feature from glottalization to pharyngealization.