The n Shift in Spokane Salish

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O. 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 $V_s$ ($V$ is not homorganic with $y$; after tense vowel $i$, $y$ 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-sút// pəlsčút 'He killed himself.'
(Strong suffix //sút// 'reflexive')

Weak root/variable suffix

//šili-n-t-es// šələntés 'He chopped it.'
(Root //šili// 'chop')

Weak root/strong suffix/variable suffix

//šili-nú-n-t-es// šələnuys 'He managed to get it chopped.'
(Strong suffix //nú// 'success')
Variable root/variable suffix

Acting strong

//?upn/-ečst/-qin// ?openčstqen '100'

Acting weak

//?upn/-ečst/-ę́če?// ?upenčstę́če? 'ten animals'

(variable root //?upn// '10', variable suffixes //ečst// 'hand', //qin// 'top, head', //ę́če?// '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// šelancis 'He chopped you (up).'

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

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

//či-čana-m/-enč-m-s-t-en// čičenčmančmston 'I tightened the cinchstrap.' (root //čana// '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 //?amxʷ// 'shave' is retained in ?amxʷentēn '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 stéwcan '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; v /V_s (V is not homorganic with v). 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.

<table>
<thead>
<tr>
<th>BASE</th>
<th>-n-</th>
<th>-t-</th>
<th>-OBJECT-SUBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROL</td>
<td>//k we?e-n-t-si-es//</td>
<td>kwencis</td>
<td>'He bit you.'</td>
</tr>
<tr>
<td>-s-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAUSATIVE</td>
<td>//pul-s-t-en//</td>
<td>pulsten</td>
<td>'I killed him.'</td>
</tr>
<tr>
<td>-šiš-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTITUTIVE</td>
<td>//wri-šiš-t-en//</td>
<td>?uršiten</td>
<td>'I burned something for someone.'</td>
</tr>
<tr>
<td>-i-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELATIVE</td>
<td>//či-n-čehk&quot;-ep-š-t-ex&quot;//</td>
<td>činčehk&quot;eptx&quot;</td>
<td>'You opened the door for him.'</td>
</tr>
</tbody>
</table>
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 un-stressed, -is. The following derivations show the rules necessary to derive these surface forms.

<table>
<thead>
<tr>
<th>Weak root</th>
<th>Strong root</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>//šili-n-t-es//</td>
<td>//nič-n-t-es//</td>
<td></td>
</tr>
<tr>
<td>šili-n-t-ės</td>
<td>nič-n-t-es</td>
<td>(1) Stress</td>
</tr>
<tr>
<td>š l -n-t-ės</td>
<td>nič-n-t- s</td>
<td>(2) Vowel deletion</td>
</tr>
<tr>
<td>---------</td>
<td>nič-n- -s</td>
<td>(3) Deletion of t between n and s</td>
</tr>
<tr>
<td>---------</td>
<td>nič-i- -s</td>
<td>(5) n shift</td>
</tr>
<tr>
<td>šelentés</td>
<td>---------</td>
<td>(8) Schwa insertion</td>
</tr>
</tbody>
</table>

šelentés 'He chopped it.' ničis '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 nícɨ̃ontxʷ 'You cut it' with nčenúntxʷ '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//.

\[
\text{//níc-nú-n-t-es// 'He got it cut.'}
\]

\[
\begin{align*}
níc-nú-n-t-es & \quad \text{(1) Stress} \\
nč-nú-n-t-s & \quad \text{(2) Vowel deletion} \\
nč-nú-n-s & \quad \text{(3) t deletion} \\
nč-nú-i-s & \quad \text{(5) n shift} \\
nč-nú-y s & \quad \text{(6) Desyllabification}
\end{align*}
\]

\[\text{nčnúy}s \ 'He got it cut.'\]
2.3 Long bases

A number of lexical suffixes end in n. These include //qin// 'head, top', //cin// 'mouth, food', //i\n//-qin// 'back', //sin//-qin// '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.

//pra\̱j/-ep/ew/-qin-s// porg\̱po\̱ sqis 'his phonograph'
but: hinporg\̱po\̱ sqen 'my phonograph'
//n-c\̱i?-/-cin-s// n\̱c\̱i?cis 'his wolf'
but: hin\̱c\̱i?cen 'my wolf'
//lx\̱w-p/-icn-s// lx\̱pici\̱s 'He hurt his back.'
but: hinlx\̱pici\̱en 'I hurt my back.'
//s-t\̱um/-sin-s// stum\̱xis 'his toe'
but: histum\̱m\̱sen 'my toe'
//s-\̱cuw/axn-s// scaw\̱xis 'his arm'
but: hiscaw\̱x\̱en '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 -qis as in spiqis 'his head'.

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² The 'axn// 'arm' is a special case where the n is not contact with a following s but is followed by the possessive //s// 'his/their'.
The shift can also take place if a lexical suffix ending in \( \mathbf{n} \) is directly followed by another lexical suffix beginning in \( \mathbf{s} \), as in the following examples with the strong lexical suffix //\(-\mathbf{sq}áxe?// 'horse'.

//\(\text{n-qep/}-\mathbf{ičn/-sq}áxe?-tn// \) \(\text{nqpči} \text{sqáxe}?\text{ten} 'saddle blanket' \)
//\(\text{qé?e/-šin/-sq}áxe?-tn// \) \(\text{qa?šisqáxe}?\text{ten} 'horseshoe' \)
//\(\text{n-\text{tuk}̑u/-ičn/-sq}áxe?-tn// \) \(\text{n̂t̑kči} \text{sqáxe}?\text{ten} 'saddle' \)

The examples with //\(-\mathbf{ičn}// 'back' show that a glottalized \( \mathbf{n} \) becomes \( \mathbf{i}? \) before an \( \mathbf{s} \).

2.4 Instrumental stems

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

//\(\text{s-n-ðeyðey-tn-s//} \) \(\text{sëndiqéytis} 'his camp' \)
but: \(\text{hisëndiqéytən} 'my camp' \)
//\(\text{ṭap-min-s//} \) \(\text{ṭapəmis} 'his bow and arrow' \)
but: \(\text{hinṭapəmín} 'my bow and arrow' \)
//\(\text{kúl-min-s//} \) \(\text{kúləmis} 'his tool' \)
but: \(\text{hinkúləmən} 'my tool' \)
3. Alternations involving roots

There are a number of cases where a root ending in \( \_n \) undergoes the shift. The root \( //?i\text{n}// 'eat' \) has a vowel for its \( n \) in he\( ?i\text{?i} \text{sten} // 'I (customarily) eat it'. Here the conditioning spirant is the \( //-s-// \) 'causative' suffix of a transitive stem. \( //sy\text{\texte}{\text{n}}// 'count' \) (as in he\( cs\text{\texte}{\text{y\texte}{\text{en\texte}{\text{m}}} '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.

\[
\begin{align*}
//sy\text{\texte}{\text{en-n-t-\texte}{\text{es}}// & \quad 'He counted it.' \\
sy\text{\texte}{\text{en-n-t-\texte}{\text{es}} & (1) \text{Stress} \\
sy\text{\texte}{\text{en-n-t- \texte}{\text{s}} & (2) \text{Vowel deletion} \\
sy\text{\texte}{\text{en- \texte}{\text{s}} & (3) \text{t deletion} \\
sy\text{\texte}{\text{e}} \text{\texte}{\text{i- \texte}{\text{s}} & (4) \text{Cluster simplification} \\
sy\text{\texte}{\text{ey \texte}{\text{s}} & (5) \text{n shift} \\
soy\text{\texte}{\text{ey \texte}{\text{s}} & (6) \text{Desyllabification} \\
s oy\text{\texte}{\text{ey \texte}{\text{s}} & (8) \text{Schwa insertion} \\
\end{align*}
\]

soy\text{\texte}{\text{ey\texte}{\text{s} 'He counted it.'}

The root \( //k\text{\texte}{\text{we\texte}{\text{ne}}// 'take' \) also shifts its \( n \) when it forms a 'control' transitive, in the third person: k\text{\texte}{\text{we\texte}{\text{ys }} 'He took it'. (Compare this with k\text{\texte}{\text{\texte}{\text{ent\texte}{\text{x}}} 'You took it'.))
When the third person possessive //-/s// follows a root ending in n the shift can also be seen: //?i^n// 'eat', sce?i?is 'his food' (qe?scə?i?en 'our food'); //k'u?n// 'keep', sk'u?is 'his mistress' (hisk'u?en '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 //k'tu?n// 'big' (as in k'tu?nt 'It's big. ') shows this change when followed by //s-/ 'nominal' and the root //m'yew// (som'yew 'coyote') to form sk'tisom'yew 'mountain lion'.

A mysterious element k'wi often turns up as the first member of a compound. For example, čiqsk'wisxéc'ti 'I'm going to go dig roots' has k'wi, and the root //xeći// 'dig roots'. k'wi 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 C2. The meaning of //k'w'n// 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.
The pre-particle //ph// 'but, while' compounds to a following base with //s// 'nominal'. Here the // breaks down to //, as in //stem 'when', or //sc? 'yesterday'. (stem 'what'. // 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 // before //s// 'nominal' as in //qelix 'I am a man'. (Compare //čenilmixwem 'I am chief'.) The possessives //hin// 'my', and //han// 'your (sg.)' become // and // before //s// 'nominal': //qelix 'my man', //qelix 'your man' (//hinilmixwem 'my chief', //hanilmixwem 'your chief').

Before a root beginning in // no //s are shifted. Note //hinsék 'I can't talk very well / It's not one of my strong points to be able to talk well'.

The development of //čn// seems to fit the 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 //, as is the general rule. However, neither does //han//. After heterorganic vowel a glide // 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 *e, 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 Sloot (1972).

5. Other consonants that affect h

h is also sometimes affected by a following i or š. These consonants can cause the complete loss of h; in most cases there is no vocalic or semivocalic trace. The root //syén// 'count' loses its nasal when it forms a transitive stem with //i// 'relative', or //-šiš-// 'substitutive'. Thus //syén-i-t-en// 'I counted something for him', becomes syétən; //syén-šiš-t-en// 'I counted something for someone' becomes syēštən. (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, //k'ene// becomes kwéštən 'I took it for him', and kwēštən 'I took something for someone'.

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When the lexical suffix /-§in/ 'foot, leg' directly follows a lexical suffix ending in n, like //ičn//-ičn/ 'back', the n of the first suffix is sometimes lost: scci xe?pičsn 'shoestring', but scci comičšt '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 //-itúms// 'person' causes the shift of n to i. The root //xe?ni// 'to tell, warn' shifts its n in //sxw-xe?ni-itúms// 'a person who bothers others by disturbing a conversation', becoming sxwxe?itúms. (The underlying n shows up in the 'middle' form hecx?ním 'He's telling us or warning us about something'.) A derivation may be useful.

//sxw-xe?ni//-itúms//

sxw-xe?ni//-itúms  (1) Stress
sxw-xe?n//-itúms  (2) Vowel deletion
sxw-xe?i//-itúms  (5) n shift
sxw-xe?i//-itúms  (7) Vowel deletion
sxw-xe?i//-itúms  (8) Schwa insertion

sxwxe?i itúms  '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). He lists **gacitén** 'I tied it' from //gac-n-t-en// (compare **qolentén** 'I talked to him'), and **níkeke** 'I cut' from //ník-m-k-en//. The schwa in the last example is explained elsewhere as a replacement for e before pause (page 23). As well, a sequence of nn can become a vowel. **xíke** 'I cut it' is from //xík-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'. **tu?k'emíxtən** 'I sold it for him' is from //tu?k'-min-xi-t-en// (page 18). The cognate of this morpheme, Spokane //šiš-// 'substitutive', was shown to cause n loss (cf. 5.).
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 $t$ (Thompson 1973, page 6. Following examples are from section 4). Thus a Thompson transitive stem inflected for third person general (subject and object) using //kic// 'arrive at location of' is kices, from //kic-n-t-es//. The cognate in Spokane would be čícis\textsuperscript{7}, from //čic-n-t-es//.

In transitive forms involving weak roots, the 'control' //n-// in Thompson also shifts, but Spokane's does not. Notice Thompson solketés 'He turned him around', from //slk// 'turn (someone or something) around', and the transitive stem endings and pronoun //-n-t-es/>. (Compare Spokane solčontés.) 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 $č$ and $š$).
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. nčamqįtįxʷ 'ridgepole' contains two lexical suffixes, //qin// 'head, top' and //iixʷ// '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 čašìpənc '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 (hinq Whites. 'toothpick', nxwuk'uk'insəmš 'He's cleaning his teeth'). The Spokane cognate is //-eys// as in ̄stipéys 'rain', or čicoʔéysən '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.
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 //k:\// 'unrealized' (page 23). 8

//in-s-x\u0131\u0113-t-n// isx\u0131\u0113-e\u00f6n 'They are my tracks.'
//an-k\u00e6-tk\u015f\u0178\u0107l\u0166x// ak\u00e6tk\u015f\u0178\u0107l\u0166x 'She is your wife to be.'
//an-sipn// asipn '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).

//\u00e2\u0131\u0113/-us-n-t-is// \u00e2\u0131\u0113\u00f6s\u00f6s 'He shaved him.'

but:
//s-x\u0131\u0113-t-n-s// sx\u0131\u0113-e\u00f6n '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 qinúntən? 'wolf' is cognate with Cowlitz qinúyətən, Lower Chehalis sqəhúyən.

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 š), but sometimes back, or non-anterior (examples showed k and x for Shuswap; ŝ for Spokane). 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.\textsuperscript{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 Thomp­
son e develops next to diffuse obstruents. In Spokane
a non-diffuse ñ 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 pho­
netic 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 communi­
cation).
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: /ptcícqkúqw?ptcícqkúqwwsćiwxw\hmnrlyw\wieau and unstressed o.

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2 Variations in glottalization are unexplained for these forms.

3 //k\wene// is troublesome in that it functions as a strong root in a transitive stem; a weak root in middle (voice) stems: k\w\ném 'He took something.' Weak roots generally have two vowels, and form middle stems by taking stress on V₂, 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 ns\xétk 'in fast water' from //n-s-\xáx/-etk\w//.

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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 (C₁V₁C₂(C₃)V₂).

With //m/, V₂ is stressed and the other deleted unless protected by an initial laryngeal or a laryngeal as C₂ followed by a C₃. Thus //šili/ 'chop' becomes šolim 'He chopped something' in a middle stem. //pača/ 'loose bowels' becomes ḩčam 'He has loose bowels.' //?ali/ 'lose' becomes ?alim 'He lost something.' //xe?ni/ 'tell, warn' becomes xe?nim 'He warned someone.' If C₂ is a laryngeal directly followed by V₂, V₁ is deleted by rule (2). In this way //k?e?e/ 'bite' becomes k?e?em 'He bit something' in a middle stem, with eventual schwa insertion (3) 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 š, Gibson's frontals. Shuswap is a "k" language with the front velar series k k x, corresponding to Spokane č č ŝ.

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

8 In Spokane, the n of //čn-// 'I' develops to i before cognate //qj-// 'unrealized': čiqjilmixw 'I'm going to be chief' is from //čn-qj-ylmixw/-. 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.
Bibliography


Bibliography