Irregular dorsal developments in Montana Salish

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1. INTRODUCTION. Montana Salish (also known as Salish-Pend d'Oreille, formerly known as Flathead) is the easternmost of the twenty-three Salishan languages.[1] It is part of a dialect continuum that also includes Spokane and Kalispel, both spoken in eastern Washington state. In Montana Salish, as in most other Salishan languages, the Proto-Salish nonlabialized velar obstruents **k*, **k'*, and **x* regularly changed into alveopalatals, respectively *č, č',* and *š*. Many correspondence sets can be adduced to illustrate this change; a few examples are given in Table 1, where Colville-Okanagan—which, like Montana Salish (MSa), belongs to the Southern Interior branch of the family—represents nonpalatalizing languages. The Proto-Salish (PS) forms in Table 1 are from Kuipers 2002; parentheses indicate partial cognacy and/or semantic non-identity.[2]

a. MSa	*čélš*	:	Cv	*kílx*	'hand'	PS **kalax*
b. MSa	*isčéw*	:	Cv	*nskíw*	'sister-in-law'[3]	(PS **kiw*)
c. MSa	*ckwín'č*	:	Cv	*ckwín'k*	'bow (and arrow)'	(PS **cək*^{w}, **=ín'ak*)
d. MSa	*č'éye?*	:	Cv	*k'íya?*	'dead tree'	(PS **k'ay'*)
e. MSa	*snč'l'é*	:	Cv	*snk'l'íp*	'coyote'	PS **s-n-k'əl=ap*
f. MSa	*níčč'*	:	Cv	*ník'k'*	'it gets cut'	PS **nik'*-[4]
g. MSa	*ši?mí*	:	Cv	*xi?míx*	'any (kind of)'	—
h. MSa	*šlšált*	:	Cv	*xrxárt*	'steep'	—
i. MSa	*suméš*	:	Cv	*sumíx*	'guardian spirit'	(? PS **=mix*^{w}, **=mix*)

TABLE 1. Regular alveopalatal reflexes of Proto-Salish velars in Montana Salish

In several morphemes, however, Proto-Salish or Proto-Interior Salish (PIS) nonlabialized velars turn up in Montana Salish as labialized velars or uvulars instead of the expected alveopalatals. In at least one morpheme, moreover, Montana Salish may have an alveopalatal reflex of an original labialized velar. Below I will examine examples of irregular changes in Montana Salish involving velars and other dorsal consonants and offer suggestions, where possible, about how the deviant developments might have come about.

This paper is exploratory in nature. It is not meant as an exhaustive study of irregular changes involving velars even in Montana Salish, because I have compared Montana Salish forms systematically to forms in just one nonpalatalizing Salishan language, Colville-Okanagan (primarily as documented in Mattina 1987). A broader comparison between Montana Salish and other languages would certainly turn up more velar mismatches; see Kuipers (2002:6-7). I have checked the forms in which there are mismatches between Montana Salish and Colville-Okanagan in certain other nonpalatalizing languages as well, especially Thompson River Salish (or Thompson, for short; Thompson & Thompson 1996), a Northern Interior language; I have also checked these forms in the other two major members of the dialect

continuum to which Montana Salish belongs, Spokane and Kalispel (as represented in Carlson & Flett 1989 and Vogt 1940, respectively). Besides Montana Salish data gathered from works produced by the Salish & Pend d'Oreille Culture Committee and from my fieldwork with elders, I have made extensive use of Mengarini et al. 1877-79.[5] Note too that this is not the first effort to sort out irregular developments in Salishan velars: Kinkade 1973 is an analysis of surprising velar developments in Cowlitz Salish, in which palatalization of Proto-Salish plain velars occurred before *i and before a uvular in the same morpheme but was blocked when an s appeared in the same morpheme. There is no parallelism, however, between the Cowlitz pattern and the irregular Montana Salish changes.

After discussing some possible ways in which irregular reflexes of original velars might have arisen (§2), I will examine Montana Salish morphemes that do, or may, contain such reflexes (§3). In the concluding section (§4) I discuss briefly the broader implications of these results, both for the history of the Salishan family and for the theoretical elucidation of phonological change.

2. Some alternations involving velars. Before we look at the unexpected velar developments themselves, it will be useful to exemplify several synchronic alternations that may help to explain some of the irregular changes. First, in a number of Salishan languages labialized and nonlabialized dorsals are neutralized in certain positions, usually before a rounded vocoid (/u o w w' ʕ^w ʕ^w'/). In Montana Salish a labialized segment appears in the position of neutralization; this is not a regular morphophonemic rule but is sporadic, confined to particular morphemes. This phenomenon can only be illustrated with uvulars in MSa because, thanks to the regular change from nonlabialized velars to alveopalatals, there are no plain velars to which the rule could apply. Thus plain uvulars are (sometimes) labialized at a morpheme boundary before a rounded vocoid. Compare, for instance, *tl'q–nt–én* 'I kicked him' and *n–tl'q^w=óps–i–s* 'she kicked him in the rear end', both from the root *tl'q*

'kick'; the second form contains the lexical suffix =*úps* 'tail, bottom', with a lowered vowel due to the preceding uvular stop. This type of alternation occurs elsewhere in Salishan as well, and in nonpalatalizing languages it involves velars as well as uvulars. So, for instance, Thompson has *k'éx–m* 'dry something' vs. *k'ex^{w}=úse?* 'dried berries' (the lexical suffix means 'berry'; see Thompson & Thompson 1996:102 and the discussion in §3.8 below). In Cowlitz, a member of the Tsamosan branch of the family, the alternation is regular (Kinkade 1973:229), with only labialized velars occurring before *u*.

Second, Montana Salish labialized velars occasionally alternate with labialized uvulars in the neighborhood of a uvular consonant. The following two words, for instance, both contain the root *nk^{w}'ú?* 'one': *nk^{w}'u?–lúk^{w}'* 'yardstick' (a compound with *lúk^{w}* 'wood') vs. *nq^{w}'o?=qín* 'one hundred' (with the lexical suffix =*qín* 'head' added to 'one'). Another example is the word for a bitter drink, *n–táx̣=q^{w}*, in which the lexical suffix =*étk^{w}* 'liquid' surfaces, in an abbreviated variant, with uvular *q^{w}* rather than velar *k^{w}* because of the preceding uvular fricative in the root *táx̣* 'bitter'.[6]

Like the labialization of plain dorsals before rounded segments, the velar-to-uvular assimilation process is sporadic rather than regular, but it may ultimately be connected indirectly with a striking feature of Montana Salish root structure. My dictionary files contain only one rather dubious root with both a uvular and an alveopalatal consonant (*čcax̣* 'hurt, sick'; see §3.6 below) and only six roots with both a uvular and a velar consonant, all of them beginning with a uvular and ending in *x^{w}*: *qéyx^{w}* 'chase, whip'; *q'l'x^{w}* 'hook'; *q'ex^{w}* 'proud' (PIS **q'əx^{w}*—Kuipers 2002:181); *q'x^{w}* 'bloated, constipated'; *q'ep'x^{w}=e?* 'nut' (PS **q'ap'x̣^{w}/x^{w}* 'hazelnut', where only Southern Interior Salish languages have the velar alternant—Kuipers 2002:89); and *x̣léx^{w}* 'tooth'. In other words, in Montana Salish—both in its current form and before the palatalization of velars—the juxtaposition of velars and uvulars is clearly dispreferred. The same is true of Columbian, another Southern Interior Salishan language

(Dale Kinkade, personal communication, 1996).[7] This pattern may be widespread in Salishan more generally: Kuipers' *Salish etymological dictionary* (2002) has only eight roots with both a velar and a uvular. Two of these, PS *k^w'aq'-t* 'scream, bellow, weep' and PIS *s-q'ax^w* 'a small owl', look onomatopoetic. Two others are animal names, which tend to be widely borrowed in the Northwest: PIS *q^w'a?k* 'a river fish (sucker, chub, squawfish)' and Proto-Coast Salish *k^wut$\dot{x}$* 'halibut'. The other four all end in x^w: PIS *q'əx^w* (as above); PS *q'ax^w* 'stiffen, harden'; PS *qənu/a(x^w)* 'throat', where the final velar fricative looks like an extension of some sort; and PS *q'ap'$\dot{x}^w$/x^w* 'hazelnut', as above.

Third, in some Salishan languages velars alternate with uvulars as a result of sound symbolism, perhaps ancient.[8] Kuipers (1981b:165) says that Proto-Salish had 'a velar (and plain) - uvular (and darkened/retracted) alternation, which had a symbolic value...', and Kuipers (1981a:325f.) cites several Proto-Salish forms that, he argues, show this sound-symbolic alternation pattern. Kuipers 2002 has four Proto-Salish roots and two Proto-Interior Salish roots with alternate velar and uvular onsets. Kuipers observes that 'the uvular form [has] the connotation *large, strong, loud*, etc.' (2002:6). Thompson & Thompson (1992:109) note that, in Thompson, k^w *:* q^w correspondences (among others) 'hint at some earlier sound symbolism system'. Moreover, a velar/uvular sound symbolic alternation—or, at least, a front dorsal/back dorsal alternation, because the back dorsals need not be as far back as the uvula—appears to be areal: Jacobs, discussing diminutive formations in Sahaptin (1931:136), observes that, in addition to reduplication, 'velar or back palatal consonants change to mid-palatal consonants' in diminutives; Aoki finds the same device in another Sahaptian language, Nez Perce, where velars change to uvulars in diminutives (1994:16-17). (Sahaptin is, or was, spoken in Oregon and neighboring parts of south-central Washington and Idaho; Nez Perce is, or was, spoken in Idaho.)

Finally, 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 *Yesuk^{w}lí* (MSa has no /r/); compare *Susukrí* in Columbian, a nonpalatalizing Southern Interior language, and *Jisohkrí* in Coeur d'Alene, a palatalizing Southern Interior language. This MSa 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*. (A labialized dorsal would be spelled in the Jesuits' dictionary as *ku* for k^{w} or *ko* for q^{w}, even before a consonant.) 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 modern 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 k^{w}"). Either strategy could produce a labialized velar in a loanword that had a plain velar in the lending language. Unfortunately, however, proving the existence of such a borrowing process for any of the cases discussed below ranges from difficult to impossible, because the words have no 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.

Nativization of foreign sounds in loanwords—that is, replacing them with native sounds that are perceived to be closest to the foreign sounds—is a well-known aspect of lexical borrowing, although predicting which native sound (or phoneme) will replace a given foreign sound is notoriously difficult. The general phenomenon of applying correspondence rules in borrowing is also well known in the language-contact literature (see, in particular, the discussion of 'borrowing routines' in Heath 1984:372-378), 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-

Okanagan) but occasionally as *latám* (e.g. in Upper Chehalis—Kinkade 1991:59). Why the nasal in *latám*? 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, from 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, which 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. Another example is the word for 'cranberry' (or, in Squamish and Thompson, 'high cranberry'), which Kinkade (1995:35) analyzes as a borrowing into Thompson from Chilliwack. The Coast Salishan languages Squamish and Chilliwack both have *l*'s in this word—Squa *kʷúʔkʷuwəl's*, Chi *kʷúkʷəls/kʷúkʷəwəls*—but Thompson has *n*: *kʷúkʷns*. Kinkade explains the change as follows: 'Recognizing that Chilliwack *l* was often derived from *n*, the Thompson form changed this consonant "back" to *n*, although the Squamish cognate shows that it actually derived from *l*.'

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 most of the very similar Spokane and probably much of the closely-related Coeur d'Alene without prior exposure to those languages, only bilingualism (and cultural ties) can explain their view that the unrelated language Nez Perce is very similar to Montana Salish. Evidence for 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-Okanagan 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".' The Montana Salish and Nez Perce tribes have long had close cultural contacts, including intermarriage, and lexical borrowing has gone in both directions, though primarily from Salish to Nez Perce; some of the loanwords are old and are shared by other Southern Interior Salishan languages and other languages of the Molalla-Sahaptian family (Pharris & Thomason 2005).

However the irregular variants arose in each particular case, the subsequent history of all but the borrowing scenario must have involved analogic spread beyond the original conditioning environment 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, the English past-tense forms *hung* and *hanged*, with semantic differentiation, and the past-tense forms *dove* and *dived*, which are semantically identical); or the irregular variant disappeared, in which case there is no evidence that it ever existed.[9] The first two outcomes are exemplified in the examples in the next section.

3. Montana Salish morphemes with irregular velar developments. Two of the nine examples discussed in this section are prefixes; the rest are roots. In a few 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 does mean that, after the fact, none can be determined.

3.1. The prefix *q(ɬ)-* '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-*; the long variant *qɬ-* occurs elsewhere.[10] Typical Montana Salish examples are given in 1.

(1) a. a-qɬ-nóx̣^{w}nx̣^{w} 'your wife-to-be'
(lit. '2sg.poss-irrealis-wife')

b. *qe qɬ-q'ex^{w}mscútn* 'we'll show off'
(lit. 'we irrealis-show.off')

c. *ta qe q-s-cú?ca ax̣lá* 'We won't swim every day'
(lit. 'not we irrealis-nom-swim every.day')

d. *Tam esnté q-eɬ-es-x^{w}stú* 'He didn't want to walk back'
(lit. 'not he.wanted irrealis-back-statv-walk').

This same irrealis prefix, with the same allomorphs, also appears in Kalispel and Spokane. But the cognate Colville-Okanagan prefix *kɬ-* 'unrealized aspect' has a velar stop, not a uvular stop, and the same is true of the Columbian cognate *kaɬ-* 'unrealized' (Dale Kinkade, personal communication, 1996). Moreover, the Coeur d'Alene cognate prefix *čeɬ-* shows the expected palatalized reflex of a velar.[11] Lillooet, which belongs to the Northern Interior branch of the family, has (-)*kəɬ* 'remote future, possibility' (Kinkade 1996), and the Thompson particle *kə* 'unrealized (to be established in the future...)' also appears to be partially cognate.[12]

There are two obvious historical possibilities: either Montana Salish and its sister dialects replaced an original **k* with **q* in this morpheme, or the other five languages replaced **q* with **k*. A third possibility, that the velar and uvular forms are etymologically unconnected, is unlikely, given the close semantic and morphological match. Vogt mentions a Kalispel

alternation that seems at first glance to point to an original uvular (1940:19): he says that the *q* of this prefix 'is differentiated to [k] by the labials of the personal prefixes *ku-* [= MSa *k^{w}u* 'me'] and *k^w-* ['you (2sg.intr.subj.)'] and of the particle *ɬu*.' I have not observed such an alternation in Montana Salish. The conditioning environment claimed by Vogt is a bit surprising, 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-Okanagan, Columbian, Coeur d'Alene, Lillooet, and Thompson could be accounted for by positing a process of allomorphic leveling in favor of the velar. 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/č*, 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 Salish 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 five of the 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-Okanagan, Coeur d'Alene, and Columbian prefix) and once in Northern Interior (for Lillooet and 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.

On the basis of the Interior Salishan data, therefore, it seems more likely that the mor-

pheme originally had a velar stop, not a uvular stop. On this hypothesis, only a single change is required, in the immediate ancestor of Montana Salish, Kalispel, and Spokane (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 a possibly dialectal variant of the 1sg object particle 'me', *qwo* (the other variant is *kwu*). Once the uvular variant of the irrealis prefix arose, it eventually replaced the original velar variant completely—probably, though not necessarily, before the palatalization change occurred.

There is another complication, however. At least three Salishan languages outside the Interior branch of the family have a uvular stop in what looks very much like a cognate morpheme—the Coast Salishan languages Squamish (*q* 'irreal') and Clallam (*q(-)ɬ* 'conditional'), and the Tsamosan language Upper Chehalis (*q'aɬ* 'subjunctive'). If these forms are factored into the equation, the balance might be tipped toward a Proto-Salish uvular stop. But if this is the case, then either the velars in Thompson, Lillooet, Colville-Okanagan, Columbian, and (pre-)Coeur d'Alene reflect independent, and unexplained, changes—not an attractive option—or the original uvular changed to a velar in Proto-Interior Salish, with a single later change to a uvular in the immediate ancestor of Montana Salish, Kalispel, and Spokane. So even if Proto-Salish had a uvular in this morpheme, it seems most likely that it became a velar in Proto-Interior Salish.

3.2. The locative prefix *kʷ'ɬ-* 'under'. This prefix is matched by *kʷ'əɬ-*, which occurs in Kalispel and in the Northern Interior language Shuswap; but Spokane has *č'ɬ-*

instead. The Spokane form, together with Colville-Okanagan *k'ɬ-* and the apparently related Columbian prefixes *kɬ-* 'on the (lower) side' and *k'ɬ-* 'away from, at a distance', points to an original nonlabialized velar, at least in Southern Interior Salish. 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. However, the labialized velar in Shuswap means that at least two independent changes must be posited in any case, so the evidence is not strong either way. Examples are given in 2.

(2) a. MSa: *k^w'ɬ-išút* 'it's under(neath)', *c-k^w'ɬ-čí* 'arrive here' (with *c-* 'hither')

b. Kal: *k^w'əɬ-číc* 'arrive'

c. Sp: *č'ɬ-išút* 'it's under'

d. Cv: *k'ɬ-ix^wút* 'what's underground'

e. Cm: *c-k'ɬ-kícəm* 'arrive here'

f. Sh: *k^w'əɬ-k'émt* '(space) under'

As with *qɬ-*, no firm source for an irregular development of MSa *k'wɬ-* 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 2a), and it often occurs before a labialized segment, as in *čn k^w'ɬ-x^wíst l esc'lc'íl* 'I walked under the trees' (lit. '1sg under-walk LOC trees') and *k^w'ɬ-$x̣^w$élsts* '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 analogic 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 in Southern Interior Salish, the particle *x̣ʷl'*:

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

b. Sp: *x̣ʷl'* 'for'; *x̣ʷl' stém'* 'why?'

c. Cv: *x̣l* 'for'; *x̣əl stim'* 'why?'

The parallelism between the grammatical morphemes for '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 in 'under' in Montana Salish, whatever it is, may also apply to the labialization in 'for'.

3.3. The root doublet *p'ílč'/p'úlkʷ'* 'turn'. These two root forms differ in their root vowels, in their final consonants, and in their stress patterns (the first variant has weak stress, the second has strong stress). As in other palatalizing languages, the *č'* variant should come from PS **k'*, while the *kʷ'* variant should reflect a PS **kʷ'*. Analogous variants in several other Interior Salishan languages 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 to be a reasonable analysis in Montana Salish too, especially in view of the intersecting cognate constructions in Coeur d'Alene, Colville-Okanagan, and Thompson. Coeur d'Alene apparently has three different root forms, two that share final *č'* but have different root vowels and one with *ú* and final *kʷ'*, as in Montana Salish; the meanings seem to match those of the Montana Salish doublets. Colville-Okanagan has just one root *p'lak'* 'turn', always with a nonlabialized velar. Thompson has two different roots, both with nonlabialized final dorsal stops—*p'ik'* 'roll' and *p'iq'* 'turn'; it is the uvular-final root that has clear cognates with Colville-Okanagan and Montana Salish constructions (though not precisely in the root form itself). The presence of a uvular in the Thompson root is perhaps explained by the Proto-Salish variation in **p'əlk'/q'* (Kuipers 2002:79): both

variants occur in both Coast and Interior Salishan, occasionally in the same language and usually with semantic differentiation. Moreover, occasional variants with labialization also occur in Coast as well as in Interior Salishan. For Southern Interior Salishan, at least, almost all the variation concerns plain vs. labialized velars, not uvulars.[13] The Columbian forms reflect the same distinction we see in Montana Salish, Spokane, and Coeur d'Alene, an (original) nonlabialized velar in one and a labialized velar in the other, and with the same semantic distinction. The remaining languages, like Colville-Okanagan and Thompson, have only a nonlabialized root.

(4) a. MSa: *p'lč'úsm* 'turn around' (lit. 'turn one's face around', with the lexical suffix =*ús* 'face, fire'); *p'lč'mncú* 'turn around' (lit. 'turn oneself around', with the reflexive suffix -*cú(t)*); *p'lč'mstén* 'I turned it over'; *č-p'lk^{w}'=íc'ej* 'wrap' (lit. 'to-turn=cover'); *p'úlk^{w}'ntx^{w}* 'you fold it (over the stick)'

b. Sp: *č-p'lk^{w}'=íc'je-n* 'I wrapped it'; *p'lč'mstén* 'I turned it over'; *p'úlk^{w}'ntm* 'somebody rolled it up'

c. Cv: *p'lk'úsəm* 'turn around'; *p'lk'məncút* 'turn to something'; *k-p'lk'=íc'aj* 'roll, wrap'; *p'əlk'mstím* 'turn, roll something over'

d. Cm: *p'əlk'-* 'turn over, turn around'; *p'úlk^{w}'-ən* 'I fold it'

e. CdA: *p'ilč'* 'turn round objects'; *p'elč'* 'turn flat thing over', *pulk^{w}'* 'fold sheetlike object'

f. Th: *p'iq'úsm* 'turn around to go back'

g. Sh: *p'lk'em* 'roll something over'; *p'úlk^{w}'* 'fold'

h. Se: *p'ə́lč'-* 'be turned over'; *sp'əlíq^{w}'* 'twisted'; *sp'əlik^{w}* 'ball-shaped'

i. UChe: *p'ə*lč'-* 'turn over'

j. Squa: *p'láč'-m* (*snəx^{w}iɬ*) 'canoe with heart of cedar at bottom' (lit. 'turnover canoe')

As the examples suggest, there is some semantic differentiation. For instance, within Montana Salish (and also Spokane) the forms with *č'* are used especially for something that turns itself around, while the forms with *k^{w}'* are used for turning something else around, especially folding or rolling some object up. This differentiation is not complete, however, as the *č'* 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, but see fn. 13):

(5) a. MSa: *p'l'-p'l'č'-mí-m* 'she's turning it [the meat] over and over [over the fire]' ('REDUP-turn-DER.TRANS.-TRANS.CONT.3sg').

b. MSa: *m p'l'q^{w}'=ós-m-st-x^{w}* 'you'll turn it [the meat] over and over [over the fire]' ('FUT turn=fire-DER.TRANS-TRANS-2sg.TRANS.SUBJ'; the lexical suffix is *=ús* 'face, fire').

The simplest way of accounting for the *p'lč'/púlk^{w}'* doublet is to posit an original **k'* in the root, both because two of the four nonpalatalizing languages (Colville-Okanagan and Thompson) lack labialized variants and because conditioned delabialization of an original **k^{w}'* would be improbable in Montana Salish before a rounded vowel, as in *p'lč'úsm* 'turn around'. Two possible conditioning factors for labialization of an original plain velar are suggested by the examples. First, the Montana Salish variant *p'úlk^{w}'* has a stressed rounded vowel, which (if original) 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 *p'lč'úsm* and *p'l'q^{w}'ósmstx^{w}* shows. The former environment might not have existed in PIS, because the vocalism of Colville-Okanagan *p'lak'* 'turn' and Coeur d'Alene *p'elč'* 'turn flat thing over' doesn't match that of Montana Salish *p'úlk^{w}'*; however, Columbian has the same vowel as Montana Salish. If the original PIS root did have a stressed rounded vowel, then the currently available modern data, in which the alveopalatal variant occurs primarily unstressed, would make it tempting to suggest that most of the *č'* variants left unlabialized were those in unstressed contexts, i.e. with no preceding rounded segment: unstressed vowels in MSa (and frequently in other Salishan languages as well) are usually deleted. The later analogic extension of a labialized variant to some unstressed contexts would be unsurprising, especially once the semantic differentiation set in. Since the Colville-Okanagan form *p'ələk'mstím* in 4c suggests that the root originally had weak stress, however, this explanation will work only if Montana Salish and its sister dialects, and also

Columbian, had developed a strong-stress variant (with *ú*) before the sporadic labialization change and before the regular palatalization change.

Note that identical formations, with different glosses, occur both in the modern language and in Mengarini et al. 1877-79: modern *esp'ílč'* 'it's turned over, it's upside down' (cf. (Mengarini et al.'s *es-pilch* 'it is turned over') vs. modern *esp'úlk^{w}'* 'it's rolled up, all twisted up (in a circle)' (cf. Mengarini et al.'s *es-pólko* 'it is wrapped around (referring to the wrapper, not to the object wrapped)', and cf. 5b). These identical patterns, together with the matching Spokane forms, show that the variation is old within the Montana Salish-Kalispel-Spokane dialect complex.

3.4. The root doublet *č'út/q^{w}'ót* 'half'/'across'. Like *p'lč'/p'úlk^{w}'*, this pair of forms differs in more than one phonological feature. Here the vocalism is the same in both, allowing for the automatic lowering of *u* to *o* after a uvular, but the initial consonants don't fit etymologically: *č'* should derive from an original velar stop, not a uvular stop. The meanings, though not identical, are 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 meanings as the two Montana Salish/Kalispel variants. But since Spokane has a labialized velar instead of a labialized uvular in the second variant,[14] and since Colville-Okanagan has only a labialized velar form with both meanings while Columbian has a labialized velar in the meaning 'half', it seems reasonable to analyze the two forms in Montana Salish as belonging to a single root morpheme. This fits the PS analysis in Kuipers 2002, where **q^{w}'uʔ* (with added *-t* in Interior Salishan) is glossed as '(other) side, half, companion' (94). Kuipers also says that Proto-Southern Interior Salish (PSIS) had **k^{w}'ut*—which, however, doesn't account either for the initial *č'* in some forms or for the final *q^{w}'* in others.

(6) a. MSa: *s-č'út* 'half'; *s-č't=éłc'eʔ* 'side' (with *=éłc'eʔ* 'body'); *s-č't-m=sqélix*^{w} 'half-breed' (with *=sqélix*^{w} 'person'); *nis-q*^{w}*'ót* 'across the river'

b. Kal: *č'út* 'half'; *s-č'ət-əm=sqélix*^{w} 'half-breed'; *nis-q*^{w}*'ú* 'the opposite side of a river'

c. Sp: *s-č'út-m* 'half'; *s-č't-m=sqélix*^{w} 'half-breed'; *č-s-k*^{w}*'t=éčst* 'one hand' (with *=éčst* 'hand')

d. Cv: *sk*^{w}*'út* 'one side, across, half'; *n-sk*^{w}*'t=ink* 'half the ribs'; *n-sk*^{w}*'út* 'across the river'[15]

e. Cm: *sə-k*^{w}*'t/s-k*^{w}*'út* 'half'

f. Th: *s-q*^{w}*'út* 'one, other side (of something), half'

g. Sh: *s-q*^{w}*'út* 'half'

It is simplest to posit a velar as the initial proto-language consonant in this root, at least for PSIS, because fewer changes are required to derive the modern forms from a velar than from **q'* or **q*^{w}*'*. And since the root vowel is rounded it is probably better to reconstruct a nonlabialized initial velar, with assimilatory labialization in some of the 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. They may be relics of the PS form, or they may be later developments within Montana Salish/Kalispel. Mengarini et al. have a form spelled *niskót*, which probably indicates a labialized uvular, although it could represent a glottalized labialized velar; a nonglottalized labialized 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 *q^{w}'ót* only in the construction *nisq^{w}'ót* 'across the river', though it may also be used in constructions like 'one hand', as in Spokane.

3.5. The root *x̣iq* 'rub'. Here there is only one possible doublet to complicate the picture in Montana Salish and its sister dialects, and Columbian also has two uvulars (though the second one is glottalized, unlike all the other cognates except the possible Clallam form). But the comparative picture is nevertheless puzzling, because both Colville-Okanagan and Thompson have initial and final velars in what is surely a cognate root, and Clallam has two labialized uvulars in a root that may be cognate.

(7) a. MSa: *x̣íq-n* 'I rubbed it'; ? *es-ščí-č=šn-i* 'he's shuffling'[16]

b. Kal: *x̣íq-n* 'I smear it'

c. Sp: *x̣íq* 'to rub; rasping or rubbing sound': *x̣íqn* 'I rubbed it'

d. Cm: *x̣íq'-* 'rub'

e. Cv: *xki-st* 'rub against something'; *c-xk-xk-ílx* 'make noise rubbing'; *n-xik-xk=cn* 'purple aster, Aster conspicuus' (lit. 'shuffling noise')

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

(g. Cl: *x^{w}íq^{w}'-* 'rub')

If Proto-Interior Salish had either two velars in this root or two uvulars, then—leaving aside the question of the dubious Clallam cognate—the odds are even on the available evidence. In each case two independent changes would be required: either two proto-language velars changed to uvulars independently in two Southern Interior languages—Columbian and the immediate ancestor of Montana Salish (mostly), Kalispel, and Spokane—or two proto-

language uvulars changed to velars independently in Northern Interior (for the Thompson root) and in Southern Interior (for Colville-Okanagan). 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, as the possible Clallam cognate would suggest, 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. The possible variation in MSa (that is, assuming that the 'shuffling' word is connected with *x̣íq*) would be a case of leveling in both directions, with semantic differentiation of the competing uvular and velar forms.

This proposal has the disadvantage of requiring changes in all the daughter languages—leveling in favor of the uvular in Montana Salish (mostly) and its sister dialects plus Columbian, and leveling in favor of the velar in Colville-Okanagan 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), but that situation does seem to obtain in other Salishan languages besides MSa. 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, a strong argument against a homogeneous root; there is no really clear phonetic motivation for any of the apparent velar/uvular alternations discussed in this paper, and this is to be expected if the alternations are sound-symbolic in origin.

3.6. The root *čcax̣* 'hurt, sick'. I have few examples with this root, and I have found clear cognate roots only in Colville-Okanagan and Columbian. I call *čcax̣* a root in spite of its unusual two-obstruent initial cluster—unusual because the canonical root form in MSa is CVC, with variants C(R)VC and CV(R)C, where R may be any resonant consonant. It is quite possible that the initial *č* is actually a prefix, historically if not synchronically; there

is a common locative prefix *č-* that has abstract as well as concrete functions.

(8) a. MSa: *es-čcaẋ=éls-i* 'hurting inside, sick (in one's mind)' (lit. 'STATV-hurt=feelings-INTR.CONT'); *čc'aẋʷélsi* 'sick in one's stomach (e.g. from heartburn)'

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

c. Cm: *kicx-* 'suffer'

The oddity here is not the first root consonant, which shows the expected correspondence—velar in Colville-Okanagan and Columbian, alveopalatal in Montana Salish. Rather, the problem is with the final fricative: it is velar in Colville-Okanagan and Columbian but varies between a plain uvular and a labialized uvular in Montana Salish, in the very same word. Another oddity is that the root *čcaẋ* seems to alternate with *čtaẋ*, as in *es-čtaẋ=éls-i* 'he's hurting, suffering'; and compare *čta?ẋéls* 'it aches, it hurts' in Spokane, which has no form that corresponds directly to Montana Salish *čcaẋéls*. The Spokane form fits with Proto-Salish **taẋ* 'wrong, bitter' (Kuipers 2002:107), which means 'sour, sharp to taste' in Spokane and Coeur d'Alene—a good semantic fit for 'heartburn'.

The Montana Salish word is phonologically peculiar in two other ways as well: one variant has a glottalized affricate *c'* instead of the expected *c* (as in the other variant and in Colville-Okanagan and Columbian), and both variants have an unexpected unstressed vowel.[17] The word needs to be rechecked, because at least once I thought I heard a pharyngeal fricative next to the root vowel. If there is one, it would 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 *c'* (in Montana Salish, etymological pharyngeals have sometimes been replaced by a glottal stop, which in turn may merge with a preceding

affricate). A pharyngeal might 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-Okanagan cognate has no pharyngeal, however, and with so little data it isn't possible to determine whether Colville-Okanagan lost a pharyngeal or Montana Salish added one. One might think it would be easier to explain the loss of a root-internal pharyngeal than the unmotivated addition of one, but Colville-Okanagan has what Mattina (1987) calls 'intrusive pharyngeals', and Montana Salish may have a similar phenomenon; so that's a possible source for an added pharyngeal consonant. In any case, this suggestion requires the presence of a pharyngeal, which isn't certain. If there is no pharyngeal in the Montana Salish root, I have no explanation for the velar/uvular mismatch between Montana Salish and Colville-Okanagan. 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 *l'áq* 'thin'. This root seems to come from an original velar in Proto-Southern Interior Salish, because the uvular stop appears only in the Montana Salish-Kalispel-Spokane dialect complex, and Spokane has a variant that reflects an earlier velar stop that underwent the regular palatalization change. The initial *l'* in this root is probably secondary; glottalization of resonant consonants is a regular part of the diminutive morpheme. The glottalization in Kalispel *q'* also looks secondary.

(9) a. MSa: *i ɬ-l'l'áq* 'it's thin' (*ɬ-* is a diminutive prefix); *sc-n-ɬl'ql'áq=lex*^{w} 'hot-cakes' (the lexical suffix means 'earth, ground')

b. Kal: *i ɬl'áq'* 'thin (of clothes, sheet, etc.)'

c. Sp: *l'l'éč* (*l'l'áq*) 'it's thin'; *n-l'l'éč=le?x*^{w} 'thin bread'.

d. CdA: *l'ɪl'íč* 'half'

e. Cm: *l'l'ák* 'thin' (pl *l'əkl'ák*)

The Spokane alveopalatal variant is the only surviving relic of the original velar consonant in the dialect complex. 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. There is no visible context that might promote retraction of an original velar stop. Sound symbolism is a reasonable explanation for this irregular change, given that the secondary glottalization of a resonant is often sound-symbolic in these languages.

3.8. The root *č'éx*^{w} 'dry'. The initial consonant of this root is not problematic, but the final consonant may be. Cognates exist in most (possibly all) of the Interior Salishan languages and also in some of the coastal languages. (Kuipers connects this root with Proto-Salish **k'ay'*, **k'ay'-x*^{w} 'dry out, wither' (2002:43-44), and he may well be right, but I won't discuss the possible connection here.)

(10) a. MSa: *č'éx^{w}-n* 'I dried it'

b. Sp: *č'éx^{w}-n* 'I dried it'

c. Cm: *k'x^{w}-íkn'* 'thirsty, very dry'

d. Th: *k'éx-m* 'dry something'; *k'ex^{w}=úsej* 'dried berries' (the lexical suffix means 'berry')

e. Sh: *k'ex-m* 'to dry meat'

f. Li: *k'ax* 'be dry'; *k'ax-ləx* 'dry oneself'

g. Squa: *č'iʔx^{w}, č'ix^{w}-* 'dry'

h. Tw: *č'iwʔəx* 'dry'

i. Chi: *c'éyx^{w}* 'dry'

Thompson & Thompson (1996:102) say that the labialized variant of the Thompson 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. Given the mix of labialized and nonlabialized root-final fricatives in the various 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 *yšú* 'LOW, BELOW'. This root has a labialized velar fricative in most Interior Salishan languages—at least in the Southern Interior languages Colville-Okanagan, Coeur d'Alene, and Columbian and the Northern Interior languages Shuswap and Lillooet—and in several Coast Salishan languages as well; Kuipers reconstructs the Proto-Salish root as **yəx*^{w} (with a variant **ləx*^{w}) 'to descend, drop' (2002:133). By contrast, the Montana Salish-Spokane-Kalispel forms and that of the Northern Interior language Thompson instead seem to reflect an original nonlabialized velar fricative:

(11) a. MSa: *k*^{w}*'ɬ-išú-t* 'under, beneath' (lit. 'under-low-STATV'); *n-išú-t* 'deep' (*n-* 'in'); *iš-ílš-m* 'he lowered (something)' (lit. 'low-MOTION-ANTIPASSIVE'); *n-iš-t=úlex*^{w} 'underground' (=*úlex*^{w} 'ground')

b. Kal: *ɬijšú ɬu cítx*^{w} 'the house is low' (lit. 'it's.low PARTICLE house'); *č-ən-iš-t=úle?x*^{w} 'inside of the earth, the underworld' (*č-* 'to')

c. Sp: *č'ɬ-išú-t* 'it's under'; *n-išú-t* 'it's deep'; *n-iš-t=úle?x*^{w} 'basement'

d. Cv: *yáx*^{w}*-t* 'dropped'; *nix*^{w}*út* 'inside'; *k'ɬ-ix*^{w}*-út* 'what's underground'; *n-ix*^{w}*-t=úla?x*^{w} 'below the ground, pit'

e. CdA: *dex*^{w} 'lower, descend, dismount'

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

g. Sh: *yux*^{w}- 'descend'

In the case of Colville-Okanagan, at least, the presence in several forms of a rounded vowel *u* after the fricative would make labialization of an original plain velar fricative a reasonable hypothesis (in which case the irregularity would be in the Colville-Okanagan development rather than in the nonlabialized velar reflexes). But the presence of *x*^{w} in most of the other languages, where (at least in the forms I have) there is no following rounded vowel, weakens any such hypothesis. The possibility that Montana Salish and its sister dialects

delabialized an original labialized fricative seems phonetically unmotivated—dissimilation before a rounded vowel is not reliably attested in any of these dialects, as far as I know—but I can think of no other explanation for a delabializing change. In any case, Thompson would presumably have to have undergone delabialization of this root independently, and this makes delabialization even less appealing: two independent changes with no visible motivation are even less likely than a single unmotivated change.

4. 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 (*kʷ'ɬ* vs. *č'ɬ* in §3.2 and *l'áq* vs. *l'éč/l'áq* in §3.7), and none in which Spokane groups with one of the other two dialects in opposition to the third. This is one of several pieces of evidence indicating a closer linkage between Montana Salish and Kalispel, with Spokane slightly more distant from both of them.

Second, as noted above, irregular labialization of plain velars and velar/uvular mismatches are not unique to Montana Salish. Kuipers (2002), for instance, discusses examples of both types (pp. 7 and 6, respectively); as we saw in §2, velar/uvular alternations have, or had, sound-symbolic value in a number of Salishan languages.

One possible case of labialized/nonlabialized velar variation arising already in Proto-Salish is the lexical suffix doublet *=míš/=míxʷ* 'person'. As Kinkade observes (1993:164), both forms must be reconstructed for Proto-Salish, because a number of the modern languages have reflexes of both; typical examples are Montana Salish *s-t'ič'=míš* : Colville-Okanagan *s-t'aʔk'=míx* 'virgin' and Montana Salish *il=míxʷ-m* : Colville-Okanagan *ylmíxʷ-m* 'chief' (Mattina analyzes *míxʷ* as part of the root, but Kinkade 1993 convincingly analyzes this word as having the suffix *=míxʷ*, at least etymologically). As with some of the exam-

ples 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.

From a broader historical perspective, paradoxically, the analysis of these irregular velar developments in Montana Salish and some of its sister languages may shed light on the nature of regular sound change. A crucial observation is that none of these irregularities involve uncompleted sound changes: there is no residue in Montana Salish of Proto-Salish nonlabialized velar obstruents. All the irregular developments resulted in sounds that already existed in both Proto-Salish and Montana Salish. The irregularities are therefore invisible until relevant MSa words are compared with cognates in closely-related languages. In some cases a plausible explanation for an irregular development can be suggested, but in no case can an explanation be established with any confidence.

Notes

[1] In his writings, in conversations, and in biweekly HistLing meetings at the University of Michigan, Rob Burling shows a lively interest in the kinds of small but intricate historical

puzzles that I tackle in this paper. Although the puzzles he investigates are found in languages on the other side of the world, I dedicate this paper to him in the hope that he'll find a Salish puzzle intriguing.

As always, I am most grateful to the Salish and Pend d'Oreille Culture Committee of the Confederated Salish and Kootenai Tribes, St. Ignatius, MT, for their collaboration and their generous support of my work on Montana Salish since 1981. My gratitude to the elders who have worked with me over the years is immense. I am also deeply indebted to the late Dale Kinkade, who provided many very helpful examples from his Columbian field notes and from Coeur d'Alene.

Names of Salishan languages are abbreviated as follows in this paper (with subclassification in parentheses): CdA = Coeur d'Alene (S. Interior), Chi = Chilliwack (Coast/Central), Cl = Clallam (Coast/Central), Cm = Columbian (S. Interior), Cv = Colville-Okanagan (S. Interior), Kal = Kalispel (S. Interior; dialect of the same language as MSa), MSa = Montana Salish (S. Interior), PIS = Proto-Interior Salish, PS = Proto-Salish, PSIS = Proto-Southern Interior Salish, Se = Sechelt (Coast/Central), Sh = Shuswap (N. Interior), Sp = Spokane (S. Interior; dialect of the same language as MSa), Squa = Squamish (Central/Coast), Th = Thompson River Salish (N. Interior), Tw = Twana (Coast/Central), UChe = Upper Chehalis (Tsamosan).

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, INTR = intransitive, NOM = nominalizer, pl = plural, POSS = possessive, REDUP = reduplicative, sg = singular, STATV = stative, SUBJ = subject, TRANS = transitive. Example words are only partially analyzed in this paper, 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.

[2] The comparative focus in this paper will be on those languages which are most closely related to Montana Salish, namely the other two dialects of the same language (Spokane and Kalispel) and the other three members of the Southern Interior branch of the family: Colville-Okanagan in particular (because it is a nonpalatalizing language, and because of the impressive size and quality of Mattina's 1987 dictionary), but also Coeur d'Alene and Columbian. Some attention will be given to the three Northern Interior Salishan languages (all of which are nonpalatalizing), especially Thompson and Shuswap; I have not checked this feature systematically in non-Interior Salishan languages, though a few examples are taken from various sources.

[3] The MSa form in this set looks at first glance as if it should be glossed 'my sister-in-law' rather than simply 'sister-in-law', because the initial *i-* is the expected allomorph of the 1sg possessive prefix /i(n)-/ 'my' before a stem-initial *s*. But the word has no 1sg prefix; 'my sister-in-law' is *in-isčéw* in MSa. Similarly, the initial *n* of the Cv cognate cannot be a possessive prefix. Mattina (1987) treats this word as monomorphemic in Cv, and it may be best treated that way in MSa as well, in spite of its apparent origin as a derivative of the root *čéw* 'extend, far'. The reason the initial *n* of the original stem appears as *i* in MSa is that MSa has a morphologized rule $n \rightarrow i$ before a stem-initial *s*.

[4] These MSa and CV forms are fully cognate; both have reduplication of the second root consonant. The first affricate in the MSa form is deglottalized by a regular rule that deglottalizes all but the last glottalized oral stop or affricate in a sequence of ejectives.

[5] 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.

[6] The absence of the *t* of the suffix in 'bitter drink' is not phonologically conditioned; it is a peculiarity of this suffix that it sometimes surfaces without the *t*. If the presence vs. absence of the *t* in this suffix follows a pattern, I haven't discovered it yet.

[7] Mattina 1987 has a number of roots with both velars and uvulars, but most of them either have another consonant between the two dorsals or are otherwise unusual (e.g. longish place names or personal names). Some of these are therefore probably not primary roots; they are more likely to be fossilized derived forms. It seems likely that CVC roots containing both a velar and a uvular consonant are dispreferred in Colville-Okanagan too.

[8] I am grateful to the late Dale Kinkade for drawing my attention to this type of alternation, and for pointing out the areal dimension.

[9] 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.

[10] 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 is 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. See Baier 2010 for a detailed analysis of the Montana Salish irrealis marker(s).

[11] Dale Kinkade (personal communication, 1996) pointed out that the vocalism of the Coeur d'Alene form is odd, because its vowel *e* 'should derive from *ə, so it is not clear how this matches the Cm form'.

[12] 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.

[13] The one exception to this pattern that I've found is a single form in Montana Salish: *M p'el'q^{w}'ósmstx^{w}* 'You'll be turning it [the meat] over and over [over the fire]'. The speaker was a highly fluent elder, and the utterance was spontaneous, not elicited. The likelihood that I mistook a velar for a uvular is small, because the vowel of the lexical suffix *=ús* 'face, fire' is lowered, as expected after a uvular consonant (but not after a velar). See below for further discussion of this example.

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

[15] Mattina (1987:174) treats *sk^{w}'út* as the root, rather than as a root *k^{w}'út* preceded by the nominalizing prefix *s-*. Similarly, Mengarini et al. list the entire word *schut* (*sč'út*) 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-*.

[16] I'm not certain that *es-šči-č=šn-i* belongs with this root. Semantically it fits well enough, and phonologically the root form *šči* matches the Colville-Okanagan and Thompson forms, with regular palatalization of the two velars. The metathesis from a CVC root to a CCV stem is common in MSa. The Colville-Okanagan word referring to a shuffling noise provides at least weak support for this connection.

[17] 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].

References

Aoki, Haruo. 1994. Symbolism in Nez Perce. In Leanne Hinton, Johanna Nichols, and John J. Ohala, eds., *Sound symbolism,* 15-22. Cambridge: Cambridge University Press.

Baier, Nico. 2010. *Irrealis morphology in Montana Salish.* Ann Arbor: University of Michigan B.A. thesis.

Carlson, Barry F., and Pauline Flett, compilers. 1989. *Spokane dictionary.* (University of Montana Occasional Papers in Linguistics 6.) Missoula: Linguistics Laboratory, University of Montana.

Doak, Ivy Grace. 1997. *Coeur d'Alene grammatical relations.* Austin: University of Texas dissertation.

Heath, Jeffrey. 1984. Language contact and language change. *Annual Review of Anthropology* 13:367-384.

Jacobs, Melville. 1931. A sketch of Northern Sahaptin grammar. *University of Washington Publications in Anthropology* 4:82-292.

Kinkade, M. Dale. 1973. The alveopalatal shift in Cowlitz Salish. *IJAL* 39:224-231.

Kinkade, M. Dale. 1991. *Upper Chehalis dictionary.* (University of Montana Occasional Papers in Linguistics 7.) Missoula: Linguistics Laboratory, University of Montana.

Kinkade, M. Dale. 1993. Salishan words for 'person, human, Indian, man'. In Anthony Mattina and Timothy Montler, eds., *American Indian linguistics and ethnography in honor of Laurence C. Thompson*, 163-181. (University of Montana Occasional Papers in Linguistics 10.) Missoula: Linguistics Laboratory, University of Montana.

Kinkade, M. Dale. 1995. Transmontane borrowing in Salish. In *Papers for the 30th International Conference on Salish and Neighbouring Languages*, 28-38. Victoria: University of Victoria Linguistics Department.

Kinkade, M. Dale. 1996. Reconstructing aspect in Salishan languages. In *Papers for the 31st International Conference on Salish and Neighbouring Languages*, 185-195. Vancouver: University of British Columbia Linguistics Department.

Kuipers, Aert H. 1970. Towards a Salish etymological dictionary. *Lingua* 26:46-72.

Kuipers, Aert H. 1974. *The Shuswap language.* The Hague: Mouton.

Kuipers, Aert H. 1981a. On reconstructing the Proto-Salish sound system. *IJAL* 47.323-335.

Kuipers, Aert H. 1981b. Towards a Salish etymological dictionary II. In *The working papers of the XVI Salish Conference*, 165-180. (University of Montana Occasional Papers in Linguistics 2.) Missoula: Linguistics Laboratory, University of Montana.

Kuipers, Aert H. 1983. *Shuswap-English dictionary.* Leuven: Peeters.

Kuipers, Aert H. 1995. Towards a Salish etymological dictionary III. In *Papers for the 30th International Conference on Salish and Neighbouring Languages*, 47-53. Victoria: University of Victoria Linguistics Department.

Kuipers, Aert H. 2002. *Salish etymological dictionary.* (University of Montana Occasional Papers in Linguistics 16.) Missoula: Linguistics Laboratory, University of Montana.

Mattina, Anthony, compiler. 1987. *Colville-Okanagan dictionary.* (University of Montana Occasional Papers in Linguistics 5.) Missoula: Linguistics Laboratory, University of Montana.

Mengarini, Gregory; Joseph Giorda; Leopold van Gorp; Joseph Bandini; and Joseph Guidi. 1877-79. *A dictionary of the Kalispel or Flat-head Indian language.* St. Ignatius, MT: St. Ignatius Print.

Pharris, Nicholas, and Sarah Thomason. 2005. Lexical transfer between Southern Interior Salish and Molalla-Sahaptian. In J.C. Brown, Masaru Kiyota, and Tyler Peterson, eds., *Papers for the 40th International Conference on Salish and Neighbouring Languages*, 184-209. Vancouver: Department of Linguistics, University of British Columbia.

Teit, James A., and Franz Boas. 1927-28. *The Salishan tribes of the Western Plateaus.* (Bureau of American Ethnology, 45th Annual Report.) Washington, DC: Government Printing Office. [Extract, *The Flathead group*, published in Seattle: The Shorey Book Store, 1973.]

Thomason, Sarah G.; Dorothy Berney; Gail Coelho; Jeffrey Micher; and Daniel Everett. 1994. Montana Salish root classes: Evidence from the 19th-century Jesuit dictionary. In Joyce Silverthorne, ed., *Papers for the 29th International Conference on Salish and Neighboring Languages*, 288-312. Pablo, MT: Salish Kootenai College.

Thompson, Laurence C., and M. Terry Thompson. 1992. *The Thompson language.* (University of Montana Occasional Papers in Linguistics 8.) Missoula: Linguistics Laboratory, University of Montana.

Thompson, Laurence C., and M. Terry Thompson, compilers. 1996. *Thompson River Salish dictionary*: *Nłeʔepmxcín.* (University of Montana Occasional Papers in Linguistics 12.) Missoula: Linguistics Laboratory, University of Montana.

Vogt, Hans. 1940. *The Kalispel language: An outline of the grammar with texts, translations, and dictionary.* Oslo: Det Norske Videnskaps-Akademi i Oslo.