IRREGULAR VELAR DEVELOPMENTS IN MONTANA SALISH

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1. INTRODUCTION. In Montana Salish (Flathead), as in most other Salishan languages, the Proto-Salishan nonlabialized velar obstruents **k*, **k'*, and **x* regularly developed into alveopalatals, *ć*, *ć'*, and *ś*. Many correspondence sets can be adduced to illustrate this change; a few examples are given in Table 1, where Colville represents nonpalatalizing languages.[1]

a. MSa	*ćélš*	:	Cv	*kílx*	'hand'
b. MSa	*isćéw*	:	Cv	*nskíw*	'sister-in-law'
c. MSa	*cx̣íńć*	:	Cv	*cx̣íńk*	'bow (and arrow)'
d. MSa	*ćéye?*	:	Cv	*k'íya?*	'dead tree'
e. MSa	*snćlé*	:	Cv	*snk'líp*	'coyote'
f. MSa	*nićć*	:	Cv	*nik'k'*	'it gets cut'
g. MSa	*ši?mí*	:	Cv	*xi?míx*	'any (kind of)'
h. MSa	*šlšált*	:	Cv	*xrxárt*	'steep'
i. MSa	*sumés*	:	Cv	*sumíx*	'guardian spirit'

TABLE 1. Regular alveopalatal reflexes of original velars.

In several morphemes, however, Proto-Salishan (or at least Proto-Interior Salishan) nonlabialized velars turn up in Montana Salish as labialized velars or uvulars instead of the expected alveopalatals. In this paper I will examine the nine examples I have found so far and offer suggestions, where possible, about how the deviant developments might have come about.

This paper is a very tentative and preliminary effort, incomplete in important respects. First, it was written while I was two thousand miles away from my library, and I was therefore unable to check the literature (e.g. previous Salish Conference working-papers volumes) to see whether, and how, this topic has been addressed in the past. I am reasonably sure that no one has assembled the Montana Salish data before, but I don't know to what extent my comments might duplicate other authors' analyses of identical or similar developments in other Salishan languages. In addition, my comparative analysis is very limited, so some of the morphemes discussed here may never have had plain velars at all, some of my analyses may be ruled out by evidence from other languages, and some of the forms I have put together might come from different Proto-(Interior) Salishan morphemes. The only nonpalatalizing language that I've searched systematically for cognates is Colville-Okanagan (primarily as represented in Mattina 1987). I've also checked Thompson for all these morphemes (in Thompson & Thompson 1996), but for other languages I have only scattered examples. No doubt other irregular velar developments in Montana Salish will become evident when fuller comparative information is taken into account. For data on Spokane and Kalispel, the other two major members of the dialect continuum to which Montana Salish belongs, I have relied on Carlson & Flett 1989 and Vogt 1940, respectively. Besides my own Montana Salish dictionary files, I have made extensive use of Mengarini et al. 1877-79.[2]

I will be grateful to any readers who can shed light either on the particular forms discussed here or on the general processes involved in these irregular changes.

After discussing some possible ways in which irregular reflexes of original velars might have arisen (§2), I will examine morphemes that do, or may, contain such reflexes (§3). In §4 I will consider three roots in which Montana Salish has the expected alveopalatals while Colville shows irregular labialized velars, and §5 is devoted to brief concluding remarks.

2. SOME MORPHOPHONEMIC ALTERNATIONS INVOLVING VELARS. Before we look at the unexpected velar developments themselves, it will be useful to exemplify some alternations that may help to explain the irregular changes. First, in a number of Salishan languages labialized and nonlabialized dorsals are neutralized in certain positions, usually before a rounded vocoid. In Montana Salish a labialized segment appears in the position of neutralization; so, for instance, plain uvulars (there are no plain velars to which this rule could apply) are labialized before a rounded vocoid: compare *tl̓qəntén* 'I kicked him' and *ntl̓qʷópsis* 'she kicked him in the rear end', both from the root *tl̓q* 'kick'; the second form contains the lexical suffix *=úps* 'tail, bottom', which has a lowered vowel because of the preceding uvular stop.

Second, in Montana Salish the labialized velars occasionally alternate with labialized uvulars in the neighborhood of a uvular consonant. The following two words, for instance, both contain *nx̣̓ú?* 'one': *nx̣̓u?lúx̣̓* 'yardstick' (a compound with *lúx̣̓* 'wood') and *nqʷo?qín* 'one hundred' (with the lexical suffix *=qín* 'head'). This process is sporadic rather than regular, but it may ultimately be connected with a striking peculiarity of Montana Salish root structure. My dictionary files contain only one rather dubious root with both a uvular and an alveopalatal consonant (*ćcax̣* 'hurt, sick'; see §3.6 below) and only five roots with both a uvular and a velar consonant, all of them beginning with a uvular and ending in *xʷ*: *qéyxʷ* 'chase, whip', *q̓lx̣ʷ* 'hook', *qexʷ* 'proud', *qxʷ* 'bloated, constipated', and *x̣léxʷ* 'tooth'. I don't know whether this pattern holds for other Salishan languages, but at least in Montana Salish—both in its current form and before the palatalization of velars—the juxtaposition of velars and uvulars seems to be dispreferred.

Third, one piece of evidence suggests that Montana Salish speakers have sometimes replaced plain velars with labialized velars in loanwords: the modern form of the name *Jesus Christ* is *yesux̣̓lí* (compare Columbian *susukrí* and Coeur d'Alene *jisohkrí*). This form may be relatively recent, since the name always has a nonlabialized dorsal in Mengarini et al. 1877-79: the Jesuits' spelling is *iésu kli* or *jésu kli*. (Labialization would be indicated in the dictionary by *ku* for *kʷ* or *ko* for *qw*, even before a consonant.)[3] The relevance of this point is that, given the (formerly?) widespread multilingualism in the region, borrowings from nonpalatalizing Salishan languages could turn up with labialized velars in Montana Salish either by way of a "closest sound" adaptation strategy or by the less automatic application of a correspondence rule ("their *k* equals our *kʷ*").[4] Similarly, either strategy could produce a uvular in a loanword that had a velar in the lending language. Unfortunately, however, proving the existence of such a borrowing process for any of the cases discussed below is likely to be difficult or impossible, since they have no other phonological peculiarities that might provide clues. I will therefore not argue for a loanword source for any of these examples, but borrowing should nevertheless be kept in mind as a possible source.

However the irregular variants arose in each particular case, their subsequent history must always have involved analogic spread beyond their original context and thus competition with the original plain-velar variant. This competition had one of three outcomes: the innovative irregular variant—a labialized velar or a uvular—spread analogically until it replaced the original plain-velar variant entirely; or the irregular and the plain-velar variants both remained in the language, sometimes with and sometimes without semantic differentiation (compare, for instance, English *hung* vs. *hanged*, with semantic differentiation, and *dove* vs. *dived*, which are semantically identical); or the irregular variant disappeared, in which case there is no evidence that it ever existed.[5]

3. MONTANA SALISH MORPHEMES WITH IRREGULAR VELAR DEVELOPMENTS. Two of the nine examples I've found are prefixes; the rest are roots. In some cases it isn't certain, from the data at hand, that the original root had a nonlabialized velar (as opposed to a labialized velar or a uvular), and in most cases there are no visible candidates for conditioning environments for the innovations. This latter circumstance does not, of course, mean that there were no conditioning factors to motivate the changes; it means only that, after the fact, none can be determined.

3.1. THE PREFIX *qɬ-* 'IRREALIS (FUTURE)'. Both allomorphs of this prefix are extremely common. The short variant *q-* occurs before *s*, *es-*, and (by analogic extension) a few prefixes preceding an *s* or *es-*, and the long variant *qɬ-* occurs elsewhere.[6] Typical examples are given in 1 (in which the prefix *a-* is an allomorph of the 2sg.POSS prefix *an-*).[7]

(1) MSa: *a-qɬ-nóx̣ʷənx̣ʷ* 'your wife-to-be', *qe qɬ-q̓ex̣ʷmscútən* 'we'll show off', *ta qe q-s-cúʔca ax̣əlá* 'We won't swim every day' (lit. 'not we IRREALIS-NOM-swim every.day'), *Tam esnté q-eɬ-es-x̣ʷstú* 'He didn't want to walk back' (lit. 'not he.wanted IRREALIS-back-NOM/STATV-walk').

This same irrealis prefix, with the same allomorphs, also appears in Kalispel and Spokane. But the Colville cognate prefix *kɬ-* 'unrealized aspect' has a velar stop, not a uvular, and the Thompson particle *kə* 'unrealized (to be established in the future,...)' also appears to be cognate.[8]

There are two obvious historical possibilities: either Montana Salish and its closest relatives replaced an original **k* with **q*, or the nonpalatalizing languages replaced **q* with **k*. (A third possibility, that the velar and uvular forms are etymologically unconnected, is unlikely in this case, given the close semantic and morphological match.) Vogt (1940:19) mentions a Kalispel alternation that seems at first glance to point to an original uvular: he says that the *q* of this prefix 'is differentiated to [k] by the labials of the personal prefixes *ku-* [= MSa *k̓ʷu* 'me'] and *k̓ʷ-* ['you (2sg.intr.subj.)'] and of the particle *ɬu*'. I haven't noticed such an alternation in Montana Salish, but I haven't looked for it, so it may exist. The conditioning environment claimed by Vogt is a bit surprising, though, since lip rounding seems unlikely, in itself, to cause fronting of a uvular to a velar. But if such an alternation existed in Proto-Interior Salish, producing two allomorphs for this morpheme, then the velar reflex in Colville and Thompson could be accounted for by positing a process of allomorphic leveling in favor of the velar in the nonpalatalizing languages. The uvular allomorph (presumably the "elsewhere" allomorph in the proto-language, on this hypothesis) survived in Montana

Salish, Kalispel, and Spokane; but Kalispel would then have developed its current variation after the palatalization change, because otherwise its current alternation would be *q/ć*, not *q/k*.

There are two main problems with this analysis. First, it requires two separate changes innovating a velar variant of the prefix, one in Proto-(Interior) Salishan and one in modern Kalispel. This is not especially implausible (except for the oddity of the conditioning factor itself), because drift often results in similar or identical changes in related languages at different times: but it adds an extra unattested step to the historical derivation. Second, there is no obvious phonetic or distributional reason for the direction of leveling in the nonpalatalizing languages (why should the velar win out?). This is significant because the change would have to have occurred twice independently, once in Southern Interior (for the Colville prefix) and once in Northern Interior (for Thompson). Aside from the lack of a good phonetic motivation that might enhance the possibility of identical changes via drift, this again adds an extra unattested step to the historical scenario.

It seems more likely, therefore, that the morpheme originally had a velar stop, not a uvular: on this hypothesis, only a single change is required, in the immediate ancestor of Montana Salish and its sister dialects (in addition to the Kalispel-specific change that is required in any case). No clear source for the development and spread of a uvular variant in Montana Salish can be established, however. The frequent juxtaposition of this prefix with a preceding particle containing a uvular might have provided the environment for the velar-to-uvular change; *qɬ-* is always word-initial unless it is preceded by the nasalless allomorph of a possessive pronominal (1sg /i(n)-/ or 2sg /a(n)-/). Two common proclitics containing uvulars are /qe(ʔ)/ '1pl' (in all grammatical contexts) and an apparently dialectal variant of the 1sg object particle 'me', *q̓ʷo* (the other variant is *k̓ʷu*; see fn. 9 below). Once the uvular variant arose, it eventually replaced the original velar variant completely—probably, though not necessarily, before the palatalization change occurred.

3.2. THE LOCATIVE PREFIX *k̓ɬ-* 'UNDER'. This prefix is matched by Kalispel *k̓ʷəɬ-*, but Spokane has *ć̓ɬ-* instead. The Spokane form, together with Colville *k'ɬ-* and Columbian *k'l*, indicates an original velar; if the proto-language had a labialized velar, at least two independent changes would have to be posited to get the velar (and later alveopalatal) reflexes. Examples are given in 2.

(2) a. MSa: *k̓ɬ-išút* 'it's under(neath)', *c-k̓ɬ-ćíʔ* 'arrive here' (with *c-* 'hither').

b. Kal: *k̓ʷəɬ-ćíc* 'arrive'.

c. Sp: *ć̓ɬ-išút* 'it's under'.

d. Cv: *k'ɬ-ix̣ʷút* 'what's underground').

e. Col: *c-k'ɬ-kícəm* 'arrive here').

As with *qɬ-*, no firm source for the irregular development of *k̓ɬ-* can be established. The prefix is very common, appearing in many words in which its specifically locative function is not evident (e.g. 'arrive', in 2), and it often occurs before a labialized segment, as in *čən k̓ɬ-*

xʷíst l escəlcíl 'I walked under the trees' and *kʷl-xʷélsts* 'she ruined it'. Of course it also occurs very frequently before nonlabialized segments, as in 2a. Still, it may be that the labialization of the prefix's stop was conditioned in the first instance by a following labialized segment (in spite of the intervening lateral fricative, which would presumably be labialized allophonically between two rounded segments), with subsequent leveling of the two allomorphs to eliminate the plain-velar variant. It is worth noting that a similar labialized/nonlabialized pattern can be found in at least one other grammatical morpheme, the particle *xʷl*:

(3) a. MSa: *xʷl* 'for, because', *xʷl stém* 'why?' (lit. 'for what?').

b. Sp: *xʷl* 'for', *xʷl stém* 'why?'.

c. Cv: *xl* 'for', *xəl stim* 'why?'.

The parallelism between 'under' and 'for' may or may not be significant, though it seems relatively unlikely to be completely accidental—in which case the explanation for the labialization of 'under' in Montana Salish, whatever it is, may also apply to the labialization of 'for'.[9]

3.3. THE ROOT DOUBLET *ṗlc̓/púlkʷ* 'TURN'. These two root forms differ both in their final consonants and in their stress patterns—the first variant has weak stress, the second has strong stress. All the relevant forms in the languages I've checked have very similar meanings, so there is no semantic barrier to analyzing them as allomorphs of a single root. Carlson & Flett group them into a single morpheme in Spokane, and that seems the most reasonable analysis in Montana Salish too, especially in view of the intersecting cognate constructions in Colville and Thompson. Colville has just one root *ṗlak'* 'turn', always with a nonlabialized velar. Thompson has two different roots, both with nonlabialized final dorsal stops—*ṗik'* 'roll' and *ṗiq̓* 'turn'; it is the uvular-final root that has clear cognates with Colville and Montana Salish constructions. (I have no explanation for the presence of a uvular in the Thompson root, but on the evidence at hand it appears to be secondary.)

(4) a. MSa: *ṗlc̓úsəm* 'turn around' (lit. 'turn one's face around', with the lexical suffix *=ús* 'face, fire'), *ṗlc̓məncú* 'turn around' (lit. 'turn oneself around', with the reflexive suffix *-cút*), *c̓-ṗlkʷ=íc̓e?* 'wrap' (lit. 'to-turn=cover'), *ṗlc̓mstén* 'I turned it over', *púlkʷəntxʷ* 'you fold it (over the stick)'.

b. Sp: *c̓-ṗlkʷ=íc̓?e-u* 'I wrapped it', *ṗlc̓mstén* 'I turned it over', *púlkʷntm* 'somebody rolled it up'.

c. Cv: *ṗlk'úsəm* 'turn around', *ṗlk'məncút* 'turn to something', *k-ṗlk'=íca?* 'roll, wrap', *ṗəlk'mstím* 'turn, roll something over'.

d. Th: *ṗiq̓úsm* 'turn around to go back'.

As these examples suggest, there is some semantic differentiation within Montana Salish (and also Spokane): the forms with *c̓* are used especially for something that turns itself around, while the forms with *kʷ* are used for turning something else around, especially folding

or rolling some object up. This differentiation is not complete, however. as the *c̓* forms meaning 'turn it over' show. Moreover, within Montana Salish there is a doublet in which both forms have essentially the same meaning, though the words have different morphological structures (the uvular in 5b is puzzling; I have no explanation for it, but see discussion below):

(5) a. MSa: *ṗl̓-ṗl̓c̓-mí-m* 'she's turning it [the meat] over and over' (REDUP-turn-DER.TRANS.-TRANS.CONT').

b. MSa: *m ṗl̓q̓ʷ=ós-m-st-xʷ* 'you'll turn it [the meat] over' (FUT turn=fire-DER.TRANS-TRANS-2sg.TRANS.SUBJ'; the lexical suffix is *=ús* 'face, fire').

The simplest way of accounting for the *ṗlc̓/púlkʷ* doublet is to posit an original **k'* in the root, both because the nonpalatalizing languages lack labialized variants and because conditioned delabialization of an original **kʷ* would be improbable in Montana Salish before a rounded vowel, as in *ṗlc̓úsəm* 'turn around'. Two possible conditioning factors for labialization of an original plain velar are suggested by the examples. First, the Montana Salish variant *púlkʷ* has a stressed rounded vowel, which could have contributed to labialization of the following stop; and second, labialization could have occurred before a rounded suffix vowel—though only sporadically, as the contrast between *ṗlc̓úsəm* and *ṗl̓q̓ʷósmstxʷ* shows. The former environment might not have existed in the proto-language, because the vocalism of Colville *ṗlak'* 'turn' doesn't match that of Montana Salish *púlkʷ*. But if the original root did have a stressed rounded vowel, then the currently available modern data, in which the alveopalatal variant occurs only unstressed, would make it tempting to suggest that the only *c̓* variants left unlabialized were those in unstressed contexts, i.e with no preceding rounded segment. The later analogic extension of the *kʷ* variant to some unstressed contexts would be unsurprising, especially once the semantic differentiation set in. Since the Colville form *ṗəlk'mstím* in 4c suggests that the root originally had weak stress, however, this explanation will work only if Montana Salish and its sister dialects had developed a strong-stress variant (with *ú*) before the regular palatalization change and the sporadic labialization change.

Moreover, Mengarini et al. 1877-79 has identical formations with both variants: *es-pilch* (*es-píl̓c̓*) 'it is turned over' vs. *es-pólko* (*es-pólq̓ʷ*) 'it is wrapped around (referring to the wrapper, not to the object wrapped)' (cf. 5b); these contrasting forms raise the possibility that these were two different roots originally, with coalescence in Colville and perhaps partial coalescence in Montana Salish.

3.4. THE ROOT DOUBLET *c̓út/q̓ʷót* 'HALF'. Like *ṗlc̓/púlkʷ*, this pair of forms differs in more than one phonological feature. Here the vocalism is the same in both, allowing for the lowering of *u* to *o* after a uvular, but the initial consonants don't fit etymologically: *c̓* should derive from a velar stop, not a uvular stop. The meanings, though not identical, are very close, so grouping them together is reasonable on semantic grounds. Kalispel has the same two forms and meanings as Montana Salish, and Thompson has only a uvular-initial root with the same meaning as the Montana Salish/Kalispel uvular-initial variant. But since Spokane has a labialized velar instead of a uvular in the second variant,[10] and since Colville has only a labialized velar form with both meanings, it seems reasonable to analyze the two forms in Montana Salish as belonging to a single root morpheme.

(6) a. MSa: *s-c̓út* 'half', *s-c̓télce?* 'side' (with *=élce?* 'body'), *s-c̓təmsqélixʷ* 'half-breed' (with *=sqélixʷ* 'person'), *nis-q̓ʷót* 'across the river'.

b. Kal: *c̓út* 'half', *sc̓əɬəmsqélixʷ* 'half-breed', *nisq̓ʷú* 'the opposite side of a river'.

c. Sp: *sc̓útm* 'half', *sc̓tmsqélixʷ* 'half-breed', *c̓skʷtéc̓st* 'one hand' (with *=éc̓st* 'hand').

d. Cv: *skʷút* 'one side, across, half', *n-skʷt=ink* 'half the ribs', *n-skʷút* 'across the river'.[11]

e. Th: *s-q̓ʷút* 'one, other side (of something), half'.

It is simplest to posit a velar as the initial proto-language consonant in this root, because fewer changes are required to derive the modern forms from a velar than from **q̓* or **q̓ʷ*. And since the root vowel is rounded it is probably better to reconstruct a nonlabialized initial velar, with assimilatory labialization in the nonpalatalizing languages, than to posit an original labialized velar with partial rounding dissimilation in Montana Salish and its sisters: the Montana Salish tendency (at least nowadays) is to labialize dorsals before rounded vowels, and I have found no clear examples of delabializing changes in this environment. This analysis accounts for the presence of labialized stops in some Montana Salish and Kalispel forms, but of course not for the fact that they are uvular rather than velar. I have no suggestion to make about the uvular development, except to observe that it is not very recent: Mengarini et al. have a form spelled *niskót*, which clearly indicates a uvular (a corresponding velar form would be spelled *niskút*).

Finally, note that the two variants have apparently become at least partially independent in Montana Salish, with clear semantic differentiation: so far I have found *q̓ʷót* only in the construction *nisq̓ʷót* 'across the river', though it may also be used in constructions like 'one hand', as in Spokane.

3.5. THE ROOT *χiq* 'RUB'. Here there are no doublets or even variations to complicate the picture in Montana Salish or its sister dialects, but the comparative picture is nevertheless puzzling, because both Colville and Thompson have initial and final velars in what is surely a cognate root:

(7) a. MSa: *s-n-c̓-χíq-mn* 'washboard' (NOM-in-to-rub-INST).

b. Kal: *χíq-n* 'I smear it'.

c. Sp: *χíq* 'to rub; rasping or rubbing sound': *χíqn* 'I rubbed it', *s-n-c̓-χíq-mn* 'washboard'.

d. Cv: *xki-st* 'rub against something', *c-xk-xk-íłx* 'make noise rubbing'.

e. Th: *xik* 'rub something (e.g. with grease), smear, anoint', *xík-mn* 'substance used for rubbing'.

If Proto-Interior Salishan had either two velars in this root or two uvulars, then velars are more likely, because only one (set of) change(s) would be required—in the immediate parent of Montana Salish, Kalispel, and Spokane—to derive the uvulars. By contrast, a proto-language form with two uvulars would require two independent changes to derive the modern velar forms, one in Northern Interior (for the Thompson root) and one in Southern Interior (for Colville). But there is no reason to conclude, from this set of data, that the proto-language had root consonants in the same series. If the original root was heterogeneous, then the Montana Salish development could be explained as a consonant harmony process, bringing the root's structure into conformity with the vast majority of the language's roots, in which velars and uvulars do not co-occur. This proposal has the disadvantage of requiring changes in all the daughter languages—leveling in favor of the uvular in the palatalizing dialects and leveling in favor of the velar in Colville and Thompson. It also rests on the premise that roots with mixed dorsal series are dispreferred in the other languages as well as in Montana Salish (see §2 above for discussion), and I have no information on that point. The advantage of the heterogeneous-protoform hypothesis is that it provides a phonetic motivation for all the changes; if the original root was homogeneous, there is no obvious phonetic motivation for change in either direction. (This is not, of course, an argument against a homogeneous root; there is no really clear phonetic motivation for any of the apparent velar/uvular alternations discussed in this paper.)

3.6. THE ROOT *c̓caχ* 'HURT, SICK'. I have few examples with this root, and I have found a cognate root only in Colville—not in Kalispel, or Spokane, or Thompson. I call *c̓caχ* a root in spite of its unusual two-obstruent initial cluster; it is quite possible that the initial *c̓* is actually a prefix, historically if not synchronically.

(8) a. MSa: *c̓caχ=éls-i* 'hurting inside, sick (in one's mind)' (hurt=feelings-INTR.CONT), *c̓c̓aχʷélsi* 'sick in one's stomach (e.g. from heartburn)'.

b. Cv: *t-kcx=íls* 'be hurting, suffer' (*t-* is a resultive prefix).

The oddity here is not the first root consonant, which shows the expected correspondence—velar in Colville, alveopalatal in Montana Salish. Rather, the problem is with the final fricative: it is velar in Colville but varies between a plain uvular and a labialized uvular in Montana Salish, in the very same word. The Montana Salish word is phonologically peculiar in two other ways as well: one variant has a glottalized affricate *c̓* instead of the expected *c* (as in the other variant and in Colville), and both variants have an unexpected unstressed vowel.[12] The word needs to be rechecked, because at least once I thought I heard a pharyngeal fricative in mid-root. If there is one, it would potentially account both for the unstressed [a] (impressionistically, pharyngeals are often realized phonetically in Montana Salish as unstressed non-high back vowels, with rounding depending on whether the pharyngeal is labialized or not) and for the glottalization of *c̓* (in Montana Salish etymological pharyngeals have sometimes been replaced by a glottal stop, which in turn may merge with a preceding affricate). A pharyngeal would also account for the uvular articulation of the root-final fricative, because pharyngeals, like uvulars, have the potential for backing and lowering a neighboring dorsal. The Colville cognate has no pharyngeal, however, and with so little data it isn't possible to determine whether Colville lost a pharyngeal or Montana

Salish added one—though it would be easier to explain the loss of a root-internal pharyngeal than the unmotivated addition of one. In any case, this suggestion requires the presence of a pharyngeal, which isn't certain (yet). If there is no pharyngeal in the Montana Salish root, I have no explanation for the velar/uvular mismatch between Montana Salish and Colville. And even with the pharyngeal I have no explanation for the labialized variant in Montana Salish, because if there were a labialized pharyngeal in the root the unstressed vowel would be *o*, not *a*.

3.7. THE ROOT *ṗáq̓* 'SHINE, BRIGHT'. In this root Montana Salish and its sister dialects have a uvular, while Colville and Thompson have a velar:

(9) a. MSa: *i ṗ?áq̓* 'shine, illuminated' (*i* is a demonstrative particle), *cí?itxʷs n-ṗq̓=élċe?* 'their house was all lit up' (lit. 'their.house in-shine=body/inside').

b. Kal: *ṗaq̓* 'to flash, shine brightly': *ṗáq̓əmən* 'flashlight', *s-pq̓aní?* 'sun'.

c. Sp: *ṗaq̓* 'sparkles of light': *s-ṗ?áq̓* 'a light'.

d. Cv: *ṗk'-ṗík'* 'flash on and off', *ṗík'-st* 'shine up', *ṗík'-mist* 'reflect, shine'.

e. Th: *?es-ṗék'* 'shining', *ṗék'-t* 'shiny'.

There is no obvious reason why an original velar stop should change to a uvular in this root, or why the reverse should happen. As in some of the other examples discussed in this paper, it is simpler to assume an original velar: only one change would be needed to derive the uvular in the ancestor of Montana Salish and the other dialects of the same language, but if Proto-Interior Salish had a uvular stop, two independent changes would be needed to derive the velars in Thompson and Colville. Positing an original velar is therefore preferable, in the absence of evidence from other languages pointing to an original uvular or of a good phonetic motivation for a uvular-to-velar change.

3.8. THE ROOT *ċ̓éxʷ* 'DRY'. The initial consonant of this root is not problematic, but the final consonant may be. I have found cognates only in Spokane and Thompson:

(10) a. MSa: *ċ̓éxʷ-m* 'she dried (something)', *ċ̓éxʷ-n sxʷéli* 'I dried the camas'.

b. Sp: *ċ̓éxʷ-n* 'I dried it'.

c. Th: *k'éx-m* 'dry something', *k'exʷ=úse?* 'dried berries' (the lexical suffix means 'berry').

Thompson & Thompson (1996:102) say that the labialized variant of this root may be a back-formation from the pronunciation of the derivative with the *u*-initial lexical suffix for 'berry'. If the variant *k'éx* is indeed the basic form of the Thompson root morpheme, then it is possible (though not certain) that the proto-language also had a final nonlabialized velar fricative; and if it did, then Montana Salish and Spokane have also labialized the final fricative—but everywhere, not just in a labializing context. Without data from more

languages this issue can't be resolved, though of course the final consonant in Montana Salish could easily have occurred in labializing contexts, from which an innovative labialized variant could have spread analogically to replace an original nonlabialized fricative.

3.9. THE ROOT *l̓áq̓* 'THIN'. I have not found this root in a nonpalatalizing language, but there is significant variation in the root-final dorsal stop in Spokane. The initial *l̓* in this root is probably secondary in Montana Salish and Kalispel, as it is in Spokane; on present evidence, the glottalization in Kalispel *q̓* also looks secondary.

(11) a. MSa: *łəl̓l̓áq̓* 'thin'.

b. Kal: *l̓l̓áq̓* 'thin (of clothes, sheet, etc.)'.

c. Sp: *l̓l̓éċ̓* (*l̓l̓áq̓*) 'it's thin', *n-l̓l̓éċ=le?xʷ* 'thin bread' (the lexical suffix means 'ground').

It is possible, of course, that the Spokane forms arose from two different roots with similar meanings. But if so the doublet forms for 'thin' within Spokane are remarkable, and in addition there is no sign of a second root in either of the other dialects. If the root had a uvular stop in the immediate parent of the three dialects, the Spokane innovation presumably produced a velar stop (with a concomitant vowel change) which then became *ċ̓* by the regular palatalization change; innovation of an alveopalatal directly as a variant of *q̓* is surely unlikely. The relative chronology would be a bit tricky, because on this hypothesis palatalization must have followed the dialect split—and this would make palatalization not a single change but two or more independent changes in Montana Salish, Kalispel, and perhaps also Coeur d'Alene. A more plausible scenario for changes from an original uvular would be innovation of a velar in the entire dialect continuum, with subsequent elimination of the new velar variant everywhere except Spokane; the leveling in favor of the uvular could have happened in Montana Salish and Kalispel either before or after palatalization.

The other obvious possibility is that the Spokane alveopalatal variant is the only surviving relic of an original velar consonant. Innovation of a root-final uvular can be posited for the parent of all three dialects, with analogic leveling in favor of the uvular variant completed everywhere except in Spokane. Choosing a velar or a uvular for the original root-final consonant is phonetically arbitrary on the evidence at hand, as there is no visible context that might promote either fronting or retraction of a dorsal stop.

4. COLVILLE MORPHEMES WITH IRREGULAR VELAR DEVELOPMENTS. In the examples in this section, Montana Salish alveopalatals correspond to Colville labialized velars. I have not searched Mattina's 1987 dictionary systematically for Colville/Montana Salish velar mismatches, so the three roots discussed here are intended merely as illustrative examples: they are the instances I happened to notice while going through my Montana Salish dictionary files (which have entries for Spokane and Colville cognates). The reason for including them is to show that irregular labialization of an original nonlabialized velar is by no means unique to Montana Salish.[13] (The same is probably true of irregular changes from velars to uvulars, but I haven't noticed any examples of such changes in Mattina's dictionary.)

4.1. THE ROOT *yxʷ, yáxʷ* 'DROP'. The Montana Salish cognate of this Colville root is

yšú:

(12) a. MSa: *kʷɬ-išú-t* 'under, beneath' (lit. 'under-low-STATV), *n-išút* 'deep' (*n-* 'in'), *iš-ílš-m* 'he lowered (something)' (lit. 'low-MOTION-ANTIPASSIVE'), *n-iš-t=úlexʷ* 'underground' (=*úlexʷ* 'ground').

b. Kal: *łi?šú łu cítxʷ* 'the house is low' (lit. 'it's.low PARTICLE house'), *ć-ən-iš-t=úle?xʷ* 'inside of the earth, the underworld' (*ć-* 'to').

c. Sp: *ćɬ-išú-t* 'it's under', *n-išút* 'it's deep', *n-iš-t=úle?xʷ* 'basement'.

d. Cv: *yáxʷ-t* 'dropped', *nixʷút* 'inside', *k'ɬ-ixʷ-út* 'what's underground', *n-ixʷ-t=úla?xʷ* 'below the ground, pit'.

e. Th: *zəx* 'go lower', *zix* 'go lower gradually', *zix-m* 'to lower (something) gradually'.

Of these languages, only Colville has a labialized velar. It therefore seems reasonable to assume that Colville has innovated labialization, rather than the reverse happening in the other languages. This analysis is strengthened by the apparent fact that the Thompson root—if it is indeed cognate with the others—is apparently not commonly followed by a rounded vowel. The conclusion, then, is that labialization was conditioned in Colville by the *u* that follows the velar in common constructions.

4.2. THE ROOT *kʕxʷ*, *kʕaxʷá* 'YELL, HOLLER'. Mattina comments that this root might actually be *ʕxʷ* with a prefix *k*, rather than unitary *kʕxʷ*. The Montana Salish cognate is *ćoš*; I have not heard a pharyngeal in this root, but the unstressed *o* must be the result of a syllabified pharyngeal, either synchronically or diachronically. The spelling of the Kalispel cognate suggests that the original pharyngeal may still be present in that dialect, but Carlson & Flett do not transcribe a pharyngeal in this root in Spokane.

(13) a. MSa: *ćoším* 'yell', *es-ćoš-mí* 'he's yelling'.

b. Kal: *ćoóš* 'to holler', *ćin esćo:šəmí* 'I holler'.

c. Sp: *ćoším* 'he shouted'.

d. Cv: *kaʕxʷám* 'yell, holler'.

The *o* vowel in Montana Salish, Kalispel, and Spokane suggests that the original pharyngeal was labialized. If it was, then it looks as if labialization has spread to the following velar fricative in Colville, with (subsequent?) dissimilatory delabialization of the pharyngeal. The phonological picture is not entirely clear, however, because an underlying /u/ in Montana Salish (which would automatically lower to [o] next to a pharyngeal) could have conditioned labialization of a neighboring pharyngeal, and in that case the original pharyngeal might have been nonlabialized, as it is in Colville; in that case there would be no visible environment to condition labialization of an original velar fricative in Colville. But since

delabialization of a velar fricative in Montana Salish is unlikely, the Proto-(Interior) Salish velar fricative in this root was probably nonlabialized regardless of the nature of the original pharyngeal fricative,

4.3. THE ROOT *mɬʔ* 'SUNFLOWER, BALSAMROOT'?. The Montana Salish root has been transcribed (not by me) with a consonant sequence *-tć-*, but this needs to be checked, because the Spokane and Thompson cognates have the reverse order for the corresponding segments:

(14) a. MSa: *mtćẇ=é* 'balsamroot (*Balsamorhiza sagittata* [Pursh] Nutt.), sunflower (plant)' (the lexical suffix may be a shortened form of *=ćłp* 'tree, plant', but there is no way to be sure, because no long form is attested).

b. Sp: *s-mećtu?* 'sunflower seeds' .

c. Cv: *s-múɬa?=xn* 'sunflower; balsamroot (*Balsamorhiza sagittata*)' (the lexical suffix means 'foot'), *s-mɬa?=xn=ílp* 'balsamroot plant'.

d. Th: *míktu?* 'balsamroot flour (made from seeds of balsamroot, wild sunflower)'.

The *-t-* in three of the forms may be an innovation or it may have been lost in Colville, and, as noted above, its position needs to be checked in Montana Salish. It is fairly easy to account for secondary labialization of an original plain velar stop in Colville once a rounded vocoid appears in the environment of the velar, whether or not the juxtaposition is ancient. Positing an original plain velar is simpler than positing an original labialized velar with delabialization in the other languages, because at least two delabializing changes would be needed; and in addition there is no visible conditioning factor that might promote delabialization.

5. CONCLUSION. No general conclusions about the developments discussed in this paper suggest themselves: all the changes are irregular, sometimes with and sometimes without plausible conditioning factors present. Two points are worth mentioning, however. First, there are two morphemes in which Montana Salish and Kalispel are like each other and unlike Spokane (*kʷɬ* vs. *ćɬ* in §3.2 and *ɬáq* vs. *ɬéć/ɬáq* in §3.9), and none in which Spokane groups with one of the other two dialects in opposition to the third. It would be worth checking further to see whether other evidence indicates closer links between Montana Salish and Kalispel, with Spokane somewhat more distant from both of them.

Second, irregular labialization of plain velars, at least, is not unique to Montana Salish, as the examples in §4 (and see also fn. 13) show. Changes from velars to uvulars may also occur elsewhere in the family, and there is of course also the possibility—as some of the discussions above make clear—of changes in the opposite direction, delabialization and/or uvular-to-velar changes.

One possible case of velar variation arising already in Proto-Salishan is the lexical suffix doublet *=míš/=míxʷ* 'person'. As Kinkade observes (1993:164), both forms must be reconstructed for Proto-Salishan, because a number of the modern languages have reflexes of both; typical examples are Montana Salish *s-ɬíć=míš* : Colville *s-ɬa?k'=míx* 'virgin' and Montana Salish *il=míxʷ-m* : Colville *ylmíxʷ-m* 'chief' (Mattina analyzes *míxʷ* as part of the root, but

Kinkade 1993 convincingly analyzes this word as having the suffix *=míx*ʷ). As with some of the examples discussed above, there is no visible reason why an original *=*míx* should develop an allomorph *=*míx*ʷ, with subsequent analogic spread of the new variant and then a morphological split into separate morphemes, or vice versa. However, a word-final consonant will sometimes be followed by a rounded segment—for instance, in Montana Salish, the clause connector *u* 'and, but'—so that conditioning environments for labialization would certainly have been present in some utterances. I do not suggest that any such explanation for the existence of two separate suffixes with similar forms and identical meanings can be established, now or in the future. My point, rather, is that the possibility should be considered in this and other cases of morphemes that differ only in labialization; and, more generally, it is worth comparing cognates within Salishan to see just how widespread the phenomena of sporadic labialization and uvular/velar mismatches might be.

Footnotes

[1] Language names are abbreviated as follows in this paper: Col = Columbian, Cv = Colville-Okanagan, Kal = Kalispel, MSa = Montana Salish, Sp = Spokane, Th = Thompson.

[2] Mengarini et al. 1877-79 is the Jesuit dictionary traditionally cited as Giorda 1877-79; see Thomason et al. 1994 for arguments in support of crediting Gregory Mengarini with first authorship. Since 1994 I have found another early source, Palladino 1922 (first edition 1894), that supports the revised authorship we proposed. The quotations below from Palladino's book provide a direct link between Mengarini's initial dictionary draft, which was written at St. Mary's Mission in the Bitterroot, with the dictionary printed later at St. Ignatius Mission: 'Father Mengarini prepared also an Indian-English Dictionary of the same language, to which due reference will be made when speaking of St Ignatius, where it was printed' (p. 79); 'At St. Ignatius there is also a well-equipped printing plant of which the School has reason to be proud, especially since here was brought out an octavo of 1,100 pages....The volume is a complete dictionary of the Selish or Kalispel language spoken by the Flat Heads and several other Indian tribes west of the Rocky Mountains, and is divided into two parts, Indian-English and English-Indian. It took from 1876 to 1879 to print the work' (p. 161).

[3] This apparent replacement of an earlier nonlabialized dorsal by a labialized velar is a bit puzzling, however, because Montana Salish does have several oldish loanwords with plain *k*. Most of them are originally from French, possibly by way of Chinook Jargon; examples are *kapí* 'coffee' and *lkepú* 'coat'. It may be that the difference between *yesuklí* and *yesukʷlí* reflects an earlier dialect difference rather than a change after ca. 1877.

[4] The general phenomenon of applying correspondence rules in borrowing is well known in the language-contact literature (see, for example, the discussion of 'borrowing routines' in Heath 1989), and it can be illustrated from languages of the Northwest, where multilingualism has long been common. One regional example is the Chinook Jargon word *latáb* 'table', originally from French *la table*. This word has been borrowed into many Northwest languages, usually as *latáp* (e.g. in Colville) but sometimes as *latám* (e.g. in Upper Chehalis—Kinkade 1991:59). Why the nasal? The reason seems to be that Upper Chehalis speakers (among others) did not borrow the word directly from Chinook Jargon, but instead adopted it from another language that had previously borrowed it—namely, one of the several coastal languages

in which nasals had changed into voiced oral stops. Speakers of the nasalless languages borrowed *latáb* with its final voiced stop intact; and speakers of neighboring languages, who had nasals but no voiced oral stops natively, would then have applied a correspondence rule ("their *b* equals our *m*") in adapting the word to their own phonological structure.

Montana Salish speakers certainly participate(d) in the multilingualism so common in the region. The elders say that when they were young many of the old-timers spoke French, and some spoke Kutenai. They also list other languages that are "very similar" to their own, so close that they can understand them—including Spokane, Coeur d'Alene, and Nez Perce. But although they would understand much Spokane and probably some Coeur d'Alene without prior exposure to them, only bilingualism (and cultural ties) can explain their view that the unrelated language Nez Perce is very similar to Salish. Evidence of the diffusion of words among the various tribes can also be found; for example, Teit & Boas (1927-28:352) make the following comment about words for 'horse': 'The Kalispel and Colville always called horses by the common term for dogs when they were first introduced. Later they adopted the name common to nearly all the Salish tribes for "horse", which is related to a common word for "dog".'

[5] There could of course be such evidence in older sources, especially Mengarini et al. 1877-79. But so far I have found no examples of unsuccessful innovations in the dictionary.

[6] The distribution of these allomorphs may actually be more complicated. I have one example with [qɬ] before *s*: *qɬsisiyus* 'may be(come) smart', where the first *s* is not a prefix but rather part of the reduplicated root. If this example is genuine—as it probably is, since it comes from a spontaneous narrative text—then the status of a following *s* must be taken into account in predicting which allomorph of the irrealis morpheme will appear. Given that its distribution is already morphologically determined in part, this wouldn't be a particularly surprising complication.

[7] In morpheme-by-morpheme glosses, lexical suffixes are indicated by a preceding =; other affixes are marked with -. The following abbreviations are used for grammatical terms in the examples: CONT = continuative, DER.TRANS = derived transitive, FUT = future, INST = instrument, INTR = intransitive, NOM = nominalizer, pl = plural, POSS = possessive, REDUP = reduplicative, sg = singular, STATV = stative, SUBJ = subject, TRANS = transitive.

Example words are only partially analyzed here, however; morpheme boundaries that are not relevant to the discussion are generally not indicated, and not all morphemes are glossed even when boundaries are put in to isolate a morpheme under discussion.

[8] The Thompson form suggests that the *ɬ* of the Southern Interior languages may be a connective rather than part of the irrealis morpheme per se; in Montana Salish, at least, *ɬ* often serves this function. However, Upper Chehalis has a particle *ɬ* 'unrealized future', which makes it seem more likely that the fricative does belong to the Montana Salish irrealis morpheme.

[9] One other grammatical morpheme should also be mentioned here, though its variation is more complex and even more puzzling. The 1pl proclitic *qe(ʔ)* 'we, us, our' has an allomorph *qʷo* in Montana Salish, with no clear conditioning factors of any kind. I have one (naturally-occurring) sentence in which the same speaker uses both forms, but there may nevertheless be a dialect difference within Montana Salish: spontaneous narratives from two Pend d'Oreille elders, Pete Beaverhead and Mitch Smallsalmon, have only *qe(ʔ)*, while the

spontaneous utterances of Harriet Whitworth, a Bitterroot Salish elder, have mostly *q̓ʷo*. The only Colville cognate form is *k̓ʷu*; this is homophonous with the 1sg object proclitic in Colville, matching one of the two Montana Salish variants, *k̓ʷu*. But Montana Salish also has a variant *q̓ʷo* for the 1sg object, and in this case it seems somewhat less likely that dialect differentiation can account for the variation: both Pend d'Oreille and Bitterroot Salish speakers use both variants, at least sometimes. (Dialect borrowing, of course, is a distinct possibility, especially since the two dialects now differ in relatively few features.)

[10] Carlson & Flett treat the two forms as separate roots, however.

[11] Mattina (1987:174) treats *sk̓ʷút* as the root, rather than as a root *k̓ʷút* preceded by the nominalizing prefix *s-*. Similarly, Mengarini et al. list the entire word *schut* (*sc̓út*) as a root. This analysis clears up some oddities in derivatives from the root, but it may create others, at least for Montana Salish. My current analysis, like Carlson& Flett's for Spokane, segments off the *s-*.

[12] In Montana Salish, unstressed vowels generally disappear. The major exceptions are *e*, which often remains even in unstressed positions; *i* and *u* when they are syllabified from underlying /y/ and /w/; *a* and *o* when they are syllabified from an underlying (or, in some cases, etymological) pharyngeal, nonlabialized or labialized, respectively; and *i* when it results from the rule that changes /n/ or /m/ to [i] before *s* and sometimes before other fricatives as well (this rule is morphologized, occurring even when certain *s*-less morphemes intervene between the nasal and the triggering *s*). Other unstressed vowels sometimes surface as [ə] or, especially after nonlabialized or labialized uvulars, as [a] or [o].

[13] An example that won't be discussed in this section (because I don't have Kuipers 1974 or Kuipers 1983 at hand to check the details in) is Shuswap *x̓ʷəx̓ʷwéɬ* 'trail', which corresponds to a form with an initial cluster of a nonlabialized velar or alveopalatal + /w/ and/or /w'/ in many other Salishan languages: compare Montana Salish *śuśẇél/śuśwéɬ* 'road, trail', Colville *xwíɬ*, Columbian *xəwál*, Thompson *xẇéɬ/xwéɬ*, and Upper Chehalis *śəwil, śəwɬ*. In this case, as in §4.3 below, a sequence plain velar + /w/ (or /w'/) has coalesced into a labialized velar.

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