WPLC

Working Papers of the Linguistics Circle
of the University of Victoria

Vol. 32

Issue 1 (September 2022)

Working Papers of the Linguistics Circle of the University of Victoria

– Vol. 32 (1) –

Published by the graduate students
of the University of Victoria Linguistics Department

Department of Linguistics
University of Victoria
P.O. Box 1700 STN CSC
Victoria, B.C., V8W 2Y2
Canada

ISSN 1200-3344 (print)
ISSN 1920-440X (digital)

http://journals.uvic.ca/index.php/WPLC/index | wplc@uvic.ca

Table of Contents

Acknowledgements

First and foremost, we would like to respectfully acknowledge that this volume was compiled on the unceded territories of the Lək̓ʷəŋən, W̱SÁNEĆ, and Esquimalt Peoples.

We would also like to acknowledge and thank the authors for their contributions. This volume would not have been possible without the ongoing support of UVic Linguistics faculty, staff, and students. A special thanks to Sonya Bird, who supported and mentored us in this year's journey. In addition, we would like to thank our committee: Erin Hashimoto, Chloë Farr (also copy editor), Eloisa Cervantes, Shankhalika Srikanth, and Martin Desmarais. WPLC would not be possible without their dedicated work.

We would also like to express our appreciation for the roles that the Department of Linguistics and the UVic Libraries Office of Scholarly Communications played in making this digital edition a reality.

Preface to the 32nd volume

This current volume of WPLC is a continuation of the tradition at the University of Victoria to provide opportunities for linguistics students to publish their research, both from UVic and other universities. This year's volume contains submissions from many areas related to linguistics, with a special emphasis on topics that engage with Indigenous language work, marking the beginning of the United Nations' (UN) International Decade of Indigenous Languages (IDIL 2022-2032). The UN "Global Action Plan" highlights that "the scope of work envisaged during the International Decade is beyond the capacity of any single nation, country, stakeholder group, generation, scientific discipline, policy framework or set of actions." This statement has us bear in mind that although linguistic training and knowledge can inform Indigenous language projects, collaborative and unique multidisciplinary approaches are required in order to meet community goals for language revitalization and reclamation.

This volume represents a broad scope of Indigenous language research with motivations that span from developing linguistic theory, to establishing theories for how a language works, to informing revitalization and reclamation programs. It includes papers about directional serial verb constructions in hul'q'umi'num', L1 English speakers' perception of unfamiliar speech sounds in hul'q'umi'num' and Kwak'wala, reflexives in Samish, as well as papers developed through the University of Victoria's LING 431/531 course this past spring.

LING 431/531 provided a unique venue for collaboration as pentl'ach descendants from Qualicum First Nation invited students in the class to contribute to the pentl'ach language project's ongoing work to reawaken their language. The latter half of this volume provides insight into how this work is being done. It first includes an invitation by the reawakening pentl'ach team followed by two student papers on the topics of motion auxiliaries and grammatical suffixes. huy chxw q'a to the pentl'ach language project team for modeling this work and sharing it with us here.

We hope that the variety of topics included in this volume can not only benefit our readers in their specific areas of interest, but also serve as an invitation to share their research here as well, and to exchange ideas with a community of graduate students and beyond.

Editorial Committee
WPLC 32

Editorial Committee

Using Hul'q'umi'num' directional SVCs to express path and manner

Lauren Schneider
Simon Fraser University
lauren_schneider@sfu.ca

Path is considered an obligatory element of a motion event and languages vary in how path is expressed in motion constructions (Slobin, 2004). Hul'q'umi'num', the Island dialect of Halkomelem Salish, makes use of an equipollently-framed system in which path and manner are expressed by equivalent forms using serial verb constructions (SVCs). The language exhibits directional SVCs consisting of a manner and a path verb as well as consisting of multiple path verbs. Furthermore, there is an emerging pattern of grammaticalization involving the verb *huye'* 'leave', which occurs more frequently and exhibits less flexibility in ordering than other motion verbs in SVCs. These patterns indicate that the verb *huye'* functions as the minor component in an asymmetrical SVC.
Keywords: motion; serial verb; Halkomelem Salish; path

1 Introduction

This paper explores directional motion serial verb constructions (SVCs) in Hul'q'umi'num', the Island dialect of Halkomelem Salish (ISO 639-3 hur). One objective of research on the language is the in-depth study of aspects of Hul'q'umi'num' that differ significantly from those of English and are thus difficult to translate and are subject to loss through interference. This work is accomplished through examination of data from dictionaries (e.g., Hukari & Peter, 1995), elicitation, and a text corpus.[1] One understudied feature of some Central Salish languages is directional serial verb constructions. Serial verb constructions (SVCs) consist of two or more verbs that can function as independent lexical verbs,

[1] Acknowledgments: My fieldwork was completed with funding from Jacobs Research Fund and American Philosophical Society (Phillips Fund). Delores Louie (DL) and the late Dr. Ruby Peter (RP) provided the elicited data. The collection and compilation of texts was completed by Donna Gerdts and funded by SSHRC, SFU, and JRF. My thanks to the many Elders whose recordings make up the 17,000-line text corpus, and thanks to the researchers who recorded these legacy stories: Donna Gerdts, Tom Hukari, Randy Bouchard, Wayne Suttles. The elders referenced in this paper include Cecelia Leo Alphonse (CA), Basil Alphonse (BA), Elsie Canute (EC), Arnold Guerin (AG), Mrs. Jimmy Joe (Ellen Rice) (MJJ), Andrew Misheal (AM), Sophie Misheal (SM), Wilfred Sampson (WS), Samuel Tom (ST), and Ellen White (EW). I thank Dr. Donna Gerdts for her support and advice on this project.

share a subject, have matching aspect, and are not connected by any linking element (Schneider, 2021). Directional SVCs are those which consist of a motion verb and a directional verb which contributes the path of motion. An example of a directional SVC has been provided in (1).

(1) ’i tsun **huye’ ’imush**.

ʔi	cən	**həyeʔ**	**ʔiməš**
AUX.PROX	*1SG.SUB*	*leave*	*walk*

‘I’m going for a walk.’ (leave+walk) (RP 13.09.19)

In this example both are translational motion verbs and *huye’* ‘leave’ encodes path of motion. Section 2 explores these directional SVCs, which can be divided into three types: MANNER + PATH (§2.1), PATH + PATH (§2.2), and *huye’* (PATH) + motion verb. The verb *huye’* ‘leave’ behaves differently than other path verbs and thus warrants dedicated discussion in §2.3. The following section (§1.1), briefly provides relevant background information about the Hul’q’umi’num’ language and §1.2 discusses how motion events are categorized cross-linguistically.

1.1 Language and context

Halkomelem is one of twenty-three Salish languages currently or historically spoken in British Columbia, Washington, Idaho, Montana, and Oregon. The Salish language family is divided into five branches: Bella Coola, Central Salish, Tillamook, Tsamosan, and Interior Salish. Halkomelem is a Central Salish language consisting of three main dialects: Hul’q’umi’num’ (Island: Cowichan, Nanaimo), hən̓q̓əmin̓əm̓ (Downriver: Musqueam), and Halq’eméylem (Upriver: Chilliwack).

All Salish languages are predicate-initial. In Hul’q’umi’num’ VSO (a) is the most common word order, but VOS (b) is also possible.[2]

(2) a. ni’ punutus lhu q’emi’ kwthu sqewth.

niʔ	pən-ət-əs	łə	q̓emiʔ	kʷθə	sqewθ
AUX.DIST	*plant-TR-3SUB*	*DT*	*girl*	*DT*	*potato*

‘The girl planted the potatoes.’ (Kiyosawa & Gerdts, 2010, p. 25)

[2] Abbreviations used in the paper: 1 = first person, 2 = second person, 3 = third person, AUX = auxiliary, CN = connective element, CNJ = conjunction, CS = causative, DIM = diminutive, DIR = directional, DIST = distal, DT = determiner, DYN = dynamic, FUT = future, IPFV = imperfective, N = nominalizer, OBL = oblique, PERF = perfect, PRO.DT = pro-determiner, PROX = proximal, PST = past, PL = plural, POS = possessive, RL = rhetorical lengthening, SG = singular, SUB = subject, TR = transitive, V_1 = first verb, V_2 = second verb, VBL = verbalizing prefix

b. ni’ punutus kwthu sqewth lhu q’emi’.

niʔ	pən-ət-əs	kʷθə	sqewθ	łə	q̓emiʔ
AUX.DIST	*plant-TR-3SUB*	*DT*	*potato*	*DT*	*girl*

‘The girl planted the potatoes.’ (Kiyosawa & Gerdts, 2010, p. 25)

Canonically, as demonstrated here, NPs appear post-verbally (cf. Gerdts, 1988). The verb may be preceded by an auxiliary, linking element, adverb, or certain clitics (Gerdts & Werle, 2014, p. 263). For example, first- and second-person subject clitics occur in second position after the first available host, such as /=cən/ ‘first-person singular subject’ in (3).

(3) ni’ tsun qw’aqwut tthu spe’uth.

niʔ	cən	q̓ʷaqʷ-ət	tθə	speʔəθ
AUX.DIST	*1SG.SUB*	*club-TR*	*DT*	*bear*

‘I clubbed the bear.’ (Gerdts, 2010a, p. 575)

The verb complex in this example is made up of an auxiliary introducer clitic /niʔ/, a second-position subject clitic /=cən/, and the transitive main verb. The object NP follows the verb complex.

In Salish languages, NPs that are core participants are preceded by determiners, while non-core participants often take prepositions (Kiyosawa & Gerdts, 2010, p. 25). In many of these languages, obliques contrast with subject and object NPs with respect to nominal marking. In Hul’q’umi’num’, oblique NPs—such as instruments (4) and endpoints of motion (5)—must be preceded by the oblique marker.

(4) ni’ tsun qw’aqwut **’u** kwthu ’un’ shapululh.

niʔ	cən	q̓ʷaqʷ-ət	**ʔə**	kʷθə	ʔən̓-šapəl-əł
AUX.DIST	*1SG.SUB*	*club-TR*	*OBL*	*DT*	*2SG.POS-shovel-PST*

‘I hit him with your shovel.’ (Kiyosawa & Gerdts, 2010, p. 27)

(5) ni’ yu ’ewu tthu John **’u** tthu nu lelum’.

niʔ	yə=ʔewə	tθə	John	**ʔə**	tθə
AUX.DIST	*DYN=come.here*	*DT*	*John*	*OBL*	*DT*

nə-leləm̓
1SG.POS-house

‘John is coming to my house.’ (Kiyosawa & Gerdts, 2010, p. 27)

Hul’q’umi’num’ has only this single preposition and so meanings often expressed by prepositions in English are expressed by verbs in Hul’q’umi’num’; a handful of examples has been provided in Table 1 to illustrate this.

Table 1. *Sample of directional verbs (Hukari & Peter, 1995)*

Orth.	APA	Gloss
shaqwul	šaqʷəl	'go across'
taal	ta:l	'go out to sea, to the middle'
t'ahw	t̓aǎʷ	'go downhill'
tsam	cam	'go uphill'

These examples illustrate how, in lieu of a large inventory of prepositions, many directional meanings are instead encoded into the verbs themselves. The next section will discuss directional verbs in greater detail. Furthermore, it will briefly address how motion events are encoded in the world's languages and situate Hul'q'umi'num' within that context.

1.2 Encoding motion events

According to Slobin (2004, p. 5), *path* is a definitional, obligatory feature of a motion event. In contrast, languages vary in whether and how *manner* is expressed in motion events. Building off of Talmy (2000), Slobin (2004) proposes three typological profiles for motion events in the world's languages.

(6) Typological profile of motion events (Slobin, 2004)
- ***Verb-framed language***: The preferred means of expressing path is a verb, with subordinate expression of manner (if included) (PATH VERB + SUBORDINATE MANNER VERB).
- ***Satellite framed-language***: The preferred means of expressing path is a nonverbal element associated with a verb (MANNER VERB + PATH SATELLITE)
- ***Equipollently-framed language***: Path and manner are expressed by equivalent grammatical forms.
  - MANNER VERB + PATH VERB: serial verb languages
  - [MANNER + PATH]VERB: bipartite verb languages
  - MANNER PREVERB + PATH PREVERB + VERB

In sum, V-framed languages express path using a verb, S-framed languages express path using a nonverbal element, and E-framed languages utilize equivalent verbal elements for both path and manner. In (7), a few examples have been provided of V-framed and S-framed languages in order to illustrate the differences in expression of manner.

(7) a. <u>V-framed</u>
Spanish ***Sale** un búho*
'**Exits** an owl'
Turkish *Oradan bir baykus **çıkıyor**.*
'From there an owl **exits**'

b. <u>S-framed</u>
Russian *Tam **vy-skočila** sova.*
'There **out-jumped** owl.
Dutch *...omdat er een uil **uit-vliegt**.*
'because there an owl **out-flies**.'
English *An owl **popped out**.* (Slobin, 2004, p. 6)

In the V-framed languages, the motion event of the owl leaving a hole in the tree is almost always described using a single path verb meaning *exit*, while in S-framed languages, speakers used some kind of manner verb together with a path satellite, such as the English preposition *out* (Slobin, 2004, p. 6).

Hul'q'umi'num' has a large inventory of motion verbs encoding manner and path (cf. Gerdts & Hukari 2011). The language makes use of two different systems for encoding path. The first is a V-framed system, where manner is encoded by a verb, in this case *ts'tem* 'crawl' and path is encoded by the directional applicative suffix *-nus*.

(8) nem' **ts'temnus** tthuṅ men, qeq!

neṁ	**c̓tem-nəs**	tθəṅ	men	qeq
go.AUX	*crawl-DIR*	*DT.2POS*	*father*	*baby*

'Go crawl to your dad, baby!' (Gerdts, 2010b, p. 4)

The second involves directional motion SVCs in an E-framed system in which both path and manner are expressed by equivalent grammatical forms: MANNER VERB + PATH VERB.

(9) nem' **ts'tem nem'** 'u tthuṅ men, qeq!

neṁ	**c̓tem**	**neṁ**	ʔə	tθəṅ	men	qeq
go.AUX	*crawl*	*go*	*OBL*	*DT.2POS*	*father*	*baby*

'Go crawl to your dad, baby!' (Gerdts, 2010b, p. 4)

Halkomelem has a small, closed set of adverbs expressing meanings such as frequency and duration but makes limited use of manner adverbs (cf. Suttles, 2004, p. 422). In Salish languages, modification of non-nominal heads is largely accomplished by means of higher predicates, as well as a variety of clitics expressing the speaker's viewpoint (Gerdts & Schneider, *in press*). Manner, when

encoded in a motion event, is often encoded by a verb; Table 2 provides a selection of manner verbs.

Table 2. *Sample of Hul'q'umi'num' manner of motion verbs (Hukari & Peter, 1995)*

Orth.	APA	Gloss
tstl'um	cƛ̓əm	'jump'
q'it'a'	q̓it̓aʔ	'swing'
si'lum'	sil̓əm'	'rolling'
huw'qw'	həẇq̓ʷ	'drift'
xwchenum	x̌ʷčenəm	'run'
'imush	ʔiməš	'walk, hunt'
'ushul	ʔəšəl	'paddle'
lhakw'	łak̓ʷ	'fly'
ts'tem	c̓tem	'crawl'
t'itsum	t̓icəm	'swim (on the surface)'
shtem	štem	'swim (underwater)'

As expected in an E-framed system, path is also encoded by a verb in Hul'q'umi'num'; the next table provides a selection of path verbs.

Table 3. *Sample of Hul'q'umi'num' path verbs (Hukari & Peter, 1995)*

Orth.	APA	Gloss
nem'	nem̓	'go'
xwte'	x̌ʷteʔ	'go toward'
(hu)m'i	həm̓i	'come'
'ewu	ʔewə	'come here'
huye'	həyeʔ	'leave, depart'
hwu'alum'	xʷəʔaləm̓	'return, go back'
tus	təs	'arrive, get near'
tetsul	tecəl	'arrive, reach'
shaqwul	šaqʷəl	'go across'
tsam	cam	'go uphill'
t'ahw	t̓ax̌ʷ	'go downhill'
tsetsuw'	cecəẇ	'coming down'
kw'i'	k̓ʷiʔ	'rise, climb'
t'akw'	t̓ak̓ʷ	'go home'
lheel	łe:l	'go to shore, from the middle to the side'
taal	ta:l	'go out to sea, to the middle'

Gerdts and Hukari (1998) point out that the middle suffix /-(ə)m/ is used on verbs from many different classes, including motion verbs. There are numerous examples of this in Table 2 and Table 3 (e.g., *ts'tem* 'crawl' and *hwu'alum'* 'return, go back', respectively).[3]

Example (10) illustrates how the manner and path verbs shown in Tables 2 and 3 are combined in serial verb languages.

(10) …'i' tl'e' wulh **'ushul taal**.

ʔiʔ	**ƛ̓eʔ**	**wəɬ**	**ʔəšəl**	**ta:l**
CNJ	*again*	*PERF*	*paddle*	*go.out.to.sea*

'… and they started paddling out to sea again.' (SM 4701)

In this example, *'ushul* 'paddle' provides the manner of motion while *taal* 'go out to sea, into the middle' provides the path. This type of construction is the topic of §2.

2 Directional SVCs

In their cross-linguistic survey of serializing languages, Lovestrand and Ross (2021, p. 97) found that the most common type of motion SVCs are directional, which consist of a motion verb and a directional verb which contributes the path of motion. In Hul'q'umi'num', there are at least three types of directional motion constructions:

(11) Types of directional motion SVCs
- MANNER + PATH
- PATH + PATH
- *huye'* (PATH) + motion verb

In the first type, there is a manner verb and a path verb, such as (10). This type fits nicely into Slobin's typology outlined previously and is discussed in §2.1. The second type are directional motion constructions consisting of two or more path verbs (§2.2). In addition, SVCs consisting of more than two verbs may include a combination of manner and path verbs. Finally, a third type of construction is in

[3] The motion verbs in Table 2 and Table 3 can no longer be parsed into a free morpheme base and a suffix. The middle suffix can be used to derive motion verbs from nouns. Cases where the base is attested as a freestanding noun are not frequent but a handful of examples of denominal (translational) motion verbs have been provided below (Gerdts & Hukari, 1998, p. 197):

(i)	wekən	'wagon'	wekən-əm	'go by wagon'
	patən	'sail (n.)'	patən-əm	'sail (v.)'
	q̓ɬan	'bow'	q̓ɬan-əm	'go to the bow'
	ʔileʔəq	'stern'	ʔileʔəq-əm	'go to the stern'

the process of forming through the grammaticalization of the path verb *huye'* 'leave' (§2.3).

2.1 Manner + Path

Examples (12) and (13) demonstrate a frequently occurring type of SVC found in Hul'q'umi'num': a verb meaning 'leave' plus a manner verb.

(12) 'i tsun **huye' 'imush**.

ʔi	cən	**həyeʔ**	**ʔiməš**
AUX.PROX	*1SG.SUB*	*leave*	*walk*

'I'm going for a walk.' (RP 13.09.19)

(13) suw' **huye'** thu t'i't'ut'um' **lhakw'**

səẇ	**həyeʔ**	θə	tiʔtəṫəṁ	**ɬaḵʷ**
N.CN	*leave*	*DT*	*wren<DIM>*	*fly*

'And away went the little wren, flying' (CA 19109)

In (12), the verb complex consists of two independent verbs: *huye'* 'leave' and *'imush* 'walk'. In this example, *huye'* provides the path of motion, while *'imush* provides the manner. Similarly, in (13), *huye'* is again the path of motion and *lhakw'* 'fly' provides the manner of motion. These examples also illustrate subject placement. As was mentioned previously, pronominal subjects occur as second-position clitics. As illustrated by (12) and (13), shared NP subjects may occur either between V_1 and V_2 or after both verbs (cf. Schneider, 2021).

In the text corpus, the directional verb *huye'* most often occurs as V_1 when it is serialized with a manner verb. In contrast, in other verb combinations the manner verb tends to occur first, and the path verb typically occurs second. This is demonstrated by examples (14)–(17).

(14) 'a.a.alhstuhwus suw' **'ushul t'akw'** thuw'nilh.

ʔaːɬ-stəxʷ-əs	səẇ	**ʔəšəl**	**ṫaḵʷ**	θəẇnił
get.aboard-CS-3SUB<RL>	*N.CN*	*paddle*	*go.home*	*PRO.DT*

'She put it on board, and she paddled home.' (WS 430)

(15) ne.e.em' **t'itsum taal** tthuw'nilh swiw'lus.

neṁ	**ṫicəm**	**taːl**	tᶿəẇnił	swiẇləs
go.AUX	*swim*	*go.out.to.sea*	*PRO.DT*	*boy*

'He went swimming far out in the waters.' (WS 404)

(16) kwis 'uw' wulh **'imush t'ahw**.

kʷis	ʔəẇ	wəł	**ʔiməš**	**ṫaxʷ**
DT	*N.CN*	*PERF*	*walk*	*go.downhill*

'He went down to the beach.' (AG 32026)

(17) nem' tsun **'imush tl'awun**.
nəm̓ cən **ʔiməš** **ƛ̓-tawən**
go.AUX *1SG.SUB* *walk* *VBL-town*
'I going to walk to town.' (DL 06.12.21)

In (14)–(17), V_1 encodes the manner (*'ushul* 'paddle', *t'itsum* 'swim', *'imush* 'walk'), and V_2 encodes the path (*t'akw'* 'go home', *taal* 'go out to sea, out in the middle', *t'ahw* 'go downhill, go down to the beach', *tl'tawun* 'go to town').[4] While some of these path verbs always occur second in the text corpus, some verbs, such as *tsam* 'go uphill' exhibit some flexibility of ordering:

(18) siis 'uw' **xwchenum** tthu tth'amuqw'us **tsam**.
si:s ʔəw̓ **x̌ʷčenəm** tθə tθ̓aməq̓ʷəs **cam**
and *CN* *run* *DT* *sasquatch* *go.uphill*
'and the Sasquatch ran up the hill.' (ST 6017)

(19) sis 'uw' wulh **tsam xwchenum**.
sis ʔəw̓ wəɬ **cam** **x̌ʷčenəm**
and *CN* *PERF* *go.uphill* *run*
'And now she went uphill and ran.' (ST 6364)

In (18), V_1 encodes manner followed by V_2 which encodes path, and in (19), V_1 encodes path then V_2 encodes manner. A pattern of ordering preference emerges when these verbs are counted up and compared with one another. Table 4 provides a corpus count of path verbs serialized with manner of motion verbs. The first column contains the path verb, the second column provides the count of how many times it occurs as the first verb in the series, and the third column provides the count of how many times it occurs as the second verb.

[4] Directional verbs can be derived by verbalizing prefix / ƛ̓-/ affixed to a destination noun (Gerdts & Hukari, 2008, p. 490).
(ii) nem' tsun tl'shhwiṃelu 'utl' Wal-Mart.
nəm̓ cən ƛ̓-šxʷimələ ʔə-ƛ̓ Wal-Mart
go.AUX *1SG.SUB* *VBL-store* *OBL-DT* *Wal-Mart*
'I'm going shopping at Wal-Mart.' (Gerdts & Hukari 2008: 498)

Table 4. *Directional verb ordering when serialized with a manner verb (corpus count)*

Path Verb		V_1	V_2
huye’	‘leave’	10	0
tsam	‘go uphill’	2	9
kw’i’	‘climb, rise’	3	3
’ewu	‘come here’	1	2
shaqwul	‘cross over’	1	1
tus	‘arrive, get near’	0	9
t’akw’	‘go home’	0	8
qw’im	‘get off, disembark’	0	5
taal	‘go out to sea’	0	5
t’ahw	‘go downhill’	0	4
qwsuthut	‘go into water’	0	4
’aalh	‘get aboard’	0	3
lheel	‘come to shore’	0	2
tetsul	‘arrive, reach’	0	2
xwte’	‘go towards’	0	2
		17	59

The first thing that stands out about these data is that *huye’* is the only verb with a preference for occurring as V_1. Second, as illustrated by (18) and (19), a handful of verbs exhibit flexibility with respect to their ordering with manner verbs. Finally, a larger number of path verbs tend to occur as the second verb in the text corpus following the manner verb with which they are serialized. The ordering with the directional verb second is more expected typologically because Lovestrand and Ross (2021, p. 109) found that in 90% of the languages that have directional SVCs, the directional verb is the second verb in the series.[5]

What emerges in Hul’q’umi’num’ is that there are at least three distinct patterns: (i) constructions with *huye’* ‘leave’ strictly preceding the manner verb [10/76], and constructions with either (ii) flexible ordering [22/76], or (iii) a preference for path occurring after the manner verb [44/76]. In order to investigate

[5] For example, the MANNER VERB + PATH VERB construction is also attested in Klallam, another Central Salish language (Montler, 2008).

(iii) Klallam (p. 10)
kʷanəŋət=cn sqiyŋ.
run=1SUB *go.out*
‘I ran outside.’

Montler does not comment on the ordering of manner and path verbs but all of the examples he provides (four) have the manner verb first and the path verb second.

this further, I examine another type of directional SVC, those made up of multiple path verbs.

2.2 Path + Path

In addition to occurring with manner of motion verbs, directional verbs can also freely combine with one another, for example:

(20) nem’ tsun **huye’ tl’mutouliye’**.

neṁ	cən	**həyeʔ**	**ƛ̓-mətuliyeʔ**
go.AUX	*1SG.SUB*	*leave*	*VBL-Victoria*

‘I’m going to leave to go to Victoria.’ (DL 06.12.21)

(21) si.i.is ’uw’ **huye’ shaqwul**.

sis	ʔəẇ	**həyeʔ**	**šaqʷəl**
and<RL>	*CN*	*leave*	*go.across*

‘And they set out across (the lake).’ (CA 19609)

(22) sis ’uw’ nem’ **taal shaqwul** ’utl’ Rosario Strait.

sis	ʔəẇ	neṁ	**ta:l**	**šaqʷəl**
and	*CN*	*go.AUX*	*go.out.to.sea*	*go.across*
ʔəƛ̓	Rosario Strait			
OBL.DT	Rosario Strait			

‘and they went out to sea to cross Rosario Strait.’ (AG 31887-9)

(23) sis m’iw’ **t’ahw ’ewu** ’utl’ Oakville.

sis	ṁiẇ	**t̓axʷ**	**ʔewə**	ʔəƛ̓	Oakville
and	*AUX.come.CN*	*go.downhill*	*come*	*OBL.DT*	*Oakville*

‘And they came down to Oakville.’ (ST 8040)

In (20), *huye’* indicates that they are leaving their current location and *tl’mutouliye’* ‘go to Victoria’ indicates motion towards a specific destination. Similarly, in (21), *huye’* again indicates the starting point and *shaqwul* ‘cross over water’ indicates that their trajectory is over some body of water. In (22), both *shaqwul* and *taal* ‘go far out on the water’ work together to describe the trajectory of motion. Finally, in (23), *t’ahw* indicates that their trajectory is downhill and *’ewu* ‘come’ indicates their movement is toward the location of the main viewpoint.

Table 5 provides additional directional verbs and their frequency as either V_1 or V_2 in two-verb SVCs when serialized with other verbs denoting path.

Table 5. *Path verb order when serialized with each other (corpus count)*

Path V	V_1	V_2	Total[6]
huye' 'leave'	35	1	36
t'akw' 'go home'	5	9	14
hwu'alum' 'return'	5	8	13
tus 'arrive, get near'	2	9	11
tsam 'go uphill'	2	8	10
kw'i' 'climb, rise'	4	4	8
t'ahw 'go downhill'	3	4	7
shaqwul 'cross over'	2	6	8
'ewu 'come here'	1	6	7
taal 'go out to sea'	4	2	6
qwsuthut 'go into water'	4	1	5
'aalh 'get aboard'	1	3	4
qw'im 'go out of water, disembark'	2	1	3
xwte' 'go towards'	0	5	5

From this table it is clear that, with the exception of *huye'*, the path verbs exhibit flexibility in their ordering when they occur with one another. The order of these path verbs does have a tendency towards iconicity or a cline from general to specific. For example, *xwte'* 'go towards' and *'ewu* 'come here' usually indicate a destination and so often occur as V_2. In addition, when both verbs indicate the destination, such as in (24), the preferred verb order is from general to specific.

(24) nem' tsun **t'akw' tl'pestun**.

nəm̓	cən	**t̓ak̓ʷ**	**ƛ̓-pestən**
go.AUX	*1SG.SUB*	*go.home*	*VBL-United.States*

'I'm going home to the United States.' (DL 06.12.21)

The flexibility in verb ordering is illustrated well by examples with more than two verbs. The Hul'q'umi'num' examples presented so far consist of two verbs, but motion SVCs in this language may also consist of more, such as the next example.

[6] This total reflects the total number of times the given verb occurs in an SVC with another path verb. Many verbs in the table co-occur with one another. The sample represents 89 unique SVCs.

(25) suw' **huye.e.e' 'imush tsam**, tsam 'u tthu smunmeent…
sə̓w̓ **həye?** **ʔiməš** **cam**
N.CN *leave<RL>* *walk* *go.uphill*
cam ʔə t$^{\theta}$ə smənme:nt
go.uphill *OBL* *DT* *mountain.PL*
'So he departed walking uphill, uphill into the mountains…'
(WS 21810)

In (25), there are three verbs in the SVC. All three are intransitive motion verbs with an unmarked third person singular subject. First, V_1 establishes the starting direction; it indicates that the subject is leaving his current location. Next, V_2 describes the manner of motion: *walk*; and finally, V_3 provides the trajectory of motion: *uphill*. Also, V_3 is repeated along with a destination in an oblique phrase. This kind of repetition, used as a means to include additional details, is common in the Hul'q'umi'num' text corpus (cf. Gerdts 2018). The same three verbs are used in the next example, but the order is different.

(26) nem' **huye' tsam 'imush**, mukw' 'ul' 'untsu.
nem̓ **həye?** **cam** **ʔiməš** mək̓^{w} ʔəl̓ ʔəncə
go.AUX *leave* *go.uphill* *walk* *all* *just* *where*
'That was when he left to go up into the hills, just walking everywhere.'
(WS 21822)

As expected, based on its behavior thus far, *huye'* remains in the front, but in this example *tsam* precedes *'imush*. This order allows for *'imush* to be modified by *mukw' 'ul' 'untsu* 'just everywhere, all over the place.' The ordering of SVCs consisting of three or more verb components appears to be discourse dependent in the text corpus with a preference for logical ordering such as iconicity and specificity where relevant. In the Klallam (ISO 639-3 clm) example below, there are five directional verbs in series.

(27) Klallam (Montler, 2008, p. 10)
hiyáʔ=yaʔ=cn **waʔ** **ʔúx̣^{w}** **t̓ák^{w}i** **t̓úk̓^{w}**.
go.away=PST=1SUB *go.along* *go.to* *go.across* *go.home*
'I went along (with someone) across (the strait) over to home.'

Montler (2008, p. 10) notes that, in Klallam, two or three verbs in a series is quite common and five verbs seems to be the upper limit of acceptability. I did not have success reproducing this in elicitation and found that longer strings of verbs were more likely when they involved a mix of manner and path verbs, such as (25) and (26).

Revisiting the emerging patterns, there is clearly a strong tendency for *huye'* to occur first. Approximately 27% of the collected two-verb directional SVCs involve *huye'* preceding another motion verb (the single exception where *huye'* occurs second will be discussed in the following section). The remaining

directional verbs surveyed tend to exhibit more flexible ordering and prefer to occur second when serialized with a manner verb. The next and final subsection discusses the difference between these groups of verbs.

2.3 The grammaticalization of *huye'*

In order to sum up these patterns, five different exemplar verbs are compiled in Table 6.

Table 6. *Order and frequency of five path verbs*[7]

			V_1	V_2	Total
a.	*huye'* +	Manner V	10	0	10
		Path V	35	1	36
			45	**1**	**46**
b.	*tsam* +	Manner V	2	9	11
		Path V	2	8	10
			5	**17**	**21**
c.	*t'akw'* +	Manner V	0	8	8
		Path V	5	7	12
			5	**15**	**20**
d.	*tus* +	Manner V	0	9	9
		Path V	2	9	11
			2	**18**	**20**
e.	*xwte'* +	Manner V	0	2	2
		Path V	0	5	5
			0	**7**	**7**

The first observation of note is that *huye'* in (a) occurs over twice as often in directional motion SVCs in the corpus as the next most common in (b)–(d). These exhibit some variation. The verb *tsam* displays flexibility with manner verbs, while *t'akw'* and *tus* do not. This is likely due to the fact that while *tsam* 'uphill' encodes a trajectory, *t'akw'* 'go home' and *tus* 'arrive, get there' indicate the destination. The first example of *tsam* occurring first is given in (19), the second is given in (28).

(28) "'i.i.ilhe, nem' tst **tsam 'imush**."

ʔiɬe	neṁ	ct	**cam**	**ʔiməš**
let's<RL>	*go.AUX*	*1PL.SUB*	*go.uphill*	*walk*

"Let's go, we shall walk up the mountain." (WS 21020)

In this particular example, *tsam* indicates the path but not necessarily any sort of endpoint. In contrast, *t'akw'* (see (14)) and *tus* (29) do indicate a destination.

[7] The totals reflect the total number of times the given verb occurs in an SVC. Verbs in the table co-occur with one another.

(29) ni' tsun tl'uw' **wekunum tus** 'utl' tl'ulpalus.

niʔ	cən	ƛ̓əw̓	**wekənəm**	**təs**
AUX.DIST	*1SG.SUB*	*also*	*go.by.wagon*	*arrive*
ʔəƛ̓	ƛ̓əlpaləs			
OBL.DT	*Cowichan.Bay*			

'I also went by wagon to Cowichan Bay.' (BA 20880)

The endpoint is pointed to by *tus* 'get there' and encoded in the oblique phrase. Similarly, the verb *xwte'* 'go towards' always occurs second in the text corpus and it is always followed by an oblique phrase.

(30) susuw' huye' **xwte'** 'u tnanulh **xwte'** 'u tthu sqelukwshun.

səsəw̓	həyeʔ	**x̌ʷteʔ**	ʔə	tnanəɬ
and.CN	*leave*	*go.towards*	*OBL*	*that.way*
x̌ʷteʔ	ʔə	tᶿə	sqeləkʷšən	
go.towards	*OBL*	*DT*	*Sqelukwshun*	

'and she swam swiftly that way, toward Sqelukwshun.' (MJJ 3098)

Here, in a similar repetition pattern to (25), *xwte'* occurs twice. It occurs first as part of an SVC and again in a construction that provides more specific information about the endpoint.

As shown in Table 6, the verb *huye'* is by far the most frequently occurring directional verb in both PATH + MANNER and PATH + PATH constructions. It is also the most consistent in terms of placement; it has a strong preference for V_1 position. The more fixed word order indicates that *huye'* makes up an asymmetrical SVC, which involve two or more verbs of different status (cf. Aikhenvald, 2018). The *minor* component of an asymmetrical SVC is chosen from a limited and closed subclass of verbs of a certain semantic set, which in this case is just *huye'* as no other motion verbs occur as frequently or exhibit as consistent behavior. The minor verb in an SVC is usually in the process of developing grammatical function indicating motion, direction, causation, and event tense or aspect, but it is recognizable as a full verb (Aikhenvald, 2011, p. 17). The *major* component is selected from a semantically and grammatically unrestricted class. So far, *huye'* has been demonstrated only with other motion verbs, but it does occur with verbs of other types, such as the following:

(31) **huye' pun'uthut** tthu hewt.

həyeʔ	**pən̓əθət**	tᶿə	hewt
leave	*bury.RFL*	*DT*	*rat*

'Rat went and buried himself.' (EC 18101)

This type of construction exhibits a sequential reading, rather than directional motion, and is a topic of future research.

It is clear that *huye'* is behaving as a full verb first because Hul'q'umi'num' auxiliaries are not inflected for aspect (cf. Schneider, 2021). In (32), the construction is made up of an auxiliary *nem'* 'go' and two imperfective verbs.

(32) wulh nem' **yu huy'u xwut'e** 'u tnanulh tuywut.

wəɬ	nəm̓	**yə=həy̓ə**	**x̌ʷət̓e**	ʔə	tnanuɬ
PERF	*go.AUX*	*DYN=leave.IPFV*	*go.toward.IPFV*	*OBL*	*that.way*

təywət
upstream.north
'They were on their way up north.' (WS 784)

Here, the serialized verbs are imperfective, including *huye'*, providing evidence of its status as a full verb. For comparison, the directional auxiliary *nem'* occurs in the language as both an auxiliary and a full verb. The contrast between the auxiliary and full verb functions of *nem'* can be seen when they co-occur:

(33) "**nem'** tsun tse' **nem'** 'utl' shwut."

nəm̓	cən	ceʔ	**nəm̓**	ʔəƛ̓	šwət
AUX	*1SG.SUB*	*FUT*	*go*	*OBL.DT*	*sparrow*

"I am going to go visit sparrow." (AM 4143)

(34) 'a **nem'** ch **nemustuhw** 'u kwu'i s'e'tl'q.

ʔa	**nəm̓**	č	**nəməstəxʷ**	ʔə	kwu'i	ṡeʔƛ̓q
Ah	*go.AUX*	*2SG.SUB*	*go.CS*	*OBL*	*DT*	*outside*

'Ah, take it outside.' (AM 4159)

This type of construction resembles a similar English construction such as *going to go. Go* in both languages has lost some of its semantic weight in these contexts and taken on a grammatical function. To see how it compared, I tested *huye'* in the same type of construction:

(35) ? 'aa, **huye'** ch **huye'stuhw** tthu sqwumey'.

ʔa:	**həyeʔ**	č	**həyeʔstəxʷ**	tθə	sqʷəməy̓
Ah	*leave*	*2SG*	*leave.CS*	*DT*	*dog*

'Ah, you take the dog away.' (DL.21.10.21)

DL said that some people might talk like that but that she would prefer *nem' huye'stuhw* 'go take it away' to (35) *huye' huye'stuhw* 'leave take it away'. So, *huye'* can be doubled this way but it is a bit awkward, having not been semantically bleached like auxiliary *nem'*. Furthermore, there are no cases of *huye'* doubled naturally occurring in the text corpus, while there are numerous cases (over 40) of *nem'* being doubled.

Additional evidence that *huye'* still functions as a full verb is that it can occur as V_2 in a more symmetrical construction. There is a single case in the text corpus where *huye'* occurs second.

(36) shus ne.e.em 'uw' **taal huye'** 'i' muw' p'up'ukw…

šəs	nem̓	ʔəẇ	**ta:l**	**həyeʔ**	ʔiʔ
and.so	*go.AUX*	*MIT*	*go.out.on.water*	*leave*	*CNJ*

m̓-əẇ	p̓əp̓əkʷ
AUX.come-CN	*surface.IPFV*

'And so she just went to sea, away, and kept coming to the surface…'
(EW 15403)

In elicitation, *huye'* also occurred second when the events were sequential in the speaker's mind, such as (37).

(37) ni' **'aalh huye'** tthu swiw'lus.

niʔ	**ʔa:ɬ**	**həyeʔ**	t^{θ}ə	swiẇləs
AUX.DIST	*get.on*	*leave*	*DT*	*boy*

'The boy got aboard, left.' (RP 20.06.19)

In directional SVCs, the direction and manner of motion verbs both describe different aspects of the same event. Since, like (31), the example in (37) has a sequential reading, it will be set aside for now.[8]

3 Conclusion

Directional SVCs are the most common type of motion SVC in Hul'q'umi'num' as well as the most frequently occurring in the world's languages (Lovestrand & Ross, 2021, p. 97). Path is considered an obligatory element of a motion event and languages vary in how it is expressed in motion constructions. Hul'q'umi'num' has two methods of encoding path (§1.2), and one of these is an equipollently-framed system in which path and manner are expressed by equivalent forms using SVCs. The language exhibits directional SVCs consisting of a manner and a path verb (§2.1) as well as consisting of multiple path verbs (§2.2). Furthermore, there is an emerging pattern of grammaticalization involving the verb *huye'* 'leave' preceding another translational motion verb into an asymmetrical SVC (§2.3).

The three types of directional SVCs in Hul'q'umi'num' have been summed up in (38)–(40).

[8] As a final note, the Klallam example in (27) contains a cognate of the verb *huye'*. An interesting future study would be to examine the behavior /hiyáʔ/ 'go away' as well as cognates in any other languages with SVCs in order to determine whether they are following a similar path of grammaticalization. Comparative work could be completed via elicitation or corpus study, or a combination of the two as I have done here.

(38) MANNER + PATH
ni' tsun **'ushul t'akw'**.

niʔ	cən	**ʔəšəl**	**ƛ̓ak̓ʷ**
AUX.DIST	*1SG.SUB*	*paddle*	*go.home*

'I paddled home.' (DL 26.04.22)

(39) PATH + PATH
nem' tsun **hwu'alum' tl'pestun**.

nəm̓	cən	**xʷəʔaləm̓**	**ƛ̓-pestən**
go.AUX	*1SG.SUB*	*return*	*VBL-United.States*

'I'm going back to the United States.' (DL 06.12.21)

(40) *huye'* (PATH) + motion verb
'i tsun **huye' 'imush**.

ʔi	cən	**həyeʔ**	**ʔiməš**
AUX.PROX	*1SG.SUB*	*leave*	*walk*

'I'm going for a walk.' (RP 13.09.19)

In the first type, one of the verbs indicates the direction of motion and the other usually indicates the manner. In the second type, both verbs indicate direction; each of the verbs may encode the starting point, general trajectory, or endpoint. The ordering of the verb components is flexible with a tendency towards a logical ordering such as iconicity and specificity. Hul'q'umi'num' *huye'* 'leave,' is the both the most frequently serialized verb in the text corpus and also exhibits a strong preference for occurring as the first verb component when serialized. These two facts point to the development of an asymmetrical SVC and a path for future grammaticalization.

The next area of investigation in Hul'q'umi'num' is other types of motion constructions. All of the SVCs explored in this paper consisted of two (or more) motion verbs. Future research will address constructions in which one verb is a motion verb, but the other comes from another class of verbs (such as example (31)). These are known associated motion SVCs, because they function to add translational motion to a non-motion event (Lovestrand & Ross, 2021).

4 About the Author

Lauren Schneider is currently a PhD Candidate in the Department of Linguistics at Simon Fraser University, supervised by Dr. Donna Gerdts. She earned her MA in Linguistics in 2017 from Trinity Western University. She considers it an honor and a privilege to work on the languages of the First Peoples of the land on which she was raised. Her current research is focused on Halkomelem serial verb constructions, as well as other aspects of Salish morphosyntax.

References

Aikhenvald, A. Y. (2018). *Serial verbs*. Oxford University Press. https://doi.org/htxp

Aikhenvald, A. Y. (2011). Multi-verb constructions: setting the scene. In A. Y. Aikhenvald & P. C. Muysken (Eds). *Multi-verb constructions: A view from the Americas* (pp. 1–26). Brill. https://doi.org/fwzd6x

Gerdts, D. B. (2018). Classifying rhetorical repetitions in Hul'q'umi'num' narratives. Paper presented at *Workshop on Structure and Constituency in the Languages of the Americas 23*. University of Ottawa.

Gerdts, D. B. (2010a). Ditransitive constructions in Halkomelem Salish: a direct object/oblique object language. In A. Malchukov, M. Haspelmath, & B. Comrie (Eds.), *Studies in Ditransitive Constructions: A Comparative Handbook* (pp. 563–610). De Gruyter. https://doi.org/htxw

Gerdts, D. B. (2010b). Semantic effects in Halkomelem directional applicatives. *Northwest Journal of Linguistics 4*(3): 1–17.

Gerdts, D. B. (1988). *Object and absolutive in Halkomelem Salish*. Garland Publishing. https://doi.org/htxq

Gerdts, D. B. & Hukari, T. E. (2011). The dual structure of Halkomelem motion verbs. *Northwest Journal of Linguistics 5*(4), 1–20.

Gerdts, D. B. & Hukari, T. E. (2008). Halkomelem denominal verb constructions. *International Journal of American Linguistics 74*(4), 489–510. https://doi.org/fr8qfm

Gerdts, D. B. & Hukari, T. E. (1998). Inside and outside the middle. *Papers for the 33rd International Conference on Salish and Neighboring Languages*. UBCWPL, 166–220.

Gerdts, D. B., & Schneider, L. (In press). Word classes in Salish languages. In Eva van Lier (Ed.), *Handbook of Word classes*. Oxford University Press.

Gerdts, D. B., & Werle, A. (2014). Halkomelem clitic types. *Morphology 24*, 245–281.

Hukari, T. E. (Ed), & Peter, R. (Assoc. Ed). (1995). *Hul'qumi'n'um' dictionary*. Cowichan Tribes.

Kiyosawa, K., & Gerdts, D. B. (2010). Benefactive and malefactive uses of Salish applicatives. In F. Zúñiga & S. Kittilä (Eds.), *Benefactives and Malefactives: Typological perspectives and case studies* (pp. 147–184). John Benjamins Publishing Company. https://doi.org/10.1075/tsl.92

Lovestrand, J., & Ross, D. (2021). Serial verb constructions and motion semantics. In Antoine Guillaume & Harold Koch (Eds.), *Associated motion*. De Gruyter. https://doi.org/htxr

Montler, T. (2008). Serial verbs and complex paths in Klallam. *Northwest Journal of Linguistics 2*(2), 1–26.

Schneider, L. (2021). Classifying multi-verb constructions in Hul'q'umi'num' Salish. *Papers for the International Conference on Salish and Neighboring Languages*. UBCWPL.

Slobin, D. I. (2004). The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömqvist & L. Verhoeven (Eds.), *Relating events in narrative: Vol. 2. Typological and contextual perspectives*, 219-257. Lawrence Erlbaum Associates. https://doi.org/htxs

Suttles, W. P. (2004). *Musqueam reference grammar*. UBC Press.

Talmy, L. (2000). *Toward a Cognitive Semantics: Typology and Process in Concept Structuring*. MIT Press. https://doi.org/htxt

L1 English Perception of /x/ and /xʷ/ in Kwak'wala and hul'q'umi'num'

Alexandra Lewis Chase and Haruna Ueji
University of Victoria
alex.lewischase@gmail.com, haruna.ueji@gmail.com

With 34 unique Indigenous languages and 90 different dialects, British Columbia is a linguistically diverse province in Canada. With so much diversity in such concentration, there is limited work on comparing unrelated languages found in near geographical locations. This study investigates the differences between two languages found on Vancouver Island: Kwak'wala and hul'q'umi'num'. Listeners' perception of Kwak'wala and hul'q'umi'num' plain and labialized /x/ and /xʷ/ was investigated to determine whether L1 English speakers are able to differentiate between the two sounds, as well as determine whether there is a difference between perception across the two languages. Results indicate that /x/ was more accurately perceived in both languages, most notably in hul'q'umi'num'. In Kwak'wala, plain and labialized segments were more accurately perceived in word-initial position.In hul'q'umi'num', plain and labialized segments were more accurately perceived in word-final position. Analyses between the two languages found that participants perceived Kwak'wala more accurately than hul'q'umi'num'. Results suggest there may be differences in production between the two languages that affect the perception of English speakers, such as duration and environmental context of the segment. A practice effect was found across listening quiz trials, where participants more accurately perceive plain and labialized segments on the second trial.
Key words: labialization; word positioning; perception; velar fricatives; Indigenous languages

1 Introduction

In the province of British Columbia alone, there are 203 First Nations communities and 34 unique Indigenous languages with each community having their own culture, traditions, and history (Dunlop et al., 2018). However, the number of fluent speakers continues to decline each year with the loss of many of the older first language speakers, which further exemplifies the importance of revitalizing these languages for future language learners.

In this study, we examined the effects of L1 English in perception of labialization in Kwak'wala and hul'q'umi'num', two Indigenous languages spoken in British Columbia. We examined whether L1 English speakers will be able to differentiate between the plain velar fricative /x/ and labialized velar fricative /xʷ/. We conducted an identification task using JATOS (Lange et al, 2015), a tool used

to create online studies, and recruited 12 participants for data collection. We hope that our study will be a contribution to the language revitalization movement in British Columbia and help encourage others to explore the many different languages spoken on this land.

2 Background

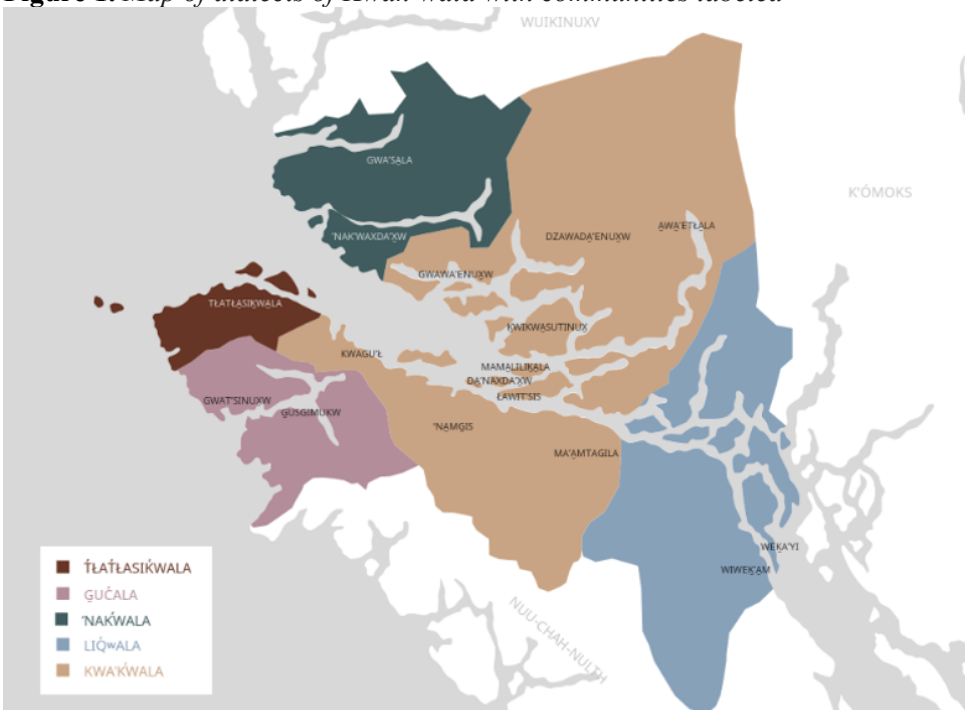
In section 2.1, the language history such as the number of speakers and where the languages are spoken will be examined, along with the consonant inventories of Kwak'wala and hul'q'umi'num'. In section 2.2, past research on cross-linguistic differences in perception and production of similar sounding segments as well as the effects of word positioning will be presented. In section 2.3, past research on L1 effects on the perception of contrasts which do not occur in the L1 will be examined. Finally, in section 2.4 there will be a summary of past findings, our research questions, and a statement of our hypothesis.

2.1 Language History

The Wakashan language family consists of seven languages, split into the northern and southern branches. The southern branch includes diitiidʔaatx̱, Nuučaan̓uł and Makah and the northern branch includes Hailhzaqvla, Kwak'wala, Oowekyala and X̄enaksialak̓ala/X̄a'islak̓ala (Dunlop et al., 2018,)[1]. Kwak'wala has several dialects which are quite different from each other and is spoken on north Vancouver Island and the smaller islands and mainland directly to the east. Kwak'wala had 139 fluent speakers in 2018, which is a significant decline from 2016, where they had 425 mother tongue speakers. However, they had 763 active language learners in 2018 (Dunlop et al., 2018). Figure 1 below illustrates where Kwak'wala is spoken in British Columbia:

[1] For both languages, the 2018 FPCC report uses different definitions when compared to the 2016 census (for more information on definitions of speakers, see p. 20 of 2018 report) (Dunlop et al., 2018).

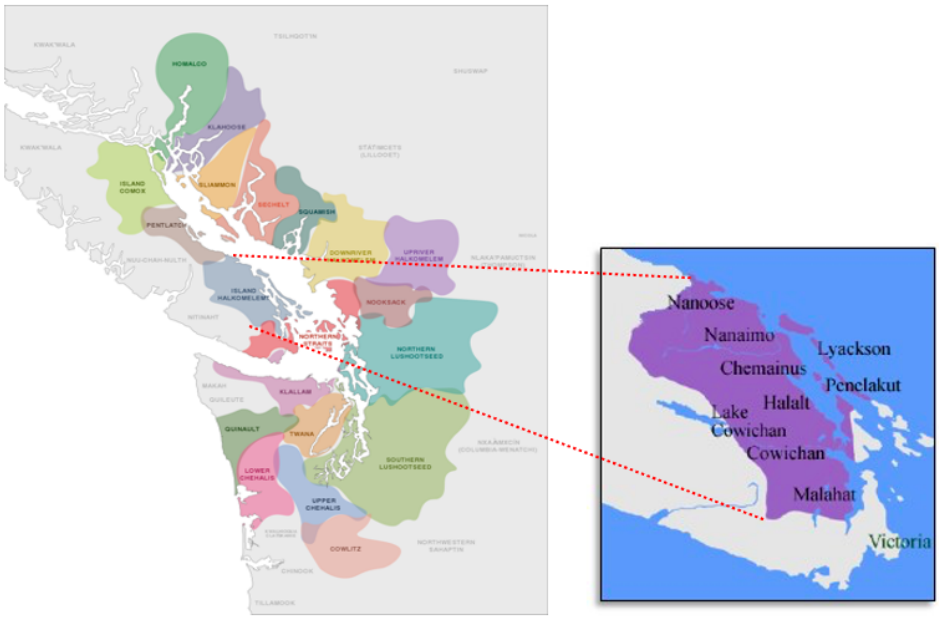
Figure 1. *Map of dialects of Kwak'wala with communities labeled*



Note. Noahedits. (2019). Reproduced following CC-BY-SA 4.0, (https://commons.wikimedia.org/w/index.php?curid=79638031).

The Salishan Language Family is made up of 23 languages in the Pacific Northwest in B.C, and the states of Washington, Idaho and Montana (Dunlop et al., 2018). There are three subgroups: Nuxalk (Bella Coola), Coast Salish and Interior Salish. hul'q'umi'num' (east coast of Vancouver Island), Halq'eméylem (Fraser Valley) and Hən̓q̓əmin̓əm (Lower Mainland) are three distinct dialects of the same Coast Salish language, Halkomelem, which is important to note as these names sound similar and are often mistaken as being one dialect. hul'q'umi'num' had 93 fluent speakers in 2018 compared to 585 Mother Tongue speakers in 2016 and there were 1,238 active language learners in 2018 (Dunlop et al., 2018). Figure 2 below illustrates where hul'q'umi'num' is spoken in British Columbia:

Figure 2. *(a) Map of Coast Salish linguistic distribution in early to mid 1800s; (b) the communities that speak the hul'q'umi'num' dialect*



(a) (b)

Note. Image (a) Noahedits, (2019), reproduced following CC-BY-SA 4.0 (https://en.wikipedia.org/wiki/Coast_Salish_languages#/media/File:Coast_Salish_language_map.svg). Image (b) created by Michelle Parent (used with permission from the artist).

We chose to examine the labialized velar fricative /x^{w}/ and the plain velar fricative /x/ for this study as both languages have these two contrasting segments in their inventories (shown in Figure 3 and 4 below). Both languages also have other contrasting segments as well, such as the plain uvulars /q/ and /χ/ compared to the labialized uvulars /q^{w}/ and /χ^{w}/ and the plain velar /k/ and the labialized velar /k^{w}/, which future studies could further examine.

The following figure illustrates the segment inventory for Kwak'wala:

Table 1. *Kwak'wala consonant inventory, in IPA*

p	t	t͡ɬ	tʃ	k	kʷ	q	qʷ	ʔ
p'	t'	t͡ɬ'	tʃ'	k'	k'ʷ	q'	q'ʷ	
b	d		dz	g	gʷ	ɢ	ɢʷ	
		ɬ	s	x	xʷ	χ	χʷ	h
m	n	l		y	w			
m'	n'	l'		y'	w'			

The following figure illustrates the segment inventory for hul'q'umi'num':

Table 2. *hul'q'umi'num' consonant inventory, in IPA*

p		t			k	kʷ	q	qʷ	ʔ
p'		t'				k'ʷ	q'	q'ʷ	
	tθ	tʃ		ts					
	t'θ	tʃ'	t͡ɬ	t's					
	θ	s	ɬ	ʃ	x	xʷ	χ	χʷ	h
m		n	l	y		w			
m'		n'	l'	y'		w'			

2.2 Cross-Linguistic Differences in Perception and Production of Similar Sounding Segments

There has been previous work investigating cross-linguistic differences in the perception and the production of segments which sound similar to one another, as well as previous production studies on /x/ and /xʷ/. Previous studies indicate that duration may influence perception of segments cross-linguistically. Kim (2010) examined lip rounding as a secondary articulation on consonants in English, Korean and Nuu-chah-nulth and found that there is a difference in phonetic aspects cross-linguistically in /kʷ/. All three languages showed different durations of the labialized segment but their length relation with the labialized velar was consistent. Gordon et al. (2002) examined labialized segments in various word positioning (word-initially, word-medially, and word-finally) and measured elements of the

surface realizations of segments such as duration, center of gravity and overall spectral shape for voiceless fricatives. Results indicate that there is phonetic variability in duration cross-linguistically for the plain velar /x/, as well as cross-linguistically between plain and labialized segments. In Hupa, the labialized velar fricatives did not differ noticeably in their spectral properties but in Montana Salish, the labialized velars and uvulars had lower F1 and F2 values in their vowel transitions compared to the plain uvulars (Gordon et al., 2002). Based on the studies mentioned above, we expect Kwak'wala and hul'q'umi'num' to have different phonetic properties in labialization, such as length, which could influence perception of segments.

2.3 Effect of Environment on Segment Identification

Another aspect of the current study focuses on the perception of unfamiliar contrasts which do not occur in the L1. Mellesmoen, and Babel (2020) conducted a perception experiment examining /θ/ and /s/ in Halkomelem and ʔayʔaǰuθəm. They found that English listeners categorised ʔayʔaǰuθəm fricatives more accurately in CV context than VC and the contrast was most substantial when in onset position. Other past perception studies found that young children can discriminate between speech contrasts not found in their L1 up until they are around a year old, then their ability declines (Smith, 1997; Werker & Tees, 1984). This could indicate that our participants could be unable to hear the contrast between plain and labialized velar fricatives in our experiment, as it is not apparent in their L1. Future studies could investigate whether younger children are better at differentiating between the plain velar fricative /x/ and labialized velar fricative /xʷ/ in hul'q'umi'num' and Kwak'wala compared to adults.

2.4 Summary, Research Questions and Hypotheses

Based on evidence from previous studies mentioned above, our current study seeks to increase our understanding of the effects of an individual's L1 on the perception of unfamiliar segment contrasts. We will also examine the effects of word position on the accuracy of participants' perception of contrasts. Furthermore, we will investigate the differences in perception of the same sounds (i.e., /x/ and /xʷ/) which exist in both Kwak'wala and hul'q'umi'num'.

Our study will examine whether L1 English speakers can perceive a difference between the plain (/x/) and labialized (/xʷ/) velar fricative. Based on the work by Gordon et al., (2002), there is phonetic variability in duration cross-linguistically for the plain velar /x/, as well as cross-linguistically between plain and labialized segments. we hypothesize that L1 English speakers will be able to perceive a difference between the plain (/x/) and labialized (/xʷ/) velar fricative.

Regarding the effects of environment on segment identification, we will examine whether the location of the plain (/x/) and labialized (/xʷ/) velar fricative within the word will affect perception. Based on the work by Mellesmoen and Babel (2020) where they found that English listeners categorised ʔayʔaǰuθəm

fricatives more accurately in CV context than VC and the contrast was most substantial when in onset position, we hypothesize that the location of the plain (/x/) and labialized (/xʷ/) velar fricative within the word will influence perception.

Lastly, we will examine whether there is a significant difference in perception of the plain (/x/) and labialized (/xʷ/) velar fricatives between Kwak'wala and hul'q'umi'num'. Based on previous work that found differences in acoustic measures (such as duration and formant frequency) between languages for labialized segments cross-linguistically (Kim, 2010; Gordon et al., 2002) we expect that participants will demonstrate differences in perceptual accuracy between the two segments across Kwak'wala and hul'q'umi'num'. We hypothesize that there will there be a significant difference in perception of the plain (/x/) and labialized (/xʷ/) velar fricatives between Kwak'wala and hul'q'umi'num'.

3 Methods

In section 3.1, the stimuli that were used in this perception study will be discussed such as the origins of the audio files and in what word positioning /x/ and /xʷ/ appeared in both languages (full word lists provided in Tables 1–4). In section 3.2, the participant data will be examined and in section 3.3, the experimental procedure will be discussed such as how the identification task works and what participants were asked to do. Finally in section 3.4, we will discuss how the data will be analyzed such as looking at overall participant accuracy rates in both quizzes and investigating the audio files on Praat (Boersma & Weenink, 2018) to see if there are any differences in duration of labialization in both languages.

3.1 Stimuli/Data

The following stimuli were collected from FirstVoices (2022), an interactive public site designed to promote Indigenous languages by having recordings of audio, as well as songs, stories, and a history of the language. We also had access to audio files extracted from a hul'q'umi'num' corpus that we have access to through Dr. Sonya Bird, a professor at the University of Victoria, as part of her current grant exploring hul'q'umi'num' pronunciation (Bird et al., in press). Data used in this study consisted of words in Kwak'wala and hul'q'umi'num' which included /x/ and /xʷ/ in word-initial, word-medial, and word-final position. The segments under investigation in this study occurred in a vocalic environment, i.e., never directly beside a consonant, to control for any variation due to environmental context. A vocalic environment is one in which the target sound has a vowel either preceding, following or on both sides of a consonant. Due to limited data, we could not exactly replicate the vocalic environments of plain and labialized segments cross-linguistically, so segments differed in vocalic environments containing high, mid, or low vowels. Tables 3–6 below lists the tokens which were used in this study categorized by word positioning:

Table 3. *Kwak'wala plain /x/*

Word-initial	Word-medial	Word-final
xaḵ̓adzu "backbone of a fish"	da̲**x**a "open your eyes (to have eyes open)"	wa**x** "although"
xum's "head"	alea**x**a̲n "let me seek"	wax'me**x** "although I"
xatsa̲'es "low tide"	łok'walala**x**i "let him speak strong"	ts̓up̓a'**x** "mittens/gloves"

Table 4. *Kwak'wala labialized /x^{w}/*

Word-initial	Word-medial	Word-final
x^{w}ak̓wala "the sound of a frog croaking"	'ma̲**x**^{w}'id "iron clothes, start to admire something, beginning of month"	di**x**^{w} "yellow cedar"
x^{w}iba̲ta̲we' "whistle as you walk along"	dła**x**^{w}a "respond to invitation"	ga̲'yu**x**^{w} "red alder"
x^{w}ak̓wa̲na "canoe"	ti̓**x**^{w}a "bruised/a bruise"	ga̲ti̓nu**x**^{w} "good artist, or one who makes things well"

Table 5. *hul'q'umi'num' plain /x/*

Word-initial	Word-medial	Word-final
xu'athun "four"	wu**x**us "tree frog"	qu**x** "lots"
xatsa' "lake"	slhe**x**un' "medicine"	hququ**x** "become many"
xetl' "windy (stormy breeze)"	mumu**x**elh "caterpillar"	tth'u**x** "worn out, burn, come to an end (month)"

Table 6. *hul'q'umi'num' labialized /x^{w}/*

Word-initial	Word-medial	Word-final
x^{w}iqw'ut "loop it"	yu**x**^{w}ule' "bald eagle"	qwi**x**^{w} "miss"
x^{w}um' "fast"	sa**x**^{w}ul "grass"	suy'i**x**^{w} "loosened, undone"
x^{w}aaqw' "sawbill, merganser"	sa**x**^{w}ulalus "green, grass coloured"	sqwulqwal**x**^{w} "hail"

3.2 Participants

We recruited 12 L1 English speakers of all genders and ages between 18–40 years old, as to control for any potential loss of hearing which could be a conflict in our results. We recruited individuals via social media and targeted participants who have limited knowledge of Indigenous languages. We collected information about the languages that participants have previous knowledge of to control for potential exposure to other languages which contain plain and labialized consonant contrasts examined in this study.

3.3 Task/Experimental Procedure

We created two online quizzes hosted on the online server JATOS and jsPsych for our data collection (Lange et al., 2015; de Leeuw, 2015). The format was an identification task, where participants listened to a sound and were given two choices to choose from, as to what they think they heard. Each quiz contained 18 questions: 2 target sounds (/x/ and /xʷ/), 3 positions (word-initial, word-medial, or word-final) and 3 words in each word positioning. Half of the participants recruited for this study were exposed to the Kwak'wala quiz first, and the other half were exposed to the hul'q'umi'num' quiz first, however the participants did not know which language they were currently being tested on.

We decided to split the two languages into their own quiz to see whether there was a general trend towards one language over the other in overall accuracy rates and to reduce participant fatigue by giving the participants a break in between the two quizzes. Before the study began, the participants were asked if they consent to the study and whether their data could be used in the study. Then we exposed the participants to a 'tips' screen which described the articulation of the segments, as well as played two audio files containing /x/ and /xʷ/ by itself (retrieved from the interactive IPA, 1999), labelled in order to familiarize the participants to the contrasting segments.

We asked the participants to complete the quiz on their laptop/computer, use headphones and to be in a quiet environment for this study. Once the participants were familiar with the task, each audio file played the word once and the participant decided if the segment they heard was /x/ or /xʷ/. When the participant got the segment wrong, they had the chance to re-listen to the sound and click the correct segment on the second try. All questions were randomized within the study and each participant completed one hul'q'umi'num' and one Kwak'wala quiz but did not know which language they were listening to. The completion of both quizzes took roughly 30–40 minutes, but we instructed participants to take at least a 5-minute break in between quizzes.

3.4 Data Analysis

To test for perceptual ability, we will compare L1 English speakers' accuracy rates in correctly choosing /x/ or /xʷ/ between hul'q'umi'num' and Kwak'wala. We will

compare the results to determine if there are any cross-linguistic differences between the two languages. We will also examine accuracy of results depending on if a segment is in word-initial, word-medial, or word-final position. To explain possible trends in our data, we will analyze tokens in Praat (Boersma & Weenink, 2018) to see if there are any differences in duration that could influence accuracy rates. We will also examine practice effects to see if participants perform better on the second quiz regardless of which language quiz they do first.

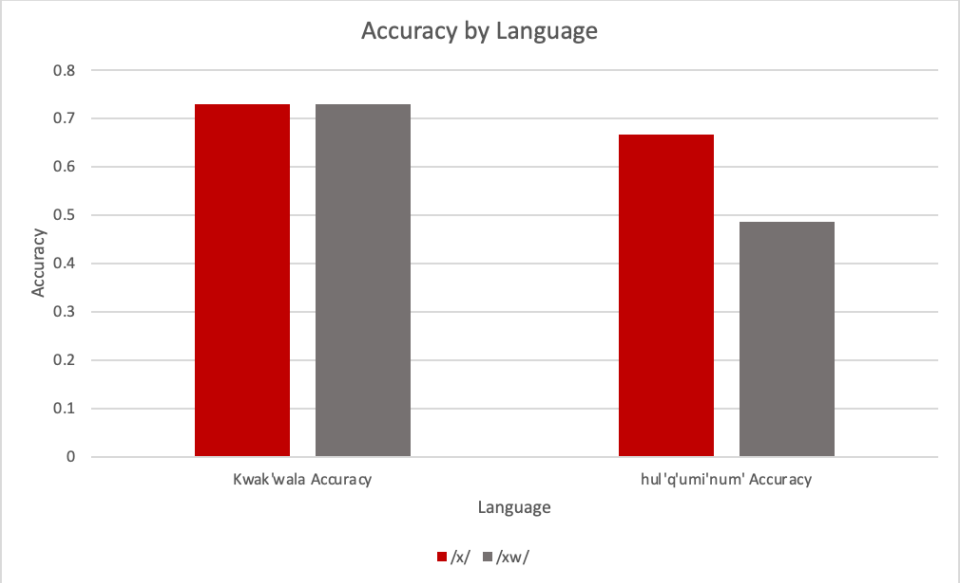
4 Results

This section examines our results from the two identification tasks which were performed by our participants. In section 4.1, we examine the cross-linguistic differences in participants' perception between /x/ and /x^{w}/ in both languages. In section 4.2, we examine the participants' perception of /x/ and /x^{w}/ based on word positioning. In section 4.3, we discuss possible practice effects which were examined between the two quizzes.

4.1 Overall Perceptual Accuracy of /x/ and /x^{w}/ in hul'q'umi'num' and Kwak'wala

Our results indicate that participants perceived both /x/ and /x^{w}/ more accurately in Kwak'wala compared to hul'q'umi'num'. As well, most participants accurately perceived /x/ more often than /x^{w}/ in hul'q'umi'num', but in Kwak'wala there seems to be no significant difference between the perception of /x/ and /x^{w}/ (i.e., similar accuracy rates for both segments). Overall, participants perceived both /x/ and /x^{w}/ as the correct segment in Kwak'wala 73% of the time compared to hul'q'umi'num' where participants perceived /x/ as the correct segment 67% of the time and /x^{w}/ at a rate of 49% of the time. Figure 3 below shows the accuracy rates of both /x/ and /x^{w}/ in both languages:

Figure 3. *Overall perception accuracy of /x/ and /x^{w}/ in hul'q'umi'num' and Kwak'wala*



4.2 Overall Perceptual Accuracy of /x/ and /x^{w}/ Based on Word Positioning

Figure 4 below examines participants' accuracy rates for /x/ and /x^{w}/ by word positioning in Kwak'wala. Our results for Kwak'wala indicate that participants' accuracy rates for both /x/ and /x^{w}/ are relatively close to each other when they both appear in the same word positioning. As well, most participants accurately perceived both /x/ and /x^{w}/ in Kwak'wala when the segment appeared in word-initial position. Overall accuracy rates for perceiving /x/ was 90% and /x^{w}/ was 87% in word-initial positioning in Kwak'wala. For word-medial position in Kwak'wala, participants perceived both /x/ and /x^{w}/ accurately at a rate of 67% and for word-final position, participants accurately perceived /x^{w}/ at a rate of 67% and /x/ at a slightly lower rate of 62%.

Figure 4. *Participant accuracy rates of /x/ and /x^{w}/ based on word positioning for Kwak'wala*

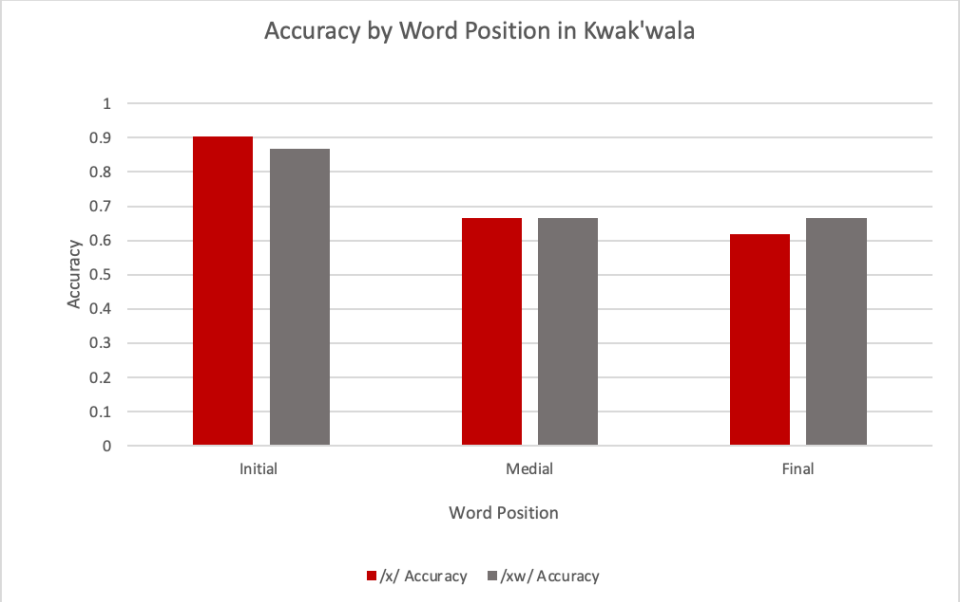
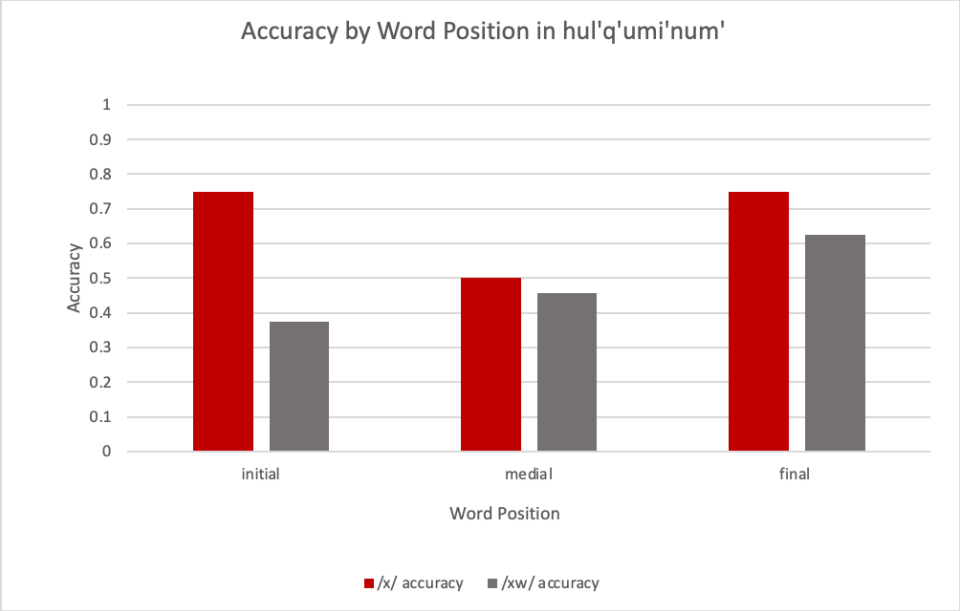


Figure 5 below examines participants' accuracy rates for /x/ and /x^{w}/ by word positioning in hul'q'umi'num'. Participants most accurately perceived /x/ when it was in word-initial and word-final position. Furthermore, there were the most incorrect trials when /x/ appeared in word-medial position. The perception of /x^{w}/ got steadily more accurate from the lowest scores being in word-initial position, to the most accurate scores being in word-final position. For hul'q'umi'num', participants' accuracy rates for word-initial positioning for /x/ was 75% of the time and /x^{w}/ 38% of the time. For word-medial position, participants accurately perceived /x/ half of the time and /x^{w}/ 49% of the time. Word-finally, participants accurately perceived /x/ 75% of the time and /x^{w}/ 63% of the time.

Figure 5. *Participant accuracy rates of /x/ and /x^{w}/ based on word positioning for hul'q'umi'num'*



5 Discussion

The following section will discuss the main findings of this study and briefly relate them to acoustic analyses of segments. Firstly, we will discuss the differences in perception between Kwak'wala and hul'q'umi'num'. Next, we will discuss the differences in perception between the two languages in relation to word position. Finally, we will discuss the main differences between the plain and labialized segment across the two languages.

5.1 Cross-Linguistic Differences

The results from this study indicate that there is a difference in English perception of the plain and labialized velar fricatives between Kwak'wala and hul'q'umi'num'. It was found that between the two languages, Kwak'wala had a higher perceptual accuracy than that of hul'q'umi'num'. Furthermore, the results from the Kwak'wala quiz demonstrated that participants were equal in their perceptual accuracy of the two segments. The results of the hul'q'umi'num' quiz, however, demonstrate both a lower overall accuracy as well as more variation in accuracy across segments. Participants seemed to less accurately perceive /x^{w}/ in hul'q'umi'num', perceiving the correct segment less than 50% of the time. Overall, results demonstrate that participants more accurately differentiate between /x/ and /x^{w}/ in the Kwak'wala quiz when compared to the results of the hul'q'umi'num' quiz.

Segment duration of the tokens used in this study was examined as a possible indication as to why there was a difference in perception across Kwak'wala and hul'q'umi'num'. Results (as seen in Figure 3) do not indicate that the Kwak'wala had more accurate perception based on segment duration, as all segments between the two languages occur around the same length as demonstrated in Table 7 (between 227–297ms). Other studies, however, have investigated the coarticulation of /x/ and /x^{w}/ into the following vowel as a possible explanation for more accurate perception of labialization, suggesting that vowel height may affect perception (Maeda, 1999). Other measurements of the segments, such as those done by Maeda (1999) may need to be investigated in order to determine what possible aspects of production may influence the accuracy of perception of listeners.

Table 7. *Average Duration of Segments, According to Language*

Segment	Kwak'wala	hul'q'umi'num'
/x/	262ms	227ms
/x^{w}/	287ms	297ms

Note: Refer to Appendices A through D to see examples of how measurements were taken for analyses.

5.2 Differences of Segments Based on Word Position

Results from the quizzes indicate that location of the segment within the word may hold influence over perceptual accuracy. Segmental duration between the two languages demonstrates similar patterns across word positioning (as seen in tables 8 and 9). Both Kwak'wala and hul'q'umi'num' demonstrate the longest duration in word-final position, approximately 150–200ms longer than segments in word-initial and word-final position.

Table 8. *Average Duration of /x/ and /x^{w}/ in hul'q'umi'num Tokens, According to Position*

Segment	Word-initial	Word-medial	Word-final
/x/	169ms	149ms	364ms
/x^{w}/	281ms	208ms	402ms

Note: Refer to Appendices A through D to see examples of how measurements were taken for analyses.

Table 9. *Average Duration of /x/ and /xʷ/ in Kwak'wala Tokens, According to Position*

Segment	Word-initial	Word-medial	Word-final
/x/	238ms	192ms	357ms
/xʷ/	286ms	226ms	350ms

Note: Refer to Appendixes A through F to see examples of how measurements were taken for analyses.

This may indicate why participants were more accurate in their perception of /x/ and /xʷ/ in word-final position for the hul'q'umi'num' quiz but does not explain why participants were more accurate at perceiving /x/ and /xʷ/ in word-initial position for the Kwak'wala quiz.

Mellesmoen and Babel (2020) may give insight for a possible reason for perception being more accurate in word-initial position for Kwak'wala. They argue that perception of English listeners is more accurate in CV position than in VC (2020). However, while this would explain why word-initial position in Kwak'wala is most accurate (as all our word-initial tokens are a CV sequence), it does not explain why the word-final position in hul'q'umi'num' is the most accurate. As the word-final position tokens in the hul'q'umi'num' (and Kwak'wala) quiz are in VC sequence, these results from our study demonstrate the opposite of what Mellesmoen and Babel (2020) argue. However, it is entirely possible that both the duration and the environment context of /x/ and /xʷ/ may influence participant perception. Further investigation of duration and environmental context is required in which a wider range of tokens must be examined, with a more controlled environmental context around /x/ and /xʷ/. As we were limited in available tokens, we cannot make any concrete conclusion of the effect of preceding and postceding vowels on segment perception. However, the results of this study give a preliminary analysis of vowel effect on the fricatives used in our stimuli and may indicate future studies for further investigation. Furthermore, there may be variability across speakers in which production of the segment differs, so it may be beneficial to test perception based off tokens produced by one speaker only.

5.3 Differences Between /x/ and /xʷ/

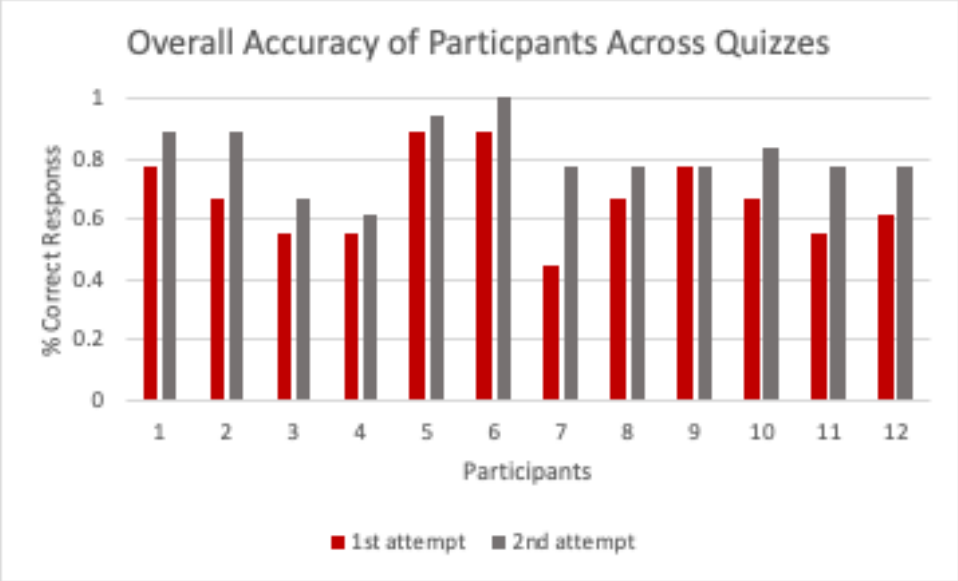
Results from this study suggest that participants were less accurate at perceiving labialized segments when compared to the plain segments, most notably in hul'q'umi'num'. This suggests that our L1 influences perception, leading us to perceive unfamiliar segments as the most similar segment in our L1 inventory. Upon examination of duration across the tokens used in this study, we can see that on average, the labialized segment has a longer duration (approximately 25ms longer for Kwak'wala tokens, and approximately 70ms longer for hul'q'umi'num' tokens). These results do not follow the findings from other studies that suggest the duration of the segment articulation may possibly aid participant perception of

segments (Stonham & Kim, 2008; Gordon et al., 2002; Ham, 2008). Further investigation of the effects of duration is required.

5.4 Practice Effect

It should be noted that results across the two trials also indicate a practice effect, as most participants performed on average 14% better on the second quiz regardless of which language quiz they encountered first. The following figure demonstrates participant accuracy between the first and second attempt:

Figure 8. *Participant Accuracy Across Quiz Attempts*



These results imply that an increase of exposure to segmental contrasts will increase an individual's ability to perceive contrasts that they have no prior experience with. If there is an increase of accuracy in perception with increased exposure to the segment contrast (approximately 25% more accurate on the second trial than the first in some cases), it is possible that individuals may gain a higher proficiency in perception of the language with routine practice and testing of the segments. These results provide an exciting preliminary result that could hold implications for Indigenous language learners that hope to build on perceptual awareness of contrasts found in their ancestral language that are not in their first language.

6 Conclusion

This paper examined English L1 perception of plain and labialized /x/ and /x^{w}/ in Kwak'wala and hul'q'umi'num' to investigate English speakers' perception of the

two sounds across the two languages as well as in different word-positions. Results from two listening quizzes were collected, finding that participants perceived Kwak'wala more accurately than hul'q'umi'num'. Furthermore, results indicate that /x/ was more accurately perceived by participants in both languages, most notably in hul'q'umi'num'. The results from the Kwak'wala quiz demonstrate that both /x/ and /xʷ/ were equally perceived by participants and were most accurately perceived in word-initial position. The results from the hul'q'umi'num' quiz demonstrate that both /x/ and /xʷ/ were more accurately perceived in word-final position. Evidence of a practice effect suggests that participants become more accurate in their perception of plain and labialized segments as exposure increases, providing implications to possible techniques for learning contrasts within languages that are not an individual's L1. Duration was examined as a possible explanation as to the differences in results across the two languages but did not provide any solid evidence for the differences in participant accuracy across languages and between word positioning.

Further research could conduct a more in-depth analysis of the production of the plain and labialized segments within Kwak'wala and hul'q'umi'num', in which the coarticulation effects between the labialized segments and their preceding and postceding vowels are investigated. Furthermore, it would be interesting to extend the analysis of plain and labialized contrasts to other segments found in both language inventories as well, such as other velar segments (/k/ and /kʷ/), and uvular segments (/χ/ and /χʷ/, /q/ and /qʷ/). It would be interesting to include other Indigenous languages found on Vancouver Island, as well as coastal Salish languages in perception and production analyses of the plain and labialized contrasts.

7 Acknowledgments

We would like to acknowledge the privilege that we have had to be able to analyze and learn from Indigenous languages. A special thank you to the FirstVoices website in making Kwak'wala and hul'q'umi'num' data accessible to the public and to Dr. Sonya Bird who gave us access to hul'q'umi'num' audio files through her work with members from the hul'q'umi'num' Language and Culture Society and the hul'q'umi'num' Language Academy. Further thank you to Tess Nolan for helping create the testing materials used to collect data in this study.

References

Bird, S. Leonard, & Nolan, T. (in press). *Pronunciation patterns among L2 Hul'q'umi'num' learners: Preliminary findings and future directions*. Proceedings of the 2021 Pronunciation in Second Language Learning & Teaching conference.

Boersma, P. & Weenink, D. (2018). *Praat: doing phonetics by computer* (version 6.1.51) http://www.praat.org/

de Leeuw, J. R. (2015). jsPsych: A JavaScript library for creating behavioralexperiments in a web browser. *Behavior Research Methods*, *47*(1), 1–12. https://doi.org/10.3758/s13428-014-0458-y.

Dunlop, B., Gessner, S., Herbert, T., & Parker, A. (2018). *Report on the Status of B.C. First Nations Languages* (3rd ed.). First Peoples' Cultural Council. https://fpcc.ca/resource/fpcc-report-of-the-status-of-b-cfirst-nations-languages-2018/

Ham, SY. (2008). *Tsilhqut'in Ejectives: A Descriptive Phonetic Study*. M.A. thesis, Department of Linguistics, University of Victoria.

First Voices. Hul'q'umi'num' Home Page. FirstVoices. https://www.firstvoices.com/explore/FV/sections/Data/Coast%20Salish/Halkomelem/HUL'Q'UMI'NUM'/learn

First Voices. Kwakwala Home Page. FirstVoices. https://www.firstvoices.com/explore/FV/sections/Data/Kwak%27wala/Kwak%CC%93wala/Kwak%CC%93wala

Gordon, M., Barthmaier, P., & Sands, K. (2002). A cross-linguistic acoustic study of voiceless fricatives. *Journal of the International Phonetic Association*, *32*(2), 141–174. https://doi.org/10.1017/s0025100302001020

International Phonetic Association. (1999). https://www.internationalphoneticassociation.org/

Kim, E-S. (2010). *The phonological and phonetic aspects of labialization: A crosslinguistic study.* Studies in Phonetics, Phonology, and Morphology. https://www.kci.go.kr/kciportal/ci/sereArticleSearch/ciSereArtiView.kci?sereArticleSearchBean.artiId=ART001444772

Lange, K. Kühn, S., & Filevich, E. (2015). "Just Another Tool for Online Studies" (JATOS): An Easy Solution for Setup and Management of Web Servers Supporting Online Studies. *PLOS ONE, 10*(6). https://doi.org/10.1371/journal.pone.0130834

Maeda, S. (1999). Labialization during /k/ followed by a rounded vowel is not anticipation but the auditorily required articulation. *ICPhS-14*, 41–44. https://www.internationalphoneticassociation.org/icphs-proceedings/ICPhS1999/papers/p14_0041.pdf

Marshall, M., & Bird, S. (2018). The Rhythm of Hul'q'umi'num'. *Papers for the International Conference on Salish and Neighbouring Languages, 53*. https://lingpapers.sites.olt.ubc.ca/files/2018/07/6_ICSNL2018_MarshallBird.pdf

Mellesmoen, G., & Babel, M. (2020). Acoustically distinct and perceptually ambiguous: ʔayʔaǰuθəm (Salish) fricatives. *The Journal of the Acoustical Society of America, 147*(4), 2959–2973. https://doi.org/10.1121/10.0001007

Noahedits (2019). Map of Coast Salish linguistic distribution in the early to mid 1800s. https://en.wikipedia.org/wiki/Coast_Salish_languages#/media/File:Coast_Salish_language_map.svg

Noahedits (2019). Map of dialects of Kwak'wala with communities labeled. https://commons.wikimedia.org/w/index.php?curid=79638031

Smith, L. C. (1997). The role of L1 feature geometry in the acquisition of L2 segmental phonology: acquiring /θ/ and /ð/ in English. *Calgary Working Papers in Linguistics, 19*, 45–70. http://hdl.handle.net/1880/51405

Stonham, J., & Kim, E. (2008). Labialization in Nuu-chah-nulth. *Journal of the International Phonetic Association, 38*(1), 25–50. http://doi.org/10.1017/S0025100308003253

Werker, J. F., & Tees, R. C. (1984). Cross-language speech perception: Evidence for perceptual reorganization during the first year of life. *Infant Behavior and Development, 7*(1), 49–63. https://doi.org/10.1016/s0163-6383(84)80022-3

Werle, A. (2010). *The Phonology of Wakashan Languages*. Manuscript, University of Victoria. http://web.uvic.ca/~werle/files/WERLE_wakashanphonology_ss.pdf

Appendix A

Segment	Word-initial position	Word-medial position	Word-final position
/x/	**x**u'athun - 0.152	wu**x**us - 0.189	qu**x** - 0.390
/x/	**x**atsa' - 0.091	slhe**x**un' - 0.116	hququ**x** - 0.371
/x/	**x**etl' - 0.264	mumu**x**elh - 0.143	tth'u**x** - 0.330
/x/ Average	0.169	0.149	0.364
/x^{w}/	**x^{w}**iqw'ut -0.116	yu**x^{w}**ule' -0.252	qwi**x^{w}** -0.370
/x^{w}/	**x^{w}**um' - 0.115	sa**x^{w}**ul -0.155	suy'i**x^{w}** -0.386
/x^{w}/	**x^{w}**aaqw' -0.613	sa**x^{w}**ulalus - 0.218	sqwulqwal**x^{w}** - 0.450
/x^{w}/ Average	0.281	0.208	0.402

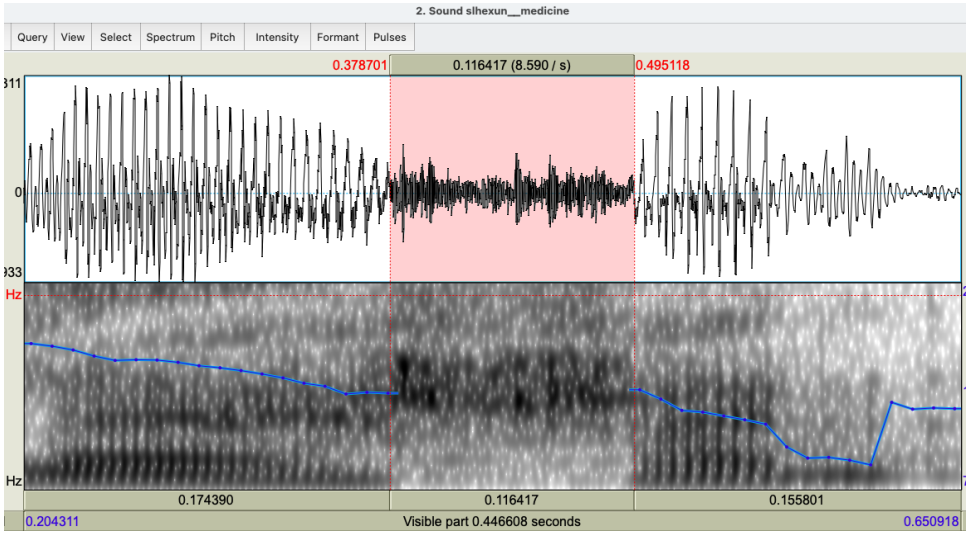
Appendix A. hul'q'umi'num' Token Durations in Seconds

Appendix B

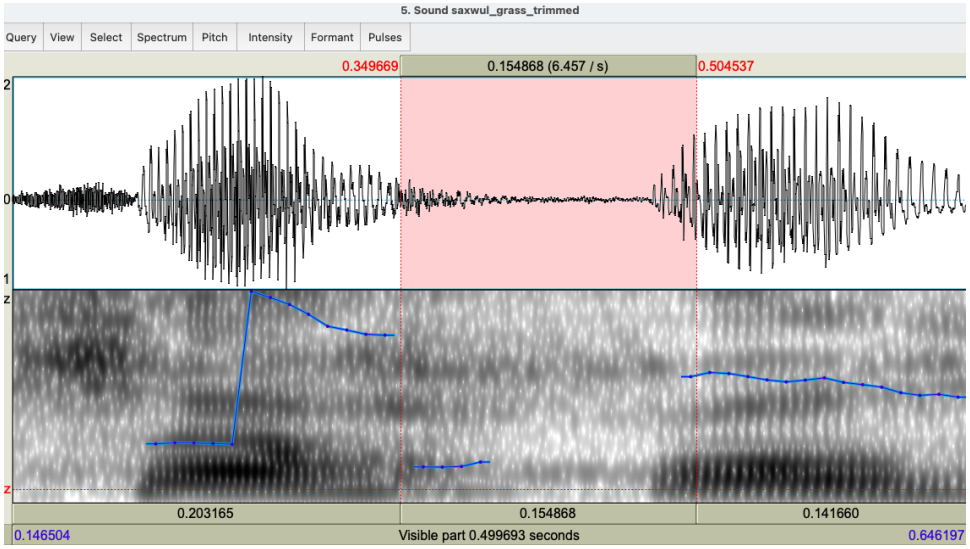
Segment	Word-initial position	Word-medial position	Word-final position
/x/	**x**aka̓dzu -0.253	da̲**x**a -0.194	wa**x** -0.426
/x/	**x**um's -0.217	alea**x**a̲n -0.196	wax’me**x** -0.347
/x/	**x**ata̓sa̲'es -0.243	łok’walala**x**i - 0.186	t̓supa̓'**x** -0.299
/x/ Average	0.238	0.192	0.357
/x^{w}/	**x**^{w}aka̓wala -0.268	‘ma̲**x**^{w}’id - 0.207	di**x**^{w} -0.352
/x^{w}/	**x**^{w}iba̲ta̲we' - 0.298	dła**x**^{w}a -0.268	ga̲’yu**x**^{w} -0.271
/x^{w}/	**x**^{w}aka̓wa̲na - 0.293	t̓i**x**^{w}a -0.203	ga̲t̓inu**x**^{w} -0.426
/x^{w}/ Average	0.286	0.226	0.350

Appendix B. Kwak’wala Token Durations in Seconds

Appendix C

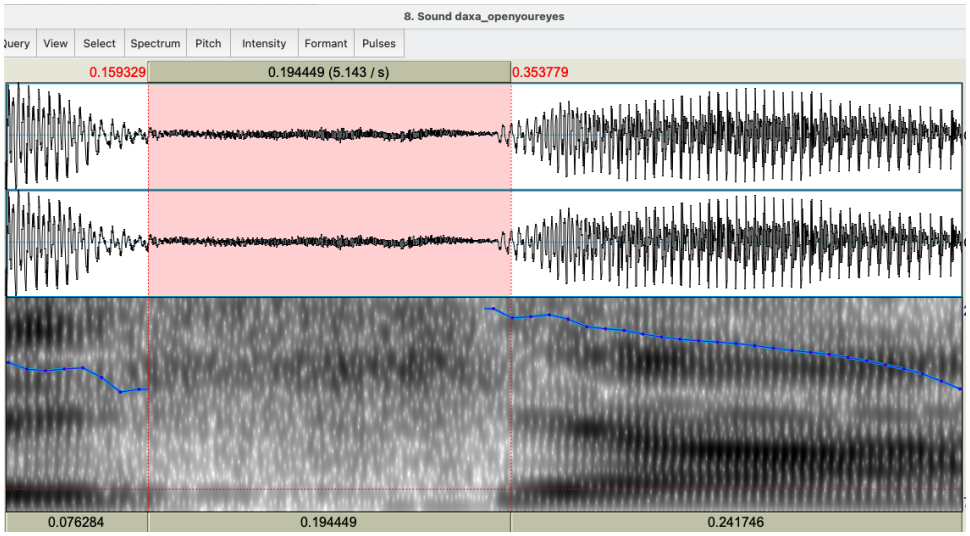


Appendix C1. Praat Measurement of hul’q’umi’num’ /x/ in slhexun’ *medicine*, in Milliseconds.

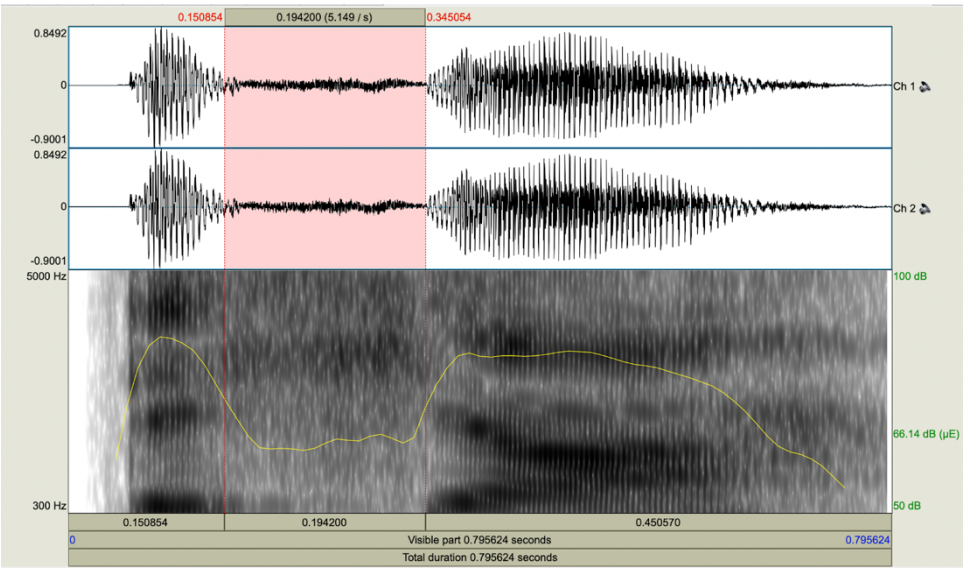


Appendix C2. Praat Measurement of hul'q'umi'num' /x^{w}/ in sax^{w}ul *grass*, in Milliseconds.

Appendix D



Appendix D1. Praat Measurement of Kwak'wala /x/ in daxa *open your eyes*, in Milliseconds



Appendix D2. Praat Measurement of Kwak'wala /xʷ/ in dłaxʷa *respond to invitation*, in Milliseconds

Samish Reflexives: A Question of Control

Jessalyn Campbell
University of Victoria
jessalyncampbell@uvic.ca

Little research has been done regarding the status of Samish reflexives and their relationship to other Salish reflexives. This paper will argue that Samish reflexives behave and pattern similarly to closely related Salish languages. Two surfacing types of reflexives ('plain' and limited control) will be established as will two available situations for each type to occur ('core' and grammaticalized, with a possible inchoative reading.) It will also be argued that Samish reflexives, like related Salish language reflexives, are derived from a transitive marker. McGinnis (2022) and Legate (2014) are referenced as possible syntactic representations of Samish reflexives in which reflexive suffixes (called anaphoric clitics by McGinnis) morphologically realize onto a Voice head or into the Spec position of VoiceP.
Keywords: Samish; Northern Straits Salish; reflexives; limited control; transitivity

1 Introduction

Via comparative analysis, it is clear that Samish reflexives behave and pattern similarly to closely related Salish languages. Both 'plain' (non-limited control) and limited control reflexives will be established and described within two unique contexts ('core' and grammaticalized, with a possible inchoative reading). Samish reflexives, like related Salish language reflexives, are derived from a transitive marker and will be broken down as such. Both McGinnis (2022) and Legate (2014) are referenced, suggesting that reflexive suffixes (called anaphoric clitics by McGinnis) morphologically realize onto a Voice head or into the Spec position of VoiceP.

1.1 Language Background

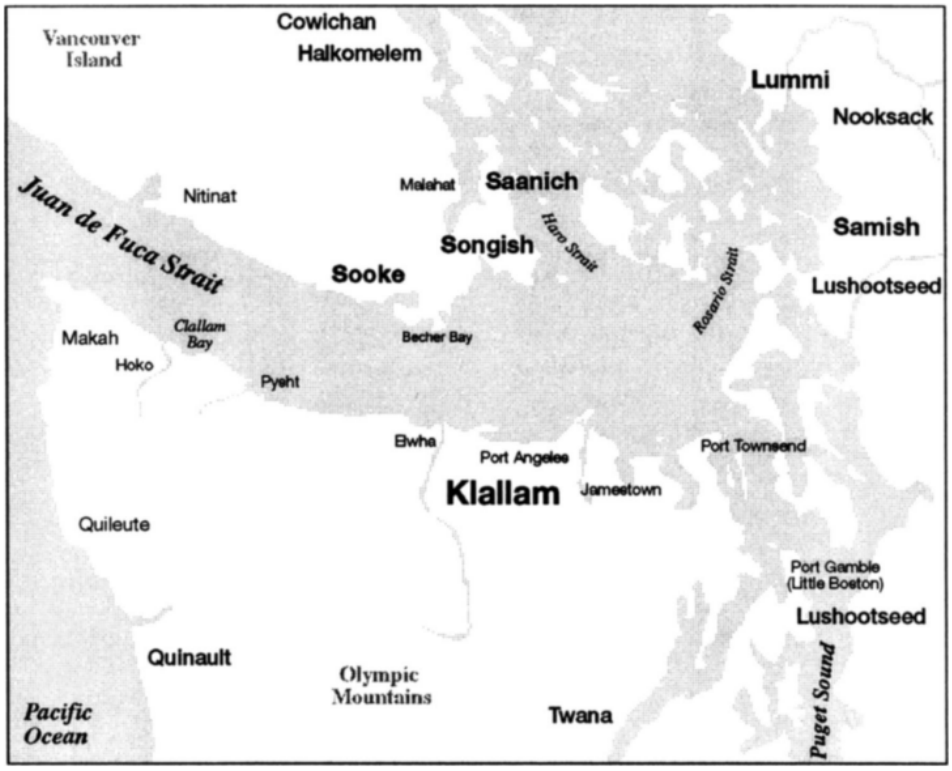


Table 1. Major Groups and Dialects of Straits Salishan

I. Klallam (KL)	II. Northern Straits (NST)
A. Western (WKL)	A. Sooke (SO)
1. Pysht, Clallam Bay	B. Songish (SG)
2. Elwha	C. Saanich (SA)
B. Eastern (EKL)	1. West Saanich (WSA)
1. Jamestown	2. East Saanich (ESA)
2. Little Boston (Port Gamble)	D. Lummi (LM)
C. Becher Bay (BBKL)	E. Samish (SM_{VU}, SM_{LD}, SM_{TB}, $SM_{?}$)[4]
	F. Semiahmoo

Adapted from Montler (1999)

Samish is a dialect of Northern Straits Salish which belongs to the Salish language family and is situated within the Coastal Salish branch. It is spoken in the Puget Sound region of Washington State, USA (now Bellingham, Washington), though no fluent speakers have been confirmed, and is primarily used by the Samish Tribe (more broadly: the Samish Indian Nation) (Galloway, 1990; Montler, 1999). Current revitalization efforts are in progress and more information can be found on the Samish Tribe website: https://www.samishtribe.nsn.us/

1.2 Theoretical background

Following Nolan (2017) and Turner (2010), SENĆOŦEN and Halkomelem (both the Upriver and Downriver dialects) will be assumed to be closely related to Samish. This paper seeks to examine Samish reflexives as much as possible given existing data and situate it within current frameworks describing Salish reflexives (Gerdts, 1998; 2000; Kinkade, 1981; Turner, 2010; Wiltschko, 2002). Galloway (1990) provides a word list and phonological/morphological description of the Samish language as well as a line-by-line gloss of the only written Samish story, 'The Maiden of Deception Pass'. Galloway's (1990) data was collected from three remaining Samish speakers prior to 1990 through personal communication (see Appendix 1). However, due to very limited documentation, a large portion of the data examined will be from closely related languages rather than from Samish.

Gerdts (1998) describes the reflexive system of Halkomelem, asserting that Halkomelem has two types of reflexive suffixes: one 'plain' reflexive, and one limited control reflexive. Gerdts (2000) expands on this. It is possible that Samish, as a related language, has these two types of reflexives as well and this paper will seek to determine this. Kinkade (1981) examines the reflexive suffix of Chehalis, a Salish language of the Tsamosan branch, and situates the Chehalis reflexive within proto-Salish. This, combined with Gerdts (1998; 2000) will be used to assume the underlying structure and derivation of Samish reflexive suffixes/clitics addressed later.

For a more general approach to verbal reflexives, McGinnis (2022) and Wood and Marantz (2017) provide a generative syntactic view. McGinnis (2022) is particularly significant if the reflexive markers in Samish express either unaccusative or unergative Voice. Wood and Marantz (2017) provide a similar theoretical approach. Both will be used to situate Samish within these theories.

For the purpose of this investigation, it will be assumed that Samish has at least two reflexive markers: -səṯ and -áŋəṯ, following Galloway (1990). The verb classes of unaccusative and unergative will be assumed following Burzio (1986). A CP > TP > VoiceP > vP > VP structure will also be assumed following Pylkkänen (2008), Kratzer (1996), Harley (2013), and Legate (2014). Following Gerdts (1998), the reflexive markers in Samish will be assumed to be suffixes rather than clitics.

This paper will argue that Samish reflexive suffixes fall into two categories: 'plain' reflexives and limited control reflexives (Gerdts, 1998; 2000). It will also be argued that, following Gerdts (1998; 2000) and Kinkade (1981), these suffixes are derived from transitive markers in Samish. These reflexives can occur in two contexts, following Gerdts (1998; 2000): 'core' reflexives and 'grammaticalized' reflexives. The ability of these suffixes to attach (as well as what they attach to) will demonstrate a potential Voice they either carry or express. Finally, following McGinnis (2022), it will be argued that Samish reflexive suffixes express unaccusative or unergative Voice. This is a potential contrast to expressing a pronominal element like Det/D.

2 'Plain' reflexives and limited control reflexives

Gerdts (1998) establishes two types of reflexive suffixes in Downriver Halkomelem: a 'plain' reflexive and a limited control reflexive.

(1)	*'Plain' reflexive*	*Translation*
a.	c̓əy̓xʷθət	'dry self'
b.	ləx̌ʷəθət	'cover self'
c.	laləmθət	'look after self'

(2)	*Limited Control Reflexive*	*Translation*
a.	q̓aynámət	'kill self accidentally'
b.	q̓ʷəqʷnámət	'hit self accidentally'
c.	yəx̌ʷnámət	'manage to set self free'

Adapted from Gerdts (1998)

As demonstrated above, the 'plain' reflexive -θət and the limited control reflexive -námət encode different meanings. The 'plain' reflexive indicates an action on oneself while the limited control reflexive implies accidental action on oneself or a 'manage to' reading (Gerdts, 1998). Wiltschko (2002) establishes very similar reflexive suffixes for Upriver Halkomelem and Turner (2010) does the same for SENĆOŦEN, as seen below.

Table 1. '*Plain' Reflexives vs. Limited Control Reflexives*

Language	'Plain' Reflexive	Limited Control Reflexive
Downriver Halkomelem	*-θət*	*-námət*
Upriver Halkomelem[1]	*-thet*	*-łómet*
SENĆOŦEN	*-sət*	*-aŋət*
Samish	*-sət / -nəxʷ*[2]	*-áŋət*

Adapted from Gerdts (1998), Wiltschko (2002), Turner (2010) and Galloway (1990) respectively

The sound changes and interlanguage variation seen in the table above are expected, following Kinkade (1981) as a natural development from Proto-Salish reflexive markers that have been proposed. This results from the way that reflexive suffixes in Salish languages are derived, which will be addressed in the next section.

[1] Note that Kiyota (2007; 2008) and Turner (2010) suggest that the control distinction made between the two reflexive suffixes is a matter of valency.

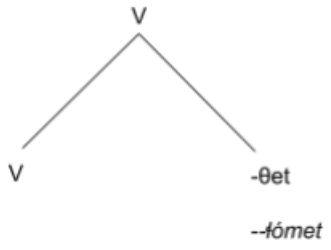
[2] Note that the Samish reflexive -nəxʷ is assumed to be an alternate form closer to the Proto-Salish reflexive proposed by Kinkade (1981) but is not included in this analysis because it does not appear in the available data.

2.1 Derived from transitivity

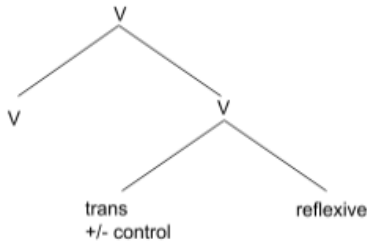
As Kinkade (1981) suggests, the sound differentiation between Halkomelem 'plain' reflexives and the more southern Salish languages is expected due to their respective transitive markers. Wiltschko (2002), in particular, argues for the derivation of reflexive suffixes from transitive markers, using Upriver Halkomelem as an example.

(3) *Derivation of Reflexive Suffixes from Transitive Markers in Upriver Halkomelem*

a.



b.



(3a) above demonstrates the preliminary structure Wiltschko proposes for Upriver Halkomelem reflexives. Reflexive verbs, according to Wiltschko, are derived from the verbal root and a reflexive suffix. However, this reflexive suffix can be further broken down into a transitive marker (which carries a level of control) and another reflexive element as shown in (3b).

Below, examples (4) and (5) demonstrate different levels of control in Upriver Halkomelem.

(4) iyó:qthet

iyó:q-	-th-	-et
change	*TRANS*[3]	*REFL*

'change oneself'

Level of Control: Full Control

[3] For the purpose of these glosses, the following abbreviations are assumed: TRANS – transitive, REFL- reflexive, and DET – determiner.

(5) kwˈemɬómet
kwˈem- -ɬóm- -et
raise *TRANS* *REFL*
'I raised myself'
Level of Control: Limited/No Control

Adapted from Wiltschko (2002)

Therefore, in (4) the breakdown of these components for a 'plain' reflexive in Upriver Halkomelem is demonstrated. The 'plain' reflexive in these languages, which has full control, is derived using the [+control] transitive marker -θ/th for Halkomelem and -s for SENĆOŦEN and Samish which then combines with a reflexive marker -ət/-et depending on the vowel system of the given language. Gerdts (1998) notes that the transitive suffix -t (represented here as -θ/th to account for sound changes) implies "control by an animate agent".

In (5), the limited control reflexive (called "no control" by Wiltschko) is derived using the [-control] transitive marker which appears as -n/-l (represented here post-phonological processes) and combines with the reflexive marker -ət/-et. Gerdts (1998) also asserts that the limited control transitive suffix (though its form varies from language to language) implies "a lack of control," an "unintentional" or "accidental" reading, or that the action was "done with great difficulty." Thus, reflexive markers in Samish are given their different domains of control due to the transitive suffixes used to derive them. Note that the nasal consonant described here as part of the limited control transitive marker likely has a shared underlying phoneme despite phonological differences in the surface forms.

According to Wiltschko (2002), these reflexive suffixes are in complementary distribution with object suffixes, which suggests an intransitive predicate. In Upriver Halkomelem, this is further supported by the fact that a reflexive interpretation is excluded when a transitive suffix is present[4], as seen below.

(6) th'exxáltes te Strang
th'ex-xál-t-es te Strang
wash-foot-TRANS-3S *DET* *Strang*
'Strang washed somebody's feet.'
*Strang washed his own feet.

3 Core and grammaticalized reflexives

[4] Note that Gerdts (2000) accounts for the complementary distribution of reflexive suffixes with a constraint stating that the 'plain' reflexive in Downriver Halkomelem "can only refer to a THEME nominal" (pg. 144). Gerdts does not apply this constraint to the limited control reflexive because it can reportedly "co-occur with applicative suffixes and lexical suffixes". Because there is not enough Samish evidence to support this constraint, it will not be considered evidence but will be addressed in the discussion section.

Gerdts (1998, p.1) asserts that each type of reflexive suffix can occur in one of two situations: 'core' and 'grammaticalized'. These terms are Gerdts' and are defined below:

Core ['plain' or limited control] reflexive: "used in constructions in which the patient (or other suitable argument) is semantically coreferent" to the subject of the clause.

Grammaticalized ['plain' or limited control] reflexive: "suffixes that do not affect argument structure," carry a more aspectual meaning, and are used in constructions where no argument is semantically coreferent to the subject of the clause.

Gerdts also notes that core reflexive suffixes occur only on process unaccusatives[5] while grammatical suffixes appear on other verb classes—including unergatives.

Turner (2010) extends this to SENĆOŦEN as well. Following Turner's analysis, 'core' reflexives (both plain and limited control) pattern with unaccusative verbs. Within the category of 'core' reflexives, plain reflexives (called control reflexives by Turner) read as accomplishments, while limited control reflexives carry an achievement meaning. This, combined with Gerdts (1998), establishes a strong foundation for the hypothesis that Samish reflexives will pattern in the same way.

Both Montler (1986) and Gerdts (2000) argue for a possible inchoative reading when a control reflexive is attached directly to the root of an unaccusative verb (mainly statives, according to Gerdts, 2000). Below, Table 2 demonstrates this inchoative meaning of a reflexive suffix in Downriver Halkomelem.

Table 2. *Inchoative Meaning of Reflexive Suffix in Downriver Halkomelem*

Root	Translation	Reflexive	Translation
ʔayəm	ˈslowˈ	ʔayəmθət	ˈget slowˈ
θi	ˈbigˈ	θiθát	ˈget bigˈ
q́iːləm	ˈoldˈ	q́iːləmjθət	ˈget oldˈ
scəẃét	ˈadept, cleverˈ	scəẃátθət	ˈbecome cleverˈ

Ex. 15 from Gerdts (2000)

This analysis is significant for the argument proposed by McGinnis (2022), which suggests that reflexive clitics/affixes express unaccusative or unergative Voice. If the reflexive being analyzed does not have either unaccusative or unergative properties, however, does that suggest that reflexive clitics can express other Voice aspects? Could they carry an unaccusative meaning?

Turner (2010) suggests that these inchoative reflexives involve "inchoative activities" which is related to McGinnis' (2022) claim that reflexive clitics demonstrate syncretism with inchoatives and unergative activity predicates—thus,

[5] Note that state verbs have been excluded from this analysis due to lack of data.

it is possible that inchoative activity predicates are also potentially grammatical in some languages. This will be addressed in the Discussion section.

Gerdts (2000), however, also addresses this potential issue by examining the underlying structure of these particular reflexives. Unlike those previously described, Gerdts argues that the inchoative reflexives in (6) cannot be broken down the way Wiltschko (2002) approached non-inchoative reflexives. Instead, they are reanalyzed (7a-c).

(7)	*Reanalyzed Reflexive*	*Translation*
a.	[[[ʔayəm] t] sat]	[[[slow] transitive] reflexive]
b.	[ʔayəm [t + sat]]	[slow [transitive +reflexive]]
c.	[ʔayəm [θat]]	[slow [inchoative]]

Ex. 16 from Gerdts (2000)

Here, they do not have a reflexive or transitive meaning as in (7ab). Instead, they combine and are reanalyzed as a strictly inchoative suffix, as in (7c).

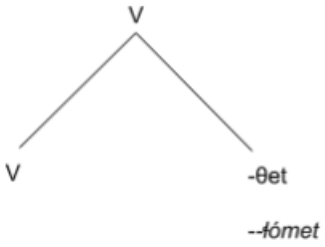
4 Discussion

Thus far, Samish reflexives have been argued to pattern very similarly to reflexives in Upriver Halkomelem, Downriver Halkomelem, and SENĆOŦEN. Two distinct categories with two distinct readings have been established: 'plain' reflexives and limited control reflexives. These two types attach to different verb types, as described, and have been argued to be derived from transitive markers in each respective language. Samish reflexives, then, can be tentatively decomposed into the following structures. Recall that the forms shown in italics are post-phonological processes.

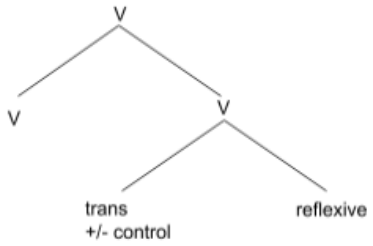
(8) Decomposed Samish Reflexives

a. 'Plain' Reflexive

-sət



b. Limited Control Reflexive
-áŋət



Due to the complementary distribution of reflexive suffixes and object suffixes argued by Wiltschko (2002), an intransitive predicate is assumed. Therefore, the intransitive nature of the resulting reflexive verb is expected.

As Gerdts (1998) and Turner (2010) suggest, there are two uses for each type of reflexive: a 'core' use and a 'grammaticalized' use. The 'core' use patterns as expected in each related Salish language and appears to pattern similarly in Samish, though the data is insufficient to make a firm claim. The inchoative meaning that appears possible for grammaticalized reflexives is reanalyzed as an inchoative reflexive and does not relate to the overarching question of whether Samish reflexives can be argued to express Voice.

This inquiry faces many limitations. First and foremost, the lack of documentation and absence of current speakers. Because no new data can be elicited, research is limited to the data that has already been collected and at the discretion of the practices of those collecting it. Errors in transcription are possible. For Samish specifically, distribution of reflexives in the available corpus was also a large issue. As seen in the attached Appendix (1), the three speakers studied by Galloway (1990) produced the 'plain' reflexive almost exclusively and once produced the limited control reflexive in alternation with the 'plain' reflexive. Therefore, there is only one 'true' example in the data of the Samish limited control reflexive which is not sufficient to establish a pattern. There is also a large amount of vowel variation in Samish, as in most Salish languages, which results in many different surface forms for the same suffixes and can make distinguishing these suffixes in the data quite difficult.

If the Samish reflexive system could be shown to closely resemble the reflexive systems of Upriver Halkomelem, Downriver Halkomelem, and SENĆOŦEN as they have been described, then it is reasonable to argue that reflexives would pattern similarly to the Icelandic reflexive suffix -st (McGinnis, 2022). According to McGinnis, reflexive clitics (called anaphoric clitics by McGinnis) demonstrate syncretism with both object pronouns and "non-anaphoric clauses" like "inchoatives and unergative activity predicates". Following Legate (2014), Samish reflexives would have a structure similar to the following:

(9) Samish Reflexive Structure

Ex. 161 Legate (2014)

Following McGinnis (2022), Samish reflexive suffixes (called clitics by McGinnis) would not be pronominal and would instead be represented with a Voice head, as in (9). Given the cross-linguistic, generalized relevance of McGinnis' Voice head analysis for reflexive clitics/suffixes, Samish would then possibly fit in a similar analysis. The reflexive suffixes of Samish would be represented with a Voice head. McGinnis suggests that "the subject of an unergative or transitive clause is generated in spec-vP, while the subject of an unaccusative or passive clause can be generated as the complement of V/√." However, there is not enough data to evaluate this claim in relation to Samish reflexives.

If further research could be conducted, a more varied and detailed data elicitation task would be valuable. Investigating the position and restrictions on Samish reflexives, especially in contrast to those established for related Salish languages, would also contribute to the overall knowledge of the field.

5 Conclusion

In this investigation, Samish reflexives have been established as surfacing and behaving very similarly to reflexives in related Salish languages such as Halkomelem (both Upriver and Downriver dialects) and SENĆOŦEN. Like these languages, Samish appears to have two categories of reflexive suffix: 'plain' and limited control. The former indicates an action on oneself, while the limited control reflexive implies accidental action on oneself or a 'manage to' reading (Gerdts, 1998). Both reflexive suffixes are derived from a transitive suffix of the given language which gives them their various levels of control. Each attaches to process unaccusatives, but 'plain' reflexives also attach to statives, and limited control reflexives also attach to unergatives. Gerdts (1998) establishes two distinct situations or environments for each type of reflexive: 'core' and grammaticalized. These each have been demonstrated to exhibit their own distinct properties and

behaviors, as discussed previously. An inchoative meaning is also possible, though, with a reanalyzed suffix.

Given the theory proposed by McGinnis (2022, p. 1) and the data presented previously (as well as in Appendix 1), it is possible that Samish reflexives are best represented with a Voice head which can express Voice. The data is insufficient at this time to firmly support or discredit this theory, but the possibility of its application is result enough.

Obtaining new data is not currently possible. However, reanalyzing the data to form a general picture of Samish Voice expression could prove beneficial. Additionally, a subsequent investigation into the structure of non-reflexive transitives could provide useful information about the distribution or restrictions surrounding the two reflexive transitive markers discussed previously.

6 About the author

As a current Master's student studying linguistics at the University of Victoria, my research is supported by my supervisor Dr. Martha McGinnis. I received my Bachelor's degree in Linguistics from Western Washington University and completed my Honors Capstone project on the application of the Pronominal Argument Hypothesis to Hul'q'umi'num' clitics.

References

Burzio, L. (1986). *Italian Syntax.* D. Reidel Publishing Company.

Galloway, B. D. (1990). *A phonology, morphology, and classified word list for the Samish dialect of Straits Salish*. Canadian Museum of Civilization.

Gerdts, D. B. (1998). The double life of Halkomelem reflexive suffixes. In *Proceedings of the First Workshop on American Indigenous Languages* (8th ed., Ser. 70–83). Dept. of Linguistics, University of California, Santa Barbara.

Gerdts, D. B. (2000). Combinatory restrictions on Halkomelem reflexives and reciprocals. In Frajzyngier, Z. & T. S. Curl (Eds.), *Reciprocals: Forms and functions* (Vol. 41, pp. 133–161). John Benjamins Publishing.

Harley, H. (2013). External arguments and the Mirror Principle: On the distinctness of Voice and v. *Lingua, 125*(1), 34–57. https://doi.org/10.1016/j.lingua.2012.09.010

Kinkade, M. D. (1981). The Source of the Upper Chehalis Reflexive. *International Journal of American Linguistics, 47*(4), 336–339. https://doi.org/10.1086/465703

Kiyota, M. (2007). Aspectual properties of unaccusatives and transitives in Sənčáθən. In K. M. Jóhannsdóttir & M. A. Oberg (Eds.), *Papers for the 42nd International Conference on Salish and Neighbouring Languages*, (pp. 285–292). University of British Columbia Working Papers in Linguistics.

Kiyota, M. (2008). *Situation aspect and viewpoint aspect: From Salish to Japanese.* [Doctoral dissertation, University of British Columbia].

Kratzer, A. (1996). Severing the External Argument from its Verb. In J. Rooryck & L. Zaring (Eds.), *Phrase Structure and the Lexicon. Studies in Natural Language and Linguistic Theory,* (Vol. 33, pp. 109–137). Springer, Dordrecht. https://doi.org/10.1007/978-94-015-8617-7_5

Legate, J. (2014). *Voice and v: Lessons from Acehnese.* MIT Press.

McGinnis, M. (2022). Reflexive clitics are verbal, not pronominal. *Canadian Journal of Linguistics*, 1-25. https://doi.org/10.1017/cnj.2022.28

Montler, T. (1986). *An outline of the morphology and phonology of Saanich, North Straits Salish.* UMOPL 4, University of Montana.

Montler, T. (1999). Language and dialect variation in Straits Salishan. *Anthropological Linguistics, 41*(4), 462–502. http://www.jstor.org/stable/30028724

Nolan, T. (2017). *A Phonetic Investigation of Vowel Variation in Lekwungen*. [Master's Thesis, University of Victoria]. http://hdl.handle.net/1828/8062

Pylkkänen, L. (2008). *Introducing Arguments.* MIT Press.

Samish Indian Nation. (n.d.). https://www.samishtribe.nsn.us/

Turner, C. K. (2010). Aspectual properties of SENĆOŦEN reflexives. *UBCWPL 027*, University of British Columbia.

Wiltschko, M. (2002). Some remarks on reflexives in Upriver Halkomelem. *UBCWPL 009*, University of British Columbia.

Wood, J. & Marantz, A. (2017). The interpretation of external arguments. In R. D'Alessandro, I. Franco & Á. J. Gallego (Eds.), *The verbal domain* (pp. 255–278). Oxford University Press.

Appendix A – from Galloway (1990)

Bail oneself	LD qʷə́l**əst**
I scared myself	sey̓siy̓n**áŋət**sən
Get scared	séy̓siy̓
Make oneself even (canoe)	ləq̓é**sət**
Take/taking care of oneself	VU/LD leŋə**sát**
Take care of yourself	VU leŋá**sət**sxʷ, LD le**ŋást**sxʷ]
Take care of oneself	VU leŋá**sət**, LD leŋ**ást**
Brush oneself off	VU pxʷí**sət** LDpxʷí**st**
Move oneself	VU ʔə́čəq**sət**, LD ʔə́čəq**st**
Tip oneself over (canoe)	VU kʷə́l̓ə**sət**, LD kʷə́l̓**əst**
Turn oneself over	VU čə́ləẇ**sət**, LD čə́ləẇ**st**

*Note that VU (Victor Underwood) and LD (Lena Daniels) are the abbreviated names of the speakers who provided the given data.

Appendix B – Supplemental Definitions

Coreferent[6] - "In generative grammar, coreferentiality is present when different noun phrases have the same extralinguistic reference."

Inchoative[7] - "Aspect of a verb or verb phrase. Inchoatives belong to the non-duratives (durative vs non-durative) and indicate the inception or the coming into existence of a state or process, e.g. to bloom, to wilt."

Reflexivity[8] - "Property of syntactic constructions where two arguments of an action or relationship described by a single predicate have identical reference."

[6] Bussmann, H. (1996). Routledge dictionary of language and linguistics. Routledge.
[7] Bussmann (1996)
[8] Bussmann (1996)

Transitivity[9] - "Valence property of verbs which require a direct object, e.g. read, see, hear. Used more broadly, verbs which govern other objects (e.g. dative, genitive) can also be termed 'transitive'; while only verbs which have no object at all (e.g. sleep, rain) would be intransitive."

Unaccusative[10] - "A certain class of intransitive verbs in nominative languages such as German, Dutch, Italian, or French that are often analyzed as syntactically unaccusative or ergative. The terms unaccusative or ergative have been justified by a very broad definition of ergativity (ergative language): the subjects of the ergative intransitive verbs share some properties with the objects of transitive verbs."

Unergatives[11] - In syntax, unergative verbs are characterized as verbs with an external argument.

[9] Bussmann (1996)

[10] Bussmann (1996)

[11] Burzio, L. 1986. Italian Syntax, Reidel, Dordrecht.

Invitation to support reawakening pentl'ach

Mat Andreatta, Sarah Kell, Sarah Quinn, Bill Recalma, Jessie Recalma, Lisa Recalma, Michael Recalma, Suzanne Urbanczyk
Qualicum First Nation, Ministry of Indigenous Relations and Reconciliation, University of Victoria
urbansu@uvic.ca

The last fluent speaker of pentl'ach passed away in the 1940's, and recent work has been undertaken by pentl'ach descendants to reawaken the language. This paper discusses how the reawakening pentl'ach team invited participants in LING 431/531 (Researching) Community-based initiatives in language revitalization, to develop projects to support their work.
Keywords: pentl'ach; experiential learning, community-based research

1 Background

Language reclamation is a multi-faceted endeavor, especially when there are no fluent first language speakers. The last fluent speaker of pentl'ach (Central Salish) passed away in the 1940's. Recently, a core team of pentl'ach descendants have begun to do work to reawaken the language. pentl'ach was a widely spoken language on the east coast of Vancouver Island, with early maps indicating three dialect regions from Cape Lazo to Nanoose (Duff, 1964). While many sources describe pentl'ach as extinct, there has never been a time when nobody knew pentl'ach. Since 2017, Qualicum First Nation has been building a team to support reawakening pentl'ach – more information about the pentl'ach team is discussed in §4. This paper discusses how the pentl'ach team (sometimes referred to as we below) invited participants of two University of Victoria courses to undertake projects in support of reawakening pentl'ach.[1]

1.1 LING 431/531

The University of Victoria linguistics program has a number of experiential learning courses, that provide opportunities for students to work on projects to develop a number of research skills. One set of project-based courses is related to gaining experience in Indigenous language reclamation: LING 431 –Community-based initiatives in language revitalization and the graduate level, LING 531 – Researching community-based initiatives in language revitalization. The central

[1] We are grateful to the students in LING 431/531 for undertaking this work, and to First Peoples' Cultural Council for providing funding to support language planning to reawaken pentl'ach. We are using the current writing system to spell the language.

goals of these courses are to identify and understand issues in community-based language revitalization (CBLR), to actively engage in a critical examination of resources and literature relevant to CBLR, to locate oneself and identify how one can contribute to CBLR initiatives, and to actively engage in developing a plan or contributing to a CBLR project. In the context of a course, it isn't always possible to fully engage in projects, and a variety of options are often made available to the class, so that learners can find a project that is meaningful to them, as well as to a relevant community or community member.

One of the pentl'ach team members [Urbanczyk] was scheduled to teach these courses in January 2022 and approached the rest of the team about whether the class could work on projects to support reawakening pentl'ach. The pentl'ach team supported this and identified a number of potential project ideas that would benefit from linguistic expertise. In discussing the potential for projects, we noted that this would be the first time that non-community members would be invited to do research on pentl'ach by the Qualicum First Nation.

The pentl'ach team came to the class to invite the students to work on projects to support reawakening pentl'ach. As many team members live outside of Victoria, and there were concerns about the health of team members with a new wave of COVID-19 sweeping the region, the team members participated via Zoom. We prepared a slide presentation to introduce ourselves and the history of how this work started, as well as how linguistics students could fit into the work to reawaken pentl'ach. Students then had the opportunity to ask questions and get input and feedback for their projects and thanked the team for sharing their knowledge with the class.

2 Projects

Much of the groundwork required to awaken a sleeping language relates to engaging with documentation on the language and to have that documentation be available and accessible to community members to be able to learn from it (Lukaniec, 2022; Spence, 2018). One major source of documentation on pentl'ach comes from Franz Boas's field trip to the region in 1886. At that time, Boas worked with a speaker and transcribed a list of words and phrases and stories. These materials are part of the Boas collection at the American Philosophical Society (APS) and are available to the public to download. Prior to the start of the course, the instructor contacted the APS curator to gain access to the materials in the Boas collection that were related to pentl'ach and to let him know about the coursework. Two archival files (from the ACLS collection – Item S2j1 Comox and Pentlatch texts and S2j3 Pentlatch materials – Boas ca. 1890; ca. 1910) were made available to the class. A document outlining the materials, including information about pentl'ach and some initial project ideas identified by the pentl'ach team was prepared and shared with the class. A pentl'ach channel was created in Microsoft Teams for students to access the files and also to share resources as they were working on projects collaboratively. Relevant documents to support the work were also shared in the pentl'ach channel, including Galloway's (1988) article on Proto-

Central Salish sound correspondences and modern publications of the pentl'ach stories (Boas, et al., 2006; Kinkade, 2008).

Some class time was set aside for students to get into initial groups to discuss their interests and coordinate with each other. Thirteen students chose to work on pentl'ach projects. We had initially hoped to set up regular meeting times to share ideas outside of class and to discuss aspects of working with the archival materials, but no time was identified that worked for everyone. This meant that there were no shared times together to discuss language patterns found in Central Salish languages. The students did most of the work among themselves and some came to office hours with questions about things related to Central Salish language patterns and deciphering the handwriting in the Boas materials. Because most of the class time was spent learning about the work in CBLR in general, this also meant that there was very little class time or guidance on how to work with the materials. The students ended up working together to support each other and made significant progress in typing out the Boas materials and undertaking initial analyses. Having an accurate electronic representation of Boas file materials was identified early on as an important first step in the work, as there are no audio recordings that we are aware of to learn accurate pronunciation.

The kinds of projects students worked on covered a wide range of topics. The class created an electronic representation of all five of the texts collected by Boas from which they analyzed the patterns found (see Hashimoto, this volume) and developed spreadsheets of the two pentl'ach word lists. These aimed to represent Boas's orthographic system as close as possible to the original archival documents. Almost all the research papers conducted comparative work to compare what Boas documented on pentl'ach with some of the neighbouring Central Salish languages. This comparative work was identified as preliminary and focused on understanding a range of different constructions. This included understanding verb syntax and morphology by looking at motion auxiliaries (Hashimoto, this volume) and verbal suffixes (see Srikanth, this volume). One paper focused specifically on learning about reconstructing a syntactic phrase identified by the pentl'ach team: 'that man there' phrases. Other students compiled information about syntactic categories of determiners and adjectives. And two students worked together to learn how plurals are expressed in the two different corpora (word/phrase lists and stories).

Two projects involved working directly with the two word lists in the Boas materials, and prepared spreadsheets: one student typed up the entire English-pentl'ach word list and another worked with the German-pentl'ach word list to translate the German into English and provide numbers that corresponded with numbers in the wordlist, to make searching for information easier. In terms of lexical comparison, one of the students compiled a comparative spreadsheet using a word list developed by Morris Swadesh, which includes 200 common words; the aim of this project was to support understanding the sound correspondences among some key Central Salish languages better. One paper developed some work in reconstructing pentl'ach animal terms, while another paper looked at terms for

flora. And one paper compared some of the reduplicative patterns in pentl'ach with some of the patterns in ʔayʔaǰuθəm.

In some cases, the projects involved creating stand-alone projects, and in others, the research is embedded in their final papers. Students are being given the opportunity to revise their projects and papers with input and feedback from the instructor. They will then share their projects with the pentl'ach team, to support the work in reclaiming pentl'ach.

3 Summary

This project-based course provided the opportunity for a great deal of preliminary work to be done that can serve the community and future generations. All five texts and one complete word list were typed up, in an electronic format of Boas's handwriting. This means there are searchable documents that can be used to look for sentences and constructions as Boas originally transcribed them. Having these documents' representations of Boas's handwriting complements the work already done by one of the team members who has prepared spreadsheets of the two wordlists using a keyboard-friendly writing system to represent pentl'ach.

4 About the Authors

The pentl'ach team has a wealth of wisdom, knowledge and skills that complement each other to reawaken pentl'ach. This work started with a vision from the elected Chief of Qualicum First Nation (QFN), Michael Recalma. In 2017, he shared this vision with an Assistant Deputy Minister from the BC Ministry of Indigenous Relations and Reconciliation, who was able to resource the first stage of the project through seed funding and staff support. Sarah Quinn (BSc and MA), a settler of European ancestry, works for the Community and Social Innovation Branch of the Ministry of Indigenous Relations and Reconciliation and participates in this work as a project supporter. Around the same time, QFN member and Coast Salish artist Mat Andreatta conducted a research project with the First Nations and Endangered Languages program at UBC on pentl'ach following a similar and coinciding vision, yielding tangible results of specified pentl'ach language documentation. He soon began working with Chief Michael Recalma and Sarah Quinn and, in 2020, they received funding through First Peoples' Cultural Council to develop a language plan. This funding led to expanding the team to include Qualicum First Nation members Bill Recalma and Jessie Recalma in 2020. Bill is a pentl'ach knowledge keeper who worked as a fisherman up and down the coast. Jessie is a Contemporary Coast Salish artist and language worker, focusing on pentl'ach and related languages. Sarah Kell, a settler of English descent, then joined the team as the language planner; she has been working as an ally in Indigenous language communities in BC and Washington since 2002, supporting linguistic research and curriculum development. Sarah holds a BA in linguistics and an MEd in Indigenous Language Revitalization, and is interested in how linguistics can support Indigenous language education and reclamation. Su Urbanczyk joined the

same time and is a settler linguist, who has studied Central Salish languages and worked with several communities to support language reclamation work for over 30 years. She is a faculty member in Linguistics and was the instructor for the two courses. Once the funding was in place we were able to hire a project manager from QFN – Lisa Recalma, an accountant working for Saa'men Economic development, the pentl'ach language team, and Qualicum First Nation Indian Registration Administrator.

References

Boas, F. (ca. 1890). *Pentlatch materials.* American Council of Learned Societies Committee on Native American Languages, American Philosophical Society (Item S2j.3), American Philosophy Society, Philadelphia, PA, United States.

———. (ca. 1910). *Comox and Pentlatch texts*. American Council of Learned Societies Committee on Native American Languages, American Philosophical Society (Item S2j.1), American Philosophy Society, Philadelphia, PA, United States.

Boas, F., Bouchard, R., Kennedy, D., & Bertz, D. (2006). *Indian myths & legends from the North Pacific coast of America: A translation of Franz Boas' 1895 edition of Indianische Sagen von der Nord-Pacifischen Küste Amerikas*. Talonbooks.

Duff, W., (1964). *The Indian history of British Columbia Vol. 1*. Memoir No. 5. Provincial Museum of British Columbia.

Galloway, B. (1988). Some Proto-Central Salish sound correspondences. In W. Shipley (Ed.). *In honor of Mary Haas*. (pp. 293–343). Mouton de Gruyter.

Kinkade, D. (2008). The Pentlatch myth corpus. In M. T. Thompson & S. M. Egesdal (Eds.) *Salish myths and legends: One People's stories* (pp. 84–103). University of Nebraska Press.

Lukaniec, M. (2022). Managing data from archival documentation for language reclamation, In A. L. Berez-Kroeker, B. McDonnell, E. Koller, & L. B. Collister (Eds.), *The open handbook of linguistic data management* (pp. 315–325). The MIT Press. https://doi.org/gnzrxm

Spence, J. (2018). Learning languages through archives. In Hinton, L., L. Huss, & G. Roche (Eds). *The Routledge handbook of language revitalization* (pp.179 – 187). Routledge Taylor & Francis Group.

pentl'ach motion auxiliaries: From legacy materials to a preliminary analysis

Erin Hashimoto
University of Victoria
ehashimo@uvic.ca

The purpose of this project is to develop a preliminary understanding of pentl'ach motion auxiliary verb forms, functions, and constructions for the contemporary, community-led pentl'ach language reclamation.[1] The project began by creating a format of the stories that is searchable, editable, and sortable from existing digital Boas legacy materials (Boas, ca. 1910) which revealed two motion verbs/auxiliaries: *çō/çū* meaning 'go' and *mē* meaning 'come'. A comparative approach was incorporated to determine these verbs' possible functions in an auxiliary position. Additional examination of the contexts and translations in the stories was also used to develop an idea of the grammatical information motion auxiliaries might contribute in pentl'ach, and to present an overview of how other information is attested as part of, or in co-occurrence with, pentl'ach auxiliary constructions. Preliminary patterns trend toward using *çō/çū* to indicate future action or motion away from the speaker, and *mē* to express 'becoming' or motion toward the speaker, as occurs in other sister languages; however, these stories also provide examples of potentially distinct uses of these two motion auxiliaries.
Keywords: Salishan languages; pentl'ach; legacy materials; comparative; language reclamation; motion; auxiliary verb

1 Background

This paper stems from a research project in the University of Victoria's LING 431/531 course, "Researching Community-Based Initiatives in Language Revitalization." In spring 2022, students were provided an opportunity to accept an invitation extended by pentl'ach descendants to support their ongoing work to reawaken and reclaim their heritage language (see Andreatta et al., this volume). Due to the COVID-19 pandemic and broader class context, this research could only be guided by the pentl'ach team's priorities from a distance and there was little opportunity for conversation and active collaboration between students and the community. However, students were able to collaborate with one another (for

[1] Thank you to the Reawakening pentl'ach team for their generous invitation for our LING 431/531 class to engage with their heritage language and materials during the Spring 2022 semester. I hope that the work that has been produced through this process reflects our appreciation of the trust and opportunity given to us as students. Thank you to Dr. Su Urbanczyk for her guidance and feedback.

example, Srikanth, this volume) to leverage our group knowledge and shared resources. Using legacy materials recorded by Franz Boas (Boas, ca. 1890; ca. 1910) and learning from related Salishan languages that continue to be spoken today, the following paper provides insight to this type of remote community-guided language work and offers a preliminary linguistic analysis of pentl'ach motion auxiliaries.

This paper is structured to first contextualise the research by including a background of pentl'ach People and language (§2.1), the legacy materials involved in this work (§2.2), and the researcher (§2.3). The methods used and motivations for this approach (§3) as well as the ethical considerations engaged with throughout the research process (§4) are also discussed. Section 5 details the process of the linguistic work from the transcription of the pentl'ach stories (§5.1) to the identification of two motion auxiliaries: *çō*/*çū* meaning 'go' and *mē* meaning 'come' (§5.2). Finally, comparative research led to the development of theories regarding the function of these auxiliaries and the types of constructions they are attested to be a part of (§5.3–5.5).

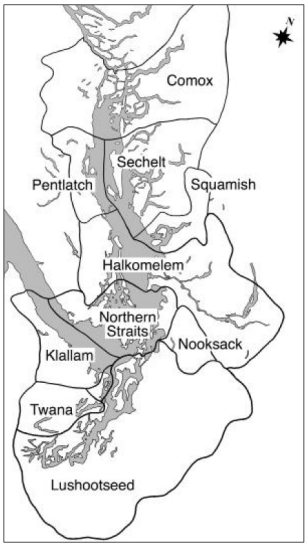
2 Introduction

2.1 pentl'ach People and their language

Traditional lands of the pentl'ach People span from "just north of Parksville to Cape Lazo in the Comox Valley, and further inland" on what is currently called Vancouver Island, as well as territories on nearby Denman Island and Hornby Island (Discover Vancouver Island, n.d.; Vance, 2019; Visit Denman Island, n.d.). Today's Reawakening pentl'ach program is led by descendants of the pentl'ach People who are members of Qualicum First Nation (Vance, 2019). There are also pentl'ach people who became part of what is currently recognized as K'ómoks First Nation through the actions of Canada's Joint Indian Reserve Commission in 1876 (K'ómoks First Nation, n.d.).

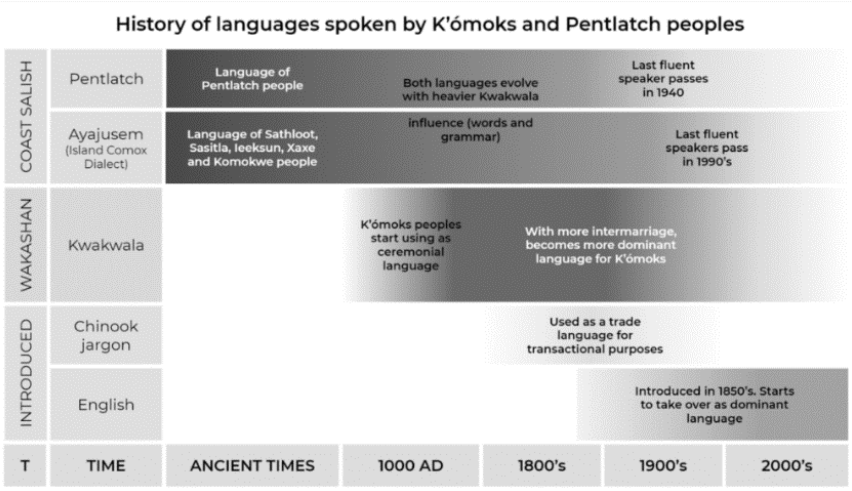
By 1940, the pentl'ach language was pushed into dormancy due to disease, warfare, forced displacement, and other impacts of colonization that occurred throughout their territories during the 1800's (Boas et al., 2006, p. 238). However, there are a number of related languages in the area that continue to be spoken and offer potential insight into how pentl'ach was spoken. Each of these languages is part of Central Salish branch of the Salishan family (Figure 1). Of the languages spoken today, pentl'ach is most closely related to ʔayʔaǰuθəm (Comox-Sliammon), Halkomelem, Shishálh (Sechelt), and Sḵwx̱wú7mesh sníchim (Squamish). As reflected in the map below, these languages had contact with pentl'ach territories to the north, south, east, and southeast respectively.

Figure 1. *Map of Central Salish Languages (Kiyosawa & Gerdts, 2010, p. 10)*



K'ómoks First Nation (n.d.) also shares that Kwakwala, a neighbouring Wakashan language, contributed to linguistic changes in the area as well through mutual borrowings as trade and marriage between these Peoples became more common (Figure 2).

Figure 2. *Language HistoriesAamong K'ómoks and pentl'ach (K'ómoks First Nation, n.d.)*



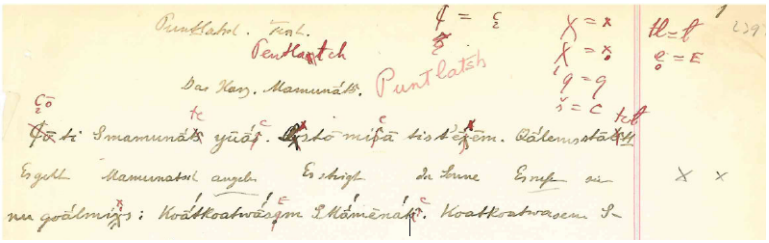
These cross-linguistic interactions, as well as the development of Chinook Wawa (Chinook Jargon) as a lingua franca throughout the region may also have implications for contemporary understandings of pentl'ach grammar and its lexicon.

2.2 Franz Boas materials

In addition to contemporary pentl'ach communities and their interest in reclaiming their language, written pentl'ach materials from the late 1800's are another important piece of this reclamation process. These materials offer a foundation for current language work with attested wordlists, sentences, and stories. Franz Boas arrived in pentl'ach territory on November 12, 1886 and was there until December 3, 1886 (Kinkade 2008, p. 84). There are records of two pentl'ach-speaking families where he visited and another family living further south (Boas et al., 2006, p. 236). During this trip, speakers chose to share words as well as stories in pentl'ach, creating a series of 9 stories in total (Kinkade, 2008, p. 85). Boas' original materials are held by the American Philosophical Society (APS) along with their translations to German and English. These materials have been digitized into a PDF format, allowing readers to see images of Boas' original fieldnotes.

The stories shared with Boas are central to this research and seem to be originally translated to German as they appear at the end of the APS's Item S2j.3 (Boas, ca. 1890, pp. 95–103). Various edits to the conventions used for transcribing pentl'ach are outlined at the beginning of the stories here and are reflected throughout the stories (Figure 3).

Figure 3. *Edited conventions to pentl'ach transcriptions (Boas, ca. 1890, p. 95)*



When these changes were made and by whom does not seem to be recorded. It is also unclear at what stage the English translations were produced. The archived record in which the English stories appear are estimated to have been created at a later date (Boas, ca. 1910), however whether the English language stories were translated from the original pentl'ach or the German translations is not clear.

2.3 Positionality

Positioning one's self relative to their work provides insights into the motivations for a researcher's questions, approach, and conclusions. Therefore, sharing a description of these personal foundations recognizes how our experiences and learning may shape our approach to research and helps to describe the type of work that we may be best positioned to contribute to.

I am fourth generation English and Nikkei (Japanese Canadian) settler in what is currently called Canada. I was raised in North Delta, B.C. on the territories

of Kwantlen, xʷməθkʷəy̓əm (Musqueam), Katzie, Semiaḥma (Semiahmoo), sc̓əwaθən məsteyəxʷ (Tsawwassen), Stz'uminus, and kʷikʷəƛ̓əm (Kwikwetlem) Peoples, but did most of my post-secondary schooling in amiskwaciwâskahikan (Edmonton) on Treaty 6 territory. My training as a non-Indigenous student, primarily in linguistics, shapes my approach to the work that was asked of us in this course and the skills that I felt I might be able to contribute. I have been fortunate to be involved with a variety of transcription projects and in the past two years have also been a part of the Huron-Wendat Nation's ongoing language reawakening and reclamation. This experience has provided me with more insight into the questions that must be asked when working with legacy materials that have been mediated by someone else who may have only had limited exposure to the language they represented in writing.

This project presents a different version of "community-based" language revitalization work than what is typically described (Czaykowska-Higgins, 2009; Leonard & Haynes, 2010; Rice, 2018), but nonetheless aims to adhere as much as possible to the spirit of community-based work as expressed by these scholars. Because this project was developed as part of a course with a number of students developing individual projects, the project is designed to address a research topic that was recommended and deemed relevant by the community-based team. It also strives to provide tangible outcomes in the form of digitally transcribed stories which can support the community's future research goals. Calling my project "a preliminary analysis" recognizes that my knowledge, as a linguistics student with no prior experience working with Salishan communities, can only contribute so much. The pentl'ach team may have perspectives and knowledge that lead this research in a new direction. This respect for different types of expertise is central to this research and is fundamental to a scientific approach to knowledge-building.

3 Methods

In the absence of active collaboration with the pentl'ach language team, my research was guided by general principles of relevance by selecting a topic that was suggested by the community-based team, responsibility to the pentl'ach community and their language, and respect for their heritage materials, the people who created them, as well as my classmates. Another component of this research aimed to engage collaboratively with my peers through Microsoft Teams by sharing the working transcriptions and my research about motion auxiliaries. This approach aimed to contribute to the collective knowledge of our class for the benefit of everyone's final research and, in the end, to benefit the pentl'ach team's continued work. Gardner (2012) and Wilson (2007), in particular, guide these decisions through their emphasis on the importance of community benefit, respect for all beings involved in the research process, responsibility for our work, and a sense of recognition that we ourselves are also growing through our engagement in this type of reciprocal research.

This research was grounded in examples of the pentl'ach language that are shared in the series of pentl'ach stories, recorded from pages 22–34 of Item S2j.1

(Boas, ca. 1910). The choice to engage with stories to address the research question of motion auxiliaries is linguistically motivated by the more naturalistic language used in a narrative as opposed to more direct elicitation. Regardless of any errors in transcription or gaps in the original researcher's knowledge of the language, stories allow the reader to identify patterns in the text and see how possible wordforms or morphemes can actually function in a variety of contexts. This is of particular importance in developing a better understanding of meaning among unstandardized transcriptions and translations and in understanding the grammatical function(s) of auxiliaries. Furthermore, the decision to work with stories is also based on the community's inclusion of cultural goals as part of the plan presented by the pentl'ach team to our class. Stories convey more complete information about the worldviews, histories, and cultural understandings of the speakers than wordlists and isolated elicitation are likely able to do.

This approach is also supported by scholars such as Jo-ann Q'um Q'um Xiiem Archibald (2008) and Margaret Kovach (2021). Each of these scholars have written extensively about the knowledge, relations, and methods embedded within stories and "storywork". Archibald (2008, p. 112) talks about "the power of story to 'be the teacher' through the relationships that it holds between the story itself, the storyteller, and the engaged listener or reader." She describes storywork as having a role in cultural, spiritual, social, and emotional learning, as well as part of linguistic, and pedagogical work (Archibald, 2008, p. 148). By transforming stories into a digital format, the stories themselves—and by extension the people who shared them—can reconnect to the contemporary language work programs and the pentl'ach descendants learning from them.

4 Ethics

Article 9.21 of the Tri-Council Policy Statement (TCPS2) on Ethical Conduct for Research Involving Humans (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada 2018, p. 130) states that information that is within the public domain does not require community engagement or research ethics board (REB) review. That being said, it is still recommended that researchers whose work may impact the identity or heritage of communities minimize the potential harms that could arise without an appropriate understanding of the materials and the contexts that created them. These recommendations are reinforced by the generalized OCAP® principles for data protection and use outlined by the First Nations Information Governance Centre (FNIGC, n.d.) which recognizes the inherent sovereignty that First Nations have over the "data" that their collective knowledge has helped to create. These principles include the Ownership of cultural knowledge, Control that communities should have over research and data management of their cultural resources, Access to the information about their own People and authority to make decision about access for others, and physical Possession of the materials to assert ownership.

In the case of this project, although the materials used fall within the public domain, notice was given to the APS which currently holds the materials involved in this research, and an invitation to work with these documents was extended by the contemporary pentl'ach team from Qualicum First Nation. In addition to the invitation to engage with the materials, the pentl'ach team also shared background information about their own involvement in reawakening their language and a list of ideas that could serve as a starting point to develop class research projects. Their suggestions ensured that we could shape our research around topics that have been deemed relevant at this stage in the community's language reclamation process and also reflect a recognition of the pentl'ach language team's ownership and control of their cultural heritage. The inclusion of transcription as a component of my project also works towards making "access" more meaningful. The stories will no longer be static PDF images of Boas' fieldnotes, but can become materials able to be transformed further by the community and to be easily interacted with in future language work. The conclusions and materials created through my research will be returned to the pentl'ach language team with copyright assigned to the appropriate body or group and any local copies of the materials will be deleted from my device once they are submitted to the team. This ensures that the pentl'ach team retains physical ownership of the materials created through this research process as well as control and authorship of future understandings of their heritage language.

5 Research process

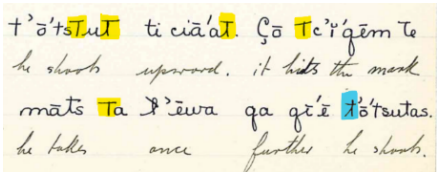
This section describes the approach and considerations made to transform the original Boas legacy materials into a more flexible, typed format (§5.1) and how two motion auxiliaries—*çō*/*çū* meaning 'go' and *mē* meaning 'come'—came to be identified and analysed using pentl'ach stories and related documents (§5.2). A comparative approach with other Central Salish languages was used (§5.3) to develop a preliminary understanding of the functions of these motion auxiliaries in pentl'ach (§5.4) and the types of constructions that these auxiliary verbs can occur in (§5.5). Challenges and limitations of this work are discussed in §5.6.

5.1 Transcription

The first step in transforming these stories was to develop a method for representing them in a way that would reflect meaningful symbol distinctions in the transcription while also maintaining the structures embedded in the original resource (Lukaniec, 2022, p. 321). This included identifying the special characters to best represent the transcriptions with consensus among the class. Decisions about the symbols used were carried out over Microsoft Teams by creating a file to discuss possible symbol distinctions and a final document to capture the conventions. By deciding on a unique Unicode character for each visually distinct symbol in the transcriptions, the pentl'ach community team will be more easily able to edit these materials by finding and replacing select symbols as more becomes known about the sounds of the language and how the transcribed symbols

might represent them. One case that remains unresolved is that of t-like characters (Figure 4).

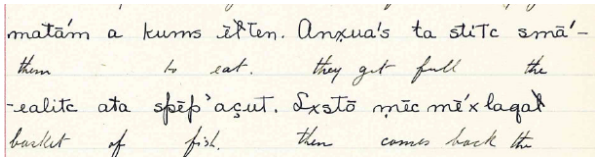
Figure 4. *Variation in "t" symbols (Boas, ca. 1910, p. 62)*



Although these t-symbols appear visually different, more comparative work is required to determine whether these might actually represent different speech sounds, or if they were just a result of the transcriber's handwriting. For now, visual distinctions have been maintained as < t >, < ᴛ >, and < ƛ >.

With regards to the structure of the transcriptions, the digital version mirrors the meaningful connections represented in the source material (i.e., which English translations map to which pentl'ach form(s)) as recommended in Lukaniec (2022). This also facilitates referencing back to the source material. The only instances where the original formatting was not maintained, are in cases where a pentl'ach word was separated across two lines of text due to the limitations of the physical page. In some cases, the English translation for a single pentl'ach word were also separated across lines. This formatting not only made the pentl'ach forms difficult to search and analyse because the words were divided, but also misrepresented the mapping of the English translation where a single pentl'ach form corresponds to more than one English word (e.g., Figure 5).

Figure 5. *pentl'ach "smā'ealitc" spans two lines (Boas, ca. 1910, p. 61)*



5.2 Identification of pentl'ach motion auxiliaries

Once the stories were transcribed, this project focused on identifying pentl'ach motion auxiliaries (Appendix A). Wordlists and elicitation provided supplementary examples for forms that were not clear in the stories. Anderson (2006, 2011) describes auxiliary verbs as an element that combines with another verb, creating a monoclausal verb phrase. Anderson (2011, pp. 796–77) adds that within these constructions, the auxiliary verb contributes a grammatical meaning and the main verb contributes the main lexical meaning of the verb phrase, but the order of these elements can differ.

Based on this definition, I identified motion auxiliaries through the apparent semantics of English translations and the pentl'ach syntactic structure where a first verb is semantically weakened (contributing some grammatical function) and the second predicate contributes the main meaning of the clause. For example, *çō* is glossed as 'go' when it is used as a lexical verb as in (1), and also appears to play a grammatical role in other contexts (2).[2]

(1) Lxstō çō ʇciā'o Te łāx́łai qa anx̱ua'stō.

Lxstō	çō	ʇciā'o	Te	łāx́łai	qa	anx̱ua'stō
then	*go*	*beach*	*DET*	*fir*	*CONJ*	*takes*
te	qulē'ɬ[3]					
DET	*pitch*					

'Then goes to the beach the fir and takes the pitch.'

(Boas, ca. 1910, p. 22, line 4)

(2) Çō ēmā'cia āte slɬā'nai.

Çō	ēmā'cia	āte	slɬā'nai
AUX	*walk*	*DET*	*woman*

'He went to get a woman.'

(Boas, ca. 1910, p. 23, line 2)

The 'come' auxiliary was more difficult to isolate and identify originally from the stories alone. There were four reasons for this unanticipated challenge: the 'come' auxiliary *mē* does not appear as a lexical predicate which would have been more likely to have a clear translation; English translations does not align *mē* with the meaning 'come' as illustrated in example (3a) which shows *mē* translated as 'and'; *mē* was often orthographically represented as part of the lexical verb as in (3b), and; lastly, other morphology is transcribed as attached to the auxiliary or between the auxiliary and lexical verb as demonstrated in example (3c).

(3) a. Mē tī'tctē sēxnā'tcia.

Mē	tī'tctē	sēxnā'tcia
AUX	*cover*	*fallen.trees*

'And it covers trees fallen over.'

(Boas, ca. 1910, p. 23, line 11)

---

[2] Abbreviations used in this paper: 2 = second person, 3 = third person, AUX = auxiliary, DET = determiner, CONJ = conjunction, CTR = control transitive, FUT = future, INDC = indicative subject, LV = link vowel, MV = middle voice, QUOT = quotative, SG = singular

[3] Glosses are proposed based on research within the scope of this project or work by other LING 431/531 students in conjunction with the translations provided in the text. Where there was not enough information to propose an analysis, the third line of the gloss remains blank. The English translations (line 4) are presented as written by Boas. Further research is needed to confirm or develop these analyses.

b. Qē ānūł ṃēnuē'lem.
Qē ānūł ṃēnuē'lem
3.SG take.hand AUX-to.enter-MV
'He takes the hand they go in.'
(Boas, ca. 1910, p. 29, line 3)

c. Mēsē lō'lōm was mē'csē cōk'ōm.
Mēsē/ lō'lōm was mē'csē cōk'ōm
AUX-FUT sing-MV AUX-FUT wash-MV
'They will sing ? they come to wash.'
(Boas, ca. 1910, p. 28, line 7)

These challenges encouraged reference to the wordlists to see if the more isolated forms found in S2j.3 (Boas, ca. 1890) could help pick out the 'come' motion verb. Page 6 of the English to pentl'ach wordlist includes multiple entries meaning 'come,' but it became clear through cross-referencing these different forms and their appearance in the stories that *mē* was the form being used in a motion auxiliary role.

5.3 'Come' and 'go' auxiliaries in Central Salish

Next steps included a comparative approach to look at the corresponding motion auxiliary forms in pentl'ach's sister languages. This research was shaped in part by the geographical proximity of these languages as illustrated above in Figure 1, as well as the availability of resources for other Central Salish languages. Most of these languages' resources had grammar components that specified these words' roles as auxiliaries, but the forms in Sḵwx̱wú7mesh sníchim are included from dictionary entries and Lushootseed forms were identified from stories. In these cases, information about the function of the words as auxiliaries is not provided, but the words translated as 'come' and 'go' are included as proposed cognates to at least one of the existing sets of forms in Table 1.

Table 1. *Motion auxiliaries in select Central Salish languages*

Language	'go'	'come'	Source
ʔayʔaǰusəm (Island)[4]	só	qʷʌlʔ	Harris, 1981, p. 47
ʔayʔaǰuθəm (Mainland)	θu / hu	qʷəl'	Watanabe, 2003, p. 90
Shishálh	tsu / tsútsu	kwetl'	Beaumont, 2011, p. 91
Hul'q'umi'num'	nem'	m'i	Schneider, 2021, p. 395
hən̓q̓əmin̓əm̓	ném̓	ʔem̓'í / m̓i	Suttles, 2003, p. 36
Sḵwx̱wú7mesh sníchim	huy̓, nam̓	(h)em̓í, m̓i	Jacobs & Jacobs, 2011, p. 245, 268
Lushootseed	ʔux̌ʷ	ʔeƛ'	Lamont et al., 2014, p. 113, 491

[4] This language would likely be pronounced as ʔayʔaǰusəm in the Island dialect, rather than ʔayʔaǰuθəm (Mainland dialect). ʔayʔaǰusəm will be used in this paper to refer to the Island dialect.

Considering these forms relative to the identified pentl'ach motion auxiliaries, it seems likely that the pentl'ach word for 'go,' *ç̄o/ç̄u*, is cognate with the form that is more common in the north and likely shares a proto-form with ʔayʔaǰusəm (Island dialect), ʔayʔaǰuθəm (Mainland dialect), and Shishálh. However, the pentl'ach word for 'come,' which has been transcribed as *mē*, appears more likely to be related to the more southern forms shown for Hul'q'umi'num', həńq̓əmiṅəm̓, and Sḵwx̱wú7mesh sníchim. This division among the motion auxiliary system raises questions about the histories of each of these auxiliaries, when their meanings each shifted from their more lexical meanings of 'come' and 'go' to be grammaticized and behave as auxiliaries, and whether the other halves of the northern and southern cognate sets might also have cognates in pentl'ach whose meanings have shifted in another way.

These data also seem to support the "wave-like" distribution discussed in Hess (1979) that proposes an explanation of different cognate sets across the Central Salish branch of the language family. Hess (1979, p. 10) suggests that linguistic innovations are travelling downriver via Halkomelem and that changes move outward from here. As an effect, more southernly languages like Lushootseed often share similarities with sister languages further north in Central Salish-speaking regions, like ʔayʔaǰusəm. Although the Lushootseed word for 'go' appears to be unrelated, the verb for 'come' *ʔeƛ'* could be a cognate with northern forms: *qʷʌlʔ*, *qʷəl'*, and *kwetl'*.

5.4 Functions of auxiliary verbs

Another aspect of the comparative survey of sister languages' motion auxiliary verbs included an overview of the grammatical functions that these auxiliaries are reported to have. This type of grammatical insight was available from resources describing ʔayʔaǰusəm, Shishálh, Hul'q'umi'num', and həńq̓əmiṅəm̓. The functions of motion auxiliaries in these languages are summarized in Table 2:

Table 2. *Comparative functions of motion auxiliaries*

Language	'go'	'come'	Source
ʔayʔaǰusəm (Island)	Indicates future action (instead of or in addition to *FUT* marker).	Coming from a distance (motion toward).	Harris, 1981, p. 47
Shishálh	Indicates future action (instead of or in addition to *FUT* marker).	Also means "become" or "start(ing) to appear/grow/etc."	Beaumont, 2011, p. 176, 652
Hul'q'umi'num'	Motion away from the speaker or movement forward in time	Motion toward the speaker or events just now taking place	Schneider, 2021, p. 395
həńq̓əmiṅəm̓	Motion away from the speaker or "be going to (do something)	Motion toward the speaker or "becoming"	Suttles, 2003, p. 36–37

Using these attested functions of the motion auxiliaries in related languages as a starting point, it seems possible that pentl'ach uses motion auxiliaries in similar ways (see Appendix A, column D for full analysis). For example:

(4) a. 'go' as an indication of future action:
Ç̓ō sētc ɬɛxuała ta sɛlā'ɬ.
Ç̓ō sētc ɬɛxuała ta sɛlā'ɬ
AUX FUT arrive DET lake
'You will arrive at a lake.'
(Boas, ca. 1910, p. 28, line 6)

b. 'go' as representing motion away:
Çu yō'o te jō'i.
Çu yō'o te jō'i
AUX home DET boy
'He goes home the boy.'
(Boas, ca. 1910, p. 27, line 7)

c. 'come' indicating becoming:
Ṃēṇā't.
Ṃēṇā't
AUX-night
'It gets dark.'
(Boas, ca. 1910, p. 29, line 8)

d. 'come' as representing motion toward:
Te hē'uɪcis ta sqā'lmiẋ. Mē'iyō'ō.
Te hē'uɪcis ta sqā'lmiẋ. Mē'iyō'ō
3.PL row DET people AUX-home
'They row the people. They come home.'
(Boas, ca. 1910, p. 33, line 7)

It is worth noting that in (4a), the morpheme between the auxiliary and main verb 'arrive' may be the future marker. If this is the case, it could be that the motion auxiliary is not the part of this construction contributing the grammatical meaning of future. It is noted in ʔayʔaǰusəm and Shishálh that the 'go' auxiliary can be used to indicate future action "instead of or in addition to" the future marker (Beaumont 2011, p. 176; Harris 1981, p. 47). Unfortunately, there are no clear examples of *çō/çū* being used alone in pentl'ach to indicate future that confirms the same is true in pentl'ach.

There are also pentl'ach examples from the stories that seem to differ from the ways that each motion auxiliary would function in other Central Salish languages. For example, one of the functions of the 'come' auxiliary marks 'becoming,' but there is also an example in the pentl'ach stories where the 'go' auxiliary seems to serve this function, as shown in (5).

(5) Ti çō sxuō'm ti k'ōłkō.
Ti çō sxuō'm ti k'ōłkō
3.SG AUX dry-MV DET ocean
'It becomes dry the ocean.'
(Boas, ca. 1910, p. 25, line 1)

Similarly, it is possible that pentl'ach shows examples of the 'come' auxiliary being used to express motion away (6) or something that will happen (7) which are functions typically described as being associated with the 'go' auxiliary.

(6) Lxstō mēs pɛłɛmtɛm tē'tce nuqua'lmix̣sōł.
Lxstō mēs pɛłɛmtɛm tē'tce nuqua'lmix̣sōł
then AUX ascent-MV all.people
'Then they are torn away by the current all people.'
(Boas, ca. 1910, p. 26, line 4)

(7) Mēsē lō'lōm was mē'csē cōk'ōm.
Mēsē lō'lōm was mē'csē cōk'ōm
AUX-FUT sing-MV AUX - FUT wash-MV
'They will sing ? they come to wash.'
(Boas, ca. 1910, p. 28, line 7)

Again, example (7) may include a future marker which raises the question of whether this is a function of the motion auxiliary in pentl'ach or if the future marker is doing all of the work in these situations. If it is determined that only the future marker is contributing this meaning, the grammatical function of the *çō* and *mē* in these examples remains unclear. Particularly in (7), *mē* does not seem to clearly contribute a sense of becoming, motion toward, or events 'just happening now.'

5.5 Auxiliary constructions

This comparative method to analyse the meaning or function of motion auxiliary verbs was also used to develop an understanding of the syntactic constructions these auxiliaries are a part of (Appendix A, column E). In descriptions of these constructions in other Central Salish languages, Schneider (2021, p. 395) notes that in Hul'q'umi'num', auxiliaries do not feature any inflectional morphology, but that any necessary inflection would appear on the following lexical predicate. However, in pentl'ach there are examples where additional morphology appears connected to the motion auxiliary verb. It is unclear without further understanding of pentl'ach whether this orthographically connected morphology is inflectional in nature, or may be analysed as a second-position subject clitic in Hul'q'umi'num' (Schneider, 2021, p. 393). Watanabe (2003, p. 90) also provides analysis from ʔayʔaǰuθəm in his description of auxiliaries attracting "edge-positioned"

morphemes which he illustrates in (8) and mirrors the orthographic representation used in Boas (ca. 1910):

(8) ʔutčxʷkʼʷa x̣ičit

ʔut	-čxʷ	-kʼʷa	x̣ič	-i	-t
if	*2.SG.INDC*	*QUOT*	*point*	*-LV*	*-CTR*

'If you point at him...'

(Watanabe, 2003, p. 90)

Watanabe (2003, pp. 90–94) also details that not all ʔayʔaǰuθəm auxiliaries function as predicates, that more than one auxiliary can appear in an auxiliary verb construction (so long as their meanings do not contradict one another), and that auxiliaries can also follow the lexical predicate.

The decision to look at different word orders in proximity to auxiliary verb constructions came from a noticeable variation in the syntax and lack of familiarity with these other markers. Decisions around word order may reflect particular storytelling or discourse practices, but further research would be needed to develop a stronger theory of how word order is used in pentl'ach stories and what can be expected to co-occur with auxiliary verbs. Examples of these differences are below, with (9) illustrating a more common construction, (10) showing additional morphology between an auxiliary and following lexical predicate (possibly Watanabe's (2003, p. 90) "edge-positioned" morphemes), and (11) demonstrating what may be a third-person singular pronominal marker appearing before the auxiliary.

(9) Ç̄o'u ɬuq a te slɬā'nai.

Ç̄o	-'u	ɬuq	a	te	slɬā'nai
AUX		*find*	*DET*	*DET*	*woman*

'He finds a woman.'

(Boas, ca. 1910, p. 23, line 3)

(10) Ç̄okua ɬā'tctas.

Ç̄o	-kua	ɬā'tctas
AUX		*put.in.front.of?*

'She goes to put it in front of him.'

(Boas, ca. 1910, p. 30, line 3)

(11) Tu çus ā'xīs qīē.

Tu	çus	ā'xīs	qīē
3.SG	*AUX*	*sleep*	*again*

'He goes to sleep again.'

(Boas, ca. 1910, p. 30, line 4)

5.6 Challenges and limitations

As with all approaches and circumstances, this research was not without some challenges and limitations that are worth stating explicitly. In terms of my own approach, many of the stories were of a similar genre, meaning that they were set in a particular time and therefore used a particular tense, and also largely focused on recounting narratives that happened to third-person characters. This leaves a gap for understanding how these constructions might work in more conversational settings where first- and second- person speech would be more common.

In the case of motion auxiliaries, part of this challenge was in trying to conceptualize how an auxiliary that functions to mark motion toward or away from the speaker would be represented in third person stories. Are there different ways to view space or motion that may help to understand the division of the use of *çō/çū* as opposed to *mē* within these texts?

6 Conclusion

The main goals of this research were to transform the stories that were shared with our class into a long-term document that can be easily searched, edited, and sorted through as the work of the pentl'ach team continues, and to address their requests to develop some understanding of motion auxiliaries in the language. Although my project does not present final conclusions, I hope that this presentation of the different examples that were identified from the stories and the accompanying comparative research provide a variety of linguistic lenses through which to consider how pentl'ach motion auxiliaries "work" and what they look like in context.

From work with the stories, two motion auxiliaries have been identified in pentl'ach, *çō/çū* meaning 'go' and *mē* meaning 'come'. Looking at related languages, it seems likely that the pentl'ach *çō/çū*, is cognate with the same auxiliary as ʔayʔaǰuθəm (Island and Mainland), and Shishálh. However, *mē* appears more likely to be cognate with Hul'q'umi'num', həńq̓əmiṅəḿ, and Sḵwx̱wú7mesh sníchim. In terms of the functions that these auxiliaries serve, it seems that there are examples in pentl'ach that align with the many functions described in sister languages. However, there are also instances where the translations suggest that one motion auxiliary may also take on the function that sister languages associate with the other auxiliary. Lastly, a review of the syntax surrounding motion auxiliaries reveals that there is more to be learned about the types of constructions that are attested in pentl'ach. More research is needed to understand the meaning of surrounding words and morphemes in order to develop a knowledge of grammatical motion auxiliary usage in the context of these stories.

Another possible path for other future research could include to review of the materials relative to the German translated versions of the stories (Boas, ca. 1890, pp. 95–103) which indicates amended orthographic decisions and could provide additional insight with regard to the English translations. Alternatively, one could try to analyse the variation between *çō* and *çū*, to determine whether

anything, phonological or otherwise, was conditioning these changes. Regardless of the future directions of this work, I hope that the discussion above and the materials shared with pentl'ach team serve as a source to develop and explore new questions and understandings of pentl'ach motion auxiliaries for the communities today who are working to bring their language back into use.

References

Anderson, G. D. S. (2006). *Auxiliary verb constructions*. Oxford University Press. https://doi.org/ch7kqk

Anderson, G. D. S. (2011). Auxiliary verb constructions (and other complex verb types): A functional-constructional overview. *Language and Linguistics Compass*, *5*(11), 795–828. https://doi.org/dzxmqd

Beaumont, R. C. (2011). *Sechelt dictionary*. Sechelt Indian Band.

Boas, F. (ca. 1890). *Pentlatch materials*. American Council of Learned Societies Committee on Native American Languages, American Philosophical Society (Item S2j.3), American Philosophy Society, Philadelphia, PA, United States.

Boas, F. (ca. 1910). *Comox and Pentlatch texts*. American Council of Learned Societies Committee on Native American Languages, American Philosophical Society (Item S2j.1), American Philosophy Society, Philadelphia, PA, United States.

Boas, F., Bouchard, R., Kennedy, D., & Bertz, D. (2006). *Indian myths & legends from the North Pacific coast of America: A translation of Franz Boas' 1895 edition of Indianische Sagen von der Nord-Pacifischen Küste Amerikas*. Talonbooks.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, *Tri-Council policy statement: Ethical conduct for research involving humans*, December 2018.

Czaykowska-Higgins, E. (2009). Research models, community engagement, and linguistic fieldwork: Reflections on working within Canadian Indigenous communities. *Language Documentation & Conservation*, *3*(1), 15–50. http://hdl.handle.net/10125/4423

Discover Vancouver Island. (n.d.) *Hornby Island*. https://www.discovervancouverisland.com/regions/gulf-islands/hornby-island/

First Nations Information Governance Centre. (n.d.). *The First Nations Principles of OCAP*®. https://fnigc.ca/ocap-training/

Gardner, S.E.B. (2012). The four R's of leadership in Indigenous language revitalization. In C. Kenny & T.N. Fraser (Eds.) *Living Indigenous leadership: Native narratives on building strong communities* (pp. 125–135). UBC Press.

Hess, T. (1979). Central Coast Salish words for deer: Their wavelike distribution.

International Journal of American Linguistics, *45*(1), 5–16. https://doi.org/10.1086/465569

Harris, H. R. (1981). *A grammatical sketch of Comox*. [Ph. D. disseratation, University of Kansas]. ProQuest.

Jacobs, P. & Jacobs, D. (2011). *Skwkwú7mesh sníchim xwelíten sníchim : Skexwts Squamish-English dictionary.* University of Washington Press.

Kinkade, D. (2008). The Pentlatch myth corpus. In M. T. Thompson & S. M. Egesdal (Eds.) *Salish myths and legends: One People's stories* (pp. 84–103). University of Nebraska Press.

Kiyosawa, K., & Gerdts, D. (2010). *Salish applicatives.* Brill.

K'ómoks First Nation. (n.d.) *Cultures*. https://komoks.ca/cultures/

Lamont, M. W., Krise, E. C., James, A. J., Sam, E., Beck, D., & Hess, T. (2014). *Tellings from our Elders: Lushootseed Syəyəhub.* UBC Press.

Leonard, W., & Haynes, E. (2010). Making "collaboration" collaborative: An examination of perspectives that frame linguistic field research. *Language Documentation & Conservation 4,* 268–293. http://hdl.handle.net/10125/4482

Lukaniec, M. (2022). Managing data from archival documentation for language reclamation, In A. L. Berez-Kroeker, B. McDonnell, E. Koller, & L. B. Collister (Eds.), *The open handbook of linguistic data management* (pp. 315–325). The MIT Press. https://doi.org/gnzrxm

Rice, K. (2018). Collaborative research: Visions and realities. In S.T. Bischoff & C. Jany (Eds.), *Insights from practices in community-based research* (pp. 13–37). De Gruyter Mouton. https://doi.org/hwsp

Schneider, L. (2021). Classifying multi-verb constructions in Hul'q'umi'num' Salish. *Papers for the International Conference on Salish and Neighbouring Languages 56*, 392–409.

Suttles, W. (2004). *Musqueam reference grammar.* UBC Press.

Vance, E. (2019, December 30). 'Breathing new life' into language culture in the Qualicum First Nation and beyond. *Vancouver Island Free Daily.* https://www.vancouverislandfreedaily.com/news/breathing-new-life-into-language-culture-in-the-qualicum-first-nation-and-beyond/

Visit Denman Island. (n.d.) *History*. https://visitdenmanisland.ca/about-denman-island/history/

Watanabe, H. (2003). *A morphological description of Sliammon, Mainland Comox Salish with a sketch of syntax.* Endangered Languages of the Pacific Rim.

Wilson, S. (2007). Guest editorial: What is an Indigenist research paradigm? *Canadian Journal of Native Education 30*(2), 193–195. https://doi.org/h63c

Appendix A

A	B	C	D	E	F	G	H
Page	Line	Role	Proposed Function	Full construction	Pentlatch	English	Note
22	1	V	main verb (lexical)	V + DET + INTRANS.SUBJ + V	Çōti Smamunā'tc yūā'c.	He goes Pitch fishing.	ti is likely the ART before Pitch yūā'c is "to fish with hook" (p. 10) or "to angle" (p. 27) of S2j3.
22	4	V	main verb (lexical)	ADV + V + LOC + DET + INTRANS.SUBJ	Lxstō çō тciā'o te ɬāx́ɬai	Then goes to the beach	
22	5	V	main verb (lexical)	ADV + V + LOC + DET + INTRANS.SUBJ	Lxstō çō тciā'o te tc'iē'ɬpai	Then goes to the beach	
22	6	V	main verb (lexical)	ADV + V + LOC + DET + INTRANS.SUBJ	Lxstō çō тciā'o te p'ā'lamai	Then goes to the beach	
22	8	V	main verb (lexical)	ADV + V + LOC + DET + INTRANS.SUBJ	Lxstō çō тciā'o ti t'ā'tcamāi.	Then goes to the beach	
23	1	V?	motion away	AUX + V	Çō'koaqătē'm	they went	
23	2a	V	main verb (lexical)	V+ INTRANS.SUBJ	Çō'u ta smayā'ō.	He comes the beaver.	
23	2b	AC	motion away	AUX + V + OBJ	Çō ēmā'cia āte slɬā'nai.	he went to get a woman.	
23	3	AC	happens just now	AUX(infl?) + V	Çō'u ɬuq a te slɬā'nai.	he finds a woman.	unclear of function of 'u on or after çō. If AUX, I wouldn't expect morphology on çō.
23	4a	AC	future/going to do	ADV + AUX + V + ?	Lxs tō çu ā'xis qā yū'sōtem	n/a	
23	5	AC	motion toward	AUX + V + DET + LOC + DET + POSS	Çō mē'uten te ɬɛ'msтats ti cтcī'as.	he comes back to the house of his grandmother.	mē'uten translated as "to arrive" p. 4 of S2j3
23	8	AM	motion toward?	AUX + V + DET + INTRANS.SUBJ	Mē lā'tcam ta stō'lao.	It rises the river.	la'ts'am "river rises" in German/Pentlatch list
23	9	AM	motion toward?	AUX + V + DET + INTRANS.SUBJ	...mē lā'tcam ta stō̈'lao, lqstō mē lā'tcam tē stō̈'lao.	...rises the river and still rises the river.	la'ts'am "river rises" in German/Pentlatch list
23	10	AM	unclear	AUX + V+ OBJ	Mē tī'tctē sēxnā'tcia.	It covers the trees fallen over.	
23	13	AC	motion away	AUX + V + DET + INTRANS.SUBJ	Çu ɬā'atem a te smayā'ō.	he goes the beaver.	
24	2	AC	unclear	AUX + V + DET + INTRANS.SUBJ	Çō tam ta snō'yan.	said the beaver.	Function = direction of speech?
25	1	AC	becoming	DET + AUX + V + DET + INTRANS.SUBJ	Ti çō sxuō'm ti k'ōɬkō.	it becomes dry the ocean.	DET before AUX? sxuō'm looks like "dry (bark)" quō'm p. 11 S2j3 (PtoE) cf. tc'ē'iq dry from p. 62 S2j3 and p. 25 line 5 of S2j1
25	2	AM	becoming?	PRON + V + ?? + AUX + V	Wuɬ texunē'xuas wuciā'aт mē t'ā'yaq.	He knows that god is angry.	come + angry (t'ayaq "angry' in German-Pentlatch) t́éyəq̓ 'get angry' in hən̓q̓əmin̓əm̓ (Suttles, 2003: 146)
25	6a	AC	motion away	AUX + ? + V + DET + OBJ	Çu la mātā'm ātā spēp'açūt.	They went to get fish.	ma'at "he takes" in German/Pentlatch wordlist?
25	6b	AC	unclear	AUX + ?? + V + DET + ?? + V	Çū lā matā'm a kums ēɬten.	They get them to eat.	
25	8	AM	motion toward?	AUX(infl?) + V + INTRANS.SUBJ	m̥ēc mē'xlaqaɬ mēlā!	comes back the water	
25	9b	AM	motion toward?	AUX + V + INTRANS.SUBJ + ADV + V + OBJ	Mēlɛтc ti kuō'ɬkō lxstō mēmēxтi smē'i.	it rises the ocean and floods the land.	
25	11	AC	motion away	ADV + AUX + V + DET + OBJ	Mēlɛтc ti kuō'ɬkō lxstō mēmēxтi smē'i. (...) xuaxō'xuas qa çō tsupxoā'leq ti smɛnmā'niт.	It rises the ocean and floods the land. (...) not long it reaches the mountains.	
26	1	AC	future/going to do	AUX + V	çū amā'acsuт	he goes to anker	
26	3	AC	becoming	AUX + FUT? + V	çucɛmqu'l'ɛl.	It becomes dry.	go + FUT + dry?
26	4	AM	motion away	ADV + AUX + V + OBL?	Lxstō mēs pɛɬɛmтɛm tē'tce	Then they are torn away by the current.	this sounds like motion away from?
26	8	AC	becoming	AUX + V + DET-INTRANS.SUBJ	Çō cxōum tismē'i.	It became dry the land.	
26	12a	V	main verb (lexical)	AUX + DET + INTRANS.SUBJ + V	Çō ti sтā'axuaɬ to tsō'ēɬ.	Goes a young man to shoot.	actually two clauses? NP unexpected between AUX and main verb 'shoot'

A	B	C	D	E	F	G	H
Page	Line	Role	Proposed Function	Full construction	Pentlatch	English	Note
26	12b	AC	motion toward	AUX + V + LOC + INTRANS.SUBJ	çō ɬeq te тō'lēl stɑ̄'axuaɬ.	he comes to water the youth.	
26	13	AC	motion away	AUX + V + DET + DET + OBL?	Çō тc'ī'qēm te ta to'ō'mēтs.	It hits the mark the arrow.	refers to motion of OBJ?
27	4	AM	happens just now	V + NEG + AUX + V	Kuī'xtas qaxuɑ̄'was mēsɬē'xēm.	he shakes it not it falls.	mēsɬē'xēm is mē ('come')+ ɬē'xēm ('come down')
27	6a	AC	motion away	ADV + AUX + V	Lxsтō çu ciɑ̄'a.	Then he goes up.	
27	6b	AC	unclear	ADV + AUX + V	Qalqu çō tcimx	then he disappears	
27	7a	AC	motion away	AUX + V + INTRANS.SUBJ	Çu yō'o te jō'i.	He goes home the boy.	
27	7b	AC	motion away	DET + AUX + V + LOC	Ti çu mē'ut tɑ̄ ɬɛ'msтans.	He reaches his home.	DET before AUX?
27	9a	AC	motion toward	AUX(infl?) + V + DET + LOC	Çum ciɑ̄'ɬ a ti skuɑ̄'gil.	He comes to the sky.	Is <m> at end inflectional? If yes, not AUX?
27	9b	AC	motion away	ADV + AUX + ?? + V	Lxsтō çō s wētcuaɬ	Then he goes	
27	12a	AC	motion away	DET + AUX + V +	Ti çō ē'māi qī'ē.	He goes further.	DET before AUX?
28	5	AC	motion away		içō'tel: çōtcx wē'tcuaɬ	she says: go further	içō'tel -- is this çō inside? Is it merging "go + say"
28	6	AC	future/going to do	AUX + FUT? + V + DET + LOC	Çō sētc ɬɛxuaɬa ta sɛlɑ̄'ɬ	You will arrive at a lake.	
28	7a	AM	future/going to do	AUX + FUT? + V	Mēsē lō'lōm	They will sing	
28	7b	AM	motion toward	AUX + FUT? + V	mē'csē cōk'ōm	they come to wash.	
28	13	AC	motion away	PRON + AUX + V + DET + LOC	çē çō yō'otōm auwa sɬɛ'mstans.	they go together to her house.	çē = they? comes before AUX? yō'o is not translated in wordlists, but use in stories seems to indicate return (often to home)
29	1	AC	motion away	AUX + V + DET + OBJ	Çō mɑ̄aтō'm a ɬa Yīnisɑ̄'aq	He goes to take Yīnisɑ̄'aq	
29	2	V	main verb (lexical)	V + DET + INTRANS.SUBJ	Çō ɬa ju'xjux.	She goes the second one.	
29	3a	V	main verb (lexical)	ADV + AUX(infl?) + INTRANS.SUBJ	Qa çō'ūɬ ɬa qatē'e.	She goes the youngest one.	
29	3b	AM	motion away	ADV + V + AUX + V	Qē ɑ̄nūɬ mēnuē'lem.	He takes the hand they go in	
29	8	AM	becoming	AUX + V	Mēnɑ̄'t.	It gets dark.	AUX come + be dark?
29	10	AC	future/going to do?	ADV + AUX + V + DET + DET + OBJ	Lxstō çosɑ̄'xis a ɬa qatē'e.	and he goes to sleep with the youngest one.	
29	14	AC	future/going to do?	AUX + V + DET + DET + OBL	Çō ɑ̄'mōt a ta hē'xkōp.	He goes to sit at the fire.	
30	3	AC	future/going to do?	AUX(infl?) + V	Çōkua ɬɑ̄'tctas.	She goes to put it in front of him.	kua?
30	4	AC	future/going to do?	PRON + AUX + V + ADV	Tu çus ɑ̄'xīs qīē.	He goes to sleep again.	
30	5	AC	motion away	AUX + V + INTRANS.SUBJ	Çō tciɑ̄'oтxuas Yīnisɑ̄'aq	he goes to carry down Yīnisɑ̄'aq	
30	6	V	main verb (lexical)	V + INTRANS.SUBJ	Çō ɬa ju'xjux.	She goes the second one.	
30	7	V	main verb (lexical)	V + INTRANS.SUBJ	Çō ɬa qatē'e.	She goes the youngest one.	
30	8a	AC	motion away	AUX + V	Çō ctciɑ̄'ōtxuas.	She carries him to shore.	
30	8b	AC	motion away	AUX + V + DET + DET + LOC	Çō ō'loltoas atasnɛxuiɬ.	She carries him into the boat.	
30	9	V	main verb (lexical)	V + LOC	Çum ɬaɬ	They come to shore.	Is <m> at end inflectional? If yes, main verb and ɬaɬ is OBL locative?
30	12	AC	motion away	V + DET + INTRANS.SUBJ + AUX + V + ADV + V	Yō'o ta jō'i çu ɬuē'tsams, T'u̥xтē'em t'ēt'ē'xēm.	Beautiful the boy he throws off the blanket, again like the sun.	refers to motion of OBJ?
31	1	AC	motion away	AUX + V + DET + LOC	Ço ɬeq toi tō'lil.	He goes out on the water.	
31	3	AC	motion away	AUX + V + DET + LOC	Ço ɬeq ta tō'lil.	He goes out on the water.	
31	6	AC	motion away	AUX + V + DET + LOC	Ço yō'o te sɬɛ'msтans.	He goes into the house.	
31	7	V	main verb (lexical)	ADV + V + LOC	Lxsтō çoc ɬxumēts	Then he goes out	

A	B	C	D	E	F	G	H
Page	Line	Role	Proposed Function	Full construction	Pentlatch	English	Note
31	9	V	main verb (lexical)	ADV + PRON + V + INTRANS.SUBJ + LOC	Qĭē tu çō ɬa juxjux ɬxumē'lc.	also goes the second one out.	
31	11a	AM	motion away?	AUX + V	Mɲuë'lem.	He goes in.	come + come.in
32	1	AC	motion away	AUX + V + DET + LOC	Ço xe'qēçūt to çɛlā'ɬ	he goes to bathe in the lake.	
32	4	AM	motion away?	AUX(infl?) + V	Mēla nuë'lam.	He goes in.	mela
32	6	AM	motion away?	V + V + AUX + V	Kuō ɬ mē'utmēɲaë'lem.	He comes he goes inside	
32	12a	AM	motion away	ADV + AUX + V	Qā mē ō'maqcтen.	And he carries him away.	
32	12b	AM	unclear	AUX + V + DET + DET + LOC	Mē kuā'atɛm a ta sтaltēmī'x.	He is on the other side.	come throw.down on the other.side this sounds like motion away from?
32	14	AC	motion away	AUX + V + DET + DET + LOC	Çō ɬā'atem a te sтāltemɛ'x.	they go to the other side.	lʷā'at "to come" p. 27 of Pentlatch to Eng wordlist
33	1a	AC	motion away	AUX + V + ADV + INTRANS.SUBJ	çum ɬalt tetcɬ nuquā'lmix.	They go over all his people.	
33	1b	AC	unclear	AUX + V + V + ADV + NEG + V	çū q'oēt tɛm qa xuā'was lō'menōit.	they go to shore and nothing they see.	
33	7	AM	motion toward	AUX + V	mē'iyō'ō.	they come home.	
33	8	AM	unclear	AUX + V + ADV + DET + INTRANS.SUBJ	Mēnuē'tem ētē'eт тe sqā'lmix.	They are inside all the people.	
33	12	AC	future/going to do?	AUX + V + DET + INTRANS.SUBJ	Çō ɬā'alt ti squ'tsqauiɬ.	he goes to fetch food the raven.	lʷā'alt "to fetch food to " p. 27 of Pentlatch to Eng wordlist
33	13	AC	future/going to do?	ADV + V + AUX + V	Lxstō hōgyā'as çō ɬā'al.	and he carries into the boat he goes to fetch food.	
33	14	AC	motion away	AUX + V + DET + DET + LOC	çō ɬā'lilc a to xuiqē'eq.	he goes to shore at the point of land.	
34	1	AC	motion toward	ADV + AUX + V + DET + DET + LOC	ɣems çō ɬeq ats xuiqē'eq	when we come to the point of the land	

Appendix A. Line by line analyses of motion verbs

Abbreviations used in this appendix: ADV = adverb, AUX = auxiliary, DET = determine, FUT = future, INTRANS = intransitive, LOC = location, NEG = negation, OBJ = object, OBL = oblique, POSS = possessor, PRON = pronominal clitic, SUBJ = subject, V = lexical verb

Grammatical suffixes in pentl'ach

Shankhalika Srikanth
University of Victoria
ssrikanth@uvic.ca

The aim of this project was to conduct an analysis to support reconstruction of pentl'ach grammatical suffixes in collaboration with Qualicum First Nation, using 1) Boas documentation and 2) the comparative method by identifying cognates in neighbouring Salish languages. As of now, I have identified three potential verbal inflectional suffixes: the middle voice, control-transitive, and 3rd person ergative. I followed four steps in my work. First was partial transcription of the stories in the Boas documentation. The second was identifying and tracking all verb forms in the stories. Next, I tried to identify verb roots and grammatical suffixes. Finally, I consulted grammars of neighbouring related languages to identify cognates with the forms I had identified. More work on the last step is required to strengthen the analysis.
Keywords: pentl'ach; Salishan languages; morphology, community-based language revitalization

1 Introduction[1]

The aim of this project was to conduct an analysis to support reconstruction of pentl'ach grammatical suffixes in collaboration with Qualicum First Nation, using 1) Boas documentation and 2) the comparative method by identifying cognates in neighbouring Salish languages. In this paper I will discuss three potential grammatical verbal suffixes: the middle voice, control transitive, and 3rd person ergative forms.

In the following sections I will go over the language background of pentl'ach, followed by my methodology, methods, and the relevant ethical implications of this project. I will then provide a summary of my analysis of the aforementioned grammatical suffixes, followed by the limitations of this work. Finally, I will briefly discuss next steps.

[1] Thank you to the Reawakening pentl'ach team for the opportunity to do this collaborative work. Please see Andreatta et al. (this volume) for an overview of and invitation to support the Reawakening pentl'ach project. Thank you to Suzanne Urbanczyk for all your guidance and support, as well as to my peers in LING531/431 for their work and feedback. A final thanks to the anonymous reviewers of this journal for their comments and suggestions.

2 Language background

pentl'ach is a Central Salish language spoken on the land that is sometimes called Vancouver Island. pentl'ach is the ancestral language of the pentl'ach people. It is the ancestral language of Qualicum First Nation and some members of K'ómoks First Nation. It is closely related to neighbouring languages ʔayʔaǰuθəm (Comox), Shishálh (Sechelt), Skwxwu7mesh (Squamish), and Halkomelem. Its status is currently defined as reawakening, and one of the goals of the reawakening project is to have this status recognized by Canadian institutions as well.

3 Methodology

In this section I will elaborate on the framework and methodology underpinning my work. In the next section, I will go into more detail about the specifics of the materials and methods I employed to do the work.

I endeavoured to situate the work in an Indigenist research paradigm, which is a way of describing and doing research in a relational context (Wilson 2007). I also chose to ground the work in the "4 R's", which are a set of shared values: respect, relevance, reciprocity, and responsibility (Kirkness & Barnhardt, 1991, as cited in Gardner, 2012). Gardner (2012) describes how the "4 R's framework" can be a useful way of describing how grassroots language revitalization work is conducted. I detail below how I tried to incorporate the 4 R's into my work.

Respect: I wished to show respect for the language, culture, and histories of the pentl'ach peoples by including all verb forms within their context rather than pulled out of context, as recommend in Lukaniec (2022). When compiling a spreadsheet of all the verb forms I was able to identify in the stories, I made sure to include a column with the entire sentence in which a given verb form was found, along with the translation of the entire line. When doing the analysis, I looked at how the forms were used in the context of the story rather than in isolation. This was made especially easier by cross-comparing Boas's texts with Kinkade's rewriting of the stories in a more naturally flowing English (Kinkade, 2008).[2]

Relevance: I picked the focus of my research from topics suggested by the Reawakening pentl'ach team, so as to ensure my final analysis would have relevance to their larger community language plan. This is a key element of the Indigenist research paradigm as well, i.e., "The reason for doing the research must be one that brings benefits to the Indigenous community" (Wilson, 2007, p.195).

Reciprocity: I am contributing to a community-led project, led by Qualicum First Nation, rather than working solely as an outsider linguist. The goals are defined by the community, rather than by abstract, decontextualized goals I may have about researching linguistic theory. In this way, I am also grounding this work in the framework of community-based language revitalization (CBLR), as defined by Czaykowska-Higgins (2009), as well as other scholars.

[2] Thanks to Erin Hashimoto for suggesting this resource.

Responsibility: I acknowledge my privilege as a settler and as someone with linguistics training, and recognize that I have a responsibility to put that training to use in this project to support larger community goals of reconstruction. I take responsibility for the goals I said I would achieve- though I wasn't able to attain them to the extent I was hoping, I hope that my results will still be of some help in the overall project.

4 Methods

In this section I detail the materials I worked with as well as the methods I used for my analysis.

This project was a collaborative effort with peers in the (Researching) Community-Based Language Revitalization course, and so all materials were shared via Microsoft Teams. All files referenced below that I created as part of my analysis were shared on Teams.

I worked primarily with the Boas documentation from the American Philosophical Society (APS) that is part of the ACLS collection, specifically the stories included in pg. 58-70 of "Item S2j1 Comox and pentl'ach texts". I also briefly referenced the English wordlists in the yellow pages of "Item S2j3 pentl'ach materials" and the German wordlists in the white pages (as revised by Anna Moffat).

At the start of my project, I transcribed some pages of the stories. Erin Hashimoto had already transcribed 75% of the stories and developed some conventions for this that I followed in transcribing the remaining 25%.

The second step was for me to read through the stories to highlight and track any forms that appeared to be functioning as verbs. I first identified forms as verbs based on their English glosses. Then, as I became more familiar with the texts, I was able to identify some forms as being similar to earlier forms and included these even if their English gloss didn't necessarily seem to operate as a verb. I worked collaboratively with Erin Hashimoto in this last step, as we compared forms that seemed to interact with motion auxiliaries; see Hashimoto (this volume) for a detailed discussion of the latter. She was able to point out some verb forms to me that I had missed in my initial pass of the texts.

As I highlighted these verb forms, I created a spreadsheet to keep track of them. The tracking process was as follows: First, I included information on where the forms came from in the first few columns. I then included the entire sentence in which the verb form was found, and the English gloss of the sentence in the next two columns. I then attempted to isolate the verb phrase. This sometimes included other grammatical content in addition to just the verb, such as pronouns or locatives, as I was not confident enough in my understanding of the morphology and syntax to isolate just the verb. Finally, I included a column marking the semantic "sense" of the verb stripped of extra grammatical information, to compare to other forms with similar meaning later. For example, verb phrases translated as "he eats", "eats it" and "ate" would all be tracked with the unmarked sense "eat". In the very last column, I included additional notes. These were generally notes

about the analysis of the verb, questions about how to analyse the form, making note of any uncertainties I had in the analysis of the example, or notes about any potential cognates of the form in other languages.

In my third step, I tried to identify verb roots and identify grammatical suffixes. This was a cyclical process, as identifying verb roots made it easier to isolate suffixes, and vice versa. Ultimately my goal was to identify grammatical suffixes. So, where possible, I tried to focus on this rather than isolating verb roots. To do this step, I used the spreadsheet to filter for individual senses. I then compared the different forms that appeared with a given sense and tried to see if there were any obvious surface-level patterns that I could work with. I will elaborate more on this step and its limitations in the section on the analysis.

My final step was to consult dictionaries and grammars of neighbouring related languages to learn more about potentially shared morphological/syntactic features that could be at play, as well as to identify cognates with the forms I identified. The Mainland Comox grammar (Watanabe, 2003) was very useful in detailing different suffixes.

5 Ethical considerations

In doing this work, I followed the ethical guidelines laid out by OCAP®[3] (Ownership, Control, Access, Possession), which are a set of principles that assert First Nations data sovereignty and control over data collection. I will detail here how I have taken each principle into consideration in my research.

Ownership: The documentation used is in the public domain and held by the APS and thus not owned by me. The Reawakening pentl'ach team invited students in our course to work with these materials to support the reawakening process, and has given permission for this paper to be published in this journal. I recognize and acknowledge that all cultural property rights belong to Qualicum First Nation for doing this work, and that I do not retain property rights or copyright for the results of this work and all materials that were created.

Control: I do not retain control over any of the analysis of the data or materials created. All relevant findings and materials have been submitted as part of the requirements of the course, and were subsequently compiled and forwarded over to the control of the Reawakening pentl'ach team of Qualicum First Nation for their use.

Access: I worked together with the rest of the project team in the class to make sure our respective projects were coherent, and there was no duplication of work. We endeavoured to make our work as complementary as possible to make the analysis accessible when passed on to the Reawakening pentl'ach team. I used commonly-used file formats such as Word docs and Excel spreadsheets to minimize the chance of any members of the team not being able to access my work on their devices. In the copy of the analysis that I have given to the team, I have

[3] https://fnigc.ca/ocap-training.

included a guide to using the verb forms spreadsheet I created that was mentioned in section 4, in order to make consulting that material easier.

Possession: I have not retained and will not retain exclusive possession of any of the analysis. The results of my analysis, including the verb forms spreadsheet, have been given to the Reawakening pentl'ach team, along with my contribution to the transcription of the stories.

6 Analysis

The primary suffixes I've identified as of now are the middle voice, the control transitive, and the 3rd person ergative suffixes. All examples included in this section are taken from the pentl'ach stories in the manuscripts as documented in Boas (1910).

6.1 Middle Voice: /- Vm/

This middle voice suffix is described in detail in the morphological description of ʔayʔaǰuθəm, a neighbouring language related to pentl'ach. Phonologically, it is described as consisting of a phonemic vowel followed by /m/. It is described as having two functions. The first is to "express events and states in which no energy or immediate effect is exerted on another entity", and the second is to express events where the immediate effect is exerted on the subject itself, rather than an external entity (Watanabe, 2003, p.192).

Both of these related functions can be seen in examples taken from the pentl'ach stories, in verb forms that appear to carry a suffix of the same form. See (1) of a verb form describing an event that has no effect exerted on another entity:

(1)[4] Mē lā'tcam ta stō'lao

Mē	lā'tc	-am	ta	stō'lao
come	*rise*	*-MV*	*the*	*river*

'It rises the river'

(Boas, 1910, p. 23, line 9)

The river is rising, but in the context of this sentence appears to affect no external entity. Conversely, see (2), where the ocean rises and floods the land:

(2) MēlETc ti kuō'ɬkō lxstō mēmēxTi smē'i.

Mē	-lETc	ti	kuō'ɬkō	lxstō	mēmēx	Ti	smē'i
come	*-rises*	*the*	*ocean*	*and*	*flood*	*the*	*land*

'It rises the ocean and floods the land.'

(Boas, 1910, p. 25, line 8)

[4] The following abbreviations are used in this paper: MV = middle voice, CTR = control transitive, 3ERG = 3rd person ergative.

Here, the action of water rising *does* have an effect on something else: as a result of the ocean rising, the land is flooded. I am hypothesizing that this is why the verb does not carry the middle voice suffix in this example.

See now (3), one where the action connoted by the verb does have an effect, but it is reflexive on the subject carrying out the action himself rather than an external entity:

(3) Kuē'xenaɪcim ta jō'i.

Kuē'x	-enaɪc	-im	ta	jō'i
shakes	*-?*	*-MV*	*the*	*boy*

'He shakes himself the boy.'

(Boas, 1910, p. 31, line 3)

Here, the subject of the sentence (the boy) is doing an action that has an effect on himself and nothing external, and so I hypothesize that this is fulfilling the second function of the middle voice as described in the ʔayʔaǰuθəm grammar, which is to express a reflexive.

6.2 Transitives: control /-t/

Four different types of transitive suffixes are discussed in the ʔayʔaǰuθəm grammar referenced above. I will only discuss the control transitive, which is used when the subject has control over the action they are doing (Watanabe, 2003, pp. 202-203). In ʔayʔaǰuθəm, this suffix is described as having the form /-t/. I found some forms in the stories that appear to carry this suffix and match the function described in the ʔayʔaǰuθəm grammar. See (4). The gloss for this example was taken from Kinkade (2008, p. 91).

(4) Kuī'xtas qaχuā'was mēsłē'xēm.

Kuī'x	-t	-as	qaχuā'was	mē	-słē'x	-ēm
shake	*- CTR*	*-3ERG*	*not*	*come*	*-falls*	*-MV*

'He shakes it and it does not fall down.'

(Boas, 1910, p. 27, line 4)

In this example we see the verb root followed by [-t] and then followed by [-as]. Since the context specifies that the subject "he" is shaking "it", an external object, I am proposing that the [-t] is a control transitive marker as in ʔayʔaǰuθəm. Following this suffix, we see word-final [-as], which I am proposing is a 3rd person ergative marker, marking the 3rd person subject of this transitive sentence. I will discuss this suffix more in the next section.

6.3 Pronominal subject markers: 3ERG

Central Salish languages have a split-ergative system. In ergative morphology, the subject of a transitive verb is grammatically differentiated from the subject of an intransitive verb. Instead of matching the subject of a transitive verb, (as it does in English), the subject of an intransitive verb grammatically parallels the object of a transitive verb. In ʔayʔaǰuθəm, the ergative is used for marking the subject of most transitive sentences, and is marked with the suffix /-as/ (Watanabe, 2003, p. 52). This same suffix seems to appear several times in the pentl'ach stories as well, as seen in (5):

(5) Tā'tim qē mā'lx̣uas.

Tā'tim	qē	mā'lx̣u	-as
she.gives	*??*	*take*	*-3ERG*

'She gives he takes it.'

(Boas, 1910, p. 28, line 1)

In this example, the transitive verb "to take" is marked with the 3rd person ergative to show that it is a transitive verb with a 3rd person subject "he". Review also (3) and (4) from before (repeated below). The same verb ("to shake") appears in both, but in (3) the verb is functioning as an intransitive (since the verb is acting reflexively on its subject) and we see no word-final [-as]. Compare this to (4), where the verb is functioning as a transitive and does have word-final [-as] at the end. This contrastive distinction seems to be evidence that pentl'ach is following an ergative system and that /-as/ is likely a third person ergative marker.

(3) Kuē'xenaɪcim ta jō'i.

Kuē'x	-enaɪc	-im	ta	jō'i
shakes	*-?*	*-MV*	*the*	*boy*

'He shakes himself the boy.'

(4) Kuī'xtas qax̣uā'was mēsłē'xēm.

Kuī'x	-t	-as	qax̣uā'was	mē	-słē'x	-ēm
shakes	*- CTR*	*-3ERG*	*not*	*come*	*-falls*	*-MV*

'He shakes it and it does not fall down.'

7 Limitations

My analysis is severely limited by what I was able to do in a fixed amount of time. I will detail here the assumptions and remaining questions I have, so that the team will be able to replicate and verify my results going forward.

7.1 Background knowledge

I came into this project with no formal knowledge of the structure or sounds of Salish languages, and very limited knowledge of pentl'ach culture, and so I lacked a lot of the background knowledge that might have made analysis easier. Language and culture are inextricably intertwined, and so having a broader understanding of the linguistic and cultural context of pentl'ach would no doubt have enabled me to produce a fuller, more confident analysis. With more time and collaboration, I would be able to familiarize myself more with both the language and the culture within which the language lives. I believe this knowledge was the component that was most lacking for me when working on this project.

7.2 Transcription

Transcribing the texts brought up a lot of areas of uncertainty. In addition to the possibility of misinterpreting Boas's handwriting, there was also some confusion in deciding how much of the variation that was in the characters to represent. As Erin Hashimoto did the bulk of the work developing the conventions we used, I won't touch on the details; see Hashimoto (this volume). The key questions we had were when we saw words that seemed like they should be identical based on their form and gloss, but would have slight differences in transcription (for example, a "ᴛ" in one instance and a "t" in another.) It was unclear whether this difference was a marker of: variations that Boas was hearing; inconsistency in his own transcribing conventions; Boas mishearing the sounds of the languages; or, a significant phonemic distinction. Since we weren't sure, we kept in all the variations that we could see.

7.3 Sound correspondences

Most of my comparative work was with Mainland Comox Salish. I relied on the sound correspondences detailed in Galloway (1988, p.299) to compare forms. The limitation here is that I cannot depend on the orthographical conventions of Galloway matching those of Boas. This would heavily depend on each person's individual conventions with respect to their choice of characters and diacritics, and also on how broad or narrow each person's phonetic transcription was, i.e., how much phonetic detail each individual included. The hope is that the conventions are similar enough to justify comparison.

7.4 Verb structure

As I was unfamiliar with the morphology and syntax of Salish languages, this made it difficult to analyse the structure of the forms I was seeing. I have had to make assumptions about what the verb roots could be, simply based on the forms I was able to see in the texts. Thus, it is possible that I may have isolated the verb root incorrectly at times, which would affect my analysis of what the suffixes that

follow it are. With more time, I would address this limitation by trying to find the verbs in "unmarked" form in the wordlists, or trying to find cognates for them in other related languages. This way I could isolate which parts are truly operating as suffixes and are not part of the root.

7.5 Cognates

The suffixes I proposed are based on the assumption that suffixes in pentl'ach are cognate to those found in Mainland Comox Salish. The suffixes I have proposed could be further supported by evidence from other texts (such as the pentl'ach wordlists), or cognates from other neighbouring related languages.

8 Next Steps

Next steps would be to address the limitations described above. I believe this involves three main components: 1) Learn more about Central Salish language structures, pentl'ach culture, and other Coast Salish nations' cultures. 2) Consult the Boas wordlists to find the unmarked versions of the verb forms I have identified in the stories, in order to isolate verb roots, and 3) Consult the dictionaries and grammars of other related languages to find cognates for verbs and suffixes.

This last step could be achieved by consulting Skwxwu7mesh and Sechelt dictionaries to identify cognates of the unmarked forms (Beaumont, 2011; Jacobs et al., 2010). In order to do this, it would also be important to be familiar with sound correspondences in Central Salish, as are described in Galloway (1988). This second step would be a circular process, where looking for cognates in neighbouring languages would help the analysis of pentl'ach forms, and determining pentl'ach forms would help find corresponding cognates in neighbouring languages in order to support an analysis.

In sum, I have been able to work with the pentl'ach texts in order to identify and track verb forms in a systematic manner, and through doing this work I have proposed the existence of three different types of grammatical suffixes on the verbs. More work comparing forms to cognates in related languages is required to strengthen and verify these hypotheses.

References

Beaumont, R. C. (2011). *Sechelt dictionary*. Sechelt Indian Band.

Boas, F. (1910). *Item S2j.1 Comox and Pentlatch Texts*. ACLS Collection (Mss.497.3.B63c).

Czaykowska-Higgins, E. (2009). Research models, community engagement, and linguistic fieldwork: Reflections on working within Canadian Indigenous communities. *Language Documentation & Conservation*, *3*(1), 182–215.

Galloway, B. D. (1988). Some Proto-Central Salish sound correspondences. In W. Shipley (Ed.), *In honor of Mary Haas: From the Haas Festival Conference*

On Native American Linguistics (pp. 293–344). De Gruyter Mouton. https://doi.org/10.1515/9783110852387.293

Gardner, S. E. B. (2012). The four R's of leadership in Indigenous language revitalization. In C. Kenny (Ed.), *Living Indigenous leadership: Native narratives on building strong communities* (1st ed.). UBC Press.

Jacobs, P., Jacobs, D., & Squamish Nation Education Department. (2010). *Squamish-English dictionary*. University of Washington Press.

Kinkade, M. D. (2008). The Pentlach myth corpus. In M. T. Thompson & S. M. Egesdal (Eds.), *Salish myths and legends: One people's stories (Native literatures of the Americas)* (pp. 84–103). University of Nebraska Press. https://epdf.pub/salish-myths-and-legends-one-peoples-stories-native-literatures-of-the-americas.html

Kirkness, V. J., & Barnhardt, R. (1991). First Nations and higher education: The four Rs – respect, relevance, reciprocity, responsibility. *Journal of American Indian Education*, *30*(3), 1–15.

Lukaniec, M. (2022). Managing data from archival documentation for language reclamation. In A. L. Berez-Kroeker, B. McDonnell, E. Koller, & L. B. Collister (Eds.), *The open handbook of linguistic data management*. The MIT Press. https://doi.org/10.7551/mitpress/12200.003.0030

Watanabe, H. (2003). *A morphological description of Sliammon, Mainland Comox Salish: With a sketch of syntax*. Endangered Languages of the Pacific Rim.

Wilson, S. (2007). Guest editorial: What is an Indigenist research paradigm? *Canadian Journal of Native Education*, *30*(2), 193-195, 322.