Don’t stress about schwa: The diachrony of weak roots in Secwepemctsín*

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Abstract: In this paper, I examine the vowels that occur in root-stressed and middle forms of weak roots in Secwepemctsín. I show that there is a predictable pattern of vowel position and quality in these paradigms, suggesting that a series of historical sound shifts affecting stressed schwa can explain the observed variation. This is supported by comparative data from the other Northern Interior Salish languages. Synchronically, the picture is more complicated, but an analysis assuming underlying schwa in weak morphemes helps to explain otherwise problematic stress patterns. This paper is a first step towards a better understanding of the stress system of Secwepemctsín from a diachronic and synchronic perspective.

Keywords: Secwepemctsín/Shuswap, historical Salish, stress, schwa, vowel gradation

1 Introduction

Secwepemctsín (Shuswap) is a Northern Interior Salish language spoken across a large territory of southern British Columbia, from the Fraser River in the west to the Rockies in the east. A dialect division splits the language into Western and Eastern dialects between Kamloops and Chase, with minor differences between bands within these larger speech communities. There are probably less than 50 fluent speakers of the language, although language revitalization efforts are ongoing throughout the nation. Data for this paper mostly comes from descriptive work on the language by Aert Kuipers (Kuipers 1974, 1989), with clarification on certain points coming from my work with fluent speakers of the Wumecwílc re Secwepemctsín elders’ group, comprising speakers from various Western dialect speaking communities.

Secwepemctsín, like most Interior Salish languages, has a lexically specified stress system, where morphemes are described as “strong” or “weak” based on their ability to attract stress. Strong and weak roots in Salish are typically thought to go back to a Proto-Salish distinction between roots with full vowels and roots with schwa (Thompson 1979b), a distinction which has become obscured through sound changes in various languages. Secwepemctsín is an example of a language where stressed schwa never surfaces, but the distinction between strong and weak roots remains.

In Section 1, I explain the distinction between strong and weak roots in Secwepemctsín as it relates to stress patterns found in the language. In Section 2, I establish the patterns of vowel grades that exist in Secwepemctsín weak roots, and suggest that the surface patterns can be explained by sound changes that eliminated stressed schwa from the language. Cognates with the other Northern

* *Yerí7 re skukwstsétsems re stet̓ex7ém te Wumecwílc re Secwepemctsín es knúncwentsems es xepqenwéw̓en re xqwelténs. E ta7us k sknúncwentsems, ta7 ken sxenwéw̓llen ens xíxlem ye7éne ten s7é7elkst*. Thank you to the elders of the Wumecwílc re Secwepemctsín group, who have been so helpful and generous in my learning of the language. Without their help, my work in the language would be impossible. Thank you also to the Salish Working Group for valuable feedback on this topic.

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Interior languages are presented in Section 3, which provide further evidence that weak roots go back to roots with schwa, with phonological changes in Secwepemctsín and nłeʔkepmxcín partially obscuring this. I suggest a synchronic analysis in Section 5 that proposes that schwa is still underlyingly present and active in the phonology of Secwepemctsín. Section 6 concludes.

2 Strong and weak roots

Secwepemctsín, like most Interior Salish languages, has a lexical stress system (Czaykowska-Higgins 1993 for Nxa'amxcin, Bates and Carlson 1989 for Spokane). Roots and suffixes are typically grouped into stress classes ranked into a hierarchy, where the morpheme in a word highest on that hierarchy receives stress. All roots are potentially stressable, although in practice not all are attested in forms where they would bear stress. Prefixes never interact with stress. Stress is attracted to a morpheme based on the following hierarchy, which is a generalized description of Interior Salish stress from Czaykowska-Higgins (1993):

(1) strong suffix > strong root > variable suffix > variable root > weak root > weak suffix

However, these categories do not seem to explain all the data in the language. Consider the examples below:

(2) Problematic stress

a.	/peɣ-Vm/[1]	[péɣəm]	‘cool off’
b.	/peɣ-etkʷə/	[pəɣétkʷe]	‘cooled-off water’
c.	/ciq-Vm/	[cíqəm]	‘dig’
d.	/ciq-etkʷə/	[cíqkʷe]	‘dig a well’
e.	/pet-Vm/	[ptém]	‘spread out’[2]

The suffix /-etkʷə/ “water” displays variable stress: it is stressed in (2b) with the root /√peɣ/ in [pəɣétkʷe] and unstressed in (2d) with the root /√ciq/ in [cíqkʷe]. However, the behaviour of stress with the middle suffix /-Vm/ poses a problem for this hierarchy. It can be stressed as in (2e) in combination with a weak root like /√pet/, but it is unstressed in combination with the root /√peɣ/ in (2a). In other words, (2a) implies a strong root + variable suffix, and (2e) implies a weak root + variable suffix, but (2b) with the same root as (2a) implies a weak/variable root + variable suffix. I will return to this apparent contradiction in Section 5.

Finally, there are certain suffixes that are never stressed. This seems to be due to the fact that they contain no vowels in their underlying representations, hence have no syllable nucleus to bear stress:

[1] The vowel of the middle suffix varies between [ə], [é], and [ú], which will be discussed in detail in this paper.

[2] Community orthography transcription for the examples in (2): (2a) *pérem*, (2b) *perétkwe*, (2c) *tsíqem*, (2d) *tsíqkwe*, (2e) *ptem*.

(3) Unstressable suffixes

a.	/x̌lit-mx/	[x̌lítəmx]	‘invite guests’
b.	/pil-mt/	[píləmt]	‘scattered, lost’
c.	/t-qel-tk/	[tqeltk]	‘high’
d.	/c̓eł-t/	[c̓éłt]	‘cold’[3]

A full accounting of the Secwepemctsín stress system must remain a topic for future research, but it is necessary to first describe the basics to account for the patterns in vocalism I discuss. The focus of this paper is on weak roots, here taken to mean roots that will yield stress to all suffixes other than weak suffixes, which can never be stressed.

3 Vocalism in weak roots

Although weak roots will typically surface unstressed, as they yield stress to the vast majority of suffixes in the language, there are certain morphological formations that require them to be accented. In these cases, the stressed vowel in the root and middle suffix is nearly always predictable. This is most apparent with triconsonantal weak roots. Some examples can demonstrate this:

(4) Triconsonantal weak root paradigms

	Root-stressed	Middle	Transitive
a.	x̌lé q̓	x̌əlq̓-ém	x̌əlq̓-ənt-és
	‘rolled’	‘roll’	‘s/he rolls it’
b.	c-ptúkʷ	pətkʷ-úm	pətkʷ-ənt-és
	‘pierced’	‘pierce’	‘s/he pierces it’[4]

The examples in (4a) show a paradigm where the root final consonant is unrounded. In these cases, the vowel in a root-stressed form is /é/ and it occurs before the final consonant of the root (shape CCéC). The vowel in the middle suffix is also /é/, and the unstressed root has the shape CəCC when suffixed. If the final consonant of the root is rounded, as in (4b), then the vowel in the root-stressed form is /ú/ (shape CCúCʷ), and the vowel of the middle suffix is also /ú/. These paradigms can be summed up in the following template:

Table 1: Triconsonantal weak root paradigms

Root consonants	Root-stressed	Middle	Transitive[5]
√CCC	CCéC	CəCC-ém	CəCC-ənt-és
√CCCʷ	CCúCʷ	CəCCʷ-úm	CəCCʷ-ənt-és

[3] Community orthography transcription for the examples in (3): (3a) *xlítemc*, (3b) *pílemt*, (3c) *tqeltk*, (3d) *tsellt*.

[4] Community orthography transcription for the examples in (4): (4a) *xleq̓, xelq̓ém, xelq̓entés*, (4b) *tsptukw, petkúm, petkwentés*.

[5] Transitive forms are given in the 3SUB>3OBJ form, the typical citation form found in dictionaries.

The root-stressed forms nearly always express stative meanings, since two of the most common stative morphemes in the language, the prefix /c-/ and the weak suffix /-t/, do not interact with stress. Occasionally, bare-root forms with no additional morphology occur, and these typically have a stative meaning as well. Finally, root-stressed forms may occur as nominalizations in absence of any other morphology, since the nominalizer prefix /s-/ also does not interact with stress.

The key generalization is that the vowel quality of the root-stressed form and middle form are predictable based on the final consonant of the root: if it is rounded, the stressed vowel will be /ú/, otherwise it is /é/. A small caveat here is that roots with a retracting feature have the retracted counterparts of /é/ and /ú/, which are /á/ and /ó/, respectively, although in practice this is rare.[6] When suffixed, this retraction will typically spread to the stressed vowel of the suffix, changing the vowel from light /i u e/ to the retracted counterpart /e o a/. This generalization about the vowel quality in weak roots predicts that root-stressed forms with /í/ should not exist, and this is exactly what we find in Secwepemctsín.

There is one exception to this pattern, where we have an unexpected /ú/ in a root with a final /ʔ/. This exceptional pattern also occurs in biconsonantal roots and will be discussed later.

(5) Exceptional vocalism

	Root-stressed	Middle	Transitive
a.	s-t̓q^{w}úʔ	t̓əq^{w}ʔ-úm	t̓q^{w}-ənt-és[7]
	‘sewn up’	‘sew’	‘s/he sews it’[8]

Biconsonantal roots show the same pattern, although with a few more exceptions. The following table sums up the paradigms:

Table 2: Biconsonantal weak root paradigms

Root consonants	Root-stressed	Middle	Transitive
√CC	CéC	C(ə)C-ém	C(ə)C-ənt-és
√CC^{w}	CúC^{w}	C(ə)C^{w}-úm	C(ə)C^{w}-ənt-és

Unstressed schwa surfaces in end-stressed forms if one of the root consonants is a resonant. Biconsonantal roots show more exceptions to this pattern than triconsonantal ones, although they are not numerous:

[6] The one example I’m aware of: c-ylók̓^{w} ‘coiled’, yəlk̓^{w}-ənt-ás ‘s/he coils it’ (no middle form attested), where the retracting feature darkens the root vowel /ú/ to /ó/ and the /é/ of the transitive subject ending to /á/. Community orthography: *tsilók̓w, yelk̓wentás*.

[7] Root-final /ʔ/ is regularly deleted before an unstressed syllable.

[8] Community orthography transcription for the examples in (5): *st̓qwu7, t̓eqw7úm, t̓qwentés*.

(6) Unexpected root /é/ before rounded consonant

	Root-stressed	Middle	Transitive
a.	ǩéw-t	ǩəw-úm	ǩəw-ənt-és
	'dry (state)'	'dry (action)'	's/he dries it'
b.	c-q̓éxʷ	q̓xʷ-úm	q̓xʷ-ənt-és
	'crowded'	'gather'	's/he gathers it'[9]

(7) Unexpected root /ú/ before /ʔ/

	Root-stressed	Middle	Transitive
a.	s-p̓uʔ	p̓ʔ-úm	p̓-ənt-és
	'fart'	'squirt'	's/he squirts it'
b.	łə-łúʔ	łʔ-úm	ł-ənt-és
	'stabbed'	'stab'	's/he stabs it'
c.	s-q̓ʷúʔ	q̓ʷʔ-úm	q̓ʷ-ənt-és
	'trap (noun)'	'trap (verb)'	's/he traps it'[10]

These exceptional cases are difficult to account for. It is interesting that the root-stressed forms with /é/ before a rounded final consonant still have the expected /ú/ in the middle suffix. The reoccurrence of /ú/ with final /ʔ/ is also notable, however, this is not a consistent rule, as forms with the expected /é/ occur in this position as well: /c-k̓éʔ/ 'placed', /k̓ʔ-ém/ 'place', /k̓-ənt-és/ 's/he places it'; /s-cxéʔ/ 'fixed', /cəxʔ-ém/ 'fix', /cx-ənt-és/ 's/he fixes it'.[11] I currently have no explanation for these exceptional forms; however, it should be noted that they are rare. The chart below shows the occurrence of expected vs unexpected vowels in Secwepemctsín biconsonantal and triconsonantal weak roots.

[9] Community orthography transcription for the examples in (6): (6a) *xewt, xuwúm, xuwentés*, (6b) *tsq̓ecw, q̓cum, q̓cwentés*.

[10] Community orthography transcription for the examples in (7): (7a) *sp̓u7, p̓7um, p̓entés*, (7b) *llellú7, ll7um, llentés*, (7c) *sq̓u7, q̓w7um, q̓wentés*.

[11] Community orthography transcription for these examples: *tsk̓e7, k̓7em, k̓entés, stsce7, tsec7ém, tscentés.*

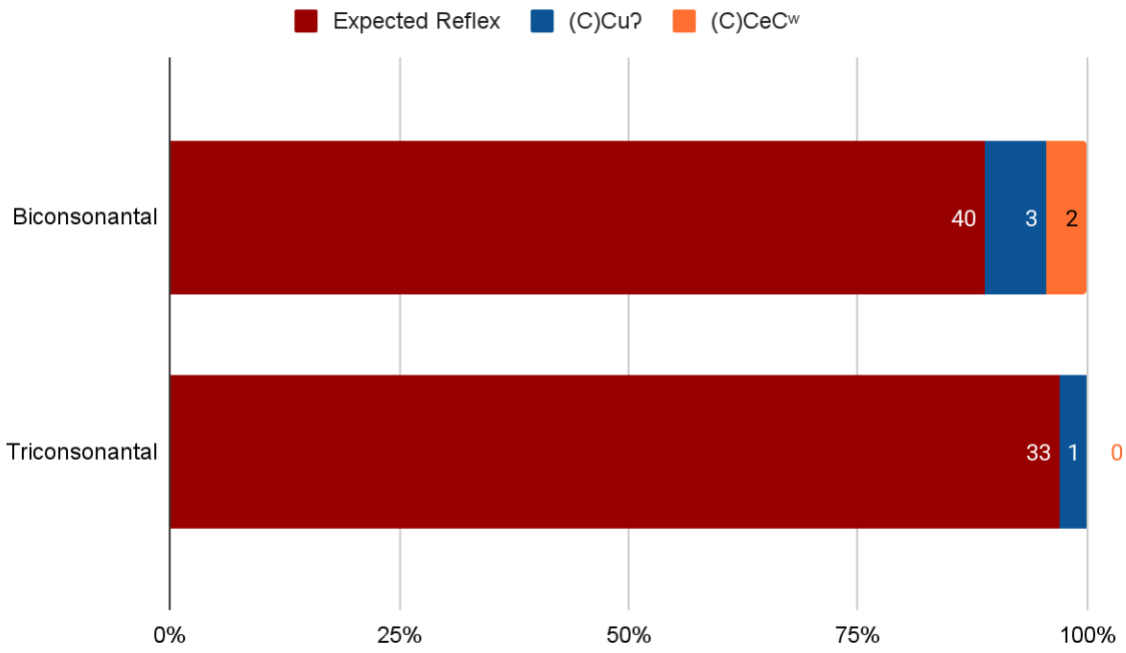

Figure 1: Expected vs unexpected vowels

Of the 79 weak roots in Secwepemctsín that are attested in a root-stressed form, 73 of them (92%) have the expected vocalism (/ú/ before a final rounded consonant and /é/ elsewhere). This robust pattern seems unlikely to occur by chance.

What can explain the observed patterns of vocalism in Secwepemctsín weak roots? The language, unlike many other Salish languages, never permits stressed schwa. I suggest that in pre-Secwepemctsín, these roots contained schwa (and may still underlyingly, see Section 5).

Table 3: Biconsonantal weak root paradigms in pre-Secwepemctsín

Root consonants	Root-stressed	Middle	Transitive
√CC	*Cə́C	*C(ə)C-Ým	*C(ə)C-ənt-és
√CCʷ	*Cə́Cʷ	*C(ə)Cʷ-Ým	*C(ə)Cʷ-ənt-és
√CCC	*CCə́C	*CəCC-Ým	*CəCC-ənt-és
√CCCʷ	*CCə́Cʷ	*CəCCʷ-Ým	*CəCCʷ-ənt-és

Then the following sound changes applied, which eliminated stressed schwa from the language by converting it to a full vowel:

(8) Sound changes affecting stressed schwa

a. *ə́ > ú / _C^{w}
b. *ə́ > é (listed in Kuipers 2002:5)

These rules account for the distribution of stressed vowels found in weak roots. However, the vowel in the middle suffix can not be explained this way, as it becomes [ú] after a rounded consonant. This is not the case within roots, where only the final consonant conditions rounding, c.f., /√k^{w}él/ 'bake', /√q^{w}ét/ 'soft'. It is also worth mentioning that the stative suffix /-Vp/ when stressed displays the exact same alternation as the middle: it is [-úp] after a rounded consonant and [-ép] elsewhere. Because the vowel quality of the stressed middle and stative suffixes displays different conditioning than the vowel quality in root-stressed forms, these must be separate processes.

3.1 The /í/ grade

An additional wrinkle to this story is that a subset of weak roots in the language have alternate strong forms with a full vowel, even when suffixed. Contrary to the pattern already discussed, this vowel is always /í/ and always occurs after the first consonant of the root.

While the distribution of [é ~ ú] in root-stressed weak roots is a phonological process, I suggest that the occurrence of /í/ is instead a morphological one. The presence of /í/ changes an otherwise weak root into a strong one, meaning it now bears stress when suffixed. Kuipers (1989) and consulting with fluent elders reveals a semantic contrast between roots with and without /í/:

Table 4: Strong and weak root alternants[12]

Root consonants	/í/ grade		Regular grade	
√ptk^{w} 'pierce'	pítk^{w}-ən-s	's/he makes holes in it'	pətk^{w}-ənt-és	's/he makes a hole in it'
√plk̓ 'turn over'	pílk̓-ən-s	's/he rolls it'	pəlk̓-ənt-és	's/he turns it over'
√plq^{w} 'break'	pílq^{w}-ən-s	's/he breaks pieces off'	pəlq^{w}-ənt-és	's/he breaks it off'
√ɬʕ^{w} 'lose'	ɬíʕ^{w}-ən-s	's/he loses it'	ɬʕ^{w}-ənt-és	's/he loses them'

Translations are based on comments from fluent speakers. These confirm Kuipers' statement that /í/ grade can express "plurality of subject or object" (1989:23). Additionally, it seems that the /í/ grade may express an iterative meaning, as in the word /pílk̓əns/ 's/he rolls it, s/he turns it over and over'. Given the meanings of this morpheme, I have tentatively glossed the /í/ grade as pluractional.

A strange thing about this morpheme is that it only occurs with weak roots. It is tempting to see the pair /t̓ux^{w}t/ 'fly' and /t̓uyx^{w}t/ 'fly (plural)'[13] as a parallel, with the

[12] Community orthography transcription for the examples in this table: *pítkwens, pílk̓ens, pílqwens, llígwens, petkwentés, pelk̓entés, pelqwentés, llgwentés.*

[13] Community orthography transcription for these examples: *t̓ucwt, t̓uycwt*.

infixation of a consonantal form /y/ after the vowel in a strong root-stressed form. However, this is a unique case in the language so it is difficult to draw any conclusions.

To sum up, the following table displays the possible vowel grades of a root in different paradigms:

Table 5: Vowel grades across all paradigms[14]

√ptk^{w} "pierce"	Root-stressed	Middle	Transitive
√ptk^{w}	c-ptúk^{w} 'hole'	pətk^{w}-úm 'puncture'	pətk^{w}-ənt-és 's/he makes a hole in it'
√pítk^{w}	c-pítk^{w} 'pierced'	pət-pítk^{w}-əm 'puncture holes'	pítk^{w}-ən-s 's/he makes holes in it'

4 Comparative evidence

If weak roots in Secwepemctsín go back to forms with schwa, we would expect cognates of these roots to have schwa in root-stressed forms in the Northern Interior languages St'át'imcets and nłeʔkepmxcín, where stressed schwa can occur. For the most part this is what is found, although the picture is more complicated than predicted:

Table 6: Cognates of root-stressed weak forms in NIS[15]

Gloss[16]	Proto-NIS	Secwepemctsín	St' át' imcets	n łeʔkepmxcín
'straight, correct'	*təx̌^{w}	√túx̌^{w}	√tóx̌^{w}	√tóx̌^{w}
'hard'	*t̓əʕ^{w}	√t̓úʕ^{w}	√l̓óʕ^{w}	√l̓óʕ^{w}
'cut, rip'	*t̓əl-x^{w}	√t̓lúx^{w}	√l̓ól	√l̓yúx^{w}
'set upright'	*cəq	√céq	√cóq	√cáq
'put on, hang'	*łəx^{w}	√łúx^{w}	√łəx^{w}	√łúx^{w}
'lean'	*łəʔ	√łéʔ	√łéʔ	√łéʔ
'place round obj.'	*k̓əʔ	√k̓éʔ	√k̓éʔ	√k̓éʔ
'put into, add'	*q̓əʔ	√q̓éʔ	√q̓éʔ	√q̓éʔ
'roast'	*q̓^{w}əl	√q̓^{w}él	√q̓^{w}əl	√q̓^{w}í, q̓^{w}íʔ

[14] Community orthography transcription for the examples in this table: *tsptúkw, petkúm, petkwentés, tspitkw, petpítkwem, pítkwens.*

[15] St'át'imcets and nłeʔkepmxcín data for this section come from Van Eijk (2013) and Thompson and Thompson (1996), respectively.

[16] Glosses are extremely rough and approximate.

‘tie up’	*ʕəc	√ʕéc	√ʕác	√ʕác
‘transverse’	*xət̓	√xét̓	√xáƛ̓	√xáƛ̓
‘build w/ logs’	*x̌əl	√x̌él	√x̌ál	√x̌íy
‘break off’	*t̓ələqʷ	√t̓luqʷ	√ƛ̓álqʷ	√ƛ̓ýíqʷ
‘prop up, lean’	*t̓əkəʔ	√t̓kéʔ	√ƛ̓akeʔ	√ƛ̓kéʔ

Sets for which both other Northern Interior languages have a cognate with Secwepemctsín preserving a root-stressed form are relatively rare, and I have listed all that I have found in the table above. Some vowel correspondences can be deduced. For St’ át’ imcets this is trivial: the root vowel is schwa, except before /ʔ/ where it is /e/.[17]

In n łeʔkepmxcín, the quality of the root vowel is usually conditioned by the following consonant (Thompson 1979a:210): it is /o/ before a rounded postvelar, /a/ before an unrounded postvelar, /u/ before a rounded velar, /i/ before /y/ (from earlier *l), /e/ before /ʔ/, and /ə/ elsewhere. There are exceptions to this however: Th √yíx̌, Li √lə́x̌, Sh √lé x̌ ‘intelligence, information’; Th √kʷéy, Sh √kʷél ‘cool, lukewarm’; Th √q̓ʷóʕ, Sh √q̓ʷéʕ ‘cheap’; Th √ʕác, Sh √ʕéc ‘tie up’, Th √ƛ̓ýíqʷ, Sh √t̓lúqʷ ‘break’.

Some additional cognate sets where not all three languages preserve a form can further illustrate these points:

Table 7: Additional cognate sets

Gloss	Proto-NIS	Secwepemctsín	St’ át’ imcets	n łeʔkepmxcín
‘spread out’	*pət	√pét	√pát	
‘spill’	*pəkʷ	√púkʷ	√pákʷ	
‘haul, drag’	*ləʕ	√léʕ	√láʕ	
‘hide’	*ləʕʷ	√lúʕʷ	√láʕʷ	
‘lukewarm’	*kʷəl	√kʷél		√kʷél, kʷéy
‘smoothe’	*kʷəy	√kʷéy	√kʷáz	
‘weave’	*q̓əc̓	√qéc̓	√q̓ác̓	
‘shake’	*q̓ʷəy	√q̓ʷéy	√q̓ʷáž	
‘heat, spark’	*x̌əy	√x̌éy	√x̌áž	
‘burn, glare’	*wəx̌	√wéx̌		√wáx̌
‘pierce, break open’	*pətəkʷ	√ptúkʷ	√pátkʷ	
‘return’	*p̓ələq̓	√pléq̓		√p̓yáq̓
‘slip off’	*məṯəkʷ	√mtúkʷ	√máƛ̓kʷ	
‘make hole, crack nits’	*k̓əpəxʷ	√k̓púxʷ	√k̓ápxʷ	
‘become spherical’	*q̓əməx̌ʷ	√q̓múx̌ʷ	√q̓ám̓x̌ʷ	

[17] For ease of comparison I have standardized the orthographies across the three languages. The vowel that is typically written with <a> in St’át’imcets and pronounced [ɛ ~ æ] has been rewritten as <e>.

‘roll down’	*x̌ələ̓q̓	√x̌lé̓q̓	√x̌ə́lq̓
‘coil’	*yənə̓p̓	√ynép̓	√zə́np̓

The St’át’imcets cognates present an interesting challenge: in triconsonantal roots, schwa occurs after the first consonant (CəCC), while in Secwepemctsín and nłeʔkepmxcín, the vowel occurs before the final consonant (CCV́C). This variation in the position of the root vowel makes reconstruction to Proto-Northern Interior Salish difficult.

St’át’imcets seems to prefer CVCC roots in general; Van Eijk (1997:32) gives the following percentages for root shapes in the language: CVCC 18%, CCVC 5%. Significantly, he also finds no cases of stressed CCEC (E=ə́) within roots. I have not calculated similar percentages for Secwepemctsín, but a quick search through Kuipers’ grammar shows 11 strong root transitive verbs with the shape CVCC compared to 25 with the shape CCVC. Another parallel can be seen with the behaviour of the ⟨-ʔ-⟩ inchoactive infix, which is inserted after the root vowel in St’át’imcets, resulting in CVʔC, with a final cluster, but before the root vowel in Secwepemctsín, resulting in CʔVC, with an initial cluster. Clearly more research is needed, but this is suggestive of a different tendency in the languages in terms of preferred root/word structure.

A potential solution to this problem is to posit that triconsonantal weak roots were disyllabic with the form /*CəCəC/ in Proto-Northern Interior Salish. In words with only schwas, St’át’imcets stresses the first one (Van Eijk 1997:14), which would give /*Cə́CəC/, with deletion of unstressed schwa resulting in the attested form /Cə́CC/. Secwepemctsín and nłeʔkepmxcín on the other hand seem to have stressed the final schwa /*CəCə́C/, again deleting unstressed schwa to give /CCə́C/. Further research to determine if other Salish languages retain cognate forms of the shape /CəCəC/ would help support this hypothesis.[18]

Root-stressed variants with the /í/ grade present a different story. I did not find any examples in St’át’imcets, and direct cognates in nłeʔkepmxcín are rare. However, the language does have strong /í/ forms with a plural meaning, some of which have cognates in Secwepemctsín:

Table 8: /í/ grades in Secwepemctsín and nłeʔkepmxcín

Secwepemctsín[19]		nłeʔkepmxcín	
weak grade	/í/ grade	weak grade	/í/ grade
kłəntés	kəłkíłəns	kəłtés	kíłes
‘s/he takes it off’	‘s/he takes it apart’	‘s/he detaches it’	‘s/he detaches things’
k̓lám	k̓éləns	k̓lə́m	k̓íl̓m
‘s/he cuts strips’	‘s/he cuts it to strips’	‘s/he cuts’	‘s/he cuts into pieces’
cʕep	cíʕəns	cʕə́p	cíʕes

[18] In fact, this is what Thompson and Thompson (1996) seem to assume for nłeʔkepmxcín, where their underlying forms for triconsonantal weak roots have the form /CəCəC/.

[19] Community orthography for the Secwepemctsín examples in this table: *kllentés, kellkíllens, k̓lam, k̓élens, tsgep, tsígens, t̓meq, t̓ímqemt.*

‘torn’	‘s/he tears it’	‘get torn, ripped’	‘s/he rips it in several pieces’
ṫmeq ‘torn, ripped apart’	ṫímqəmt ‘torn, ripped, with holes’	ƛ̓əm̓qetés ‘s/he breaks rope’	ƛ̓ím̓m̓q ‘several strands break’

In Secwepemctsín, some of the singular-plural distinction seems to have been levelled out. For instance, the pairs /cʕep/ ‘torn’, /cíʕəns/ ‘s/he tears it’, and /k̓lám/ ‘s/he cuts strips’, /k̓éləns/ ‘s/he cuts it to strips’[20] are interesting, as the first form (stative in the case of /cʕep/ and middle in the case of /k̓lám/) derive from the weak grade, while the transitive forms derive from the /í/ grade. The singular-plural distinction seems to have been lost in these words, possibly due to semantic influence, as things are generally torn or cut into strips in multiple pieces. There are also strong /í/ forms for which no corresponding weak form is recorded, e.g., /píwkʷəns/ ‘s/he chips it’, /míkʷəns/ ‘s/he chips it’, /ɬík̓ʷəmt/ ‘string breaks, net gets holes’, which seem to have an inherently plural meaning, although this remains to be checked with fluent speakers.[21]

These forms in Secwepemctsín and nłeʔkepmxcín are certainly derived from the ə-i ablaut patterns found in other Salish languages (Kinkade 1981:268). Further comparative research is necessary to investigate how this morphological process evolved into its current form in Secwepemctsín, particularly in cases where the weak grade and /í/ grade exist in paradigms side by side, without any apparent singular-plural distinction.

5 Synchronic status

If Secwepemctsín weak roots derive historically from roots with schwa, what is their status synchronically? One possibility is that they have the same forms underlying as on the surface, i.e., /(C)CéC/ and /(C)CúCʷ/. If this were the case, there must be a “weak” feature stored in the lexicon, as the place where unpredictable information is stored, which causes them to repel stress, parallel to the “strong” feature that causes morphemes to attract stress. However, this assumption runs into the problems mentioned in Section 2, where we find certain morphemes, such as the middle suffix /-Vm/ that do not fall neatly into the stress hierarchy.

If instead we assume that weak roots, as well as the middle and stative suffixes, still contain schwa underlyingly (as Black 2006 does for Spokane), then this problem can be dealt with phonologically by three rules: (1) stress falls on the rightmost strong morpheme in a word, (2) stress falls on the rightmost full vowel in a word, and (3), in words with only schwa, stress falls on the rightmost schwa of a word. This can account for the apparent contradictions between [pəɣétkʷe] ‘cooled-off water’, [péɣəm] ‘cool off’ and [ptém] ‘spread out’ mentioned in Section 2 above:

[20] This root has the retracting feature, which causes the /é/ of the middle suffix to retract to [á] and the /í/ of the root to retract to [é]. This retraction is also found in the nłeʔkepmxcín cognates.

[21] Community orthography for these examples: *píwkwens, míkwens, llík̓wemt*.

Table 8: Revised stress analysis[22]

	/**ciq**-etkʷə/	/peɣ-etkʷə/	/peɣ-əm/	/pət-əm/
Stress > strong	cíqetkʷə	—	—	—
Stress > V	—	peɣétkʷə	péɣəm	—
Stress > ə	—	—	—	pətə́m
	[cíqkʷe]	[pəɣétkʷe]	[péɣəm]	[ptém]

In Table 8, I have omitted processes like vowel reduction, schwa deletion, and schwa colouring to simplify the presentation. If underlying schwa is assumed, then the sound changes *ə́ > ú / _Cʷ and *ə́ > e within a root must remain active within the language at a synchronic level.

These assumptions also explain the different stress patterns found in the /í/ grade forms. If the singular and plural forms are stored as separate lexical entries, then the full vowel of the plural form is expected to be stressed by the rules given above:

Table 9: Stress with weak and /í/ grade roots[23]

	/ptəkʷ-əm/	/pət-pitkʷ-əm/
Stress > strong	—	—
Stress > V	—	pətpítkʷəm
Stress > ə	ptəkʷə́m	—
	[pətkʷúm]	[pətpítkʷəm]

This analysis is extremely simplified and cannot account for all stress in Secwepemctsín.[24] However, I believe that the data is suggestive that the distinction between full vowel vs schwa is still active in the phonology of the language.[25] A more developed analysis assuming a constraint-based model like Optimality Theory could better capture the generalizations about stress, syllable structure, and vowel quality found in the data. Notably, Stratal OT, with its reference to different morphological levels (Kiparsky 2015), could reflect the different patterns in schwa colouring at the root level vs stem (root + middle suffix) level. This must remain a project for future research.

[22] Community orthography for the examples in this table: *tsíqwke, perétkwe, pérem, ptem*.

[23] Community orthography for the examples in this table: *petkúm, petpítkwem*.

[24] Notably it fails in words with multiple lexical suffixes: /k̓ʷəɬ-k̓əm-cin-ekst/ [k̓ʷəɬk̓əm̓cnékst] ‘wrist’ vs /k̓ʷəɬ-k̓əm-cin-xen/ [k̓ʷəɬk̓əmcín̓xən] ‘ankle’, where stress falls on the last full vowel in ‘wrist’ but on the first in ‘ankle’.

[25] Another piece of evidence that schwa may still be phonologically active comes from comparison with St’át’imcets. There, the ‘inchoative’ morphemes <ʔ> and /-p/ are in complementary distribution: roots with a full vowel select <ʔ>, while roots with schwa select /-p/ (Van Eijk 1997:71). This is paralleled in Secwepemctsín, where <ʔ> occurs with strong roots, while /-əp/ occurs with weak roots.

6 Conclusions

This paper shows that the patterns of vowel quality in Secwepemctsín root-stressed weak roots are predictable based on the final consonant of the root. I show that the surface forms in the modern language can be derived from earlier forms with schwa from sound changes which eliminated stressed schwa from the language. This is confirmed by comparative evidence, suggesting that weak roots with schwa should be reconstructed back to Proto-Northern Interior Salish. These findings are in agreement with statements that weak roots in modern Salish languages go back to Proto-Salish forms with schwa. What is less clear is whether schwa still exists in the underlying form of weak roots in Secwepemctsín. I tentatively suggest that, despite never surfacing as such, it does exist in the underlying representation of weak morphemes in the language, and that it still plays an active role in determining stress in the language.

Further research and theoretical grounding is needed to develop a full analysis of how the stress system of Secwepemctsín functions, and how it interacts with underlying schwa. In addition, comparative research should proceed from reconstructing individual roots and words in Proto-Northern Interior Salish to entire paradigms, allowing the effects of processes like morphological analogy and reanalysis to be examined in further detail. More thorough reconstruction of lower-level protolanguages can then help put our reconstructions of even earlier stages (Proto-Interior Salish, Proto-Salish) on firmer footing.

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