Lexical Suffixes and Connectives in Proto-Central Salish and Beyond*

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Abstract: This paper expands on the existing body of literature which reconstructs lexical suffixes in Proto-Central Salish (PCS). Pincott (2021) presents a set of Central Salish lexical suffixes that were created by combining connective morphemes with existing lexical suffixes. In this paper I propose some new reconstructions, and seek to reconstruct connectives and suffixes in more detail. This paper focuses on reconstructing stress, glottalization, and the PCS resonant *l^y (Galloway 1988) in lexical suffixes and connectives. Two of these reconstructions are proposed to be older than Central Salish because reflexes can also be found in Tillamook or Tsamosan. I also discuss the possibility of reconstructing the meanings of the PCS connectives *-*ay*- and *-*al^y*-.

Keywords: Central Salish, lexical suffix, connective, historical Salish

1 Introduction

This paper seeks to expand on the existing literature which reconstructs Proto-Central Salish (PCS) lexical suffixes. Pincott (2021) reconstructs a set of lexical suffixes in Central Salish which were derived by combining lexical suffixes with connective morphemes. The addition of the connective is sometimes associated with a shift or extension in meaning, but in other cases there is no difference in meaning between the lexical suffixes with and without the connective.

Sets of connectives have been reconstructed for Proto-Salish (PS) and PCS. Kinkade (1998) reconstructs *-*al*-,[1] *-*ay*-, and *-*ul*- for PS, and suggests that there was likely one that included *ɬ* as well (Kinkade 1998:283). Pincott (2021) proposes that PCS made productive use of *-*al*-, *-*aɬ*-, *-*aw*-, *-*ay*-, and *-*úl*- (Pincott 2021:64). I propose that the PS connective *-*al*- became *-*al^y*- in PCS (See Section 2.1 for discussion of the phoneme *l^y), and that PCS *-*al*- may have been either a different connective, or a rare variant of *-*al^y*-.

Table 1 lists my proposed PCS reconstructions.[2] The first and third columns contain reconstructions of the lexical suffixes with and without connectives, respectively. In Table 1 and in the remainder of this paper, suffixes that were formed by combining a connective with an existing

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[1] This paper uses the Americanist Phonetic Alphabet, in which [c, č, ǰ, š, y, x̌] represent [ʦ, ʧ, ʤ, ʃ, j, χ].
[2] Abbreviations: C = consonant, C_{lab} = labialized consonant, Ch = Upper Chehalis, Ck = Chilliwack (Upriver Halkomelem), CN = connective, Cw = Cowichan (Island Halkomelem), Cz = Cowlitz, Kl = Klallam, Ld = Lushootseed, LS = lexical suffix, Ms = Musqueam (Downriver Halkomelem), PCS = Proto-Central Salish, PS = Proto-Salish, Q_{lab} = post-velar labialized consonant, Qu = Quinault, R = resonant, Se = Sechelt, Sg = Songish, Sl = Sliammon, Sm = Samish, Sn = Saanich, Sq = Squamish, Ti = Tillamook (only the language, not the branch, is abbreviated), Tw = Twana, V = vowel. Lexical suffixes are marked with a double hyphen = and other grammatical affixes with a single hyphen -.

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lexical suffix are referred to as "CN + LS forms". The final column of Table 1 includes, where applicable, possibilities for how the meanings of the CN + LS forms were derived.

Table 1: Lexical suffix reconstructions for PCS[3]

LS	Gloss	CN + LS	Gloss	Possible derivation
*=ús	'face'	*-ál̓ʸ=us	'eye'	'on the face'
		*-áy̓=us	'cheek' (Sl and Se only)	'side of the face'
*=an̓áʔ	'ear, side of the head'	*-ál̓ʸ=an̓aʔ	'ear'	'on the side of the head'
*=áx̌an	'arm, side'	*-alʸ=áx̌an	'arm'	'on the side'
*=áp	'bottom, base'	*-ál=ap	'thigh, hip'	'at the base'
*=qin	'head, voice, language'	*-ál(ʸ)=qin[4]	'hair, fur, feather'	'on the head'
		*=álʸa=qin	'inside of head or throat'	'inside the head'
*=ál̓ʸa	'place for, container'			
*=án̓axʷ	'salmon, fish run'	*-al(ʸ)=ánaxʷ	'season, weather'	'reason for fish runs'
		*-áw̓=anaxʷ	'year'	
*=ánum	'year, time'			
*=ál̓aq	'wave'			
*=čup	'fire, firewood'	*-alʸ=čup	'fire, firewood'	
*=íc̓aʔ	'clothes, blanket'	*-ál̓ʸ=ic̓aʔ	'clothes, blanket'	
*=aqap	'smell, taste'	*-ál̓ʸ=aqap	'smell, taste'	
*=áčən	'testicle(s)	*-ál(ʸ)=ačən	'testicle(s)'	
*=txʷ	'house, building'	*-áw̓=txʷ	'house, building'	
*=úcin	'mouth'	*-áý=ucin	'lips, jaw, chin, edge'	'edge of the mouth'
*=mixʷ	'people, living being, life force'	*-álʸ=mixʷ	'breast, milk'	'source of life'

The remainder of this paper is organized as follows. Section 2 examines the first set of suffixes in Table 1, those for 'face' and 'eye', focusing on the glottalized resonant **l̓ʸ* and stress. Section 3 presents data for additional reconstructions of CN + LS forms, and Section 4 discusses some possible reconstructions for the meanings of the connectives **-ay-* and **-alʸ-*.

[3] Unless otherwise indicated, the sources of language data are as follows: Sl: Watanabe (2003), Se: Beaumont (2011), Sq: Pincott (2021), Cw: Kuipers (2002), Ms: Suttles (2004), Ck: Galloway (2009), Sn: Montler (2018), Sm: Kuipers (2002), Sg: Pincott (2021), Kl: Montler (2012), Ld: Bates et. al. (1994), Tw: Kuipers (2002), Ti: Kuipers (2002), Qu: Modrow (1971), Ch: Kinkade (1991), Cz: Kinkade (2004).
[4] The notation *l(ʸ)* indicates that there is insufficient data to differentiate **l* and **lʸ*.

2 Suffixes for ‘face’ and ‘eye’

The lexical suffixes for ‘face’ and ‘eye provide a useful representative example of how the resonant **l̓*, glottalization, and stress can be reconstructed in CN + LS forms. The data for the Central Salish forms is presented in (1).

(1)					
	PS	*=us	‘face’ (Ku)[5]		
		ʔm*=us	‘face, eye’ (Ki)[6]	*=alus	‘colour’ (Ki)
	PCS	*=us	‘face’ (P)	*-al̓=us	‘eye’ (P)
		***=ús**	**‘face’**	***-ál̓=us**	**‘eye’**
	Sl	=us	‘head, face’	=awus	‘eye’
	Se	=us	‘face, eye, dollar’	=álus	‘eye’
	Sq	=us	‘face’	-ay̓=us, -ay=us	‘eye’
	Cw	=as	‘face’	-al=əs	‘eye’
	Ms	=ás, =əs	‘face, round object’	=ál̓əs, =ələs	‘eye, appearance’
	Ck	=á:s, =ás, =əs	‘on the face’	=á:ləs	‘on the eye(s)’
	Sn	=as, =əs	‘face’	=aləs, =al̓əs	‘eye, colour, stone’
	Sm	=as, =a:s	‘face’		
	Sg			=áləs	‘eye’
	Kl	=us	‘face’	=ayus, =ay̓əs	‘eye’
	Ld	=us	‘face, head, upper part’	=alus, =əlus	‘eye, colour’
	Tw	=us	‘face’	=ay̓as, =ayas	‘eye’ (N. Thompson 1979:168)

This innovation, wherein a suffix for ‘eye’ was formed by adding a connective to the suffix for ‘face’, can also be demonstrated to be older than Central Salish. Analogous forms from the Tillamook and Tsamosan branches are listed below in (2).

[5] When cited in examples, Kuipers (2002), Kinkade (1998), and Pincott (2021) are indicated with (Ku), (Ki), and (P), respectively. My proposed reconstructions are bolded.

[6] Kinkade (1998) reconstructs a set of lexical suffixes for PS which were formed by removing the initial consonants from independent nouns. The reflexes of these “C + LS forms” in modern Salish languages include both independent nouns and lexical suffixes. Kinkade uses the notation *ʔm*=us* to represent the reconstruction of both the noun **ʔmus* and the lexical suffix **=us* for PS.

(2)	Ti	=us	‘face’	=ayis, =ays	‘eye’
	Qu	=uːs, =os	‘face’	=áːləs	‘eye’
	Ch	=usi-	‘face, eye, round object’	-ál=us	‘eye’
	Cz	=úsi-	‘face’	=ál̓as	‘eyes’

The remainder of this section discusses the reconstructed resonant **l^{y}* (Section 2.1), glottalization in the connective (Section 2.2), and how vowel quality might be used to reconstruct stress in the two PCS suffixes (Section 2.3).

2.1 The resonant **l^{y}*

The resonant in the connective that was used to form the suffix for ‘eye’ generally lines up with the phoneme that Galloway (1988) reconstructs as **l^{y}*. The sound correspondences for PCS **l* and **l^{y}* are provided in Table 2 (reproduced from Galloway 1988:299).

Table 2: PCS **l* and **l^{y}*[7]

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw
*l	L	l	l	l	l	l	l	l	l	y	l	l
*l^{y}	L	l	y	l	l	l	l	l	l	y	l	l

Galloway reconstructs this phoneme as a palatalized lateral in order to parallel another reconstructed phoneme, **x^{y}* but admits that “the palatal nature of the reflexes, as well as those of PCS **l* may eventually have to be explained by **l* ~ **y* in PCS, or by some other more complex phenomena” (Galloway 1988:315). In this paper, I follow Galloway in representing this phoneme as **l^{y}* for the sake of consistency and convenience, although **l* ~ **y* seems like a more plausible reconstruction.

Table 2 makes one adjustment to Galloway’s table in its identification of the Sliammon reflex. Galloway represents it as a phoneme that surfaces as *w* in rounded environments and *y* elsewhere. Blake (2000) provides a more comprehensive description of the Sl phoneme’s behaviour. In Sl, the phonemes /L/ and /L’/ behave as follows.

(3) a. /L/
→ [ɬ] / _#
→ [w] / u_, _u
→ [y] elsewhere

b. /L’/
→ [ɬ] / _#
→ [ẇ] / u_, _u
→ [ʔ] / a_a
→ [ẏ] elsewhere (Blake 2000:49-50)

[7] Galloway also includes reflexes for Pentlatch, Nooksack, Lummi, and Sooke. These are omitted here because this paper does not include data from these languages.

The word-final allophone [ɬ] is not relevant for connectives because they always appear word-internally, but the other allophones appear in the data discussed below. [8]

Squamish serves as the key to differentiating PCS **l* and **lʸ*, as it is the only language where these two PCS phonemes did not merge. This invites the question of whether **l* and **lʸ* were in fact distinct phonemes in PCS. Galloway also notes that PCS **l*, **lʸ* > Sl /L/ is "an unusual type of change" (Galloway 1988:296). He reconstructs two separate phonemes because the Sq split and other sporadic *l* ~ *y* alternations in Central Salish lack clear conditioning factors. I follow his analysis here, in part because Sq largely lacks CN + LS forms that begin with *-al-* (examples (6) and (8) in Section 3 are two exceptions). This suggests that PCS had the connective **-alʸ-*, but **-al-* was either rarely used or entirely absent. If PCS **l* and **lʸ* were not two different phonemes, then PCS **-alʸ-* would have split into Sq *-al-* and *-ay-*, and we would expect to find both connectives in the Sq data. The paucity of Sq suffixes containing *-al-* suggests that **-alʸ-* was very prevalent in PCS, and **-al-* was either an uncommon connective or a rare variant of **-alʸ-*. Nevertheless, the body of data is quite complex, and the notion that PCS **l* and **lʸ* were not distinct phonemes merits further consideration.

With the exception of Twana, the resonants in the Central Salish suffixes for 'eye' align with the sound correspondence for **lʸ*. The resonant shifted to *y* in Sq and Kl, it became *w* in Sl because it was conditioned by the following *u*, and it is *l* in the other languages. Twana's deviation from the expected *l* may have been a random aberration, although it shows a curious resemblance to the Ti form. This might not be a coincidence, as L. Thompson (1979) says that, after the Tsamosan branch split from Central Salish, the ancestors of the Tillamook split from the southern end of the Central Salish body before migrating south to the Oregon Coast (L. Thompson 1979:695). Perhaps the Tw suffix was influenced by the pre-Tillamook form prior to this split.

The sound correspondences for PCS **lʸ* can be expanded to the Tillamook and Tsamosan branches, and there is limited evidence to suggest that the palatal nature of this phoneme is older than PCS. Two of Galloway's reconstructions which contain **lʸ* have cognates outside of Central Salish:

(4)	PCS	*lʸə́c̓̌	'full'	(Galloway 1988:305)
	Ch	ləc̓̌	'full'	
	Cz	lək̓	'full'	
(5)	PCS[9]	*qʷálʸʔ	'to speak, talk'	(Galloway 1988:315)
	Ti	qʷay-	'lie, prevaricate'	
	Ch	qʷə́lam-,	'think'	
		sqʷə́lm	'heart, thought, constitution, mind'	
	Cz	qʷələ́m-	'heart'	

[8] The Sliammon reflex of PCS **-alʸ-* is distinct from the linking morpheme *-ał-* used in many Salish languages for compounding (Kinkade 1998:284). While the compounding morpheme *-ał-* is used productively in some languages, it occasionally becomes fossilized as part of a lexical suffix, such as PCS **-ał=kʷu* 'water' (Pincott 2021:65). See also Watanabe's discussion of the "ligature" in Sl (Watanabe 2003:368-70).

[9] Kuipers (2002) lists reflexes of PS **qʷal* 'to speak, think' and **qʷil* 'to cheat' together (Kuipers 2002:91-2). He lists the Ti form provided here in brackets, indicating that it is either "formally deviating or semantically doubtful" (Kuipers 2002:12).

Galloway notes that the sound shifts associated with PCS **l* and **l^{y}* are likely to be relatively old, because *l* ~ *y* appears in other Salish languages, and PS **l* > *y* is even attested for the Interior language Thompson (Galloway 1988:326).

On the basis of this limited data, it is tempting to reconstruct **l^{y}* for the most recent ancestor of Central Salish, Tillamook, and Tsamosan and propose that Ti parallels Sq in the sound shift **l^{y}* > *y*. However, Sq *y* more frequently correlates with Ti *l* in the cognate sets that are available (Kuipers 2002:73, 88, 120, 136, 205). Rather, I propose that **l^{y}* split into *l* and *y* in Ti. Table 3 provides a tentative expansion of this sound correspondence for the Tillamook and Tsamosan branches.

Table 3: Sound correspondences for **l^{y}* in PCS, Tillamook, and Tsamosan

PCS	Ti	Qu	Ch	Cz
*l^{y}	l ~ y	l	l	l

More data from Ti is needed in order to establish this sound correspondence confidently. However, the Tsamosan data consistently contain *l*, both in (4)-(5) as well as in the connectives in (2).

2.2 Glottalization

While glottalization of the resonant is not retained very consistently or transparently in the connectives in (1)-(2), it has left some noticeable traces among the forms in this cognate set. Only the suffixes in Sq, Ms, Sn, Kl, Tw, and Cz clearly retain glottalized resonants, although it is possible that the Se form was also glottalized. The Se dictionary does not indicate glottalization in resonants because there is a great deal of variation in pronunciation, and glottalization is becoming less common among younger speakers (Beaumont 1985:11).

There is also some evidence to suggest that languages have a common tendency to lose glottalization in lexical and grammatical affixes. Lexical suffixes likely originated as independent nouns that were incorporated or compounded, and over time became bound forms and were phonologically reduced (Gerdts 1998:97). Czaykowska-Higgins (2004) provides evidence of such phonological reduction in Moses-Columbian. The language's uvulars, pharyngeals, and ejectives are completely absent in grammatical suffixes, and much less common in lexical suffixes than in roots (Czaykowska-Higgins 2004:90-91). This indicates that loss of marked features, such as glottalization, is a common aspect of phonological reduction in lexical suffixes.

I reconstruct the connective in the suffix for 'eye' as containing a glottalized resonant because it seems to have triggered vowel lengthening in the Ck suffix. The sound correspondences for Central Salish glottalized resonants are provided in Table 4 (reproduced from Galloway 1988:301), where *R* stands for "resonant".

Table 4: PCS glottalized resonants

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw	environment
*ʔR	R	Rʔ	Rʔ	ʔR, (:)Rʔ	ʔR, (:)Rʔ	:R	Rʔ	ʔR	Rʔ	ʔR	ʔR	ʔR	/ V́_V
*Rʔ	R	Rʔ	Rʔ	Rʔ	Rʔ	:R	Rʔ	Rʔ	Rʔ	Rʔ	R(ʔ)	Rʔ	/ V́_C, #
*Rʔ	Rʔ	R	Rʔ	Rʔ	Rʔ	R	Rʔ	Rʔ	Rʔ	Rʔ	Rʔ	R	/ V_#, _V́

Given the long vowel in the Ck suffix, it seems more plausible that some languages would have dropped the glottalization during phonological reduction, rather than some languages adding it sporadically and Ck coincidentally lengthening the vowel in the connective.

2.3 Stress and vowel quality

Reconstructing stress for PCS suffixes is a complicated endeavour, but some inferences can be made based on vowel quality in the modern Halkomelem and Northern Straits suffixes. The PCS suffix for 'face' in (1) is a good example. The sound correspondences for PCS **ú* and **u* (reproduced from Galloway 1988:301) are listed in Table 5.

Table 5: PCS **ú* and **u*

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw
*ú	ú	ú	ú	á	á	á	á	á	á	ú	ú	ú
*u	u	u	u, ə	ə	ə	ə	ə	ə	ə	ə	u	u

Assuming that the possible forms for PCS 'face' are **=ús* and **=us*, then the sound correspondences in Table 5 would predict the first two sets of reflexes listed in Table 6.

Table 6: Predicted and actual reflexes of 'face'

Language	Expected if PCS **=ús*	Expected if PCS **=us*	Actual reflex
Sl	=ús	=us	=us
Se	=ús	=us	=us
Sq	=ús	=us, =əs	=us
Cw	=ás	=əs	=as
Ms	=ás	=əs	=ás, =əs
Ck	=ás	=əs	=á:s, =ás, =əs
Sn	=ás	=əs	=as
Sm	=ás	=əs	=as, =a:s
Kl	=ús	=us	=us
Ld	=ús	=us	=us
Tw	=ús	=us	=us

The vowel in the Halkomelem and Northern Straits suffixes shifted to *á*, indicating that it was probably already being stressed in the earliest spoken forms of these languages. If Ms, for example, had inherited an unstressed form of the suffix, then it would have the variants *=ás*, *=əs* rather than *=ás, =əs*. Thus, synchronic stress patterns alone cannot account for the vowel quality in the Halkomelem and Northern Straits suffixes.

In contrast, I reconstruct the first vowel in the suffix for 'ear, side' as unstressed. Table 7 lists the sound correspondences for PCS **á* and **a* (reproduced from Galloway 1988:301).

Table 7: PCS **á* and **a*

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw
*á	á	á	á	ɛ́	ɛ́	ɛ́	é	é	é	á	á	á

*a	a	a	a	ə	ə	ə	ə	ə	ə	ə	a	a

Table 8 lists the predicted reflexes for PCS *=*ánaʔ*, *=*anáʔ*, followed by the forms attested in the Central Salish languages.

Table 8: Predicted and actual reflexes of 'ear, side'

Language	Expected if PCS *=*ánaʔ*	Expected if PCS *=*anáʔ*	Actual reflex
Sl	=ánaʔ	=anáʔ	=anˀa
Se	=ánˀa	=aná	=ana
Sq	=ánˀaʔ	=anˀaʔ	=aʔan, =aʔn
Cw	=énˀəʔ	=ənˀéʔ	=ənˀə
Ms	=énˀəʔ	=ənˀéʔ	=ánə, =əneʔ
Ck	=éːlə	=əlɛ́	=ə́lɛ
Sn	=énˀəʔ	=ənˀéʔ	=eːn, =enˀ, =enə, =əneʔ
Sm	=énˀəʔ	=ənˀéʔ	=ənéʔ, =ənˀ
Kl	=ánˀəʔ	=ənˀáʔ	=anˀ
Ld	=ádaʔ	=adáʔ	=adiʔ
Tw	=áda	=adá	=adi

Here, PCS *=*anáʔ* is the more likely candidate, because Cw, Ms, Ck, and Sm have *ə* or *ə́* as their initial vowel. They inherited a suffix whose initial vowel was unstressed, so it was reduced to schwa. Synchronic stress patterns led to the Ms variants *=ánə*, *=əneʔ*. The present analysis cannot account for the Sn data (additional variants are listed in Montler 2018:1091), which will require further investigation.

The same general principle applies when reconstructing stress on connectives. For example, consider PCS ***-al^{y}=čup*** > Ck ***-álcəp*** 'fire, firewood' (15) and PCS ***-ál^{y}=aqap*** Ck ***=é:ləqəp*** (17). In the former, Ck inherited a suffix without initial stress and reduced the initial vowel to a schwa. The initial stress in the modern form then arose through more recent processes. In the latter, Ck inherited a suffix with initial stress, causing the vowel to shift to *é*. The long vowel serves as additional evidence, because glottalized resonants only triggered vowel lengthening in stressed vowels (see Table 4).

Returning to the suffixes for 'eye', one significant problem remains: why do the Halkomelem forms show no evidence of the expected vowel shift PCS **á* > Cw, Ms, Ck *é*? Table 9 lists the predicted sound correspondence for PCS **á* in rounded environments (reproduced from Galloway 1988:301), where *Q* stands for "post-velar consonant".

Table 9: PCS **á* in rounded environments

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw	environment
*á	(á)	á	á	é	é	é	á	á	á	ú	á	á	/ C_{lab}, w_; _Cu, Q_{lab}, w

Closer inspection of the cognate sets in Galloway (1988) suggests that the sound correspondence in Table 9 might only apply when the vowel follows a rounded environment. There is sufficient evidence to support that PCS **á* > Cw, Ms, Ck *é*, Sn, Sg *á*, Kl *ú* / *C_{lab}, w_* (Galloway 1988:306,

309-12), but little available data to demonstrate that the same shifts occurred when PCS **á* preceded a rounded environment. There is one cognate set that shows the following sound change: PCS **á* > Ms, Sg, Kl *á* / *_w* (Galloway 1988:323),[10] and no cognate sets that include the environment *_Cu*.[11]

Given that the Halkomelem and Straits suffixes for 'eye' in (1) retain PCS **á* without exception, I propose the sound correspondence listed in Table 10. Example (13b) in Section 3.3 provides additional evidence for this sound correspondence.

Table 10: PCS **á* / *_Cu*

PCS	Sl	Se	Sq	Cw	Ms	Ck	Sn	Sm	Sg	Kl	Ld	Tw	environment
*á	(á)	á	á	á	á	á	á	á	á	á	á	á	/ _Cu

We can also surmise from the Halkomelem and Northern Straits forms of 'eye' that unstressed vowel reduction occurred after the shift PCS **á* > Cw, Ms, Ck *é*, Sn, Sm, Sg *é*. If PCS **-ál^{y}=us* > *^{x}-ál^{y}=əs* occurred before the vowel shift, then the modern suffixes would have *é* (Halkomelem) and *é* (Northern Straits) as their initial vowels.

2.4 Summary

This section has examined how the suffixes for 'face' and 'eye' provide evidence for reconstructing the resonant **l^{y}*, glottalization, and stress in PCS. The resonant **l^{y}*, perhaps better conceptualized as **l ~ *y*, can be reconstructed based on the Sq reflex. This sound correspondence can tentatively be extended to include the Tillamook and Tsamosan branches. Lengthened vowels in Ck can be used to reconstruct glottalized resonants. This is an especially useful piece of evidence, because resonants in lexical suffixes often lose glottalization over the course of phonological reduction. Finally, vowel quality in Halkomelem and Northern Straits provide hints for reconstructing PCS stress. The next section applies these methods of analysis to a broader set of data.

3 Additional reconstructions

This section presents additional cognate sets which illustrate the patterns of glottalization, stress, and the resonant **l^{y}* discussed in Section 2. Section 3.1 focuses on three CN + LS forms where the addition of the connective alters the meaning of a somatic suffix. Sections 3.2 and 3.3 examine developments involving the suffixes for 'head' and 'salmon', respectively. Section 3.3 lists CN + LS forms where the addition of a connective did not lead to any semantic shifts.

3.1 Somatic CN + LS forms with semantic shifts

This section discusses three somatic suffixes which tend to undergo shifts in meaning when a connective is added.

[10] The modern Ck form stresses a different syllable, so the vowel of interest has been reduced to schwa.

[11] A comprehensive analysis of how the various rounded environments affected reflexes of PCS **á* is beyond the scope of this paper. I refer the interested reader to the following cognate sets in Galloway (1988): #8 (306), #17 (309-10), #20 (310), #22 (310), #24 (311), #28 (312), #32 (314), #34 (315), and #45 (323).

The connective **-al^{y}-* discussed in Section 2 also appears in conjunction with the suffix for 'ear'. Forms of the suffix with and without the connective are listed in (6).

(6)					
	PS	*=áni/aʔ[12]	'ear (side)' (Ku)		
		ṯ*=ani/aʔ	'ear, side of head' (Ki)		
	PCS	*=anaʔ	'ear, side' (P)	*-aḷ=anaʔ	'side of the head, ear' (P)
		***=aṅáʔ**	**'ear, side of the head'**	***-ál^{y}=aṅaʔ**	**'ear'**
	Sl	=aṅa	'neck'	=aʔana	'ear'
	Se	=ana	'ear'	-ál=ana	'ear'
	Sq	=aʔan, =aʔn	'cheek, side'	=ayan, =aẏaʔn	'ear'
	Cw	=ənə̀	'ear (side)'		
	Ms	=énə, =əneʔ	'ear, side'		
	Ck	=élɛ	'on the side of the head'	=ɛ́:lí:yɛ	'on/in the ear'
	Sn	=e:n, =eṅ, =enə, =əneʔ	'ear, angle, corner, side of the face'		
	Sm	=əné ʔ, =əṅ	'ear (side)'		
	Kl	=aṅ	'ear, corner, angle'	-ay=n	'ear (side)' (Ku)
	Ld	=adiʔ	'ear, side, sound'	=éldiʔ,	'ear, side of the head'
	Tw	=adi	'(exterior) ear, side of head' (N. Thompson 1979:1)		

I reconstruct the connective in (6) as stressed because the Ck vowel has undergone the expected shift in quality: PCS **á* > Ck *ɛ́*. The Ck suffix's long initial vowel indicates not only that it was stressed, but also that it historically was followed by a glottalized resonant. The Sl reflex also serves as evidence for glottalization, because the PCS glottalized resonant **l̓^{y}* became the Sl phoneme /L'/, which surfaces as *ʔ* in the environment *a_a* (3b).

The forms in (6) without the connective often have more general locative meanings such as 'side', while the forms with the connective tend to refer more specifically to the ear. This suggests that the connective added specificity to the location described by the lexical suffix. As Pincott (2021) observes, this trend applies not only to the suffixes in (6), but to the suffixes for 'arm, side' listed in (7) as well (Pincott 2021:51, 57).

(7)					
	PS	*=áx̌an	'arm (side)' (Ku)		
		*=ax̌an	'upper arm, shoulder' (Ki)		
	PCS			*-al=ax̌an	'arm' (P)
		***=áx̌an**	**'arm, side'**	***-al^{y}=áx̌an**	**'arm'**
	Sl	=ax̌an	'corner'	=aẏax̌an	'upper arm, elbow'
	Se	=ax̌an	'end? side?'	=láx̌an, =láx̌a	'arm, front leg of animal, sleeve, upper arm'
	Sq	=ax̌an	'side'	-ay=áx̌aʔn,	'arm'

[12] Kuipers (2002) uses the forward slash to indicate alternative forms (Kuipers 2002:12). I also apply this notation to data from Kinkade (1998).

			-iy̓=áx̌aʔn, -iy̓=ax̌an	
Cw	=əx̌n, =ex̌n	‘side’	-əl=ex̌n	‘side’
Ms	=éx̌ən, =əx̌ən	‘arm, side, branch perimeter’	=əléx̌ən	‘arm’
Ck	=éx̌əl, =əx̌əl	‘side; end or side of a house; angular or perpendicular extension’	=əléx̌əl	‘on/in the arm/wing’
Sn	=ex̌ən	‘arm, periphery, border’	=eləx̌ən	‘hip’
Sm	=ex̌n	‘arm (side)’		
Kl	=ax̌an	‘arm’	-iʔ=ax̌n	‘arm (side)’ (Ku)
Ld	=ax̌ad	‘at the side, edge, side appendage’	-əl=ax̌ad, -l=ax̌ad	‘arm, wing’
Tw	=ax̌ad	‘arm (side)’		

For the suffixes in (7), I reconstruct a form of the connective which has neither stress nor glottalization. While Sl has a variant containing *y̓*, it appears in the environment *a_a* and therefore would be expected to surface as *ʔ* if it had arisen through the previously discussed route: PCS **lʸ* > Sl /L’/. Perhaps the glottalization in the Sl and Sq forms results from synchronic variation.

The Sn suffix *=eləx̌ən* is an outlier, both formally and semantically. While the Halkomelem suffixes are consistent in retaining full stressed vowels after the connective, Sn has *e* as its initial vowel. Because the Sn suffix diverges in meaning as well (‘hip’ rather than ‘arm’), it may have been a more recent innovation in Sn.

It is more common for Central Salish suffixes for ‘hip’ to derive from PCS **=áp* ‘bottom, base, rear’. These are listed in (8).

(8)

PS	*=ap	‘bottom, base, rear’ (Ku)		
	*=ap	‘bottom, rear, base’ (Ki)		
PCS	*=ap	‘base’ (P)	*-al=ap, *-ay=ap	‘side of leg?, thigh?’ (P)
	***=áp**	**‘bottom, base, rear, back’**	***-ál=ap**	**‘thigh, hip’**
Sl	=ap	‘heel’	=amap	‘hip’
Se	=ap	‘end (lower or upper, slope’ slope), slope’	=álap	‘end (lower or upper);
Sq	=ap	‘base?’	=alap	‘thigh’
Ms	=ép, =əp	‘base, bottom’		
Ck	=əp, =áp	‘ground, earth, dirt on the ground’		
Sn			=ečəč, =ey̓əč	‘hip’ (P)
Kl	=ač	‘back, usually the bottom or lower back’	=ay̓č	‘hip’ (P)
Ld	=ap, =əp	‘bottom, base, buttocks’	=álap	‘leg, hip’
Tw	=ap	‘rear end, behind, tail’		

Overall, the suffixes in (8) show a similar pattern to those in (6) and (7), where the addition of the connective has the effect of describing a more specific location. The forms from Sl and Sn differ significantly from what this reconstruction would predict, and remain unaccounted for in my analysis. Section 4.2 will further explore the semantic function of PCS **-al^{y}-*.

3.2 Suffixes formed from 'head'

The suffix for 'head' was combined with a connective and semantically extended to mean 'hair' or 'fur'. These forms are listed in (9).

(9)

PS	*=qin	'head (hair, top; throat, voice, language' (Ku)		
	ʔm*=aqin	'head' (Ki)		
PCS			*-al=qin	'integument' (P)
	***=qin**	**'head, voice, language'**	***-ál(^{y})=qin**	**'hair, fur, feather'**
Sl	=qin	'mouth (inside)'	=iyqiṅ	'hair'
Se	=qin	'head, language, mouth, opening, speech, throat, top, voice'	-əl=qin, -əl=qi, -l=qin	'hair'
Sq	=qin, =qn	'hair, throat, language'	-ál̓=qən, -l=qn	'feather'
			-iʔ=qin	'integument of animal'
Cw	=qen, =qən	'throat, voice'		
Ms	=qən, =qín	'head, end, bow of canoe'	=əl̓qən	'pelt, fur, hide'
Ck	=qəl	'in the head'	=élqəl, =əlqəl	'wool, feather'
Sn	=qin	'voice, throat, language'	=el̓qən, =əlqən	'hair, fur, feather'
Sm	=qiṅ	'on top'		
Sg	=qən	'wool, feather, skin growth'	=elqən, =lqən	'wool, feather, skin growth'
Kl	=qin	'voice'	=ayqən	'fur'
Ld	=qid	'head; top, summit; voice'	-əl=qid	'wool, hair'
Tw	=qid	'head'	-al=qəd	'hair'

I reconstruct this connective as stressed because Ck, Sn, and Sg retained full vowels which shifted in quality (PS **á* > Ck *é*, Sn, Sg *é*). It is unclear whether the resonant was glottalized, as Sq, Ms, and Sn have glottalized resonants, but the Ck vowel was not lengthened. I reconstruct a non-glottalized resonant, but it is also possible that glottalization was dropped in Ck before the shift PCS **ʔR* > Ck *:R* occurred.

The identity of the connective's resonant in (9) poses a puzzle, because Sq has two variants which would correspond to PCS **l* and **l^{y}*.[13] Pincott (2021) observes that *-iʔ-* appears more frequently, and forms with *-ál̓-* typically mean 'feather' (Pincott 2021:54). There are multiple ways

[13] The sequence recorded as *iʔ* might be *əy̓* phonemically (Suzanne Urbanczyk, p.c., May 8, 2025).

to analyze this data. If PCS had two different connectives *-*al*- and *-*al^{y}*-, then we might reconstruct *-*ál=qin* 'feather' and *-*ál^{y}=qin* 'hair, fur'. These two suffixes would then have become conflated in other Central Salish languages as PCS **l*, **l^{y}* merged, remaining distinct only in Sq. Alternatively, if *-iʔ=qən* 'integument of animal' is the reflex of the PCS suffix, then Sq *-ál̓=qən* 'feather' might be a more recent loan from Ck. Finally, it remains a possibility that PCS **l* and **l^{y}* were not separate phonemes. In this case, Sq would have inherited PCS **-ál=qin* 'hair, fur, feather' and developed two distinct suffixes as PCS **l* split into Sq *l* ~ *y*.

The innovation in (9) is likely older than Central Salish, because the Tsamosan branch has similar forms, listed in (10):

(10)	Ch	=aqi-	'voice, talking, language'	=alaqn	'feather'
	Cz	=aqan	'hair'	-al-aqan	in 'wool'

In addition to the CN + LS form in (9), a new suffix was also formed by compounding the suffix for 'head' with another suffix meaning 'place' (Pincott 2021:53). Example (11) lists the Central Salish suffixes for 'place' alongside the compounded forms.

(11)	PCS	*=ali, *=ala	'place for' (P)	*=ala=qin	'inside of head or throat' (P)
		***=ál^{y}a**	**'place for, container'**	***=ál^{y}a=qin**	**'inside of head or throat'**
	Sl	=aya	'place'		
	Se	=ála, =áli	'inside' 'container, place where something is or occurs'	=ála=qin	'head (inside), throat (inside)'
	Sq	=ay, =ay̓	'place for, container'	=ay̓aqin	'insides, guts'
	Ms	=élə, =ələ	'place for, container for'		
	Ck	=ɛ́ːlɛ́, =ələɛ	'container, receptacle for'	=ɛ́ləqəl	'(in) the head'
	Sn	=elə	'container'		
	Sg	=élə, =hélə	'container'		
	Kl	=ayə	'container'		
	Ld	=ali	'place where something is typically kept or located'	=áliqid	in 'he wrapped a (ceremonial) band around his head'

Because the Ld form differs semantically and is only recorded with one root, it was likely developed independently (Pincott 2021:53).

3.3 Suffixes formed from 'salmon, fish run'

The PS suffix **=anax^{w}*, **=anux^{w}* has undergone multiple semantic extensions, both with and without connectives. Its original meaning is difficult to uncover, as it is variously used to mean 'salmon, season, year, weather'. I tentatively propose that its oldest meaning is 'salmon' or 'fish' run', which was extended to mean 'year' because fish runs occur annually. Other extensions to 'weather, season, sky, wave' might then refer to the conditions surrounding fish runs. The forms of

the suffix that generally correspond to ‘salmon, fish run’ and ‘season, weather’ are listed in (12). Relevant cognates from Ch and Cz are also included in (12) and (13) below.

(12)

PS	*=ánax^{w}	‘season, salmon, year, weather’ (Ku)			
	*=anax^{w}	‘salmon’ (Ki)			
	*=anux^{w}	‘weather, season, year’ (Ki)			
PCS	***=á̓nax^{w}**	**‘salmon, fish run’**	***-al(^{y})=ánax^{w}**	**‘season, weather’**	
Sl	=anx^{w}	‘fish runs (?)’			
Se	=ánx^{w}	‘fish’	-ál=ánx^{w}	‘fish, weather on the sea’	
Ms	=é:nx^{w}, =é:nəx^{w}, =énəx^{w}	‘fish, food, fish run, season, (bad) weather’	=ələ́nəx^{w}, =lénəx^{w}	‘season’	
Sn	=e:n̓əx^{w}	‘salmon’			
	=enəx^{w}	‘season, weather, time of year’			
Kl			=aynəx^{w}	‘sky, weather’	
Ch	=anx^{w}, =anux^{w}	‘salmon’, ‘years, weather’	=alax^{w}	‘sky, weather’	
Cz	=panx^{w}	‘year’			

The various reflexes of this suffix do not allow for a tidy set of reconstructions with connectives, but there is a tendency for PCS **-al(^{y})-* and **-áẃ-* to correlate with suffixes for ‘weather’ and ‘year’, respectively. The presence of other, etymologically unrelated suffixes with similar meanings further complicates this matter. The examples below depart from this paper’s established method of presenting data, opting instead to list suffixes alongside their semantic competitors in order to compare their distributions.

Suffixes for ‘year’ are listed in (13); those in (13a) are derived from ‘salmon, fish run’, while those in (13b) are from PCS **=ánum* ‘year, time’. Note that (13b) is consistent with the sound correspondence proposed in Table 10: PCS **á* > Cw, Ms, Ck, Kl *á* / *_Cu*.

(13)

a. CN + LS form			b. unrelated suffix	
PCS			*=anum	‘measurement of time’ (P)
	***-áẃ=anax^{w}**	**‘year’**	***=ánum**	**‘year, time’**
Se	-áw=nəx^{w}	in ‘season, year’	=ánum	‘year’
Sq	-aw=anəx^{w}	‘year’	=anam, =anəm	‘measure, time’
Cw	=əwu:nx^{w}	‘years’		
Ms	=wí:nx^{w}, =í:nx^{w}	‘year’	=ánəm	in ‘year’
Ck			=á:ləm, =áləm	in ‘year’
Kl	=aʔwin̓əx^{w}	‘year’	=anŋ	‘season, year’
Ld	=aladx^{w}	‘year’		
Ch	-ál=anux^{w}	‘years’		

It is common for languages to have both suffixes, where one or both suffixes are fossilized or have a limited distribution distribution. Interestingly, Se *-áw=nəxʷ*, Ms *=ánəm*, and Ck *=áləm* all appear only with the root *yəl* (Beaumont 2011:807, Suttles 2004:315, Galloway 2009:1029), which means 'be over, turn, pass' (Galloway 2009:1027). The Se suffix *=ánum* also appears with this root (Beaumont 2011:541, 807), but I have yet to determine whether it appears with other roots as well. In Kl, *=aʔwiṅəxʷ* is used only with numbers, and *=anŋ* is only recorded with one root (Montler 2012:801-2). It appears that only Sq, which retains two distinct meanings, continues to use both suffixes productively. The Ld suffix most likely developed independently, although it may be related to the Ch form.

Pincott (2021) also proposes a local innovation among Sl, Se, and Sq, wherein a suffix for 'wave' developed along the route **-aw=anaxʷ* > **-əw=ənaxʷ* > **-əw=naxʷ* > **=unaxʷ* (Pincott 2021:69). These suffixes are listed in (14a), alongside reflexes of an unrelated PCS suffix for 'wave' in (14b).

(14)

a. CN + LS form			b. unrelated suffix	
PS			*=alaq	'wind, weather'
PCS	*-aw=anaxʷ	'wave' (P)		
			=áĺaq	**'wave'**
Sl	=unaxʷ	'wave' (P)	=aʔaq	'wind'
Se	=únaxʷ	'wave(s)'	=álaq	'air (moving air, moving through air), wind'
Sq	=unəxʷ	'wave'	=aʔlq	'wave' (fossilized)
Cw			=eləq, =ələq, =əl̀əq	'wave' (Hukari et. al. 2013: 35, 173, 229)
Ms			=éləq	'wave'
Ck			=é:ləq, =ələq	'waves'
Sn			=eləq, =əleq, =ələq	'wave'
Kl			=əẏəʔq, =iyəq	'wave, splash'

Despite being highly localized, the significant phonological reduction of *=unaxʷ* suggests that it is relatively old. Furthermore, the Sl and Sq suffixes for 'wave' are only recorded with one to two roots (Watanabe 2003:368, Pincott 2021:69), so they do not seem to be used productively. Perhaps the presence of *=unaxʷ* 'wave' in Sl and Se blocked the semantic shift from PS 'wind, weather' to 'wave', allowing them to retain the older meaning of 'wind'.

3.4 CN + LS forms without semantic shifts

The remainder of the cognate sets discussed in this section do not show any semantic differences between the plain suffix and CN + LS forms. Suffixes for 'fire, firewood' are listed in (15).

(15)	PS	*=kʷup	‘fire(wood)’ (Ku)		
		ʔm*=ikup	‘fire(wood)’ (Ki)		
	PCS	***=čup**	**‘fire(wood)’**	***-al(ʸ)=čup**	**‘fire(wood)’**
	Sl	=akʷup	‘fire(wood)’		
	Se	=íčúp	‘firewood’	-ál=kʷup	‘fire(wood)’
	Sq	=ikʷup, =čəp	‘fire(wood)’	-ay=ikʷup, -əl=čəp	‘fire(wood)’
	Cw			-əl=cəp	‘fire(wood)’
	Ms	=cəp	‘fire(wood)’	=əlcəp, =ə̀lcəp	‘fire(wood)’
	Ck			=ə́lcəp	‘firewood’
	Sn	=čəp	‘fire(wood)’ (Ku)		
	Sm	=ečəp			
	Ld	=čup	‘cooking fire, campfire, firewood’	=aličup	‘of the fire’
	Tw	=čup	‘fire(wood)’	-ay=qʷp	‘wood’

The Ld suffix ‘of the fire’ in (15) may have been derived by compounding with the suffix *=ali* ‘place where something is typically kept or located’ (11).

Example (16) lists suffixes for ‘clothes, blanket’.

(16)	PS	*=íc̓aʔ	‘hide, blanket, clothes’ (Ku)		
		ʔ*=ic̓aʔ	‘hide, surface, blanket’ (Ki)		
	PCS	***=íc̓aʔ**	**‘clothes, cloth, blanket’**	***-ál̓ʸ=ic̓aʔ**	**‘clothes, blanket’**
	Sl	=it̓ᶿa	‘clothes’		
	Se	=ic̓a	‘animal, blanket, clothes, skin’	-ál=ic̓a	‘clothes’
	Sq	=ic̓a, =c̓a	‘clothes’	-ay=c̓a, -ay=c̓aʔ	‘clothes’
	Cw	=et̓ᶿeʔ =it̓ᶿeʔ	‘strands of fibre, cloth’		
	Ms	=ít̓ᶿeʔ	‘blanket, wealth’	=éːlt̓ᶿeʔ	‘blanket, wealth’
	Ck	=ít̓ᶿɛ, =ít̓ᶿə	‘clothing, material’		
	Sn	=it̓ᶿəʔ	‘cloth’		
	Kl	=ic̓aʔ	‘clothing (fabric)’		
	Ld	=ic̓aʔ	‘clothe, wear’	=alic̓aʔ	‘clothes, clothing’
	Tw	=ic̓a	‘blanket, garment’	-al=ic̓a	in ‘ripped clothes’

Glottalization in the resonant in (16) is reconstructed based on the lengthened vowel in Ms. While Ck is more consistent in lengthening stressed vowels that precede glottalized resonants, this change can also occur in Cw and Ms (see Table 4).

Example (17) lists suffixes for ‘smell, taste’.

(17)	PS			*(-al)=aqap	‘smell, taste’ (Central Salish and Tsamosan only) (Ki)
	PCS	***=aqap**	**‘smell, taste’**	***-ál̓ʸ=aqap**	**‘smell, taste’**
	Sl	=aqap	‘smell’		
	Se			=álaq=ap	‘(have a kind of) smell’
	Sq			=áy̓aqap	‘smell; taste’
	Ms			=éləqəp	‘smell, taste, sound’
	Ck			=ɛ́ːləqəp	‘fragrance, smell, odour’
	Sn			=eləqəč	‘smell’
	Kl	=aqač	‘taste, odour’		
	Ld	=qəp	‘smell’	=aləqəp	‘odour’

Interestingly, the suffixes in (17) with the connective significantly outnumber those without it. The same goes for suffixes for ‘testicle(s)’ in (18). Only the independent noun has been reconstructed for PS, and the lexical suffix seems to be a Central Salish innovation.

(18)	PS	*makn	‘testicle’ (Ku)		
	PCS	***=áčən**	**‘testicle(s)’**	***-ál(ʸ)=ačən**	**‘testicle(s)’**
	Ms	=écən	‘testicle(s)’	=éləcən, =ə́ləcən	‘testicle(s)’
	Ck	=ɛ́cəl	‘on the testicles’	=ələ́cəl	‘on the testicles’
	Sn			=eləs	‘testicle’
	Ld			=alačəd	‘testicles’

The limited distribution of suffixes for ‘testicle(s)’ makes it somewhat problematic to reconstruct for PCS. It is possible that the suffix and CN + LS forms in (18) were the result of a more recent development in Halkomelem, which was borrowed into Sn and Ld.

Finally, (19) lists suffixes for ‘house, building’.

(19)	PS	*=txʷ	‘lodging’ (Ku)		
		c*=txʷ	‘lodging’ (Ki)		
	PCS			*-aẇ=txʷ	‘house, building’ (P)
		***=txʷ**	**‘house, building’**	***-áẇ=txʷ**	**‘house, building’**
	Sl	=txʷ	‘roof’	=awtxʷ	‘house’
	Se	=txʷ, təw	‘inside (building, shelter, vehicle)	=awtxʷ	‘building, house, room, shelter’

Sq	=tx^{w}	‘house’	-aẇ=tx^{w}	‘house’
Cw			-eẇ=tx^{w}, -əẇ=tx^{w}	‘lodging’
Ms	=tx^{w}	‘house’	=éwtx^{w}, =ə́ẇtx^{w}	‘house’
Ck	=tx^{w}	‘building, house’	=ɛ́ːwtx^{w}, =ɛ́wtx^{w}	‘building, house’
Sn			=eẇtx^{w}, =əẇtx^{w}	‘house, building, room, campsite’
Sm			=eẇtx^{w}	‘house, dwelling’
Kl			=aẇtx^{w}	‘house, building, room’
Ld	=tx^{w}	‘building’		

As with the connective **-al^{y}-* in examples (15)-(18), the connective **-áẇ-* in (19) does not seem to trigger any shift in meaning.

3.5 Summary

This section has examined various CN + LS forms. For those in Section 3.1, the addition of the connective altered the meaning of somatic suffixes slightly by describing a more specific location. The suffixes for ‘head’ and ‘salmon’ discussed in Section 3.2 and 3.3 underwent multiple innovations that show more distinct semantic shifts. Those in Section 3.4, however, display little or no change in meaning with the addition of the connective. The next section will explore possibilities for reconstructing the meanings associated with the connectives themselves.

4 Reconstructing the meanings of connectives

Salish connective morphemes have undergone semantic bleaching over time, but it is possible to uncover some remnants of their meanings. Kinkade (1998) suggests that the connectives (which he calls “expansion suffixes”) originated as lexical suffixes. They frequently appeared first in sequences of multiple lexical suffixes and gradually lost meaning as they became reduced over time (Kinkade 1998:283). This section discusses the possible reconstructions **-ay-* ‘tip, extremity, edge’ (Section 4.1) and **-al^{y}-* ‘in, on, source of’ (Section 4.2).

4.1 The connective **-ay-*

The connective **-ay-* has a tendency across multiple languages to refer to edges or extremities. Kinkade (1998) notes this pattern in Ch, and suggests that it could be related to the Moses-Columbian suffix *=ayaʔ* ‘head, top’ if it carries a similar meaning in other languages (Kinkade 1998:283). The connective *-ay-* is used to refer to extremities in (at least) two Tsamosan languages:

(20) a. Ch

=ača	‘hand, finger, forearm’	-áy=ača	‘finger, elongated instrument’
=šani-	‘foot, toe, leg’	-áy=šn	‘toe’

b. Cz

=ákaʔ	‘hand, arm, finger’	-áy=akaʔ	‘finger’
=xán	‘foot, leg’	-áy=xan	‘toe’

The connectives *-ay-* or *-y-* in Ld show a similar tendency to add meanings like ‘end’ or ‘edge’.

(21) Ld

=ucid	‘mouth’	-ay=ucid	in words for ‘chin’ and ‘jaw’
=qs	‘nose, point’	-ay=qs	in words for ‘chin’ or ‘beard’
=alus	‘eye’	-y=alus	‘end, edge’
=qid	‘head; summit’	-y=aqid	‘the very top’
=ax̌ad	‘at the side’	-y=ax̌ad	‘door’

Beaumont (2011) also notes that Se suffixes that start with *-ay-* usually refer to an outside surface, or a projection or extension (Beaumont 2011:557).

Despite this connective’s persistence in retaining its meaning, the data reveal few cases where it can be reconstructed in combination with another lexical suffix. One exception is the suffix for ‘mouth’ in (22).

(22)

PS	*=cin	‘mouth’ (Ku)		
	c*=ucin	‘mouth’ (Ki)		
PCS	***=úcin**	**‘mouth’**	***-áy̓=ucin**	**‘lips, jaw, chin’**
Se	=uc	‘language, mouth, speech’	-áy=uc	‘lips, mouth’
Cw			=ayθin	‘mouth, lips’
Ms	=aθən, =aʔθ	‘mouth, lip, margin, edge’	=á:yθən =áyəθən	‘mouth, lip, margin, edge’
Ck	=áθəl, =á:θəl	‘in the mouth’	=áyəθəl, =á:yθəl	‘on the lip, jaw, or mouth’
Ld	=ucid	‘mouth’	-ay=ucid	‘chin, jaw, path, road’

An analogous form is found in Ch. In (23), an unrelated suffix for ‘mouth’ was combined with the same connective, *-ay-*, to produce a suffix for ‘jaw’.

(23)

Ch	=łnali-	‘mouth, lips, jaw’	-áy̓=łnł	‘jaw’

Thus, there is an overall tendency in Central Salish and Tsamosan for CN + LS forms with the structure *-ay-* + ‘mouth’ to refer to the outer edges of the mouth such as the lips or the jaw.

There also seems to have been a local development in Sl and Se, where *-áy̓-* was combined with ‘face’ to form a suffix for ‘cheek’, as seen in (24).

(24)

Sl	=us	‘head, face’	=aj́is	‘cheek’
Se	=us	‘face, eye’	-áy=us,	‘cheek, head (side of)’
			-áy=as	‘cheek, side or half of face or head’

The shift PCS **y* > Sl *ǰ* is attested (Galloway 1988:300), but the variation in the second syllable’s vowel quality remains unexplained.

Put together, this evidence points toward ‘tip, extremity, edge’ as a plausible reconstruction for the connective **-ay-* in Central Salish and Tsamosan. The next section will discuss possible reconstructions for **-al^{y}-*.

4.2 The connective **-al^{y}-*

The connective **-al^{y}-* is much more prevalent than **-ay-* in the data from Central Salish, but its meaning is more difficult to decipher. In some cases, particularly for somatic suffixes, it can often be interpreted as 'on' or 'at' (Pincott 2021:65, Galloway 2009:63). This analysis applies to the suffixes for 'eye' (1)-(2), 'ear' (6), 'arm' (7), 'thigh' (8), and 'hair' (9)-(10). This pattern is laid out below in (25).

(25)

	LS		*-al^{y}=LS			
a.	*=ús	'face'	*-ál̓^{y}=us	'on the face'	→	'eye'
b.	*=aṅáʔ	'side of the head'	*-ál̓^{y}=aṅaʔ	'on the side of the head'	→	'ear'
c.	*=áx̌an	'arm, side'	*-al^{y}=áx̌an	'on the side'	→	'arm'
d.	*=áp	'bottom, base, rear'	*-al=ap	'at the base'	→	'thigh, hip'
e.	*=qin	'head'	*-ál(^{y})=qin	'on the head'	→	'hair'

The connectives in (25d-e) differ from **-al^{y}-* in form, but appear to serve a similar function. Pincott (2021) discusses additional examples of this pattern (Pincott 2021:64-5).

The meaning added by **-al^{y}-* is not obvious in non-somatic suffixes such as **-ál̓(^{y})=anax^{w}* 'season, weather' (12). Perhaps it meant something like 'source of' or 'reason for'. Salmon runs are a defining feature of the autumn season, for example, so **-ál̓(^{y})=anax^{w}* might have meant 'reason for the salmon runs'. The suffixes for 'breast, milk' listed in (26) present a notable similarity.

(26)

PS	*=mix^{w}, *=mix	'life force, "mana", person(s), animals, world, land river; woman's breast, milk' (Ku)		
	t*=(a)mix^{w},	'people, group, residents' (Ki)	*-al=amix^{w}	'female breast' (Ki)
	ʔt*=mix	'person, individual' (Ki)		
PCS			*-al=mix^{w}	'breast' (P)
	***=mix^{w}**	**'people'**	***-ál^{y}=mix^{w}**	**'breast, breast milk'**
Sl	=mix^{w}	'house'	=aymix^{w}	'breast'
Se	=mix^{w}, =məx^{w}	'floor; people, person(s); place'	-ál=mix^{w}	'breast(s), (group of) people'
Sq	=mix^{w}, =məx^{w}	'people'	-ay̓=amix^{w}	'breast'
Cw	=məx^{w}	'group, people, breast, milk'	-əl=məx^{w}	'group, people; breast, milk'
Ms	=məx^{w}	'place, people, (cluster?)'	=ə́lməx^{w}	'breast, milk, spring (of water'

Ck	=məx^{w}	‘people, person’	=élməx^{w}, =əlmə́x^{w}	‘(on the) breast’
Sn	=ŋix^{w}, =ŋəx^{w}	‘being’	=elŋəx^{w}	‘breast’
Sm	=ŋəx^{w}	‘being, living, thing, person’	-el=ŋəx^{w}	‘being, living, thing, person’
Kl	=ŋix^{w}	‘being; breast’	-ay=ŋəx^{w}	in ‘milk a cow’ (Ku)
Ld	=bix^{w}	‘homogenous group or cluster’	-al=bix^{w}	‘earth, land, milk, teat, suckle’ (Ku)
Tw	=bix^{w}	‘people’	-al=bəš	‘milk’ (non-productive)

Kuipers’ inclusion of ‘life force’ among the glosses for *=*mix*^{w} allows for the interpretation of PS *-*al*^{y}*=mix*^{w} as ‘source of life’. These possible derivations of *-*ál*$^{(y)}$*=anax*^{w} and *-*al*^{y}*=mix*^{w} suggest that the PCS connective *-*al*^{y}- carried a meaning akin to ‘source of, reason for’.

However, addition of the connective *-*al*^{y}- does not always lead to a shift in meaning. This is demonstrated by suffixes discussed in Section 3.4. It is also exceedingly common for languages to use their reflexes of *-*al*^{y}- in various synchronic processes. For example, the only notable difference between Ch =*anux*^{w} ‘years’ and -*al*=*anux*^{w} is that they attach to different numbers (Kinkade 1998:283). Overall, the connective *-*al*^{y}- shows some traces of meaning, but it seems unlikely that it carried a single, consistent meaning in PS or PCS.

5 Conclusion

This paper has sought to expand on the body of literature concerning connectives in Central Salish and their role in deriving new lexical suffixes. Section 2 proposes that the phoneme Galloway (1988) reconstructs as *l^{y} appeared in a PCS connective *-*al*^{y}-. Section 2 also presents evidence that vowel length (in Halkomelem) and vowel quality (in Halkomelem and Northern Straits) can be used to reconstruct glottalized resonants and stress in connectives. Some of the CN + LS cognate sets presented in Sections 2 and 3 extend beyond Central Salish, to the Tillamook or Tsamosan branches. Finally, Section 4 discusses the possible meanings for the reconstructed connectives *-*ay*- ‘on, at’ and *-*al*^{y}- ‘reason for, source of’. The data examined here by no means represent a comprehensive analysis of the role of connectives in PCS, and further inquiry in the future can shed additional light on this issue.

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