Clarifying the Identity of Weak Root Vowels and the Epenthetic Vowel in Spokane

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1.0 Introduction

Earlier studies of Spokane have assumed that the vowels of weak Roots are underlyingly specified as /i,u,e,o or a/, as in their strong Root counterparts. These studies account for the "stress-shifting" behavior associated with Weak Roots by positing certain lexically specified morphological traits. Similar studies also identify the epenthetic vowel as **i**. My own research suggests that, in fact, the vowels of Spokane's weak Roots as well as its epenthetic vowel are best identified as schwa.

This paper reviews certain facts pertaining to the identity of the vowels of Spokane's weak Roots and its epenthetic vowel and speculates as to their significance regarding comparative and historical studies. As a consequence, it is hoped that Spokane will figure more reliably and more prominently in such studies.

2.0 Sorting out strong and weak Roots in Spokane

The facts of primary stress assignment indicate that there are two types of Root in Spokane: strong and weak. Black 1996 finds that the most reliable way to determine the strong or weak status of a Root is to check whether or not the Root vowel bears primary stress when the Root is followed by certain grammatical suffixes.[1] Such suffixes include **m** *Middle*, *Out-of-Control reduplication*, **mi** *Nonperfective*[2] and numerous subject and object person markers, among many others. In the event that the Root vowel does bear primary stress in such a context, then it is identified as a strong Root; otherwise, it is identified as a weak Root. Interestingly, both strong and weak Roots surface with the vowels [i,u,e,o or a] as exemplified by the data which follow.[3]

Compare the forms in (1a) and (2a). Observe that in each case the Root vowel [i] bears primary stress. Now consider the position of primary stress when each Root is followed by **m** *Middle* as in (1b) and (2b), *Out-of-Control reduplication* as in (1c) and (2c), or the first person singular transitive subject marker as in (1d) and (2d). The forms in (1) maintain primary stress on the Root vowel, while those in (2) do not.

[1]The data set under consideration comprises nearly 6000 non-compound forms. While the strong/weak status of many Roots has yet to be determined due to the lack of forms displaying the relevant grammatical suffixes, the strong/weak status of most Roots has been determined. Earlier studies utilize a larger set of affixes (including the *Diminutive reduplication* prefix, lexical suffixes as well as grammatical suffixes) to assess strong/weak Root distinctions; Black 1996 limits the set to particular grammatical suffixes.

[2]The phonological form of the *Nonperfective* marker provided here conforms to that traditionally assumed for Spokane. Black 1996 analyzes this marker as underlyingly **mə**. As a discussion of the phonological form of this marker is not relevant to this paper, I use the stressed surface form of the *Nonperfective* for ease of explication.

[3]Unless otherwise indicated, the source for the examples provided is Carlson and Flett 1989.

Surface forms with [i]

Strong Root	***Weak Root***
(1a) hecmíx̓ *It's covered with paint.*	(2a) hecč́íc̓ *A long object lies.* *(Black 1995)*
(1b) míx̓m *He smeared it.*	(2b) yecč́c̓ím *I am laying a long object down.* *(Black 1995)*
(1c) míx̓x̓ *It got smeared on by accident.* *(Carlson and Thompson 1982)*	(2c) č́c̓íc̓ *A long object falls over by accident.* *(Carlson and Thompson 1982)*
(1d) míx̓n *I smeared it.*	(2d) č́c̓ntén *I laid the log down.* *(Black 1995)*

The same pattern is exhibited by forms in which the Root vowel [u] bears primary stress. The forms in (3a) and (4a) bear no suffixes and primary stress surfaces on the Root vowel [u]. As with (1) and (2) above, when these Roots are followed by **m** *Middle* as in (3b) and (4b), *Out-of-Control reduplication* as in (3c) and (4c), or the first person singular transitive subject marker as in (3d) and (4d), the strong/weak distinction emerges. The forms in (3) maintain primary stress on the Root vowel, while those in (4) do not.

Surface forms with [ú]

Strong Root	***Weak Root***
(3a) hisckʷúl̓ *It's my own doing.*	(4a) hi c̓úkʷ *It's stiff.*
(3b) kʷúl̓m *He is working.*	(4b) c̓kʷúm *He poked.*
(3c) kʷúl̓l̓ *He was born.*	(4c) c̓kʷúkʷ *It got hard and straight.*
(3d) kʷúl̓n *I did it.*	(4d) c̓kʷntén *I propped it up.* *(Black 1995)*

Forms in which the Root vowel [e] bears primary stress also follow this pattern. Lacking suffixes, the forms in (5a) and (6a) bear primary stress on the Root vowel [e]. When these Roots are followed by **m** *Middle* as in (5b) and (6b), **mi** *Nonperfective* as in (5c) and (6c), or the first person singular transitive subject marker as in (3d) and (4d), the strong/weak distinction is again evident. The forms in (5) maintain primary stress on the Root vowel, while those in (6) do not.

Surface forms with [é]

Strong Root	***Weak Root***
(5a) scx̣^{w}él	(6a) q'éy'
discarded objects	*it's striped.*
(5b) hecx̣^{w}élm	(6b) čn q'y'ím
He threw it away.	*I wrote something.*
(5c) hecx̣^{w}éli	(6c) čyecq'i?mí
I am abandoning someone.	*I am writing.*
(5d) x̣^{w}élntx^{w}	(6d) hecq'i?stéx^{w}
You left it. (Black 1995)	*You are accustomed to writing it.* (Black 1995)

A strong/weak distinction on the basis of stress placement is also present in forms whose Root vowels, when stressed, surface as [o] or [a]. In the suffixless examples (7a) and (8a) the Root vowel [o] bears primary stress; yet in those forms where the **m** *Middle, Out-of-Control reduplication* or the first person singular transitive subject marker follow these same Roots, only the forms in (7) maintain primary stress on the Root vowel [o]. The same observations hold for the examples in (9) and (10). While Roots without suffixes bear primary stress on the Root vowel [a], when marked with *Out-of-Control reduplication* only (9b) maintains primary stress on the Root vowel.

Surface forms with [ó]

Strong Root	***Weak Root***
(7a) hi ɬóc	(8a) ɬóq^{w}
It's mashed. (Black 1995)	*It's banded.*
(7b) hecɬócm	(8b) ɬq^{w}úm
He mashed something up. (Black 1995)	*He banded something.*
(7c) ɬócn	(8c) ɬq^{w}ntén
I mashed it up. (Black 1995)	*I banded it.*

Surface forms with [á]

Strong Root	***Weak Root***
(9a) hi yát	(10a) hescáq
It's movable.	*It's placed.*
(9b) y'ay'átt	(10b) cqáq
They swayed.	*It stopped.* (Carlson and Thompson 1982)

Numerous accounts, including Bates and Carlson (1989) and Carlson and Bates (1990) (among others), have proposed that the underlying phonological representations for weak Roots do not differ from those of strong Roots. Both weak and strong Roots are presumed to contain at least one full vowel underlyingly. These analyses locate the difference between these types of Roots solely with

respect to morphological properties.[4] As such, these accounts miss an important generalization; that is, in the event that the vowel of a weak Root bears primary stress, the quality of that vowel almost invariably matches the quality of an epenthetic vowel which has been inserted in a comparable phonological environment for purposes of stress placement. Let us now consider the phonetic values of these vowels.

3.0 Phonetic parallels between stressed epenthetic vowels and stressed weak Root vowels

The surface values of epenthetic vowels and weak Root vowels indicate a complex interaction with accompanying consonants. While the phonetics of the strong Root vowels are also influenced by the consonants which surround them, the precise phonetic realization of stressed epenthetic and weak Root vowels is actually determined by those consonants. In the event that such vowels occur in a neutral environment, they are assigned default features and surface as [i]. Not surprisingly, however, the surface values of such vowels in a non-neutral environment vary and require a more complex description.

3.1 Stressed epenthetic vowels[5]

As mentioned above, the precise phonetic realization of a stressed epenthetic vowel is determined by the consonants which surround it. With very few exceptions, the conditioning enviroments can be identified for phonetic forms of this vowel. Its surface realizations in the environment of post-velars are as follows:

[a] when immediately preceded by an unrounded pharyngeal[6] as in **p'aʕáp** *It burned;*[7]

[æˇ] when immediately preceded by an unrounded uvular[8] as in **tqém** *He touched it;*

[ɔ] when immediately preceded by a rounded pharyngeal as in **lʕ^{w}óm** *He put them together;* and,

[uˇ] when immediately preceded by a rounded uvular as in **čn lq^{w}úm** *I broke up something (like rocks).*

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[4]Specifically with respect to the two works cited, while both weak and strong Roots bear the lexical diacritic [+ stressable], strong Roots also bear the lexical diacritic [+ strong]. The fact that weak Roots lack a lexical diacritic [+ strong] is, then, presumed to account for the difference between Roots by inducing putative *Weak Shift*, whereby stress is shifted off the weak Root vowel rightward to the nearest vowel.

[5]For a detailed discussion of epenthesis in Spokane, see Black 1996.

[6]Since pharyngeals only occur as Root segments, the data set lacks an example in which a rounded or unrounded pharyngeal immediately follows a stressed epenthetic vowel.

[7]This example is unusual to the extent that in such cases the weak Root vowel is usually deleted in such forms. Regardless, the phonetic value of the stressed epenthetic vowel is predicted to be [a].

[8]The data set lacks an example in which a rounded or unrounded uvular follows a stressed epenthetic vowel. This is not unexpected since uvulars which result from morphological spelling operations are always accompanied by /a/, thereby eliminating the need for epenthesis.

While the retraction associated with uvulars does spread leftward, it does not spread rightward to an adjacent stressed epenthetic vowel; however, some type of assimilation does take place as illustrated by the fact that such a vowel preceded by an unrounded uvular surfaces as [æˇ] instead of some version of [i]. Regarding the processes of rounding and pharyngealization, each spreads rightward beyond the Root to an adjacent and stressed epenthetic vowel.

In environments lacking a post-velar, an epenthetic vowel in stressed position surfaces as follows:

[æ] when immediately preceded or followed by /ʔ/ or /h/ and no rounded consonant occurs adjacent to the epenthetic vowel as in **ƛ'ʔém** *He looked for something*;

[u] when immediately preceded by a rounded consonant as in **ckʷúm** *He pulled*;[9]

[a] when targeted by a floating pharyngeal feature as in **čn p'ʕ'ám** *I poured a gravy like substance*; and,

[i] elsewhere as in **čn ɬp'ím** *I marked something.*[10]

3.2 Stressed weak Root vowels

Significantly, the stressed values for the epenthetic vowel almost invariably match the stressed values of weak Root vowels. The stressed vowel of a weak Root has the following surface realizations in the environment of a post-velar:

[æˇ] when immediately preceded by an unrounded or rounded uvular (and not followed by a post-velar) as in **qʕ'éy'** *It's striped* and **hecχʷtχʷét** *It's cut in pieces of different size;*[11]

[ɔ] when immediately followed by a rounded uvular as in **hecʕ'óqʷ** *It is sewn together*;

[ɔ] when immediately followed[12] by a rounded pharyngeal as in **heccóʕʷ** *It's fringed;*[13]

[9]As the data set lacks the appropriate examples, I have yet to determine whether or not epenthetic schwa surfaces as [u] when immediately followed by a rounded consonant.

[10]The data set includes one exception: the form recorded in Carlson and Flett (1989) as kʷném *He grabbed something*. Forms with **kʷen** are also exceptional to the extent that they display both strong and weak stress behaviors.

[11]The data set includes one exception: the form recorded in Carlson and Flett (1989) as hecqʷúm *It's a pile*. While Black 1996 reported that the Root of the form hi qʷqʷis *A small thing is flimsy* is weak, the status of this Root as strong or weak has actually yet to be determined.

[12]The data set contains only one weak Root whose vowel is preceded by a rounded pharyngeal, e.g., hecʕʷóχʷ *It's strung up.* In this case, the vowel is also followed by a rounded uvular consonant; consequently, it is not possible to assess how a preceding rounded pharyngeal affects the surface quality of the vowel. Based on the surface values of weak Root vowels immediately preceded by other rounded consonants, however, my prediction is that rounding does not spread rightward within the Root.

[a] when immediately preceded or followed by an unrounded pharyngeal as in **tmsʕác** *wild creature, untamed horse* and **hi yáʕ'** *It's gathered*;

[a] when followed by an unrounded post-velar as in **hescáq** *It's placed* and **hecp'áy'q** *It's ripe*; and,

[a] when an unrounded consonant appears between the weak Root vowel and the rounded post-velar which follows as in **cálχʷ** *It's clustered.*

These data indicate that, although the retraction associated with uvulars does not spread rightward to the adjacent vowel within the weak Root, it does spread leftward within the Root. Nevertheless, some type of rightward assimilation does take place as is illustrated by the fact that a weak Root vowel preceded by an unrounded uvular surfaces as [æˇ] instead of some version of [i]. Recall that this was also noted for the epenthetic vowel. Regarding the process of rounding, while rounding does spread leftward within the Root to the adjacent weak Root vowel, it does not spread rightward within the Root. Recall that the facts of the epenthetic vowel indicate that rounding does spread rightward beyond the Root. Pharyngealization triggered by a Root pharyngeal consonant spreads both leftward and rightward within a weak Root and rightward beyond the Root to an adjacent stressed epenthetic vowel.

In environments lacking a post-velar, a weak Root vowel in stressed position surfaces as follows:

[æ] when adjacent to /ʔ/ or /h/ and no rounded consonant immediately follows the Root vowel as in **scté?s** *This is what he pounded*;

[æ] when immediately followed by /r/ (and presumably /r'/) as in **črčér** *It's all cut up already;*[14]

[u] when followed by a rounded consonant as in **ʔemúkʷ** *It is skinned;*[15]

[a] when targeted by a floating pharyngeal feature as in **hecp'áť** *It's muddy;* and,

[i] elsewhere as in **ƛ'íl** *He's still.*[16]

[13]The data set includes two possible exceptions to this generalization: the form recorded in Carlson and Flett (1989) as ƛ'áʕʷč *muddy*; and the form recorded in Carlson and Bates (1990) as cllάχʷχʷ *It suddenly bunched up.*

[14]The data set does not contain even one Root which begins with /r/; as such, it is not possible to state the surface value of the stressed vowel in such an environment. In the event that the stressed epenthetic vowel is immediately preceded by Root final /r/, however, that vowel surfaces as [i]: črím *He cut with scissors.*

[15]The data set includes two exceptions to this generalization: the forms recorded in Carlson and Bates (1990) as mllíkʷkʷ *It turned into solid lumps* and as čehhékʷkʷ *It suddenly became uncovered.*

[16]The data set includes two exceptions: the Roots **čəs** and **čəy** which surface as [čés] *It's bad* and [čéy] *It's dark*, respectively.

3.3 Conclusions

Having specified the surface values of the epenthetic vowel and the vowels of weak Roots, I conclude that the similarities observed are not coincidental. The only notable distinction between epenthetic ^{vowels} and the vowels of weak Roots is the fact that while rounding will not spread rightward within the Root, it will spread rightward beyond the Root as well as leftward within the Root to an adjacent vowel. Otherwise, the surface values are identical. Such uniformity is more than mere coincidence and indicates that the identity of the epenthetic vowel and those of weak Roots is one and the same.

Bates and Carlson 1992 contend that **i** is the epenthetic vowel in Spokane; however, an extensive review of the data indicates that this cannot be the case. Given the similarities between the surface forms of the vowels of weak Roots and epenthetic vowels, it is safe to say these are best represented by the same vowel; however, that vowel cannot be **i**. The weak Root vowel, as is demonstrated above, is subject to retraction and pharyngealization, while the vowel **i** is not. The examples in (11) serve to illustrate its resistance to retraction and those of (12) to pharyngealization.

(11a) cíqn *I dug it.* *(Black 1995)*

(11b) t̓íχn *I fanned it out.* *(Black 1995)*
(11c) xíqn *I rubbed it.*

(12a) hi tʷíɬ *It's one piece.*
(12b) čtʷím'ls *He got a seasoning or a substance like fatty meat or fish to go with his meal.*

It follows, then, that if the identity of weak Root vowels and the epenthetic vowel are one and the same, the identity of the epenthetic vowel is also not **i**.

In view of these facts, Black 1996 provides an analysis of this strong/weak distinction among Roots where the stressed Root vowel of a weak Root is not identified as underlying /i,u,e,o, or a/, but rather as a phonologically conditioned realization of the vowel schwa, a vowel whose underlying feature specifications are limited to [-consonantal] and [+sonorant]. Such an anaylsis exploits the parallels which exist between the surface values of epenthetic schwa and the vowel(s) present in weak Roots.

Although previous analyses of Spokane do not include schwa in the underlying vowel inventory,[17] the available data suggest that the stressed vowel within a weak Root is not only best analyzed as schwa but as underlying. In addition to the phonetic similarities exhibited by epenthetic schwa and Root schwa, the position occupied by schwa within weak Roots is often not predictable. Based on such observations, Black 1996 argues that the vowel schwa serves as a phonemic vowel as well as the epenthetic vowel in Spokane. Nevertheless, regardless of Root schwa's status as underlying or epenthetic, the facts support an analysis in which schwa is the relevant vowel in weak Roots.

4.0 Implications for comparative and historical studies

The present analysis is not only consistent with the system posited for Proto-Salish in Thompson (1979) in which "roots were either 'strong', with tense vowels; or 'weak' with *ə" (p.721). It contends that the Spokane reflex of Proto-Salish schwa remains schwa. Given the fact that the data available for Kalispel and Montana Séliš indicate that the same patterns hold throughout the Spokane-Kalispel-Séliš

[17]Carlson and Thompson (1982) mentions that weak Roots in Spokane "generally go back to Proto-Salish Roots with schwa," but makes no claim as to the synchronic status of schwa.

language continuum (with the exception of facts related to /r/), this analysis also lends support for the claim in Kuipers 1970 that the Kalispel reflex for Proto-Salish schwa remains schwa. More than that, this paper points to the fact that schwa is not a marginal phoneme, unlike the situation for the vowels /o/ and /a/. While the vast majority of [o] and (particularly) [a] occurrences are readily explained by the presence of a uvular or pharyngeal consonant, schwa occurs in a wide range of phonological contexts.

Schwa's chameleon nature places a particular burden on those researchers working in comparative Salish. Recall that this phoneme surfaces in a variety of forms that mimic the surface values of the other vowels in the phonemic inventory. Consequently, comparative studies cannot simply rely on phonetic realizations, even those which have been checked for assimilation effects such as regressive and progressive harmony. In addition to assessing the environment, it is imperative that the strong or weak status of the Root be checked via primary stress placement in the context of particular grammatical morphemes. Lacking such an assessment, certain conclusions may be unreliable and generalizations missed.

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