The n Shift in Spokane Salish[1]

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0. Introduction

Perhaps the most interesting morphophonemic alternation in Spokane is that which involves the shift of n to i or y. In a number of different situations, n is affected by a directly following spirant consonant, s, so that it vocalizes in an environment C__s, or becomes a distinctive glide in the environment V́__s (V is not homorganic with y; after tense vowel í, y is not distinctive).

This shift was noted in my brief sketch of Spokane (Carlson 1972b), and in a later paper on unstressed vowels (Carlson 1972a). Earlier, Hans Vogt noted the effect of s and other spirants on n in nearly identical Kalispel, but did not clearly state that he felt n changed to i or y. Instead, he treated the alternation as a loss of n throughout, and did not account for the cases in which an unstressed vowel or distinctive glide develops (Vogt 1940 pp. 18,35).

This paper will present the somewhat disparate evidence that by and large requires a rule shifting n to i/y for Spokane. Since the change must be discussed within the broader framework of Spokane word building and phonological rules, I will first provide a brief sketch of Spokane words.

1.0 The Spokane word

1.1 Shape

At the heart of the Spokane system of word building are typical CVC(C)(V) roots. Roots may take prefixes or suffixes or stand alone to form words.

1.2 Stress

When a root occurs alone to form a word, it takes primary stress. When prefixes are added, primary stress is still placed on the root. When suffixes are added, primary stress may occur on the root or on one of the suffixes. Roots and suffixes involved will determine stress placement.

Suffixes fall into three groups: those that are strong (suffixes which always take the stress from a root); unstressed suffixes, which do not have an underlying vowel; and variable suffixes, which have both stressed and unstressed variants. The last take stress when it is not automatically placed on the root or on a strong suffix in the same form. When unstressed their underlying vowels are usually lost.

Roots are divided into three main groups: strong roots, which take the stress unless a strong suffix is present; weak roots, which lose stress to variable suffixes as well as to strong suffixes. Unstressed, these

roots usually lose their underlying vowels. If no variable or strong suffixes are present weak roots occur stressed. There are also a number of variable roots, which sometimes act like strong roots, at other times as weak roots. Various combinations are illustrated below. Underlying and surface forms are given.

There are some conventions for citing underlying forms. Strong roots and strong suffixes are listed in underlying forms with a stressed vowel; vowels of weak and variable roots, and variable suffixes are not marked.

Strong root/variable suffix

//púl-s-t-es// púlsc 'He killed it.'

(Root //púl// 'kill', variable suffix //-es// 'he')

Strong root/strong suffix

//púl-s-t-súṭ// pəlscúṭ 'He killed himself.'

(Strong suffix //-súṭ// 'reflexive')

Weak root/variable suffix

//šili-n-t-es// šələnṭés 'He chopped it.'

(Root //šili// 'chop')

Weak root/strong suffix/variable suffix

//šili-nú-n-t-es// šələnúys 'He managed to get it chopped.'

(Strong suffix //-nú-// 'success')

Variable root/variable suffix

Acting strong

//ʔupn/-ečst/-qin// ʔópənčstqən '100'

Acting weak

//ʔupn/-ečst/-eɬ̓če?// ʔupənčstéɬ̓če? 'ten animals'

(variable root //ʔupn// '10', variable suffixes //-ečst// 'hand', //-qin// 'top, head', //-eɬ̓če?// 'animal')

The suffixes in the last two examples are lexical suffixes. All other suffixes are called grammatical suffixes. Lexical suffixes follow a root and precede grammatical suffixes, although a small number of primary grammatical suffixes may intervene between a root and lexical suffixes. The term lexical is used because they often have very concrete meanings. They are cited in underlying forms with a preceding slash (/) and a hyphen (-).

When two variable grammatical suffixes occur with a weak root or a weak acting variable root, the first is stressed.

//šili-n-t-si-es// šələncís 'He chopped you (up).'

(variable suffixes //-si// 'you', //-es// 'he')

Variable lexical suffixes are stressed rather than accompanying variable grammatical suffixes.

//č̓ɬ-č̓ana-m/-enč-m-s-t-en// č̓ɬč̓ənəmáncmstən 'I tightened the cinchstrap.' (root //č̓ana// 'tight', suffixes //-enč// 'stomach', //-en// 'I')

It is not (yet) possible to predict which lexical suffix will be stressed when more than one lexical suffix forms a long base.

1.3 Stress, vowel deletion, and retention

The above discussion has assumed two rules thus far: (1) stress assignment; (2) deletion of unstressed vowels. Unstressed vowels of roots or affixes can be retained if they are adjacent to a laryngeal or pharyngeal consonant. (For a fuller discussion see Carlson 1972a.) For example, the vowel of the weak root //ʔamxʷ// 'shave' is retained in ʔamxʷəntén 'He shaved it.'

1.4 Semivowel syllabification

Other unstressed surface vowels are due to syllabification of underlying semivowel resonants y and w (in either roots or affixes), which become i or u respectively when they occur between two consonants. The root //tew// 'buy, sell' shows this development when it occurs unstressed in tumíst 'He sells or buys things'. (Compare stéwcən 'groceries'.) This rule of syllabification must follow (1) stress, and (2) vowel deletion. A number of other rules follow (1) and (2). The n shift rule is one of them.

2. Alternations involving n: suffixes

When certain suffixes containing n come into direct contact with s in following suffixes, n becomes i /C__s; y /V__s (V is not homorganic with y). The cases will be discussed individually.

2.1 Transitive stems

Transitive stems are formed from two types of bases: short bases, consisting of a root, and long bases, consisting of a root extended by one or more lexical suffixes. There are a number of types of transitive stems, all involving a suffix //-t-// 'transitive'. The framework may be displayed as follows. Examples of each type are given.

BASE -n- -t- -OBJECT-SUBJECT

CONTROL //k̓ʷe?e-n-t-si-es// k̓ʷe?ncís 'He bit you.'

-s-

CAUSATIVE //púl-s-t-en// púlsten 'I killed him.'

-šiš-

SUBSTITUTIVE //wri-šiš-t-en// ?uršíten 'I burned something for someone.'

-ɬ-

RELATIVE //c̓ɬ-n-c̓ehk̓ʷ/-ep-ɬ-t-exʷ// c̓ɬnc̓ehk̓ʷéptxʷ 'You opened the door for him.'

When the subject pronoun is third person general (meaning singular/plural, masculine/feminine) //-es// 'he/they', and the object is third person general (not overtly marked), conditions arise which allow the 'control' //-n-// to become i, but only when //-es// does not get stressed. This means that either the base root must not be of the weak type, or if weak must be in a long base with a lexical suffix to attract stress away from //-es//. When //-es// is stressed the surface form of the stem with third person ending is -ntés; when unstressed, -is. The following derivations show the rules necessary to derive these surface forms.

Weak root	Strong root	
//šili-n-t-es//	//nic̓-n-t-es//	
šili-n-t-és	nic̓-n-t-es	(1) Stress
š l -n-t-és	nic̓-n-t- s	(2) Vowel deletion
----------	nic̓-n- -s	(3) Deletion of t between n and s
----------	nic̓-i- -s	(5) n shift
šəlntés	----------	(8) Schwa insertion

šəlntés 'He chopped it.' nic̓is 'He cut it.'

2.2 Success stems

A transitive stem may be formed from a base extended by the strong suffix //-nú-// 'success'. This is called a success stem. It is often used to indicate that an action has been achieved through considerable effort. Contrast nícəntxʷ 'You cut it' with nc̓ənúntxʷ 'You (finally) got it cut'. Since //-nú-// is a strong suffix, the following transitive stem and pronoun endings are always in reduced form whether the base root is strong or weak. Again, the s of third person //-es// contacts a 'control' //-n-// and it changes to i. After ú, the i becomes a semivowel y by a desyllabification rule as in the next derivation. Thus two rules are used to get y from //n//.

//nícˀ-nú-n-t-es//	'He got it cut.'
nicˀ-nú-n-t-es	(1) Stress
n cˀ-nú-n-t- s	(2) Vowel deletion
n cˀ-nú-n- s	(3) t deletion
n cˀ-nú-i- s	(5) n shift
n cˀ-nú-y s	(6) Desyllabification

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nc̓núys 'He got it cut.'

2.3 Long bases

A number of lexical suffixes end in n. These include //-qin// 'head, top', //-cin// 'mouth, food', //-ičn//~//-ičn̓// 'back', //-šin//~//-šin̓// 'foot, leg', //-axn// 'arm'.[2] If these n's contact a following s they undergo the change to i. The third person general possessive ending //-s// 'his/their' can directly follow a base and cause this change. Some examples with these suffixes and the possessive follow.

//p̓raq̓/-ep/ew̓s/-qin-s// p̓ərq̓ápo?sqis 'his phonograph'
but: hinp̓ərq̓ápo?sqən 'my phonograph'

//n-č̓í?/-cin-s// nč̓í?cis 'his wolf'
but: hinč̓í?cən 'my wolf'

//lxʷu-p/-ičn-s// lxʷpíčis 'He hurt his back.'
but: hinlxʷpíčən 'I hurt my back.'

//s-túm̓/-šin-s// stúm̓šis 'his toe'
but: histúm̓šən 'my toe'

//s-čuw/-axn-s// sčəwáxis 'his arm'
but: hisčəwáxən 'my arm'

When a suffix like //-qin// 'head, top' (which has an underlying vowel i preceding n) occurs stressed, a following possessive //-s// changes n to i and by the desyllabification rule i shifts to y. However, after a homorganic vowel the glide is not distinctive. Thus the surface form is -qís as in spɬqís 'his head'.

The shift can also take place if a lexical suffix ending in n is directly followed by another lexical suffix beginning in s, as in the following examples with the strong lexical suffix //-sqáxe?// 'horse'.

//n-qep/-ičn̓/-sqáxe?-tn// nqpči?sqáxe?tən 'saddle blanket'
//q̓e?e/-šin/-sqáxe?-tn// q̓a?šisqáxe?tən 'horseshoe'
//n-t̓uk̓ʷu/-ičn̓/-sqáxe?-tn// nt̓k̓ʷči?sqáxe?tən 'saddle'

The examples with //-ičn̓// 'back' show that a glottalized n becomes i? before an s.

2.4 Instrumental stems

Bases can take the instrumental suffixes //-min// and //-tn// to form instrumental stems. When these are directly followed by the third person possessive //-s// they undergo the shift also. As before, if the vowel of variable //-min// is stressed, the shifted n is not distinctive.

//s-n-q̓eyq̓ey-tn-s// sənq̓iq̓éytis 'his camp'
but: hisənq̓iq̓éytən 'my camp'
//t̓ap-min-s// t̓apəmís 'his bow and arrow'
but: hint̓apəmín 'my bow and arrow'
//k̓ʷúl̓-min-s// k̓ʷúl̓əmis 'his tool'
but: hink̓ʷúl̓əmən 'my tool'

3. Alternations involving roots

There are a number of cases where a root ending in n undergoes the shift. The root //ʔíɨn// 'eat' has a vowel for its n in hecəʔíɨistən 'I (customarily) eat it'. Here the conditioning spirant is the //-s-// 'causative' suffix of a transitive stem. //syén// 'count' (as in hecsəyénəm 'He is counting', with //-m// 'middle' forming a middle [voice] stem) shifts its n when it forms a 'control' transitive stem in the third person. A derivation shows the development.

//syén-n-t-es//		'He counted it.'
syén-n-t-es		(1) Stress
syén-n-t-	s	(2) Vowel deletion
syén-n-	s	(3) t deletion
syén-	s	(4) Cluster simplification
syéi-	s	(5) n shift
syéy	s	(6) Desyllabification
səyéy	s	(8) Schwa insertion

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səyéys 'He counted it.'

The root //kʷene// 'take' also shifts its n when it forms a 'control' transitive, in the third person: kʷéys 'He took it'. (Compare this with kʷéntxʷ 'You took it'.)[3]

When the third person possessive //-s// follows a root ending in n the shift can also be seen: //ʔíɬn// 'eat', scəʔíɬis 'his food' (qeʔscəʔíɬən 'our food'); //kʷúɬn// 'keep', sckʷúɬis 'his mistress' (hisckʷúɬən 'my mistress').

Roots in certain types of compound bases also show the shift. A typical compound formation consists of a base followed by //s-// 'nominal' and another base. Stress is on the second base. If the first base ends in n it undergoes the shift. The root //kʷtún// 'big' (as in kʷtúnt 'It's big.') shows this change when followed by //s-// 'nominal' and the root //myéw// (səməyéw 'coyote') to form skʷtisəməyéw 'mountain lion'.

A mysterious element k̓ʷi often turns up as the first member of a compound. For example, čiqsk̓ʷisxécti 'I'm going to go dig roots' has k̓ʷi, and the root //xeci// 'dig roots'. k̓ʷi does not occur in my corpus except in compounds, directly preceding //s-// 'nominal', and so far it never has occurred stressed. However, the surface i may be from an underlying n as C_2. The meaning of //k̓ʷVn// is something like 'go after'. Comparative evidence may support a reconstruction with n even if the synchronic form of the root is never shown to alternate.

//k̓ʷen// 'go after'

The pre-particle //pn̓// 'but, while' compounds to a following base with //s-// 'nominal'. Here the n̓ breaks down to i?, as in pi?stém̓ 'when', or spi?scé? 'yesterday'. (stém̓ 'what'. scé? does not occur except in this compound form.)

4. Alternations involving prefixes

One subject pronoun and two possessive pronouns are involved in the shift. //čn-// 'I' becomes či- before //s-// 'nominal' as in čisqélix^{w} 'I am a man'. (Compare čənilmíx^{w}əm 'I am chief'.) The possessives //hin-// 'my', and //han-// 'your (sg.)' become hi- and ha- before //s-// 'nominal': hisqélix^{w} 'my man', hasqélix^{w} 'your man' (hinilmíx^{w}əm 'my chief', hanilmíx^{w}əm 'your chief'). Before a root beginning in s no n's are shifted. Note hinsék^{w} 'I can't talk very well / It's not one of my strong points to be able to talk well'.[4]

The development of //čn-// seems to fit the n shift nicely. //hin-// and //han-//, of course, retain their vowels under lack of stress due to their protecting laryngeals. //hin-// does not develop a distinctive glide after its vowel i, as is the general rule. However, neither does //han-//. After heterorganic vowel a glide y would be expected. In this instance the trace of //n// is lost. It may be that the historical development of //han-// is involved here. This prefix is troublesome because it has

a lower vowel than it should. *a in Spokane shifted to e unless conditioned by a contiguous pharyngeal, a following postvelar consonant, or r. If conditioned it stayed a. The vowel of //han-// is not conditioned but it has not shifted. If instead, the vowel a is from *ə, it is still unexplained because this vowel developed to i/a under the same general conditions as *a. For the present, //han-// remains a problem. For a discussion of Proto-Eastern Interior Salish vowels, see Kinkade and Sloat (1972).

5. Other consonants that affect n

n is also sometimes affected by a following ɬ or š. These consonants can cause the complete loss of n; in most cases there is no vocalic or semivocalic trace. The root //syén// 'count' loses its nasal when it forms a transitive stem with //ɬ// 'relative', or //-šiš-// 'substitutive'. Thus //syén-ɬ-t-en// 'I counted something for him', becomes syéɬtən; //syén-šiš-t-en// 'I counted something for someone' becomes syéštən. (This root was earlier shown to develop a glide y in a 'control' transitive stem with a third person subject pronoun: //syén-n-t-es// 'He counted it' becomes syéys cf. 3.) In a parallel development, //kʷene// becomes kʷéɬtən 'I took it for him', and kʷéštən 'I took something for someone'.

When the lexical suffix //-šin// 'foot, leg' directly follows a lexical suffix ending in n, like //-ičn//~//-ičn̓// 'back', the n of the first suffix is sometimes lost: sčɬxe?p̓íčšən 'shoestring', but sčɬčəmíčn̓šn 'top of foot'. It may be that glottalization of the n in some cases prevents deletion.

I have found one instance where the lexical suffix //-ɬtúmš// 'person' causes the shift of n to i. The root //xe?ni// 'to tell, warn' shifts its n in //sx^{w}-xe?ni-ɬtúmš// 'a person who bothers others by disturbing a conversation', becoming sx^{w}xə?iɬtúmš. (The underlying n shows up in the 'middle' form hecxe?nim 'He's telling us or warning us about something'.) A derivation may be useful.

//sx^{w}-xe?ni/-ɬtúmš//	
sx^{w}-xe?ni/-ɬtúmš	(1) Stress
sx^{w}-xe?n /-ɬtúmš	(2) Vowel deletion
sx^{w}-xe?i /-ɬtúmš	(5) n shift
sx^{w}-x ?i /-ɬtúmš	(7) Vowel deletion[5] /__?V
sx^{w}-xə?i /-ɬtúmš	(8) Schwa insertion

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sx^{w}xə?iɬtúmš 'a person who bothers...'

6. Comparative evidence

Shuswap (Southern)

Spokane is not the only Interior Salish language which displays the shift of a resonant to a vowel or glide. In Southern Shuswap the shift is even more striking. Gibson (1973) has shown that in weakly stressed syllables //m// and //n// are replaced by i following front obstruents, by e elsewhere (page 18).[6] He lists gacitén 'I tied it' from //gac-n-t-en// (compare qəlentén 'I talked to him'.), and níkekə 'I cut' from //nik-m-k-en//. The schwa in the last example is explained elsewhere as a replacement for é before pause (page 23). As well, a sequence of nn can become a vowel. xʷíke 'I cut it' is from //xʷik-n-t-en// (page 18). In this transitive stem, after stress assignment, the vowel of //-en// 'I' is deleted, the sequence of ntn is simplified to nn, then n, and becomes a vowel. In another case n is lost before //-xi-// 'benefactive'. tuʔkʷəmíxtən 'I sold it for him' is from //tuʔkʷ-min-xi-t-en// (page 18). The cognate of this morpheme, Spokane //-šiš-// 'substitutive', was shown to cause n loss (cf. 5.).

Thompson

The Thompson language also shifts n's. In Thompson underlying //n// is realized as e when it occurs between any preceding consonant and a following t, s, c or ɬ (Thompson 1973, page 6. Following examples are from section 4). Thus a Thompson transitive stem inflected for third person general (subject and object) using //kíc// 'arrive at location of' is kíces, from //kíc-n-t-es//. The cognate in Spokane would be čícis[7], from //číc-n-t-es//.

In transitive forms involving weak roots, the 'control' //-n-// in Thompson also shifts, but Spokane's does not. Notice Thompson səlketés 'He turned him around', from //slk// 'turn (someone or something) around', and the transitive stem endings and pronoun //-n-t-es//. (Compare Spokane səlčəntés.) The Spokane n can only shift when it contacts the spirant of the third person ending, and only when the stem ending is not stressed, with subsequent deletion of the e and t is this possible. The Thompson shift is more general; nearly all the coronal consonants in the language can condition a shift (all except c̓ and ƛ̓).

Coeur d'Alene

Coeur d'Alene forms taken from Gladys Reichard's grammar (1938. Words are rewritten in a form consistent with the rest of this paper) suggest that n does shift to i in certain cases. nčámqiɬxʷ 'ridgepole' contains two lexical suffixes, //-qin// 'head, top' and //-iɬxʷ// 'house'. Since stress is on the root element, both suffixes occur in reduced form. If Coeur d'Alene phonological rules are parallel to those envisioned for Spokane, this looks like a case of n shift.

In the Coeur d'Alene transitive system, the unstressed third person general (subject and object) transitive ending //-n-t-is// (Spokane and Thompson //-n-t-es//) becomes -nc, as in čəšípenc 'He chased her'. It seems that vowel deletion is followed by collapse of t and s rather than deletion of t and shift of n to a vowel as in Spokane and Thompson.

I have found no good cases in Reichard's data which show a sequence of ns becoming is. In fact it's interesting to note the suffix //-ins// 'tooth, separable things falling' in Coeur d'Alene (hinqʷíčənsən 'toothpick', nxʷukʷukʷínsəmš 'He's cleaning his teeth'). The Spokane cognate is //-eys// as in stipéys 'rain', or čɬcəʔéysən 'I hit him in the teeth'. The Proto-Interior Salish form for this morpheme is probably *-ans, and the shift of n to y is an example of a sound change.

in Sp

Colville

Can roughly the same as this.

n's are lost in Colville mainly before the spirant s. Mattina (1973) describes several cases. The n's of //in-// 'my' and //an-// 'your' are lost before s and the prefix //kɬ// 'unrealized' (page 23).[8]

//in-s-xʷúy̓-t-n// isxʷúy̓ətən 'They are my tracks.'

//an-kɬ-tkɬmílxʷ// akɬtkɬmílxʷ 'She is your wife to be.'

//an-sipn// asípn 'She is your sister-in-law.'

//-n-// 'control', or stem final n is deleted before s's, except //-s// 'third person possessive' (pp. 33 and 34).

//ʔáq̓ʷ/-us-n-t-is// ʔáq̓ʷəsəs 'He shaved him.'

but:

//s-xʷúy̓-t-n-s// sxʷúy̓ətəns 'They are his tracks.'

The underlying and unstressed surface forms of the third person transitive stem and pronoun ending are shown in the next to the last example above. Stress assignment, vowel deletion, and t deletion are followed by loss of n before s. Thus //-n-t-is// becomes -s.

7. Conclusions

It seems clear that for Interior Salish, at least, nasal resonants, especially n, are regularly lost or vocalized when they contact certain consonants, usually a following s. The change may be important for Coast Salish as well. Thompson has indicated that the shift of n to i may occur in Tillamook (Laurence C. Thompson, personal communication). Kinkade (1973) has noted the change historically in the Olympic branch of Coast Salish. Upper Chehalis qinúnɬən? 'wolf' is cognate with Cowlitz qinúʔɬəʔ, Lower Chehalis sqəʔnúʔɬən.

The reasons why n should act this way are not clear, and must remain unanswered in this paper. I will suggest, however, that if there is an articulatory basis for such a change it must take into account two relationships: (1) The clash of nasal and obstruent; (2) The relationship of n (and m) with i and e.

(1) The clash in most of the cases described in this paper involves n (and m for Shuswap), and following or preceding front and back obstruents (Shuswap nn is also involved). The obstruents are often front or anterior (earlier diffuse, and including s, t, c, and ɬ), but sometimes back, or non-anterior (examples showed k and x for Shuswap; š for Spokane).[9] In the languages discussed they always follow the nasal except in Shuswap

where they usually precede. The nasals involved are anterior (Interior Salish has only anterior nasals).

(2) n, m, i, and e seem to be related only in their general "frontness". Anterior is not a feature usually applied to both vowels and consonants, but the equivalent diffuse has been.[10] i is diffuse, but e is not. Otherwise, the nasals and vowels differ in two major class features, syllabic and consonantal, agree in one, sonority, and differ in nasality. It is possible to say that, generally, non-diffuse e develops in the environment of non-diffuse obstruents (Shuswap); diffuse i develops in the environment of diffuse obstruents (Shuswap and Spokane), but in Thompson e develops next to diffuse obstruents. In Spokane a non-diffuse š serves to delete a preceding n.

The triggering feature of the shift may involve a change in closure. Vowels are open sounds; obstruents closed; resonants inbetween. Perhaps certain voiceless obstruents prevent closure of resonants (or serve as their closure) thereby opening the vocal tract and creating a vowel from the already voiced segment. In cases where no vowel develops (as in all Colville cases) the opened segment may be also devoiced by the obstruent and thus so weakened that it is lost. Instrumental phonetic work now being done by Craig Dixon of the University of Victoria suggests that this articulatory relationship may cause the shift of n (Craig Dixon, personal communication).

FOOTNOTES

1 Spokane and nearly identical Kalispel and Flathead may be considered dialects of one language for which there is no single name.

The inventory of consonants and vowels in Spokane is as follows/ ptcčqkʷqʷʔpt̓c̓č̓q̓k̓ʷq̓ʷsšɬxxʷx̣ʷhmnrlyw ʕʕʷm̓n̓r̓y̓l̓w̓ʕ̓ʕ̓ʷieauo and unstressed ə.

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2 Variations in glottalization are unexplained for these forms.

3 //kʷene// is troublesome in that it functions as a strong root in a transitive stem; a weak root in middle (voice) stems: kʷənémˈ 'He took something.' Weak roots generally have two vowels, and form middle stems by taking stress on V_2, and adding //-m// 'middle.'

4 There is one other instance where a sequence of ns remains. The very common prefix //n-// 'in, located in', remains before an s, as in nsƛ̓əx̣étkʷ 'in fast water' from //n-s-ƛ̓ax̣/-etkʷ//.

FOOTNOTES

5 Rule (7) is a necessary complication in a derivation like this although the deletion of a vowel before a laryngeal which is in turn followed by a vowel is more general. Weak roots that form middle stems are the best example. All weak roots that occur with the weak suffix //-m// 'middle' to form a middle (voice) stem have two underlying vowels ($C_1V_1C_2(C_3)V_2$). With //-m//, V_2 is stressed and the other deleted unless protected by an initial laryngeal or a laryngeal as C_2 followed by a C_3. Thus //šili// 'chop' becomes šəlím 'He chopped something' in a middle stem. //p̓ač̓a// 'loose bowels' becomes p̓č̓ám 'He has loose bowels.' //ʔali// 'lose' becomes ʔalím 'He lost something.' //xeʔni// 'tell, warn' becomes xeʔním 'He warned someone.' If C_2 is a laryngeal directly followed by V_2, V_1 is deleted by rule (2). In this way //k̓ʷeʔe// 'bite' becomes k̓ʷəʔém 'He bit something' in a middle stem, with eventual schwa insertion (8) following loss of underlying //e//. In the present example, however, the environment for deletion of //e// is not right until after n has shifted (Rule 5).

FOOTNOTES

6 In Shuswap the dividing line for back-front is between the velar obstruents and c ċ s, Gibson's frontals. Shuswap is a "k" language with the front velar series k ḳ x corresponding to Spokane č ċ š.

7 Proto-Eastern Interior Salish *k ḳ x have become č ċ š in Spokane (Kinkade and Sloat 1972).

8 In Spokane, the n of //čn-// 'I' develops to i before cognate //qɬ-// 'unrealized': čiqɬilmíx^{w}əm 'I'm going to be chief' is from //čn-qɬ-ylmix^{w}m//. The possessives //hin-// 'my', and //han-// 'your' become hi- and ha-. All three morphemes, then, develop in the same way as before //s-// 'nominal' (cf. 4.).

9 Anterior (or diffuse) consonants are those sounds articulated forward of the palato-alveolar region of the mouth.

10 Diffuse vowels are high, either front, central or back, round or unround.

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