Pharyngeal Movement in Colville and Related Phenomena in the Interior Languages

Anthony Mattina
University of Montana

0. Introduction
1. Pharyngeal movement in Colville
2. The comparative evidence
   2.1. Spokan
   2.2. Kalispel
   2.3. Thompson
   2.4. Shuswap
   2.5. Coeur d'Alene
3. Conclusions

0. In this paper I present an interesting morphophonemic phenomenon in Colville, an interior Salishan language of eastern Washington. Then I discuss similar phenomena in related languages and draw some diachronic inferences. The phenomenon in Colville is one I call "long-distance conditioning", where some element in the root interacts with an element in the suffix at a distance of several phonemes, and often one or more morphemes.

1. There occur some words in Colville which appear to have shifted a pharyngeal resonant from the root to the stressed suffix: the root has lost a pharyngeal, and the suffix has added one. Further, the vowel of the suffix is lowered to [a], homorganic with the (immediately preceding) inserted pharyngeal. Thus three changes are involved, one in the root (the loss of a pharyngeal), and two in the suffix (the insertion of a pharyngeal and the lowering of the vowel).
The following forms are attested in Colville:

1. ʔʷəy-1scʕát his clothes are dirty (ʔʷʔay black),
   -1scʕút clothes, appurtenances
1a. ʔʷəy-ʔás Black man, -ús face
1b. i-s-t-ʔʷəy-ʔâca? I am very dirty, -ʔica? surface
2. ʔəl-s-ʔâicaʔ-t-ən (s-ʔəl-ʔʕ al-t day), -ʔicaʔ inside
2a. ʔəl-p-ʔâlaxʷ it's daylight, -ʔâlaxʷ earth
2b. c-ʔəl-ʔə-ʔəl-ʔás-əm he has been watching for them, -ús eye
3. k-s-cəm-ʔâlqs he has a blanket coat (*ʔam cover),
   -(ʔ)lqs clothes
4. si-m-ən-ʕât they make a fuss (ʔây-Łx they are noisy)
   -ʕât reflexive
5. pw-ən-ʕât-əlx they make noise running down (ʔâw he ran down), -ʕât reflexive
6. ʔəl-təm-ʔâs-s-əlx they kiss them (*ʔam suck), -ús face
7. c-ən-cən-ʔən-m-ʔâs-əm he keeps his eyes tightly shut
   (ʔən tight), -ús eye
8. iaʔ-iaʔ-Łxʔən he gets his feet wet (Łat wet), -x(ʔ)an feet
9. s-ən-poʔt-ʔâləʔqʷ dumplings (ʔət boil), -ʔâləʔqʷ (dim. of -ʔəlqʷ cylindrical object)
10. c-ps-ʔəyaʔ senseless (ʔəs scared), -ʔəyaʔ?

All these examples contain lexical suffixes, and two of the root pharyngeals are unattested.

In addition to these lexical suffixes, at least one grammatical suffix attracts unto itself a pharyngeal:
11. ʔo'm-ʔo'n-t-ʔas  he started sucking -(ʔi)s 3rd trans

The root ʔu'm, however, is apharyngeal.

Finally, one case of vowel lowering, unaccompanied by pharyngeal intrusion (or shift), has been noticed:

12. ʔa-ʔs-ʔaʔca?  good tasting meat (ʔas good), -ʔiʔcaʔ  meat

The stress properties of the roots ʔuay, ʔaʔaw, *ʔiʔam, ʔuʔan, ʔuʔat, ʔuʔat and ʔuʔas are indeterminate, which is to say that examples have not been found of these roots occurring with variable stress suffixes; ʔuʔuʔay is stress retentive (loses its stress only to an inherently stressed suffix, but retains its stress when followed by a variable stress suffix); ʔuʔaʔal, *ʔaʔam and ʔuʔam are stress shifting (lose their stress to variable stress suffixes as well as to inherently stressed suffixes). All the suffixes are inherently stressed except -(ʔa)łqs, -x(ʔa)n and -(ʔi)s.

The shift of the pharyngeals is probably a function of the combination of several factors, including the stress properties of roots and affixes. In spite of the scanty evidence it is possible to conjecture that the pharyngeal of a stress retentive root is pushed onto an inherently stressed suffix (but not onto a variable stress suffix), while the pharyngeal of a stress shifting root is pushed onto both inherently stressed and variable stress suffixes. The following examples corroborate this hypothesis:

1c. ʔuʔuʔay-xʔan-x  Blackfeet, -x(ʔa)n  foot

1d. ʔuʔuʔay-łqs  black robe, priest -(ʔa)łqs  clothes

At this point the postulation of underlying forms and
rules that account for these pharyngeal movements (as a synchronic phenomenon) seems less important than the correct reconstruction of a more general pre-Colville morphophonological process. ²

Internal evidence suggests that pharyngeal movement from the root to the suffix was at one time a regular morphophonemic process, and that, for reasons still unknown, the pharyngeal of the root was occasionally lost, leaving as evidence of its previous existence its suffix reflex--sometimes the suffix pharyngeal and lowered vowel as in example 11, and sometimes only the lowered vowel, as in example 12. Further, there is no reason to believe the suffixes ever to have contained a pharyngeal, since the presence of the suffix pharyngeal is conditioned by the root pharyngeal. ³

One further general observation should be made, that (pre-) Colville favors "long distance conditioning". The predilection of the language for this is obvious elsewhere: in the stress placement rules, in the metathesis rule of middle verbs, in the ablaut rules, and in the diachronic rules of sound change where back consonants block a vowel shift with intervening segments.

2. The Colville evidence should not be considered separately from the evidence available from related interior Salishan languages, Spokane, Kalispel, Thompson, Shuswap and Coeur d'Alene.
2.1. Of all the interior Salishan languages, Spokan is closest to Colville.

2.1.1. In Spokan Carlson speaks of roots with pharyngealized or "dark" vowels. He describes the process the forms undergo as follows: "A vowel 'harmony' rule works to lower the ... suffix [vowel] before the underlying root vowel is deleted." For example:

13. pʰəc-ən-t-əs he lets his bowels go (pəc loose bowels)
   -es 3rd trans. Cognates: Cv pʰəc shoot out, squirt,
   Cm pəc, Cr pʰič, Ka pəc, Sh píc

7a. cən-əm-s-t-án I tightened it (cən tight) Ka cən
7b. či-ćən-əm-ānč-m-s-t-ən I tied the cinch, -ənč stomach

In Spokan there are a number of roots with pharyngealized vowels. For example:

14. čəp rounded and hollow
15. təs hard Cv təs, Ka təs, Sh? təw
16. pʰat gravy-like substance Cv pʰət pour in, overflow,
   Sh pʰət overflow, boil over, hang down around edges,
   with darkened vowel c-pət-pʰ-áp have one's pants hanging down
17. pəs, as in səps nighthawk Cv pʰ-pʰəs
18. cəm bone Cv sʰćim, Cm sʰćəm, Cr s-ćám, Ka sʰćəm, Sh s-ćem
19. nəs snot Cv s-ənəs, Ka nəs, Sh san-sn
20. məs kidney Cv məsas, Cm mətəs, Cr mətus

All these roots (with the possible exception of cəm) are presumed to function as pəc and cən.

2.1.2. The exact phonetic make up of other forms is
unclear, and Carlson thinks that there might be a contrast between pharyngealized vowels and sequences of vowels plus pharyngeals. Examples of this indeterminacy are:

21. lo\textsuperscript{16}w to fit Cv li\textsuperscript{16}w, Cm lo\textsuperscript{16}w\textsuperscript{-}, Cr lë\textsuperscript{16}w, Ka ləw, Sh li\textsuperscript{16}w; and Cr la\textsuperscript{16}w plunge head first, Ka lo\textsuperscript{16} dip, fall into a hole, Sh c-lu\textsuperscript{16}w

22. co\textsuperscript{16}w fringed Cv cə\textsuperscript{16}w (vowel unattested), Ka co, Sh s-cu\textsuperscript{16}w

23. ?al to lose Cv ?al, Ka *a\textsuperscript{16}l, Sh ṣ?i?l

24. ham, hamip to melt Cv ɬəm\textsuperscript{16}p (*ɬam), Cm ɬəmp, Cr R\textsuperscript{3}m(t), Ka āmt

25. poc, spoct a sore Cv s-puc-t

26. san, sən-ʕan-t tame, gentle Cv sən-s\textsuperscript{3}n-t, Ka san'

27. tcap to jar, shake

28. qat move\textsuperscript{a}ble

Several forms based on some of these "uncertain" roots exhibit variation between lowered and intact vowel suffixes:

21a. lo\textsuperscript{16}wop, hes člo? it fits together

21b. lo\textsuperscript{16}wɛčstən thimble, -ɛčst hand

21c. lo\textsuperscript{16}wəntɛn I put it together

22a. ncucawâne Gullhead fish, -έne? ear

22b. scowâčst ~ scowɛčst finger

Cognates from Cv (and other languages) point to Sp roots of two shapes: *C\textsuperscript{9}VC and CV\textsuperscript{9}. It is possible to conjecture that pre-Sp *C\textsuperscript{9}VC (\textless{}CVC) participated fully in a pharyngeal movement rule, whereas CV\textsuperscript{9} roots did not.
2.2. In Kalispel the lowering of the suffix vowel is conditioned by (1) the presence in the root of the vowel [a] (which must be presumed from *Ça), and (2) by the presence in the root of the sequence Vi (which must be presumed from *Vr).

2.2.1. Vogt describes the process as follows: "In some cases the vowels i and e of a suffix are replaced by a, when the stem itself contains the vowel a. Stem-vowel a is usually lost." Vogt provides the following examples and comments:

6a. *tam suck, *təməm he sucks, estəmmá cont. he sucks
7a. ʼicán it is tight, escənəpəmá it is tightening, ʼcənóp (with unexplained o), compl. it gets tightened
9a. *pat boil, as in nptáp the water boils, esenpətəpəmá cont. the water boils, -êtkw water
10a. pas scared, surprised, ipás he is bewildered, psáp he gets scared, espəspəmá cont. he gets scared Sp ps(â)

26a. sənsáŋt tame, sənsəntuwałś he gets tame, also prob. tstsáľš they jubilate, -ıīlś; derived reflexive with unexplained o: tspəməncót they applaud

These forms confirm the hypothesis that all of these roots should be reconstructed as *CVC. The unexplained o's may be presumed to be lowered u's.

2.2.2. Some roots which contain the sequence Vi (which must be presumed from *Vr) trigger the lowering of the suffix vowel, as in the following cases:

29. inčəlátkw the water is cold (<çalt it is cold) Cv čaʔr,
Sh čal hurt, Sp čer ache, hurt, cold

30. Šall lazy, šellámen who by natural disposition is inclined to laziness, -ëmen habitual Cv xar waste time, Cr šar use no energy, Sh xal, xial short of breath, Sp šer

31. k'wal cracked open, sk'w'éláne oyster, -éne? ear
Cv sk'w'wk'rina? clam shells, Sp sk'w'w'réne? oyster

31a. k'wal, k'walip it got cracked

31a. exemplifies what Carlson has called a "reasonably regular retention of unstressed a before l<r." Instead of "harmonizing" with the root vowel, the suffix vowel remains intact, and the root vowel is retained. Since not all Ka roots with l<r behave this way, we might suspect that only those roots with *r plus a pharyngeal element either (1) undergo the suffix vowel lowering and the root vowel deletion rules, or (2) do not undergo the suffix vowel lowering rule, but retain the low root vowel. This latter can be presumed to have developed al<l<śar. Thus pre-Sp (and pre-Cv) *CŚvr> CVr, with no further trace of the pharyngeal, while Ka (and, as will be seen, Sh) exhibit the pervasive process(es) described here.

2.3. The Thompson data allow Thompson to describe the synchronic phenomenon of "dark vowels" wholly in terms of two (phonetic) conditioning factors. Dark vowels occur (1) in stressed or closed syllables (é becomes á, ŭ becomes ŭ) (p. 21); and (2) in the neighborhood of re-
tracted consonants ("environments have yet to be fully worked out"). From the examples provided it is impossible to infer that the now near-regular vowel lowering rule was once triggered by the combination of certain roots and suffixes. Thus:

32. //\(\text{yə\-e}\)-ele?\-xən\:-t\-es// [\(\text{yə\-ale\-xes}\)] she drags him
33. //s\-q\-\text{əm\-e}\-xən// [\(\text{s\-q\-māx\-n}\)] shoulder
34. //\(\text{še\-k\-t}\)-n\-es// [\(\text{šá\-ces}\)] he smokes [buckskin]
35. //nə\-xə[e]c\-us// [\(\text{nxa\-cús}\)] he gets smoke in his eyes

2.4. In Shuswap Kuipers recognizes two separate causes for the same phenomenon of vowel lowering: "In suffixes, e i u are replaced by a e o respectively when these suffixes are combined with certain roots."

2.4.1. The first cause for the suffix vowel lowering rule remains indeterminate: "certain roots are found with suffixes with darkened vowels..." Several of the roots listed by Kuipers are cognate with Cv roots which contain a pharyngeal:

8a. 1a't wet, x\-lət\-lt\-ap have wet behind
16a. pa't overflow...
36. stam\-ált cattle, st'm\-lt\-x\-ált\-e beef Cv stəm\-ált,
    Cr s\-təm\-á(łtum\-š), Ka stəm\-á, Sp s\-təm\-á?
37. c\-lac soaked, c\-x\-lc\-ap having wet behind
    Cv \(\text{f\-lac}\), Cr \(\text{lac}\) one drop falls, Sp \(\text{lc\(\-á\)}}\) to drip
38. s\-x\-cmi\-os matter in the eye, also m\-cu\-it Cv m\-cm\-ált,
    Cm mə\-cú\-it, Cr ma\-c\-ult, Sp m\-có\-t
For several other roots and forms the cognacy is either unknown or uncertain, or the cognates do not contain pharyngeals:

39. c-m̄t lying flat, s-m̄t-éqe? mushroom Cf? Cv maʔ, c-k̃-maʔ-ítkʷ it's floating on top of the water
40. taʔ negation, taʔ-xt-s (also -xít-s) to refuse sb. (obj.) stg. Ka tá(m)
41. təliáne (a mythical monster), təliáne-ʔálxʷ abode of təliáne
42. cnp to vibrate, tremble, be shaken, cəcnp-ákst have one's hands vibrating, etc.
43. čəs-l-, s-cəs-čəs-lóllse hail Cv sčəsčús ənt, Cm čəsə-lúsaʔ, Cr s-š-čəs-lúseʔ, Ka ssa·lúseʔ, Sp čəs-l-úseʔ
44. nkʷ-p-álxkn arthritis, rheumatism, ?ánkʷ-t bent, twisted, ?nkʷ-álxkn to have rheumatism
45. c-łak to lie splashed down, to lie in a heap, ?s-t-łək-ákst to get a splash of stg. on one's arm Cv? c-łak a swamp
46. čis-t bad, čəs-os ugly-looking Cv kas-t, ks-us ugly, Cr čęs(t), Ka čes, Sp čes
47. xep-qin noon, xep-qn-men noontime approaches
48. c-xen lying spread out, t-xn-ğne to cover Cv xən, Cm xên-, Cr šən, Ka šən, Sp šn
49. sə-xʷy-anst (also -enst) woodworm Cv sxʷuxʷyaʔ, Ka sxúxʷiʔeʔ, Sp s-xʷuxʷy-eʔ

Finally, there is a borrowing:

50. kʷúso pig Cv kosó (also kʷukʷús), Ka 1kosó (1qosó), Sp 1qʷosó
It should be noted that a pharyngeal has intruded in the Cv borrowing *otón mutton, lamb (as well as in *áta quarter in the pronunciation of some speakers), suggesting, again, that an earlier stage of the language, pharyngeals, now in the process of being lost, were very common sounds.

2.4.2. The other cause of the darkened vowel suffix vowels in Shuswap is l (<*r) as C₂. Kuipers observes that "though some roots have all suffixes (in so far as recorded) in darkened form, others may have the darkened form in one and the regular form in another suffix... Sometimes both forms are possible... The 'regular' form of the suffix has analogically replaced the 'darkened' one in a number of cases."

Though these statements are intended to apply to all darkening roots, it appears that l roots (<*r) are more subject to variation than other roots. And it isn't always clear that regular forms have analogically replaced darkened ones. In several cases the analogy might have proceeded vice-versa.

The problem cannot be solved at the moment because the comparative evidence is inconclusive. Colville roots with C₂ as l or r (<? *far) no longer behave like the other pharyngeal roots. Undoubtedly there is, somewhere in Colville, a relic of this process, but I haven't discovered it yet. Spokan, likewise, appears to have done away with a vowel lowering rule triggered by l<*r roots. But Kalispel retains the rule. The Ka evidence, in fact, sug-
gests that Sp probably had a similar rule until quite recently, and that the shape of these roots was probably *CVr. And the evidence from Cr, as will be seen, is inconclusive.

The Sh roots which darken suffix vowels are listed below, but no reconstruction of pre-Sh roots is attempted:

51. s-ml-ôle?xʷ clay Cr a-mul-šīumxʷ soil, earth
52. mləm-aixʷ to paint a house
53. mlen-ip balsam-tree, min-ip-áltxʷ balsam-tree bark
   Sp mari̱-n-ip
54. mləkʷ out of joint, mlkʷ-p-akst (also -ekst) dislocate one's wrist
55. s-c'ls-[s]t-as to oil
56. sel come apart (*sir-), x-sl-aws-qn-s to scalp
   Cv sor (full vowel unattested)
57. kl-am to cut strips of skin Cv kar, Cr čar, Sp čer(í)
   (čal) (čayl)
58. kw'al yellow, green, t-kw̓í-se-ʔéip (-ʔép) chokecherry
   tree Cv kw̓ri, Cm kw̓ár-, Cr kw̓ár, Ka kw̓a·lí?, Sp kw̓r(í)
   kw̓al(í), kw̓rí?, (kw̓alí?)
59. xl-xal-t steep Cr xr run uphill, Ka šal, Sp šr (šal)
59a. xlapt shortcut, t-xlpt-aws, t-xl̓pt-aws (trail) runs
   over mountain
60. xl-eix-m to spawn Cv xal
61. xwał to turn, spin
62. xʷel-m to open a ditch, divert water
63. xʷʔal to be in a hurry Cv? xʷar to tremble, Ka? xʷal
to make a little movement (?), Sp? x'er(í) (x'el(í)) to shake

64. ĵl-ja1-t strong Cr? ẓar be firm, strong, Ka *el to try hard, make efforts

65. wl-em to burn, x-wl-nt-āke? kindling Cv war, Cr g'el, Ka u·l, Sp wr(í) (wl(í)) (wer(í))

66. wl-aps antler, horn, x-wl-āps-āke? spoon made of horn

67. wl-ank intestine, belly, stomach

68. yel/yal be wound around Cv yir, Ka yal (yel), Sp yir(é) (yal(é))

69. yel'w curve, coil, hollow, yil'w-nt-as to coil around stg. Cv yark'w, Cr yark'w, Sp yerk'w (yal'k') (yil'k')

2.5. For Coeur d'Alene Reichard realized that the vowel darkening (lowering) processes (she called them 'vowel dissimilation') could be understood fully only when comparative evidence would be available. "I have worked upon the problem presented by these examples [of vowel dissimilation] intensively from the beginning of my work with Coeur d'Alene and I have come to the conclusion that it can be finally solved if at all, only with comparative material." Nonetheless she felt forced to explain the vocalic 'dissimilation' in terms of phonetic conditioning. She thought to have found one possible conditioning factor, but was at a loss to pinpoint others. "Certain stems containing bilabial consonants, but by no means all of them, have a progressive influence on the vowels... It is not possible
to tell in every case which consonant of the stem has the influence, in most cases it seems as if both consonants function together in this respect." And: "The rest of the stems seem to depend on some sound other than labial to influence the following vowels; it is difficult to determine what it might be." The processes in question are two: the lowering of u to ə, and the much more common lowering of other vowels to a.

Cognate pharyngeal roots in Colville (and elsewhere) point to pre-Cr pharyngeal roots of the shape *C*sVc.

6b. tam make damp, dampen, syä-tam-əlumxʷ one who licks people (-ilumxʷ person)

10b. pas be astonishing, pəsətc-stmən I will play a trick on him, -itc deceive

10c. pəʔəs joke, tciʔts-pəʔ-əs-tsən I am joking hither, -tcin mouth

13a. pəʔ squirt, hence, defecate, urinate, cəl-his-t-pəʔ-əs-əm I will squirt him in the eye, -us eye

16b. pəʔ be mushy, pour mushy stuff, t-pəʔ-əʔ-sʔents he poured cement on rock, -is

26b. saʔ tame, səʔ-səʔ-səʔ-t-əlc-stus he broke it (horse) -ɪlc grow

70. yəʔ be tight, firm, tc-yəʔ-yəʔ-am-ətct-əm hold on tight, -itct finger Cv yəʔəc

71. təp shoot, təp-scənt he. shot, stcint people Cv təʔap, Ka təáp, Sp təp(í)

Several other Cr roots lower the suffix vowel, but the
cognates are either apharyngeal or unidentified:

72. ıap mark, make welt, tcın-ıəp-ıəp-ap-átct my hand became welled, -itct hand Cv ıap, Cm ıip, Cr ıip, ıəp, Sh ıəp-

73. ıal sprinkle, hin-ıəl-ıəl-āna?-antəm he was car sprinkled

74. nas wet, a-tc-nas-nas-us tcânt he wets people's eyes, stcint people Ka, Sp nas

75. ı람 go to live with in-laws, ı람-ın-tsöt-ən he went to live with in-laws Cv s-ıxmá-m-s he got married

76. xʷəm ?, xʷəm-atct woodpecker, -itct finger, wing

77. ˈcuːx w, hin-tɛuxʷ-tcuxʷ-əp-ənəm he retired, -ip bottom

78. tam scorch, atc-təm-əwās it exists scorched on the surface, -iwās together

79. ˈpsəaqʷ long brittle object breaks (both regular and dissim. forms are correct)

80. pui poison ivy, pui-əm-ətca? he applied p. i., -itsa? all over

81. mas-mas kind of vegetable, an-məs-məs-ətkʷa? water is full of masmas

One is a borrowing,

82. pa̱y from Fr. Espagne, s-pa̱y-šúmc Spanish, -ulúmc person

but this form could have been borrowed from espagnol, which would explain the ə. Another root, the cognate of which is apharyngeal in Cv, also lowers the suffix vowel. In Cv, inexplicably a pharyngeal intrudes in the suffix:

11a. ˈcm suck, ni?-ˈcm-əwās-ənts he sucked amongst
Finally, there are four other Cr roots which lower the suffix vowel. They all have r or ı as C₂.

58a. k'var be yellow, hɛn-k'ar-k'ar-áwás-ən crossbills, -i'wás together

83. mal bubble, tcïniʔ-ʃ-əl-pá'šas it bubbles from in between, -i'wās between

84. mal heat, a-ʃ-əl-átct-ən-tcūlis he is making us too warm, -itct fingers? Cv məl, Cm mal, Cr also məl

85. mul soil, earth, a-ʃ-əl-l̓ul̓umxʷ soil, earth, -ul̓umxʷ ground

3. From the available evidence I conclude that, in all the Salishan languages of the interior here discussed, at one time there was a wide spread phenomenon in which a characteristic of the root was transferred to a suffix. In these forms that characteristic, once transferred to the suffix, was lost to the root. The characteristic is construed to be a pharyngeal element in C₂ of CCVC roots. Its reflexes in the suffixes vary from language to language, but can be subsumed under two groups: (1) movement of the pharyngeal to the suffix with attendant vowel assimilation; (2) simple vowel assimilation (lowering) with loss of the root pharyngeal. At this time the conditioning factors for these processes can be inferred only for Colville, the language I know first hand.

The loss of (root) pharyngeals (pervasive in some languages, less so in others) impedes at this time a direct
reconstruction of these elements, but fortunately clues as to original pharyngeal roots are provided by those forms with darkened suffix vowels (after analogical formations and irregular forms have been identified), as well as by roots with 1 and r (r) as C2 if it can be proved that they contained an original pharyngeal.
FOOTNOTES

1 I wish to acknowledge the support of the following during my research: NSF, NEH, the Whatcom Museums (Melville and Elizabeth Jacobs Fund), SIL, and the Universities of Kansas, Hawaii, and Montana.

2 Interest in the synchronic morphophonological mechanisms is outweighed by the diachronic implications of these pharyngeal movements, and panchrony has precedence over synchrony. This attitude is opposite to (but not incompatible with) Langacker's: "The history of a language may furnish the linguist with valuable clues as he begins a synchronic analysis, and it may provide evidence to corroborate an analysis proposed and justified on other grounds, but it cannot stand alone as the sole motivation for a system of rules and underlying representations. Historical accuracy is neither a necessary nor a sufficient condition for adopting a synchronic theory." (p. 27) In this context I take "theory" to mean a set of inductive rules based on the data.

3 This phenomenon is strikingly homologous to that observed by Whitney in Sanskrit. In Sanskrit the aspiration of some root stops is shifted to other stops: "before obstruents and word boundaries, root-final aspiration is moved to the initial stop of the root." The phenomenon has been talked about plenty, and the question is: does the aspiration actually shift? Most recently Anderson has proposed a "readily available" alternative analysis which sets up aspiration everywhere and deletes it where necessary. Anderson argues that his analysis is superior to Whitney's on "theoretical" grounds, that is, the rules that account for the phenomenon are simpler. The problem, as I see it, is that these "theories" ultimately prevent the formulation of valid typologies.

4 I am indebted to Barry F. Carlson for the Spokan data and comments which he has generously provided me.

5 Vogt lists a series of examples. But there are two phenomena involved, and here I am separating them.

6 Examples 29 and 30 are Vogt's; 31 and 31a are Carlson's.

7 The problem is complicated by the ablaut system (and consonant gradation system), which I believe at one time permeated these languages. It is quite likely that the root pharyngeals occurred only in a-grade forms, with different assimilatory properties in the other grades.
WORKS CONSULTED


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