On Montana Salish /h/

Sarah Thomason
University of Michigan

1. Introduction.

In discussing *h* in Salishan languages, Swadesh (1952:236) remarked that 'The glottal spirant *h* is rare...There is no Salish language, with the exception of Tillamook, in which *h* is a common phoneme.' The accuracy of this observation is confirmed by a glance through Salishan dictionaries, including Montana Salish. But there is a rather surprising systematic exception to the generalization in Montana Salish, in the speech of at least some elders. In this paper I will first survey the distribution of /h/ in Montana Salish and several other Salishan languages (§2) and its alternation with zero and with other segments—glottal stop, pharyngeal resonants, dorsal fricatives (§3). I will then describe a very productive Montana Salish process of /h/-insertion between a lexicalized truncated stem and a possessive suffix, either third-person *-s* or (much less often) second-person plural *-mp* (§4). The paper concludes with a brief (and inconclusive) discussion of some possible implications of the /h/-insertion process (§5).

2. The distribution of /h/.

Because Montana Salish (henceforth MSa) is one of three dialects of a (nameless) language, it makes sense to start our survey with its two sister dialects, Kalispel and Spokane. Except for MSa itself, my check of dictionaries was confined to *h*-initial entries; since /h/ is considerably more common in morpheme-initial position than elsewhere, these suffice to show that /h/ occurs rarely in roots, particles, and affixes. A count of non-initial *h*'s would not change the overall picture.

Vogt describes Kalispel /h/ phonetically as 'an ordinary *h*', and says that it is 'weak initially, and in some words parallel forms with and without *h* coexist'; 'It is strongly articulated

after consonants' (1940:13). The glossary that follows his grammar and text collection contains just eight entries with initial /h/: the yes/no question particle *há*, the 'startle' interjection *hayó*, a clearly onomatopoetic word *háhá* 'laugh', and five roots, two nominal (*he'eṅəm* 'eight', *heṁís* 'kind of night-owl') and three verbal (*ham* 'gnaw, eat up (talking of bugs)', *heét* 'tease', and *hói* 'quit doing something'). (Here and throughout this paper I ignore the problem of whether Salishan languages in fact have a lexical distinction between nouns and verbs. For the analysis of MSa /h/ the distinction is useful and perhaps necessary, and it is immaterial whether it is a derived or a fundamental lexical distinction.) Vogt's glossary is not meant to be a full-scale dictionary, but it is nevertheless evident that /h/ is much less common than most other consonants in word-initial position.

For Spokane, Carlson says that '/h/ is rare except in word-initial position'; the glottal stop, by contrast, occurs freely in all positions (1972:10). He also discusses the loss of prefix-initial *h* (e.g. in *hec-* 'actual aspect') under various phonological circumstances (pp. 18, 19). Black describes Spokane /h/ as 'relatively rare, generally word-initial' and says that, in consonant clusters, /h/ becomes a voiceless *e* but 'on occasion it may also surface as [ʔ]' (1996:17). The Spokane dictionary (Carlson & Flett 1989) has twenty-one entries with word-initial /h/: the interjection *hayó* 'oh my!', two onomatopoetic 'sound' words (*ham* 'droning sound', *húhu* 'owl noise'), a particle *heċíṅt* 'what did he say?', and seventeen roots. Eight of the roots are nominal (*hʔeṅ-m* 'eight', *hatt* 'peregrine falcon', *hem(í)* 'fog', *heṁís* 'mourning dove', *hew(í)* 'rail (a kind of bird)', *heẇ-t* 'rat', *hit* 'alumroot', and *hmhúwye?* 'raccoon') and nine are verbal (*ham(í)* or *ʕam(í)* 'melt', *hay(í)* 'growl', *heḵʷ* 'peeled', *hen* 'pink', *hilh* 'other side of the mountain', *ho?* 'cough', *hoy* 'finished', *hoẏ* 'laugh', and *huy* 'it's a pile').

Some of the eight nominal roots, here and in the other languages surveyed here, may ultimately be connected with verbal roots; I am treating a root as nominal only if, in the dictionary, it is entered independently, unconnected to any verbal forms. (The word for 'raccoon' may be problematic here, both as an *h*-initial stem and as a basically nominal root: there is a main

entry *hmhúwye?*, as listed above, but there is also a main entry *mhuẇ* 'howl', and under this second entry is a word *mhúw-y=e?* 'raccoon', which matches the forms for 'raccoon' in MSa and Colville-Okanagan.) Of the nine Spokane verbal roots in *h-*, three—'growl', 'cough', and 'laugh'—are probably onomatopoetic. Carlson & Flett's dictionary contains no main entries for clitics or grammatical affixes, but Spokane also has one *h*-initial clitic, the yes/no question particle *ha*, and at least four prefixes that are analyzed with initial *h*: *hec-* 'actual' (mentioned above), *heł-/hełuł-* 'back, again', *hin-* 'my', and *han-* 'your (sg.)'.

In Colville-Okanagan, like MSa-Spokane-Kalispel a Southern Interior Salishan language, '*h* is quite rare and, as with *?*, it can often be lost in rapid speech, especially in word-initial position (*h* does not occur word-finally)' (Mattina 1973:8). Watkins, describing an Okanagan dialect (perhaps different from the ones Mattina worked on?), comes to the same conclusion: 'h is morpheme final in wah '(dog) barks' and hah '(person) laughs'. No examples of utterance final h can be found' (1970:48). Mattina's Colville-Okanagan dictionary (1987) has twenty *h*-initial entries: a lexical prefix *hɬ=* 'family, homogeneous group', two interjections (*hi* 'well...', *húma?* 'please, listen'), the yes/no question particle *ha?*, and sixteen roots. Six of the roots occur in nominal formations: *hup* 'Fort Hope', a borrowing from English, *hápu* 'cottonwood mushroom', *n-hít-hit-wlx̣* (a mythical bird's name), *hawí?=ɬp* 'wild weeping willow', *híẇt* 'rat', and *s-há?yk̓ʷ* 'nodding onion'. The remaining ten roots are verbal: *hn* in *han* 'pink', *hq̓ʷ* in *k'ɬ-ahq̓ʷ=x̣án* 'foot slips' (in this root the *h* may or may not be morpheme-initial underlyingly; it is, in any case, the first consonant in the root), *hr'* in e.g. *s-har'á-m* 'soak', *ht* in *haht* 'laugh', *hw* in *haw-híw=i?st* 'yawn', *hy* in *huy* 'be done, finished', *hy* in *n-hyh=ils-m* 'respect one's feelings', *hʔ* in *ʔa-haʔ* 'catch cold', *h?* in *h-hu?* 'catch cold' (these two roots for 'catch cold' are likely to be connected), and *haʔʷ* 'let loose'.

As in Kalispel and Spokane, some of the verbal roots are likely to be onomatopoetic: 'laugh', 'yawn', and the two roots for 'catch cold'. (The similarity without identity in the 'catch cold' forms could be accounted for easily if they are onomatopoetic in origin.)

The only other Salishan language I've checked so far is the Upper Chehalis dictionary (Kinkade 1991), and here the picture is strikingly different from the patterns in the Southern Interior languages I've surveyed. This dictionary has just twelve *h*-initial entries, and although eight of these are preceded by the 'root' sign (and a ninth looks as if it ought to be), none is obviously verbal. Three of the entries are identified as particles: *háy* 'hey!' (listed with a root sign), *húm* 'because, if', and *húwi, hóy* 'very'. Three other entries are not called particles but appear to have particle-like functions: *hamúk̓ʷi?* 'what listeners to a story are permitted to say', *húy* (listed with a root sign) 'then, well; good-bye', and *hcemo qi* 'response word used in story-telling'. The remaining six entries are nominal, and three of these are borrowings: *hámma* 'hammer' (borrowed from English, perhaps via Chinook Jargon), *hík̓ʷčm* 'handkerchief' (borrowed from Chinook Jargon, ultimately from English), *hí* 'hay' (borrowed from English), *hámani?* 'snail-like salt-water clam', *hámElitsamEn* 'hay fork', *hínl-(=mš)* 'mythical monster'. Although /h/ is rare in all the Salishan languages surveyed here, it seems to be significantly more marginal in Upper Chehalis than in the Southern Interior languages.

For Montana Salish itself I'll give a more detailed picture, including morphemes with non-initial /h/ as well as those with initial /h/. My dictionary files contain 28 morphemes with /h/. In sixteen of these the /h/ is morpheme-initial: two particles, the exclamation *háyo!* 'oh! hey!' and the yes/no question particle *ha*; one onomatopoetic 'sound' word, *hammmm* 'buzzing sound' (probably this is a root—compare the Spokane cognate above); three nominal roots, *heṁís* (in *heṁíshem̓* 'mourning dove'), *héẇt* 'packrat', and *he?éṅm* 'eight'; and ten verbal roots, *hál* 'soaking wet', *háw* 'scold', *haẇ* 'loose(n)', *hém/hén* 'pink', *hemí* 'foggy', *hetí* 'tease', *héw* 'yawn', *hé?* 'be respected', *híp* 'sound of a ruffed grouse drumming', and *hóy* 'stop doing something'. The remaining twelve morphemes have non-initial /h/: the particle *ihé?/ihi* 'here'; three nominal roots, *séhč* 'Douglas's onion', *ch* (in *č-ch=é(čst)* 'right(hand) side'), *mhúye?* 'raccoon'; and eight verbal roots, *?éh* 'feel offended', *čhé* 'use together with something', *ihéṁ* 'reconcile with somebody', *pnh(é)* 'arrive on

time for something', *ćeh(ǩ)* 'uncover', *ʔohóʔ* 'cough', *ahq̓ʷ* 'slip', and *uhé* 'bark (of dogs)'. Unlike Spokane, MSa does not appear to have any affixes with underlying /h/; the four Spokane prefixes that begin with /h/ have vowel-initial cognates in MSa: *es-* 'stative aspect' (cf. Spokane *hec-*), *eɬ-* 'back, again' (cf. Spokane *heɬ(úuɬ)-*), *in-* 'my' (cf. Spokane *hin-*), and *an-* 'your (sg.)' (cf. Spokane *han-*).

As in the other languages, some of the MSa roots with /h/ look onomatopoetic, in addition to *hámmmm*. The roots for 'yawn', 'sound of a ruffed grouse drumming', 'cough', and 'bark' belong in this category, and one or two others may also involve sound symbolism. In all these Southern Interior Salishan languages and dialects, in fact, sound-symbolic morphemes comprise a significant proportion of the morphemes with /h/. There is no evidence, however, to support a proposal that all the roots with /h/ can be accounted for as sound-symbolic. Still, if the onomatopoetic roots are eliminated, the non-affective occurrence of /h/ is even more limited than it appears from the lists of roots above.

One MSa root, *pnh(é)* 'arrive on time for something', is unusual in that the /h/ looks like an added suffixal element; the root seems very likely to be connected with *pén* 'time' (as in e.g. *s-pén-tč* 'year' and *s-pi-sčé* 'yesterday', where [pi] is underlyingly /p(é)n/). This pattern is presumably fairly old, because it also occurs in Colville-Okanagan: compare the roots *pn* (as in e.g. *pin=tk* 'always, still' and *pnh* (as in e.g. *pnh-íp-nt* 'be in time for something') (Mattina 1987:135, 136; each of the two entries is cross-referenced to the other).

Turning to the phonotactics of /h/ within the MSa word, we find that other authors' comments about its occurrence in other languages are generally valid for MSa as well. It is more common morpheme-initially than elsewhere in the word. It's true that /h/ never occurs word-finally, as Mattina found for Colville-Okanagan (1973:8), but this is almost trivially true in MSa: the only two morphemes that end in /h/ are the roots *ʔéh* 'feel offended' and *ch* 'right(hand) side', and these are always (in my data) followed by a lexical suffix—usually *=éls* 'feeling/thought' after *ʔéh* and *=éčst* after *ch*. So I have no evidence that word-

final /h/ is ruled out in principle in MSa.

Medially, MSa /h/ occurs intervocalically and next to one or, more rarely, between two consonants. The /h/ is intervocalic in several of the morphemes listed above—*ihé?/ihi* 'here', *ihém̓* 'reconcile with sb', and *?ohó?* 'cough'. It occurs more frequently after than before a consonant. This is not accidental: most /h/'s are root-initial and most roots have the form CVC, and many prefixes either consist of or end in a consonant. Moreover, although most unstressed vowels delete in MSa as in its close relatives, unstressed /e/ often remains, and /a/ sometimes remains too (notably when it is protected by a back consonant), so morpheme-initial /h/ is almost always followed either by a stressed vowel, as in *i-s-c-hé?* 'my secret' and *q-s-híp-i* 'it (a ruffed grouse) is going to drum', or by an undeleted unstressed vowel, as in *shemíp* 'fog' and the second syllable of *es-hew-héw-lš-i* 'she's yawning' or *y-es-he?é-m* 'I'm saving it'. There are a few occurrences of underlying /h/ before a consonant, for instance *séhč* 'Douglas's onion', *k̓ʷu es-n-?éh-ls-m-s* 'he's insulting me', and *čn čɬ-ahq̓ʷ-p=šíʔ* 'I slipped'.

The rarest occurrences of /h/ are between consonants and in geminates (via reduplication). I've found only two formations with interconsonantal /h/: *k̓ʷ cnpnhcí* 'you came in time to eat' (underlyingly /c-n-pnh(é)=cín/, lit. 'hither-in-arrive.in.time=food') and *čn nc̓hk̓ʷqín* 'I got my scalp taken off' (/n-c̓eh(k̓ʷ)=qín/, lit. 'in-uncover=head'). The only case of a geminated /h/ that I have in my files is *čn es-n-?éh-h=els-i* 'I got even more perturbed and stayed that way'; in this word, the root *?éh* 'feel offended' has undergone a regular morphological C2 reduplication process.

A final topic for this section is the behavior of MSa /h/ under reduplication conditions. If, as has been suggested, /h/ is phonotactically weak, we might expect it to be unstable when reduplicated. As we've just seen, however, a root-final /h/ undergoes C2 reduplication to form a geminate. It is therefore not surprising that root-initial /h/ reduplicates in the normal way. Here are most of the examples from my files: *hehetmúɬ* 'a teaser, someone who's always teasing', *čn eshewhéwlši* 'I'm yawning', *čn ɬhewhéwlš* 'I yawn a little' (cf. Spokane *hew(í):*

hewhéw-n-t 'he yawned', Colville-Okanagan hw: *haw-híw=i?st* 'yawn'), *ɬhéhewt* 'a little packrat', *hewhéwt* 'several packrats', *uhéwhéw* 'it's howling', *hehe?é* (truncated from *hehe?énm*) 'an eight (playing card)', and *oho?ohóʕʷlś* 'he keeps coughing continuously'. Note that this last word shows total rather than partial reduplication, a typical feature of onomatopoetic formations in MSa. Besides these clear examples, there is one rather puzzling form, the first word in *hé?mhemt l ululím* 'He likes giving money away'. It looks at first glance as if it might be connected with the root *hé?* 'be respected', but the reduplicated *m* must surely be part of the root, because (parts of) affixes do not participate in reduplication processes; but I have no simplex forms for a root *hé(?)m*, and I can find no potential cognates for such a root in either Spokane or Colville-Okanagan. Still, it is at least clear that this is a reduplicated /h/-initial root, so it's worth including here.

It should be noted that there is very little material in my files on reduplication and other forms for roots and stems containing /h/. In part this is no doubt due to the inevitable incompleteness of the files, but in part it is certainly due to the paucity of occurrences of /h/ in general. I believe, though, that there are enough examples to establish patterns for the distribution of /h/.

3. /h/ in alternation with other segments.

The problem of limited data is more acute when we turn our attention to alternations between /h/ and other segments. There are at most a few examples of any given connection, which makes the posited links more tantalizing than conclusive. Further research into the behavior of /h/ and these other segments in other Salishan languages, especially other Southern Interior languages, should help to clarify the picture.

First, I've found no appreciable tendency for /h/ to alternate with zero in MSa. This finding surprised me, both because (as mentioned above) /h/ has the reputation of being a 'weak' consonant in Salishan languages and because it alternates with zero regularly in Spokane. But in Spokane the regular alternations involving *h* loss affect only the handful of *h*-initial prefixes;

MSa, by contrast, has no *h*-initial prefixes at all—either because it never developed an /h/ at the beginning of the cognate prefixes or because it lost the initial /h/ completely some time ago—so that target for /h/ loss is not present in MSa, and /h/ seems in general to be quite stable.

The second surprise was that I've found only one example of a possible correspondence between /h/ and /ʔ/. The root *hé?* 'be respected' (in e.g. *n-he?=éls-n* 'I (want to) respect people') is cognate with Colville-Okanagan *hy(h?)* in e.g. /s-n-hyh=ils-m/, which surfaces as *s-n-hi?-íls-m* 'respect'. Mattina (1987:23) comments that the 'analysis [is] uncertain', so perhaps this isn't an example of a correspondence between /h/ and /ʔ/ at all; perhaps the second root consonant is actually *?* in Colville-Okanagan, as it seems to be in MSa. The lack of alternations between /h/ and /ʔ/ is moderately surprising in view of Black's observation, quoted above, that Spokane /h/ may also on occasion surface as glottal stop (1996:17).

What /h/ does alternate with, within MSa and/or between MSa and other Southern Interior languages, is the entire range of non-glottalized dorsal continuants: the velar fricatives x^w and x, the uvular fricatives $\underset{.}{x}$ and $\underset{.}{x}^w$, the non-glottalized pharyngeal resonant consonants ʕ and ʕ^w, and (in Columbian) a voiceless pharyngeal fricative $\underset{.}{h}$. Some of the examples below may be due to faulty transcription; in particular, all three of the dorsal fricatives are so lax in MSa that distinguishing x^w from $\underset{.}{x}^w$ can be extremely difficult, and even $\underset{.}{x}$ may pose occasional perceptual problems when compared with *h*. Acoustic analysis of all these segments would be needed to achieve absolute confidence in the transcriptions. Moreover, some of my MSa data is drawn from sources that are not always phonetically reliable, even when the transcriber was a linguist. Nevertheless, in word-initial position, at least, /h/ is generally easy to distinguish from any other continuant segment in the language; and in favorable instances some speakers are conscious of relevant differences and willing to comment on them. So the transcriptions are far from random, and I am reasonably confident that most of them are correct as they stand.

The most frequent alternation links /h/ with a velar fricative,

either *xʷ* or (in the languages that have it) *x*. In two cases there is a morphophonemic alternation within MSa between /h/ and /xʷ/, with the fricative occurring before a rounded vowel. First, the root *c̓eh(k̓ʷ)* 'uncover', in its continuant-final variant, occurs once with *xʷ* before a suffix beginning with a rounded vowel: compare *k̓ʷ es-n-c̓ex̓ʷ=úps* 'your bottom's uncovered' with *k̓ʷɬ-n-c̓h=ép-is* 'he opened it (car door)'. (I have no explanation for the fact that the root-vowel /e/ remains in the first form and disappears in the second; the same speaker provided both forms, though not in the same session.) In other examples, however, this root seems to have /h/ even before a rounded-vowel suffix, e.g. *es-c̓eh=ús* 'his face is uncovered'. I also have a form *k̓ʷɬ-n-c̓x̓ʷk̓ʷ=é* 'key' (truncated from *k̓ʷɬnc̓x̓ʷk̓ʷép*), with the long form of the root and apparently with /h/ assimilated to a labialized fricative before the labialized root-final stop; but this form needs to be rechecked.

The second alternation within MSa is in reduplicated forms of the root *hóy* 'stop doing something', where *c̓n hoy-hó* (truncated from *hoy-hóy*) 'I quit (playing cards)' varies with *xʷi-hó*. The first variant has vowel retention in the prefixed CVC- reduplication syllable; the second variant has undergone the regular vowel deletion process in the unstressed reduplication syllable—or, rather, the vowel itself is gone, but its feature [+round] remains on the consonant, yielding [xʷ]. The vowel deletion leaves the underlying root-final consonant /y/ between two consonants, so as expected it vocalizes to [i]. When this word came up in an elicitation session in 1999, two elders preferred the variant with *xʷi-* and one (the oldest of the three by about twenty years) preferred the variant with *hoy-*; all three of the elders who entered into the discussion were Pend d'Oreilles, so it's unlikely that a dialect difference could account for their differing views on the best pronunciation.

The other two examples in which *h* alternates with *xʷ* are cross-linguistic. MSa has a particle *xʷu* meaning (roughly) 'O.K.'; this is likely to be cognate with the Colville-Okanagan particle *huy* in the reduplicated form *hu-húy* 'O.K.' The second example is shakier, because I have been unable to find or elicit any data on the MSa root other than the one form: the MSa form *xʷm̓n*

'forbid' (which may be morphologically complex) seems likely to be cognate with Columbian *hámn̓ən* 'I forbade him'.

Finally, two examples appear to show an *h*/*x* alternation. MSa and Spokane have a root *séhč* 'Douglas's onion' that corresponds to the Colville-Okanagan root *sáxk*. And the MSa demonstrative particle *ihé?* 'here' looks as if it is cognate with Colville-Okanagan *axá?* 'this'. These correspondences are irregular: MSa and Spokane /h/ corresponds regularly to Colville-Okanagan /h/, as in the question particle *ha(?)* or the root for 'yawn' (MSa *héw*, Spokane *hew(í)*, Colville-Okanagan *híw*), and Colville-Okanagan /x/ is a reflex of the Proto-Salishan fricative that palatalized regularly to /š/ in MSa and Spokane. So, for instance, the regular correspondences would predict either MSa and Spokane *séhč* and Colville-Okanagan *sáhk* or MSa and Spokane *séšč* and Colville-Okanagan *sáxk* for 'Douglas's onion'.

Three examples seem to point to an alternation between /h/ and a uvular fricative. In one of them Spokane has an /h/ where MSa and Colville-Okanagan have /χ̣ʷ/. The MSa form *č-χ̣ʷóy=qn* 'it's piled' (from the root *χ̣ʷóy*) corresponds to Colville-Okanagan *t-χ̣ʷáy=qn* 'pile something' and also to Spokane *č-hóy=qn* 'it's all in a pile'. The second example is rather shaky—the MSa forms need to be rechecked—but in my files there are variant forms from different speakers for the root *ahq̓ʷ/aχ̣ʷq̓ʷ* 'slip': *čɬ-ahq̓ʷ-p=ší/čɬ-aχ̣ʷq̓ʷ-p=ší* 'his foot/feet slipped'; compare Spokane *čɬ-ɬaq̓ʷ-p=šín* and Colville-Okanagan *k'ɬ-ahq̓ʷ=χ̣án*. The lack of a medial consonant in the Spokane root makes it likely that the original consonant was /h/, which is a better candidate for total loss than /χ̣ʷ/ is. The variant MSa form with *χ̣ʷ* would then be due to assimilation to the following labialized uvular stop—parallel to the probable assimilation of /h/ to [xʷ] before a labialized velar stop in *k̓ʷɬ-n-čx̣ʷk̓ʷ-é* 'key' (discussed above). The third set of forms in which /h/ appears to correspond to a uvular fricative is rather puzzling—the analysis of the forms is not clear, at least for MSa, and neither are the semantic connections—but it's hard to believe that the forms are completely unconnected. In this case MSa has /χ̣/ where Spokane has /h/: compare MSa *χ̣awítχ̣o* 'American bittern' and *χ̣awítχ̣aw* 'shooting star' with Spokane *n-hew=étk̓ʷ=e?* 'rail (a

kind of bird)' and *hwíthut* 'shooting star'.

In four examples, two of them probably onomatopoetic, /h/ alternates with a pharyngeal consonant. Spokane has a root varying between *ham(í)* and *ʕam(í)* in e.g. *hamí-p* 'it melted'; in MSa this root always begins with a plain pharyngeal consonant, e.g. in *ʕamí-p* 'it melted'. Spokane also has an initial /h/ in the root *hóẏ* 'smile' (e.g. *hoẏ-ṅ-cút* 'he smiled') where both MSa and Colville-Okanagan have a labialized pharyngeal: MSa *ʕʷoẏ* in *ʕʷoẏ-n-cú(t)* 'he laughed'; Colville-Okanagan *ʕ̣ʷy* (southern pronunciation) in *ʕ̣ʷy-n-cút, ʕ̣ʷy-ʕ̣ʷy-n-cút* 'he laughed'. (Northern Colville-Okanagan has instead a plain pharyngeal here: the root is *ʕa?*, in *ʕa?-n-cút* 'he smiled', *ʕa-ʕa-n-cút* 'he laughed'.)

In two other words Columbian has a voiceless pharyngeal fricative /ḥ/ or /ḥʷ/ where MSa and its closest relatives have /h/. Compare MSa *ohó?* 'cough' (in e.g. *oho?-ohóʕʷ-lš* 'he keeps coughing continuously') and Spokane *hó?* (in e.g. *hec-hó?i* 'a cough (from a cold)') with Columbian *ʔəḥʷa?* 'cough'. This word may also be cognate with Upper Chehalis *x̣ʷó:x̣ʷu?* 'cough', which would add another example—though not a very impressive one, given the onomatopoetic nature of the word—in which /h/ corresponds to /x̣ʷ/. In the root for 'loose(n), let loose', MSa and Colville-Okanagan have /h/ where Columbian has /ḥ/: MSa and Colville-Okanagan *háʕ̣ʷ* vs. Columbian *ḥámp*. The cognacy of the Columbian root with the others is in some doubt, however, given the non-correspondence in the coda consonant(s).

As noted at the beginning of this section, and in discussions of some of the examples, not all the alternations exemplified above are solidly established. All, or almost all, are irregular. Two conclusions can, however, be drawn with some confidence about the status of /h/ in MSa and other Salishan languages. First, although rare, /h/ is an old phoneme; it must be reconstructed for at least a few Proto-Salishan roots (e.g. '(pack)rat'). Second, in Southern Interior languages, /h/ alternates sporadically with various dorsal continuants.

4. A rule of /h/-insertion in Montana Salish.

Because /h/-insertion is so closely connected with truncation, a brief account of this process is needed to set the stage

for the discussion of /h/-insertion. It is well known that some Southern Interior Salishan languages have undergone an optional truncation process in which everything after the stressed vowel in a word is deleted (as discussed in Doak 1990 for Coeur d'Alene and in Thomason & Thomason 1996 for MSa). According to Carlson, '[t]he primary distinguishing feature of Flathead [Montana Salish] is the shortening of many forms by deletion of material beyond the accented vowel, a tendency observable in Kalispel, but not as widespread. The Spokans refer to Flathead speakers as "those people that cut off their words" ' (1972:v).

Vogt's description of truncation in Kalispel is worth quoting in full (1940:17): 'A great number of words have two forms, one full form and one abbreviated form where everything following the stressed vowel is dropped. Most, perhaps all, the words with stressed final vowel have this origin. This fact undoubtedly has grammatical consequences. Final *-á* may represent *-áqs* 'nose, road' or *-ásq̓at* 'day, sky', *-é* may represent *-élxʷ* 'skin', *-ép* 'door, hair', *-éc̓st* 'hand' etc. When the feeling of the abbreviated forms as secondary forms of the full word is lost, the abbreviated form becomes an independent word whose relation to the stem is not always clear. This was the case with my informant who often was incapable of giving the longer forms.' Montana Salish is similar to Kalispel in this respect, only (as Carlson noted) more so: there are many lexicalized stems ending in stressed vowels, with no apparent knowledge of longer forms among modern speakers. As we will see below, all such stems seem to be nouns.

The truncation process raises an obvious question: what happens when semantically important grammatical suffixes (as opposed to the lexical suffixes in Vogt's examples) follow the stressed vowel, as is very often the case? In Thomason & Thomason 1996 we phrased the truncation rule in a somewhat frivolous way: 'Delete everything after the stressed vowel of any word if you want to—but you won't want to if there are crucial grammatical suffixes after the stressed vowel.' The only non-crucial grammatical suffixes in my files are the unstressed intransitive continuative allomorph *-i* (when it co-occurs with a stative prefix) and the antipassive *-m* (when it co-occurs with an agent prefix); in both of these cases, the prefix forces the correct read-

ing of the word, so the suffix isn't needed for semantic interpretation. It turns out, perhaps surprisingly given the relative weakness of the lexical distinction between nouns and verbs in MSa and other Salishan languages, that nouns and verbs behave differently under truncation.

In verbs, even when (as often happens) speakers are unable to think of 'the long form' when asked for it, the long forms pop up when important grammatical suffixes are added to the stem. Some verbs do have fairly freely alternating short and long forms, even when the morpheme containing the stressed vowel is word-final. An example is the root *ʔác̓x̣* 'watch (something)', in which the truncated intransitive continuative form *es-c-ʔá* 'she was (is) watching them' alternates with the full form *es-c-ʔác̓x̣-i* 'she is (was) watching them'. Forms with important grammatical suffixes, such as the plural transitive imperative, are never truncated, e.g. in *ʔác̓x̣-nt-i!* 'look at him, you all!' Other verbs are routinely truncated when possible, for instance the verb stem /x̣ʷeɬ=éčst/ 'hurry' (the lexical suffix means 'hand' and is semantically opaque here). Elders always give a truncated form when asked for a translation of a simplex construction with this stem, e.g. *čn x̣ʷeɬ=é* 'I hurry/hurried', and they can't all provide the long form on request. But the full form surfaces in a suffixed construction like the singular intransitive imperative: *x̣ʷeɬ=éčst-š!* 'hurry!'. Occasionally a verb appears in truncated form mainly in nominalized and (apparently) stylistically marked verbal constructions. The root *ʔócqeʔ* 'go outside' usually occurs untruncated, as in *čən ʔócqeʔ* 'I went outside'; and of course the full form always appears when there are crucial suffixes, as in the causative construction *ʔóccqe-st-s* 'he let them out' (with inchoative C2 reduplication). But the root is truncated in the nominalized form *s-čɬ-ʔó* 'measles', in the fixed adverbial expression *c̓-c̓-ó* 'outside', and in the baby-talk expression *x̣eẏ̓ n̓é tn ʔó* 'I might have to go outside [to the potty]'. (In this last form the 1sg. intransitive subject pronoun *tn* is baby-talk for *čn*.)

Grammatical suffixes with weak stress are never truncated even when they're stressed, but three grammatical suffixes with strong stress that can occur in word-final position are often trun-

cated. These are the reflexive suffix *-cút*, the reciprocal suffix *-wéx*^{w}, and the 'intransitive reflexive' suffix *-míst*. With all these, as with other truncated verbal stems, the full form surfaces when further suffixes are added: compare *čn xc-m-n-cú* 'I got ready' with *xc-m-n-cút-š!* 'get ready!', *ihem̓-t-wé* 'they made peace (with each other)' with *ihem̓-t-wéx*^{w}*-st-n* 'I made them make peace (with each other)', and *čn č-te(?)-mí* 'I bumped against something' with *č-te(?)-mist-m-n-wé* 'they collided (with each other)'. Examples like these make it clear that for verbs, at least, the underlying forms are the full forms: speakers have the knowledge to produce the long forms when they're needed, and they're needed whenever grammatically and semantically crucial suffixes are added to the stem.

The situation is strikingly different with nouns. Many truncated nominal forms are clearly lexicalized, so that they are in fact the underlying forms; the etymological full forms are no longer internalized for current speakers. There is of course some variation: some elders know long forms that others don't, and long forms sometimes surface in alternation with truncated forms. But for many nouns there appear to be no long forms at all in modern MSa. Some of these truncated forms end in stressed root-vowels, but most end in stressed lexical suffixes, so that what is truncated is the lexical suffix.

An example of a consistently truncated root is the word for knife, *ɬ-ńí* (a diminutive formation from the root *níc̓* 'cut', with a diminutive prefix and glottalization of the resonant consonant). The root is never truncated (in my data) in verbal contexts; even in the rare cases when a verbal form of 'cut' is word-final, the root appears in its full form, e.g. *es-níc̓* 'it's cut'. A more typical example of a truncated noun stem is formed from the root *t̓íš* 'sugar, sweet', which always appears in the full form, as in *i t̓íš* 'it's sweet'. The derived noun *s-t̓š=á* 'huckleberry' (literally 'sweet berry'), with an etymological suffix *=áɬq* 'root, berry, fruit', is invariably truncated. Compare the full forms in Spokane *s-t̓š=áɬq*, optionally in Kalispel *s-t̓š-a(ɬq)*, and, with a different lexical suffix, in Coeur d'Alene *s-t̓š=ástq*.

What happens when important suffixes are added to a truncated noun stem? One possibility is that the long form of the

noun stem will surface, as happens when (additional) verbal suffixes are added to a truncated verbal stem. In such a case the underlying form of the noun must be the long form. A second possibility is that the suffix(es) will be added directly to the truncated stem. And the third possibility is that a consonant will be inserted between the truncated stem and the suffix. In the vast majority of cases, this inserted consonant is /h/; in a few instances it is /s/. Only two suffixes are readily available to test speakers' suffixing strategies for truncated noun stems: the 2pl possessive suffix *-mp* and the third-person possessive suffix *-s*. (It's possible that additional tests could be made with verbal suffixes added to noun stems to form words with meanings like 'you turned into coffee', but speakers are understandably reluctant to come up with such weird forms in elicitation sessions, and any translations they do provide are periphrastic constructions.)

An example in which the long form always surfaces under possessive suffixation is the word for 'dog'. The unsuffixed form is always *n-q̓ʷ-q̓ʷs-m̓=íˀ*, but in the possessed form the possessive suffix is always added to the etymologically expected long stem: *n-q̓ʷ-i-q̓ʷs-m̓=íčn=s̓i-s* 'his dogs' (where prefixal *-i-* marks the plural and the final consonant *n* of the last suffix *=s̓(í)n* 'foot' changes to *i* by a regular morphophonemic rule). A similar example is the word for a brown horse, which is normally truncated as *čɬ-c̓é*, but the suffixed form is long: *čɬ-c̓éx̓=ixʷ-s* 'his brown horse' (cf. Spokane *čɬ-c̓éx̓=xʷ* 'brown horse' and Colville *kx̓-k'ax̓=lxʷ* 'brown horse').

The second possible strategy, the addition of the possessive suffix directly to the truncated stem, is used (in my data) mainly by just one elder, MD. The word *sxʷ-n-m̓i-m̓i-p=á(lq)* 'always telling on sb', has a nominal derivative (without an overt suffix in modern MSa) to which MD gave the possessed form *sxʷ-n-m̓i-m̓i-p=á-s* 'his snitch'. The word for 'woodpecker or flicker with red on it' is *kʷl-kʷl=é*, from the root *kʷíl* 'red' (cf. Spokane *kʷlkʷl=éčeʔ* 'flicker'); its possessed form is given by MD as *kʷl-kʷl=é-s* and by JPP as *kʷl-kʷl=é-h-s*. And the loanword *lití* 'tea' (from French, maybe via Chinook Jargon) also has variant possessed forms, *litís* (from MD and JMcD) and *litíh-s* (from JPP).

In some possessive forms there is variation with and without

the etymological root-final consonant. One example is *mɬí(č)* 'salmon'. This root almost always appears in truncated form (when it appears at all: the elders say that it is no longer used on the reservation, but they all know the word still), and the longer form is certainly etymologically correct. Mengarini (1861), describing mid-19th-century MSa, has *smlich* for 'salmon', and Kalispel and Spokane both have *s-mɬ=íč*. The unsuffixed form in modern MSa is always *smɬí*. But 'his salmon' is given by the elders variously as *s-mɬíč-s*, with the etymological root-final *č* restored; *s-mɬí-h-s*, with an inserted *-h-*; and *s-mɬí-s-ts*, with an inserted *-s-* followed by the regular dissimilated form of the possessive suffix (which is sometimes pronounced *ts*, sometimes pronounced *c*). Another example involves the loanword *ɬ-l̓pó* 'cup' (with diminutive prefix and diminutive glottalization of the resonant root consonant), borrowed from French, perhaps via Chinook Jargon. The original long form is/was *ɬ-l̓pót*; cf. Spokane *lpót*. One speaker (JPP) gave two possessed forms for this root, first *ɬ-l̓pó-h-s* and then, a few minutes later, *ɬ-l̓pót-s*; another elder offered *ɬ-l̓pó-s-ts*. (This word for 'cup' occurs only in the Pend d'Oreille dialect of MSa; the Bitterroot Salish dialect has a completely different word for 'cup'.)

Besides the variants *s-mɬí-s-ts* and *ɬ-l̓pó-s-ts*, I have just five definite examples with inserted *-s-*. Three of these are in native words that have etymological word-final consonants: *c̓nṗ=qí-s-ts* 'his ring' (from *c̓nṗqí* 'ring'; cf. Spokane *c̓nṗ=qín=cst* and Colville-Okanagan *k'nṗ=qin=ks-tn*); *s-t̓ṁ=á-s-ts* 'her cow' (from *s-t̓ṁ=á* 'cow'; cf. Spokane *s-t̓ṁ=á?*, which indicates that the untruncated MSa possessive would be either *s-t̓ṁ=á?-s* or *s-t̓ṁ=á-s*); and *s-ɬ-qʷá-s-ts* 'his rabbit' (from *s-ɬ-qʷá(qʷc̓e?)* 'rabbit'; cf. Spokane *s-qʷáqqʷc=i?*). The remaining two examples with *-s-* are in vowel-final loanwords from French (either directly or via Chinook Jargon): *lkepú-s-ts* 'his coat' (from *lkepú* 'coat') and *kapí-s-ts* 'her coffee' (from *kapí* 'coffee'); the possessive of 'coffee' alternates with *kapí-h-s*. A total of six examples with *-s-* is not trivial, but it is the inserted *-h-* that is clearly productive, so I will not discuss *-s-* further, except to note that any theoretical account of consonant insertion before possessives must explain the variation in choice of consonant.

Otherwise, and quite productively, the consonant that is inserted between a truncated stem and a possessive suffix is /h/. I have just one example in my files of a 2pl possessive suffix *-mp* added to a truncated stem; this example arose in a 'What happened next?' elicitation context, so the relevant sentence was constructed by the consultant, not translated from English. The word is *s-c̓ɬ-q̓ʷá-h-mp* 'your bark bags/rawhide buckets' (from *s-c̓ɬ-q̓ʷá* 'bark bag/home-made rawhide bucket'; cf. Spokane *s-c-c̓-ɬq̓ʷ=álqʷ* 'bark basket'). An interesting formation that may be relevant here is the independent Spokane pronoun *npléhmp* 'you (pl)', which looks as if it too has an inserted *-h-* between a stem *nplé* and a 2pl possessive suffix *-mp*. This would make sense, in spite of the fact that Spokane doesn't seem to have much (if any) truncation otherwise, if the Spokane stem is precisely cognate with MSa *nplé* 'you (pl)'; compare Mengarini's *mpilépstemp* (1861) and 2pl independent pronouns in certain other Salishan languages, e.g. Coeur d'Alene *kuplípst* (where the initial *ku-* (or *k̓ʷu-*) is presumably an analogic innovation based on the 2sg intransitive subject particle).

All my other examples have //h/ inserted before the third-person possessive suffix *-s*. The native words invariably have etymological word-final consonants. Here are a few typical examples, some with variant formations. The stem *qq̓̓m=é(y̓e?)* 'to fish; fish-hook' has a derived form *c̓-qq̓̓m=é(y̓e?)* 'fishing pole' (cf. Spokane *c̓-q̓q̓̓m̓=éy̓e?-tn*); the possessed form varies between a suffixed full form *c̓-qq̓̓m̓=éy̓e-s* (with deleted glottal stop—and assuming that the full form in MSa lacks the final suffix that occurs in the Spokane word) and a suffixed truncated form *c̓-qq̓̓m̓=é-h-s* 'his fishing pole'. These two possessed forms were offered by the same speaker in translating the same story sentence-by-sentence from English, but in consecutive years (the form with direct suffixation in 1996 and the form with inserted /h/ in 1997).

The word *nt̓é* 'gooseberry' is clearly a lexicalized noun in MSa; it never occurs with the presumed etymological suffixes (cf. Spokane *n-t̓ét̓m̓=l̓ps* 'gooseberry' and Colville-Okanagan *n-t̓í-t̓m=lps* 'wild gooseberry'). The possessed form has inserted /h/: *Malí nt̓éhs* 'Mary's gooseberries'. Similarly, *c̓e?mú* 'pet' has

only this form; compare Spokane *c̓-em̓út-n̓* 'caged up pet (e.g. a canary or hamster)', which suggests that the etymological MSa form was *c̓-ʔemút(-n̓ʔ)*, literally 'perched on', from the root for 'sit'). The possessed MSa form is *c̓eʔmú-h-s* 'his pet'. Similarly, the only MSa form of the word for 'flea' is *k̓ʷt-k̓ʷí*, and the possessed form is *k̓ʷt-k̓ʷí-h-s* 'his fleas'; compare Spokane *k̓ʷt̓-k̓ʷít̓=ps* 'a flea' and Colville *k̓ʷt̓-k̓ʷit̓=ps* 'flea'. The possessed form for the word for serviceberry bush is *s-ɬɬq=é-h-s* 'her serviceberry bush' (with C1 reduplication; compare Spokane *s-ɬɬq=éɬp*), and *c̓ɬ-k̓ʷl̓-k̓ʷl̓=é-h-s* 'his calf' is formed from *c̓ɬ-k̓ʷl̓-k̓ʷl̓=é* (cf. Spokane *k̓ʷl̓k̓ʷl̓=él̓xʷ* 'cow calf'). Many examples could be added to these: the phenomenon is quite common.

There are also several examples with vowel-final loanwords, all of them borrowed from French (directly or via Chinook Jargon): *laswé-h-s* 'her silk', *lmotó-h-s* 'his sheep', *lk̓ʷošó-h-s* 'his pig', *leputé-h-s* 'his bottle', and *sqʷóʔɬ lamná-h-s* 'honey', literally 'bee's syrup' (this may be Pend d'Oreille only; the Bitterroot Salish dialect has a different word for 'syrup, molasses').

In some cases a noun must be considered to have severed its link to an etymologically connected root. We've already seen a few examples; another is *np̓ú* 'yellow clay (used for painting on the forehead)', which is originally from the root *p̓úm* 'brown, orange (color)'. The possessed form *np̓ú-h-s* indicates that the truncated form has been lexicalized, so that treating it as a derivative of *p̓úm* is an etymologically-based decision, quite possibly not justified synchronically. Compare the possibly related formations in Spokane and Colville-Okanagan, respectively *s-n-p̓úm=łc̓eʔ-tn* 'smokehouse' and *s-n-p̓úm=łc̓aʔ-tn* 'smoking shed'.

It may well be that the small number of semantically crucial nominal suffixes—only the 2pl and 3rd possessive suffixes, as noted above—is responsible for the striking difference in the behavior of truncated nouns as opposed to truncated verbs. Several grammatical verbal suffixes are vital to the meaning of the word, and the suffixed formations are sufficiently frequent that they can reasonably be supposed to have prevented lexicalization of truncated verb stems. Even nouns that are felicitously possessed probably don't occur often enough in natural discourse

to keep the long form of a truncated simplex noun in speakers' minds, or to permit child learners to acquire it (in the days when MSa was still learned by children as a first language). And the fact that many or most nouns are not naturally possessed (it's hard to elicit forms like 'his cow elk', even with a hunting context provided) contributes to the low frequency of crucially suffixed nominal forms.

This concludes the description of the /h/-insertion process and the other (less common) strategies for adding suffixes to lexicalized truncated noun stems. It must be emphasized that I don't know how general this is in the MSa language community; I've heard it consistently from just one consultant, JPP, although I do have examples from other speakers as well. There is some variation among speakers, as we've seen. I also don't know how old the phenomenon is, but I'd guess not very old as a productive process: it obviously arose after the long slow (and still incomplete) process of lexicalization of truncated stems.

5. Why /h/-insertion?

Two interesting questions remain. First, why is any consonant inserted by some speakers between a lexicalized truncated stem and a possessive suffix? This question arises because it is certainly not the case that word-final sequences of *-és*, *-ás*, and so forth are phonologically prohibited—they are actually quite common, especially *-es*. And second, why is /h/ the most productive Hiatustilger? The choice of /h/ seems surprising in view of its infrequent occurrence elsewhere in MSa, its limited distribution, and also its reported weakness, both phonetically and morphophonemically (although, as we have seen, it is not particularly weak morphophonemically in MSa). I have no solid answers to offer here to either question, but I do have a few comments.

One possible answer to both questions is that truncated stems, as well as vowel-final loanwords, have been reanalyzed with a stem-final /h/, to fit the language's canonical C(C)VC / CV(C)C root structure. This isn't an appealing notion, however, because a new and otherwise unmotivated rule would be needed to delete the stem-final /h/ always and only in word-final

position. (And of course this hypothesis would still leave /h/ as an arbitrary dummy stem-final consonant.)

A more interesting answer to the first question is that the inserted *-h-* might be acting as a kind of 'morphological trace' signaling the (prior) existence of the truncated material (I owe this suggestion to Dan Everett, p.c. 2002). More generally, it might be a signal that the suffix is being added to a phonologically 'defective' stem, one that ends in a vowel; this would account both for the etymologically consonant-final native truncated stems and for the vowel-final loanwords. Elsewhere in the language, both vowel-initial and consonant-initial suffixes are almost always added to consonant-final stems: there are a few vowel-final suffixes that occur in absolute word-final position, but hardly any that precede other suffixes, and the only native vowel-final roots are a few that have lost an original consonant (usually a pharyngeal). The insertion of /h/ (or of /s/ in the less common case) would then function as a parsing aid (Dan Everett, p.c. 2002).

But then why /h/? At first glance, at least, it seems odd that such a rare and arguably marginal consonant would be chosen as a Hiatustilger. There seem to be two mutually exclusive possibilities here. The choice of /h/ might have been dictated by its marked status in the MSa phonological system, making it a prominent and therefore easily detectable parsing aid (Dan Everett, p.c. 2002). Its phonetic prominence—the inserted *-h-* in the possessed forms is quite long and therefore very noticeable—would support this suggestion.

But on the other hand, perhaps /h/ was chosen as a default consonant (I'm grateful to Bill Poser, p.c. 2002, for this suggestion and the following analysis.) Starting when autosegmental analyses began making use of default feature insertion rules, epenthetic segments have been assumed to be the defaults for the particular language (or else unspecified). This might work for the rarer instances of *-s-* insertion—I don't have specific evidence to support a claim of default status for any MSa consonant, but /s/ is probably a more promising candidate than /h/. But it may be that the very fact that '/h/ is a consonant with not much feature content' could make /h/ 'the result of the in-

sertion of the minimal [number] of consonant features that MSa requires....in theory there is no reason that the default in this sense...should be a segment that is otherwise common in the language.'

Both of these suggestions for motivating the choice of /h/ for insertion seem plausible, and I have no evidence at present that would help in deciding between them. Nor am I altogether certain that they are in fact mutually exclusive: it may be that the phonetic markedness and marginal status of /h/ in the MSa system combine with the minimal feature content of /h/ to make it an excellent choice for Hiatustilger.

References

Black, Deirdre Jean. 1996. *The morphological and phonological structures of Spokane lexemes.* Victoria: University of Victoria dissertation.

Carlson, Barry F. 1972. *A grammar of Spokan: a Salish language of eastern Washington.* Honolulu: University of Hawaii dissertation.

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. 1990. Truncation, i-Suffixation, and extended vowel lengh in Coeur d'Alene. *Papers for the 25th International Conference on Salish and Neighbouring Languages,* University of British Columbia, pp. 97-109.

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

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

Mattina, Anthony. 1973. *Colville grammatical structure.* Honolulu: University of Hawaii dissertation.

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

Mengarini, Gregory, S.J. 1861. *Grammatica linguae Selicae.* New York: Cramoisey Press.

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.

Reichard, Gladys. 1958. A comparison of five Salish languages, Part I. *IJAL* 24:293-300.

Swadesh, Morris. 1952. Salish phonological geography. *Language* 28:232-248.

Thomason, Sarah, and Lucy Thomason. 1996. Truncation in Montana Salish. Paper presented at the annual SSILA meeting, San Diego.

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

Watkins, Donald. 1970. *A description of the phonemes and position classes in the morphology of Head of the Lake Okanagan (Salish).* Edmonton: University of Alberta dissertation.

Sarah Thomason
thomason@umich.edu, sally@thomason.org