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Edited by:
Marianne Huijsmans, Roger Lo, Daniel Reisinger,
and Oksana Tkachman

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The Fifty-Third International Conference on Salish and Neighbouring Languages

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Hosted by:
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Preface

This volume is composed of papers submitted to the 53rd International Conference on Salish and Neighbouring Languages, hosted by Whatcom Museum August 10–11th, 2018. In addition, this volume contains papers by Jonathan Janzen, Gloria Mellesmoen, and Hank Nater that will not be presented at the conference, but are nevertheless valuable contributions in the spirit of the conference.

Marianne Huijsmans
on behalf of the UBCWPL Editors

Expressing Future Certainty in Comox[1]

John Hamilton Davis
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Abstract: In addition to the normal future enclitic *sem* in Comox, there is a sequence of the two enclitics *sem* plus *t*. The difference is simple future versus a more emphatic future expressing the speaker's certainty that an event is sure to happen. When the simple future is contrasted with the sequence *sem* plus *t*, the rhetorical force of the simple future becomes seemingly tentative or hypothetical.[2] Also addressed are the Salish voiced stops and the origin of the name Comox.

Keywords: emphasis, Comox, Homalco, Sliammon

1   The simple future

The future is regularly expressed by the enclitic *sem* as follows:

(1)   a. *qwel'*   *chian*   *sem*   b. *qwel'*   *chiat*   *sem*
          [qʷʌlʔ   čʸɛn   səm]   [qʷʌlʔ   čʸɛt   səm]
          come   1SG.SBJ   FUT   come   1PL.SBJ   FUT
          'I will come.'   'We will come.'

       c. *qwel'*   *chiawh*   *sem*   d. *qwel'*   *chiap*   *sem*
          [qʷʌlʔ   čʸɛçʷ   səm]   [qʷʌlʔ   čʸɛp   səm]
          come   2SG.SBJ   FUT   come   2PL.SBJ   FUT
          'You'll come.'   'You'll come.'

       e. *qwel'*   *sem*
          [qʷʌlʔ   səm]
          come   FUT
          'He/she/it/they will come.'

These full form pronominal enclitics occur after one-syllable predicates. Reduced forms occur after polysyllabic predicates as well as in historically frozen forms. Here are the reduced forms.

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[1] The earliest documentation of this language was in 1857 by George Gibbs. See Section 6 of this paper.

[2] The data given herein were not elicited, but gleaned from interactions with native speakers from 1969 to 1980. Indeed, these data may not be amenable to elicitation.

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(2) a. *ho zem*[3]
　　　[ho tᶿəm]
　　　go 1SG.SBJ.FUT
　　　'I will go.'

b. *ho shtem*[4]
　　[ho štəm]
　　go 1PL.SBJ.FUT
　　'We will go.'

　c. *ho chwhem*
　　　[ho čçʷʊm]
　　　go 2SG.SBJ.FUT
　　　'You will go.'

d. *ho chiap sem*
　　[ho čʸɛp səm]
　　go 2PL.SBJ FUT
　　'You (PL.) will go.'

　e. *ho sem*
　　　[ho səm]
　　　go FUT
　　　'He/she/it/ they will go.'

The form *zem* is historically the */n/ of the first person singular marker /-an/ plus the future enclitic /səm/, yielding the first person future enclitic /tᶿəm/. This historical */n/ combines with the pan-Salish nominalizer /s/ to yield the first person singular possessive /tᶿ/.[5]

2   The future expressed by the two enclitics *sem* plus *t*

From 1969 to 1980, one of the methods that Mary George and I had for her to teach me her language was as follows. I would describe a hypothetical situation to her and she would tell it back to me in Sliammon. This is not the more common sentence by sentence elicitation, but is meant to obtain a Sliammon description of various scenarios. One description was of a non-existent fire on Harwood Island, a part of the Sliammon reserve. The description that Mary George gave contained the following sentence:

(3) *'ot sem ch'elh 'iy tl'aqw sem t te q'aq'twh*
　　[ʔot səm čɬ ʔɛy ƛaqʷ səm t tə q̓aq̓tçʷ]
　　if FUT rain and extinguish FUT [t] the (ongoing) fire
　　'If it rains, then the fire will go out.'

In this sentence, the plain future marker [səm] is opposed to the enclitic sequence [səm t] indicating certainty, higher likelihood. Mary George was definite that the

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[3] This transcription system is based on Davis (2005) and on Davis (2012) Section 11 *Spelling and Pronunciation*.

[4] Here [č] becomes [š] syllable initially before [t]. The same phenomenon is seen in Slavic languages.

[5] This analysis was initially noted by Wayne Suttles (personal communication). The ejective affricate /t̓ᶿ/ comes from historical /t̓ˢ/ but the plain affricate /tᶿ/ comes from historical */n+s/. The n+s is first person singular plus /s/ in the future suffix /səm/ or historical /s/ nominalizer : [ns]→[dˢ]→[tᶿ]. This change reflects the areal phenomenon of nasals being realized as voiced stops.

consonant [t] was indeed present. This is an example of the two constructions being contrasted in the same sentence.

When my wife and I left in 1972 to be gone for a year, Mary George told us

(4a) *chia'at*   *zem*   *k'wenanapi*   *e*   *kw*   *chîanas*[6]
      [č^yɛʔɛt   t^θəm   k̓^wʊnanapɛ   ə   k^w   čéʌnʌs
      short.time   1SG.SBJ.FUT see-RESULT.TR-2PL PREP ART some

          sem   *z'ok'w*
          səm   t̓^θok̓^w]
          FUT   day
      'I'll see you (PL) someday.'

Then she repeated this more emphatically, expressing intent rather than simple future

(4b) *chia'at zem*   *t*   *k'wenanapi* *e* *kw*   *chîanas*   *sem t*   *z'ok'w*
      [č^yɛʔɛt t^θəm   t   k̓^wʊnanapɛ ə k^w čéʌnʌs   səm t t̓^θok̓^w]

One time Mary George, my wife, and I were about to go into town. Mary George said

(5) *'ewk'w*   *shtem*   *t*   *thoho*
    [ʔuʊk̓w   štəm   t   θoho]
    all   1PL.SBJ.FUT [t]   are-going

and then repeated in English "we'll all go together", meaning that we will surely be together.

Other examples include:

(6) *chianey* *sem t* *e*   *tho* *xana-t* *e*   *te*   *kiapey-s*
    [č^yɛniy səm t ə   θo χanʌt   ə   tə   k^yæpiys]
    I   FUT [t] CLEFT go give-him OBL the   coffee-his
    'I will (be the one to) give him his coffee.'

(7) *nesh* *a*   *chwhem*   *t*   *lhawumot*
    [niš   a   čç^wʊm   t   ławumot]
    here Q   2SG.SBJ.FUT [t] stay
    'Are you going to stay (behind)?'

(8) *thamshia'* *qomay* *ey* *qajît* *zem*   *t*   *tl'alhsem*
    [θamš^yʌʔ qomʌy iy qaǰit t^θəm   t   ƛ̓ałsəm]
    twenty   years   and still 1SG.SBJ.FUT [t] strong
    'In twenty years I'll still be strong.'

These would be equally grammatical without [t], but the addition of [t] makes each one more a statement of certainty.

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[6] This word *chîanas* was used by Tommy Paul in many of his explanations. Mary George translated it into English as 'some' when she said it and when Tommy Paul said it.

Although the [t] is not grammatically required, some situations seem to require [t] for their rhetorical force:

(9) *hiya   zem   t   tho*
    [hɛyʌ   tᶿəm   t   θo]
    immediate 1SG.SBJ.FUT   [t]   go
    'I'll go right now.'

(10) *hiya   zem   t   qwel' e   kw   tl'i*
    [hɛyʌ   tᶿəm   t   qʷʌlʔ ə   kʷ   ƛ̣ɛ]
    immediate 1SG.SBJ.FUT   [t] come   PREP   ART   fast
    'I'll come right away.'

(11) *kwekwtem   es   chia'at,   qwayigan   'iyajem   sem   t*
    [kʷʊkʷtəm   əs   čʸɛʔet   qʷayegʌn   ʔɛyʌǰɪm   səm   t]
    sick   STAT   right.now   opinion   get.better   FUT   [t]
    'He's sick right now, but he'll (surely) get better.'

(12) *ho   ga,   qi-qiy-t-h-em   sem   t*
    [ho   gʌ   qɛqɛyθəm   səm   t]
    go   suggestion   CV-beat-TR-you-PASS   FUT   [t]
    'Go, they'll (surely) beat you up.'

(13) *ganigan   ch   kwes   'i'ilhtenstomayît,   chianey   sem t*
    [ganegʌn   č   kʷəs   ʔɛʔɛɬtənstomayit,   čʸɛniy   səm t
    give.up   I   SUBORD   they.feed.me   I   FUT [t]
         'a'jemithot   'i'lhten
         ʔaʔaymɛθot   ʔɛʔɛɬtən]
         by.myself   eating
    'I give up (having) them feed me, I'll be feeding myself.'

In the data collected from 1969 to 1980, this enclitic *t* does not occur in a clause introduced by *'ot* or *ga* (see example (3) above).
    Talking about the story of T'al

(14a) *'ot*[7] *chiap   sem   wha'   xigap,   ga   wha'ap   xigap,*[8]
    [ʔot   čʸɛp   səm   çʷaʔ   χɛgʌp   gʌ   çʷaʔap   χɛgʌp]
    if   2PL.SBJ   FUT   not   warning   if   not.you   warning
    'If you guys don't (take the) warning, if you guys might not (take the)
    warning, ...'

(14b) *qwel'   sem   t   q'wit   t'al   ey   ma'tanapim   sem   e   kw   ni's*
    [qʷʌlʔ   səm   t   q̓ʷɛt   ṭal   iy   maʔtanapɛm   səm   ə   kʷ   nɛʔs]
    come   FUT   [t]   beach   t'al   and   take.you   FUT   PREP   ART   place.his
    'T'al will surely come down and take you to his[9] place.'

More recently, I have said goodbye on the phone to Marion Harry by saying

(15)   *chia'at   zem   qwey-qway-sto-mi*
    [čʸɛʔɛt   tᶿəm   qʷɛqʷaystomɛ]
    short.time   1SG.SBJ.FUT   CVC-talk-CAUS[10]-you
    'I will talk with you soon.'

and she has replied with the more emphatic

(16)   *chia'at   zem   t   qweyqwaystomi*
    [čʸɛʔɛt   tᶿəm   t   qʷɛqʷaystomɛ]
    'I will (certainly) talk with you soon.'

3   Hagège recorded another instance of the enclitic *t*

Hagège (1981:162) gives the following two sentences:

(17)   *saysay   t   ch   ga*[11]   *lhaw-th-awh*
    [saysʌy   t   č   gʌ   ɬawθʌçʷ]
    fear   [t]   I   that   leave-me-you
    'j'ai peur que tu ne me quittes'

Taking into account that the enclitic [t] occurs here, a fuller translation is 'I really fear that you might leave me'.

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[7] For an explanation of *'ot* and *ga* as subordinators, see Davis (2012).

[8] The intransitive *xigap* means 'be warned' or 'heed a warning' and can be transitivized, just as other predicates in Coast Salish languages are intransitive until a transitive suffix is added, even though they must be translated into European languages by transitive verbs, English et cetera not having morphologically or syntactially intransitive equivalents.

[9] This is from the common coastal story about the basket ogress. However, when Noel George Harry (born circa 1890) told the story, along with its moral and present-day origin of mosquitoes and horseflies, he was definite that this was a basket ogre, a male.

[10] The causative includes some situations which can only be considered comitative.

[11] For an explanation of this use of *ga,* see Davis (2012).

(18)   *qwayigan*   *t*   *ch*   *s*[12]   *xatl'-s*   *kw-th*[13]   *tho*
      [qʷayegʌn   t   č   s   χaƛ̓s   kʷəθ   θo]
      opinion   [t] 1SG.SBJ that desire-3SG.SBJ ART-2SG.POSS go
      'je pense que tu veux partir'

Hagège's translation is 'I think you want to go'; the grammar indicates that the literal translation is '[I] really think that it is desirable that you go', meaning that I really think you want to go. Unlike the previous sentence, in this sentence the second matrix predicate [χaƛ̓] is seemingly impersonal, with the suffix [-s] being required by the nominalizing proclitic [s]. Compare the following;

(19a) *th*   *xatl'*   *kwe-th*   *tho*
       [θ   χaƛ̓   kwəθ   θo]
       2SG.POSS want ART-2SG.POSS go
       'You want to go.'

(19b) *xatl'*   *kwe-th*   *tho*
       [χaƛ̓   kwəθ   θo]
       want ART-2SG.POSS go
       'You want to go.'

Here both sentences have the same meaning and intent, but when the second sentence is further subordinated by the nominal proclitic, a subject marker is required. Subjects of nominalized clauses are expressed by possessive affixes. In the absence of the 2SG.POSS the 3.POSS is added, but does not mean that a third person wants you to go.

    Example (18) shows that this [t] is an enclitic, not a suffix. Compare *yəm-igan-t-as* 'kick-ribs-INTENT-TR-AGENT' where the /n/ of the lexical suffix disappears before the intent transitive suffix to yield [yɪmegʌtʌs] 'he kicked him in the ribs'.

4   Hagège noted another expression of emphasis in Comox

Hagège (1978) presents examples of a number of lexical suffixes, among them

(20) *'ah-lhalh*   *ch*
      [ʔahɬʌɬ   č]
      sore-throat   I
      'I have a sore throat.'

He then contrasts this sentence with the same description without a lexical suffix

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[12] This *s* is not a prefix, but a proclitic nominalizing an entire subordinate clause.
[13] This *th*, or [θ], hides the underlying *s* nominalizing proclitic by occupying the same syntactic slot.

(21) 'ah   tez   saylhalh
    [ʔah   tət⁰   sayɬʌɬ]
    sore   my   throat
     'I really have a sore throat.'

He then writes "... the opposition between synthetic solution (lexical suffixation) and syntactic solution in Comox ... marks rather, the relation of ordinary to emphatic. In my texts, the syntactic solution is statistically less frequent than the synthetic one."

5   Emphasis and the Salish change of nasal to voiced stop

Among the varieties of Coast Salish, those spoken in the Puget Sound area are noted for having the voiced stops /b/ and /d/ where other varieties have /m/ and /n/. One explanation of this sound shift can be found in the emphatic pronunciation of Noel George Harry, who was born circa 1890 in Church House but lived in Sliammon during the last years of his life. Examples include /ǰədis/ for /ǰənis/ 'tooth' and /baǰaθ/ for /maǰaθ/ 'meat'. Noel George Harry regularly pronounced the nasals, but when he wanted to emphasize what he was saying, he would substitute the voiced stops.

Ronald Beaumont says that the /b/ and /d/ pronunciations were used in Sechelt for baby talk (personal communication).

6   Origin of the name Comox

The earliest documentation of this language was written in 1857 by George Gibbs and published in 1877. In his introduction, Gibbs notes that "Their own name is S'tlaht-tohlt-hu; that of S'ko-mook is the one given them by the Uguultas." Here Gibbs (or the typesetter) gives a second spelling for the name. This word list is then a vocabulary of Thalholhtwh [θaɬoɬtçʷ], or Island Comox. (nota bene: The last speaker of Island Comox substituted [s] for [θ], unlike what my teachers resident at Sliammon said 1969–1974. Franz Boas recorded the name as Çatloltq, using ç to represent [θ].) The spelling Ko-mookhs may be Gibbs' attempt to write /qayməçʷs/ [qaymʊçʷs] which would mean 'person of' = 'person' /qayməçʷ/ plus 'of' /s/. This, then, would be the first word of a two-word phrase which remains incomplete. It is probable that the speaker said the two syllables of this word slowly and separately as Gibbs wrote them down. Assuming that Gibbs was an English-dominant speaker, the spelling "ko" would approximate the sound of /qa/ and the spelling "mookhs" would approximate the sound of /məçʷs/ with the /y/ being lost during the attempt to pronounce in such a way as to satisfy an unfamiliar white man.

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Clausal Demonstratives in ʔayʔaǰuθəm (Comox-Sliammon)[*]

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Abstract: This paper provides a first detailed analysis of the clitics *kʷa*, *kʷi*, *ta*, and *ti* in ʔayʔaǰuθəm (a.k.a. Comox-Sliammon). Although most of these particles have been briefly described by Watanabe (2003), not much is known about their semantic contribution or their syntactic status. Based on data gathered from several speakers, we argue that these elements act as clausal demonstratives and exhibit remarkable parallels to the regular demonstratives that can be found in the language. However, while the latter locate a place or an entity relative to the speaker, the four clausal demonstratives appear to encode information that relates the event situation with the utterance situation. Adopting Ramchand and Svenonius (2014)'s model, this would place them in Fin*, above T (the domain of the event situation) and below C (the domain of the utterance situation).

Keywords: Comox-Sliammon, deixis, second-position clitics, clausal spine, functional hierarchy

1   Introduction

This paper provides a first-pass analysis of the clitics *kʷa*, *kʷi*, *ta*, and *ti* in ʔayʔaǰuθəm (a.k.a. Comox-Sliammon), a highly endangered Central Salish language. While not much is known about these particles, their existence has been noted by several researchers (e.g., Blake 2000, Watanabe 2003). The most thorough description can be found in Watanabe (2003:520–528), who describes three of these four particles in his grammar for ʔayʔaǰuθəm. In particular, he analyzes the clitic *ta* as encoding 'direct observations', i.e., the speaker must be seeing the specified event while it happens, while the clitic *kʷa* is glossed as marking 'direct evidence' and appears to be used when the speaker describes an event based on their own firsthand experience.[1] Furthermore, Watanabe (2003)

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[1] In addition to *kʷa*, Watanabe (2003:521) also mentions a seemingly separate clitic *kʷu*, which is described as not well-understood, but appears to be used when talking about past or finished events. Blake (2000:149–150) distinguishes these two particles as well. In our own elicitations, we have noticed a tendency for speakers to change *kʷu* to *kʷa* when repeating sentences back, which may indicate that *kʷa* is found in careful speech, while

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provides a few examples for the use of *kʷi*, but acknowledges that the function of this particle is not well-understood.[2] The fourth clitic, *ti*, remains undiscussed in Watanabe (2003).[3]

Cognates of the four particles we are concerned with can also be found in Sechelt, a closely-related Central Salish language. Beaumont (2011) glosses *t'a* as 'over there' and explains that this particle usually refers to the location of someone or something. The particle *t'i* (sometimes also realized as *t'e,* or *t'* before the vowels *a* and *e*) is analyzed as describing an event in the past, present, or future (whether or not it can be seen by the speaker), while *kʷu* (realized as *kʷ* before *a*) refers to events unseen by the speaker, listener, or both. Last, Beaumont (2011) also notes that Sechelt has a particle *(s)kʷa*, which seems to act as a future marker.

Taking both Watanabe (2003) and Beaumont's (2011) descriptions into account, establishing a unified analysis for these particles seems difficult. However, in this paper, we argue that – at least for ʔayʔaǰuθəm – the particles *kʷa*, *kʷi*, *ta*, and *ti* form a paradigm of clausal demonstratives. We propose this nomenclature as a result of striking phonological and semantic parallels between these four clitics on the one hand and the regular demonstratives *tiʔi, taʔa, kʷiši, kʷaʔa* on the other.

As illustrated by Table 1, the regular demonstratives in ʔayʔaǰuθəm form a paradigm where initial consonants encode visibility and vowels encode proximity. [4] While this observation appears to hold for the four clausal demonstratives as well, there seem to be significant functional differences. In particular, we will show that the regular demonstratives locate a place or an entity relative to the speaker, whereas the four clausal demonstratives appear to locate the event situation relative to the utterance situation.

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kʷu is a variation of pronunciation found in faster speech. We have also noticed a similar variation in the pronunciation of negation *xʷa*. However, more research on this matter is necessary.

[2] Watanabe's (2003:521–522) chapter on clitics also contains the particles *kʷit and kʷut*. While he acknowledges that both of these clitics are not well-understood, he indicates that *kʷit* seems to encode something aspectual (having a meaning roughly corresponding to English 'already'), while *kʷut* is analyzed as a potential evidential marker. Furthermore, he speculates that *kʷit* might not be a single unit, but a combination of the clitics *kʷi* and *t*. To us, it seems plausible that the same argument can also be made for *kʷut*. For more details on the potential semantic contribution of *t*, see J. Davis (this volume).

[3] Blake (2000:149–150) presents several sentences that involve the clausal determiners *kʷa*, *kʷi*, and *kʷu*. Apart from a cautious conjecture that *kʷi* means roughly 'just now', she does not provide a detailed analysis for these particles.

[4] Thanks to Bruno Andreotti (p.c., 2018) for pointing out the parallels in vowels between the clausal demonstratives and the regular demonstratives.

Table 1: The inventory of clausal and regular demonstratives in ʔayʔajuθəm

	CLAUSAL DEMONSTRATIVES		REGULAR DEMONSTRATIVES	
	PROXIMAL	DISTAL	PROXIMAL	DISTAL
VISIBLE	*ti*	*ta*	*tiʔi*[5]	*taʔa*
NOT VISIBLE	*kʷi*	*kʷa/kʷu*	*kʷiši*	*kʷaʔa*

This paper is structured as follows. Section 2 explores the syntactic distribution of the four clausal demonstratives. Sections 3 and 4 compare the semantic properties of the regular and the clausal demonstratives, while Section 5 examines the behavior of the clausal demonstratives in embedded contexts. Subsequently, Section 6 feeds these generalizations into Ramchand and Svenonius's (2014) model of functional hierarchies and Section 7 discusses some further observations and questions regarding the distribution of clausal demonstratives. A brief summary of our results concludes this paper.

2   Syntax

In this section, we examine the four clausal demonstratives from a syntactic perspective. First, we will take a look at the basic distribution of *kʷa, kʷi, ta,* and *ti* in Section 2.1, while Section 2.2 discusses how the surface distribution of the clausal demonstratives relates to their syntactic representation.

2.1   Basic distribution

The clausal demonstratives can either precede or follow the initial word of the clause, which may be the main predicate, a verbal auxiliary, or an adverb. Examples illustrating the pre- and post-predicative use are given in (1) and (2), respectively.[6]

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[5] There is also a feminine form of this demonstrative *θiʔi*.

[6] Abbreviations used in this paper are: CLF = cleft; CNJ = conjunction; COMP = complementizer; CTR = control transitivizer; DEM = demonstrative; DET = determiner; ERG = ergative; EVD = evidential; EXCL = exclusive marker; FUT = future; INCP = inceptive; INF = inferential; IPFV = imperfective; MD = middle; NEG = negation; NMLZ = nominalizer; NTR = non-control transitivizer; PASS = passive; PL = plural; POL = polarity marker; POSS = possessive; PST = past; Q = question marker; RDP = reduplicant; REFL = reflexive; RPT = reportative; SBJ= subject; SG = singular; STAT = stative; TR = transitivizer. The boundary between a reduplicant and stem is demarcated by •, and clitic boundaries are marked with =.

(1)   a.   **kʷa**   čət-at-as
              DEM   cut-TR-3ERG
              'He already cut it up.'

      b.   **kʷi**   λaʔayin   ʔaxʷ
              DEM   start   snow
              'It's started to snow.'

      c.   č=**ta**   huǰ-əxʷ-an
              1SG.SBJ=DEM   finish-NTR-1SG.ERG
              'I finished it.'

      d.   **ti**   qʷəl̓   ɬiθ
              DEM   come   drizzle
              'It's starting to drizzle.'

(2)   a.   hu=**kʷa**   hi•hiw-θut
              go=DEM   IPFV•front-CTR.REFL
              'He went ahead.'

      b.   čigitəm=št=**kʷi**   huy
              almost=1PL.SBJ=DEM finish
              'We're almost finished.'

      c.   čiɬ=**ta**
              rain=DEM
              '[I see that] it started to rain.'   (adapted from Watanabe 2003:528)

      d.   ɬiθ-im=**ti**
              drizzle-MD=DEM
              'It's drizzling.'

When the clausal demonstratives precede the predicate, they can also host any of the subject clitics, which otherwise cannot occur pre-predicatively. [7] The sentences in (3a) to (3d) illustrate this phenomenon, while the example given in (3e) shows that a subject clitic on its own cannot precede the predicate.

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[7] We assume that this pattern holds true for the entire paradigm of indicative subject clitics – at least in their reduced form. The full forms of the subject clitics (with the exception of the 2PL clitic *čap*), however, appear to be unavailable in this particular construction, as noted by Watanabe (2003:54). Consequently, a sentence like **čan=kʷi=huy* ('I am finished') will be rejected, while the same sentence with a shortened subject clitic (i.e., *č=kʷi=huy*) is generally seen as felicitous. We will return to this issue in Section 2.2.

(3) a. **č=ta**   huǰ-əxʷ-an
         1SG.SBJ=DEM   finish-NTR-1SG.ERG
         'I finished it.'

     b. **čxʷ=kʷa**   ʔəy•əy
         2SG.SBJ=DEM   good•INCP
         'You are all better.'   (adapted from Blake 2000:150)

     c. **št={kʷa/kʷi}** huy
         1PL.SBJ=DEM   finish
         'We're finished.'

     d. **čap=kʷi**   huy
         2PL.SBJ=DEM   finish
         'You are finished.'   (adapted from Watanabe 2003:54)

     e. *št=huy
         1PL.SBJ=finish
         'We're finished.'

As exemplified by the sentences in (4), the clausal demonstratives may also host a following subject clitic, though this order is less common in our data so far.

(4) a. **ti**=č   huy
         DEM=1SG.SBJ   finish
         'I'm finished.'

     b. **kʷi**=št   huǰ-it
         DEM=1PL.SBJ   finish-STAT
         'We're ready.'

     c. **ta**=čxʷ   huǰ-əxʷ
         DEM=2SG.SBJ   finish-NTR
         'You finished it.'

The clausal demonstratives occur in a fixed order with respect to other clitics, both when preceding or following the initial prosodic word. As shown in (5), they follow the evidential clitics (e.g., *č̓a* or *k̓ʷa*) and the future marker *səm*.[8]

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[8] While *səm* is generally analyzed as a plain future marker (e.g., Watanabe 2003:527; Davis in this volume), our data suggest that this clitic does not always convey real futurity. Under certain circumstances, namely when *səm* is directly followed by a clausal demonstrative, the future interpretation seems to be abandoned in lieu of an epistemic interpretation. In other words, a string like *səm=kʷi* does not express real futurity, but rather the speaker's beliefs about something. As illustrated by the examples (i) and (ii), the English modal *will* allows both of these interpretations as well.

(5) a. č̓a=**kʷi**   θu ǰu Daniel
         EVD.INF=DEM go home Daniel
         'Daniel must have gone home.'

     b. gəχ-nu-m=č̓a=**kʷa**   qʷəɬ=čan   kʷ
         dream-NTR=PASS=EVD.INF=DEM   come=1SG.SBJ   COMP
                qam-it
                accompany-CTR
         'She dreamt that I came with her.'

     c. č̓iyituɬ=a=čxʷ   k̓ʷa=**kʷa**=piy-əw
         hear=Q=2SG.SBJ   EVD.RPT=DEM=separate-PL
         'Did you hear they separated?'

     d. ni?=k̓ʷa=**kʷa**   č̓i•č̓ɬ-im
         be.there=EVD.RPT=DEM   RDP•dance-MD
         'I heard there's dancing.'

     e. səm=**kʷa** qʷəɬ təs
         FUT=DEM   come arrive
         'I guess they're already here.'

Given that the clausal demonstratives can either precede or follow the main predicate, the question arises what motivates this distributional flexibility.

2.2   Syntactic position

Because the clausal demonstratives form part of the second-position clitic string when following the predicate, questions concerning the distribution of the clausal demonstratives are linked to a broader question concerning the motivation for the position of the second-position clitic string. ʔayʔaǰuθəm is generally head-initial, with words pronounced linearly to the left semantically scoping over words to their right. The semantic scope of the clitics in the clitic string does not seem to be reflected by the linear position of the clitic string, however. Many of the second-position clitics obviously scope semantically over the word that precedes them, whether it is an adverb, auxiliary, or main verb, suggesting that there is movement taking place to derive the pronounced order.

   The ordering of the initial prosodic word relative to the clitics does not exhibit the characteristics of syntactic movement, however. There is no obvious motivation for movement of elements of different syntactic categories to occur

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(i)   Saoirse will be home in three hours.   (real futurity)
(ii)   Saoirse will be home by now.   (epistemic futurity)

For a more detailed analysis of this issue, see Reisinger (this volume).

to a position preceding the clitics, subsequently blocking movement of any following adverb, auxiliary, or predicate.[9] Moreover, this movement would have to be able to take place out of syntactic islands. Second-position clitics can follow the initial prosodic word of the clause, scoping over the entire clause, even when this means interrupting conjoined predicates. For instance, in (6), the question marker *a* turns the whole clause into a question and appears after the

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[9] We have not done extensive testing to differentiate the syntactic categories of predicate, auxiliary, and adverb yet. We do have evidence that predicates exhibit some different behaviors compared to auxiliaries and adverbs. For instance, predicates can stand alone in the answer to a question, whereas adverbs and auxiliaries cannot, as shown in (iii) to (v).

(iii) a. qəǰi=a=ʔut   ʔi•ʔimaš?   b.i * ʔi,   qəǰi=ʔut
           still=Q=EXCL IPFV•walk   yes   still=EXCL
           'Is he still walking?'   Intended: 'Yes, he still is.'

       b.ii. qəǰi=ʔut   ʔi•ʔimaš
              still=EXCL IPFV•walk
              Intended: 'Yes, he still is.'

(iv)   a. kʷən=a   qʷəɬ   təs?   b.i * ʔi,   qʷəɬ
           POL=Q   come   arrive   yes   come
           'Did he arrive?'   Intended: Yes, he arrived.'

       b.ii. ʔi,   qʷəɬ   təs
              yes   come   arrive
              'Yes, he's arrived.'

(v)   a. ʔi•ʔimaš=a?   b.   ʔi,   ʔi•ʔimaš
           IPFV•walk   yes   IPFV•walk
           'Is he walking?'   'Yes, he's walking.'

Word order evidence also shows that adverbs precede auxiliaries – though *qəǰi* 'still' can also occur phonologically reduced as a second-position clitic (Watanabe 2003:525) – and auxiliaries precede predicates, suggesting that these are distinct categories with somewhat rigid ordering restrictions between them.

(vi)   a.   paya   θu   ʔəm•ʔimaš   Marianne
              always go   PL•walk   Marianne
              'Marianne is always going walking.'

       b. * θu   paya   ʔəm•ʔimaš
              go   always PL•walk
              Intended: 'She's always going walking.'

       c. * ʔəm•ʔimaš   θu   Marianne
              PL•walk   go   Marianne
              Intended: 'Marianne is going walking.'

In textual material, however, there are instances where auxiliaries follow main predicates, as in (vii). Considering this, more research on this matter will be necessary.

(vii) hihiw   χaχλ̓-im̓   qʷəɬ   ɬ=χawgəs
       really worry-MD   come   DET=grizzly
       'Grizzly was starting to worry.'   (adapted from Watanabe 2003:564)

initial prosodic word.[10] Similarly, both predicates are understood to be in the future, but the future marker *səm* only appears following the initial prosodic word. This means that both of these clitics are not taking scope where they appear linearly. However, if the predicate preceding them had undergone syntactic movement to a position higher in the clause to precede the clitics, it would violate the Coordinate Structure Constraint (Ross 1967).[11]

(6) q̇at̓θ-aθut=a=čap=səm   ʔi   qʷi•qʷay=čap?
     gather-CTR.REFL=Q=2PL.SBJ=FUT CNJ IPFV•talk=2PL.SBJ
     'Are you going to gather together to talk?'

Nevertheless, ʔayʔaǰuθəm otherwise shows standard Coordinate Structure Constraints, as illustrated by the rejected example sentences given in (7).

(7) a. * gət   k̓ʷən-əxʷ-əxʷ-uɬ   higa Gloria?
            who   see-NTR-2SG.ERG-PST CNJ   Gloria
            Intended: 'Who did you see ____ and Gloria?'

     b. * tatam=čxʷ   ʔi   q̇aq̇sim-uθin-əm=čxʷ   s-nanat
            do.what=2SG.SBJ CNJ play-mouth-MD=2SG.SBJ   NMLZ-night
            Intended: 'What are you doing and singing tonight?'

Considering this, it seems likely that some sort of prosodically driven linearization is occurring.[12] Most of the second-position clitics are prosodically deficient, not meeting the bimoraic requirement for a prosodic word (Blake 2000:117–123). This means that they require a prosodic host. ʔayʔaǰuθəm prosodic structure shows influence of Kwak'wala, which famously lacks both prefixes and proclitics, with all independent, prosodically light material realized as enclitics (e.g., Anderson 2005). Like Kwak'wala (but unlike other Salish languages), ʔayʔaǰuθəm lacks prefixes. However, the language clearly allows proclitics, as evident from the examples given in (1) and (3). Not all clitics are permitted as proclitics, however. Notably, the clitics from the second-position clitic string which lack a vowel never occur as proclitics. Therefore, reduced

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[10] Unlike the question marker and the future marker, the person clitics must occur in both conjuncts. The reason behind this requires further investigation. It could be that the subject clitics are too low in the syntactic structure to scope over both conjuncts, but then we have an additional puzzle as to their linear order with respect to other clitics that can scope over both conjuncts, such as *səm*.

[11] See Davis (2013) for arguments that the predicate in St'at'imcets does not move to a position as high as C.

[12] See Huijsmans (2016) for a similar analysis in SENĆOŦEN.

forms of person clitics (the most common realizations) cannot occur as proclitics unless they are accompanied by a clausal demonstrative (8).[13]

(8)   * št=huy
      1PL.SBJ=finish
      'We're finished.'

This indicates that enclisis is the least marked option available to all the clitics.

    It should also be noted that, having a full vowel, the clausal demonstratives have the same monomoraic weight as the verbal auxiliary *θu/hu* 'go' which also occurs preceding the predicate; Blake (2000:119) notes that this auxiliary seems to be an exception to the usual requirement for prosodic words to be bimoraic. It is possible, then, that clausal demonstratives occurring initially in the clause behave as independent prosodic words, even though the clausal demonstratives do not meet the usual bimoraic requirement. Indeed, when the person clitics follow the clausal demonstratives, the clausal demonstratives behave in parallel to verbal auxiliaries. When the person clitics precede clausal demonstratives (a position unavailable with verbal auxiliaries), the clausal demonstrative is still likely acting as the host; the availability of proclisis for the person clitic is then probably the result of pressure to maintain ordering within the second-position clitic string, reflecting the relative syntactic positions of the clitics. The two different positions of the subject clitics relative to clausal demonstratives are then likely a reflection of competing pressures between a realization that represents their relative syntactic positions and one which conforms better to the prosodic norms of the language.

3   (Regular) Demonstratives

Documentation of demonstratives in ʔayʔaǰuθəm is limited. Both Watanabe (2003:79–80) and Davis (1978:25–26) list a large number of demonstratives, providing glosses, but do not explore their semantic contributions in detail. In this paper, we focus only on one set of demonstratives that closely resembles the clausal demonstrative system and for which we have conducted the most extensive documentation. This set includes the *t*-demonstratives *tiʔi* and *taʔa* and the *kʷ*-demonstratives *kʷiši* and *kʷaʔa*.

    The demonstrative *tiʔi* indicates that something is proximate and visible, and is commonly used when handing something to someone. In contrast, the demonstrative *taʔa* indicates that something is further away, but still visible. Examples highlighting this distinction are given in (9) and (10) below.

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[13] A similar observation has been made by Watanabe (2003:54).

(9)   *Context: Handing someone something they've asked for, like salt at the table.*
        niš   **ti?i**
        be.here   DEM
        'Here it is.'

(10)   ni?   **ta?a**
        be.there   DEM
        'It's over there.'
        Consultant's comment: You're talking about something over there…; you still see it.

To indicate that something is close by, but not visible, the demonstrative *kʷiši* is used, as exemplified by the sentence in (11). If the referent is not visible and further away, speakers use the demonstrative *kʷa?a*, as shown in (12).

(11)   *Context (volunteered): It's in the closet [which is right beside the table where we were talking].*
        ni?   **kʷiši**
        be.there   DEM
        'It's right there.'

(12)   ni?   **kʷa?a**
        be.there   DEM
        'It's over there.'
        Consultant's comment: You don't see it.

In sum, we can classify *ti?i* as proximal and visible, *ta?a* as distal and visible, *kʷiši* as proximal and not visible, and *kʷa?a* as distal and not visible.

While the examples given in (9) to (12) illustrate that the four particles *ti?i*, *ta?a*, *kʷiši*, and *kʷa?a* can function as demonstrative adverbs, they sometimes also act as demonstrative determiners, as shown in (13), or as demonstrative pronouns, as shown in (14).

(13)   θəq?ay=a   **ti?i**   ǰanxʷ
        sockeye.salmon=Q DEM   fish
        'Is this fish a sockeye salmon?'   (adapted from Watanabe 2003:88)

(14)   čəm̓   ?ə=xʷ=hihiw-s   qa?t-əm-(m)ut **ti?i**
        why   CLF=NMLZ=really-3POSS   heavy-MD-very DEM
        'Why is this so heavy?'

4   The semantics of clausal demonstratives

While Section 3 examined the regular demonstratives in terms of form and meaning, this section will take a closer look at the semantic contribution of their clausal cognates. In general, our data suggest that the clausal demonstratives function as deictic markers encoding both proximity and visibility. However,

while regular demonstratives encode the spatial distance between the speaker and an entity, the clausal demonstratives express the spatial or temporal distance between the utterance situation and the event situation.

Analogous to the regular *t*-demonstratives, both clausal *t*-demonstratives are used to indicate that the described event was observed by the speaker. This is exemplified by the sentences give in (15) and (16).[14]

(15) **ti** λaʔayin ʔaxʷ
 DEM start snow
 'It's starting to snow.'
  ✓ *Context 1: It's starting to snow and I'm looking at it.*
  ✗ *Context 2: It's starting to snow, but I'm looking at Daniel and not out of the window. [Consultant's comment:* ti λaʔayin ʔaxʷ *is when you're looking at it.]*
  ✓ *Context 3: Gloria is facing the window and can see the snow, but I can't. She says* ti λaʔayin ʔaxʷ *to me.*

(16) *Context: Betty and I are weaving baskets. She leaves, returns, and asks me if I am still weaving.*
 č=**ta** huǰ-əxʷ-an
 1SG.SBJ=DEM finish-NTR-1SG.ERG
 'I've finished it.'
 Consultant's comment: It [the basket] is right there.

In contrast, the clausal *kʷ*-demonstratives can only be used in contexts where the speaker is not directly observing the described event, as shown in (17). Once again, this matches the observations we made for the regular *kʷ*-demonstratives in Section 3.

(17) **kʷi/kʷa** λaʔayin ʔaxʷ
 DEM start snow
 'It's starting to snow.'
  ✗ *Context 1: Gloria is facing the window and can see the snow, but I can't. She says* kʷi/kʷa λaʔayin ʔaxʷ *to me. [Consultant's comment: If she's not looking at it [she can use it].]*
  ✓ *Context 2 (volunteered): You're telling someone inside that it's snowing outside.*

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[14] Whether the listener observed the event or not seems to be irrelevant. This is in contrast to some observations made by Beaumont (2011) for the cognates of these clausal demonstratives in Sechelt.

We also have evidence that proximity is involved in the choice of clausal demonstratives, parallel to the regular demonstratives that we examined in Section 3. For instance, *kʷi* encodes a proximal relationship between the speaker and the event, while *kʷa* encodes a more distal relationship. This distribution is exemplified by the sentences in (18) and (19) below.

(18) **kʷi**=θu   ǰu
      DEM=go   home
      'He's just going home.'
      Consultant's comment: [It's] more recent, he's just left to go home.

(19) **kʷa**=θu   ǰu
      DEM=go   home
      'He's gone home.'
      Consultant's comment: If it was a little longer, over a longer time that he left…

Similarly, *ti* is preferred in (20) when referring to the speaker's work, while *ta* is preferred in (21) when referring to the addressee's work.

(20) ti   huy   tə=t̓ᶿ   p̓ap̓im
      DEM   finish   DET=1S.POSS   work
      'My work is finished.'

(21) ta   huy   tə=θ   p̓ap̓im
      DEM   finish   DET=2S.POSS   work
      'Your work is finished.'

5   Embeddability

While the examples presented so far show that the clausal demonstratives can be found in matrix clauses, our data suggest that they can occur initially in embedded clauses as well. This is exemplified by the sentence given in example (22), which consists of two clauses: [CP kʷən-at-as [CP ti qʷəl̓ ʔaxʷ]].

(22) *Context: Amaya (little girl) is excited to see snow because she thought*
      there would be no school.
      kʷən-at-as   **ti**=qʷəl̓   ʔaxʷ
      see-CTR-3ERG   DEM=come   snow
      'She saw it started to snow.'
      Consultant's comment: 'cause you're there too, you're looking at the snow…

However, as indicated by the consultant's comment, the contribution of the demonstrative is still speaker-oriented. It cannot be coerced into being oriented towards the matrix subject, as shown in (23).

(23) a. *Context: Amaya is watching the snow, but I'm somewhere else doing laundry or something.*

   # k̓ʷən-at-as **ti**=qʷəl̓ ʔaxʷ
   see-CTR-3ERG DEM=come snow
   'She saw it started to snow.'
   Consultant's comment: Because you didn't see it yourself, you wouldn't say ti qʷəl̓ ʔaxʷ.

   b. *(21a) was corrected to:*
   k̓ʷənatas **kʷi**=qʷəl̓ ʔaxʷ
   see-CTR-3ERG DEM=come snow
   'She saw it started to snow.'

6   Analysis of syntax-semantics mapping

Considering all of this, the clausal demonstratives appear to encode information that relates the event situation with the utterance situation, specifically to the speaker of the utterance. In Ramchand and Svenonius's (2014) model of functional hierarchies, this would place them in Fin*, above T (the domain of the event situation) and below C (the domain of the utterance situation). This is compatible with what we know of their linear order relative to other functional material. As shown in (24), they must follow evidential modals, which belong to the propositional zone (C domain) since they involve information about speaker knowledge. On the other hand, like other elements within the clitic string, they scope above the VP domain of the clause.

(24) a. kʷayimut=ča=**kʷi** Daniel
   hid=EVD.INF=DEM Daniel
   'Daniel must have hid.'

   b. * kʷayimut=**kʷi**=ča Daniel
   hid=DEM=EVD.INF Daniel
   'Daniel must have hid.'

It is less clear based on distribution alone that they occur above T, since the past tense marker (-*uɬ*) is a suffix and its scope relative to these clitics is not apparent from linear order, while the future marker *səm* precedes the clausal demonstratives, but seems to act as an epistemic modal rather than a future marker when it co-occurs with the clausal demonstratives and precedes them (25).

(25) səm=**kʷi** qʷəl̓ λ̓iq̓ʷ qaya
   FUT=DEM come tide.high water
   'The tide is up now (I'm guessing).'

Determining more precisely the relationship between clausal demonstratives and T will require further research into the nature of T in ʔayʔaǰuθəm. However,

since their distribution seems to be sensitive to the temporal location of the event, not just the properties of the VP, we feel they are best represented as occurring above T.

(26)
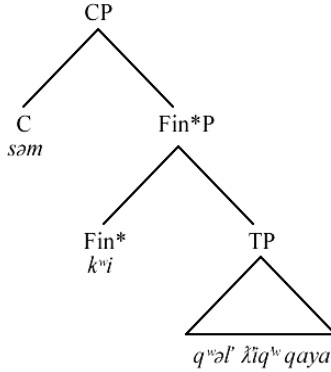
Semantically, we propose that the clausal demonstratives take an expression of type $\langle s, t\rangle$, i.e., the TP node which embeds the event and has an unsaturated event situation argument (following Ramchand & Svenonius 2014), and outputs an expression of type $\langle s, t\rangle$ that can combine with higher modal clitics. They place restrictions on the contexts of use, such that the event situation s is proximal/distal to the utterance situation s^* and visible/not-visible at the utterance situation. We assume that the utterance situation is given by the context and includes the speaker, relative to whom the constraints can be evaluated, as well as a world and time parameter. The clausal demonstrative k^wi, then, would get the denotation in (27).

(27)　$[\![\,k^wi\,]\!]^{s*} = \lambda P \in D_{\langle s,t\rangle}.\lambda s : [proximal(s, s^*)\ \&\ not\text{-}visible(s, s^*)].P(s)$

Because the event situation is evaluated relative to the utterance situation, clausal demonstratives never express a relationship between an embedded and a matrix clause. When embedded in a subordinate clause, as in (20) and (21), they express a relationship between the embedded event situation and the utterance situation.

7　Further notes and puzzles

While the clausal demonstratives occur quite frequently in dialogue, their contexts of use are fairly restricted. Currently, we are still working to understand the exact nature of the contexts which license their occurrence. Based on the data we have presented in this paper, they seem to be common in contexts that involve a punctual event that can be situated relative to the speaker, such as a change in weather, someone's arrival or leaving, or the completion of a task. In contrast, they are often incompatible with imperfective predicates, as illustrated by the examples given in (28) and (29). We speculate that the use of clausal

demonstratives in these scenarios is not felicitous because the predicates are not temporally bounded in a way that makes them accessible for deictic reference.

(28) * **ti**   qəǰi=ʔut   ʔa•ʔaxʷ
      DEM   still=EXCL IPFV•snow
      'It's still snowing.'

(29) * **ti**   ti•tiχ-im
      DEM   IPFV•sunshine-MD
      'It's sunshining.'

Nevertheless, we encountered some contexts where the clausal demonstratives were accepted with imperfective predicates, as shown in (30).

(30)   *Context: You see Freddie coming towards the house.*
      ti   qʷə•qʷəl   Freddie
      DEM   IPFV•come Freddie
      'Freddie is coming.'

8   Conclusion

In this paper, we have argued that the four second-position clitics *kʷa*, *kʷi*, *ta*, and *ti* form a paradigm of clausal demonstratives, which parallels the regular demonstrative system in several regards. Specifically, we show that both the clausal demonstratives and the regular demonstratives encode visibility and proximity. However, while the regular demonstratives encode the deictic relationship between the speaker and an entity, we propose that the clausal demonstratives deictically link the event situation to the utterance situation.

Ramchand and Svenonius (2014) propose that structure is built in a way such that information complexity is monotonically increasing, with events embedded in situations which are embedded in propositions. The clausal demonstratives in ʔayʔaǰuθəm fit well in this model since their position relative to other functional material indicates that they occur above the domain of the event/situation and below modals that belong to the propositional domain. Considering this, we propose that they belong in Fin*, where we expect material that links the situation to the utterance context to occur.

This means that their ability to appear following an initial adverb, verbal auxiliary or predicate, patterning with other second-position clitics, cannot reflect base Merge positions. Further, we provide preliminary evidence that the linearization of clausal demonstratives relative to the preceding word cannot be derived by syntactic movement. Instead, we suggest that the linearization of second-position clitics, including clausal demonstratives, may be sensitive to prosodic preferences in the language. When they occur preceding an initial adverb, auxiliary, or predicate, we speculate that they are functioning as independent prosodic words, despite not meeting the usual requirement for words to be bimoraic (Blake 2000:117–123).

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The representation of predicates at the syntactic-semantic boundary in Nuuchahnulth

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Abstract: In this paper I show that verbs, adjectives, and common nouns in Nuuchahnulth are all syntactic *predicates* and minimally one-place semantic *predications* (semantic units with at least one semantic argument). I demonstrate that proper nouns are zero-place predications, or semantic units with no arguments. This analysis is counter an analysis that would add a copula relation to account for predicate-flexibility in the language. I use evidence from sentential predication, the distribution of the article, and a predicate coordinator called the linker to make this case.

Keywords: predicates, coordination, semantics, Nuuchahnulth

1 Introduction

Nuuchahnulth (ISO 639-3 nuk) is a Wakashan language spoken along the west coast of Vancouver Island. I follow Werle's (2013) division of Nuuchahnulth into four broad dialect groups. From north to south the dialects are Kyuquot-Checleseht (**Q**), Northern (**N**), Central (**C**), and Barkley (**B**). The data here is taken from my own work with speakers of the language, and I examine aspects of semantic modeling of words, particularly of nouns. Motivated by approaches to meaning that are based in set theory, semanticists have long given common nouns like *dog* an inherent argument in their semantic models. Whether these arguments are available or meaningful at the syntax-semantics boundary is not immediately apparent from the usefulness of semantic models themselves. However, I argue in this paper that the inherent argument of common nouns is directly observable in the syntax of Nuuchahnulth. Certain facts of the language can only be explained by a syntactic-semantic model that considers common nouns such as *dog* something like $\text{DOG}(x)$ directly in the lexicon. This overt semantic argument functions in tandem with Nuuchahnulth's flexibility around syntactic predicates, a feature that has been noticed since linguistic description began on the language, and is part of the reason why it took so long for linguists to determine whether the language even differentiated between nouns and verbs (Swadesh 1938).

To show that this analysis is necessary, I will be considering evidence from the basic structure of the Nuuchahnulth clause (§2), the article *=ʔiˑ* (§3), and the predicate linker *-(q)ḥ* (§4) to examine the argument structure of lexical categories in the language. I will conclude with some thoughts for future directions, and the extensibility of this semantic representation (§5).

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Before moving on to the semantic issues brought up in this paper, it is important to define some terms and my approach. I am taking a somewhat minimal and ecumenical view with my semantic representations. The basics of all systems of compositional semantics that I know of are a series of functions and variables. To associate variables from different functions with one another, some form of scoping is required. Whether this is represented via lambda calculus (Heim and Kratzer 1998), Minimal Recursion Semantics (Copestake et al. 2005), or any other schema, all these representations relate elementary predications to variables, and correlate variables through scoping. That is, the meaning of "go" is GO(x, y), where x and y are the yet-to-be-determined participants of the going event, placed in some conventional order (for example, *goer* first and then *destination*). If the *goer* is also running, one needs some way of variable coreferencing, often done through a quantifier of some variety; for example, $\exists x$, GO(x, y) & RUN(x).

These meaning representations can be elaborated on in important and meaningful ways. We could add an event variable, GO(e, x, y), and then add tense, aspect, mood, and other special properties to the event variable e (Davidson 1967). Rather than relying on order, we could represent arguments as property-value pairs, GO(e, GOER=x, DESTINATION=y), or separate out the participants from the event label altogether (Parsons 1990). While all of these different ways of modeling are important, for the purposes of this paper I will leave out these and other elaborations of the semantics and only worry about the highest-level representation: the names of the atomic relations and the number of their semantic arguments, excluding the event itself.

To make a clean separation between syntactic and semantic discussions, I will use the term *predicate* to refer to the position in the syntax where a word can undergo valence-filling, and *predication* to refer to the atomic semantic unit. For instance, in example (1) below, the *predicate* is the word ṅaacsiičiƛ 'see', while there are at least two semantic *predications*, the predication SEE from ṅaacsiičiƛ, and the predication MAN from čaakupiiḥ.[1] When referring to the syntactic arguments of a predicate, I will use the term *participant*. For example, Nuuchahnulth has predicate-first syntax, followed by a set of syntactically-optional participants. When referring to semantic arguments of a predication, I will use the term *argument*.

2   Non-verbal predicates in Nuuchahnulth

Like many languages of the Pacific Northwest, Nuuchahnulth is very permissive about what words can be used predicatively. Predicates are sentence-initial, and followed by their (syntactically optional) participants. While verbs are the most

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[1] I could represent the predication provided by *čaakupiiḥ* 'men' somewhat more precisely by indicating the plural, e.g. MAN[PL], but I will again keep my model as simple as possible, and so simply use MAN. I will omit modeling pluralization, mood, and other details. I will also represent predications with rough English glosses, rather than the (more accurate) Nuuchahnulth form. These should be understood only as conveniences, and not a deep commitment.

common type of predicate (1), it is also possible to get adjective (2) and noun (3) predicates. I use specialized IGT throughout the paper, and elaborate on the non-standard symbols and abbreviations in Appendix A.

(1)   ṅaacsiičiƛʔiš haɬmiiḥa quuʔas.

    ṅaacs-i·čiƛ=ʔi·š   haɬmiiḥa quuʔas
    see-IN=STRG.3SG   drowning person
    'He sees a drowning person.' (**N**, Fidelia Haiyupis)

(2)   qʷaċaɬʔiš ḥaakʷaaƛʔi.

    qʷaċaɬ=ʔi·š   ḥaakʷaaƛ=ʔi·
    beautiful=STRG.3 young.girl=ART
    'The young girl is beautiful.' (**C**, *tupaat* Julia Lucas)

(3)   pisatuwiɬma ʔaanaḥi.

    pisatuwiɬ=ma· ʔaanaḥi
    gym=REAL.3   only
    'It's only a gym.' (**B**, Marjorie Touchie)

When modeling the predicate flexibility seen in (1–3), there are two broad ways to define the representation at the semantics-syntax interface. The representation of (1) is (somewhat) straightforward. The word *ṅaacsiičiƛ* 'see' presumably is a two-place predication, relating a *seer* and a *seen-thing*. The semantic representation for the verbal predicate *ṅaacsiičiƛ* would then look something like (4), waiting for its *seer* and *seen-thing* arguments to be filled.

(4)   SEE(x, y)

But the syntactic-semantic interface for the predicates of (2) and (3) are more troublesome. We could represent adjectives and nouns as zero-place predications at the interface (regardless of their fully-worked out set-theoretic semantics), awaiting a higher-order predication to relate them to other predications. That is, we might have BEAUTIFUL for *qʷaċaɬ* and GYM for *pisatuwiɬ*. In cases like (2, 3), we would then need to insert a copula, essentially serving as a wrapper around the adjective or noun. In this schema, the syntax-semantics interface for the predicates in (2, 3) would look like (5, 6) below.

(5)   BE(BEAUTIFUL, x)

(6)   BE(GYM, x)

The second option is to model either both nouns and adjectives, or perhaps only adjectives, as multi-place predications with their own arguments, and no need for the copula. In this version, the adjective *qʷaċaɬ* would directly be modeled as BEAUTIFUL(x), and the noun *pisatuwiɬ* would be GYM(x). The semantics interface for the predicates in (2, 3) would look like (7, 8).

(7) BEAUTIFUL(x)

(8) GYM(x)

It's not immediately clear which of these models is a better model of the syntax-semantics interface in Nuuchahnulth, or indeed if choosing one over the other says anything at all about the language outside of semantic modeling. If the model in (5, 6) is chosen, the inherent argument can always be added back in the full set-theoretic semantics, even if that argument is not visible to the syntax. But I will show that only the second option seen in (7, 8), where both noun and adjective predications have an explicit argument accessible to the syntax, can model the facts of the language.

3   The article

One clue to the semantic modeling of nouns and adjectives is the use of the article =*ʔiˑ*. The article does not have any semantic definiteness attached, and is a second-position clitic with respect to a syntactic participant. When nouns or noun phrases are used as syntactic participants, they may optionally have an article attached. However, when verbs and adjectives are used as syntactic participants, the article is obligatory (Jacobsen 1979; Wojdak 2001). The way that the article discriminates between verbs, adjectives, common nouns, and proper nouns gives us evidence about the semantic arguments of these parts of speech.

3.1   Verbs, adjectives, and common nouns

It is relatively straightforward to replicate the work of Jacobsen (1979) and Wojdak (2001) showing the optionality of article attachment on nouns (9, 10), and its obligatory attachment on adjectives (11, 12) and verbs (13, 14).[2]

(9) ƛamaasiƛintʔiš ḥaaẃiłaƛʔi **kiwitaana**.

ƛamaas-iƛ=int=ʔiˑš   ḥaaẃiłaƛ=ʔiˑ   **kiwitaana**
climb-MO=PST=STRG.3 young.man=ART   horse
'The young man climbed up onto the horse.' (**N**, Fidelia Haiyupis)

(10) ƛamaasiƛintʔiš ḥaaẃiłaƛʔi **kiwitaanaʔi**.

ƛamaas-iƛ=int=ʔiˑš   ḥaaẃiłaƛ=ʔiˑ   **kiwitaana=ʔi**
climb-MO=PST=STRG.3 young.man=ART   horse=ART
'The young man climbed up onto the horse.' (**N**, Fidelia Haiyupis)

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[2] I suspect there is a statistical difference between the use of the article on subject NPs and object NPs. However, it is grammatically optional and the statistical study has yet to be done.

Context for (11, 12): There are two roads, a new one and an old one.

(11) λuɫmaa c̓ušukʔi.

   λuɫ=ma·   c̓ušuk=ʔi·
   good=REAL.3 new=ART
   'The new one is nice.' (**B**, Bob Mundy)

(12) *λuɫmaa c̓ušuk.

   λuɫ=ma·   c̓ušuk
   good=REAL.3 new
   Intended: 'The new one is nice.' (**B**, Bob Mundy)

Context for (13, 14): There are two children. One is playing and the other is running.

(13) ʔuḥʔiiš[3] ʕiḥak kamatqukʔi.

   ʔuḥ=ʔi·š   ʕiḥak   kamatquk=ʔi·
   be=STRG.3 cry.DR   run.DR=ART
   'The running one is crying.' (**C**, *tupaat* Julia Lucas)

(14) *ʔuḥ ʕiḥak kamatquk.

   ʔuḥ(=∅)   ʕiḥak   kamatquk
   be(=NEUT.3) cry.DR   run.DR
   Intended: 'The running one is crying.' (**C**, *tupaat* Julia Lucas)

The obligatory presence of the article on verb and adjective participants says that there is something special about verbs and adjectives that separate them as a group from nouns. Since it is clear that verbs are semantic predications (they take arguments), it is possible that adjectives are predications as well. This would not be unique, as linguists have argued that in some languages adjectives are simply intransitive verbs (Li and Thompson 1981). A possible analysis is that the article, when applied to adjectives and verbs, is exposing an embedded semantic argument to the syntax. That is, the semantics of (11) and (13) look something like (15, 16).

(15) $\exists x$ NEW(x) & GOOD(x)

(16) $\exists x$ RUN(x) & CRY(x)

The article is then the syntactic element that supplies the existential operator around the verb or adjective, making the arguments of NEW and RUN available to

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[3] The use of the verb *ʔuḥ* 'be' in both (13) and (14) is not providing the meaning of a copula, but gives focus to the following word, exactly like a clefted sentence in English. I will be omitting this focus operation in the later semantic representation of this sentence in (16).

be coindexed with the sentential predicates GOOD and CRY. Without the article present, there is no way in (11) to affiliate the *x* of NEW(x) with the *x* of GOOD(x).

However, the optionality of the argument on common nouns is a challenge for their semantic modeling. If they have a semantic argument, it must be exposable to the semantics with or without an article present. However if common nouns do not have a semantic argument, then the article is behaving differently when attached to nouns, as opposed to verbs and adjectives. I now turn to the difference between common and proper nouns to distinguish between the analyses.

3.2   Proper nouns

Proper nouns bear a special place in Nuuchahnulth grammar. Names and proper nouns are morphologically fixed: they may not, for the most part, be morphologically altered.[4] Neither a personal name (17, 18) nor a place name may take the article (19, 20).

(17)   kitḥšiƛints łuučṁuupukqs Chelsea.[5]

kitḥ-šiƛ=int=s   łuučṁuup=uk=qs   Chelsea
ring-MO=PST=STRG.1SG sister=POSS=DEF.1SG NAME
'I phoned my sister Chelsea.' (**N**, Fidelia Haiyupis)

(18)   *kitḥšiƛints łuučṁuupukqs Chelsea-ʔi.

kitḥ-šiƛ=int=s   łuučṁuup=uk=qs   Chelsea=ʔi
ring-MO=PST=STRG.1SG sister=POSS=DEF.1SG NAME=ART
Intended: 'I phoned my sister Chelsea.' (**N**, Fidelia Haiyupis)

(19)   yaċaswitass mituuni.

yaċas-witas=s   mituuni
step.foot-going.to=STRG.1SG Victoria
'I'm going to step foot in Victoria.' (**N**, Fidelia Haiyupis)

(20)   *yaċaswitass mituuniʔi.

yaċas-witas=s   mituuni=ʔiˑ
step.foot-going.to=STRG.1SG Victoria=ART
Intended: 'I'm going to step foot in Victoria.' (**N**, Fidelia Haiyupis)

This is exactly opposite from the data seen in §3.1. There, the article was required on verbs and adjectives. Here, names may not take the article. If the

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[4] I have seen on a few occasions proper names take a past tense morpheme to mark that the person is deceased. This is the only morphological operation I have ever seen on a name, and an analysis of it lies beyond this paper.

[5] Example (17) was elicited by me directly in conversation but I had my consultant repeat it.

article is exposing a bound variable in the semantics, then this phenomenon begins to make sense if we extend the model of one-place predications to common nouns, but not to proper nouns.

If the semantics of a Nuuchahnulth common noun like 'sister' is actually sɪs-ᴛᴇʀ(x), then exposing that argument via the article makes semantic sense. However, proper nouns are not like this. "Victoria" does not mean anything like 'there is some x such that ɪs-ᴠɪᴄᴛᴏʀɪᴀ is true of x.' No, Victoria is that city over on the southern tip of Vancouver Island, and we all know exactly which place is being referred to with no possible variation. The same is true for names. So the semantic representation of words like *mituuni* 'Victoria' and *Chelsea* are proper zero-place predications, ᴠɪᴄᴛᴏʀɪᴀ and ᴄʜᴇʟsᴇᴀ. This has an interesting effect on introductions, where a helper verb is always required to introduce a name, as in (21).

(21) siẏaaqaḥ ʔaʔasmacẏak.

      siẏaaq=(m)aˑḥ   ʔaʔasmacẏak
      be.1sg=ʀᴇᴀʟ.1sg Marjorie.Touchie
      'It's me, Marjorie Touchie.' (**B**, Marjorie Touchie)

This analysis of proper nouns as zero-place predications properly models the very strong rejection every speaker I've worked with has toward sentences like (18, 20). Proper nouns are direct referents without an internal semantic argument. On the other hand, common nouns do have a semantic argument, and speakers will regularly vary whether they use an article, as in (9, 10).

3.3   Summary

While Nuuchahnulth is flexible with respect to syntactic predicates, it separates verbs and adjectives from nouns by requiring verbs and adjectives (but not nouns) to be marked with the article in order to be used as a syntactic participant. Proper nouns, however, may never use the article. Only common nouns and NPs headed by a common noun are optionally marked with an article.

The cleanest explanation for this is that verbs, adjectives, and common nouns are all semantically one-place (or more) semantic predications, e.g., ʀᴜɴ(x), ɴᴇᴡ(x), sɪsᴛᴇʀ(x). Common nouns alone may have their internal argument exposed for access in the syntax with or without the article, but verbs and adjectives require an article in order for their semantic argument to be made available. This makes the Nuuchahnulth "article" look more like a traditional relativizer.

Proper nouns, on the other hand, have *no* internal argument. They are true referents and zero-place predications, e.g., ᴠɪᴄᴛᴏʀɪᴀ. Because of this, the use of the article on a proper noun is ungrammatical. Proper nouns have no semantic argument to expose. I show in §4 that this analysis of predications is required to model another phenomenon in the language, the predicate linker.

4 The predicate linker *-(q)ḥ*

The predicate linker *-(q)ḥ* provides additional evidence that nouns in Nuuchah-nulth are semantically one-place predicates. The categorization of this morpheme as a "predicate linker" to my knowledge was first proposed by Adam Werle (*p.c.*), although the recognition of it as some kind of coordinator dates to Sapir and Swadesh (1939), where it is given in the dictionary as 'meanwhile.' As this section will demonstrate, 'meanwhile' is not quite sufficient to explain the semantics of *-(q)ḥ*.

I believe the linker morpheme links two predicates together with the semantics of AND. While it is commonly attached to verbs, it can be attached to anything that can be a predicate. In cases where the linker appears not to be attached to a predicate, I will claim it is actually attaching in a predicative second position.

4.1 Verbs

A canonical example of the quantifier linking two predicates is in an utterance describing motion and manner.

(22) waałšiƛẁitasniš ƛiḥaaqḥ.

    wał-šiƛ-LS-ẁitas=niˑš   ƛiḥ-aˑ-(q)ḥ
    go.home-MO-GRAD-going.to=STRG.1PL drive-DR-LINK
    'We're going to drive home.' (**C**, *tupaat* Julia Lucas)

It's important that both of the verbs in (22) share the same subject, which is expressed in the clausal second-position clitic complex and scopes over both predicates. It is not possible to interpret (22) in such a way that we are going home but someone else is driving unrelatedly. The rough semantics look like:

(23) $\exists x$ 1PL(x) & GO-HOME(x) & DRIVE(x)

The predicate linker scopes over both verbs and identifies the first argument of each as being identical with whatever the subject is. That is, the predicate linker has a semantics (roughly) like:

(24) $\exists x$ PRED1$(x, \ldots)$ & PRED2$(x, \ldots)$

This pattern can be seen again with the verb *hił* 'be at a location', which frequently takes the linker.

(25) hiłḥʔii ḥuu wiinapuƛ.

    hił-(q)ḥ=!iˑ   ḥuu wiinapuƛ
    be.at-LINK=CMMD.2SG D4   stop.MO
    'Stop there.' (**N**, Fidelia Haiyupis)

The force of the command scopes over both predicates. (25) cannot mean you be there, and someone else is stopping. The rough semantics of (25) are below in (26).

(26) $\exists x$ 2SG(x) & BE-AT$(x,$ THERE$)$ & STOP(x)

4.2   Quantifiers

There is reason to believe that quantifiers are a sub-class of adjective in Nuuchahnulth, but they are common enough and it is illuminating enough to treat them separately from non-quantificational adjectives (see §4.3). Quantifiers often take the linker, perhaps more frequently than any other part of speech. With a linker attached, quantifiers always refer to the subject of a clause, and can only have the objective reading without a linker (27, 28).

Context: I and my family are looking for a gift for my sister's birthday.

(27)   ʔuušqḥ ʔuuwaʔaƛ.

ʔuuš-qḥ   ʔu-L.waƛ=!aƛ
some-LINK   x-find=NOW
'Someone found it.' *He/she/they found something. (**C**, *tupaat* Julia Lucas)

(28)   ʔuuwaʔaƛ ʔuuš.

ʔu-L.waƛ=!aƛ   ʔuuš
x-find=NOW   some
'They found something.' *?? Someone found it.* (**C**, *tupaat* Julia Lucas)

It is extremely difficult to force (28) to have an interpretation where the quantifier is the subject, and Julia Lucas rejected it.[6] However, speakers will occasionally produce sentences like (28) that have a subjective interpretation. On another occasion, Julia Lucas produced (29), when talking about people's ability to perform traditional challenges.

(29)   ʔuušʔiišʔaał wičik, ʔuuš ʕaċik, ʔuuš ʔumaaqƛ ʔuuy̓ip.

ʔuuš=ʔiˑš=ʔaał   wičik,   ʔuuš ʕaċik, ʔuuš ʔumaaqƛ
some=STRG.3=HABIT not.talented, some talented, some able.to
        ʔu-iˑy̓ip
        x-get
'Some are not talented, some are talented, some are able to get (the challenge).'

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[6]   The order of the quantifier with respect to the main predicate is less important in (27, 28) than it may appear. Quantifiers in Nuuchahnulth frequently (but optionally) front. I do not have a good understanding of when quantifiers front and when they fail to do so, but in all of (27, 28, 29) the quantifiers are semantically identified with an argument of the main predicate, regardless of whether they front.

In (29), the quantifier *ʔuuš* 'some' is still interpreted as the subject of all the verbs, including the final transitive verb, which is very similar to the structure in (28). Clearly the syntactic parallelism in (29) is important in providing the right interpretation. This demonstrates two important things. First, that the objective interpretation of *ʔuuš* in (28) is a pragmatically preferred one, not an absolute grammatical requirement. And second, since *only* the subjective interpretation is possible with the linker, the linker is coordinating predicates below the scope of the clausal clitics, which means below the subject. So the semantics for (27) look like (30).

(30) $\exists x$ SOME(x) & FIND(x,y)

And the semantics of (28) are in (31).

(31) SOME(x) & FIND(y, z) & ($x = y$ OR $x = z$)

Because *ʔuuš* is in participant position in (28), it must be the subject or the object, thus the $x = y$ or $x = z$. But Since *ʔuuwaƛ* 'find' is transitive, it's not syntactically clear which argument is dropped. Pragmatically, speakers choose the objective interpretation, because if the speaker had wanted to make *ʔuuš* a subject, the sentence (27) is available and is unambiguous.

The presence or absence of the linker in the right context can affect the grammaticality of a sentence, as in (32, 33).

Context: I have landed on the beach in a canoe. While I am visiting, a wave carries it out and it sinks. One person sees it happen and I hear about it from him.

(32) ṅaacsiičiƛweʔin ċawaakḥ niiʔatu čapac.

      ṅaacs-i·čiƛ=we·ʔin ċawaak-ḥ niiʔatu čapac
      see-IN=HRSY.3   one-LINK sink   canoe
      'One person saw the canoe sink.' (**B**, Bob Mundy)

(33) *ṅaacsiičiƛweʔin ċawaak niiʔatu čapac.

      ṅaacs-i·čiƛ=we·ʔin ċawaak niiʔatu čapac
      see-IN=HRSY.3   one   sink   canoe
      Intended: 'One person saw the canoe sink.' (**B**, Bob Mundy)

When presented with (33), Bob said, "It sounds incomplete. One what? Which one?" The numeral *ċawaak* cannot be a participant without an article (see §3), so the article-less *ċawaak* 'one' cannot be a participant subject of 'see' in (33) and the sentence is ungrammatical. However, if it is linked as a co-predicate with 'see' (32), then both predicates share the third-person subject clitic and the sentence works with the semantics of (34).

(34) $\exists x$ 3RD(x) & ONE(x) & SEE(x, $\exists y$ SINK(CANOE(y)))

4.3   Non-quantificational Adjectives

The linker can also attach to non-quantificational adjectives, as in (35) and its semantic interpretation (36).

(35)   tik̇ʷaamitweʔiš čims ḥaaʔakqḥ.

   tik̇ʷ-aˑ=mit=weˑʔiš čims ḥaaʔak-qḥ
   dig-DR=PST=HRSY3 bear strong-LINK
   'The bear was digging and strong.' (**C**, *tupaat* Julia Lucas)

(36) $\exists x\ 3(x)$ & DIG(x, y) & BEAR(x) & STRONG(x)

4.4   Nouns

We have already seen the predicate linker on an adjective coordinating with a later noun predicate (35), but it is much rarer to get the linker occurring on the noun itself. This can be forced in linguist-created sentences, but I was fortunate enough for my consultant Julia Lucas to provide a few examples in running texts. (37) is from the start of a traditional myth. I provide the semantics in (38).

(37)   łuucmaqḥitqačaʔaał taakšiƛ p̓iišmita.

   łuucma-qḥ=(m)it=qača=ʔaał   taakšiƛ p̓iišmita
   woman-LINK=PST=INFR=HABIT always gossip
   'There was a woman who kept gossiping.' (**C**, *tupaat* Julia Lucas)

(38) $\exists x\ 3RD(x)$ & WOMAN(x) & ALWAYS(GOSSIP(x))

   On another occasion, Julia Lucas began another story with the same construction as (37). When Adam Werle asked her why she did it this way, Julia said, "Because it is the start of a story." This is not much to go on, but it may be the case that the kind of structure seen in (37) is considered poetic or fancy Nuuchahnulth. This is not outlandish. English sentences can take on a literary air the more conjunctions they hold (sentences of a certain genre or style, such as Virginia Woolfe or William Faulkner). Ancient Greek was considered more literary the more participial phrases one could add to the sentence, thus the awkwardly long sentences in some English translations. Perhaps adding predicates to a clause has a similar effect in Nuuchahnulth.

   There seems to be a stylistic choice behind sentences like (37). The grammaticality of it, however, fits with the understanding of nouns as one-place predication. In fact, (37) should not be a possible sentence if 'woman' were a zero-place predication.

4.5 Adverbs: A counterexample?

Somewhat surprisingly, the linker can be added to adverbs in certain contexts.[7] This is present in the Nootka Texts (Sapir and Swadesh 1939), although it is rare.[8] I was able to replicate one example (39) with the right context, and prompted (40) by asking if the word *qiiqḥ* could be used when reviewing the story that began with (37).

Context for (39): My friend is going bald. I'm also going bald but I don't look in the mirror much and haven't noticed.

(39) ẏuuqʷaaqḥs ʕasqii ʔaanaḥi wik hinʔałšiƛ.

ẏuuqʷaa-qḥ=s   ʕasqii ʔaanaḥi wik hinʔał-šiƛ
also-LINK=STRG.1SG bald   only   NEG realize-MO
'I'm also bald but I don't know it.' (**C**, *tupaat* Julia Lucas)

(40) qiiqḥʔaƛqač̓a p̓iišmita yacmaas.

qii-qḥ=!aƛ=qač̓a   p̓iišmita yac-maas
long.time-LINK=NOW=INFR.3 gossip   walk-in.the.village
'She must've been walking around the village gossiping for a long time.'
(**C**, *tupaat* Julia Lucas)

The linkers in both (39) and (40) aren't attaching directly to predicates. Instead they are attaching to modifying adverbs. But in each case, the entire predicate complex of adverb + predicate is in turn coordinated with a further predicate. This is evidence that the predicate linker may actually be in second position of a predicate complex. So the linker in (39) is still linking two predicates, 'also bald' and 'only not realize' (as in 41), and the linker in (40) is linking 'a long time gossip' with 'walk around the village' (as in 42).

(41) $\exists x$ 1SG(x) & ALSO(BALD(x)) & ONLY(NOT(REALIZE(x)))

(42) $\exists x$ 3RD(x) & A-LONG-TIME(GOSSIP(x)) & WALK-AROUND-VILLAGE(x)

So cases where the linker attaches to adverbs are not in fact an example of the linker performing a different role than predicate coordination. Rather, they demonstrate that there is a predicate phrase consisting of the predicate plus any accompanying adverbs, and the predicate linker is in the second position of that phrase.

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[7] This is surprising because adverbs are not predicates as verbs, nouns, and adjectives are. I have kept my semantic sketches simple in this paper, but there is a sharp distinction between an argument that is an entity–such as the arguments of GO-HOME(x), SOME(x), CANOE(x)–and an argument that is an event–such as the argument of ALSO(e). A further discussion of the event/entity distinction in Nuuchahnulth must be left for another paper.

[8] I would like to acknowledge Matthew Davidson for providing a searchable database of the Nootka Texts, and Adam Werle for putting this into a convenient spreadsheet format.

4.6 "Dangling" Linkers

There are a few examples where the linker does not appear to be linking its predicate to anything. These look like counterexamples to the analysis so far, but I believe that the interpretation of these cases shows that there is an elided phrase. When discussing doing various things for a long time, a consultant produced (43).

(43) qiiqḥ?aƛs mamuuk.

    qii-qḥ=!aƛ=s   mamuuk
    long.time-LINK=NOW=STRG.1SG work
    'I've been working a long time.' (**N**, Fidelia Haiyupis)

There is no second syntactic predicate in (43), only the solitary from *mamuuk* 'work.' My consultant also accepted the same sentence without the linker.[9] Since this sentence occurred specifically in a discourse context of performing various tasks for a long time, I believe (43) is similar to beginning a sentence with "and" in English. "And here is another thing I've been doing a long time: working." However, this kind of "dangling" linker in Nuuchahnulth is in my experience far rarer than a dangling, sentence-initial "and" in English.

There is also a formulaic farewell (44) that contains a "dangling" linker.

(44) ?u?aaɫukḥ?i?aɫ.

    ?u-!aaɫuk-(q)ḥ=!iˑ=?aɫ
    x-look.after-LINK=CMMD.2SG=HABIT
    'Take care!' (**N**, Fidelia Haiyupis)

I believe that there is a canonical, elided phrase in (44). The meaning is clear in context: "Good-bye, look after yourself, whatever it is you are doing." However, "whatever it is you are doing" is dropped from the sentence, and we are left with "look after (yourself)," complete with a linker, and the rest is understood.

As mentioned, these "dangling" linkers are rare in Nuuchahnulth, and in my experience speakers won't accept them out of the blue, unless it is formulaic as in (44).

4.7 Summary

The predicate linker *-(q)ḥ* coordinates two predicates beneath the scope of the second-position clausal clitics, which crucially includes the clause's subject. Because verbs, nouns, and adjectives (including quantifiers) are all predicative, all

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[9] She felt there was a difference though and struggled to explain it. She suggested it may have to do with time, with (43) (with the linker) indicating working for a relatively longer period, but then became unsure. I suspect there is something to do with the context here. We were already speaking about performing various tasks, using the word *qii* 'long time' quite a lot, and the linker in (43) may simply indicate that this utterance is connected to the previous discussion.

are potential sites of attachment for the predicate linker, which is free to coordinate with mix-matched syntactic categories. Importantly, the subject-sharing requirement of linked predicates could only work with nouns if those nouns have at least one semantic argument that can be identified with the subject in the clausal clitic complex. A zero-place predication could not function in this way.

The predicate linker can also attach to adverbs. However, in this case it is coordinating the entire adverb + predicate with a still-later predicate. This allows for an analysis where adverbs are not syntactically predicative, and also provides evidence for a predicate phrase below the level of the clause, with its own second position, which I have termed the predicate second position.

5   Conclusion

I have shown that verbs, adjectives, and common nouns in Nuuchahnulth are all syntactic *predicates* and are also at least one-place semantic *predications*. These parts of speech may all be put into syntactic predicate position, directly accepting syntactic participants which fill a semantic argument. The semantic arguments of verbs and adjectives are not accessible as syntactic participants outside their predication without the use of the article, while proper nouns are zero-place predications which do not have any semantic arguments and may not have an article attached. Common nouns alone may have their argument accessed by other predications without the article present, suggesting that common nouns may have their argument type-raised without an overt marker in the syntax. The predicate linker is able to overtly connect any two predicates—verbs, adjectives, and nouns—in the syntax. The scoping of the predicate linker requires that the two predicates' first semantic arguments are identified with each other and the subject of the clausal clitic complex.

The combined evidence from the article and predicate linker provides a good reason to consider this semantic analysis for Nuuchahnulth. It also means that there is no need for a separate copula predication (BE or COP) when modeling non-verbal predicates, as in (2, 3).

It remains an open question if this model for nouns is beneficial when looking at other languages. While we may want to scope nouns when doing set-theoretic modeling, it's not clear that this is something the language itself is providing, or if it is something we are adding to make our mathematical semantics behave properly. I've demonstrated that, at least for Nuuchahnulth, there are language-internal reasons to model common nouns with a semantic argument. I am not eager to assume that this extends to all languages. To put it generously, linguistic work in the Pacific Northwest challenges assumptions about linguistic universality. What would it mean to assume that nouns are *lexically* specified as having arguments in other languages? Would such an analysis make particular predictions about syntactic phenomena in those languages? Are those predictions borne out in the data? A good place to start looking for this kind of behavior is in other languages of the Pacific Northwest sprachbunde. Many of the features present in Nuuchahnulth (predicate-initial, predicate-flexible) are also true of neighboring Salish languages.

It would be valuable to see if the analysis presented here translates to languages in Salishan and beyond.

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A   IGT Conventions

Table 1 gives a list of non-standard abbreviations used in the IGT of this paper.

In addition to these abbreviations, there are certain other conventions in the representation of underlying forms. A consonant in parentheses () is typically only realized after a vowel or nasal. An exclamation point ! means that the preceding segment is hardened if possible (+glottalic), and otherwise inserts a glottal stop. Similarly a degree symbol ° indicates that the preceding segment is softened if possible (-glottalic), and otherwise inserts a glottal stop. These hardening and softening rules differ slightly between suffixes and clitics (Werle 2010).

Table 1: Non-standard abbreviations

Abbreviation	Full Name	Description
IN	inceptive	the inceptive aspect
MO	momentaneous	the momentaneous aspect, similar to perfective but may indicate the start of an event rather than its completion
DR	durative	the durative aspect
GRAD	graduative	the graduative aspect, similar to English progressive
NOW	now	indicates the beginning of the next event in a sequence
STRG	strong mood	strong claim to factual status, non-Barkley sound
REAL	real mood	strong claim to factual status, Barkley sound only
NEUT	neutral mood	no claim to factual status or a continuation of previous factual claim
HRSY	hearsay mood	the status of the event is based on hearsay
INFR	inferential	the status of the event is inferred from other information
X	—	a semantically empty object (ʔu) that certain suffixes must attach to
ART	article	the article
D1, D2, D3, D4	deictic (1, 2, 3, 4)	a demonstrative deictic, with 1 being closest to the speaker and 4 furthest away

There are other morphemes that have effect on the realization of vowel lengths. I represent variable-length vowels with the Nuuchahnulth standard symbol ˙. These vowels are long if they occur in the first two syllables of a word and otherwise short. Other segments affect the lengths of the first one or two syllables in a word. These segments represented with capital L and S. For instance, the graduative morpheme is simply a long-short vowel template, and represented in the segmentation line as LS. The suffix meaning 'find' contains the segment -waλ and lengthens the first vowel in the word. It is represented in the segmentation as -L.waλ.

The Lost Lexicon of George Dawson

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Abstract: This paper presents a seven hundred entry, one-hundred-and-thirty-three year old Kwak̓wala wordlist. It displays the original entries along with their English translations, as well as modern recreations of these words using the Um̓ista orthography. This resource endeavors to provide the reader with an insight into an older version of Kwak̓wala, as well as retrieve some vocabulary otherwise lost to time.

Keywords: Kwak̓wala, Kwakwaka̱'wakw, Wordlist

1   Introduction

This paper is a recreation of a wordlist found at the end of a resource titled "Notes and Observations on the Qwakiool People of the Northern Part of Vancouver Island and Adjacent Coasts, Made During the Summer of 1885; with a Vocabulary of About Seven Hundred Words." It was authored by a geologist named George M. Dawson, who traveled around BC's coast and islands at that time, conducting examinations of the natural environment. This work put Dawson in intimate association with the Kwakwaka̱'wakw people of the time, who taught him about their language and customs.

Dawson organized his wordlist by following a previous body of work titled "Introduction to the Study of Indian Languages" by Major J. W. Powell. Dawson states that he elicited the help of an educated speaker, as well as a good interpreter (both unnamed), to compile this list. He claims that this work is superior to a previous publication which was distributed to some communities in the area titled "Comparative Vocabularies of the Indian tribes of British Columbia" by Dr. Tolmie. Despite Dawson's description of his wordlist being more exact than Tolmie's, it still suffers from severe underrepresentation of the rich phonemic inventory of Kwak̓wala, and as such poses some challenges in the modern recreation of each word form. Nevertheless, this resource offers what few others can: an accurate link to a pre-1900s version of Kwakwaka̱'wakw life, as well as many words otherwise lost to antiquity.

The wordlist below follows exactly the order and grouping of Dawson's 1885 lexicon. I present the data first with the English translation, then with Dawson's entry, and finally with the modern equivalent. I came about the

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[1] Please contact me with any suggestions or errors: kwanwalabidu@gmail.com

modern equivalent through research with the FirstVoices website, the Grubb Dictionary (1977), and with a mother tongue speaker of Kwakʼwala[2]. I have not bothered to include every one of Dawson's diacritics in his entries, as doing so added little to the modern intelligibility and proved very time consuming.

Some modern transcriptions also have a further English gloss in brackets ( ), where the modern meaning diverges from that stated by Dawson. Modern entries beginning with an asterisk * are my own reproductions of the Dawson transcription into the Uṁista orthography without any modern verification that this lexeme is still in use. Entries surrounded by square brackets [ ] are modern words which match the English description, but are not similar to Dawson's transcriptions. In some cases, I give both a recreation of Dawson's entry, as well as the distinct modern word in square brackets.

It is my hope that this work will add some forgotten words to the Kwakʼwala lexicon, and therefore be of use to linguists and language learners alike.

English	Dawson	Uṁista

1   Persons

English	Dawson	Uṁista
man	poo-wha'-num bookwa-num	bagwanam
woman	sut-ak'	tsʼadak
old man	noo'-mas kwul'-yukoo	numas kwalyakw
oldwoman	tlik.wa'-ne	tłakwani
young man	he-uhl-a'	hiła
young woman	atloos'-taw-kus	ałustogas
virgin	ke'-i-a'-la	kayala
boy	pa-pa-koom'	babagwam
girl	tsa-tsa-ta'-kum	tsʼatsʼadagam
infant	kin-a-num	gananam
infant just born	we-yok'-o-mal	wiyugwamala
twins	yi-kwitl'	yakwił
widower	pukios'	bagwo's
widow	kukios	gago's
old people	no'-ne-mas	ninumas
young people	a-tloos'-taw	ałusto
great talker	ki-aw-tola	katola (good writer) [yakantinux] (good talker)
silent person	a-moo'k	malxu
thief	kil-oo-tle-'k	galutłikw

2   Parts of the Body

Head	hioo'-mis	xum's
Hair	se'-i-a	saẏa
Crown of the head	oh-tle-e	ux̱wtłe'
Scalp	kun-uh-kle-e	gwa̱mux̱wtłe'
Face	ko'-kum-a-e	gugwa̱me'
Forehead	o-kwi-wa-e	ugwiwe'
Eye	ka-yak-us	gayaga̱s
Pupil of the eye	tsa'-ats-o-pe-lik	dza̱dza̱xstubilik̲
Eyelash	ha-pe-lih	habilik̲
Eyebrow	a'-un	a̱'a̱n
Upper eyelid	o'-e-ki-atl-tawe	a̱wigałtoẏi
Lower eyelid	pun-kio-tax-tawe	ba̱nkutstoẏi
Ear	pus'-paio	ṗaspa̱ẏu
Perforation in the ear	kwa-wutawe	udiłba̱nd
Nose	hein-sus	xa̱ndzas
Ridge of nose	ko-ko-ya-yilh-pa-e	xagiłba̱ẏi
Nostril	ai-wa-kai-nis-pa-e	a̱bsudiłbe'
Septum of nose	awa-koh-ste-e	awak̲o̱xste'
Cheek	a-oom-ya-e	a̱wa̱mẏe'
Beard	ha'-puh-sta-e	ha̱ba̱xste
Mouth	sims	sa̱ms
Upper lip	ai-kio-tuh-sta-e	a̱wik̲uda̱xste'
Lower lip	pun-kio-tuh-sta-e	ba̱nk̲uda̱xste'
Tooth	ki-ki	g̱igi
Tongue	kil-lim	ka̱la̱m
Saliva	kwe-stu'kw	kwa̱s'id [ẇabitła̱xawe']
Palate	e-kio-TILH	ikotił
Throat	pets'-a-ha-wa-e	ṗitsa̱xawe' [k̲uk̲uṅa]
Chin	o-tlas'-ke-e	a̱wx̱dłasxe'
Neck	o-ha'-wa-e	a̱waṗe'
Adam's apple	ko'-ka-wha-wa-he	k̲uk̲wa̱xawe'
Body	o'-kwin-a-e	uk̇wine'
Shoulder	ok'-si-ya-pa-e	uxsa̱ẏaṗe'
Shoulder-blade	pa-lot'-se	pa̱luṫsi
Back	a-wi-ke-e	a̱wige'
Breast	o-paw'-e	u'boẏi [usga̱me']
Hip	o-noo-tse-e	a̱nu'dze'
Belly	ta-'ke'	ta̱ki
Navel	kut-a-lo'-kwut-se	gada̱luk̇widze'
Arm	e-yus-so	a̱ẏasu
Right arm	hel'-kiots-e-ya-pai-e	hiłkułṫsane'

Left arm	'kum-howilts-e-ya-paie	g̱am'x̱uⱡt̓sane'
Arm pit	tum'-kwa'lus	d̓amgwa̱las
Elbow	tla-kwan-e	ƚ̓akwani
Wrist	o-tlah'-tsan-a-e	uⱡax̱t̓sane'
Hand	…	a̱ẙasu
Palm of hand	o-tsoh'-tsan-a-e	udzox̱t̓sane'
Back of hand	owi-ki-a'tsan-a-e	awiga̱ⱡt̓sane'
Fingers	kwa-kwa-tsan-a-e	k̓wak̓waxt̓sane'
Thumb	ko'-ma	ḵuma
Pointer finger	tsi-mal'-a	t̓sa̱mala
Longer finger	no'-la	ṅula
Shorter finger	ke'-eta	k̓eda
Shortest finger	sil-ta'	sa̱ⱡta
Finger nail	tsum-tsum	t̓sa̱mt̓sa̱m
Knuckle	oh-tle-e	*oxtⱡe'
Space between knuckles	a-wah-ko'-tsan-a-e	a̱wabot̓sane' (under finger)
Rump	a-who-koh'-tla-e	awap̓a̱x̱ste'
Leg	kio-kwai-o	gugwa̱ẙu
Leg above knee	e-wun-ool-kia-e	iẇa̱nudze'
Knee	o-kwe-ha-i'	kwexe' [up̓ige']
Leg below knee	…	
Calf of the leg	a-wa'-pit-sa-e	*a̱wap̓e'sis
Ankle	…	x̱ax̱a̱ga̱nukwsidze'
Ankle bone	ka-atl'-ko-'kw	x̱ax̱a̱ga̱nukwsidze'
Foot	…	gugwa̱ẙu
Sole of foot	pulk-a'-sit-sa-e	*pa̱lkaxsidze' [udza̱ga̱tⱡe']
Heel	oh-tlah'-sit-sa-e	aẇx̱dⱡaxsidze'
Toes	kwa-kwak-sit-sa-e	k̓waḵaxsidze'
Large toe	ko-ma-sit-sa-e	ḵumaxsidze'
Second toe	tsim-a-lak-sit-sa-e	t̓sa̱malaxsidze'
Third toe	no-lak-sit-sa-e	ṅulaxsidze'
Pinky toe	…	sa̱ⱡtaxsidze'
Toe nail	tsum-tsum-sit'-sa-e	t̓sa̱mt̓sa̱mxsidze'
Blood	al-kwa	a̱lkwa
Vein or artery	na-sa-e	*nase' [a̱lgwat̓si]
Brain	tluk-wa'	ⱡa̱kwa
Bladder	te'-hat-se	esat̓si'
Gall	tuh-mas	*tix̱as [pux̱wa̱ns]
Heart	muk-o-paw'-e	*na̱wik̓wa̱pawe'
Lung	kwa'-wha	*x̱waxwa
Liver	te-wana	tiwani
Stomach	po-whuns	pux̱wans
Rib	ka-lum'	ga̱la̱m
Spine	hum-oom-oi-ki-a-e	*ha̱mumuḵa̱la [x̱agige']

| Bone | ha-'kh | x̱aḵ |
| Intestines | ya-hi-kil' | ẏax̱y̱agił |

3   Dress and Ornaments

Cap	kla-tumlh'	tła̱ta̱mł
Moccasins	pel-poh-tsi-tsa-e	*pa̱lpotsit́se' [sa̱libas]
Cedar-bark hat	tin-sum	da̱ntsa̱m
Short petticoat	tse-a-'ph	tsep (apron)
Girdle	tse-up-tums-a	*tsepta̱msa
Garters	ke-tsuk-tsi-tsa-e	*ḵa̱tsukwt́sidze'
Cedar-bark blanket	kio'-pa-os	kuba̱ẇa
Robe of mink skin	mat-sus-kum	m̱a̱tsasga̱m
Sinew thread	a-tum	at́a̱m
Necklace	kun-ha-wa-e	ḵanx̱awe'
Cedar-bark neck-cloak	wah-saw	*a̱waso [yay̱a̱ngayux̱awi]
Bracelets	ye-kwoi-kila	k̇ukwa̱la
Pouch	tla-pa-tin-ootsa-e	*ła̱pata̱nutse'
Rod in nose	o'-tai-in	udiłba̱nd
Ear-rings	teis'-tuk-wa	tista̱k̇wa
Nose-ring	wa'-lil-pa-e	wa̱lgiłbe'
Paint (black)	tsotl-na	*t́su̱łna
Paint (red)	ka-kom'-yin	*tła̱ka̱my̱an
Barehead	lool-sum-a	lulsa̱ma
Barefoot	lool-tsi-sila	lultsisa̱la
Naked	ha'-na-la	x̱aṅala

4   Dwellings

Village	kio-kwila	gukwila (to live)
House	kiok	gukw
Doorway	ta'-hila	ṯa̱x̱a̱la
Somke-hole	kwa-natze	kwanat́si (stovepipe)
Fire-place	luk-wilus'	la̱gwilas
Fire	kwul'-ta	*kwa̱lta [xiḵa̱la]
Fire-wood	luk-wa	laḵwa
Blaze	a-no-pe-hula	a̱nuba̱x̱a̱la (sparks)
A light	kwa-katla	ḵwa̱ḵa̱ła
Dead coals	tsult'-na	*t́su̱łna
Ashes	kwun-a-e	gwane'
Smoke	kwa'-hila	kwax̱a̱la
Soot	kwa'-tloops	k̇wa̱łubas
Poker	klun-ka-klata'	*tła̱nkatła̱la

A seat	kwa-ta-milh'	ḵwagalił
Seating place	kwat-se-lus	ḵwaga'las
Upright house post	tla'-mi	dłam
Main house rafter	kiat-te-wahe	katił
Mat	kle-wa-e	tłabił
Bed	ke-e-lus	ḵwa'las
Floor	pa'-eilhł	bańił (below, inside)
Ceiling	se'-la	*sela [po'yo'yi]
Wall	tsa'-kum	tsagił
Lintel	ka-i-kial-taw-e'	*gikạltowe'
Window opening	na-kwatse	*nakwatsi
Carved post	tla-us	dłam
Carved post	tla-elh	*dłạmił
Stairway	ta-heil-ten'	ṭaxaxaliłạla
A stone	tai-sum	ṭisạm
Paint mortar	kia-tatse'	*kataṭsi
Spring	wa-wa-kula	*ẇaẇaḵuła [ḵułustola]
Water	wap	ẇap

5   Implements and Utensils

Bow, of wood	tli-kwis'	łạḵ̇wi's
Bow string	tli-kwi-tsim	łạḵ̇wi'stim
Arrow	a-nut-lum	hanatłạm
Notch in arrow	kul'-pas	galpas
Stone arrow-head	TLUH-pa-e	*tłạxpe'
Arrow feathers	tsul-kiuh-ste-e	*tsạlkaste'
Quiver	a-na-tlum-atze	hantłạmaṭsi
War-club (stone)	klah-sta-la	*tłaxstạla
Fish-club	tul'-wa-kan	ṭalwaḵa
War-spear	mas-to'	*matso [sạka]
Sling	yin'-ka-yo	yạnkayu
Canoe	wha'-kwunna	xwakwạna
Canoe (large)	kwuh'-um	xwaxạm
Canoe (medium)	whi-took-u'h	xwitạx
Canoe (small)	wha'-who-koom	*xwaxwạkạm [ṭugwạga]
Fish-line	to'-kwa-a-no-e	*dukwanowe' [ḵipix̣]
Fish-line, of kelp	sa'-na-patl	*sanapał
Fish-net	ke'-tlum	kidłạm
Oolachan net	how-tai-o	*x̣utạẏu [ḵạna]
Halibut hook	yi-kio	yạku

6   Food

Food	he-ma-omis	ha̱ma'umas
Meat	ul'-tsi	a̱ldzi
Milk	tsa-me	dza̱m̓e' (breast milk)
Juice	sa-a'k	*sak
Dried salmon	ha'-mas	x̱a̱mas
Dried herring-eggs	a-unt'	a̱'a̱nd
Dried meat	lumo-ul'-tsi	*la̱mxwa̱lt̓si [x̱a a̱ldzi]
Dried halibut	'kia'-was	k̓awas [ma̱lmadzu]
Oolachan grease	'kli'-ina	t̓lin̓a
Dried berries	'ta-uk-a	ṯa̱k̓a
Dried clams	kioo'-matse	kumat̓si
Hemlock cambium	law-KH	*lawx̱
Dried sea-weed	hluk-us-tun'	[la̱mxwa x̱a] ɬa̱ḵa̱sta̱n

7   Colours

Black	tsoo-tla	t̓suɬa
Blue	tsa'-sa	dzasa
Brown	kle-aha	kwa̱n'x̱a
Green	klin-huh	t̓la̱nx̱a
Red	tla'-kwa	t̓la̱ḵwa
White	mel-a	ma̱l̓a
Yellow	klin-huh	t̓la̱nx̱a (lema̱nstu)

8   Numerals

One	num	n̓a̱m
Two	matł	ma̱'ɬ
Three	in-tooh	yuda̱xw
Four	mo	mu̱
Five	sik'-i-a	sa̱k̓a
Six	ka-tla	ḵatɬa
Seven	atle-poo'	a̱dɬa̱bu
Eight	matl-kwin-atl'	ma̱'ɬgwa'naɬ
Nine	na-ne-ma'	n̓an̓a̱ma
Ten	les-too'	la̱stu
Eleven	num-a-gioo	n̓a̱magiyu
Twelve	matl-e-gioo	ma̱'ɬa̱giyu
Thirteen	intooh-wha-gioo	yuda̱xwagiyu
Fourteen	mo-a-gioo	mu̱wagiyu
Fifteen	sik-i-a-gioo	sa̱kagiyu

Sixteen	ka-tla-gioo	k̲at̓lagiyu
Seventeen	atle-poo'-gioo	ad̲łabugiyu
Eighteen	matl-kwin-atl-gioo	ma'łgwa̲'nałgiyu
Nineteen	na-ne-ma-gioo	na̓na̲m̓agiyu
Twenty	mat-sum-gioo-staw	ma'łtsa̲mgusto
Twenty-one	nu'-num-a-kaw-la	na̲na̓mgola
Twenty-two	a-matl-aw-la	ha̲ma'łola
Twenty-three	in-te-heaw-la	ha̲yuda̲xola
Twenty-four	a-mo-a-kaw-la	ha̲mugola
Twenty-five	sik-i-a-kaw-la	sikasga̲mgola
Twenty-six	ka-tla-kaw-la	k̲at̓lagola
Twenty-seven	atl-po-kaw-la	ad̲łabugola
Twenty-eight	a-matl-kwin-alt-heaw-la	ha̲ma'łgwa̲nałola
Twenty-nine	na-ne-ma-kaw-la	n̓ana̓na̲m̓agola
Thirty	in-tooh-sim-gioo-staw	yuda̲xwsa̲mmgusto
Fourty	mo-skum-gioo-staw	musga̲mgusto
Fifty	sik-i-a-stum-gioo-staw	s̲akasga̲mgusto
Sixty	ka-tlas-kum-gioo-staw	k̲at̓lasga̲mgusto
Seventy	atl-poo-kum-gioo-staw	ad̲łabusga̲mgusto
Eighty	matl-kwin-atl-sum-gioo-staw	ma'łgwa̲'nałsga̲mgusto
Ninety	na-num-soo-kwa:	na̓na̲m̓sukwa
One hundred	la'-kin-te	lak̲a̲nd
One hundred and one	la̲-kin-te-he-me-sa-num	lak̲a̲nda ha̲m̓e sa n̓a̲m
One thousand	loh-sum-git	lux̲wsa̲mx'id
One half (in length)	ap-spa-e	sups'a̲nd
One half (in volume)	nuk-o-yawla	*nak̲ayawa̲la
One half (in solids)	nuk-sa-a-kh	*nukwsa̲'ax̲w
All	na-wha	naxwa
None	ki-aws	k̲a̓yo's

9   Division of Time

A year	num-ah-unh	n̓ama'a̲nx̲
A moon	num-skum	n̓amsk̲a̲m
A half moon	nuk-sa-e	na̲xs'a̲'akw m̲akwala
First quarter of moon	hwut-tai-oo	*x̲wutayu
Last quarter of moon	hi-na-kwula	*hinakwa̲la

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Day	na'-la	ṅala
Night	ka'-nootl	ganuł
Dawn	nu-na-kwula	ṅa'nakwa̱la
Sunrise	tle'-tsin-a-kwula	t̓lisinakwa̱la
Morning	ka-al'-a	ga̱'ala
Mid-forenoon	ka-al'-a-pai	*ga̱'ala̱p̓ayi
Noon	nuk'-ke-la	na̱k̲ela
Afternoon	kwa'-punt	*kwaba̱nd [gwał na̱k̲ela]
Sunset	len'-sa	*la̱nsa
Dusk	tsa-kwun-a-kula	dza̱kwanakwa̱la
Evening	tsa-oos-too-wit	dza̱x̱wstux̱wi'd
Midnight	nuk-ai'-ki-e	na̱gige'
Day before yesterday	he-look-swtł	hilux̱wsoł
Yesterday	hlen-swtł	ła̱nswa̱ł
Today	wha-na-luh	x̱wa ṅalax̱
Tomorrow	hlin-stla	ła̱nsłe'
Day after tomorrow	he'-looh-sa	hilux̱wsa
Now	hoh-te	x̱ux̱w da ____
October	wul-et'-sun-uh	*wa̱letsa̱na [ṁagwaboẏi]
November	ki-okwa-tela-an-uh	*kokwata̱la'a̱na [gwax̱sa̱m]

10   Standards of Value

Dentalium shells	utl-tl-a or a-tl-a	*ułtła or *atła
Blanket (2.5 point)	ul'-hul-as-kum	p̓alx̱alasga̱m
Copper (large)	tla-kwa	t̓la̱k̲wa
Copper (small)	tla-tloh-sum	t̓latłoxsa̱m

11   Animals

Bat	ba'-kwul-ow-e	ba̱k̲wa̱lawi
Beaver	tsa-we	t̓sawi
Bear (grizzly)	gil-a	ga̱la
Bear (black)	kla-e	t̓laẏi
Dog	wat'-se	wat̓si
Deer (general)	kai-was	giwa̱s
Fawn	to-pe-wa	tup̓ina
Deer (half grown)	ko'-kwaio	*gagwa̱yu
Deer (buck)	wut-look	wa̱dła̱kw (wa̱dła̱m – antlers)
Elk	tla'-wols	t̓lawa̱l's
Ermine	ki-kil-um'	gaga̱la̱m
Fox	a-tsai	*a̱tsa'i
Goat (mountain)	mul'-uh-klo	ṁa̱lx̱tłu

Lion (mountain)	put-e'	ba̱di
Mink	mut-su	ma̱tsa
Mouse	ki-ki-a-tsuk	giga̱ẏatsaga [he̱łamolaga]
Mole or Shrew	kiap'-kepu-s	*kap̓kapus (gnawed thing)
Marten	kluk-uh-kio	tła̱ga̱kw
Otter	hoom'-te	x̱wa̱mdi
Otter (sea)	'kas-uh	ḵa̱sa
Porcupine	mi-hite	mix̱a̱di
Rabbit	us-aw-a	da̱xdus (Haisla)
Racoon	mai'-oos	mayus
Seal	mi-gwat	migwat
Seal (fur)	HA-wuh	x̱aẇa
Skunk	yah-pa-la	yax̱p̱a̱la
Squirrel	ti-me-nas	ta̱minas
Wolf	a-tla-num'	atła̱ṅa̱m
Whale (large)	kwa-yim	gwa̱ẏam
Whale (smaller)	pel'-ke-na	pa̱lḵola (reef?)
Whale (killer)	mah-e-nooh	max'inux̱
Wolverine	na-tla-e	*natłe'
Sea lion	kle'-uh-un	t̓łix̱'a̱n
Antlers and horns	wut-LAH	wa̱dła̱m
Claw	tsum'-tsum	tsa̱mts̓a̱m
Hoof	tsoh-tsok	*tsa̱xtsa̱k
Hide (hair or wool)	ha-pis-a-na-e	ha̱ba̱s'a̱ne'
Hide (leather)	kwat-se	k̓wa̱t̓si
Tail	a-poh-ste-e	ha̱ts̱a̱xste'

12 Birds

Bird	pe-pa-tloomis	p̓ip̓aṯłumas (birdlife) [tsa̱sḵwana]
Raven	kwa-wi-nuh	gwaẇina
Cormorant (large)	lah-luhw'	*la̱xlux̱w (over there?)
Cormorant (small)	klo'-ba-nuh	t̓łuba̱ni
Crow	KIH'-a-la-ka	ḵa̱x̱a̱laga
Dipper or water-ouzel	kil-e-whut-sa	galix̱wit̓sa
Duck	pe-pa-tloomis	(birdlife)
Duck (mallard)	klat-kioo	łałk̓u [k̓wa̱yu'x̱]
Duck (pin-tail)	wi-tsin	*witsa̱n
Duck (harlequin)	ma-tsi-nuh	*ma̱tsina
Duck (buffle-head male)	tla-a-tle	dła̱dła̱na̱'eł (woodpecker?)

Duck (bufflehead female)	hiu-pe	*xupe'
Duck (merganser male)	ko-kos	gagos
Duck (merganser female)	tlum'-kai-o	t̓amk̲ayu
Duck (teal)	tla-tlan-e	dładłana̲'eł (woodpecker?)
Bald Eagle	kwi-kw	kwikw
Goose (wavy)	kle-stah	*t̓łesta (red alder?)
Goose (small)	nil-a	*nila
Goose (brant)	nan-a-ha-kum	nana̲xagam
Goose (Canada)	nuh-a-'kh	na̲xak̲
Grebe (small)	kow-tak-uh	*k̲oda̲xa
Grebe (large)	ha'-ma-si-la-lis	*ham̓asilalis (cooking outdoors?)
Grouse (dusky)	hom-ho-ma	ha̲mha̲ma (food?)
Grouse (ruffed)	koo-koo'-mish	kwak̲wa̲mł
Gull	tse-kwe	t̓sikwi
Hawk	ma-ma-nuh	mamaṅa
Heron	kwa'-kwa-ne	k̲wak̓wani
Humming-bird	kwa'-a-koom-te	k̓wa̲'akłwa̲mt̓a
Jay	kwus'-kwus	kwa̲skwa̲s
Kingfisher	kit-il-ow'-e	k̲ada̲lawi
Loon	kiuh-kuh-es	*kaka'es [x̲awi]
Owl	tuh-tuh-hil-etl	da̲xda̲xalił
Owl (small)	puk-wa'-e	bak̲wa̲lawi (bat)
Owl (white)	kia'-sa-ha	*kasa̲xa
Oyster-catcher	kwi-kwi-kwi	*kwikwikwi
Pigeon	a'-moo	ha̲m̓u
Plover	ka-til'-sil-a	*k̲ata̲lsila
Curlew	kwa'-kwa-koom	*kwakwakwa̲m
Robin	tso'-pa-le	tsup̓ali [gagalał]
Sandpiper	tsus-ho-ew'-a-koh	tsup̓apa̲la
Snipe	tsa'-tsal-kio	*tsatsa̲lku
Sparrow	tsus-kwa-nuh	t̓sa̲skwana
Swan	ka-ko-'kh	gagukw [ṅa̲la]
Swallow	ma-ma-tle-kia'	mamałika
Woodpecker (red-shafted)	kwool-tum'	*kwa̲lta̲m
Woodpecker (red-head)	tla-tlan-a-etl'	dładła̲ne'ił
Widgeon	whe'-pa-la	xwipa̲la (whisting)
Wren	wha-ta	x̲wata
Feathers	tsul'-tsul-ke	t̓sa̲lt̓sa̲lka
Wings	pul-lum'	p̓adła̲m
Tail	nah'-ste-e	na̲xste [ha̲t̓sa̲xste']

Egg	tse'-kwunoo	t́sigwa̱nu
Yolk of egg	kloh'-se	*tło̱x̱se'
Bird's nest	kul-ha-tse	ka̱lx̱at́si
To fly	put-la-na-kwula	p̓a̱tła nakwa̱la

13   Fish, etc.

A fish	ma'-ma-omis	mama'omas
Crab	'kow'-mis	k̓u̓mis
Dog-fish	whul'-a-koom	x̱wa̱lgwa̱m
Halibut	paw'-e	p̓oẏi
Mussel (large)	HO'-le	x̱ola
Mussel (small)	la-es'	la̱'is
Shark	whul-a-koom-ak'-sa	x̱wa̱lgwis
Trout	ko-la	kulu'xw (smoked fish?)
Salmon (silver)	tsa-wun'	dza̱wa̱n (coho)
Salmon (dog-tooth)	kwa-ha-nis'	gwax̱n̓is (chum)
Salmon (quinnat)	mit-lek	ma̱łik (sockeye)
Salmon (summer)	ha-no'-na	ha̱nun̓ (pink) [sat́sa̱m] (spring)
Oolachan	tsa-whun	dza̱xwa̱n
Mackerel	kul-ai'-ookwa	*ga̱layukwa
Flounder	pa-es	pa'is
Herring	wa'-na-e	wa'ne'
Cod (black)	tlah'-sta-la	dła̱x̱stala
Cod (red)	kloh'-sum	tła̱'x̱wsa̱m
Clam (large)	mut-a'-ne-e	ma̱tani
Clam (medium)	kia-we-ka'-nim	gawik̓ana̱m
Clam (small)	kul-kul-amuh'	ga̱lga̱luk̠w
Cockle	tso-le	dzoli
Chiton (black)	ka'-nis	kanis (beach fungus)
Chiton (large red)	kin-oot'	*ka̱nut
Gills	kow'-sin-a-e	kusine'
Breast-fin	pa'-spile or put-la'	pa̱tła
Belly-fin	kit-a'-ke-e	*ka̱take'
Back-fin	kit-e'-ki-a-e	*ka̱taka
Tail-fin	tsa'-sne-e	tsasne'
Scales	kow'-pet	guba̱t
To swim	ma-na'-kwula	*ma̱nakwa̱la [ga̱lk̠a]
Spine on fishes back	pa-spile	*pa̱spile' [xakadzu]
Roe	kai'-ne	gin̓i

14 Reptiles

Frog	wik-ais'	wakes
Lizard	kut-us'	kutsos [gwalas]
Snake	si-tlum	siłam
Snake (water)	ka-lowe	*kalawe' (kelp?)

15 Insects, etc.

Ant	kiat'-sa-lut-se	kadzalatsi
Bee	hum'-tsa-lut-se	humdzalatsi
Butterfly (large)	hum-oom-oo	hamumu
Butterfly (small)	lo'-le-nooh	lolinuxw (ghost) [mastłakwa]
Caterpillar	ye-a-kwae	*ya'akwe'
Dragon-fly	ma'-ma-'kwa	mamakwa
Flea	to'-pai-ut-se	tupayatsi
Fly	ka'-ka-te-na	gagadina
Horse-fly	sa'-te-kwa	sadikwa
Louse	kai-in'	gin [u'u]
Maggot	a-pa-ne	abani
Mosquito	tli'-stluna	dłisdłana
Ichneumon	kul-ai'-tan-uh	*kalatana
Spider	ya-kit-tin'-ekuh	yayakitine'ga (to knit)
Fly-blow	wha-sa-e	xwasa
Snail (helix)	ka-lowe	*xalawe' (shell?)
Slug	kwa-a-tsu'k	kwatsak

16 Plants

Bud of tree	kwa'-sa-ma	*kwaxsama
Leaf	ma'-me-muh	mamima
Limb	tlin-a-'k	tłanak (wood knot)
Bark	HA-koom	xakam
Bark (cedar)	tin-as'-s	dixwa
Stump	tsuk-oo-metl'	tsakusmas (sword fern)
Root	tlo-p'ke	tłupak
Tree	tlo'-us	dło's
Tree (fallen, with root)	ho'-puk-umola	hupagamala
Wood	luk-wa	lakwa
Brush	tse'-tsuso	tsabayu
Forrest	tlo'-a-tsi-kwula	dło'sikwala (lots of trees) [atłi]
Berry (sal-lal)	nuk-watl	nakwał

Berry (crab-apple)	tsul'-uh	tsalx̱w
Berry (salmon)	hum'-tsu-kw	k̲amdzak̲w
Berry (arctostaphylos)	kwa'-atum	g̲wadam
Grass	ki'-itum	kit̲am
Ripe	tlo-pa	tłupa
Unripe	kis-tlo-pa	ki's tłupa
Cedar tree	kwah-tla'-oo	kwax̲tłu (cedar wood)
Cedar tree (huge)	wil'-koo	wilkw
Yellow cypress	te'-wh	*t̓ax̲w
Alder	klaw'-ha-mis	t̓ła'x̲wm̓as
Crab-apple	tsul'-a-whom-is	tsalx̱wm̓as
Maple	kioo'-tlas	kułas (oak) [t̓sixa]
Douglas fir	HOWH'-mis	x̲ax̲wm̓as
Hemlock	ule'-wus	lox̲m̓as
Yew	tlum'-ake	t̓łamk̲i
Scrub-pine	ka'-kul-wamis	k̲ak̲asalams
Raspberry	mat-'tsoo-mis'	madzak̲w
Kelp	wa'-wa-te	wawadi
Bladder-weed	tls'-tluk-'kw	t̓łast̓łak̲w

17 Geopraphical Terms

South-east	nul'-tse	*nultse'
North-west	gwe-na-kw	gwenakw (upriver)
Out to sea	tla-sakw	t̓łasakw
North-west wind	tsa'-kw	*tsakw
South-east wind	mat-las	*ma'las
South-west wind	tlas'-pa-la	*t̓łasp̓ala
West wind	keaks'-ala	*kax̲sala
East wind	HA-iootl	*x̲ayuł
North-east wind	yoo'-yala	*yuyola

18 The Firmament, etc.

Cloud	un'-a-wae	anwayi
Horizon	ki-a-tlila	*kałila
Sun	na-la	n̓ala (day) [t̓łisala]
Moon	muk-wila	m̓akwala
Full moon	na-'kum	*nak̲am
Stars	to-taw	tutu
Raindow	wa-ka-loos	wagalus
Fog	ul'-hula	p̓alx̲ala
Hoar-frost	ki-wi-sut-sum-is	gawism̓is

Snow	na-e	ne'
Hail	tso-kwa-kul	tsaḻxa
Ice	'kloh	tॱ̓uxw
Icicle	tsa'-ma-'ke	*dzamॱ̓ake
Water	wap	ẁap
Current	tsa'-la	t̓sala (rip tide)
Eddy	kut-o'-suh	*ḵatosa
Tide	iu'-na-kwila	*yunakwila

19   Kinship

My son	whun'-ookw	xwaṉukw
My father	hun-omp	xa̱n ump
My son's child	tso'-la-ma	tsułtłame'
My mother	hun-opump	xa̱n aba̱mp
My father's father	on-pas-in-omp'	umpasa̱n ump
My wife	hun'-ka-num	xa̱n gana̱m
My husband	hun'-tla-wuna	xa̱n ławana̱m
Male orphan	ha'-ma-la	xamala
Female orphan	ha'-ma-la-kus	xamalagas
Family	kai-a-'kap	*ḵayaḵaṗ [ṅamwayut]

20   Social Organisation, etc.

Name of tribe	Kom-o-yawe	*Ḵ̓umuyawe' (Comox?)
Indian	pa-'koom	bakॱ̓wa̱m
White man	ma-matl-a	mamała
Negro	tsoo-tlum	tsuła̱m
Half-breed	nuh-saw'-e	na̱xsoẏi (half)
Indians to the North	kwi-tula	*gwita̱la
West coast people	kwi-kwa-tula	gwigwatala (derogatory)
Indians of Comox	ko-mook-e	ḵumuxs'i
Inland people	ta'-whul-is	laxwa̱lis
Chief	ki'-a-kun-a-e	gigame'
Young man to chief	kia'-ki-aka	*gagi'aḵa
Leading man	ow'-i-la	*owila
Man of knowledge	naw'-kate	noga̱de'
Friend	ni-mokw	na̱mukw
Warrior	how'-tla-wai-nooh	*huława'inux
Enemy	ka'-kis	*ḵaxa̱s
A coward	ki-kelpis	*kika̱łpa̱s

| War-whoop | we-kia-hints | *wa̱kaxa̱nts |

21 Religion, Mortuary Customs, Medicine

God	ki-i	giẏa (Lord)
The ancients	toh-tsus	*totsus [wi'ump]
The future world	a-tla-kowa	*atła̱gawe'
The sun (worshipped)	ki-a-kun-a-e	giga̱me'
Dead body	'tla-la or o'-tsi-hit	ła̱la
Soul or spirit	puh-when-a-e	ba̱kwine'
Grave in ground	tik-i-as'	da̱gidzas
Grave in tree	tuh-pe'-kh	*da̱bex
Coffin-box	tik-i-a'-tse	da̱gatsi
Health	a-aik'-ik-sal	*a̱'igas
Sickness	tsuh-ko'-lum	tsa̱kola̱m
Pain	tsi-hila	tsa̱xa̱la
Vertigo	kiat-til'-a-hula	ka̱ła̱la (scared)
Headache	tsuh-tsaw'-luh	tsa̱xstola
Toothache	ki-katla	gika̱ła
Cough	luh-aw	la̱xo
Small-pox	ki-kin-a'-e	kika̱na (bad cold)
Boil	tsum-sa-e	tsa̱mse'
Cut with knife	puh tsa'-na-e	tuta̱stsala
Cut with axe	soo-sis	supa
Scar	kwut-a	k̓wa̱ta
Bruise	tei'-wha	tixwa
Splinter on foot	kin-uk-ses'	*ka̱nuxwsis [tłattsidze']
Sick at stomch	tsik-sum-sila'	tsa̱xsa̱msa̱la
Sea-sickness	ka-wu'p	*ka̱ẇap
Sick man	kul'-wha-tla	ka̱lxwatła (lying down from sickness)
Lame man	kioh-sis	ka̱yox si's (he doesn't have it)
Blind man	pa-pas'	p̓alṗas
Deaf man	kwul'-akoom	gwa̱lkwa̱m
Breath	a-sa-a	hase'
Sweat (face)	kowa-sa-ma-e	gusa̱mala
Sweat (general)	tsul-kwa	gusa
Blood	ul'-akw	a̱lkwa
Medicine	put-a-e	pa̱ta
Medicine man	puh-ul'-a	paxa̱la
Medicine song	kum'-tum	ka̱mda̱m (song)
Sweat-house	kia-tlila	*ka̱łila
A dream	me'-a-pula	mixa̱la

22 Amusements

Doll	kia'-kin-atlum	gaganała'am
Rattle	yia-tin	yadan
Swing	a-wa-haioo	hawaxayu
Song	kum'-tum	kamdam
Dance	yiuh-wha	yaxwa
Mask	yuh-oomilh	yaxwamł
Gambling sticks	le'-pa-iu	*lebayu [alaxwa]
Gambling with sticks	la'-pa	*laba

23 New Words

Horse	kioo-tan	gudan
Cow	moos-moos-a	musmus
Sheep	la-ma-ta	lamadu
Hog	koo-sho	gwasu
Cat	poo'-se	busi
Cock, hen	ka'-ka-o	gaga'o
Goose	tle-sta	*t̓łesta (red alder?) [naxak]
Axe	soo'-paioo	subayu
Auger	wun-aioo	wanayu
Awls of metal	sil'-um	*silam
Beads	kla-yala	t̓łaẏala
Broom	hi'-kwa-yoo	higwayu
Cloth	ya-wa-pit-soo	yawapatso
Comb	HUK-um	xagam
Knife (pocket)	kios-kiosa	kuskusa
Fork	ha-maioo	ham̓ayu
Hoe	hul-paioo	halbayu
Hammer	lik-i-aioo	dła'bayu
Kettle	hun'-uh-klawooh	hanxtłanu
Tin plate	sik-ik-i-a	*sixixa
Scissors	kiup-aioo	kabayu
Table	hun-ta-mitl	ham'xda'mił
Pistol	ap-soot-tik-uk-kw	*apsutikakw
Gun	hun-tlum	handłam
Rifle	tsa'-kioo	*tsaku
Ramrod	tlim-kwaioo	*łimkwayu
Cannon	hai-mun-us	*xemanas
Bullet	tl-gi'-la	*t̓łagila
Gun-flint	kip-il-pa-e	*kapilbas
Powder	tso'-laioo	*t̓solayu (put it in)
Brass	hlin-ha	*łinxa
Iron	tsih-in'	dzax'an

Silver	ta'-luh	dala
Cap	tl-tum'-tl	t̓ḻat̲aṃł
Necktie	la'-la-whi-wae	*lalaxwiwe'
Coat	ta'-tuts-a-wak-uh	dadatłsa'wakw
Vest	akwa-ya'-e	k̲ux̲kiẏe'
Shirt	kus-un-a'-e	k̲asana̲yi
Trousers	wun-kai'-sta	*wa̲nk̲asta
Shoes	te'-paioo	t̓ibayu
Boots	hai-yim'-gioo-staw	*ha̲ẏimgusto
Stockings	tsa'-tsi-tsil-lak-tsi-tsae	*tsatsitsilaxtsitse'
Ribbons	tsu-wul'-tsu-wakw	*tsa̲wa̲ltsa̲wakw
Shawl	lowk'-sum	lok̲sa̲m
Handkerchief	milh'-sa	ṃalx̲sa
Dress	koom'-tso-wioo	kwa̲mdzayu
Bread	kwa'-kook-sum	*kwagoksa̲m [kwa̲nikw]
Flour	kwaH	k̲wax̲
Match	ki-tsaioo	kidzayu
Sugar	e'-gi-sila	igisila [sugwa]
Soap	tso-kwaio	t̓sugwayu
Tobacco	tlo'-kwe	t̓łok̲wi
Whiskey	nun-kai'-ma	na̲nk̲uma (alchoholic drink)
Finger-ring	kai'-a-kut-ut-klaw	k̲ik̲at̲ax̲tłe'
Mirror	un'-ha-tse	ha̲nx̲at̓si
Picture	kia'-tum-a'k	kat̲amakw
House	kiok	gukw
Roof	se'-la	*sela (ceiling?) [ugwes]
Window	na'-kwotse	naxwsto̲ẏi
School-house	kia-ka'-tuksi-lut-se	kak̲adax̲wsila'as
Church	tsa'-ma-tse	t̓saṃat̓si
Barn	ki'-tut-se	*kit̲amtsi
Pencil	kia'-taioe	k̲adayu
Paper	kia-takoh	kata xux̲w (write there)
Newspaper	tsi-ki-al'-um-tsaw-luh	t̓sak̲ala̲mt̓sux̲wa̲la
Road or trail	ta'-hi-la	t̲ax̲a̲la (also doorway)
Wagon	tse-tsik	t̓sikt̓sik
Bridge	pa'-wi-hlila	paw̓iła̲la
Well	la'-pakh	lapax̲
Steamboat	hi-aka-ya-la	xik̲aẏala
Railway	hi-aka-ya-lil-sila	*xik̲aẏalilsila
Interpreter	he-loh'-stae	*ha̲loxste' [kwaxwsista]
Blacksmith	li-ki-nooh	*likenux̲w
Trader	ka-kil-a-wil-a-tsi-la	kak̲a̲lwilat̓sila

Large	wa'-lis	ẇalas
Small	um-a'-e	a̱mabidu
Strong	tlo'-kwi-mas	ło̱ḵwimas (ło̱ḵwa - strong)
Old	noo'-mas	nuṁas
Young	a'-tloos-to	ałusto
Good	ai'k	ik
Bad	yak'-sum	ya̱x̱sa̱m
Dead	hla'-la	ła̠Ì
Alive	kwula	ḵ̇wa̱la
Cold	wut-ala'	wa̱dala
Warm, hot	tsul'-kwa	t̕sa̱lḵwa
Afraid	kit'-lila	ka̱ła̱la
Far	kwe-sa'-la	ḵwisała
Near	nih-wha'-la	na̱xwała
I	yin	ya̱n
Me	noo'-kwa-um	nugwa'a̱m
Thou	yoo-tl	yutł
He	yu'k	yux̱ux̱w
We	yinooh	yu'a̱nu'x̱w
Ye	yih-ta-whootl	yux̱dax̱wał
They	yihta-wha'-ta	yux̱dax̱wa x̱ux̱w da
This	yih-kia'-ta	geṁ gada
That	yah-ha'-ta	yux̱ux̱w da
All	na-wha	naxwa
Many	'kai-nim	ḵina̱m
Who	yuh-un'-kwa	a̱ngwa
Here	lah-kia	lax̱ga
There	la-ha	lax̱a
Yes	kai-tl	ḵ̇eł
No	ki	ki
To eat	ha-map'	ha̱ṁap
To drink	na-'kh	naḵa
To run	tsil-whila	dza̱lxwa̱la
To dance	yuh-wha'	ya̱xwa
To sing	tun-uh-HULA	da̱nx̱ala
To sleep	mi'-uh-a	mix̱a
To speak	ya-kun-tala	yaḵa̱nt̠a̱la
To see	to-kwula	dukw'a̱la
To love	tla-whula	ła̱xwa̱la
To kill	ki'-la-kia	k̇ilaka
To sit	kwa'-hila	ḵ̇wała̱la
To stand	kla'-wha-tla	dłaxwała
To go	hai'-kia	haga
To come	ke'-la-kia	galaga

To walk	ka'-sa	k̲asa
To work	e-a-hula	i'ax̲ala
To steal	kil-ootla'	g̲alutła
To lie	klal-kwala	t̓ik̓w̲ala
To give	tso or ya-kwa	t̓so or yak̲wa (potlatch)
To laugh	ta-tlila	da'ła̲la
To cry	'kwa'-sa	k̲'wasa

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'The Outlaws': An Upper St'át'imcets Tale by Sam Mitchell*

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Abstract: This paper consists of a fully transcribed, translated and glossed version of an Upper St'át'imcets narrative known as *The Outlaws*, recounted by the well-known story-teller Sam Mitchell of Cácl'ep (Fountain) and recorded by Randy Bouchard in August, 1968. This is the first and shortest of three recorded versions of this story: another was recorded by Bouchard during the same period, while a third version was recorded by Jan van Eijk in 1971 or 1972. The third version has already appeared in Davis et al. (2017), and the second is due to appear in a forthcoming volume of texts transcribed from Bouchard's recordings (Lyon et al., in prep), which will feature a dozen other recordings by Sam Mitchell. *The Outlaws* is typical of Sam's story-telling style and subject matter: it is a true-life wild western adventure, involving a murder, a jail-break, a prolonged pursuit through the bush, and the eventual capture, trial and sentencing of the protagonists.

Keywords: Salish, Northern Interior Salish, St'át'imcets, narrative, stories

1 Introduction

Sam Mitchell (1894-1985) was one of the most skillful and certainly the best-known of the Upper St'át'imc (Lillooet) story-tellers involved in the language documentation and revival efforts which began in St'át'imc territory in the late 1960s, in association with Randy Bouchard and later Dorothy Kennedy of the BC Indian Languages Project. Together with Baptiste Ritchie and Charlie Mack Seymour, both Lower St'át'imcets speakers from Lil'wat7úl (Mount Currie), and Slim Jackson who was raised in Upper St'át'imc territory but spent most of his life in Lil'wat7úl, Sam Mitchell was instrumental not only in documenting many aspects of the traditional St'át'imc way of life which were in danger of being lost or forgotten, but also – in the immediate aftermath of the disastrous residential school era – in restoring awareness of and pride in the St'át'imc language.

  Sam lived all his life in and around Cácl'ep (Fountain). Unlike many of his contemporaries, he did not go to residential school, but instead taught himself English (partly from listening to the radio, as he himself recounts), eventually becom-

ing an acknowledged authority on Upper St'át'imc language, culture and history, and a go-to consultant for linguists, ethnobotanists, and archeologists. He was recorded in St'át'imcets not only by Bouchard, but also subsequently in the early 1970s by Jan van Eijk, with the result that multiple recorded versions now exist for several of his narratives. Nearly all of Sam's recorded repertoire has now been transcribed: See Bouchard and Kennedy (1977) for a selection of Sam's stories in English translation, and van Eijk and Williams (1981) and Davis et al. (2017) for fully transcribed versions of the van Eijk recordings.

Unlike some of his contemporaries, Sam was less interested in *sptakwlh* (legends) than *sqwéqwel'* ('true' stories).[1] In fact, there is only a single *sptakwlh* in the recordings we have of him, a version of the widespread legend of *The Abandoned Boy*, published in Davis et al. (2017).[2] His main focus was on history, and in particular the post-contact period which lasted from the gold-rush days of the 1860s to the pre-war period of the 1930s. It is no accident that this period corresponds to approximately three generations – Sam's own, that of his parents, and that of his grandparents – because that is the maximum time span where reliable eye-witness testimony is available, either through direct observation or by interviewing witnesses who were present at the events being reported. And indeed, in his reconstruction of historical events, Sam pays particular attention to the trustworthiness of his sources, often including details as to whether the events were independently confirmed by more than one witness, how long after the events witnesses were interviewed, and whether their accounts might have been subject to bias. The result is a fascinating first-hand glimpse at the construction of oral history, at a period in time which enables a direct comparsion with the 'official' (i.e., colonial) version of the same events.

The Outlaws is particularly informative in this respect, because it is a notorious true crime story which was widely reported in the press at the time of the events (1911-1913) and is also recounted in subsequent non-indigenous accounts of local history (Clark 2014). See the introduction in Davis et al. (2017) for a more detailed comparison of Sam's account with non-indigenous versions of the story.

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[1] This distinction is an important one in St'át'imcets, but blurs at the edges, where historical memory fades into myth. Sam's version of *The Drifters* (published in English in Bouchard and Kennedy, 1977) provides a good illustration of this process. It is the story of first contact between the St'át'imc and European explorers, in the person of Simon Fraser and his expedition, whose journey down the river which now bears his name passed through Upper St'át'imc territory in June 1808. This date is just within reach of the oral history tradition to which Sam belongs: he recounts that he heard the story from his father, who heard it in turn from Pyal ('Old Pierre'), who was two years old when the fateful encounter occurred. But in retelling the story, mythical elements have crept into the St'át'imcets version: contrary to historical fact, Simon Fraser is portrayed as having tattoos of the moon on his chest and the sun on his forehead. This embellishment is also found in a version of the story recorded by Bouchard from the Lil'wat7úl speaker Charlie Mack, as well as in Nɬeʔkepmx (Thompson River Salish) accounts from further downstream (Teit 1912). As such, it appears to involve the interweaving of a much older Interior Salish prophecy into the historical narrative.

[2] See Lyon (2016) for a Syilx version of this legend.

The Outlaws is the longest of Sam's narratives, and the only one that he volunteered three times. The three versions differ quite substantially in length: The version that appears here, recorded by Bouchard, is the first and shortest, running for 20 minutes 30 seconds. A longer version, also recorded by Bouchard, is 34 minutes long and appears in English translation in Bouchard and Kennedy (1977), with the St'át'imcets original to appear in Lyon et al. (in prep). A third, fully transcribed version recorded by van Eijk is 28 minutes and 30 seconds in length, and is in print in Davis et al. (2017). The versions all cover the same time period, and agree on the main events; the discrepancy in length is due rather to the number of incidents reported and the level of detail included in each telling. Though the shorter version transcribed here covers the main arc of the narrative from the initial discovery of the body of a teamster outside Clinton to the eventual surrender and trial of the outlaws, it misses out on some important episodes recounted in the other two versions, in particular a second murder, that of a Chinese woodcutter who recognized one of the outlaws and tried to apprehend him. It also lacks most of the direct speech reproduced in the other two versions, which gives them an immediacy absent from the more compressed narrative style of this version.

Nevertheless, the version here is of obvious linguistic interest given the still limited amount of fully transcribed textual material available for Upper St'át'imcets, as well as for the direct comparison it affords with longer versions of the same story by the same story-teller.

We present the text in the following format, based on that which we adopted for Sam's stories in Davis et al. (2017): we begin with Sam's own rather free English translation, reprinted from an unpublished manuscript (Bouchard 1969),[3] followed by a transcription of the original St'át'imcets telling, a more literal English translation, and finally a fully glossed interlinear version.

A list of glossing abbreviations appears in the appendix, together with a conversion chart from the APA to the variant of the van Eijk orthography that we employ here: see the introduction in Davis et al. (2017) for discussion of the glossing conventions we have adopted.

2   Sam Mitchell's English Translation (Bouchard 1969)

A white man was found dead near here, and Moses Paul was blamed for killing him. It was spring-time, and they put Moses Paul in jail, but he escaped in the fall-time. The police thought that it was Paul Spintlum who helped Moses Paul to escape from jail, and they hired an Indian named Cultus Jack to help them. He told the police, "Paul Spintlum goes out hunting every day, but I know where he camps. You can only catch him early in the morning, before daylight." So Cultus Jack took a policeman to Paul Spintlum's camp, very early one morning,

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[3] Bouchard's working method was to record a story in St'át'imcets, then – sometimes at a considerably later period – to play the recording back to either the same or another speaker, and record and transcribe their English translation of the original St'át'imcets. Sam translated his own stories: the English version of this particular text was recorded in December 1969, some 15 months after the original St'át'imcets recording.

before daylight. The policeman stood outside the entrance to the tent, and yelled out, "Paul Spintlum, I want you!" Answered Paul Spintlum, "OK. I'm coming. But first I have to get dressed." He picked up his gun and came out from the tent. Pointing his gun right at the policeman, he said, "If you want me, then come and get me, right now!" Still pointing the gun at the policeman, Paul Spintlum backed into the bushes, and disappeared. Cultus Jack and the policeman returned to Clinton, where the policeman turned in his badge. He quit his job, he was so shaken up.

After that, Moses Paul and Paul Spintlum became outlaws, and were never seen. In the spring of the next year, many people were gathered in Clinton for the Spring Assizes. A rider came into town and told every one that he had seen Paul Spintlum, not far away. Policemen and white men all gathered together to look for Paul Spintlum, and they separated to search around. Near a hollow area, one policeman was shot, and fell down. Another policeman was shot in the arm. The searchers saw a person get on a horse and ride away, so they shot at him, but didn't hit him, and he went out of sight. They said that this was one of the outlaws, Paul Spintlum. They put the dead policeman on a horse, and took him into Clinton.

After this, the government hired a bunch of trackers, both white men and Indians, from Kamloops, and not from the area around Clinton. They had a lot of horses, and searched for close to two months, but they never caught the outlaws. Once, they surrounded a mountain where the outlaws were supposed to be, but found no one. The government could not succeed, even though they put up four thousand dollars as reward for the outlaws.

Once, a tracker came close to meeting Moses Paul. He was at Chasm, and he had tied up a horse near the edge of the canyon, while he looked down into it. Moses Paul came along and took off with the horse, and the binoculars. Another time, a friend of mine named Tom Evans, a white man, told me that he and some other trackers were chasing the outlaws, but they took off into the bush, and by the time they got there, they had gone on foot - all that was there was their horses, sweating heavily. They didn't want to go any further after them.

Even though the government paid the trackers, they still couldn't catch the outlaws. Moses Paul and Paul Spintlum had relatives and friends all over the place, in the Clinton area. Later, one of the outlaws told his relatives how he had stolen the horse, saddle, and binoculars from one of the trackers, over at Chasm. And that was not all they did. Their relatives and friends helped them everywhere - around Chasm and around Lillooet - they fed the outlaws and protected them by telling misleading stories to the trackers.

At 11-mile, outside Lillooet (going towards Pavilion), the outlaws saw a boat there that was used to cross the Fraser River, so they went across in it, and then let the boat drift down the river. Then they went down the other side of the river to Bridge River village, to a house where there was some washing hanging on a line. They stole some dresses, and planned to cross over the bridge at Lillooet at nighttime, disguised as women. Some people gave them food to pack - this is something that women would conceivably be doing. Towards nightfall, they got to the bridge, and they recognized the white man who was guarding it - Joe

Russell. Still they went across - the white man thought it was just some Indian women going home with food.

Another time, the outlaws hid out around Pavilion for awhile, in summer-time, when everyone was working in the hayfields. They told the people there about the things that they had done. Also, they hid out for awhile in a cave at Leon's Creek, across from Pavilion, and no one could find them there.

Moses Paul and Paul Spintlum were outlaws for four years, from 1910-1914. Finally, a relative of theirs - Chief Major from Leon's Creek - decided that he would turn them in, not because he wanted the $4000 reward (he was a rich man, himself), but because he wanted to get a good lawyer for them and officially prove their innocence in court. So he went to the Merritt area, where they were staying, picked them up, and took them to Bonaparte Reserve, which is where the police picked them up. He got two lawyers - using his own money - Henry Costello and Stuart Henderson, but one of the outlaws was hung, and the other one was given a life-time sentence, and died four years later in jail.

3   St'át'imcets

3.1   Na skéla7sa[4]

Lts7áwna, pun ta sám7a szuqw.

Tsicw i wa7 cwíl'em. Nilh t'u7 snilhts ti7 ta wa7 s*Moses Paul* ma7eném kw snilhts k'a zúqwstal'i. Nilh t'u7 skwánem, nilh t'u7 nk'a7ném, nk'a7 lta... Nilh láti7 swa7s t'u nas et7ú lhwál'tsten k'a sxek. Qapts k'a ts7a, nilh sqapt-snún k'a nilh s... ts7a ku száyten. Lhwál'tsten k'a nilh t'u7 s... nilh t'u7 tu7 s7ulhcw, lhwal'tstenálmen nilh t'u7 s7úts'ets'qa7s lhélta nk'á7mena. Nilh t'u7 múta7 ntsutánwas i plísmena kw snilhts k'a ti7 ta wa7 s*Paul Spintlum* nuk'w7antáli kw s7úts'ets'qa7s.

3.2   Wa7 sqwéqwel' sCultus Jack: Jack McMillan múta7 sPaul Spintlum

Wa7 ta wa7 zúscal, nilh t'u7 sk'wálhan'as ta pápl7a úcwalmicw. Wa7 t'u7 ma7enítas ti7 ta wa7 s*Paul Spintlum* kwes nilh k'a ti7 nuk'w7an'táli s*Moses Paul* ta ka7úts'q7a. Nilh t'u7 sqwatsátss ta wa7 zúscal, k'wálhan'as ta pápl7a úcwalmicw, nilh ti7 wa7 s*Cultus Jack.* Tsúnas, "Wá7lhkacw ka zewáten nká7as lhas wa7 tu7 píxem'?" Plan tu7 ti7 wa7 qwatsáts píxem' kenkw7ú kísema, ti7 ta wa7 s*Paul Spintlum.* Tsut kw s*Cultus Jack*, "Wá7lhkan zewáten nká7as tu7 lht'ákas." Nilh t'u7 sqwatsátsi, k'wálhan'em éta plísmena, tsúnem éta ucwalmícwa ta wa7 s*Cultus Jack*, "Ao kwásu kanása lku sq'it. Tsukw t'u7 lhn'án'atcwas kéla7 kw smá7eg's, kéla7 sqwatsátss píxem', láti7 kelh lhnas-min'émas, nilh t'u7 skwánensacw. Wa7 ti7 píxem' lhas sq'it, t'u7 ao kwas wa7 lta *camp*sa." Nilh t'u7 sk'ul'ún'itas kw skatsícwiha áta7 lkw skéla7s kw spsil's.

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[4] The St'át'imcets sub-section titles in this section and the interlinear section correspond to the titles given in the version of *The Outlaws* published in Davis et al. (2017), where Sam gives more information concerning his information sources for the individual episodes.

Tsícwwit, t'qwáw'swit, ti7 ta ucwalmícwa ta wa7 s*Cultus Jack* múta7 ti7 ta plísmena, ta wa7 zúscal. Tsícwwit áta7, wa7 t'u7 guy't. Nilh s... nilh t'u7 stsicws ta wa7 zúscal, tsícwmin'as, plan wa7 esp'ám i núkwa wa7 láti7 wa7 es*camp*. Tsicw ta wa7 zúscal sáwlhen, wa7 tsúnem ku7 láta7 lhwá7as lt7u lta latáonta.

Nilh t'u7 stsícws ta wa7 zúscal. Wa7 ti7 zewátenas, nilh t'u7 stsúnas, qwal'út.sas áku7 lhélta sk'ém'tssa ta latáonta, tsúnas, "*Paul Spintlum*, wá7lhkan xát'min'tsin." Nilh t'u7 stsut.s kw s*Paul Spintlum*, "Wa7... cuy áma, cúy'lhkan, sk'al'emmínts kw nsyax. Cúz'lhkan yax." *Put on his clothes.* Nilh t'u7 syaxs. Tsukw syaxs, kwánas ta swelmín'ksa, nilh t'u7 s7úts'qa7s lhélta latáont.sa. Ka7úts'q7a áku7, nilh t'u7 skwil'qscítas ta plísmena. Tsúnas, "Lhxát'min'tsacw, nilh t'u7 sts7ástsu kwants lhkun." Lhláti7 ta wa7 zúscal, nilh t'u7 scw7aoys t'u7 kw sqwtsilcs, nilh t'u7 st'aks t'u7 ti7 kel'q ti7 ta wa7 s*Paul Spintlum* t'u kalhúcwa tú7a, nilh t'u7 láti7 s7aw't.s kw s7áts'xs.

Nilh t'u7 lhláti7 sqwatsátsi ti7 ta wa7 zúscal múta7 s*Cultus Jack*, p'án'twit et7ú *Clinton*a, lhláta7 ti *Clinton*a ti7 ku wa7 zúscal. Tsicw éta *Clinton*a ti7 ta wa7 zúscal. Nilh t'u7 skelhenás ta q'wáolapstsa, *that's the badge*, kelhenás ta q'wáolapsa, nilh t'u7 skáwlecs kws zúscal láti7.

3.3   Wa7 sqwéqwel' sJohnny Pólat: Pála7 ta zúqwa plísmen, pála7 ta q'ám'ta t'u7

S7aw't.s lhláti7, nilh t'u7 ses wa7 iz'... q'wmiw's, qecwqícw. Ao kwas wá7wit káti7 iz' i n7án'wasa, ti7 ta wa7 s*Moses Paul* múta7 ta wa7 s*Paul Spintlum*. Aoy t'u7 kwas áts'x.wit, q'wmiw'swít tu7.

Nas et7ú zánucwem, qapts. Tsicw k'a ta wa7 t'ánam'ten ekw7á *May*, láti7 lhas wa7 i wa7 *Spring Assizes*, láku7 *Clinton*a. Cw7it áti7 gaw'p i sám7a. Nilh t'u7 sts7asts ta núkwa wa7... ta... Láni7 ku *time* wa7... tákem lhas wa7 ta wa7 slheqw, ts7as lhláku7 ta wa7 slheqw. T'iq ekw7á ti7 ta táowna, nilh ku7 tu7 stsut.s, "Wa7 lkw7u kw s*Paul Spintlum* lkw7a t'u7, k'ík'ta7!"

T'u7 snilh t'u7 láti7 sqelilám's i sám7a múta7 i plísmena nas cwil'enítas, xekenás ti7 nká7as lhwá7witas. Tsicwalmenwít t'u7 áti7, nilh t'u7 sklhew'sílci. Nilh iz' i plísmena n7í7z'ek. T'ák.wit t'u7 áti7 lta ts'íl.ha áku7 lta k'cúlm'ecwa, nilh t'u7 squscitem ta pápl7a plísmen, kwis tu7. Qúscitem ta núkwa, qam'táka7, t'u7 nilh ts7a ta sqelilám'i náswit, plan wa7 qwatsáts. Q'áylec ta pápl7a, lhqwilc, quscitítas, t'u7 aoy t'u7 kw sqam't.stwítas, nilh t'u7 tu7 sq'áylecs. Qelilám' lhláti7 i núkwa, qelilám'wit áku7 lt.swá7sa ku t'eqwp. Tsícwwit, plan wa7 skits ta pápl7a plísmen, wa7 zúscal. Wa7 qáqey't ta núkwa sqam'táka7. Ats'xenítas tu7, plan wa7 lhqwilc ta... ti7 nilh iz' i sq'wemq'wmíw'sa, stsúnitas iz', s*Paul Spintlum*. Quscitítas, ao t'u7 kw sqam't.s, nilh skacím'a, nilh t'u7 skwánitas lhláti7 ta zúqwa. Q'ilin'ítas lta pépl7a ts'qáxa7, nilh t'u7 s7uxwal'stwítas, sts'itemstwítas ta táowna. T'iqstwítas áti7, plan wa7 szuqw ti7, nilh tu7 ti wa7 zúscal láti7 *Clinton*a.

3.4 Wa7 sqwéqwel’ sPaul Spintlum: Nk’wancenánem nelh wa7 cwelcúlel

S7aw’t.s lhláti7, nilh t’u7 sk’wálhcals ta kvpmena ku wa7 k’wen’k’wan’cenálhts’a7 k’wen’k’wan’cenan’tanemwítas, cuz’ cwil’entanemwítas ncwa7cw7ít. Cw7it i wa7 sáma7, lhelkw7ú *Kamloops*a lhkwánitas i ucwalmícwa wa7 tsúnitas wa7 *tracker*. Ao kw sk’walhan’ítas ku úcwalmicw káti7 k’ík’t7a, s7icwlhúlm’ecw úcwalmicw ku k’walhan’ítas. Cw7it ts’qáxa7 wa7 qwezenítas, cuz’ nk’wan’cenán’itas, cuz’ kalenítas iz’ i n7án’wasa, wa7 q’wemq’wmíw’s.

Cw7it... p’a7cw k’a lhélku pála7 t’ánam’ten, tqilh k’a án’was t’ánam’ten kwas kalenítas, kwas tsútwit kwas plan wa7 npzánitas, cw7aoy t’u7 kwas kakwanenstwítasa. Plan ku7 lts7a, q’ecwecwstwítas lta pál7a sqwem, náswit áta7, plan tu7 ao láta7 kwas wá7wit. Tsáma t’u7 ta kvpmena, cw7it sqlaw’ sgí7el’s ta kvpmena, nilh t’u7 st’álan’as i wa7 nk’wen’cenálhts’a7, i wa7.... Nilh t’u7 scwíts’in’as ta kvpmena *four thousand dollars* ku *reward*, lhswátas ku kwanenstanemwítas iz’. Nilh t’u7 slhláti7s lht’álas i wa7 nk’wen’cenálhts’a7, nilh t’u7 iz’ swa7s q’wemq’wmíw’s láti7 ku...

Iz’ lts7a i wá7as i wa7 nk’wen’cenálhts’a7, cw7it kwas ts’íla wa7 npzanalmenstwítas. Ta pápl7a láku7 lta wa7 tsúnitas wa7 *fifty-nine*, nilh ti7 wa7 *Chasm* lki sám7a, necnactám’ *in the Indian*. Wa7 áku7 ti7, nilh ti7 stsúw7i sqwéqwel’ izáwna wa7 q’wemq’wmíw’s. T’ak ta sám7a kacála, nilh t’u7 sgetsenás ta sts’qáxa7sa, nilh t’u7 láku7 ses cálus. Q’wemílc ta pápl7a lhláti7 t’u7 wi snilh iz’, *Moses Paul*, lhqwilecmínas ta ts’qáxa7sa, nilh t’u7 ta sq’áy’lecsa. P’elenílh ta trápstena, láti7 lhkwamemwítas ta ámha trápsten, (trápsten, *that’s uh...*)

3.5 Wa7 sqwéqwel’ sTom Evans: Tqilh t’u7 kwánenwit nelh wa7 cwelcúlel lta qwlitúlm’ecwa

Tsamawít t’u7, cw7it, cw7it kentswása ts’íla wa7 qwenanstwítas t’u7 wa7... t’u7 kalhúcwwita, nilh t’u7 ses páqu7 iz’ i wa7 nk’wen’cenálhts’a7. Sk’alán’min’skan ta pápl7a iz’ i wa7 nk’wen’cenálhts’a7. “Kálenem,” tsut, “t’u tsícwkalh t’u7 kalhucwkalhá t’u7, wa7 láti7 i ts’qax7íha estálhlec, cw7aoz káti7 láti7 kwas wá7wit. Plan t’u7 wa7 tsexwtsíxw sqemps i ts’qax7íha.” Nilh ku7 t’u7 stsut.s ts7a ta pápl7a ta sám7a ti7 ta wa7..., nilh ti7 wa7 s*Tom Evans*, nilh ti7 wa7 sqwéqwel’entsás. Tsut ku7, “*That’s,* láti7 lh... láti7 t’u7 lhtsem’pás kwenswá kálen kw s*Paul Spintlum*. Lhqwenánal’ap áta7 kw st’ákl’ap, nilh st’ákl’ap, cúz’lhkan p’an’t lhelts7á.”

3.6 Wa7 sqwéqwel’ ta ts’k’wáylacwmeca: Smúlhats ta syáxiha i wa7 cwelcúlel

S7aw’t.s lhláti7, lhel t.st’álsa ta kvpmena kwas xáq’enas kwa nk’wen’cenálhts’a7, nilh t’u7 aylh sts’ílas ku tí7eg’wwit, nilh t’u7 sas kentákem t’u7 lhas áts’x.wit kénki ucwalmícwa. Cw7it úcwalmicw wa7 qan’ímensan kwas tsut kwas tsícwwit áti7, um’nítas kénki s... Cw7it i nk’saytkeníha kentákem, aoz kwas tsukw láku7 *Clinton*a i ucwalmícwa, kentákem lhas snek’wnúk’wa7wit, kekáw’ kentswása

tsicw i wa7 nk'sáytkeni.   Nilh t'u7 ses t'u7 wá7wit, ts'íla kentákem lhas tsícwecwwit. Cw7it kentswása áts'x.wit, kent7ú lhas wa7 i wa7 leqmám, kent7ú i spálema wa7 láti7 i núkwa nk'sáytkeni, áti7 lhus tsícwwit. Wa7 ti7 hal'hán'itas, hal'acítas izáwna, wa7... wá7lhkan zewáten izá wa7 sqweqwel'mintanemwítas... ti7 ta trapsteníha, stexw ku7 t'u7 áma ku trápsten. Láti7 lhas sqweqwel'mínitas nka7 lhkwanenstwítas ti7 ta trápstena. Naq'wcitítas ti ts'qáxa7sa ta *saddle*sa, ti7 ta wa7 nk'wen'cenálhts'a7 ta trápstensa.

Cw7aoy ti7 kwas tsukw száyteni, cw7it áti7 kw sxílemi, wa7, kw skwánitas ku ts'qáxa7, ku áma ts'qáxa7, ku áma s̲áotv̲l, kenká7 tu7 lhas kakwanstwítasa. Nilh t'u7 sas t'u7 wá7wit t'u7 ts'íla káti7 estíg'w kénki tákema kénki... kwelh ucwalmícwiha. Cw7ao káti7 kwa tsut ltsa lhwa7witás t'u7.

Kentákem t'u7 lhas tsícwwit kent7ú *Lillooet*a, ta pál7a száyteni lts7áwna ti7, lkw7a ta wa7 tsúnem wa7 *eleven mile*. T'ák.wit ku7 áti7, wa7 t'u7 nmátq.wit, t'u7 aoz t'u7 kwas ests'qáxa7wit, láti7. Ats'xenítas ta t'láz'a láti7, nilh t'u7 scuy's... stsúti, "Cúz'lhkalh lha7q et7ú x7ílha." Nilh t'u7 skwánitas ta t'láz'a, t'áq'.wit áta7 x7ílha. Lha7qswít, nilh t'u7 sweq'wenítas ta t'láz'a, kelhenítas ta l̲ópa. Nilh t'u7 ntáki et7úwna, et7ú ta wa7 tsúnem wa7 nxwísten, áta7 lhts'itemwítas.

T'ák.wit áta7...   tsícwwit láta7 lki ucwalmícwa tsitcws wa7 eslhép' i sq'wíts'ma, st'ánwen. Nilh t'u7 stsut.s ta núkwa, "Cúz'lhkalh láti7 kwam ku st'ánwen. Cúz'lhkalh t'aq' lt7u lta ntqwíxwa, nilh iz' lhecweném i st'ánwena." Nilh t'u7 skwánitas láti7 ku án'was st'ánwen wa7 esq'wíts'em lta *line*a.

Iy, pták.wit lhláti7 aylh, nilh t'u7 snlhá7qi, ts'ítemwit ets7áwna... *Lillooet*a, ti7 ta táowna. Nilh t'u7 swá7i káta7 cá7a; nilh ti7 stsúw7i sqwéqwel'. Nilh ti7 sqweqwel'í kwas wá7wit káta7. Láni7 ku... láti7 ku *time*, k'a cw7aoz káti7 kwas cw7it kwa... ku úcwalmicw, cw7aoz kwas cw7it i sám7a. Gap lhláti7, nilh t'u7 stsícwwit káti7 táowna, cw7it ki wa7 s7ílheni. Cw7ao láti7 kw zewatentanemwítas.

Gap, ts7as gap, ts7as kakwása, nilh t'u7 stsúti, "Cúz'lhkalh t'aq' lta ntqwíxwa." Lhecwenítas iz' i st'ánwena, nilh t'u7 sqwatsátsi szeczacenstwítas i s7ilheníha. Papt láti7 wa7 matq i ucwalmícwa smelhmúlhats, nmatq. T'ák.wit aylh éta n... tsícwwit áti7 ta ntqwíxwa, wa7 zewatenítas ta pápl7a láti7 sáma7, wa7 es7ats'xstáli ta ntqwíxwa. Nilh iz' láti7 wa7 s7ats'xstanemwítas kánas kwas t'áq'.wit. Sucwtenítas ta pápl7a, nilh ku7 ti7 wa7 s*Joe Russell*, wa7 ti7 zewatenítas, nilh t'u7 ti7 st'áki t'u7 t'aq'. Lha7qswít, ao káti7 wa7 kastanemwítas, tsut t'u7 iz' i sám7a kw s7úcwalmicw kwelh smelhmelhmúlhats káti7 t'áka.

3.7   K'úl'emwit ku tsitcwíha ku sk'wals láku7 Leon's Creek

Pták.wit lhláti7, nilh t'u7 st'áki t'u7 ts'ítem wa7 i nk'saytkeníha áku7 cácel'pa lh...   Wa7 zewatenítas láku7 i núkwa úcwalmicw, áku7 lhtsícwwitas ti pál7a sgap.   Lhláti7 qwatsátswit kent7úwna ta wa7 tsúnem spálem.   Áta7 lhwá7as i núkwa nk'sáytkeni, káta7 lhas tsícwwit.   Kentákem kénki ucwalmícwa lhas tsícwwit, sqweqwel'mínitas i wa7 száyteni, ats'x i wa7 sqweqwel'mínitas iwás kalentánemwit ki sám7a, legwilcmínitas lhnúkwas: T'ák.wit ku7 káti7 s... wá7wit láti7 slegwílc, t'ak káti7 i wa7 nk'wan'cenantanemwítas sq'útiha, t'u ptá::k.wit.

Láti7 lta pápl7a snúk'w7i lhláta7 ti7 ta wa7 tsúnem ts'k'wáylacw, wa7 iz' alkst láta7 lki wa7 leqmám lhas pipántsk. Áti7 ku7 papt... lhk'wínas gap kwas tsícwwit áta7, láta7 lhas kwanenstwítas i s7ilheníha. Nilh láti7 ku7 lhas sqwe- qwel'mínitas kwas ti7 naq'wcitítas ta trápstena múta7 ta ts'qáxa7sa ti7 ta wa7 nk'wan'cenantanemwítas. Stexw ku7 t'u7 ti7 áma ta trapsteníha, kaw' kw shál'a... sk'ík'ta7sa s...

Kentákem t'u7 aylh káti7 lhas wá7wit t'u7 wa7 hem', wá7wit hém' t'u7 sleg- wílc lt7u lta wa7 tsúnitas wa7 *Leon's Creek*, sx7ilhts. Láku7 ku7 ku tsitcwíha sk'ul'emwít t'u7 ku sk'wals, nilh ti7 ta wa7 tsúnem ti sám7a wa7 *cave*. Láti7 lhas wá7wit, kekáw' ti7 tswása eshál'a kentákem, lhláti7 ltswása wá7wit. Lhkúnsa wa7 k'a t'u7 sts'íla eshál'a, kw sts'ílas ti7 wa7, nk'wink'wenás k'a wa7 tsicw áku7 ats'xentáli, ti7 lta tsitcwíha esmáys ku... Tsícwkacw áta7, wa7 hem' t'u7 cw7aoz kwásu áts'xen kwas wa7 láti7 ku tsitcw. Pútkacw t'u7 zewáten kw s... lhnká7as lhlákas, t'u7 wá7lhkacw ka7áts'xsa.

3.8 Wa7 kwánenwit i wa7 q'wemq'wmíw's, nilh swas kotháwsi

S7aw't.s lhelts7áwna, cw7it kwas... p'a7cw k'a t'u7 ku xw7útsin máqa7 kwas wá7wit q'wmiw's. Plan t'u7 tu7 pa7cw ta kvpmena kwas nk'wan'cenán'as, cw7aoy t'u7 kw skakwánsa, kwas ts'íla wa7 npzánitas. Tsukw t'u7 ti7 aylh ta wa7 tsúnitas wa7 *reward, four thousand dollars*.

Wa7 t'u7 ts7a ta pápl7a kúkwpi7, ts'íla k'a ti7 ku sísq7i izá. Nilh t'u7 stsután- wasts, "Lhnásan tsuntaníhan kw sts7así t'u7 ets7áwna, nilh t'u7 scuy náscit i wa7 zúscal, tsukw t'u7 kw scw7aoys kw nscuz' kwan ta sqláw'a wa7 sxaq'. Cúz'lhkan t'u7 qwézen ku ntsúwa7 sqlaw' lkw s... lku lóya." Nilh t'u7 stsicws sqwel'qwel'sás izá i tewtwíw'ta, n7án'was. Nilh t'u7 sncwatsín'em, nilh t'u7 sts7ási. Nilh t'u7 aylh skwántanemwit éki plísmena, nilh t'u7 ts7a ta kúkwpi7a cwits'in'táli, elh cúz'wit aylh láti7 kotháws.

S7aw't.s lhláti7, cw7it kw skotháwsi. Kentákem lhtsícwas, nilh ti7 wa7 s*Stewart Henderson* ta loyhíha múta7 nilh wa7 s*Costello*. *Henry Costello* ti7 ta núkwa lóyhi. Cw7it kw skotháwsi kénki s7ícwlha tmicw.

Pápla7 t'u7 ta láwa lhel wi snilh. Nilh t'u7 s*lifetíme*stum ta pápl7a, t'u7 cw7aoy t'u7 kw scw7it.s máqa7, xw7útsin k'a t'u7 ts'íla máqa7, nilh t'u7 szuqws tu7 láta7 t'u7 lta nk'á7mena.

Láti7 iz' lhtsem'pwítas.

4 Direct English Translation

4.1 Prologue

At the time I'm talking about, a white man was found dead.

When the people who had been searching for him got there, they blamed Moses Paul for killing him. So they took him and threw him in jail. He stayed there until it was getting towards fall, I guess. It must've been getting towards spring, when this happened. So he was inside, and when it was nearly fall he got

out of jail. The police thought that it must have been Paul Spintlum who helped to get him out.

4.2   Cultus Jack's Story: Jack McMillan and Paul Spintlum

So the policeman who was there hired this Indian guy. They were blaming Paul Spintlum for helping Moses Paul to get out of jail. So the policeman went off and hired this Indian, Cultus Jack. He said to him, "Do you know where he (Paul Spintlum) used to go hunting?" Paul Spintlum had already set out hunting in the bush. Cultus Jack said, "I know where he is." So then they set out, the policeman and the one he had hired. This Indian named Cultus Jack told him, "Don't get there during the day. In the morning, just before dawn, he leaves to go hunting, that's when we'll go after him, then you'll get him. He goes hunting during the day, and won't be there in his camp." So they arranged it so that they would be able to get there before dawn.

They arrived there together, that Indian named Cultus Jack and the policeman. When they got there, he (Paul Spintlum) was still sleeping. When the policeman who was going after him got there, some of the others in camp already had a fire going. So he went and asked, and was told that his (Paul Spintlum's) tent was over yonder.

So the policeman went there. He knew Paul Spintlum, so he spoke to him from the entrance of the tent, he said, "Paul Spintlum, I want you." Then Paul Spintlum said, "Okay, I'm coming, just wait for me to get dressed. I'm going to get dressed." (*Put on his clothes.*) So he got dressed. When he finished dressing, he grabbed his gun, and he went outside his tent. As soon as he had got outside, he aimed his gun at the policeman. He told the policeman, "If you want me, then come and get me now." The policeman didn't move, so Paul Spintlum kept backing away until he disappeared in the bushes, and that was the last time he was seen.

Then the policeman and Cultus Jack left, they went back to Clinton, where that policeman was from. The policeman got to Clinton. Then he took off his badge - *that's the badge* - he took off the badge, and he quit being a policeman.

4.3   Johnny Pollard's Story: One Policeman Dead, One Wounded

After that, those guys were outlaws, on the run. They weren't around anymore, Moses Paul and Paul Spintlum: they weren't seen around, because they had become outlaws.

Next spring came around. The month of May came, that's when the Spring Assizes were held in Clinton. There were a lot of white people gathered there. Then this guy came who was... At that time, everyone there rode horses, and someone came in on horseback. He arrived at the town, and said, "Paul Spintlum is just over there, he's nearby!"

So the white people and the policemen started rushing around looking for them, and they figured out where they were at. When they had almost gotten there, then they split up. Those policemen were in the middle. They went over to

where there was kind of a hollow in the ground, then one of the policemen was shot, and he fell. Another one was shot in the arm, but by the time they rushed over to get the shooters, they had left. One of them jumped on his horse, they shot at him but they didn't hit him, and so he got away. Some other members of the posse rushed over to where the gunshots had come from. When they got there, one policeman was already down. The other one was suffering because he'd been hit in the arm. They saw that one of them - the outlaws, that's what they called them - Paul Spintlum, had already got on his horse. They shot at him but he didn't get hit, then he disappeared, so then they took the dead person and laid him on one of the horses; then they brought him home, towards town. When they arrived there, the policeman from Clinton was already dead.

4.4   Paul Spintlum's Story: Tracking the Outlaws

After that, the government hired trackers to track them, and to search for them all over the place. A lot of them were white people, but they also got some Indians from Kamloops that they call "trackers". They didn't hire any Indians from near here, the Indians they hired were from different places. They used a lot of horses to track and chase down the two outlaws.

Many times - they must've been chasing them for more than a month, maybe nearly two - they thought they'd caught up with them, but they couldn't catch them. They had them surrounded at one mountain, but when they went there, they'd already gone. The government tried in vain, and lost a lot of money, so they stopped (paying for) the trackers. But the government handed over four thousand dollars as a reward for anyone who could catch them. So then the trackers stopped, and then the outlaws...

When they were there, the trackers nearly kind of caught up to them a bunch of times. One of them was at 59 Mile, that's Chasm amongst the white people, and *necnactám'* in Indian. That's where it was, according to the outlaws' own story. A white guy went over to look across the brow of a hill, then he tied up his horse and looked over the edge. One of the outlaws was crouching down, it was Moses Paul, and he jumped on the guy's horse and escaped. Among other things, there were some binoculars in there, they got some good binoculars there.

4.5   Tom Evans' Story: A Close Call in Jack Pine Country

They kept trying, many, many people wanted to get them... but they managed to disappear into the bush... So then the trackers got scared. I listened to one of those trackers. He said, "We followed them until we got into the brush, and there were their horses standing there, but they weren't there. Their horses were dripping with sweat." This part comes from this one white person, it was Tom Evans, that's who told me this story. He said, "This is where I quit chasing Paul Spintlum. If you all want to keep going, then keep going, but I'm going back."

4.6   Pavilion Person's Story: Disguised as Women

After the government stopped paying for trackers, the outlaws kind of got free, and they were seen all over where there were Indian people. I heard a lot of Indian people say that they went by there, and they'd give them some of their stuff. They had a lot of relatives all over the place, not just the Indians at Clinton, they had friends everywhere, and they had relatives spread over a large area. And so there they were, and they kind of went all over the place. They were seen in a lot of places: where the haymakers were, over in the fields where some of their relatives were, that's where they used to go. They showed - I know the people who told this story about them - they showed them the binoculars, really good binoculars. That's when they told the story about where they got those binoculars. They stole the horse's saddle and the tracker's binoculars.

That wasn't all they did, either, they did a lot of things, they took horses, good horses, good saddles, anywhere they could get them. They just kind of lived freely amongst their relatives. Nobody would say where they were.

They went everywhere around Lillooet, and there was this one thing that they did there, over at what we call Eleven Mile. I heard they were traveling on foot, because they didn't have horses at that point. They saw a canoe, so they began to.... they said, "Let's cross over to the other side." So they took the canoe and crossed over. They got to shore, then they let the canoe drift away, they took off the rope. Then they were on the other side of the river, over towards what we call Nxwísten (Bridge River), and that's where they headed.

They went on, and they got to some Indian's houses which had laundry hanging up, skirts. So one of them said, "We'll take some skirts. We'll cross over on the bridge, and we'll put those skirts on." So they took two skirts that had been washed from the line.

Yes, they went past there, then they crossed over (Bridge River) and came towards Lillooet, to the town. They were up above the town; that was their own story. It was their story that they were around there. At that time, there can't have been many Indians around, and not many white people. When it was evening, they went around town and got a lot of food. Nobody there knew who they were.

Evening came, it began to get dark, then they said, "Let's cross over on the bridge." They put on those skirts, then they set off, packing their food on their backs. There were always Indian women travelling there, walking. They got to the bridge and they knew this one white person who was there watching the bridge. They were watching out in case they (the outlaws) crossed. They recognized one person, it was Joe Russell, they knew him, but they kept going until they crossed over. They crossed over, nobody did anything to them, those white people just thought that the women going by were Indians.

4.7   The Hideout at Leon's Creek

They continued towards where their relatives were at Fountain. They knew some of the Indians there. They got there one evening. From there they set out for what we call Spálem (Fountain Flats). Some of their relatives were living there, where

they went. Everywhere they went amongst the Indians, they told the story of what they had been doing: they told about how they were seen by the white people chasing them, and how they hid from them sometimes: the trackers went along - they were hiding, and the ones tracking them went by right beside them, until they passed by.

At one of their relative's places over in what we call Ts'k'wáylacw (Pavilion), they worked amongst the haymakers during the summertime. On many evenings, they'd go there to get food. That's where they told the story about stealing those binoculars and the horse from the tracker. Their binoculars were really nice, far away things showed close up.

They were staying all over, but they hid out over at what they call Leon's Creek, on the other side of the river. They built their house in a rock-overhang, what is called a 'cave' in English. Where they were staying, you can see everything for a long ways, from where they were. Today it's still more or less visible, it's still kind of there, a bunch of people must have gone up there to take a look at it, that house they built... You get there, but you don't see any house there. If you know just where it's at, then you're able to see it.

4.8   The Outlaws' Capture, Trial, and Sentencing

After that, there were a lot.... it must've been more than four years that they were on the run. The government had given up on tracking them, they couldn't catch... kind of catch up to them. There was just what they called the reward, four thousand dollars.

There was this one chief, he must've been kind of like their uncle. He thought, "What if I go tell them to come over here, and then go send for a policeman, only I'll never take the reward money. I'm going to use my own money for a lawyer." Then he went to talk to these two young people. So they listened to his advice and came. Then they were taken by the police, it was this chief who handed them over, and then they were going to go to trial after that.

After this, there were a lot of trials. They went everywhere, Stuart Henderson was their lawyer, and then there was Costello... Henry Costello was their other lawyer. There were a lot of trials in different places.

One of them was hung. The other one got a life sentence, but he didn't survive many years, maybe something like four years, then he died there in jail.

That's how it ended for them.

5   Interlinear Gloss

5.1   Na skéla7sa

(1)   lts7á-wna,   pun   ta=sám7=a   s-zuqw.
    at+here.vɪs-precisely   get.found   ᴅᴇᴛ=white.person=ᴇxɪs   sᴛᴀᴛ-dead
  At the time I'm talking about, a white man was found dead.

(2) tsicw   i=wa7=cwíl'-em...
     get.there PL.DET=IPFV=look.for-MID
     When the people who had been searching for him got there...

(3) ...nílh=t'u7 s...   s=nilh=ts   ti7   ta=wa7=s=*Moses*
     COP=EXCL   NMLZ NMLZ=COP-3POSS that.VIS DET=IPFV=NMLZ=Moses
          Paul ma7-en-ém   kw=s=[s]nílh=ts=k'a
          Paul   blame-DIR-3PASS   DET=NMLZ=3SG.INDEP=3POSS=EPIS
               zúqw-s-tal'i.
               dead-CAUS-NTS
     ...they blamed Moses Paul for killing him.

(4) nílh=t'u7 s=kwán-em,   nílh=t'u7 n-k'a7-n-ém,
     COP=EXCL NMLZ=take+DIR-3PASS   COP=EXCL LOC-get.stuck-DIR-3PASS
          n-k'a7   l=ta...
          LOC-get.stuck at=DET
     So they took him and threw him in jail.

(5) nilh láti7   s=wa7=s   t'u nas e=t7ú   lhwál'tsten=k'a
     COP at+there.VIS NMLZ=be=3POSS until go to=there.VIS autumn=EPIS
          sxek.
          maybe
     He stayed there until it was getting towards fall, I guess.

(6) qápts=k'a   ts7a,   nilh s=qapts-[n]ún=k'a   nilh s=... ts7a
     spring=EPIS this.VIS COP NMLZ=spring-EXP+DIR=EPIS COP NMLZ this
          ku=száyten.
          DET=doings
     It must've spring, early spring, when this happened.

(7) lhwál'tsten=k'a nílh=t'u7 s...   nílh=t'u7=tu7   s=7ulhcw,
     autumn=EPIS   COP=EXCL NMLZ COP=EXCL=REM NMLZ=enter
          lhwal'tsten-álmen nílh=t'u7 s=7úts'•ets'•qa7=s
          autumn-nearly   COP=EXCL NMLZ=go.outside•FRED•=3POSS
               lhel=ta=n-k'á7-men=a.
               from=DET=LOC-get.stuck-INS=EXIS
     So he was inside, and when it was nearly fall he got out of jail.

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(8)   nílh=t'u7   múta7   n-tsut-ánwas   i=plísmen=a
      COP=EXCL   again   LOC-say-inside   PL.DET=policeman=EXIS

         kw=s=nílh=ts=k'a=ti7   ta=wa7=s=*Paul*   *Spintlum*
         DET=NMLZ=COP=3POSS=EPIS=that.VIS   DET=IPFV=NMLZ=Paul   Spintlum

            nuk'w7-an-táli   kw=s=7úts'•ets'•qa7=s.
            help-DIR-NTS   DET=NMLZ=go.outside•FRED•=3POSS

   The police thought that it must have been Paul Spintlum who helped to get
   him out.

5.2   Wa7 sqwéqwel' sCultus Jack: Jack McMillan múta7 sPaul Spintlum

(9)   wa7   ta=wa7=zús-cal,   nílh=t'u7   s=k'wálh-an'-as
      be   DET=IPFV=get.tied.up-ACT   COP=EXCL   NMLZ=call.on-DIR-3ERG

         ta=pá•pl7=a   úcwalmicw.
         DET=IRED•one=EXIS   indigenous.person

   So the policeman who was there hired this Indian guy.

(10)   wá7=t'u7   ma7-en-ítas   ti7   ta=wa7=s=*Paul*
       IPFV=EXCL   blame-DIR-3PL.ERG   that.VIS   DET=IPFV=NMLZ=Paul

          Spintlum   kwes   nílh=k'a=ti7   nuk'w7-an'-táli
          Spintlum   DET+NMLZ+IPFV+3POSS   COP=EPIS=that.VIS   help-DIR-NTS

             s=*Moses*   *Paul*   ta=ka-7úts'q7-a.
             NMLZ=Moses   Paul   DET=CIRC-go.outside-CIRC

   They were blaming Paul Spintlum for helping Moses Paul to get out of jail.

(11)   nílh=t'u7   s=qwatsáts=[s]   ta=wa7=zús-cal,
       COP=EXCL   NMLZ=leave=3POSS   DET=IPFV=get.tied.up-ACT

          k'wálh-an'-as   ta=pá•pl7=a   úcwalmicw,   nilh
          call.on-DIR-3ERG   DET=IRED•one=EXIS   indigenous.person   COP

             ti7   wa7   s=*Cultus*   *Jack*.
             that.VIS   IPFV   NMLZ=Cultus   Jack

   So the policeman went off and hired this Indian, Cultus Jack.

(12)   tsún-as,   "wá7=lhkacw=ka   zewát-en   nká7=as
       say+DIR-3ERG   IPFV=2SG.SBJ=IRR   be.known-DIR   where=3SBJV

          lhas   wá7=tu7   píxem'?"
          COMP+IPFV+3SBJV   IPFV=REM   hunting

   He said to him, "Do you know where he (Paul Spintlum) used to go hunt-
   ing?"

(13) plán=tu7=ti7   wa7 qwatsáts píxem' ken=kw7ú
      already=REM=that.VIS IPFV leave   hunting around=that.INVIS
          kísem=a,   ti7   ta=wa7=s=*Paul*   *Spintlum*.
          back.area=EXIS that.VIS DET=IPFV=NMLZ=Paul Spintlum
      Paul Spintlum had already set out hunting in the bush.

(14) tsut kw=s=*Cultus*   *Jack*, "wá7=lhkan zewát-en
      say DET=NMLZ=Cultus Jack   IPFV=1SG.SBJ be.known-DIR
          nká7=as=tu7   lh=t'ák=as."
          where=3SBJV=REM COMP=go.along=3SBJV
      Cultus Jack said, "I know where he is."

(15) nílh=t'u7   s=qwatsáts=i,   k'wálh-an'-em
      COP=EXCL NMLZ=leave=3PL.POSS call.on-DIR-3PASS
          e=ta=plísmen=[a],   tsún-em
          OBL=DET=policeman=EXIS say+DIR-3PASS
              e=ta=7ucwalmícw=a   ta=wa7=s=*Cultus*
              OBL=DET=indigineous.person=EXIS DET=IPFV=NMLZ=Cultus
                  Jack, "ao kwásu   ka-nás-a
                  Jack   NEG DET+NMLZ+IPFV+2SG.POSS CIRC-go-CIRC
                      l=ku=sq'ít."
                      at=DET=day
      So then they set out, the policeman and the one he had hired. This Indian
      named Cultus Jack told him, "Don't get there during the day."

(16) "tsúkw=t'u7 lh=n'án'atcw=as   kéla7
      finish=EXCL   COMP=morning=3SBJV   first
          kw=s=má<7>eg'=s,   kéla7 s=qwatsáts=[s]
          DET=NMLZ=daybreak<INCH>=3POSS before NMLZ=leave=3POSS
              píxem'..."
              hunting
      "In the morning, just before dawn, he leaves to go hunting..."

(17) "...láti7=klh   lh=nas-min'-ém=as,   nílh=t'u7
      at+there.VIS=FUT COMP=go-APPL-1PL.ERG=3SBJV COP=EXCL
          s=kwán•en-s-acw."
          NMLZ=take•FRED-CAUS-2SG.ERG
      "...that's when we'll go after him, then you'll get him."

(18)   "wá7=ti7   píxem'   lhas   sq'it,   t'u7   ao
       IPFV=that.VIS hunting COMP+IPFV+3SBJV day   EXCL   NEG

       kwas   wa7   l=ta=*camp*-s=a."
       DET+NMLZ+IPFV+3POSS be   at=DET=camp-3POSS=EXIS

"He goes hunting during the day, and won't be there in his camp."

(19)   nílh=t'u7   s=k'ul'-ún'-itas
       COP=EXCL   NMLZ=get.made-DIR-3PL.ERG

       kw=s=ka-tsícw=i-ha   áta7
       DET=NMLZ=CIRC-get.there=3PL.POSS-CIRC   to+there.VIS

       l=kw=s-kéla7-s   kw=s=psil'=s.
       at=DET=NMLZ-first-3POSS   DET=NMLZ=daybreak=3POSS

So they arranged it so that they would be able to get there before dawn.

(20)   tsícw=wit,   t'qwáw's=wit,   ti7   ta=7ucwalmícw=a
       get.there=3PL   together=3PL   that.VIS DET=indigenous.person=EXIS

       ta=wa7=s=*Cultus   Jack* múta7 ti7   ta=plísmen=[a],
       DET=IPFV=NMLZ=Cultus Jack   and   that.VIS DET=policeman=EXIS

       ta=wa7=zús-cal.
       DET=IPFV=get.tied.up-ACT

They arrived there together, that Indian named Cultus Jack and the police-
man.

(21)   tsícw=wit   áta7,   wá7=t'u7   guy't.
       get.there=3PL   to+there.VIS IPFV=EXCL sleep

When they got there, he (Paul Spintlum) was still sleeping.

(22)   nilh s=...   nílh=t'u7   s=tsicw=s   ta=wa7=zús-cal,
       COP NMLZ COP=EXCL   NMLZ=get.there=3POSS DET=IPFV=get.tied.up-ACT

       tsícw-min'-as,   plan   wa7 es=[s]p'ám   i=núkw=a
       get.there-RLT-3ERG already IPFV have=firewood PL.DET=other=EXIS

       wa7 láti7   wa7 es=*camp*.
       IPFV at+there.VIS be   have=camp

When the policeman who was going after him got there, some of the others
in camp already had a fire going.

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(23)　tsicw　　　ta=wa7=zús-cal　　　　　sáwlhen,　　wa7
　　　get.there　DET=IPFV=get.tied.up-ACT　ask.a.question　IPFV

　　　　tsún-em=ku7　　　　láta7　　　lh=wá7=as　　　l=t7u
　　　　say+DIR-3PASS=QUOT　at=that.VIS　COMP=be-3SBJV　at=there.VIS

　　　　　l=ta=latáont=[a].
　　　　　at=DET=tent=EXIS

　　So he went and asked, and was told that his (Paul Spintlum's) tent was over
　　yonder.

(24)　nílh=t'u7　s=tsicw=s　　　　　　ta=wa7=zús-cal.
　　　COP=EXCL　NMLZ=get.there=3POSS　DET=IPFV=get.tied.up-ACT

　　So the policeman went there.

(25)　wá7=ti7　　　zewát-en-as,　　　nílh=t'u7　s=tsún-as,
　　　IPFV=that.VIS　be.known-DIR-3ERG　COP=EXCL　NMLZ=say+DIR-3ERG

　　　　qwal'út-s-as　　　áku7　　　　　lhel=ta=sk'ém'ts-s=a
　　　　speak-CAUS-3ERG　to+there.INVIS　from=DET=door-3POSS=EXIS

　　　　　ta=latáont=a...
　　　　　DET=tent=EXIS

　　He knew Paul Spintlum, so he spoke to him from the entrance of the tent...

(26)　tsún-as,　　　　"*Paul Spintlum*, wá7=lhkan　　xát'-min'-tsin."
　　　say+DIR-3ERG　Paul　Spintlum　IPFV=1SG.SBJ　want-RLT-2SG.OBJ

　　...he said, "Paul Spintlum, I want you."

(27)　nílh=t'u7　s=tsut=s　　　　　　kw=s=*Paul*　　　*Spintlum*, "wa7...
　　　COP=EXCL　NMLZ=say=3POSS　DET=NMLZ=Paul　Spintlum　IPFV

　　　　cuy　áma,　cúy'=lhkan,　　s-k'al'em-mín-ts
　　　　okay　good　going.to=1SG.SBJ　STAT-wait.for-RLT-1SG.OBJ

　　　　　kw=n=s=yax.　　　　　　　　cúz'=lhkan　　　yax."
　　　　　DET=1SG.POSS=NMLZ=get.dressed　going.to=1SG.SBJ　get.dressed

　　　　　　Put on his clothes.
　　　　　　put　on　his　clothes

　　Then Paul Spintlum said, "Okay, I'm coming, just wait for me to get
　　dressed. I'm going to get dressed." (*Put on his clothes*.)

(28)　nílh=t'u7　s=yax=s.
　　　COP=EXCL　NMLZ=get.dressed=3POSS

　　So he got dressed.

(29)　tsukw　s=yax=s,　　　　　　　kwán-as　　　ta=swelmín'k-s=a,
　　　finish　NMLZ=get.dressed=3POSS　take+DIR-3ERG　DET=gun-3POSS=EXIS

　　　　　nílh=t'u7　s=7úts'qa7=s　　　　　lhel=ta=latáont-s=a.
　　　　　COP=EXCL　NMLZ=go.outside=3POSS　from=DET=tent-3POSS=EXIS

　　When he finished dressing, he grabbed his gun, and he went outside his tent.

(30)　ka-7úts'q7-a　　　　áku7,　　　　　nílh=t'u7
　　　CIRC-go.outside-CIRC　to+there.INVIS　COP=EXCL

　　　　　s=kwil'-qs-cít-as　　　　　ta=plísmen=a.
　　　　　NMLZ=prepare-end-IND-3ERG　DET=policeman=EXIS

　　As soon as he had got outside, he aimed his gun at the policeman.

(31)　tsún-as,　　　　　"lh=xát'-min'-ts-acw,　　　　　nílh=t'u7
　　　say+DIR-3ERG　COMP=want-RLT-1SG.OBJ-2SG.ERG　COP=EXCL

　　　　　s=ts7ás=tsu　　　　　kwan-ts　　　　lhkun."
　　　　　NMLZ=come=2SG.POSS　take+DIR-1SG.OBJ　now

　　He told the policeman, "If you want me, then come and get me now."

(32)　lhláti7　　　　　ta=wa7=zús-cal,　　　　　nílh=t'u7
　　　from+there.VIS　DET=IPFV=get.tied.up-ACT　COP=EXCL

　　　　　s=cw7áoy=s=t'u7　　　kw=s-qwts-ilc-s,
　　　　　NMLZ=NEG=3POSS=EXCL　DET=NMLZ-move-AUT-3POSS

　　　　　　nílh=t'u7　s=t'ák=s=t'u7　　　　　ti7　　　kel'q
　　　　　　COP=EXCL　NMLZ=continue=3POSS=EXCL　that.VIS　back.up

　　　　　　　　ti7　　　ta=wa7=s=*Paul*　　*Spintlum*　t'u
　　　　　　　　that.VIS　DET=IPFV=NMLZ=Paul　Spintlum　until

　　　　　　　　　ka-lhucw-a-tú7=a,　　　　　nílh=t'u7　láti7
　　　　　　　　　CIRC-bushes-CIRC=REM=A　COP=EXCL　at+there.VIS

　　　　　　　　　　s=7aw't=s　　　　　kw=s=7áts'x=s.
　　　　　　　　　　NMLZ=behind=3POSS　DET=NMLZ=get.seen=3POSS

　　The policeman didn't move, so Paul Spintlum kept backing away until he
　　disappeared in the bushes, and that was the last time he was seen.

(33)　nílh=t'u7　lhláti7　　　　　s=qwatsáts=i　　　　ti7
　　　COP=EXCL　from+there.VIS　NMLZ=leave=3PL.POSS　that.VIS

　　　　　ta=wa7=zús-cal　　　　　múta7　s=*Cultus*　　*Jack*...
　　　　　DET=IPFV=get.tied.up-ACT　and　　NMLZ=Cultus　Jack

　　Then the policeman and Cultus Jack left...

(34)　...p'án't=wit　e=t7ú　　　*Clinton*=a,　　lhláta7
　　　　return=3PL　to=that.VIS　Clinton=EXIS　from+there.VIS

　　　　　　ti=*Clinton*=a　　　　ti7　　　ku=wa7=zús-cal.
　　　　　　DET=Clinton=EXIS　that.VIS　DET=IPFV=get.tied.up-ACT

　　　...they went back to Clinton, where the policeman was from.

(35)　　tsicw　　[e]=ta=*Clinton*=a　　(ta...) ti7　　　ta=wa7=zús-cal.
　　　　get.there　to=DET=Clinton=EXIS　DET　that.VIS　DET=IPFV=get.tied.up-ACT

　　　The policeman got to Clinton.

(36)　　nílh=t'u7　s=kelh-en-ás　　　　　ta=q'wáolaps-ts=a,　　*that's*
　　　　COP=EXCL　NMLZ=take.off-DIR-3ERG　DET=badge-3POSS=EXIS　that's

　　　　　the badge,　kelh-en-ás　　　　　ta=q'wáolaps=a,　nílh=t'u7
　　　　　the badge　take.off-DIR-3ERG　DET=badge=EXIS　COP=EXCL

　　　　　　s=káw-lec=s　　　　　　　kws
　　　　　　NMLZ=move.away-AUT=3POSS　DET+NMLZ+IPFV+3POSS

　　　　　　　zús-cal　　　　láti7.
　　　　　　　get.tied.up-ACT　at+there.VIS

　　　Then he took off his badge - *that's the badge* - he took off the badge, and he quit being a policeman.

5.3　Wa7 sqwéqwel' sJohnny Pólat: Pála7 ta zúqwa plísmen, pála7 ta q'ám'ta t'u7

(37)　　s-7aw't-s　　　　　lhláti7,　　　nílh=t'u7　ses　　　　　　wa7
　　　　NMLZ-behind-3POSS　at+there.VIS　COP=EXCL　NMLZ+IPFV+3POSS　be

　　　　　iz'...　　q'wmiw's,　qecw•qícw.
　　　　　those.VIS　wild　　TRED•wild

　　　After that, those guys were outlaws, on the run.

(38)　　ao　kwas　　　　　　　　wá7=wit　káti7　　　　　iz'
　　　　NEG　DET+NMLZ+IPFV+3POSS　be=3PL　around+there.VIS　those.VIS

　　　　　i=n-7án'was=a,　　　ti7　　　ta=wa7=s=*Moses　　Paul* múta7
　　　　　PL.DET=LOC-two=EXIS　that.VIS　DET=IPFV=NMLZ=Moses Paul　and

　　　　　　ta=wa7=s=*Paul　　　Spintlum*:
　　　　　　DET=IPFV=NMLZ=Paul　Spintlum

　　　They weren't around anymore, Moses Paul and Paul Spintlum:

(39)   ...áoy=t'u7 kwas   áts'x=wit,   q'wmiw's=wít=tu7.
       NEG=EXCL DET+NMLZ+IPFV+3POSS get.seen=3PL wild=3PL=REM

       ...they weren't seen around, because they had become outlaws.

(40)   nas e=t7ú   zánucw-em, qapts.
       go   to=that.VIS year-MID   spring

       Next spring came around.

(41)   tsícw=k'a   ta=wa7=t'ánam'ten e=kw7á   *May*, láti7
       get.there=EPIS DET=IPFV=moon   to=this.INVIS May   at+there.VIS

             lhas   wa7 i=wa7=*Spring   Assizes* láku7
             COMP+IPFV+3SBJV   be   PL.DET=IPFV=Spring Assizes at+there.VIS

                 Clinton=a.
                 Clinton=EXIS

       The month of May came, that's when the Spring Assizes were held in Clin-
       ton.

(42)   cw7it áti7   gaw'-p   i=sám7=a.
        many at+there.VIS gather-INCH PL.DET=white.person=EXIS

       There were a lot of white people gathered there.

(43)   nílh=t'u7 s=ts7as=ts   ta=núkw=a   wa7... ta...
       COP=EXCL NMLZ=come=3POSS DET=other=EXIS IPFV   DET

       Then this guy came who was....

(44)   (láni7...)   láni7   ku=*time* wa7... tákem lhas
       at+there.ABS at+there.ABS DET=time IPFV   all   COMP+IPFV+3SBJV

             wa7 ta=wa7=s-lhéqw,   ts7as lhláku7
             be   DET=IPFV=STAT-ride.horseback come from+there.INVIS

                 ta=wa7=s-lhéqw.
                 DET+IPFV=STAT-ride.horseback

       At that time, everyone there rode horses, and someone came in on horse-
       back.

(45)　t'iq　　[e]=kw7á　　　ti7　　　　ta=táown=a,　　nílh=ku7=tu7
　　　arrive　to=there.INVIS　that.VIS　DET=town=EXIS　COP=QUOT=REM

　　　　s=tsut=s,　　　　　　"wa7 l=kw7u　　　kw=s=*Paul　　Spintlum*
　　　　NMLZ=say=3POSS　　IPFV　at=that.INVIS　DET=NMLZ=Paul Spintlum

　　　　　l=kw7á=t'u7,　　　k'ík'ta7!"
　　　　　at=this.INVIS=EXCL　nearby

He arrived at the town, and said, "Paul Spintlum is just over there, he's
nearby!"

(46)　t'u7　s=nílh=t'u7　　　láti7　　　　s=qelilám'=s
　　　EXCL　NMLZ=COP=EXCL　at+there.VIS　NMLZ=rush.around=3POSS

　　　　i=sám7=a　　　　　　　　múta7　i=plísmen=a　　　　　nas
　　　　PL.DET=white.person=EXIS　and　　PL.DET=policeman=EXIS　go

　　　　　cwil'-en-ítas,　　　xek-en-ás=ti7　　　　　nká7=as
　　　　　look.for-DIR-3PL.ERG　figure-DIR-3ERG=that.VIS　where=3SBJV

　　　　　　lh=wá7=wit=as.
　　　　　　COMP=be=3PL=3SBJV

So the white people and the policemen started rushing around looking for
them, and they figured out where they were at.

(47)　tsicw-almen=wít=t'u7　　áti7,　　　　nílh=t'u7
　　　get.there-nearly=3PL=EXCL　to+there.VIS　COP=EXCL

　　　　s=klh-ew's-ílc=i.
　　　　NMLZ=take.off-middle-AUT=3PL.POSS

When they had almost gotten there, they split up.

(48)　nílh=iz'　　　　i=plísmen=a　　　　　n7í7z'ek.
　　　COP=those.VIS　PL.DET=policeman=EXIS　in.the.middle

Those policemen were in the middle.

(49)　t'ák=wit=t'u7　　　áti7　　　　l=ta=ts'íl.h=a　　　áku7
　　　go.along=3PL=EXCL　to+there.VIS　at=DET=like=EXIS　to+there.INVIS

　　　　l=ta=k'cw-úlm'ecw=[a],　　nílh=t'u7　s=qús-cit-em
　　　　at=DET=hollow-ground=EXIS　COP=EXCL　NMLZ=shoot-IND-3PASS

　　　　　ta=pá•pl7=a　　　　plísmen,　kwís=tu7.
　　　　　DET=IRED•one=EXIS　policeman　fall=REM

They went over to where there was kind of a hollow in the ground, then one
of the policemen was shot, and he fell.

(50) qús-cit-em   ta=núkw=a,   qam't-áka7, t'u7 nilh ts7a
      shoot-IND-3PASS DET=other=EXIS get.hit-hand but   COP   this.VIS

      ta=s=qelilám'=i   nás=wit, plan   wa7 qwatsáts.
      DET=NMLZ=rush.around=3PL.POSS go=3PL   already IPFV leave

      Another one was shot in the arm, but by the time they rushed over to get the
      shooters, they had left.

(51) q'áy-lec   ta=pá•pl7=a,   lhqw-ilc,   qus-cit-ítas,
      jump-AUT DET=IRED•one=EXIS ride.horseback-AUT shoot-IND-3PL.ERG

      t'u7 áoy=t'u7 kw=s=qam't-s-twítas,   nílh=t'u7=tu7
      but NEG=EXCL DET=NMLZ=get.hit-CAUS-3PL.ERG COP=EXCL=REM

      s=q'áy-lec=s.
      NMLZ=jump-AUT=3POSS

      One of them jumped on his horse, they shot at him but they didn't hit him,
      and so he got away.

(52) qelilám'   lhláti7   i=núkw=a,   qelilám'=wit
      rush.around from+there.VIS PL.DET=other=EXIS rush.around=3PL

      áku7   l=t=s=wá7=s=a   ku=t'éqw-p.
      to+there.INVIS at=DET=NMLZ=be=3POSS=EXIS DET=explode-INCH

      Some other members of the posse rushed over to where the gunshots had
      come from.

(53) tsícw=wit,   plan   wa7 s-kits   ta=pá•pl7=a
      get.there=3PL already IPFV STAT-get.laid.down DET=IRED•one=EXIS

      (plis...)   plísmen,   wa7 zús-cal.
      policeman policeman IPFV get.tied.up-ACT

      When they got there, one policeman was already down.

(54) wa7 qá•q•ey't   ta=núkw=a   s-qam't-áka7.
      IPFV suffer•CRED• DET=other=EXIS STAT-get.hit-hand

      The other one was suffering because he'd been hit in the arm.

(55) ats'x-en-ítas=tu7,   plan   wa7 lhqw-ilc
      get.seen-DIR-3PL.ERG=REM already IPFV ride.horseback-AUT

      ta... ti7   nilh iz'   i=sq'wem•q'wmíw's=a,
      DET that.VIS COP those.VIS PL.DET=TRED•wild=EXIS

      s=tsún-itas   iz',   s=Paul   Spintlum.
      NMLZ=say+DIR-3PL.ERG those.VIS NMLZ=Paul Spintlum

      They saw that one of them - the outlaws, that's what they called them - Paul
      Spintlum, had already got on his horse.

(56) qus-cit-ítas,   áo=t'u7   kw=s=qam't=s,   nilh
      shoot-IND-3PL.ERG NEG=EXCL DET=NMLZ=get.hit=3POSS COP

      [s]=ka-cím'-a,   nílh=t'u7   s=kwán-itas
      NMLZ=CIRC-disappear-CIRC COP=EXCL NMLZ=take+DIR-3PL.ERG

      lhláti7   ta=zúqw=a...
      from+there.VIS DET=dead=EXIS

They shot at him but he didn't get hit, then he disappeared, so then they took the dead person...

(57) ...q'il-in'-ítas   l=ta=pé•p•l7=a
      get.laid.down.on.flat.surface-DIR-3PL.ERG at=DET=one•CRED•=EXIS

      ts'qáxa7, nílh=t'u7   s=7uxwal'-s-twítas,
      horse   COP=EXCL   NMLZ=go.home-CAUS-3PL.ERG

      s=ts'item-s-twítas   ta=táown=a.
      NMLZ=go.towards-CAUS-3PL.ERG DET=town=EXIS

...and laid him on one of the horses; then they brought him home, towards town.

(58) t'iq-s-twítas   áti7,   plan   wa7 s-zuqw   ti7,
      arrive-CAUS-3PL.ERG to+there.VIS already IPFV STAT-dead that.VIS

      nílh=tu7   ti=wa7=zús-cal   láti7   *Clinton*=a.
      COP=REM DET=IPFV=get.tied.up-ACT at+there.VIS Clinton=EXIS

When they arrived there, the policeman from Clinton was already dead.

5.4 Wa7 sqwéqwel' sPaul Spintlum: Nk'wancenánem nelh wa7 cwelcúlel

(59) s-7aw't-s   lhláti7,   nílh=t'u7 (s...)
      NMLZ-behind-3POSS from+there.VIS COP=EXCL NMLZ

      s=k'wálh-cal=s   ta=kvpmen=a
      NMLZ=call.on-ACT=3POSS DET=government=EXIS

      ku=wa7=k'wen'•k'wan'-cen-álhts'a7
      DET=IPFV=TRED•look-foot-meat

      k'wen'•k'wan'-cen-an'-tanemwítas, cuz'
      TRED•look-foot-DIR-3PL.OBJ+NTS   going.to

      cwil'-en-tanemwítas   n-cwa7•cw7ít.
      look.for-DIR-3PL.OBJ+NTS LOC-TRED•many

After that, the government hired trackers to track them, and to search for them all over the place.

84

(60)   cw7it i=wa7=sáma7,   lhel=kw7ú   *Kamloops*=a
       many PL.DET=IPFV=white.person from=that.INVIS Kamloops=EXIS

          (e)lh=kwán-itas   i=7ucwalmícw=a   wa7
          COMP=take+DIR-3PL.ERG PL.DET=indigenous.person=EXIS IPFV

              tsún-itas   wa7 *tracker*.
              say+DIR-3PL.ERG IPFV tracker

       A lot of them were white people, but they also got some Indians that they
       call "trackers".

(61)   ao   kw=s=k'walh-an'-ítas   ku=7úcwalmicw
       NEG DET=NMLZ=call.on-DIR-3PL.ERG DET=indigenous.person

          káti7   k'ík't7=a,   s7ícwlh-úlm'ecw úcwalmicw
          around+there.VIS nearby=EXIS different-land   indigenous.person

              ku=k'walh-an'-ítas.
              DET=call.on-DIR-3PL.ERG

       They didn't hire any Indians from near here, the Indians they hired were
       from different places.

(62)   cw7it ts'qáxa7 wa7 qwez-en-ítas,   (t')cuz'
       many horse   IPFV get.used-DIR-3PL.ERG going.to

          n-k'wan'-cen-án'-itas,   cuz'   kal-en-ítas   iz'
          LOC-look-foot-DIR-3PL.ERG going.to chase-DIR-3PL.ERG those.VIS

              i=n-7án'was=a,   wa7 q'wem•q'wmíw's.
              PL.DET=LOC-two=EXIS IPFV TRED•wild

       They used a lot of horses to track and chase down the two outlaws.

(63)   cw7it... p'á7cw=k'a   lhel=ku=pála7 t'ánam'ten, tqílh=k'a
       many   more.than=EPIS from=DET=one moon   almost=EPIS

          án'was t'ánam'ten (kwas...)   kwas
          two   moon   DET+NMLZ+IPFV+3POSS DET+NMLZ+IPFV+3POSS

              kal-en-ítas,   kwas   tsút=wit
              chase-DIR-3PL.ERG DET+NMLZ+IPFV+3POSS think=3PL

                 kwas   plan wa7 n-pzán-itas,
                 DET+NMLZ+IPFV+3POSS already IPFV LOC-meet+DIR-3PL.ERG

                    cw7áoy=t'u7 kwas
                    NEG=EXCL   DET+NMLZ+IPFV+3POSS

                        ka-kwan•en-s-twítas-a.
                        CIRC-take•FRED-CAUS-3PL.ERG-CIRC

       Many times - they must've been chasing them for more than a month, maybe
       nearly two - they thought they'd caught up with them, but they couldn't
       catch them.

(64) plán=ku7   l=ts7a   q'ecw•ecw-s-twítas
      already=QUOT at=this.VIS surround•FRED-CAUS-3PL.ERG

      l=ta=pál7=a   sqwem,   nás=wit áta7,   plán=tu7
      at=DET=one=EXIS mountain go=3PL to+there.VIS already=REM

          ao   láta7   kwas   wá7=wit.
          NEG at+there.VIS DET+NMLZ+IPFV+3POSS be=3PL

They had them surrounded at one mountain, but when they went there, they'd already gone.

(65) tsáma=t'u7   ta=kvpmen=a,   cw7it sqlaw'
      try.in.vain=EXCL DET=government=EXIS many money

      (e)s=gí<7>el'=s   ta=kvpmen=a,   nílh=t'u7
      NMLZ=lose<INCH>=3POSS DET=government=EXIS COP=EXCL

          s=t'ál-an'-as   i=wa7=n-k'wen'-cen-álhts'a7,
          NMLZ=stop-DIR-3ERG PL.DET=IPFV=LOC-look-foot-meat

              i=wá7....
              PL.DET=IPFV

The government tried in vain, and lost a lot of money, so they stopped (paying for) the trackers.

(66) nílh=t'u7   s=cwíts'-in'-as   ta=kvpmen=a
      COP=EXCL NMLZ=hand.over-DIR-3ERG DET=government=EXIS

          four thousand dollars ku=*reward*, lh=swát=as
          four thousand dollars DET=reward COMP=who=3SBJV

              ku=kwan•en-s-tanemwítas   iz'.
              DET=take•FRED-CAUS-3PL.OBJ+NTS those

But the government handed over four thousand dollars as a reward for anyone who could catch them.

(67) nílh=t'u7   s=lhláti7=s   lh=t'ál=as
      COP=EXCL NMLZ=from+there.VIS=3POSS COMP=stop=3SBJV

          i=wa7=n-k'wen'-cen-álhts'a7,   nílh=t'u7 iz'
          PL.DET=IPFV=LOC-look-foot-meat COP=EXCL those.VIS

              s=wa7=s   q'wem•q'wmíw's láti7   ku...[5]
              NMLZ=be=3POSS TRED•wild   at+there.VIS DET

So then the trackers stopped, and then the outlaws...

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[5] There is a break in the recording at the end of this stanza.

(68)　iz'　　　　l=ts7a　　　i=wá7=as
　　　those.vis　at=this.vis　when.past=be=3sbjv

　　　　i=wa7=n-k'wen'-cen-álhts'a7,　　cw7it kwas
　　　　pl.det=ipfv=loc-look-foot-meat　many det+nmlz+ipfv+3poss

　　　　　ts'íla wa7 n-pzan-almen-s-twítas.
　　　　　like ipfv loc-meet-nearly-caus-3pl.erg

When they were there, the trackers nearly kind of caught up to them a bunch of times.

(69)　ta=pá•pl7=a　　　　láku7　　　　l=ta=wa7=tsún-itas　　　　wa7
　　　det=ired•one=exis　at+there.invis　at=det=ipfv=say+dir-3pl.erg ipfv

　　　fifty-nine, nilh ti7　　wa7 *Chasm* l=ki=sám7=a,
　　　fifty-nine cop that.vis ipfv Chasm at=pl.det=white.person=exis

　　　　necnactám'　　　*in the Indian*.
　　　　flat.on.top[Chasm] in the Indian

One of them was at 59 Mile, that's Chasm amongst the white people, and *necncetám'* in Indian.

(70)　wa7 áku7　　　　ti7,　　nilh ti7　　stsúw7-i　　　sqwé•qw•el'
　　　be　to+there.invis that.vis cop that.vis own-3pl.poss tell•cred•

　　　izá-wna　　　　wa7 q'wem•q'wmíw's.
　　　these-precisely ipfv tred•wild

That's where it was, according to the outlaws' own story.

(71)　t'ak　　　ta=sám7=a　　　　ka-cál-a,　　　　　　nílh=t'u7
　　　go.along det=white.person=exis circ-edge.of.hill-circ cop=excl

　　　s=gets-en-ás　　　　ta=sts'qáxa7-s=a,　　　nílh=t'u7 láku7
　　　nmlz=tie-dir-3erg　det=horse-3poss=exis cop=excl at+there.invis

　　　　ses　　　　　　cál-us.
　　　　nmlz+ipfv+3poss edge-hill

A white guy went over to look across the brow of a hill, then he tied up his horse and looked over the edge.

(72) q'wem-ílc   ta=pá•pl7=a
      get.rolled.into.ball-AUT   DET=IRED•one=EXIS

      lhláti7=t'u7   wi=snílh   iz',   *Moses Paul*,
      from+there.VIS=EXCL   PL=3SG.INDEP those Moses Paul

            lhqw-ilec-mín-as   ta=ts'qáxa7-s=a,   nílh=t'u7
            ride.horseback-AUT-RLT-3ERG DET=horse-3POSS=EXIS COP=EXCL

                ta=s-q'áy'-lec-s=a.
                DET=NMLZ-jump-AUT-3POSS=EXIS

One of the outlaws was crouching down, it was Moses Paul, and he jumped on the guy's horse and escaped.

(73) p'elenílh ta=trápsten=a,   láti7   lh=kwam•em=wít=as
      including DET=binoculars=EXIS at+there.VIS COMP=get•FRED=3PL=3SBJV

      ta=ámh=a   trápsten,   (trápsten,   *that's uh...*)
      DET=good=EXIS binoculars binoculars that's uh

Among other things, there were some binoculars in there, they got some good binoculars there.

5.5 Wa7 sqwéqwel' sTom Evans: Tqilh t'u7 kwánenwit nelh wa7 cwelcúlel lta qwlitúlm'ecwa

(74) tsa::ma=wít=t'u7,   cw7it, cw7it ken=tswása
      try.in.vain=3PL=EXCL many   many around=DET+NMLZ+IPFV+3POSS+EXIS

      ts'íla wa7 qwena[n]-s-twítas   t'u7 wa7... t'u7
      like   IPFV want-CAUS-3PL.ERG but   IPFV   but

          ka-lhúcw=wit-a...
          CIRC-bushes=3PL-CIRC

They kept trying, many, many people wanted to get them... but they managed to disappear into the bush...

(75) ...nílh=t'u7 ses   páqu7 iz'
      COP=EXCL   NMLZ+IPFV+3POSS afraid those.VIS

      i=wa7=n-k'wen'-cen-álhts'a7.
      PL.DET=IPFV=LOC-look-foot-meat

...so then the trackers got scared.

(76) s-k'alán'-min'-s-kan   ta=pá•pl7=a   iz'
      STAT-listen.to-RLT-CAUS-1SG.SBJ   DET=IRED•one=EXIS   those.VIS

      i=wa7=n-k'wen'-cen-álhts'a7.
      PL.DET=IPFV=LOC-look-foot-meat

I listened to one of those trackers.

(77) "kál-en-em,"   tsut,   "t'u   tsícw=kalh=t'u7
      chase-DIR-1PL.ERG   say   until   get.there=1PL.SBJ=EXCL

      ka-lhucw=kalh-á=t'u7,   wa7   láti7
      CIRC-bushes=1PL.SBJ-CIRC=EXCL   IPFV   at+there.VIS

         i=ts'qax7-í=ha   es-tálh-lec,   cw7aoz
         PL.DET=horse-3PL.POSS=EXIS   STAT-stand-AUT   NEG

            káti7   láti7   kwas
            around+there.VIS   at+there.VIS   DET+NMLZ+IPFV+3POSS

               wá7=wit."
               be=3PL

He said, "We followed them until we got into the brush, and there were their horses standing there, but they weren't there."

(78) "plán=t'u7   wa7   tsexw•tsíxw   s-qemp-s
      already=EXCL   IPFV   TRED•sweat   NMLZ-hot-3POSS

      i=ts'qax7-í=ha."
      PL.DET=horse-3PL.POSS=EXIS

"Their horses were dripping with sweat."

(79) nílh=ku7=t'u7   s=tsut=s   ts7a   ta=pá•pl7=a
      COP=QUOT=EXCL   NMLZ=say=3POSS   this.VIS   DET=IRED•one=EXIS

      ta=sám7=a   ti7   ta=wá7..., nilh ti7
      DET=white.person=EXIS   that.VIS   DET=IPFV   COP   that.VIS

         wa7   s=*Tom   Evans*, nilh ti7   wa7
         IPFV   NMLZ=Tom Evans   COP   that.VIS   IPFV

            sqwe•qw•el'-en-ts-ás.
            tell•CRED•-DIR-1SG.OBJ-3ERG

This part comes from this one white person, it was Tom Evans, that's who told me this story.

(80) tsút=ku7, "*that's*, láti7   lh... láti7=t'u7
      say=QUOT that's   at+there.VIS COMP at+there.VIS=EXCL

        lh=tsem'p=ás   kwenswá   kál-en
        COMP=get.finished=3SBJV DET+1SG.POSS+NMLZ+IPFV chase-DIR

          kw=s=*Paul   Spintlum*."
          DET=NMLZ=Paul Spintlum

    He said, "This is where I quit chasing Paul Spintlum."

(81) "lh=qwenán=al'ap   áta7   kw=s=t'ák=l'ap,   nilh
      COMP=want=2PL.SBJV to+there.VIS DET=NMLZ=go.along=2PL.POSS COP

        s=t'ák=l'ap,   cúz'=lhkan   p'an't lhel=ts7á."
        NMLZ=go.along=2PL.POSS going.to=1SG.SBJ return from=this.VIS

    "If you all want to keep going, then keep going, but I'm going back."

5.6 Wa7 sqwéqwel' ta ts'k'wáylacwmeca: Smúlhats ta syáxiha i wa7 cwel-cúlel

(82) s-7aw't-s   lhláti7,   lhel=t=s=t'ál=s=a
      NMLZ-behind-3POSS from+there.VIS from=DET=NMLZ=stop=3POSS=EXIS

        ta=kvpmen=a   kwas   xáq'-en-as
        DET=government=EXIS DET+NMLZ+IPFV+3POSS pay-DIR-3ERG

          kwa   n-k'wen'-cen-álhts'a7...
          DET+IPFV LOC-look-foot-meat

    After the government stopped paying for trackers...

(83) (...nílh=t'u7 s=   *uh*...) nílh=t'u7 aylh s=ts'íla=s
      COP=EXCL   NMLZ uh   COP=EXCL then NMLZ=like=3POSS

        ku=tí<7>eg'w=wit,   nílh=t'u7 sas
        DET=get.loose<INCH>=3PL COP=EXCL NMLZ+IPFV+3POSS

          ken-tákem=t'u7 lhas   áts'x=wit
          around-all=EXCL COMP+IPFV+3SBJV get.seen=3PL

            ken=ki=7ucwalmícw=a.
            around=PL.DET=indigenous.person=EXIS

    ...the outlaws kind of got free, and they were seen all over where there were Indian people.

(84) cw7it úcwalmicw   wa7 qan'ím-ens-an   kwas
      many indigenous.person IPFV hear-DIR-1SG.ERG DET+NMLZ+IPFV+3POSS

      tsut kwas   tsícw=wit   áti7,
      say DET+NMLZ+IPFV+3POSS get.there=3PL to+there.VIS

      um'-n-ítas   ken=ki=s...
      be.given-DIR-3PL.ERG around=PL.DET=NMLZ

I heard a lot of Indian people say that they went by there, and they'd give
them some of their stuff.

(85) cw7it i=nk'saytken-í=ha   ken-tákem, aoz
      many PL.DET=relative-3PL.POSS=EXIS around-all NEG

      kwas   tsukw láku7   *Clinton*=a...
      DET+NMLZ+IPFV+3POSS finish at+there.INVIS Clinton=EXIS

      i=7ucwalmícw=a,   ken-tákem
      PL.DET=indigenous.person=EXIS around-all

      lhas   s-nek'w•núk'wa7=wit, ke•káw'
      COMP+IPFV+3SBJV have-TRED•friend=3PL IRED•far

      ken=tswása   tsicw
      around=DET+NMLZ+IPFV+3POSS+EXIS get.there

      i=wa7=nk'sáytken-i.
      PL.DET=IPFV=relative-3PL.POSS

They had a lot of relatives all over the place, not just the Indians at Clinton,
they had friends everywhere, and they had relatives spread over a large area.

(86) nílh=t'u7 sés=t'u7   wá7=wit, ts'íla ken-tákem
      COP=EXCL NMLZ+IPFV+3POSS=EXCL be=3PL   like   around-all

      lhas   tsícw•ecw=wit.
      COMP+IPFV+3SBJV get.there•FRED=3PL

And so there they were, and they kind of went all over the place.

91

(87) cw7it ken=tswása   áts'x=wit,
      many around=DET+NMLZ+IPFV+3POSS+EXIS get.seen=3PL

          ken=t7ú   lhas   wa7 [i]=wa7=leqm-ám,
          around=that.VIS COMP+IPFV+3SBJV be   PL.DET=IPFV=hay-MID

              ken=t7ú   i=spálem=a   wa7 láti7
              around=that.VIS PL.DET=field=EXIS be   at+there.VIS

                  i=núkw=a   nk'sáytken-i,   áti7
                  PL.DET=other=EXIS relative-3PL.POSS to+there.VIS

                      lhus   tsícw=wit.
                      COMP+IPFV+3SBJV get.there=3PL

They were seen in a lot of places: where the haymakers were, over in the
fields where some of their relatives were, that's where they used to go.

(88) wá7=ti7   hal'h-án'-itas,   hal'a-cít-as   izá-wna,
      IPFV=that.VIS show-DIR-3PL.ERG show-IND-3ERG these-precisely

          wa7... wá7=lhkan   zewát-en   izá
          IPFV   IPFV=1SG.SBJ be.known-DIR these.VIS

              wa7 sqwe•qw•el'-min-tanemwítas... ti7
              IPFV tell•CRED•-RLT-3PL.OBJ+NTS   that.VIS

                  ta=trapsten-í=ha,   stéxw=ku7=t'u7   áma
                  DET=binoculars-3PL.POSS=EXIS really=QUOT=EXCL good

                      ku=trápsten.
                      DET=binoculars

They showed - I know the people who told this story about them - they
showed them the binoculars, really good binoculars.

(89) láti7   lhas   sqwe•qw•el'-mín-itas   nka7
      at+there.VIS COMP+IPFV+3SBJV tell•CRED•-RLT-3PL.ERG where

          lh=kwan•en-s-twítas   ti7   ta=trápsten=a.
          COMP=take•FRED-CAUS-3PL.ERG that.VIS DET=binoculars=EXIS

That's when they told the story about where they got those binoculars.

(90) naq'w-cit-ítas   ti=ts'qáxa7-s=a   ta=*saddle*-s=a,
      steal-IND-3PL.ERG DET=horse-3POSS=EXIS DET=saddle-3POSS=EXIS

          ti7   ta=wa7=n-k'wen'-cen-álhts'a7 ta=trápsten-s=a.
          that.VIS DET=IPFV=LOC-look-foot-meat DET=binoculars-3POSS=EXIS

They stole the horse's saddle and the tracker's binoculars.

(91) cw7áoy=ti7   kwas   tsukw száyten-i,
      NEG=that.VIS   DET+NMLZ+IPFV+3POSS finish doings-3PL.POSS

      cw7it áti7   kw=s-xíl-em-i,   wa7,
      many to+there.VIS DET=NMLZ-do-MID-3PL.POSS be

      kw=s=kwán-itas   ku=ts'qáxa7, ku=7áma
      DET=NMLZ=take+DIR-3PL.ERG DET=horse   DET=good

      ts'qáxa7, ku=7áma sáotvl, kenká7=tu7
      horse   DET=good saddle around+there.INVIS=REM

      lhas   ka-kwan-s-twítas-a.
      COMP+IPFV+3SBJV CIRC-take-CAUS-3PL.ERG-CIRC

That wasn't all they did, either, they did a lot of things, they took horses,
good horses, good saddles, anywhere they could get them.

(92) nílh=t'u7   sás=t'u7   wá7=wit'u7 ts'íla
      COP=EXCL NMLZ+IPFV+3POSS=EXCL be=3PL=EXCL like

      káti7   es-tíg'w   ken=ki=tákem=a
      around+there.VIS STAT-get.loose around=PL.DET=all=EXIS

      kén=ki...   kwelh=ucwalmícw-i=ha.
      around=PL.DET PL.INVIS.DET=indigenous.person-3PL.POSS=EXIS

They just kind of lived freely amongst their relatives.

(93) cw7ao káti7   (kwa...) kwa   tsut
      NEG   around+there.VIS   DET+IPFV DET+IPFV say

      l=tsa   lh=wa7=wit=ás=t'u7.
      at=DET+NMLZ+IPFV+3POSS+EXIS COMP=be=3PL=3SBJV=EXCL

Nobody would say where they were.

(94) ken-tákem=t'u7 lhas   tsícw=wit   ken=t7ú
      around-all=EXCL COMP+IPFV+3SBJV get.there=3PL around=that.VIS

      Lillooet=a,   ta=pál7=a   száyten-i   l=ts7á-wna
      Lillooet=EXIS DET=one=EXIS doings-3PL.POSS at=this.VIS-precisely

      ti7,   l=kw7a   ta=wa7=tsún-em   wa7 *eleven*
      that.VIS at=this.INVIS DET=IPFV=say+DIR-1PL.ERG IPFV eleven

      mile.
      mile

They went everywhere around Lillooet, and there was this one thing that
they did there, over at what we call Eleven Mile.

(95) t'ák=wit=ku7   áti7,   wá7=t'u7 n-mátq=wit,   t'u7
      go.along=3PL=QUOT to+there.VIS IPFV=EXCL LOC-walk=3PL but

      áoz=t'u7   kwas   es=ts'qáxa7=wit, láti7.
      NEG=EXCL DET+NMLZ+IPFV+3POSS have=horse=3PL at+there.VIS

I heard they were traveling on foot, because they didn't have horses at that point.

(96) ats'x-en-ítas   ta=t'láz'=a   láti7,   nílh=t'u7
      get.seen-DIR-3PL.ERG DET=canoe=EXIS at+there.VIS COP=EXCL

      s=cuy'=s...   (a...) s=tsút=i,   "cúz'=lhkalh
      NMLZ=going.to=3POSS   NMLZ=say=3PL.POSS going.to=1PL.SBJ

          lha7-q   e=t7ú   x7ílh=a."[6]
          close.to-point to=that.VIS other.side=EXIS

They saw a canoe, so they began to... they said, "Let's cross over to the other side."

(97) nílh=t'u7 s=kwán-itas   ta=t'láz'=a,   t'áq'=wit
      COP=EXCL NMLZ=take+DIR-3PL.ERG DET=canoe=EXIS cross.over=3PL

      áta7   x7ílh=a.
      to+there.VIS other.side=EXIS

So they took the canoe and crossed over.

(98) lha7-qs=wít,   nílh=t'u7
      close.to-point=3PL COP=EXCL

      s=weq'w-en-ítas
      NMLZ=get.carried.away.by.water-DIR-3PL.ERG

          ta=t'láz'=a,   kelh-en-ítas   ta=lóp=a.
          DET=canoe=EXIS take.off-DIR-3PL.ERG DET=rope=EXIS

They got to shore, then they let the canoe drift away, they took off the rope.

(99) nílh=t'u7 n-ták-i   e=t7ú-wna,   e=t7ú
      COP=EXCL LOC-side-3PL.POSS to=that.VIS-precisely to=that.VIS

      ta=wa7=tsún-em   wa7 nxwísten,
      DET=IPFV=say+DIR-1PL.ERG IPFV nxwísten[Bridge.River]

          áta7   lh=ts'item=wít=as.
          to+there.VIS COMP=go.towards=3PL=3SBJV

Then they were on the other side of the river, over towards what we call Nxwísten (Bridge River), and that's where they headed.

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[6] Sam Mitchell uses *lha7-q* and *lha7-qs* interchangeably in this narrative, which suggests that the lexical suffix *-qs* 'point' may have a less common variant, *-q*.

(100)　t'ák=wit　　　áta7...　　　　tsícw=wit　　láta7
　　　　go.along=3PL　to+there.VIS　get.there=3PL　at+there.VIS

　　　　l=ki=7ucwalmícw=a　　　　　　　tsitcw-s　　wa7　es-lhép'
　　　　at=PL.DET-indigenous.person=EXIS　house-3PL　IPFV　STAT-hung

　　　　i=s-q'wíts'-m=a,　　　　　　　　　st'ánwen.
　　　　PL.DET=NMLZ-clothes.get.washed-MID=EXIS　skirt

They went on, and they got to some Indian's houses which had laundry
hanging up, skirts.

(101)　nílh=t'u7　s=tsut=s　　　　　ta=núkw=a,　　　"cúz'=lhkalh
　　　　COP=EXCL　NMLZ=say=3POSS　DET=other=EXIS　going.to=1PL.SBJ

　　　　láti7　　　　kwam　ku=st'ánwen."
　　　　at+there.VIS　get　　DET=skirt

So one of them said, "We'll take some skirts."

(102)　"cúz'=lhkalh　　　t'aq'　　　l=t7u　　　l=ta=ntqwíxw=a,
　　　　going.to=1PL.SBJ　cross.over　at=that.VIS　at=DET=bridge=EXIS

　　　　nílh=iz'　　　s=lhecw-en-ém　　　　　i=st'ánwen=a."
　　　　COP=those.VIS　NMLZ=put.on-DIR-1PL.ERG　PL.DET=skirt=EXIS

"We'll cross over on the bridge, and we'll put those skirts on."

(103)　nílh=t'u7　s=kwán-itas　　　　láti7　　　[ku]=án'was
　　　　COP=EXCL　NMLZ=take+DIR-3PL.ERG　at+there.VIS　DET=two

　　　　st'ánwen　wa7　es-q'wíts'-em　　　　　　l=ta=*line*=a.[7]
　　　　skirt　　　IPFV　STAT-clothes.get.washed-MID　at=DET=line=EXIS

So they took two skirts that had been washed from the line.

(104)　iy,　pták=wit　　lhláti7　　　　aylh,　nílh=t'u7　s...
　　　　yes　go.past=3PL　from+there.VIS　then　COP=EXCL　NMLZ

　　　　n-lhá7-q=i,　　　　　　　ts'ítem=wit　　e=ts7á-wna...
　　　　LOC-close.to-point=3PL.POSS　go.towards=3PL　to=this.VIS-precisely

　　　　Lillooet=a,　　ti7　　ta=táown=a.
　　　　Lillooet=EXIS　that.VIS　DET=town=EXIS

Yes, they went past there, and then they crossed over (Bridge River) and
came towards Lillooet, to the town.

---

[7] There is a break in the recording after this stanza.

(105) nílh=t'u7 s=wá7=i   káta7   cá7=a;   nílh=ti7
       COP=EXCL   NMLZ=be=3PL   around+there.VIS   high=EXIS COP=that.VIS

       stsúw7-i   sqwé•qw•el'.
       own-3PL.POSS   tell•CRED•

       They were up above the town; that was their own story.

(106) nilh ti7   sqwe•qw•el'-í   kwas   wá7=wit
       COP   that.VIS tell•CRED•-3PL.POSS DET+NMLZ+IPFV+3POSS   be=3PL

       káta7.
       around+there.VIS

       It was their story that they were around there.

(107) láni7   ku... láti7   ku=time, k'a cw7aoz
       at+there.ABS DET   at+there.VIS DET=time EPIS NEG

       káti7   kwas   cw7it kwa...
       around+there.VIS   DET+NMLZ+IPFV+3POSS   many DET+IPFV

             ku=7úcwalmicw,   cw7aoz kwas   cw7it
             DET=indigenous.person NEG   DET+NMLZ+IPFV+3POSS   many

                   i=sám7=a.
                   PL.DET=white.person=EXIS

       At that time, there can't have been many Indians around, and not many
       white people.

(108) gap   lhláti7,   nílh=t'u7 s=tsícw=wit
       evening from+there.VIS   COP=EXCL   NMLZ=get.there=3PL

       káti7   táown=a,   cw7it
       around+there.VIS   town=EXIS   many

             ki=wa7=s-7ílhen-i.
             COLL.DET=IPFV=NMLZ-eat-3PL.POSS

       When it was evening, they went around town and got a lot of food.

(109) cw7ao láti7   kw=zewat-en-tanemwítas.
       NEG   at+there.VIS   DET=be.known-DIR-3PL.OBJ+NTS

       Nobody there knew who they were.

96

(110)   gap,   ts7as   gap,   ts7as   ka-kwás-a,
      evening begin.to evening begin.to CIRC-dusk-CIRC

          nílh=t'u7 s=tsút=i,   "cúz'=lhkalh   t'aq'
          COP=EXCL NMLZ=say=3PL.POSS   going.to=1PL.SBJ cross.over

              l=ta=ntqwíxw=a."
              at=DET=bridge=EXIS

      Evening came, it began to get dark, then they said, "Let's cross over on the
      bridge."

(111)   lhecw-en-ítas   iz'   i=st'ánwen=a,   nílh=t'u7
      put.on-DIR-3PL.ERG those.VIS PL.DET=skirt=EXIS COP=EXCL

          s=qwatsáts=i   s-zec•zacen-s-twítas
          NMLZ=leave=3PL.POSS STAT-TRED•pack-CAUS-3PL.ERG

              i=s7ilhen-í=ha.
              PL.DET=food-3PL.POSS=EXIS

      They put on those skirts, then they set off, packing their food on their backs.

(112)   papt   láti7   (wa7...) wa7 matq i=7ucwalmícw=a
      always at+there.VIS IPFV   IPFV walk PL.DET=indigenous.person=EXIS

          smelh•múlhats, n-matq.
          TRED•woman   LOC-walk

      There were always Indian women travelling there, walking.

(113)   t'ák=wit   aylh   é=ta=n...   tsícw=wit   áti7
      go.along=3PL then to=DET=LOC get.there=3PL to+there.VIS

          ta=ntqwíxw=a,   wa7 zewat-en-ítas   ta=pá•pl7=a
          DET=bridge=EXIS   IPFV be.known-DIR-3PL.ERG DET=IRED•one=EXIS

             láti7   sáma7   wa7 es-7ats'x-s-táli
             at+there.VIS white.person IPFV STAT-get.seen-CAUS-NTS

                ta=ntqwíxw=a.
                DET=bridge=EXIS

      They got to the bridge and they knew this one white person who was there
      watching the bridge.

(114)   nílh=iz'   láti7   wa7 s-7ats'x-s-tanemwítas
      COP=those.VIS at+there.VIS IPFV STAT-get.seen-CAUS-3PL.OBJ+NTS

          kán=as   kwas   t'áq'=wit.
          whether=3SBJV DET+NMLZ+IPFV+3POSS cross.over=3PL

      They were watching out in case they (the outlaws) crossed.

(115) sucwt-en-ítas   ta=pá•pl7=a,   nílh=ku7=ti7
       recognize-DIR-3PL.ERG   DET=IRED•one=EXIS   COP=QUOT=that.VIS

       wa7 s=*Joe*   *Russell*, wá7=ti7   zewat-en-ítas,
       IPFV NMLZ=Joe Russell   IPFV=that.VIS   be.known-DIR-3PL.ERG

       nílh=t'u7=ti7   s=t'ák=i   t'u   t'aq'.
       COP=EXCL=that.VIS   NMLZ=go.along=3PL.POSS   until cross.over

They recognized one person, it was Joe Russell, they knew him, but they
kept going until they crossed over.

(116) lha7-qs=wít,   ao   káti7   wa7
       close.to-point=3PL   NEG   around+there.VIS   IPFV

       kas-[ts]-tanemwítas,   tsút=t'u7   iz'
       do.how-CAUS-3PL.OBJ+NTS   say=EXCL   those.VIS

       i=sám7=a   kw=s7úcwalmicw
       PL.DET=white.person=EXIS   DET=indigenous.person

       [kwe]lh=smelh•melh•múlhats   káti7
       PL.ABS.DET=TRED•TRED•woman=EPIS   around+there.VIS

       t'ák=a.
       go.along=EXIS

They crossed over, nobody did anything to them, those white people just
thought that the women going by were Indians.

5.7   K'úl'emwit ku tsitcwíha ku sk'wals láku7 Leon's Creek

(117) pták=wit   lhláti7,   nílh=t'u7   s=t'ák=i=t'u7
       go.past=3PL from+there.VIS   COP=EXCL   NMLZ=continue=3PL.POSS=EXCL

       ts'ítem   wa7   i=nk'saytken-í=ha   (áku7...)
       go.towards   be   PL.DET=relative-3PL.POSS=EXIS to+there.INVIS

       áku7   cácel'p=a   lh...
       to+there.INVIS   Cácl'ep[Fountain]=EXIS COMP

They continued towards where their relatives were at Fountain.

(118) wa7 zewat-en-ítas   láku7   i=núkw=a
       IPFV be.known-DIR-3PL.ERG   at+there.INVIS PL.DET=other=EXIS

       úcwalmicw...
       indigenous.person

They knew some of the Indians there...

(119)   ...áku7   lh=tsícw=wit=as   ti=pál7=a   sgap.

to+there.INVIS COMP=get.there=3PL=3SBJV DET=one=EXIS evening

...They got there one evening.

(120)   lhláti7   qwatsáts=wit   ken=t7ú-wna

from+there.VIS leave=3PL   around=that.VIS-precisely

ta=wa7=tsún-em   spálem.

DET=IPFV=say+DIR-1PL.ERG field[Fountain.Flats]

From there they set out for what we call Spálem (Fountain Flats).

(121)   áta7   lh=wá7=as   i=núkw=a   nk'sáytken-i,

to+there.VIS COMP=be=3SBJV PL.DET=other=EXIS relative-3PL.POSS

káta7   lhas   tsícw=wit.

around+there.VIS COMP+IPFV+3SBJV get.there=3PL

Some of their relatives were living there, where they went.

(122)   ken-tákem ken=ki=7ucwalmícw=a   lhas

around-all around=PL.DET=indigenous.person=EXIS COMP+IPFV+3SBJV

tsícw=wit,   sqwe•qw•el'-mín-itas   [i]=wa7=száyten-i,

get.there=3PL tell•CRED•-RLT-3PL.ERG PL.DET=IPFV=doings-3PL.POSS

ats'x   i=wa7=sqwe•qw•el'-mín-itas

get.seen PL.DET=IPFV=tell•CRED•-RLT-3PL.ERG

i=wás   kal-en-tánemwit

when.PAST=IPFV+3SBJV chase-DIR-3PL.PASS

ki=sám7=a,   legw-ilc-mín-itas

PL.DET=white.person=EXIS hide-AUT-RLT-3PL.ERG

lh=núkw=as:

COMP=some=3SBJV

Everywhere they went amongst the Indians, they told the story of what they had been doing: they told about how they were seen by the white people chasing them, and how they hid from them sometimes:

(123)　　t'ák=wit=ku7　　　　káti7　　　　　　　s...　　wá7=wit
　　　　go.along=3PL=QUOT　around+there.VIS　NMLZ　IPFV=3PL

　　　　　　láti7　　　　　s-legw-ílc,　　　t'ak　　káti7
　　　　　　at+there.VIS　STAT-hide-AUT　go.along　around+there.VIS

　　　　　　　　[i]=wa7=n-k'wan'-cen-an-tanemwítas
　　　　　　　　PL.DET=IPFV=LOC-look-foot-DIR-3PL.OBJ+NTS

　　　　　　　　　　sq'út-i=ha,　　　　　t'u　ptá::k=wit.
　　　　　　　　　　beside-3PL.POSS=EXIS　until　go.past=3PL

The trackers went along - they were hiding, and the ones tracking them
went by right beside them, until they passed by.

(124)　　láti7　　　　　l=ta=pá•pl7=a　　　　snúk'w7-i　　　lhláta7
　　　　at+there.VIS　at=DET=IRED•one=EXIS　relative-3PL.POSS　from+there.VIS

　　　　　　ti7　　　ta=wa7=tsún-em　　　　　ts'k'wáylacw,
　　　　　　that.VIS　DET=IPFV=say+DIR-1PL.ERG　Ts'k'wáylacw[Pavilion]

　　　　　　　　wá7=iz'　　　alkst　láta7　　　　　l=ki=wa7=leqm-ám
　　　　　　　　IPFV=those.VIS　work　at+there.VIS　at=PL.DET=IPFV=hay-MID

　　　　　　　　　　lhas　　　　　　　pipántsk.
　　　　　　　　　　COMP+IPFV+3SBJV　summer

At one of their relative's places over in what we call Ts'k'wáylacw (Pavil-
ion), they worked amongst the haymakers during the summertime.

(125)　　áti7=ku7　　　　　papt...　lh=k'wín=as　　　　　gap
　　　　to+there.VIS=QUOT　always　COMP=how.many=3SBJV　evening

　　　　　　kwas　　　　　　　　tsícw=wit　　áta7,
　　　　　　DET+NMLZ+IPFV+3POSS　get.there=3PL　to+there.VIS

　　　　　　　　láta7　　　　　lhas　　　　　　kwan•en-s-twítas
　　　　　　　　at+there.VIS　COMP+IPFV+3SBJV　take•FRED-CAUS-3PL.ERG

　　　　　　　　　　i=s7ilhen-í=ha.
　　　　　　　　　　PL.DET=food-3PL.POSS=EXIS

On many evenings, they'd go there to get food.

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(126) nilh láti7=ku7   lhas   sqwe•qw•el'-mín-itas
       COP   at+there.VIS=QUOT   COMP+IPFV+3POSS   tell•CRED•-RLT-3PL.ERG

       kwás=ti7   naq'w-cit-ítas
       DET+NMLZ+IPFV+3POSS=that.VIS   steal-IND-3PL.ERG

            ta=trápsten=a   (ta...) múta7 ta=ts'qáxa7-s=a
            DET=binoculars=EXIS   DET   and   DET=horse-3POSS=EXIS

                 ti7   ta=wa7=n-k'wan'-cen-an-tanemwítas.
                 that.VIS   DET=IPFV=LOC-look-foot-DIR-3PL.OBJ+NTS

That's where they told the story about stealing those binoculars and the
horse from the tracker.

(127) stéxw=ku7=t'u7   ti7   áma ta=trapsten-í=ha,   kaw'
       really=QUOT=EXCL that.VIS good DET=binoculars-3PL.POSS=EXIS far

            kw=s-hál'a...   sk'ík'ta7-s=a   s...
            DET=STAT-show   nearby-3POSS=EXIS   NMLZ

Their binoculars were really nice, far away things showed close up.

(128) ken-tákem=t'u7   aylh káti7   lhas
       around-all=EXCL   then around+there.VIS   COMP+IPFV+3SBJV

            wá7=wit=t'u7   wa7=hém', wa7=wit=hém'=t'u7   s-legw-ílc
            be=3PL=EXCL   IPFV=ANTI IPFV=3PL=ANTI=EXCL   NMLZ-hide-AUT

                 l=t7u   l=ta=wa7=tsún-itas   wa7 *Leon's Creek*,
                 at=that.VIS at=DET=IPFV=say+DIR-3PL.ERG   IPFV Leon's Creek

                      s-x7ilh-ts.
                      NMLZ-across-3POSS

They were staying all over, but they hid out over at what they call Leon's
Creek, on the other side of the river.

(129) láku7=ku7   ku=tsitcw-í=ha
       at+there.INVIS=that.INVIS   INVIS.DET=house-3PL.POSS=EXIS

            s-k'ul'-em=wít=t'u7   ku=sk'wáls,   nilh ti7
            NMLZ-get.made-MID=3PL=EXCL   DET=rock.overhang COP that.VIS

                 ta=wa7=tsún-em   ti=sám7=a   wa7 *cave*.
                 DET=IPFV=say+DIR-3PASS   DET=white.person=EXIS IPFV cave

They built their house in a rock-overhang, what is called a 'cave' in En-
glish.

(130)　láti7　　　　lhas　　　　　　　wá7=wit,　ke•káw’　ti7
　　　　at+there.vis　comp+ipfv+3sbjv　be=3pl　　ired•far　that.vis

　　　　tswása　　　　　　　　　[e]s-hál’a　ken-tákem,
　　　　det+nmlz+ipfv+3poss+exis　stat-show　around-all

　　　　　lhláti7　　　　　l=tswása　　　　　　　　　　wá7=wit.
　　　　　from+there.vis　at=det+nmlz+ipfv+3poss+exis　be=3pl

Where they were staying, you can see everything for a long ways, from
where they were.

(131)　lhkúnsa　wá7=k’a=t’u7　s=ts’íla　　es-hál’a,　　kw=s=ts’íla=s
　　　　today　　ipfv=epis=excl　nmlz=like　stat-show　det=nmlz=like=3poss

　　　　　ti7　　　　wa7,　n-k’win•k’wen=ás=k’a　　　　wa7
　　　　　that.vis　be　　loc-tred•how.many=3sbjv=epis　ipfv

　　　　　　tsicw　　áku7　　　　　ats’x-en-táli,　　ti7
　　　　　　get.there　to+there.invis　get.seen-dir-nts　that.vis

　　　　　　　l=ta=tsitcw-í=ha　　　　　es-máys　　　ku...
　　　　　　　at=det=house-3pl.poss=exis　stat-get.fixed　det

Today it's still more or less visible, it's still kind of there, a bunch of people
must have gone up there to take a look at it, that house they built...

(132)　tsícw=kacw　　áta7,　　　　[wa7]=hém’=t’u7　cw7aoz
　　　　get.there=2sg.sbj　to+there.vis　ipfv=anti=excl　　neg

　　　　　kwásu　　　　　　　　áts’x-en　　kwas
　　　　　det+nmlz+ipfv+2sg.poss　get.seen-dir　det+nmlz+ipfv+3poss

　　　　　　wa7　láti7　　　　ku=tsítcw.
　　　　　　be　　at+there.vis　det=house

You get there, but you don't see any house there.

(133)　pút=kacw=t’u7　　　zewát-en　　　kw=s...　lh=nká7=as
　　　　exactly=2sg.sbj=excl　be.known-dir　det=nmlz　comp=where=3sbjv

　　　　　lh=lák=as,　　　　　t’u7　wá7=lhkacw　ka-7áts’x-s-a.
　　　　　comp=be.there=3sbjv　excl　ipfv=2sg.sbj　circ-get.seen-caus-circ

If you know just where it's at, then you're able to see it.

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5.8   Wa7 kwánenwit i wa7 q'wemq'wmíw's, nilh swas kotháwsi

(134)   s-7aw't-s   lhel=ts7á-wna,   cw7it
        NMLZ-behind-3POSS from=this.VIS-precisely   many

   kwas...   p'á7cw=k'a=t'u7   ku=xw7útsin máqa7
   DET+NMLZ+IPFV+3POSS more.than=EPIS=EXCL DET=four   snow

      kwas   wá7=wit q'wmiw's.
      DET+NMLZ+IPFV+3POSS IPFV=3PL wild

After that, there were a lot.... it must've been more than four years that
that they were on the run.

(135)   plán=t'u7=tu7   pa<7>cw   (i...)   ta=kʷpmen=a
        already=EXCL=REM give.up<INCH> PL.DET DET=government=EXIS

      kwas   n-k'wan'-cen-án'-as,   cw7áoy=t'u7
      DET+NMLZ+IPFV+3POSS LOC-look-foot-DIR-3ERG NEG=EXCL

         kw=s=ka-kwán-s-[a],   kwas   ts'íla
         DET=NMLZ=CIRC-take-CAUS-CIRC DET+NMLZ+IPFV+3POSS like

            wa7 n-pzán-itas.
            IPFV LOC-meet+DIR-3PL.ERG

The government had given up on tracking them, they couldn't catch... kind
of catch up to them.

(136)   tsúkw=t'u7 ti7   aylh ta=wa7=tsún-itas   wa7 *reward*,
        finish=EXCL that.VIS then DET=IPFV=say+DIR-3PL.ERG IPFV reward

         four thousand dollars.
         four thousand dollars

There was just what they called the reward, 4000 dollars.

(137)   wá7=t'u7 ts7a   ta=pá•pl7=a   kúkwpi7, ts'ila=k'á=ti7
        be=EXCL this.VIS DET=IRED•one=EXIS chief   like=EPIS=that.VIS

      ku=sísq7-i   izá.
      DET=uncle-3PL.POSS these

There was this one chief, he must've been kind of like their uncle.

(138)   nílh=t'u7 s=tsut-ánwas=ts,   "lh=nás=an
        COP=EXCL NMLZ=say-inside=3POSS COMP=go=1SG.SBJV

      tsun-taníhan   (kw=s...)
      say+DIR-3PL.OBJ+1SG.ERG DET=NMLZ

         kw=s=ts7as=í=t'u7   e=ts7á-wna..."
         DET=NMLZ=come=3PL.POSS=EXCL to=this.VIS-precisely

He thought, "What if I go tell them to come over here..."

(139) "...nílh=t'u7 s=cuy   nás-cit i=wa7=zús-cal,
       COP=EXCL   NMLZ=go   go-IND   PL.DET=IPFV=get.tied.up-ACT

       tsúkw=t'u7 kw=s=cw7aoy=s   kw=n=s=cuz'
       finish=EXCL DET=NMLZ=NEG=3POSS DET=1SG.POSS=NMLZ=going.to

       kwan   ta=sqláw'=a   wa7 s-xaq'."
       take+DIR   DET=money=EXIS IPFV STAT-pay

       "...and then go send for a policeman, only I'll never take the reward
       money."

(140) "cúz'=lhkan=t'u7   qwéz-en   ku=n-tsúwa7   sqlaw'
       going.to=1SG.SBJ=EXCL get.used-DIR DET=1SG.POSS-own money

       l=kw=s...   l=ku=lóya."
       at=DET=NMLZ at=DET=lawyer

       "I'm going to use my own money for a lawyer."

(141) nílh=t'u7 s=tsicw=s   sqwel'•qwel'-s-ás   izá
       COP=EXCL NMLZ=get.there=3POSS TRED•tell-CAUS-3ERG these.VIS

       i=tew•twíw't=a,   n-7án'was.
       PL.DET=TRED•young.person=EXIS LOC-two

       Then he went to talk to these two young people.

(142) nílh=t'u7 s=n-cwatsín'-[n]-em,   nílh=t'u7 s=ts7ás=i.
       COP=EXCL NMLZ=LOC-obey-DIR-3PASS COP=EXCL NMLZ=come=3PL.POSS

       So they listened to his advice and came.

(143) nílh=t'u7 aylh s=kwán-tanemwit   [e]=ki=plísmen=a,
       COP=EXCL then NMLZ=take+DIR-3PL.PASS OBL=PL.DET=policeman=EXIS

       nílh=t'u7 ts7a   ta=kúkwpi7=[a] cwits'-in'-táli,   elh
       COP=EXCL this.VIS DET=chief=EXIS hand.over-DIR-NTS and.then

       cúz'=wit   aylh láti7   kotháws.
       going.to=3PL then at+there.VIS court

       Then they were taken by the police, it was this chief who handed them
       over, and then they were going to go to trial after that.

(144) s-7aw't-s   lhláti7,   cw7it kw=s=kotháws=i.
       NMLZ-behind-3POSS from+there.VIS many DET=NMLZ=court=3PL.POSS

       After this, there were a lot of trials.

(145) ken-tákem lh=tsícw=as,   nílh=ti7   wa7   s=*Stewart*
       around-all COMP=get.there=3SBJV COP=that.VIS IPFV NMLZ=Stewart
           Henderson ta=loyh-í=ha   múta7 nilh wa7
           Henderson DET=lawyer-3PL.POSS=EXIS and   COP   IPFV
               s=*Costello*...
               NMLZ=Costello

They went everywhere, Stuart Henderson was their lawyer, and then there
was Costello...

(146) *Henry Costello* ti7   ta=núkw=a   lóyh-i.
        Henry Costello that.VIS DET=other=EXIS lawyer-3PL.POSS

Henry Costello was their other lawyer.

(147) cw7it kw=s=kotháws=i   ken=ki=s7ícwlh=a
       many   DET=NMLZ=court=3PL.POSS around=PL.DET=different=EXIS
           tmicw.
           land

There were a lot of trials in different places.

(148) pá•pla7=t'u7   ta=láw=a   lhel=wi=snílh.
       IRED•one=EXIS DET=get.hung=EXIS from=PL=3SG.INDEP

One of them was hung.

(149) nílh=t'u7   s=*lifetíme*-s-[s]tum   ta=pá•pl7=a=t'u7,
       COP=EXCL NMLZ=lifetime-CAUS-3PASS DET=IRED•one=EXIS=EXCL
           cw7áoy=t'u7 kw=s=cw7ít=s   máqa7, xw7utsin=k'á=t'u7
           NEG=EXCL   DET=NMLZ=many=3POSS snow   four=EPIS=EXCL
               ts'íla máqa7, nílh=t'u7   s=zúqw=s=tu7
               like   snow   COP=EXCL NMLZ=dead=3POSS=REM
                   láta7=t'u7   l=ta=n-k'á7-men=a.
                   at+there.VIS=EXCL at=DET=LOC-get.stuck-INS=EXIS

The other one got a life sentence, but he didn't survive many years, maybe
something like four years, then he died there in jail.

(150) láti7   iz'   lh=tsem'p=wít=as.
       at+there.VIS those.VIS COMP=get.finished=3PL=3SBJV

That's how it ended for them.

6 Appendices

Conversion Chart: van Eijk Orthography to American Phonemic Alphabet (A.P.A.)

Van Eijk	A.P.A.	Van Eijk	A.P.A.
p	p	q	q
p'	ṗ	q'	q̓
m	m	qw	qʷ
m̓	ṁ	q'w	q̓ʷ
t	t	x	x̌
ts	c	xw	x̌ʷ
t̲s̲	ç	g	ʕ
ts'	c̓	g'	ʕ̓
t̲s̲'	ç̓	gw	ʕʷ
s	š	g'w	ʕ̓ʷ
s̲	ṣ	w	w
n	n	w'	ẇ
n'	ṅ	y	y
t'	λ̓	y'	ẏ
lh	ł	z	z
l	l	z'	ż
l'	l̓	h	h
l̲	ḷ	7	ʔ
l̲'	ḷ̓	a	a
k	k	ao	ạ
k'	k̓	e	ə
kw	kʷ	v	ə̣
k'w	k̓ʷ	i	i
c	x	ii	į
cw	xʷ	u	u
r	ɣ	o	ụ
r'	ɣ̓		

Notes on the version of the van Eijk orthography employed here:

(i) Where a sequence of two adjacent consonants may be confused with a digraph (a single sound represented by a sequence of two letters), a period is inserted between them. Thus we have *c.walh* 'road' versus *cwak* 'get woken', *t'iq.wit* 'they arrived' versus *t'iqwt* 'fire crackles', *ts'il.hál'qwem'* 'resembling' versus *ts'elhts'álh* 'cool', and *stsut.s* 'what someone says' versus *tsútsin* 'mouth'.

(ii) Underlined consonants are retracted, that is, produced with the tongue root pulled back and down.

(iii) Non-retracted *s* is pronounced like the *sh* in 'ship', retracted *s* like the *s* in 'sip'; non-retracted *ts* is pronounced like the *ch* in 'catch', retracted *ts* like the *ts* in 'cats'.

(iv) Vowels may also be retracted: the system here recognizes four underlying plain vowels (*a, e, i, u*) and four retracted vowels (*ao, v, ii, o*).

(v) Vowels are automatically retracted immediately before back consonants (*q, q', qw, q'w, x, xw, g, gw, g', g'w*), and to a lesser extent immediately afterwards; non-retracted vowels are written in these environments, since retraction is predictable. Thus we write *t'iq* rather than *t'iiq* for 'arrive here', even though the vowel is pronounced as *ii*.

(vi) The glottal stop (*7*) is 'transparent' to retraction - that is, for the purposes of retraction, we treat it as though it wasn't there. Thus we write *nli7x* rather than *nlii7x* for 'water clears up', even though the vowel is pronounced as *ii*.

(vii) Particularly in clitics and suffixes, schwa (*e*) is frequently deleted. Thus *kelh* 'will, might' is often pronounced *klh*, and *t'elh* 'at this/that moment in time' is often pronounced *t'lh*. By convention, the schwa is uniformly represented in these forms within the St'át'imcets-only versions. When not pronounced, the schwa is not represented in these forms within the Interlinear Gloss versions.

Abbreviations

1	first person
2	second person
3	third person
A	paragogic "a"
ABS	absent
ACT	active intransitivizer
ANTI	antithetical
APPL	applicative transitivizer
AUT	autonomous intransitivizer
CAUS	causative transitivizer
CIRC	circumstantial modal
COLL	collective
COMP	complementizer
COP	copula
CRED	consonant reduplication
DET	determiner
DIR	directive transitivizer
EPIS	epistemic modal
ERG	ergative

EXCL	exclusive
EXIS	assertion-of-existence
EXP	experience involuntarily
FRED	final reduplication
FUT	future
INCH	inchoative
IND	indirective applicative
INDEP	independent pronoun
INS	instrumental
INVIS	invisible
IPFV	imperfective
IRED	initial reduplication
IRR	irrealis
LOC	locative
MID	middle intransitivizer
NEG	negative
NMLZ	nominalizer
NTS	non-topical subject
OBJ	object
OBL	oblique
PASS	passive
PAST	past tense marker
PL	plural
POSS	possessive
QUOT	quotative
REM	remote in time
RLT	relational applicative
SBJ	subject
SBJV	subjunctive
SG	singular
STAT	stative
TRED	total reduplication
VIS	visible

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The Rhythm of Hul'q'umi'num'*

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Abstract: This research explored the linguistic rhythm of Hul'q'umi'num', based on the audio recording of a story told by a Hul'q'umi'num' Elder. The story was segmented into consonant and vowel intervals; rhythm was calculated by applying a number of standard metrics to the segmented file. According to vocalic metrics (%V, ΔV, and VarcoV), Hul'q'umi'num' patterned in the same rhythmic category as English ('stress-timed'). This was expected, given that Hul'q'umi'num' exhibits a number of features said to be typical of stress-timed languages. According to consonantal metrics (ΔC and VarcoC), Hul'q'umi'num' patterned like no other documented language. This is likely reflective of the important role that consonants play in Salish languages. This study contributes to our understanding of rhythm cross-linguistically, and serves as a baseline for understanding the rhythmic differences between first and second language Hul'q'umi'num' speakers, and what teaching strategies we might develop to support second language learners to achieve fluent pronunciation.

Keywords: Hul'q'umi'num', phonetics, rhythm

1   Introduction

Salish languages have rich sound systems, with many consonants not found in English. In addition, consonants are often strung together in long sequences, often as a result complex morphological concatenation. These consonantal sequences give Salish languages a unique rhythm, which has yet to be thoroughly documented. In this paper, we report on a study of Hul'q'umi'num' rhythm, based on a recording of a single speaker, Bernard David (Tl'isla), from Stz'uminus, telling a story about his career as a canoe puller to his granddaughter Margaret Seymour and linguist Donna Gerdts in Duncan, BC, on November 28, 2017. Delores Louie and Ruby Peter translated the story and Ruby Peter and Donna Gerdts then transcribed it to the phonemically-based system currently used for Hul'q'umi'num' materials.[1]

A portion of the story was segmented and phonetically transcribed using acoustic analysis software. Rhythm was quantified by applying a number of

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'rhythm metrics' to the segmented file. According to metrics reflecting vocalic content, Hul'q'umi'num' patterned similarly to English and other so called 'stress-timed' languages. According to metrics reflecting consonantal content, Hul'q'umi'num' patterned like no other documented language. We interpret these findings in reference to the literature on rhythm cross-linguistically, and discuss their implication in the context of Hul'q'umi'num' language revitalization.

In the remainder of the paper, we provide relevant background (Section 2) on Hul'q'umi'num' sound structure (2.1) and rhythm (2.2); we describe the methodology used to segment the recording and analyze its rhythm (Section 3); we present the results of this study (Section 4); and we discuss the contribution of this study to Salish language documentation and revitalization efforts (Section 5).

2   Background

2.1   Hul'q'umi'num' sound structures

Salish languages have very simple vowel inventories. In Hul'q'umi'num', there are five vowels (/i e ə a u/), four of which contrast for length (long vs. short, excluding /ə/). As is typical in Salish languages, /ə/ can be stressed; in this case it is generally realized as /ʌ/ (Parker, 2011).

In contrast, Salish languages have among the most complex consonant inventories in the world. As shown in Table 1 below, Hul'q'umi'num' has ten "back-of-the-mouth" sounds (which translate to IPA /k kʷ k̇ʷ q q̇ q ʷ q̇ʷ xʷ x̌ x̌ʷ/) whereas English only has two (/k g/). These sounds contrast in various ways: location (velar /k/ vs. uvular /q/), manner (plosive /q/ vs. fricative /x/), lip rounding (plain vs. labialized, e.g. /q/ vs. /qʷ/), and voicing (plain vs. ejective, e.g. /q/ vs. /q̇/). Hul'q'umi'num' also contains a complex set of coronal fricatives and affricates (/θ tθ tθ' ł / ƛ̇ s c c' š č č'/), including a lateral sounds (/ł/ and / ƛ̇/). Also unusual is that resonants (/m n l w y/) can be plain or glottalized (e.g. /m/ vs. /ṁ/). (See   http://sqwal.hwulmuhwqun.ca/learn/learning-the-sounds/   for basic descriptions and examples.)

Table 1: Hul'q'umi'num' consonant inventory (using APA)

p		t			k	kʷ	q	qʷ	ʔ
ṗ		ṫ				k̇ʷ	q̇	q̇ʷ	
	tθ	c		č					
	ṫθ	ċ	ƛ̇	č̇					
	θ	s	ł	š		xʷ	x̌	x̌ʷ	h
m		n	l	y		w			
ṁ		ṅ	l̇	ẏ		ẇ			

Not only does Hul'q'umi'num' have many consonants, they can also be strung together in long sequences, often as a result of morphological concatenation. Hul'q'umi'num' is a polysynthetic language (Gerdts & Werle, 2014), which makes use of hundreds of affixes and clitics. Each of these can contain multiple

consonants; some contain no vowels; and, there are generally no breaks between them. In short, the morphological complexity of Hul'q'umi'num' adds to its phonological complexity. The following examples illustrate typical Hul'q'umi'num' words and phrases:

(1) Complex consonant clusters in Hul'q'umi'num' words (clusters are bolded).

xʷθtiwən	'think'
t̓q̓wit̓ʰeʔe**lcθ**	'slice it for me'
kʷakʷəxwə**w̓txwəlcθ**am̓š	'knocking on the house for me'
θə**yt ct c**eʔ	'we will fix it'

Summarizing, Hul'q'umi'num' has a broad consonantal inventory and a small vocalic one. It makes extensive use of affixes and clitics, all of which create long strings of consonants. The phonemic make-up of the language (consonants and vowels) and the way these phonemes are strung together create a rhythmic flow that is quite unique, when we compare it to that in other, previously documented languages.

2.2   Rhythm

Languages such as French or Italian have a distinct flow from languages like English or Dutch, and this difference has generally been attributed to what linguists call 'rhythm'. This section will introduce rhythm, evaluate its reality as a psychological phenomenon, and identify metrics used to quantify it from a speech sample.

James (1940) was the first to describe cross-linguistic rhythm differences, contrasting 'machine-gun rhythm' (French) and 'morse code rhythm' (English). Early analyses of rhythm assumed that machine gun rhythm resulted from regularly repeating, or *isochronous*, syllables, whereas morse code rhythm resulted from isochronous stresses (Pike, 1945; Abercrombie, 1967). Later on, the mora was added to the set of possible isochronous units (Trubetzkoy, 1969). The basic classes of rhythm were therefore established to be syllable-timed, stress-timed, and mora-timed.

In support of traditional rhythm classes, perception studies have shown that both newborns and adults can distinguish between dialects/languages of different rhythm classes but not between languages of the same rhythm class (Nazzi, Bertoncini & Mehler, 1998; Ramus, Dupoux & Mehler, 2003; Rathcke & Smith, 2015). The production facts are less clear though: studies like Dauer (1983) have shown that stresses in English (stress-timed) are no more isochronous than stresses in Spanish (syllable-timed). Based on her work, Dauer concluded that rhythm should be thought of as a 'total effect' involving multiple phonetic and phonological phenomena. According to her, two key properties distinguishing syllable-timed and stress-timed languages are syllable structure and vowel reduction: Stress-timed languages tend to have more variety in syllable types than

do syllable-timed languages, including syllables with consonant clusters; they also tend to have vowel reduction in unstressed syllables. These two properties lead to relatively more irregularity in syllable composition and duration in stress-timed than in syllable-timed languages. Building on her earlier work, Dauer (1987) further argued that languages are more or less stress-timed or syllable-timed (along a continuum) depending on how many phonetic and phonological features they have that are typical of stress-timing vs. syllable-timing.

Recognizing the psychological reality of rhythm while moving past the theory of isochrony, several metrics have been developed to classify languages by their rhythm class, all based on durational measures which are meant to correlate with more abstract phonological properties (such as syllable complexity and vowel reduction introduced above). They include ΔV, ΔC, and %V (Ramus, Nespor & Mehler, 1999); VarcoV and VarcoC (Dellwo, 2006); and various PVI measures (Grabe & Low, 2002).

Ramus et al. (1999) proposed three rhythm metrics – ΔV, ΔC, and %V[2]: ΔV reflects the variability in duration of vocalic intervals within an utterance, quantified as standard deviation. Similarly, ΔC is the standard deviation of consonantal intervals within an utterance. %V is the proportion vocalic content within an utterance. Using these metrics, Ramus et al. analyzed four adult speakers reading five sentences in each of English, Dutch, Polish, (stress-timed); French, Spanish, Italian, Catalan (syllable-timed); and Japanese (mora-timed). They found that these three rhythm classes had significantly different scores for ΔC and %V, but not for ΔV. Their results supported Dauer's (1983, 1987) claims about the key role of syllable structure: typically, syllables gain weight by gaining consonants. Therefore, the more syllable types present in a language, the greater the variability in the number of consonants and in their overall duration within the syllable, resulting in a higher ΔC. A higher number of syllable types also implies a higher C to V ratio, and as a result a lower %V. Ramus et al. point out that ΔV is influenced by vowel reduction, contrastive vowel length, vowel lengthening, and long vowels. These factors, and consequently ΔV, can be affected by speech rate, making ΔV a less reliable measure than ΔC and %V.

Dellwo (2006) (as cited in White and Mattys, 2006) further showed that ΔV and ΔC vary considerably as a function of speech rate. Building on Ramus et al.'s (1999) work, Dellwo proposed variation coefficients VarcoΔC and VarcoΔV, known as simply VarcoV and VarcoC, respectively. These metrics take speech rate into consideration, which Ramus et al. (1999) failed to do. Ordin and Polyanskaya (2015) also utilized another, similar, Varco metric: VarcoS (where S refers to syllables). Dellwo (2006) confirmed that VarcoC gave a clearer discrimination than ΔC, at various speech rates, between stress-timed languages (English and German) and syllable-timed languages (French) (as cited in White & Mattys, 2006). VarcoV also proved to better differentiate rhythm classes than ΔV.

The pairwise variability index (PVI) is another rhythm metric that was introduced by Low et al. (2002). They developed it based on Dauer's (1983) finding that stress-timed languages tend to have vowel reduction, whereas

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[2] %C is isomorphic to %V therefore it does not need to be considered.

syllable-timed languages tend not to. The PVI included only vocalic intervals (PVI-V), specifically to reflect the alternations of longer and shorter vowels in successive pairs within an utterance. Low et al. investigated the rhythm of British English, which is said to be stress-timed, and Singapore English, which is said to be syllable-timed, using this metric. Overall, they found that durational variability was greater (reflected in a greater PVI-V score) in British English than in British English, meaning that successive vowel intervals were more equal in duration in Singapore English than in British English. Low et al. concluded that in this case, PVI distinguished between syllable- and stress-timed languages better than metrics proposed by Ramus et al. (1999). Later on, the PVI metric was extended to be raw (rPVI) or normalized with speech rate (nPVI) and applied to consonants (nPVI-C, rPVI-C), vowels (nPVI-V, rPVI-V) or syllables (rPVI-S, nPVI-S) (Grabe & Low, 2002; Ordin & Polyanskaya, 2015).

As Grabe and Low (2002) point out, the predictions of the metrics introduced above are not fully clear. A given language might be placed in different classes based on the output of different metrics. Metric scores are further influenced by variation in materials, speaking styles, speech rate, and speaker identity. These factors may influence metric scores more than rhythm class affiliation. In addition, factors responsible for stress-timed and syllable-timed rhythmic templates still have not been reliably identified.

Salish languages' consonantal segments vary considerably in inherent duration, and their words contain a wide range of syllable types, including frequent consonant clusters (see (1) above). It is therefore predicted that they will pattern more like stress-timed languages than like syllable-timed languages. Since Salish rhythm has not yet been documented (as far as we know), we hope that this project will lead us to a better understanding of what factors contribute to perceived rhythm across languages. More practically, understanding the rhythmic properties of Hul'q'umi'num' will help us to teach rhythm to learners, who take very seriously their responsibility to speak in a way that honours their Elders' speech (c.f. Bird & Kell (2017)).

3   Methods

For this study, Mackenzie Marshall segmented a portion of the story (3.54 minutes; 13 sentences) and transcribed it phonetically, using the spectrogram and waveforms for reference (see Figure 1). Segmentation was done using Praat (Boersma & Weenink, 2017), following guidelines from Bird, Wang, Onosson, & Benner's (2015) *Acoustic Phonetics Lab Manual*. Methods for phoneme segmentation and consonant/vowel rhythm segmentation were guided by Ramus et al. (1999), Grabe and Low (2002), and Payne et al. (2012).

Textgrid annotation was used for the segmentation (see Figure 1): Tier 1, 'CV Tier 1' of the textgrid was divided into consonant (C) and vowel (V) intervals, which were used in the rhythm calculations. In this Tier and subsequent ones, pauses and hesitations were annotated with <S> and excluded from the calculations. On Tier 2, 'Merged Cs', the same intervals were included but the actual vowels and consonants were listed for reference, rather than just <V> or <C>. Tier 3, 'Phonetic Tier', further segmented the intervals from Tiers 1 and 2;

specifically, on Tier 3, we segmented individual consonants and vowels, rather than intervals of adjacent sequences of consonants or vowels (e.g. <lhl> corresponded to two intervals on Tier 3 (|lh|l|) but only one on Tiers 1-2 (|lhl|). Tier 4 'Phonetic Phrase' and Tier 5 'Orthographic' were for comparing our phonetic transcription to the phonemically-based transcription that Ruby Peter and Donna Gerdts provided with the story.
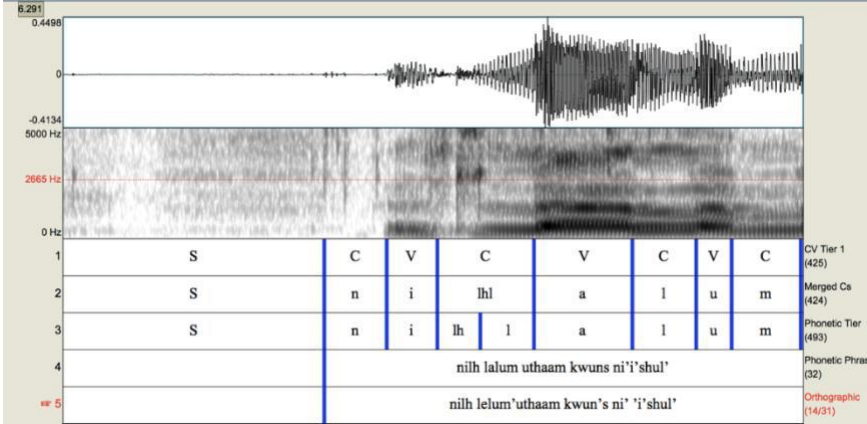
Figure 1: Praat segmentation method.

The rhythm metrics that were calculated included %V, ΔV, ΔC, VarcoV, and VarcoC. A Praat script automatically calculated each of these metrics based on the durational information available through the segmented and labelled Textgrids (see Figure 1). This script was based on White and Mattys' (2007) script.

4   Results

The results consist of the values for each metric, generated by the Praat script mentioned above: %V was 38.638, ΔV was 55.76, ΔC was 87.713, VarcoC was 59.64, and VarcoV was 52.64. There are no exact numbers that indicate stress-timing vs. syllable-timing; therefore, these metrics on their own are not strong indicators of rhythm class. However, when compared to those from other languages, these metrics can tell us about relative rhythm and classification. Language data points for English, Dutch, French, and Spanish in Table 2 below were sourced from White and Mattys (2007). Our measures of Bernard's Hul'q'umi'num' are added to the table, for comparison.

Table 2: Rhythm metrics across languages

Metric	Spanish	French	English	Dutch	Hul'q'umi'num'
%V	48	45	38	41	39
VarcoV	41	50	64	65	53
VarcoC	46	44	47	44	**60**
ΔV	32	44	49	49	56
ΔC	40	51	59	49	**88**

This data is projected in the figures below, including %V x ΔC (Figure 2), %V x VarcoC (Figure 3), %V x ΔV (Figure 4), %V x VarcoV (Figure 5), and VarcoV x ΔC (Figure 6). These projections were chosen based on previous literature (Ramus et al., 1999; White & Mattys, 2007, Ordin & Polyankskaya, 2015).

Figure 2 plots data across languages over the (%V, ΔC) plane. Languages grouped more on the left (English, Dutch) represent the stress-timed language class while languages on the right (French, Spanish) represent syllable-timed classes. Hul'q'umi'num' sits above either class according to ΔC, but patterns like English and Dutch according to %V.
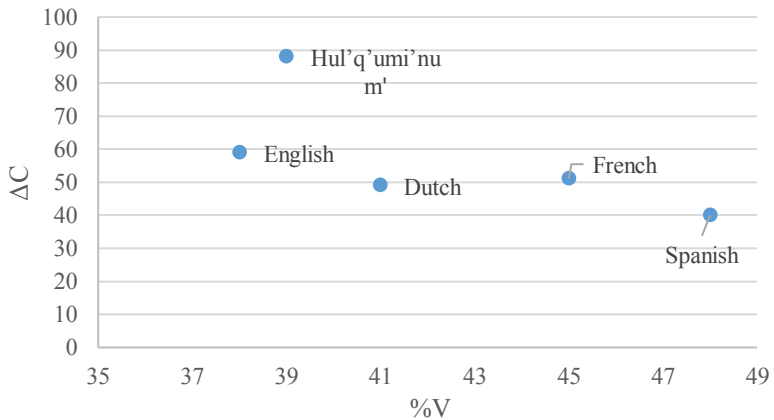
Figure 2: Distribution of languages over the (%V, ΔC) plane.

Figure 3 plots data from languages over the (%V, VarcoC) plane. No obvious grouping presents itself in the figure, except perhaps that languages go from stress-timed on the left to syllable-timed on the right due to the %V metric. Hul'q'umi'num' has a high VarcoC value (59.64) which distinguishes it from other languages.
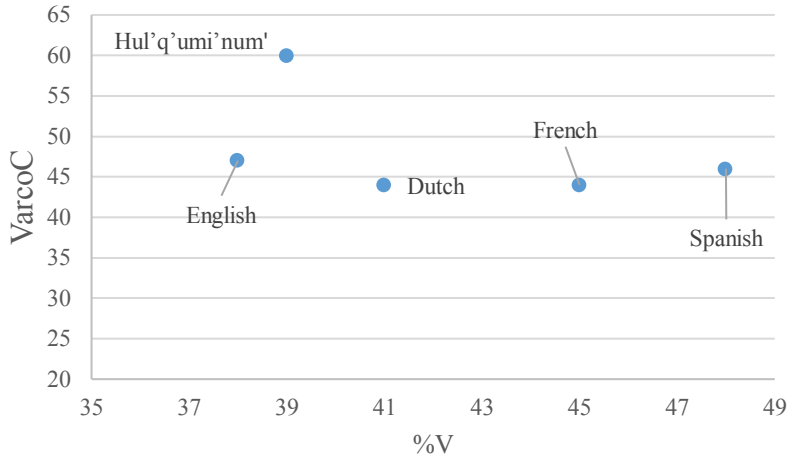
Figure 3: Distribution of languages over the (%V, VarcoC) plane.

Figure 4 plots data from languages over the (%V, ΔV) plane. Languages grouped more on the left (English, Dutch) represent the stress-timed language class while languages on the right (French, Spanish) represent syllable-timed classes. Hul'q'umi'num' fits well with other stress-timed languages according to these metrics.
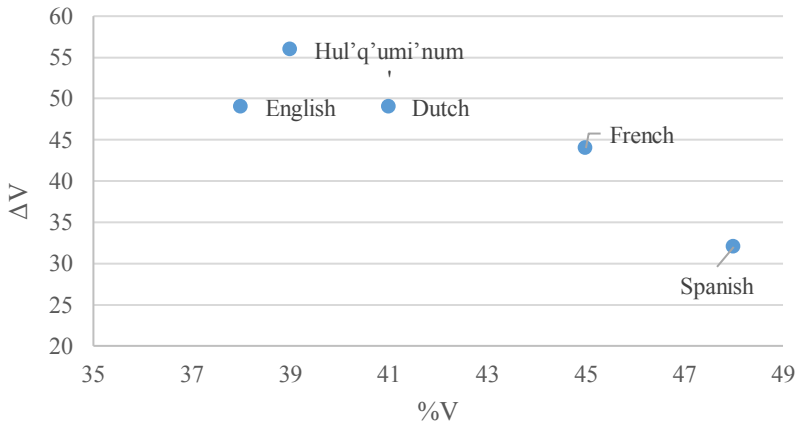
Figure 4: Distribution of languages over the (%V, ΔV) plane.

Below, Figure 5 shows the projection of data from languages over the (%V, VarcoV) plane. Very similar to Figure 4, languages grouped more on the left (English, Dutch) represent the stress-timed language class while languages on the right (French, Spanish) represent syllable-timed classes. Hul'q'umi'num' fits well with other stress-timed languages according to these metrics.
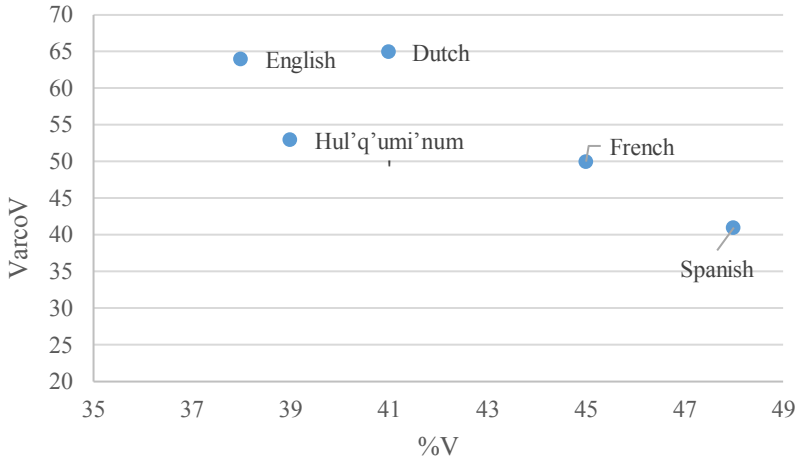
Figure 5: Distribution of languages over the (%V, VarcoV) plane.

Finally, Figure 6 shows the projection of data from languages over the (VarcoV, ΔC) plane. Languages grouped tightly on the right (English, Dutch) represent the stress-timed language class while languages in the lower left (French, Spanish) represent syllable-timed classes. Hul'q'umi'num' does not group clearly with either class, and instead sits above both of them
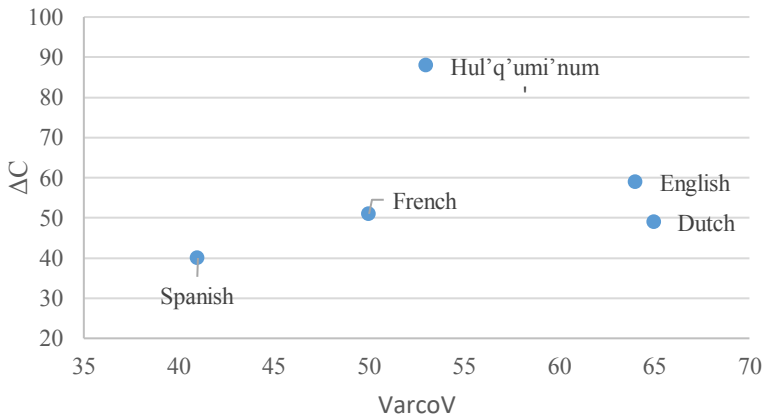
Figure 6: Distribution of languages over the (VarcoV, ΔC) plane.

Overall, according to vowel-based metrics, Hul'q'umi'num' rhythm was consistent with other stress-timed languages. On the other hand, consonant-based metrics placed Hul'q'umi'num' as more of a rhythm-class outlier.

5 Discussion

Figures 4 and 5 figures both involved only vocalic measures, %V, ΔV, and VarcoV. While these suggest that Hul'q'umi'num' patterns with other stress-timed languages, this classification warrants further consideration. Like English, Hul'q'umi'num' has vowel reduction in unstressed syllables. English has many diphthongs (e.g. /ei/), which are substantially longer than monophthongs in duration; similarly, Hul'q'umi'num' contrasts short and long vowels. It is not surprising then that Hul'q'umi'num' and English pattern similarly to one another based on vocalic metrics. However, Figures 2, 3, and 6 show that when consonantal intervals are considered, Hul'q'umi'num' patterns like no other language included in White and Mattys (2007). Hul'q'umi'num' consonants can vary significantly in inherent duration (e.g. glottal stop vs. /s/), as well as in how many are included in a given syllable (e.g. VCV vs. VCCCCV). Naturally, ΔC and VarcoC reflect this variation, with values diverging substantially from those in the other languages illustrated here (VarcoC = 87.71, ΔC = 59.64). This drastic variation in consonantal intervals sets Hul'q'umi'num' apart from other languages on the rhythm continuum. Indeed, it appears that Hul'q'umi'num' lies outside the rhythm spectrum entirely, based on consonantal metrics. This finding likely reflects the important role that consonants play in Hul'q'umil'num' (relative to vowels), and in Salish language more generally. It also suggests that we would benefit from studying a broader range of languages than has so far been considered, including Indigenous languages of the Pacific Northwest, if we are to truly understand the typology of rhythm.

Recall that we had access to a phonemically-based transcription of the story, in addition to the phonetic transcription we came up during our segmentation work. The phonemically-based transcription was done by language experts, with no particular expertise in phonetics. The phonetic transcription was done by phoneticians, with little prior knowledge of Hul'q'umi'num'. Interestingly, we found many differences between the two transcriptions, including ones which would likely affect rhythm metrics, such as consonant cluster reductions and vowel elisions. One particular difference between phonemically-based and phonetic transcriptions involved glottal stop, which often seemed absent phonetically in places it was transcribed phonemically. For example, and similarly to what has been found in neighbouring SENĆOŦEN (Bird, Leonard & Czaykowska-Higgins, 2012), *full vowel-glottal stop-schwa* sequences were often realized as a long vowel, e.g. <a'u> → [a:]. The absence of expected glottal stops would have affected consonantal variability metrics (VarcoC and ΔC), as well as %V and VarcoV in cases where compensatory vowel lengthening occurred. Certainly a closer look at the discrepancies between phonetic and phonemic transcriptions would increase our understanding of the mechanics of spontaneous speech production, which have been studied in widely spoken languages like English (e.g. Warner & Tucker, 2011) but not in Salish languages, as far as we know.

The question of how spontaneous speech is realized also relates to second language acquisition of rhythm, in terms of the differences in how first and second language speakers pronounce Hulq'umi'num' words and phrases. Since rhythm –

as currently defined in the field – is a function of how consonants and vowels combine in speech, learners must be able to master both the morphology (i.e., use all the appropriate morphemes in constructing their sentences) and the phonology (i.e., pronounce the consonant clusters within these morphemes, without inserting excrescent vowels), if they are to get the rhythm right. The quantification of rhythm that we undertook in this study can act as a baseline in future work studying rhythm among second language learners of Hul'q'umi'num', to determine (a) how it may differ from that of first language speakers in a holistic sense, and (b) what specific pronunciation features (e.g. insertion of schwa to break up consonant clusters; absence of key (consonantal) morphemes) might be responsible for broader rhythmic differences. Since rhythm itself is quite difficult to teach (Ordin & Polyanskaya, 2014), focusing on more concrete pronunciation features that we know contribute to rhythm (e.g. schwa-less consonant clusters) can potentially be quite successful as a pronunciation teaching strategy, to help learners achieve fluent pronunciation.

6   Conclusion

This study was the first that we know of to document the linguistic rhythm of a Salish language. Through applying standard rhythm metrics to a Hul'q'umi'num' story, we discovered that, while Hul'q'umi'num' patterned like other stress-timed languages according to vocalic metrics, according to consonantal metrics, it stood out distinctly from other typical stress-timed and syllable-timed languages. From a practical stand-point, our study has provided a baseline for investigating learners' Hul'q'umi'num', and developing appropriate materials and resources for teaching rhythm in the context of language revitalization.

This project was a case study, of a 3.5 minute clip of a story told by a single speaker and a single language. This being the case, there are many possibilities in terms of future work that builds on the project. In terms of rhythm typology, studying longer recordings with additional speakers, across Salish languages, will give us a better sense of what features make up Salish languages' unique rhythm, as well as what features, in general, contribute to rhythm cross-linguistically.

In terms of rhythm acquisition, comparing the metrics calculated here with those of second language Hul'q'umi'num' learners would help us to know what rhythm-related features differ between first and second language speakers, and consequently how to best support second language speakers in achieving the same rhythmic flow as their Elders. For example, Ordin and Polyanskaya (2015) have shown that second language learners initially speak with syllable-timed rhythm, regardless of the rhythmic properties of their first language or of the language they are learning, and in fact some Hul'q'umi'num' learners start with syllable-timing (Donna Gerdts, personal communication). So the question is, (how) can they be supported to progress to stress-timing, for example by encouraging them paying closer attention to their articulation of consonant clusters, and to consonants more generally.

Finally, this project has opened the door to a more thorough investigation of how the phonetic realization of Hul'q'umi'num' is connected to its morphological

structure. This is an area we hope to continue exploring in our future, collaborative work.

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Sonorant voicing ([SV]) in Comox-Sliammon[1]

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Abstract: Rice and Avery (1989) argue that there are two types of voicing systems found cross-linguistically. There are Type I languages, which have a laryngeal [voice] feature, and Type II languages, which have a sonorant voicing [SV] feature. The development of resonants into voiced obstruents in Salish was cited as evidence for [SV], but synchronic voicing patterns have not been considered. The present paper argues that Comox-Sliammon has a Type II voicing system and has [SV] instead of [voice]. The diachronic development of the voiced obstruents (/g/ and /ǰ/) is considered. Finding that the intermediate voiceless obstruent proposed by Thompson and Sloat (2004) is less compatible with a Type II voicing system, I propose that the voiced obstruents in Comox-Sliammon came directly from the resonants and have a [SV] feature retained from Proto-Salish (*w and *y). This can also account for the development of voiced obstruents in other Salish languages.

Keywords: sonorant voicing, voiced obstruents, voicing, Comox-Sliammon, phonological features, Proto-Salish

1   Introduction

Cross-linguistically, there are two main types of voicing: laryngeal and spontaneous voicing. Laryngeal voicing is distinctive for obstruents; a [voice] feature distinguishes voiced and voiceless segments (Chomsky & Halle 1968). Spontaneous voicing is traditionally associated with sonorants, though Rice and Avery (1989) argue that obstruents can have this type of voicing in certain languages. They distinguish two types of voicing systems: those where voiceless and voiced obstruents pattern together (Type I languages) and those where voiced obstruents pattern with the sonorants (Type II languages). In order to account for the Type II languages, Rice (1993) proposes Sonorant Voice, [SV], as an alternative to the traditional feature [sonorant].

Rice and Avery (1989:80) suggest that the historical development of voiced obstruents from resonants in Salish might be evidence for the languages having [SV], rather than [voice].[2] Rice (2013:5) further highlights the shift from nasal

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[1] I am very thankful for the patience of the Comox-Sliammon speakers who have shared their language with me, including Phyllis Dominic, Joanne Francis, Jerry Francis, Karen Galligos, Marion Harry, Freddie Louie, Elsie Paul, Margaret Vivier, Betty Wilson, and Maggie Wilson. I am also grateful to the ʔayʔaǰuθəm Lab at UBC for their encouragement and ideas.

[2] *Resonant* is the term used in the Salish literature for sonorant segments.

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consonants to voiced obstruents in Twana and Lushootseed as evidence for Type II voicing. While the Salish language family is used to provide diachronic support for [SV] and a distinction between Type I and Type II languages, the synchronic voicing systems of Salish languages are unexplored.

In this paper, I provide a description of the voiced obstruents (/g/ and /ǰ/) in Comox-Sliammon, a Central Salish language, evaluating whether the voicing patterns are more consistent with a Type I (Laryngeal) or Type II (Sonorant) language, ultimately concluding that it can be characterized as Type II and that there is little evidence for a [voice] feature.[3] I also evaluate if this synchronic analysis fits with Thompson and Sloat's (2004) proposal for how Proto-Salish *y became /ǰ/ in Comox-Sliammon. Finding their analysis less compatible with a Type II voicing system, I provide an alternate proposal for the development of voiced obstruents in Comox-Sliammon, as well as other Salish languages.

2   Voiced obstruents in Comox-Sliammon

Comox-Sliammon (ʔayʔaǰuθəm) is a Central Salish language spoken in British Columbia. It is critically endangered with an estimated 36 fluent speakers remaining as of 2014 (FPCC 2014). There are a total of 43 consonants, with two voiced obstruents, /g/ and /ǰ/, which are the reflexes of the Proto-Salish resonants *w and *y, respectively (Blake 1992; Blake 2000; Kuipers 2002).

The voiced obstruents in Comox-Sliammon are well-described (i.e. Blake 1992; Blake 2000; Watanabe 2003; Davis 2005). Blake (2000) lists the surface realizations of /ǰ/ as [ǰ ~ y ~ i ~ e ~ č] and /g/ as [g ~ w ~ u ~ o ~ k ~ xʷ]. Examples of each surface realization are shown in (1) for /ǰ/ and (2) for /g/.[4]

(1) a. [ǰ]   = /huǰ-it/   [hoǰit]   'ready'
     b. [y]   = /huǰ/   [hoy]   'stop, finish'
     c. [i,ǰ]   = /ʔǰ•ʔǰ=umiš/   [ʔiʔaǰumiš] 'very beautiful'
     d. [č,ǰ]   = /tǰ•taǰ•aǰ=us/ [tɪčtaʔǰeʔǰɪs] 'cheeks'
                                                 (Blake 2000:47)

(2) a. [g]   = /hig=us/   [hegus]   'chief'
     b. [w,g]   = /hi•hw•hig=us/ [hɛhəwhegʊs] 'small chiefs'
     c. [u,g]   = /ɬw•ɫagt/   [ɬuːlagɪt]   'herring (pl)'
     d. [k]   = /tig=qin=tn/   [tɪkqetən]   'dessert'
     e. [xʷ]   = /kʷn-ng/   [kʷənəxʷ]   'see him/her'
                                                 (Blake 2000:47,327)

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[3] I follow the notation of Watanabe (2003) and use APA and represent underlying forms, except where phonetic brackets are used to indicate surface form.
[4] Stress is not marked because it is fixed-initial (Watanabe 2003:20–23). Due to its predictable distribution, schwa is not present in underlying forms from Blake (2000).

Blake (2000) finds that the voiced obstruents ([ǰ] and [g]) occur in an onset position, the glides ([y] and [w]) in a coda position, and the vowels ([i~e] and ([u~o]) as nuclei. The voiceless allophones occur exclusively in coda positions, with [č] and [k] before another voiceless obstruent and [xʷ] word-finally.

2.1   Evidence for voicing type

Rice (2013) gives four types of evidence that distinguish Type I languages, where voiced and voiceless obstruents pattern together, or Type II, where voiced obstruents and sonorants pattern together. These types, given in Table 1, include variation in voicing, target patterning, trigger patterning, and historical patterns.

Table 1: Sources of evidence for two voicing patterns (from Rice 2013)

Evidence	Type I Language	Type II Language
Variation in voicing	Variation within obstruents	Variation between voiced obstruents and sonorants
Alternations: target patterning	Target alternations between voiced and voiceless obstruents	Target alternations between voiced obstruents and sonorants
Trigger patterning	Voiced obstruents are triggers	Voiced obstruents and sonorants are triggers
Historical patterns	Shifts within obstruents	Shifts from obstruent to sonorant

As the development of voiced obstruents from resonants in Salish languages is suggested to involve a [SV] feature (Rice & Avery 1989:80), I hypothesize that voicing patterns in Comox-Sliammon will be more consistent with a Type II language. The synchronic evidence (the first three types in Table 1) is evaluated in Section 2, while the diachronic development is considered in Section 3.

2.1.1   Variation in voicing: Type II

Rice (2013) uses phonetic variation to distinguish Type I and Type II languages. Type I languages may show variation in degree of voicing in obstruents, while Type II languages show variation between voiced obstruents and sonorants.

Nasals can be realized as voiced obstruents in Comox-Sliammon, consistent with a Type II voicing pattern. Gibbs (1877) transcribes *b* and *d* more frequently than *m* and *n* in the Island dialect. As shown in Table 2, *b* and *d* in Gibbs (1877)

correspond to [m] or [n] in modern Mainland Comox.[5,6] However, this is not categorical, as he transcribes a word-final *m* in 'river', matching modern Mainland Comox.

<div align="center">

Table 2: Gibbs' (1877) vs. (modern) Mainland Comox-Sliammon transcriptions

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Gibbs (1877)	(Modern) Mainland Comox-Sliammon	Translation
bo-osh'	[moʔos]	'head'
datt	[nat]	'night'
soh-sed	[θoθʊn]	'mouth'
tai-gib	[tʌgəm]	'moon'
kwut'-tim	[q̓ʷatəm]	'river'

Unlike Gibbs (1877), Harris (1981) does not report [b] and [d] in his Island Comox data. He further describes inconsistency in the distribution of [b] and [d] between Gibbs (1877), Tolmie and Dawson (1884), and Sapir (1915). If the alternation between nasals and voiced stops is phonetic variation, it is not surprising to find differences across speakers and lexical items.

Previous descriptions of the Mainland dialect have also found [b] and [d] in place of nasal segments. Blake (2000:27) provides two examples where variability occurs in a word final position, [ǰɛ́q̓ʷʌm ~ ǰɛ́q̓ʷʌb] 'sweat, perspire' and [čítuxʷʌn ~ čítuxʷʌd] 'wild blackberry'. Davis (1970) suggests that this is generally restricted to the oldest speakers of the Mainland dialect. Working with speakers of the language in 2018, I have not found much evidence of [b] and [d].

Though modern speakers may not produce [b] and [d], they exhibit another type of phonetic variation that is consistent with a Type II language. Blake (2000:25) documents the pre-nasalization of word-initial /g/ in the Mainland dialect, describing it as "a phonetic effect which is variable". Figure 1 shows an example of [ⁿg], produced at the beginning of the word *gəq̓it* 'open'. There are visible formants in the spectrogram leading up to the stop release, consistent with pre-nasalization. To illustrate the phonetic variability in pre-nasalization, a corresponding word-initial /g/, produced by the same speaker, is given in Figure 2. Figure 2 is the spectrogram for the word *gija* 'earth'. Though there is pre-voicing, evident from the voicing bar at the bottom of the spectrogram, there are no formants or audible nasalization.

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[5] There is an *s* in 'mouth' in Gibbs (1877) where I transcribe [θ] because Proto-Salish *c* corresponds to /s/ in the Island dialect and /θ/ in the Mainland one (Kuipers 2002:3).

[6] Data not otherwise attributed comes from my own fieldwork sessions with speakers of Comox-Sliammon over a two-year period.
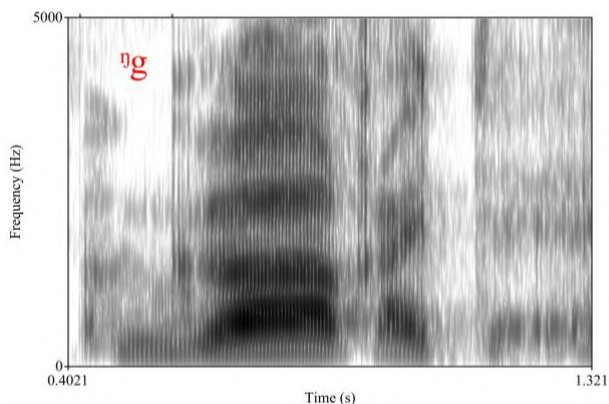
Figure 1: Pre-nasalized word-initial /g/
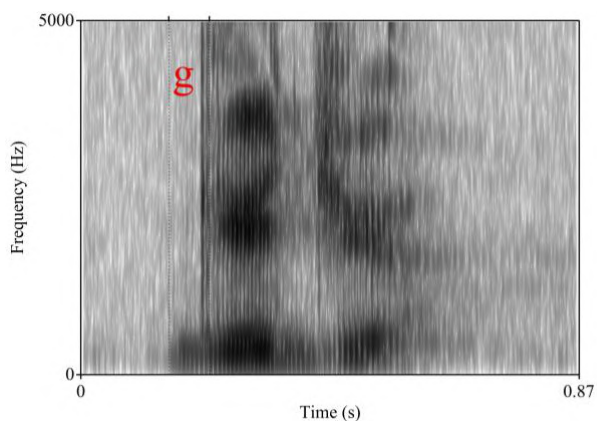
Figure 2: Word-initial /g/ without pre-nasalization

While Blake (2000) only found pre-nasalization with /g/, yielding an asymmetry with /ǰ/, the speaker in Figure 1 and 2 occasionally realizes an initial /ǰ/ with pre-nasalization. An example of this is shown in Figure 3, where there are formants before the stop release of the affricate in the production of the word *ǰuθutič* 'I push'. The corresponding spectrogram in Figure 4 shows an example of a word-initial /ǰ/ in *ǰəǰənixʷ* 'little fish', from the same speaker, with no visible formants and no audible nasalization preceding the stop release. This variability in a word-initial position is found for different speakers and lexical items.
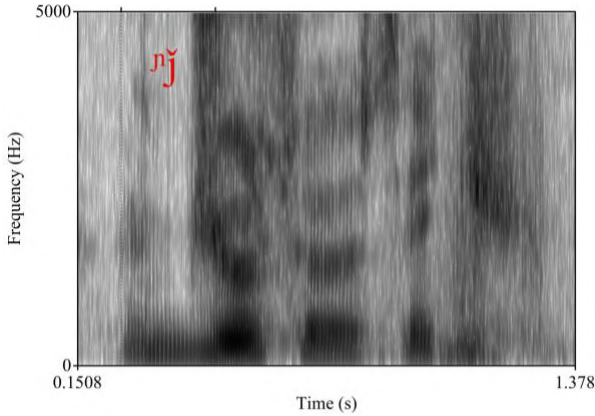
Figure 3: Pre-nasalized word-initial /ǰ/
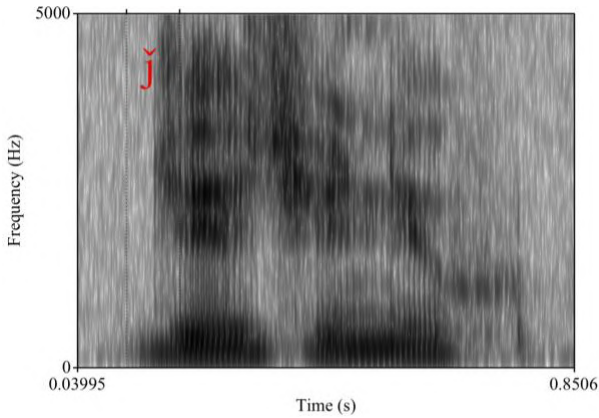
Figure 4: Word-initial /ǰ/ without pre-nasalization

The production of /m/ as [b] and /n/ as [d] and pre-nasalization of /g/ and /ǰ/ suggest a link between voiced obstruents and resonants in the modern grammar. This synchronic variation is consistent with Rice's (2013) Type II languages.

2.1.2　Target patterning in alternations: Type II

The patterning of phonological targets in alternations is the second type of evidence Rice (2013) considers in separating Type I and Type II voicing systems. Glottalization processes in Comox-Sliammon target resonants and voiced obstruents, providing support for a Type II voicing pattern.

　　Resonants in Comox-Sliammon, like in other Salish languages, can be either plain or glottalized (Blake 2000). Glottalization can be lexically specified or occur as part of a morphological process, such as imperfective or diminutive reduplication (Watanabe 2000:385,394). The data in (3) show glottalization accompanying imperfective reduplication (CV-). Consistent with a Type II

language, glottalization can be assigned to a resonant (3a–c) or voiced obstruent (3d–e).

(3) a. luq̓ʷum   'be stuck'   lu•l̓uq̓ʷum   'be getting stuck'
     b. mačat   'grease it'   ma•m̓ačat   'greasing it'
     c. wuwum   'sing'   wu•w̓uwum   'singing'
     d. gayatas   'he asked her'   ga•g̓ayatas   'he is asking her'
     e. ǰaqnəxʷ   'watch something'   ǰa•ǰ̓aqnəxʷ   'watching something'
                                                  (Watanabe 2003:395–396)

Comparing ejective obstruents with the glottalized resonants and voiced obstruents provides further evidence for a Type II voicing system. Blake (2000:56–59) suggests that the laryngeal feature constricted glottis, [cgl], is present in both ejective and glottalized consonants. Cross-linguistically, this can result in laryngeal feature agreement and the same phonological processes may target obstruent and sonorant segments specified with laryngeal features (Steriade 1997; Blevins 2003). This is not the case in Comox-Sliammon, however, as ejectives and glottalized resonants are not subject to the same alternations. In (4a–b), ejectives remain ejective in CVC plural reduplication, while glottalized resonants are copied as plain resonants in (4c–d).

(4) a. gəq̓   'open'   gəq̓•gəq̓   'all of them opened'
     b. ʔaqat   'chase him'   ʔəq•ʔaqat   'chase him all around'
     c. kʷum̓t   'kelp'   kʷum•kʷum̓t   'lots of kelp'
     d. qin̓qin   'duck'   qən•qin̓qin   'ducks'
                                         Watanabe (2003:373,375)

The data in (5) confirm that voiced obstruents pattern with the resonants, rather than with the ejectives. The glottalization on the voiced obstruent in the base is not present on the corresponding segment in the reduplicant.[7]

(5) a. /χəǰ̓-/   χəǰiš   'rock'   χəyχəǰiš   'rocks'
     b. /čuǰ̓-/   čuǰ̓   'child'   čəyčuǰ̓   'children'

The fact that voiced obstruents and resonants are targeted by glottalization processes that do not affect the voiceless obstruents is evidence that Comox-Sliammon has a Type II voicing system.

2.1.3   Trigger patterning in alternations: Type I

Rice (2013) finds that some languages allow voiced obstruents and sonorants to trigger voicing alternations, to the exclusion of voiceless obstruents. This fits with a Type II language and is used as evidence for two types of voicing.

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[7] I only have data with /ǰ̓/ at this time, but I assume /g̓/ would behave the same.

While the data thus far has suggested that Comox-Sliammon behaves like a Type II language, Blake (2000) describes voicing alternations in Comox-Sliammon that are triggered by voiceless obstruents. Examples of this alternation from (1) and (2) are restated in (6).

(6) a.   [č,ǰ]   =   /tǰ•taǰ•aǰ=us/   [tɪčtaʔjeʔjɪs]   'cheeks'
     b.   [k]   =   /tig=qin=tn/   [tɪkqetən]   'dessert'
                                      (Blake 2000:47,327)

A voiceless obstruent ([k] or [č]) occurs before another voiceless obstruent, rather than the predicted resonant ([w] or [y]) that generally occurs in a coda position. While the data in (6) show voicing agreement in obstruent clusters, (7) shows that resonants are unaffected by a following voiceless obstruent.

(7) a.   qəmsat   'put away'
     b.   məmkʷatas   'he is eating it'
     c.   punpun   'spoons'
     d.   lulq̇it   'a little bit stuck'
     e.   ʔaχiθawtxʷ   'bedroom'
     f.   taytayqaθut   'moving from here to there'

Voicing agreement in obstruent clusters is more consistent with a Type I voicing system, with a [voice] feature. The voiceless obstruents act as a trigger for devoicing, only affecting the voiced obstruents, /g/ and /ǰ/. Voicing agreement suggests that a feature, such as laryngeal [voice], may be needed.

Sonorants are exempt from voicing agreement, though they do interact with voiceless obstruents in other phonological processes. This is shown in (8), where two examples of sonorant-obstruent interactions are given.[8] In (8a), the /n/ in the root k̓ʷən 'to see' is deleted before the /t/ of the control transitivizer. A similar deletion pattern is found when a /n/ occurs before a /θ/ (Watanabe 2003:14). Additionally, the second person object suffix -anapi is sometimes produced as [-ampi], as in (8b), showing place assimilation between a nasal and a voiceless obstruent.

(8) a.   k̓ʷət   b.   ʔaq̇nampič
          kʷən-t   ʔaq̇-n-anapi-č
          see-CTR   chase-NTR-2PL.OBJ-1SG.IND
          'He sees it.'   'I am chasing you all.'

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[8] Glossing abbreviations used in this paper are: 1SG.ERG = 1st person singular ergative subject, 1SG.IND = 1st person singular indicative subject, 2PL.OBJ = 2nd person plural object, 3ERG = 3rd person ergative subject, 3OBJ = 3rd person object, CAUS = causative transitivizer, CTR = control transitivizer, FUT = future, IMPF = imperfective, INCH = inchoative, MDL = middle, NTR = non-control transitivizer, PL = PLURAL, PST = past, and STV = stative.

Though obstruent and sonorant segments may interact in phonological processes in Comox-Sliammon, the voicing agreement is restricted to obstruents. The fact that voicing agreement is limited to obstruent clusters, to the exclusion of sonorant segments, is more consistent with a laryngeal [voice] feature, fitting a Type I system.

2.2   Summary of synchronic voicing evidence

A preliminary summary of the synchronic evidence is given in Table 3. Given that the voiced obstruents in Comox-Sliammon developed from resonants, it was predicted that the language would have Type II patterns. As an interim generalization, it appears that Comox-Sliammon shows evidence of both Type I and Type II voicing patterns, which makes it unclear how Comox-Sliammon voicing should be categorized.

Table 3: Interim summary of Comox-Sliammon voicing (following Rice 2013)

Evidence	Type I Language	Type II Language
Variation in voicing		X
Alternations: target patterning		X
Trigger patterning	X	

While it is possible that Comox-Sliammon has a third type of voicing, a mix of Type I and II, this requires both [voice] and [SV]. In this case, the inclusion of [voice] is motivated by a single agreement pattern. The following section examines the distribution and frequency of the voiceless surface forms of /g/ and /ǰ/ to ascertain whether [voice] is necessary.

2.3   Evidence for [voice] revisited

The fact that the voiced obstruents can become voiceless and that this can be triggered by an adjacent voiceless obstruent may be evidence for [voice]. The key generalizations are that /g/ becomes [xʷ] in a word-final position, while /g/ and /ǰ/ become [k] and [č], respectively, before a voiceless obstruent (Blake 2000:47). Despite these patterns, the occurrence of the voiceless allophones is far from categorical or systematic in Comox-Sliammon.

2.3.1   [xʷ] from /g/

The non-control and causative transitivizers are used as evidence for [xʷ] being a surface form of /g/ (Blake 1992; Blake 2000; Watanabe 2003). This is contingent on examples with third person object where the non-control transitivizer is -*əxʷ*, from /-ng/, and the causative one is -*sxʷ*, from /-stg/, in these

forms. In both cases, the third person object must be null. An example of each transitivizer is provided in (9), glossed to reflect these assumptions.

(9) a. qʷa•qʷay-sxʷ-as   Bruno   Daniel
         CV•qʷay-stg-as   Bruno   Daniel
         IMPF•talk-CAUS-3ERG   Bruno   Daniel
         'Bruno is talking to Daniel.'

     b. niy-əxʷ-an-uł   sǰasuł
         niy-ng-an-uł   sǰasuł
         forget-NTR-1SG.ERG-PST   yesterday
         'I forgot it yesterday.'

In (9), [xʷ] occurs before ergative suffixes. However, /g/ is expected to surface as [g] in an onset position. This predicts that the verb in (9a) should actually be *qʷaqʷaysgas* and the one in (9b) should actually be *niyəganuł*. However, in the non-control and causative paradigms, [xʷ] always occurs with a third person object, regardless of its position in the word.

There are also many lexical items where /g/ becomes [w] in a word-final position, rather than [xʷ]. The data in (10) show word-final /g/ realized as [w] with a grammatical affix in (10a), reduplicant in (10b), and bare root in (10c). Corresponding forms where /g/ remains faithful are given for comparison.

(10) a. čił-im-iw   čił-ig-im
          dance-MDL-PL   dance-PL-MDL
          'They are dancing.'   'They are dancing.'

      b. yəẁ   yəg•əw
          dry.up   dry.up•INCH
          'dried up'   'It's getting dried up.'

      c. təẁ   təg-it
          ice   ice-STV
          'ice'   'frozen'

Word-final /g/ is often [w] while the [xʷ] in the non-control and causative transitivizers does not alternate. While this challenges the generalization that /g/ is [xʷ] when word-final, it is only a problem if one assumes [xʷ] comes from a /g/. If one adopts the analysis in (11), following Mellesmoen (2017), and treats -xʷ as overt third person object agreement, [xʷ] is no longer a problem.

(11) a. qʷa•qʷay-s-xʷ-as   Bruno   Daniel
          CV•qʷay-st-xʷ-as   Bruno   Daniel
          IMPF•talk-CAUS-3OBJ-3ERG   Bruno   Daniel
          'Bruno is talking to Daniel.'

      b. niy-əxʷ-an-uł   sǰasuł

niy-ng-xʷ-an-uł   sĭasuł
forget-NTR-1SG.ERG-3OBJ-PST   yesterday
'I forgot it yesterday.'

The morpheme breakdown in (11) marks -*xʷ* as overt third person agreement and comes from /xʷ/, not /g/. This accounts for why it does not alternate with [g] when in an onset position. Adopting this analysis, [xʷ] can be left out of the analysis of /g/ because all the evidence for it comes from the non-control and causative examples.[9] This means that [xʷ] cannot be taken as evidence for an alternation between voiced and voiceless obstruents.

2.3.2   [k] from /g/ and [č] from /ǰ/

The strongest evidence for obstruent voicing comes from agreement in obstruent clusters, where /g/ and /ǰ/ surface as [k] and [č] before a voiceless consonant (Blake 2000). The examples of this given in (6) are restated in (12).

(12) a. [č,ǰ]   = /tǰ•taǰ•aǰ=us/   [tɪčtaʔǰeʔǰɪs]   cheeks
      b. [k]   = /tig=qin=tn/   [tɪkqetən]   dessert
                                         (Blake 2000:47,327)

For feature agreement to occur, there must be a feature related to obstruent voicing, such as [voice]. However, the actual occurrence of [k] and [č] is marginal in the literature. The only examples given in Blake (2000) are in (12).[10]

   Voicing agreement is not found in most lexical items with obstruent clusters. The examples in (13) demonstrate how /ǰ/ or /g/ can surface as [y] or [w], instead of [k] and [č], before a voiceless obstruent. This is observed for stops, fricatives, and affricates across different places of articulation.

(13) a. /čag=tn/   [čɛwtən]   'helper'   (Blake 2000:337)
      b. /χʷǰ-t/   [χʷeyt]   'stretch'   (Blake 2000:286)
      c. /tg=qin/   [tuwqɛn]   'answer back'   (Blake 2000:421)
      d. /ǰ-ǰƛ/   [ǰəyƛ̓]   'running'   (Blake 2000:386)
      e. kʷan=igs-m   [kʷanewsʌm]   'rest'   (Blake 2000:399)
      f. t̓θaǰ=tn   [t̓θaytən]   'sun umbrella' (Blake 2000:368)
      g. qagθ   [qawθ]   'potato'   (Blake 2000:36)
      h. ǰ-ǰkʷ   [ǰɛykʷ]   'rubbing'   (Blake 2000:176)
      i. q̓ʷaǰχ   [q̓ʷeẏχ]   'firewood'   (Blake 2000:351)
      j. hg-higus   [hʌwhegʊs]   'chiefs'   (Blake 2000:365)
      k. k'ig-k'igm   [kɛwkegɪm]   'coyote'   (Blake 2000:371)

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[9] This has the advantage of making /ǰ/ and /g/ symmetrical in phonological behaviour.

[10] The only example from my own elicitation data is *qəkqigaθ* 'deer'.

In (13a) and (13c), /ǰ/ and /g/ surface as glides before /t/ and /q/, respectively. These environments match those in (12), where agreement occurs. Further, voicing assimilation does not apply in the opposite direction. The voiced obstruents in (14) are not devoiced, even though voiceless consonants follow.

(14) a. łaχg-t   [łaχgʌt]   'to destroy it'   (Blake 2000:371)
      b. t-tg=qiṅ   [tətgaqɛṅ]   'answering back' (Blake 2000:39)
      c. χpǰaʔan=kʷu   [χʌpǰɛʔʌnkʷu]   'back eddy'   (Blake 2000:435)
      d. łikʷ=ǰan   [łikʷǰɛn]   'to repair a net' (Blake 2000:345)

Voicing agreement in obstruents clusters is quite limited. More often, a voiced obstruent will be realized as a glide before another consonant. The voicing agreement in obstruent clusters does not appear to be productive and therefore does not provide strong motivation for [voice].

2.4   Comox-Sliammon: Type II language

The evidence considered in this paper allows Comox-Sliammon to be classified as a Type II language in the voicing typology proposed by Rice and Avery (1989). The potential exception to this was found in the voiceless surface forms of /g/ and /ǰ/, which are more consistent with a [voice] feature in a Type I system. However, the voiceless allophones of /g/ and /ǰ/ are very marginal and do not represent phonologically regular alternations. Setting these aside as exceptions, the grammar of Comox-Sliammon adheres to the Type II patterns described by Rice (2013). This suggests that [SV] is sufficient to account for the data. A [voice] feature is not needed in Comox-Sliammon.[11]

A [SV] feature, present on resonants and voiced obstruents, allows them to be targeted to the exclusion of the voiceless obstruents. Blake (2000:49) achieves a similar result with the use of the traditional feature [sonorant], which is assigned to voiced obstruents as well as resonants. Though many of the generalizations and motivations are similar to those described in Blake (2000), I adopt the [SV] feature proposed by Rice and Avery (1989) and Rice (1993) instead of [sonorant]. [SV] captures that this is a distinct type of voicing that is not restricted to sonorant consonants and, crucially for the Comox-Sliammon data, is found with obstruents as well.

3   The diachronic development of voiced obstruents

The fourth type of evidence that Rice (2013) presents is diachronic. Type I systems show a shift in voicing between obstruents, while shifts between

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[11] Though this is not knockdown evidence by itself and does not really fit elsewhere, it is relevant to note that voiceless obstruents replace voiced obstruents in loanwords from English. For example, the /g/ and /b/ in the English word *gumboots* become /k/ and /p/ in [kæmputs] and the /ǰ/ in *engine* becomes /č/ in [ʔɛnčɪn]. This suggests, minimally, that voicing in English is different than voicing in Comox-Sliammon.

sonorants and obstruents are found in Type II systems. The development of nasals from voiced obstruents in Twana and Lushootseed, other Central Salish languages, are given as examples of this Type II pattern.

Proto-Salish *y and *w became /ǰ/ and /g/ in Comox-Sliammon, respectively, consistent with a Type II voicing system. Further, the synchronic facts do indicate that Comox-Sliammon voiced obstruents are specified for spontaneous voice ([SV]), rather than laryngeal voice ([voice]). The simplest explanation for this is that /ǰ/ and /g/ have retained sonorant voicing, despite becoming obstruents. The voiced obstruents have retained [SV] and therefore can be targeted by the same phonological processes that affect resonants, such as glottalization, to the exclusion of voiceless obstruents.

While proposing the retention of [SV] fits with contemporary patterns in Comox-Sliammon, it diverges from the previous account of this change. Thompson and Sloat (2004) reconstruct an intermediate *č between Proto-Salish *y and /ǰ/. Though this analysis unifies the patterns found in different Central Salish languages, it is less cohesive with the Type II voicing patterns found in Comox-Sliammon. The change between a voiceless and voiced obstruent is characteristic of a Type I language and further suggests the presence of a [voice] feature, mediating the shift from voiceless to voiced obstruent. Reconstructing a voiceless obstruent between the *y in Proto-Salish and /ǰ/ in Comox-Sliammon suggests that the features associated with sonorant voicing were originally present, lost, and then regained. It is unclear what would motivate this.

3.1   An alternate analysis

As suggested at the outset of Section 3, the simplest explanation for the development of voiced obstruents in Comox-Sliammon is that they retain the same voicing specification as the Proto-Salish resonants.

Unlike Thompson and Sloat (2004), I do not reconstruct an intermediate step between *y and /ǰ/ for Comox-Sliammon. Instead, I propose that /ǰ/ came directly from *y, retaining [SV] and thus maintaining the type of voicing associated with a resonant. This captures the historical connection between resonants and voiced obstruents while accounting for the Type II voicing patterns present in the synchronic grammar. This does not require a [voice] feature. This analysis can also be extended to the development of Proto-Salish *w into /g/, which Thompson and Sloat (2004) do not consider.

Comparing reflexes of Proto-Salish *y and *w given in Kuipers (2002) allows for several generalizations. There are the languages where Proto-Salish *w and *y remain /w/ and /y/, including Squamish and Bella Coola. These can be separated from languages where *y has shifted. Only *y shifted in Lillooet and Thompson. In others, including Lushootseed and Comox-Sliammon, both *y and *w shifted. There are no languages where only *w shifted.

Reflexes of Proto-Salish *y in the shifting languages are either voiced or voiceless. The voiceless variant /č/ occurs in Straits, while voiced obstruents occur in the other ones (Thompson & Sloat 2004). One of the diachronic developments that sets Straits apart from the other Central Salish *y-shifting languages is that Proto-Salish *k developed past a *č to /c/, /s/, or /θ/, depending

on the dialect (Kuipers 2002). It is likely that Proto-Salish *k began to shift before *y did, given that the change is found in more languages. If *k had already shifted past a *č when *y began to change, there would be no risk of losing the contrast between words with Proto-Salish *y and *k. The other Central Salish *y-shifting languages also underwent the *k > /č/ change, but did not undergo the subsequent shift that occurred in Straits.[12] The presence of /č/ in these languages, from Proto-Salish *k, could serve to block *y becoming /č/. In this case, retaining the [SV] feature associated with resonants would distinguish the reflexes of *y and *k. A testable prediction is that the reflexes of *y (and likely *w) in dialects of Straits should not show evidence of sonorant voicing in their phonological patterns.

The development of *w parallels *y. For example, Straits has a voiceless obstruent, /kʷ/, while the other languages have a voiced one, /g/ or /gʷ/. Additionally, similar phonological alternations are found. In Comox-Sliammon, /g/ only surfaces as [g] when in an onset position, paralleling how /ǰ/ is only realized as [ǰ] when it is in the onset of a syllable. Reflexes of *w also show evidence of sonorant voicing, with /g/ patterning like a resonant.

Proto-Salish *w not shifting in Lillooet and Thompson may also be due to their phonemic inventories. Of the *y-shifting languages, Lillooet and Thompson are the only ones to have /ɣ/ (Kuipers 2002). Van Eijk (2011:4) describes /ɣ/ and /ɣ̓/ in Lillooet as resonants which are "the velarized counterparts of y y̓". He further suggests that /w/ and /w̓/ can be treated as the "rounded counterparts of ɣ ɣ̓" (Van Eijk 2011:253). This suggests that /ɣ/ and /ɣ̓/ have sonorant qualities, much like the voiced obstruents that develop from Proto-Salish *w in other languages, and that they are quite similar in place of articulation to /w/ and /w̓/. The failure of Proto-Salish *w to shift in Lillooet and Thompson may be explained by the fact that they already have /ɣ/ in their phonemic inventories, which is a voiced velar obstruent that behaves like a resonant.[13] Producing /w/ closer to an obstruent, with a narrower constriction or more turbulent airflow, would bring it closer to the realization of /ɣ/. Thus, while Lillooet and Thompson underwent *y-shifting, /ɣ/ is a likely candidate to block a parallel development of Proto-Salish *w.

4   Future questions

Glottalization must also be considered in the treatment of resonants. There is a gap in the distribution of glottalized resonants in some Salish languages. Glottalized resonants do not occur word-initially in Comox-Sliammon (Blake

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[12] I set aside the Interior Salish languages, given that reflexes of *y are not palatal and *k > /č/ shift (or lack thereof) is likely less relevant. This is a question for future work.

[13] The presence of /ɣ/ in Lillooet and Thompson provides a potential explanation for why Proto-Salish *y developed into /z/, rather than an affricate. Already having a fricative-like resonant may have guided the development of Proto-Salish *y toward a similar manner of articulation to promote some sort of symmetry in the sound system.

2000) and are reportedly rare in Lillooet (Bird et al. 2008), which both underwent *y-shifting. However, Bird et al. (2008) also report that Thompson does not demonstrate a similar onset restriction, suggesting that there may be a more complicated interaction between glottalization and the word-initial position.[14] If the word-initial position was where *y-shifting originated, there may be a correlation with whether glottalization is licensed in a word-initial position and with what frequency it occurs.

Thompson and Sloat (2004) report stylistic alternations involving Proto-Salish *y that are outside the scope of this paper to consider, though they suggest a more complicated layer in its development. For example, the use of [y] or [ĭ] in Quinault in diminutive constructions corresponds to the degree of diminutiveness. Thompson and Sloat (2004) also report unexpected surface forms in the speech of characters in stories in Comox-Sliammon and Lushootseed, spirit-related speech in Straits, and female-related speech in Lushootseed. Other exceptions include adverbs, which are found to not always undergo the expected shifts in Lushootseed, Quinault, and Lummi, as well as in the semantic domain of garments in Lushootseed and Twana. It is unclear if the same applies for *w, though this is something that should be examined in future work. If the changes between Proto-Salish *y and *w are truly parallel, the reflexes of *w should also show similar stylistic alternations.

More generally, the development of Proto-Salish *w deserves further study. In this paper, I suggest the presence of /ɣ/ in Lillooet and Thompson may block *w-shifting. Though *ɣ is reconstructed in Proto-Salish, it only occurs in the Interior Salish languages (Kuipers 2002). Little is known about its acoustics, though Van Eijk (2011) speculates that it is articulated like a retracted [y] in Lillooet. Examining [ɣ] and contrasting it to [y] and [w] in these languages may prove useful in understanding why (or if) /ɣ/ would have blocked *w-shifting. The development of Proto-Salish *y and *w deserves further examination in the Interior Salish languages.

5   Conclusion

The evidence presented in this paper argues for a [SV] feature in Comox-Sliammon, rather than [voice]. Comox-Sliammon is a Type II language under Rice and Avery's (1989) typology of voicing systems. This is not consistent with reconstructing an intermediate voiceless obstruent between the Proto-Salish glides and the Comox-Sliammon voiced obstruents. Instead, it is more likely that [SV] was retained in their development, suggesting no intermediate step. More broadly, the actual identity of the resulting obstruents across different Salish languages appears to be influenced by the other ongoing changes and

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[14] Jimmie (1994) only lists one /ż/-initial root, żəχ. It is possible that word-initial glottalization is permitted in Thompson, but has a much more limited distribution for word-initial /z/ from Proto-Salish *y than other resonants.

their phonemic inventories. Overall, a laryngeal [voice] feature is not needed for a synchronic or diachronic analysis.

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A one (morpheme) by one (morpheme) approach to *paʔapyaʔ*: *-Vʔ-* as a temporal pluractional infix in Comox-Sliammon*

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Abstract: The Comox-Sliammon word *paʔapyaʔ* is translated as 'one by one' or 'one at a time'. Though previous work has not explored the semantic function of *paʔapyaʔ*, Matthewson (2000) finds that a cognate form in Lillooet (*pəlpálaʔ/pipálaʔ*) requires temporal distribution over events. An examination of Comox-Sliammon data suggests that *paʔapyaʔ* has similar temporal pluractional properties. *paʔapyaʔ* can be analysed compositionally as diminutive CV reduplication and a pluractional *-Vʔ-* infix applied to a numeral. The requirement for temporal distribution is attributed to the semantic contribution of the pluractional marker *-Vʔ-*. This analysis accounts for *paʔapyaʔ* as well as other 'X by X' constructions, like *saʔasyaʔ* 'two by two', and verbal predicates that take the *-Vʔ-* affix.

Keywords: Comox-Sliammon, event plurality, temporal distribution, pluractional marker, number

1   Introduction

Plurality can be marked on non-nominal predicates in Salish languages to refer to multiple events or subevents that can be distributed in some manner. Plural morphology on verbs can function semantically to convey pluractionality, which is defined by Lasersohn (1995:240) as "a multiplicity of actions, whether involving multiple participants, times, or locations".

Matthewson (2000) analyses a distributive element with pluractional properties in Lillooet, *pəlpálaʔ/pipálaʔ* 'one at a time', which can occur in a predicate/adverbial or quantifier position and requires temporal distribution over events.[1] Though cognate forms can be found in neighbouring Central Salish languages, including *pápəla* in Sechelt (Beaumont 2011) and *paʔapyaʔ* in Comox-Sliammon (Watanabe 2003), it is unclear if these cognates have the same syntactic and semantic properties as *pəlpálaʔ/pipálaʔ* in Lillooet.

In this paper, I provide a semantic analysis of *paʔapyaʔ* in Comox-Sliammon, a Central Salish language with approximately 36 fluent speakers

[1] Examples in this paper are given in or converted to APA to allow for easier comparison.

(FPCC 2014). First, I provide an overview of the syntactic distribution of *paʔapyaʔ* and compare its interpretation to Matthewson's (2000) generalizations about *pəlpálaʔ/pipálaʔ*, finding that it shows a similar preference for temporal distribution. Second, I describe the morphology of *paʔapyaʔ*, demonstrating how its meaning can be derived from the contribution of three morphemes. One of these morphemes is a -*Vʔ*- infix, which occurs with a wide range of lexical items and functions as a temporal pluractional marker. Though *paʔapyaʔ* can be treated under the same formal analysis as *pəlpálaʔ/pipálaʔ* when analysed as a whole, attention to the semantics of its composite morphemes suggests that the temporal pluractionality associated with *paʔapyaʔ* is more common in the language than has been previously described.

2   Data and generalizations about *paʔapyaʔ*

2.1   paʔapyaʔ: An overview

Watanabe (2003:503) ascribes the meanings 'one at a time' and 'one by one' to the lexical item *paʔapyaʔ* in Comox-Sliammon. The data in (1) is consistent with these definitions; *paʔapyaʔ* is translated into English as 'one by one' in (1a) and 'one at a time' in (1b).[2,3] The data given in this paper come from elicitation sessions with five fluent speakers of Comox-Sliammon and involve a combination of translations from English, translations from Comox-Sliammon, and the description of hand-drawn pictures.

(1)   a.   paʔapyaʔ   jə̀kʷ-t-as   θə̀kʷnačtən
              DISTRIB   paint-CTR-3ERG chair
              'She is painting the chairs, one at a time.'   PD

        b.   paʔapyaʔ   pəč-əm
              DISTRIB   wake-MDL
              'They (the children) woke up one by one.'   PD

The word *paʔapyaʔ* resembles the cognate *pəlpálaʔ/pipálaʔ* in Lillooet in form and translation, which Matthewson (2000) argues is a distributive element,

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[2] I gloss *paʔapyaʔ* as DISTRIB in Section 2, following Matthewson (2000). Other glossing conventions used in this paper are: 1 - 1st person, 2 - 2nd person, 3 - 3rd person, AINTR - active intransitive, CAUS - causative transitivizer, CONJ - conjunctive CTR - control transitivizer, DET - determiner, DIM - diminutive, ERG - ergative, FUT - future, IMPF - imperfective, INCH - inchoative, IND - indicative, MDL - middle, NTR - non-control transitivizer, PL - plural, POSS - possessive, PST - past, RED - unspecified CV reduplication, SG - singular, and TR - transitivizer. The • notation marks a reduplicant boundary.

[3] Determiners are often elided in Comox-Sliammon and so the absence of a determiner in any particular example should not be treated as significant. The syntactic structure of *paʔapyaʔ* sentences is often ambiguous in the absence of determiners. Additionally, the degree to which determiners are present varies across speakers.

occurring in DP-external and DP-internal positions while quantifying over events and requiring a temporal distribution. This paper explores whether the generalizations about *pəlpálaʔ/pipálaʔ* can be extended to *paʔapyaʔ* through a description of its syntactic distribution, semantic contribution, and morphological composition. Following this, a formal semantic analysis of *paʔapyaʔ* in one syntactic environment (DP-internal) is given.

2.2   The syntactic distribution of *paʔapyaʔ*

The expression *paʔapyaʔ* is found in DP-external and DP-internal environments in Comox-Sliammon. Examples of the former are given in (2) and (3), where *paʔapyaʔ* is in a DP-external position and occurs with either a subordinate or relative clause. In (2), *paʔapyaʔ* is predicative and takes a nominalized subordinate clause. In (3), *paʔapyaʔ* takes a headless relative clause.

(2)   paʔapyaʔ=səm   [kʷə=tᶿ   təqʷ-t=səm   tə   χʷaχʷit]
       DISTRIB=FUT   [DET=1SG.POSS   crack-CTR=FUT   DET   egg]
       'I will crack the eggs one at a time.'   MH

(3)   paʔapyaʔ   [tə   kʷa•kʷat-ig-an]
       DISTRIB   [DET   IMPF•pass.by-PL-1SG.CONJ]
       'One by one, they (the cars) passed by me.'   MH

An example of *paʔapyaʔ* within a DP is given in (4), where *paʔapyaʔ* occurs in a post-predicative, DP-internal position, forming a constituent with *tə χʷaχʷit* 'the eggs'.

(4)   yəp̓-ʔəm=tᶿəm   [paʔapyaʔ   tə   χʷaχʷit]
       break-AINTR=1SG.IND.FUT   [DISTRIB   DET   egg]
       'I will break the eggs one at a time.'   FL

The DP-internal structure in (4) is similar to the one that Matthewson (2000) analyses for *pəlpálaʔ/pipálaʔ*. She finds that *pəlpálaʔ/pipálaʔ* can modify events, despite occurring in a DP-internal position. Following Matthewson (2000), I provide an analysis that can account for the semantics of *paʔapyaʔ* in a DP-internal position, leaving the DP-external cases for future examination.

2.3   The semantic interpretation of *paʔapyaʔ*

In order to approach the analysis of *paʔapyaʔ* in a systematic way, I follow the general approach adopted by Matthewson (2000). Specifically, I assess whether *paʔapyaʔ* universally quantifies over individuals, requires all subevents to be distributed, and shows a preference for no temporal overlap between subevents.

Matthewson (2000) first explores the possibility that *pəlpálaʔ/pipálaʔ* functions like the English quantifier *each*, which universally quantifies over individuals. This hypothesis was disproved by data showing that *pəlpálaʔ/pipálaʔ* can be used felicitously in situations where not every

individual picked out by the DP participates in the action. While English *each* quantifies over individuals, requiring participation of all individuals in a set, *pəlpálaʔ/pipálaʔ* does not.

The word *paʔapyaʔ* in Comox-Sliammon resembles its Lillooet cognate, rather than *each* in English. As in Lillooet, *paʔapyaʔ* is acceptable in situations where not every individual in the denotation of the relevant DP partakes in the event. Two examples of this are given in (5), where *paʔapyaʔ* is permissible in a context where not every individual in the DP participates in the event. In (5a), only five of a total of six cups were broken, leaving one still intact and not subject to the breaking event. Similarly, there are a dozen eggs in (5b), but only four are cracked, as per instructions from a recipe, leaving eight intact.

(5)   a.   paʔapyaʔ   kʷaʔsta   yəp̓-t-an-uɬ
                DISTRIB   cup   break-CTR-1SG.ERG-PST
                'I broke the cups one by one.'
                Context: I have six cups and I break five of them.   JF

    b.   paʔapyaʔ   təqʷ-t-an   χʷaχʷit
                DISTRIB   crack-CTR-1SG.CONJ   egg
                'I broke the eggs one at a time.'
                Context: A recipe calls for four eggs, but I have a dozen.   EP

The difference from English *each* is clearer in (6), which shows that *paʔapyaʔ* can be followed by an explicit statement specifying an individual who does not participate in the action. This statement, given in parentheses, is optional.

(6)   paʔapyaʔ pəč-əm   ɬu   məm•mimaw (qəǰi ƛ̓əč̓t paʔa mimaw)
        DISTRIB   awake-MDL DET PL•cat   (still sleep one   cat)
        'The cats woke up one at a time (but one cat is still sleeping).'
        Context: There are five cats, four of them have woken up in succession throughout the day, but one has remained asleep.   JF

Two parallel English sentences are provided in (7), where *each* is not acceptable if all of the cats did not wake up. In a situation where only four out of the five woke up, using *each* is contradictory, regardless of whether this is made explicit or not. Thus, *paʔapyaʔ* does not universally quantify over individuals like *each*.

(7)   a.   # Each of the cats woke up.
    b.   # Each of the cats woke up, but one is still asleep.
           Context: You have five cats, and one is still asleep.

Matthewson (2000) also finds that *pəlpálaʔ/pipálaʔ* in Lillooet requires total distributivity across events. Her data shows that sentences with *pəlpálaʔ/pipálaʔ* are not accepted if the context includes a combination of distributive and non-distributive events. The Comox-Sliammon quantifier shows the same pattern. In (8), it is not felicitous to use *paʔapyaʔ* when describing putting away chairs if

two chairs were put away at the same time in the midst of cleaning up, even if all the other chairs were put away individually.

(8) #paʔapyaʔ θəkʷnačtən qə•qəms-at-as Gloria
     DISTRIB chair IMPF•put.away-CTR-3ERG Gloria
     'Gloria is putting the chairs away.'
     Context: Gloria puts one chair away, then another, then two together, and then the last one alone. JF

The example in (9), previously (5b), was felicitous if four eggs were cracked in succession, following a recipe. The same sentence is rejected if the same four eggs are involved, but two were cracked at the same time. This shows that *paʔapyaʔ* is not felicitous when one of the subevents is non-distributive, even if it happens to be the last event and all those before had been distributive.

(9) #paʔapyaʔ təqʷ-t-an χʷaχʷit
     DISTRIB crack-CTR-1SG.CONJ egg
     'I broke the eggs one at a time.'
     Context: The recipe calls for four eggs and I crack one egg, then another, before cracking the last two together (as a chef might). EP

Examples (8) and (9) suggest that the use of *paʔapyaʔ* in Comox-Sliammon requires events to be distributed in time. In Lillooet, Matthewson (2000) argues that *pəlpálaʔ/pipálaʔ* has a strong preference for temporal distribution. Similar tests in Comox-Sliammon show that this generalization can be extended to *paʔapyaʔ*. In (10), it is not acceptable to use *paʔapyaʔ* to describe squishing multiple worms at the same time. The sentence itself is grammatical and can be used in a situation where all the worms are squished, but the squishing of each worm must have happened separately in a distinct stepping subevent.

(10) #paʔapyaʔ ʔim-əxʷ-an t̓θit̓θik̓ʷ
     DISTRIB walk-NTR-1SG.ERG worm
     'I stepped on the worms.'
     Context: I squished five worms in one step. JF

The same is true of (11), where *paʔapyaʔ* is rejected in a context where all the doors of a car lock at the same time. However, it is acceptable to use *paʔapyaʔ* if each door is locked manually or if the locking event is part of a series of locking events, such as someone locking the doors of individual cars consecutively at a car dealership. The examples in (10) and (11) suggest that *paʔapyaʔ* is used in situations where events are temporally distributed, rather than just spatially.

(11) paʔapyaʔ   ləkli-t-as   ʔəm•ʔimin
     DISTRIB   lock-CTR-3CONJ   PL•door
     'She locked the doors.'
     Context: I went around and manually locked each door on the car.
     Context: I work at a dealership and I press buttons to lock each car.
    #Context: I pressed a button and all the doors locked on my car.   JF

Though a strong preference for temporal distribution of subevents is found for 'one by one' in both Lillooet and Comox-Sliammon, Matthewson (2000) does find that spatial distribution is marginally sufficient for the felicitous use of *pəlpálaʔ/pipálaʔ*, provided spatial distribution is emphasized. This is also the case in Comox-Sliammon, as *paʔapyaʔ* is permissible in a particular situation with an emphasized spatial, but not temporal, distribution. Though the sentence in (12) was explicitly rejected in a context where two guests arrived at a party at the same time and walked in side-by-side, it was acceptable if the two guests entered the house at the same time, but from different doors.

(12) paʔapyaʔ   qʷəl təs-uɬ   Kaining   higa   Daniel
     DISTRIB   come reach-PST   Kaining   and   Daniel
     'Daniel and Kaining arrived one by one.'
     Context: They entered different doors on opposite sides of the house at the same time.
    #Context: They entered through one door, side by side.   JF

While the example in (12) suggests that a spatial distribution may be sufficient to license the use of *paʔapyaʔ*, further elicitation is needed to understand whether this is systematic and how much emphasis needs to be put on spatial distribution in order for *paʔapyaʔ* to be accepted without temporal distributivity. Despite this, it is safe to conclude that *paʔapyaʔ* minimally requires spatio-temporal distribution. As in Lillooet, there is a strong preference for temporal distribution, such that subevents are non-overlapping in running times. While spatial distribution alone is generally rejected, such as in (10) and (11), almost every accepted *paʔapyaʔ* sentence involves temporally distributed events. This suggests that the function of *paʔapyaʔ* is quite similar to *pəlpálaʔ/pipálaʔ*.

3   The morphology of *paʔapyaʔ*

Though Matthewson (2000) notes that *pəlpálaʔ/pipálaʔ* is reduplicated, she analyses the word as a whole, rather than considering its parts. The equivalent Comox-Sliammon word is also morphologically complex. It follows from the principle of compositionality that the meaning of a morphologically complex word would come from the denotations of its composite morphemes. Further, I assume that word-formation processes add, but cannot remove, meaning, which follows from the principle of monotonicity (Koontz-Garboden 2007). In this section, I argue that *paʔapyaʔ* in Comox-Sliammon should be treated compositionally, as a combination of the meaning of its component morphemes.

A compositional treatment of *paʔapyaʔ* has the benefit of being able to account for other 'X by X' or 'X at a time' words. In (13), a set of words with the root *paʔa* 'one' are given, where the simple number has corresponding forms that mean 'just/only one' and one that means 'one by one'. These forms are systematic in their morphology; Watanabe (2003:503) analyses them with CV (diminutive) and CVʔV (meaning unknown) reduplication. In (13), the root vowel deletes in base and there is an alternation between /y/ and /ʔ/. See Footnotes 7 and 10 for a brief discussion of these phonological processes.

(13)   a.   paʔa   b.   pa•pyaʔ   c.   paʔa•pyaʔ
             one   DIM•one   RED•one
             'one'   'just/only one'   'one by one'

Forms that correspond to *paʔa* in (13) are provided in (14) for *saʔa* 'two' and *čalas* 'three' are provided in (14). As shown in Table 1, this regularity is found in other Central Salish languages, which also have 'X by X' constructions formed by reduplication, as shown in Table 1.[4]

(14)   a.   *saʔa* 'two'   *sasyaʔ* 'just/only two'   *saʔasyaʔ* 'two by two'
         b.   *čalas* 'three'   *čačlas* 'just/only three'   *čaʔačləs* 'three by three'

Table 1: 'one', 'one by one', 'two', and 'two by two' in Central Salish languages

	'one'	'one by one'	'two'	'two by two'
Comox-Sliammon	*paʔa*	*paʔapyaʔ*	*saʔa*	*saʔasyaʔ*
Sechelt	*pála*	*pápəla*	*t̓ám-šín*	
Twana	*dáhqas*	*dáqs*	*ʔəsále(h)*	*ʔəsásəle(h)*
Lushootseed	*dəč̓úʔ*	*dídidču*	*sáliʔ*	*saĺsaliʔ*
Klallam	*nə́c̓uʔ*	*nəc̓nə́c̓uʔ*	*č̓əsaʔ*	
Saanich	*nə́t̓θʔ*	*nət̓θnə́t̓θʔ*	*č̓aseʔ*	
Musqueam	*nə́c̓aʔ*	*nəc̓nánc̓aʔ*	*ʔiséĺə ~ ʔəséĺə*	*yəsyə́ýsələ*

Comox-Sliammon and Sechelt form a cognate set for 'one', while the other languages form another.[5] Despite different words for 'one', the 'X by X' construction is common in Central Salish languages and formed by reduplication in each, suggesting that it is not an idiosyncratic innovation restricted to particular languages, as suggested by Anderson (1999). It is also worth noting

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[4] Data in Table 1 comes from: Beaumont (2011) – Sechelt; Drachman (1969) – Twana; Bates, Hess, and Hilbert (1994) and Anderson (1999) – Lushootseed, Montler (2012) – Klallam; Montler (1986) – Saanich; and Suttles (2004) – Musqueam.

[5] Kuipers (2002) reconstructs **nak/*nk-uʔ* for 'one' in Proto-Salish. This root is found in some Comox-Sliammon words, such as *nač̓axʷ* 'one time' (Watanabe 2003:504). *paʔa* cognates are also found in Lillooet and Thompson (Anderson 1999).

that this construction, termed "distributive" by Drachman (1969), is attested in Twana up to the number ten, using -VC reduplication.[6]

Though the reduplication in 'X by X' forms reported in other Salish languages may be lexicalized, the construction appears to still be productive in Comox-Sliammon. Though its semantic function is difficult to ascertain, a CVʔV pattern is found in non-numerical lexical items. Previous work treats this as a single reduplicative process (e.g., Watanabe 2003) or a combination of reduplication and an *-L'-* affix (e.g., Blake 2000).[7,8] While I follow Blake (2000) in splitting the CVʔV sequence into a reduplicant (CV) and an affix (*-Vʔ-*), I treat the affix as an infix (instead of a prefix) and I propose that it has a more specific semantic function than just expressing a general sense of plurality.[9]

I assume the morpheme breakdown in (15). The unreduplicated numeral is *paʔa* 'one', while *papyaʔ* 'just/only one' has a diminutive CV reduplicant. The plural *-Vʔ-* infix is added to *papyaʔ* to yield *paʔapyaʔ*.

(15) a. paʔa   b. pa•pyaʔ   c. p<aʔ>a•pyaʔ
          one   DIM•one   DIM<PL>•one
          'one'   'just/only one'   'one by one'

While I follow Watanabe (2003:503) in assuming *papyaʔ* 'just/one only' has undergone diminutive CV reduplication, it is relevant to note that CV reduplication is also used to mark imperfective aspect and plurality. Imperfective reduplication can be set apart because it behaves differently from the other two in the phonology. Watanabe (2003) suggests that the base vowel in strong roots is retained in imperfective reduplication while it is deleted in diminutive and plural reduplication.[10] The result of this is that diminutive and

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[6] 'One' is an exception, but Drachman (1969) offers a phonological explanation for it.

[7] Blake (2000) treats the L' in this affix as an archiphoneme, which can be realized as [ẇ], [ẏ], [ʔ], and [ł]. She argues that this affix is cognate to a plural infix found in other Salish languages. The affix occurs with diminutive (CV), plural (CVC), characteristic (CVC), imperfective (CV), and inchoative (VC) reduplication. A future question is why this affix often occurs with reduplication. There may be phonological reasons for this.

[8] Watanabe's (2003:503) inclusion of word-final glottalization is consistent with *paʔapyaʔ* having diminutive CV reduplication, which shifts or assigns glottalization toward the right edge of the word.

[9] As the language has lost all prefixes aside from reduplicants, I find that it is more intuitive to treat this as an infix. Additionally, I choose to treat it as infixing (C<Vʔ>V), rather than prefixing/suffixing (CV-ʔV) due to its behaviour with other reduplicants.

[10] It is not immediately clear why there is a phonological difference between imperfective and plural/diminutive CV reduplication. Urbancyzk (2005) argues that the difference arises to enhance contrast between the reduplicated forms. Mellesmoen (2017) suggests that it is due to the diminutive (and likely plural) reduplicants being C_1 infixes. For consistency here, I follow Watanabe (2003) and gloss the imperfective, plural, and diminutive as C_1V reduplication.

plural CV reduplication are essentially homophonous.[11] Further, even with context, it can be hard to separate diminutive and plural reduplication on verbal roots. The semantic functions of CV reduplication need further exploration. For this reason, I gloss the combination of CV reduplication and the -*Vʔ*- affix as RED<PL> for non-numeral roots.

4   Analysis of *paʔapyaʔ*

Though the interpretation of *paʔapyaʔ* is comparable across different syntactic environments, the formal analysis pursued in this paper addresses *paʔapyaʔ* in a DP-internal position. As the interpretation and syntactic position of *paʔapyaʔ* parallel Matthewson's (2000) description of *pəlpálaʔ/pipálaʔ*, it follows that her analysis can likely account for both. The lexical entry she proposes is given in (16). It makes use of event semantics, in the style of Kratzer (2003), and Lasersohn's (1995) analysis of pluractional markers.

(16) $[\![p\partial lpála\ʔ]\!] = \lambda x \lambda R_{\langle e,st \rangle} \lambda e' \Big[\exists e_1 \ldots \exists e_n \big[e' = e_1 + \ldots + e_n \,\&\, \forall e_n \exists y [y < x \,\&\, atom\,(y)\,\&\, R\,(y)(e_n)] \,\&\, \forall e_n, e_m [\neg\, \tau(e_n) \circ \tau\,(e_m)] \big] \Big]$

<div align="right">(Matthewson 2000:109)</div>

The lexical entry in (16) states a sentence containing *pəlpálaʔ/pipálaʔ* is true of a plural individual x, a predicate R, and an event e' if and only if e' consists of multiple subevents and there is a plural individual made up of atomic subparts, and for each subevent there is an atomic individual who participates in that subevent. The group x is defined by the relevant DP. The lexical entry also defines a temporal condition, where the running time of subevents is represented with τ, which states that the running times of the events must not overlap.

Matthewson's (2000) analysis also makes the correct predictions for *paʔapyaʔ* in Comox-Sliammon. However, she analyses *pəlpálaʔ/pipálaʔ* as a single lexical entry and the relative semantic contribution of the number itself is not crucial to the analysis. As argued in Section 3, there is reason to treat *paʔapyaʔ* as a combination of three morphemes. This approach can be extended to other 'X by X' forms, while (16) can only account for *paʔapyaʔ*, and requires modification for *saʔasyaʔ* 'two by two' or *čaʔačlas* 'three by three'.

The 'X by X' words are decomposable into three morphemes: the number, the diminutive CV reduplication, and the plural -*Vʔ*- affix. To understand the contributions of each morpheme in *paʔapyaʔ*, it is necessary to examine some data where CV reduplication occurs on numbers without -*Vʔ*-. The sentences in (17) and (18) have CV reduplication and were translated with 'only' and 'just'.

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[11] Watanabe (2003:383–384) reports that there may be contrastive vowel length in the first syllable that serves to differentiate them, with the plural stative forms having a longer initial vowel. I have not yet found this in a preliminary acoustic examination.

(17) jǝkʷ-t-ig-as   pa•pyaʔ   θǝkʷnačtǝn
      paint-CTR-PL-3ERG   DIM•one   chair
      'They painted just one chair.'   JF

(18) sa•syaʔ   ʔim-ǝxʷ-an   t̓ᶿit̓ᶿik̓ʷ
      DIM•two   walk-NTR-1SG.ERG   worm
      'I stepped on only two worms.'
      Context: I stepped on two worms.
      #Context: I stepped on one worm.
      #Context: I stepped on three worms.   JF

Watanabe (2003:502) finds that diminutive CV reduplication on numbers can refer to an exact number of objects. When diminutive reduplication is applied to *paʔa* 'one', it means 'exactly one'. The same applies for *saʔa* 'two', which becomes 'exactly two'. The *sasyaʔ* sentence in (18) is only accepted if two, and only two, worms were squished. If three were stepped on, *sasyaʔ* is rejected, despite the fact it was technically true that two were squished. Diminutive reduplication on numerals forces an 'exactly' reading.

   In contrast, the sentences in (19) are provided as an example where the numbers 'one' and 'two' are used without additional morphology. The English translations do not include words like *just* and *only*.

(19) a.   yǝ•yč-it=čxʷ   k̓ʷaʔsta
           PL•fill-STV=2SG.IND   one   cup
           'You are pouring them into one cup.'
           Context: I have two cups that I am pouring together (with both
           hands) into a different cup.   FL

      b.   saʔa   χʷaχʷit   yǝq̓-aš-an
           two   1SG.ERG   use-TR-1SG.ERG
           'I am using two eggs.'   EP

Bare numerals can also have 'at least' interpretations. An example of this is given in (20), which shows that it is fine for a speaker to say she has two apples in a context where she has more than that. This means that the bare numerals may be used in situations where the context identifies a greater number, as long as there are at least two.

(20) saʔa   t̓ᶿ   ʔapǝls
      two   1SG.POSS   apple
      'I have two apples.'
      Context: You have three apples.   PD

To explain the difference between *paʔa* and the diminutive reduplicated *papyaʔ*, I adopt Krifka's (1999) proposal for numbers with alternatives. An example of

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this is given in (21) for *one* in English, where N is the set of all number words and the number words themselves are represented by numbers, such that $1(x)$ expresses that x is a total of one. Subscript A marks the set of alternatives.

(21) a. $[\![one]\!] = \lambda P \lambda x[1(x) \, \& \, P(x)]$
  b. $[\![one]\!]_A = \{\lambda P \lambda x[n(x) \, \& \, P(x)] \mid n \in N\}$

The standard interpretation, or meaning, of the lexical item *one* is given in (21a). In (21a), $[\![one]\!]$ requires that x refer to exactly one of something. However, the set of alternatives, represented by the denotation in (21b), allows for the inclusion of 'at least' and 'at most' readings. This reflects the fact that *one* can be used in situations where the amount is either greater or less than one, context-permitting. Examples of this in English are given in (22), where *I weigh 51 kilograms* can have an 'at most' or 'at least' reading if the context allows it. These represent alternatives to the standard interpretation. However, the alternatives are only available if they are appropriate in the context. Otherwise, the only permissible reading would be the standard interpretation.

(22) I weigh 51 kilograms.
  Context: I have qualified to compete in the 51kg weight class in   a wrestling tournament, where I must be under 51 kilograms at the time of the weigh-in to compete. I weigh 50 kilograms.
  Context: I want to compete in the 54kg weight class in a tournament. My coach says I must be at least 51 kilograms. I weigh 52 kilograms.

Assuming alternatives are available, though subject to pragmatic constraints, the difference between $[\![pa\mathit{ʔ}a]\!]$ and $[\![papya\hat{\mathit{ʔ}}]\!]$ can be explained as the loss of alternatives. However, the denotations must be modified to reflect the fact that numerals are cardinality predicates in Salish (Jelinek 1995). Denotations for the standard interpretations and alternatives are given in (23) for $[\![pa\mathit{ʔ}a]\!]$ and $[\![sa\mathit{ʔ}a]\!]$.

(23) a. $[\![pa\mathit{ʔ}a]\!] = \lambda x[|x| = 1]$
      $[\![pa\mathit{ʔ}a]\!]_A = \{\lambda x[|x| = 1] \mid n \in N\}$
  b. $[\![sa\mathit{ʔ}a]\!] = \lambda x[|x| = 2]$
      $[\![sa\mathit{ʔ}a]\!]_A = \{\lambda x[|x| = 2] \mid n \in N\}$

The application of the diminutive CV reduplication to a number results in the elimination of alternatives. Losing the possibility of alternatives leaves only the standard interpretation, which denotes an exact quantity. This would have the desired consequence of limiting *papyaʔ* to 'one and only one', while *paʔa* can mean 'at least one'. Denotations for $[\![papya\mathit{ʔ}]\!]$ and $[\![sasya\mathit{ʔ}]\!]$ are given in (24).

(24) a. $[\![papya\mathit{ʔ}]\!] = \lambda x[|x| = 1]$
  b. $[\![sasya\mathit{ʔ}]\!] = \lambda x[|x| = 2]$

The denotations given in (24) provide a way to adapt Matthewson's (2000) formula. She used atoms to limit individuals as required for the 'one by one' reading. In order to make it work for a broader range of numbers, the restriction 'atom (y)' in (16) should be traded for $|y| = n$, where n is a natural number and corresponds to the cardinality specified by the numeral root. This is demonstrated in (25) and (26), where the number of atomic individuals in a given event is limited to one and two.

(25)　$\llbracket pa\text{?}apya\text{?}\rrbracket = \lambda x\lambda R_{\langle e,st\rangle}\lambda e'\Big[\exists e_1 \ldots \exists e_n \big[e' = e_1 + \ldots +$
$e_n \,\&\, \forall e_n \exists y[y < x \,\&\, |y| = 1 \,\&\, R\,(y)(e_n)] \,\&\, \forall e_n, e_m[\neg\tau\,(e_n) \circ$
$\tau\,(e_m)]\big]\Big]$

(26)　$\llbracket sa\text{?}asya\text{?}\rrbracket = \lambda x\lambda R_{\langle e,st\rangle}\lambda e'\Big[\exists e_1 \ldots \exists e_n \big[e' = e_1 + \ldots +$
$e_n \,\&\, \forall e_n \exists y[y < x \,\&\, |y| = 2 \,\&\, R\,(y)(e_n)] \,\&\, \forall e_n, e_m[\neg\tau\,(e_n) \circ$
$\tau\,(e_m)]\big]\Big]$

The denotation in (25) states that a sentence containing *pa?apya?* will be true of a plural individual x, a predicate R, and an event e' if and only if e' is made up of subevents that do not overlap in running time. For each subevent, there needs to be a plural individual x, and for each subevent there must be a subpart of x which has a cardinality of one. The denotation in (26) has the same conditions, except the sum of the subparts involved in each subevent must equal two.

　　The analysis laid out here suggests the *-V?-* affix is responsible for the temporal pluractionality associated with *pa?apya?*. Neither $\llbracket papya\text{?}\rrbracket$ nor $\llbracket pa\text{?}a\rrbracket$ refer to plurality or temporal distribution. However, $\llbracket pa\text{?}apya\text{?}\rrbracket$ has the semantics given in (25) and requires that an event be comprised of a sum of subevents that do not overlap in time. This suggests that the pluractional component of the formulae in (25) and (26) must be attributed to the *-V?-* affix.

　　The denotation for $\llbracket$-*V?*-$\rrbracket$ is given in (27). The crucial difference from Matthewson's (2000) analysis of *pəlpála?/pipála?* is that the semantics of the reduplicated number have been incorporated. Formally, this involves substituting $|y| = n$ for the atomic condition.

(27)　$\llbracket$-*V?*-$\rrbracket = \lambda S_{\langle e,t\rangle}\,\lambda x\lambda R_{\langle e,st\rangle}\,\lambda e'\Big[\exists e_1 \ldots \exists e_n \big[e' =$
$e_1 + \ldots + e_n \,\&\, \forall e_n \exists y[y < x \,\&\, S(y) \,\&\, R(y)(e_n)] \,\&\, \forall e_n, e_m[\neg\tau\,(e_n) \circ$
$\tau\,(e_m)]\big]\Big]$

The formula in (27) allows for the derivation of *sa?asya?* and *ča?ačləs*, as well as *pa?apya?*. When $\llbracket$-*V?*-$\rrbracket$ is applied to a 'just X' form like $\llbracket papya\text{?}\rrbracket$, with the semantics in (24a), it results in the formula given in (25) for $\llbracket pa\text{?}apya\text{?}\rrbracket$. A 'one by one' reading arises from the combination of the semantics of 'just one' with event plurality and a restriction on temporal overlap. The pluractional and

distributive qualities associated with *paʔapyaʔ* can be attributed to the *-Vʔ-* affix, meaning *-Vʔ-* is a pluractional marker requiring temporally distributed events.

5   Further evidence for a temporal pluractional *-Vʔ-* infix

Characterizing *-Vʔ-* as a temporal pluractional marker is supported by its occurrence with other lexical items, where it is associated with similar temporal conditions to those in (27). An example of this is given in (28), where the *-Vʔ-* infix occurs with the root *yəm-* 'to kick'.

(28)   y<iʔ>i•ym-t-as
        RED<PL>•kick-CTR-3ERG
        'She is (repeatedly) nudging him.'   EP

Treating the *-Vʔ-* affix as a temporal pluractional marker leads to the prediction that verbs with it should be subject to the same requirement for temporal distribution as *paʔapyaʔ*, but number should be irrelevant. This follows from the proposal to treat *paʔapyaʔ* compositionally, where the denotation of root *paʔa* 'one' contributes to the overall meaning of the word. Without *paʔa* 'one', there should be no numerical limit on the distribution of the event across individuals.
        This prediction turns out to be valid, as shown in (29), where the same verb is shown with and without the *-Vʔ-* affix. In (29a), the affix is absent and the sentence describes a group of children who are all sick. In (29b), with the affix, the sentence refers to children who got sick in sequence. The "getting sick" event is temporally distributed across individual children.

(29)   a.   ʔuk̓ʷ   kʷə•k̓ʷt-im   čəy•čuy
              all   PL•sick-MDL   PL•child
              'All the children got sick (at the same time).'   JF

        b.   ʔuk̓ʷ   kʷ<iʔ>i~kʷt-im   čəy•čuy
              all   RED<PL>•sick-MDL   PL•child
              'All the children got sick (one after another).'   JF

A further example, with a transitive verb, is given in (30). Multiple brushes can be dipped in water at the same time with the *-Vʔ-* affix, as long as the action is repeated, showing that argument number does not affect its acceptability.

(30)   ƛ<iʔ>i•ƛm-i-t-as   brushes
        RED<PL>•wet-STV-CTR-3ERG   brushes
        'She is wetting all the brushes, repeatedly / #one time.'
        Context: Dipping a bunch of paintbrushes in water to get them wet. JF

If temporal distribution comes from the semantic contribution of *-Vʔ-*, temporal overlap should be acceptable for forms without it. The example in (31) with *papyaʔ* and *paʔapyaʔ* shows that a reduplicated numeral without *-Vʔ-* is accepted if two people are painting the same chair together. This situation involves

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temporal overlap, as the painting event is only distributed across participants who are participating simultaneously in the painting event. This temporal overlap is incompatible with *paʔapyaʔ*, as expected.

(31) Daniel higa Gloria ǰəkʷ-t   pa•pyaʔ/#p<aʔ>a•pyaʔ   θəkʷnačtən
      Daniel and Gloria paint-CTR DIM•one/#DIM<PL>•one   chair
      'Daniel and Gloria were painting the one chair.'
      Context: A single chair with two people painting it.   JF

Similarly, *saʔasyaʔ* 'two by two' also requires temporal distribution. In (32), two worms are crushed in one step and the form with *-Vʔ-*, requiring that subevents do not overlap, is rejected. Note that *sasyaʔ* is accepted in this context.

(32) sa•syaʔ/#s<aʔ>a•syaʔ   ʔim-əxʷ-an   tᶿitᶿik̓ʷ
      DIM~two/#DIM<PL>~two   walk-NTR-1SG.ERG   worm
      'I stepped on just two worms.'   JF

If *-Vʔ-* is a temporal pluractional marker, another prediction is it should be compatible with readings with varying temporal distance between events. If the restriction is just about overlap, it should not matter if the events are immediately sequential or spread out over a wider, or more sporadic, range of time. This prediction is supported by the data in (33–35), as *-Vʔ-* occurs in a situation where the events are minimally spaced out in (33), confined to a specific time range without a given interval in (34), and with an unconstrained time range but structured interval in (35).

(33) ɬ<uʔ>u•ɬ̓-ut
      RED<PL>•sip-CTR
      'sipping'
      Context: The drink is really hot; you take a lot of little sips because you're impatient.   FL

(34) tih-mut=č   p<iʔ>i•pč-əm   snat-uɬ
      big-very=1SG.IND   RED<PL>•wake-MDL   tonight-PST
      'I kept waking up last night.'   JF

(35) paya   p<iʔ>i•pč-əm   čuy
      always   RED<PL>•awake-MDL   child
      'The child is always waking up.'
      Context: Every night, the baby wakes up at four and starts crying.   JF

Further, there is no reason to suspect that *-Vʔ-* would affect the rate and duration of the event, given that it only stipulates that subevents should not overlap. This seems to be the case. The temporal pluractional affix co-occurs with the

temporal adverbials *ƛ̓imut* 'very quickly', *hahaysmut* 'very slowly', and *χuχmut* 'for a very long time' in (36).

(36) ƛ̓i-mut/hahays-mut/χuχ-mut   kʷ<i>i•kʷt̓θ-əm
      quick-very/slow-very/long.time-very   RED<PL>•jump-MDL
      'She jumped quickly/slowly/for a long time.'   JF

In the absence of time adverbials, however, the unmodified form can be associated with a slower rate. One consultant translated *paʔapnaʔam* in (37) as 'digging slowly'.[12]

(37) p<aʔ>a•pn-aʔam
      RED<PL>•bury-AINTR
      'digging slowly'   JF

The slow rate associated with (37) may come from the semantic contribution of CV reduplication, rather than the *-Vʔ-* infix. As mentioned in Section 3, plural and diminutive reduplication are homophonous in Comox-Sliammon. It is not clear whether (37) should be analysed as having a diminutive or plural reduplicant. However, it is possible that the reduced rate in (37) can be attributed to the function of the diminutive.

A final prediction is that the pluractional *-Vʔ-* affix might be incompatible with individual-level predicates, as it requires a kind of repetition or temporal distribution that is not typical of this type of lexical item. However, (38) shows that the *-Vʔ-* affix can occur in individual-level predicates, with eye colour.

(38) kʷ<i>i•kʷsim+awus
      RED<PL>•blue+eye
      'Eyes keep changing.'
      Context: Colour contacts are put in and taken out, changing my eye
      colour from blue to brown to blue to brown, etc.   JF

The form in (38) is typical of aspectual coercion, where event plurality is applied to an individual-level predicate. Forms like this are only accepted with very specific (and generally odd) contexts.[13] Given the limited data available right now, I conclude that *-Vʔ-* is only marginally acceptable with individual-level predicates. In many cases, attempts to add the *-Vʔ-* affix to an individual-level predicate were rejected or corrected, as in (39).

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[12] The form in (37) was translated as 'planting a little, here and there' by PD.
[13] Their acceptability may relate to the amount of patience the consultant had with me. In one session, things like (38) were readily accepted and produced. But, in the next session, more were rejected and she was more tentative about acceptable ones, even if she attributed the expected meaning to suggested forms.

(39) * ṗiʔi•ṗθ
    RED<PL>•black
    'Things that are changing colour (from black).'
    Consultant: ʔukʷ   pə•pθ•əθ   qʷəł•qʷəłayšin
                  all   PL•black•INCH   PL•shoe
                  'All the shoes are getting black.'   JF

The patterns observed for *paʔapyaʔ*, other 'X by X' forms, and other predicates
with *-Vʔ-* are consistent with treating *-Vʔ-* as a temporal pluractional marker.

6   Remaining questions

A problem for labelling *-Vʔ-* as a pluractional marker arises from diminutive
plural forms of a noun with CV reduplication and something resembling the *-Vʔ-*
affix, as in (40). If *-Vʔ-* is pluractional, it is unclear why it occurs with nouns.

(40)   a.   t<iʔ>i•tkʷəɬi   b.   m<iʔ>i•mʔin
             DIM<PL>•rabbit   DIM<PL>•carrot
             'small rabbits'   'small carrots'
                                              (Watanabe 2003:401–402)

The data in (40) is not necessarily problematic for the present analysis though,
as this construction occurs with relatively few lexical items. The diminutive
plural can also be formed by combining CV diminutive and CVC plural
reduplication or by using *titul* 'small' or *qəχ* 'lots'. Phrases with *titul* 'small' and
qəχ 'lots' are most commonly produced. The diminutive plural with *-Vʔ-* may be
highly lexicalized. The degree to which it challenges this analysis is unclear.

    Finally, the formal analysis laid out in Section 4 accounts for the DP-
internal use of *paʔapyaʔ*, leaving the DP-external cases for future work. Though
the interpretation of *paʔapyaʔ* appears to be constant across syntactic
environments, a compositional analysis will need further adjustment to account
for the fact that *paʔapyaʔ* can take either a subordinate clause or relative clause.

7   Conclusion

In this paper, I have argued that *paʔapyaʔ* is very similar to the corresponding
Lillooet lexical item *pəlpálaʔ/pipálaʔ*, described by Matthewson (2000). Though
this cross-linguistic comparison served as the foundation for a formal analysis,
paʔapyaʔ in Comox-Sliammon can be analysed as the combination of a
diminutive and pluractional morpheme operating on a numeral. The requirement
for the event to be a sum of subevents with non-overlapping running times is
attributed to the semantic contribution of a temporal pluractional marker *-Vʔ-*,
rather than *paʔapyaʔ* itself. This analysis has the benefit of being able to account
for other 'X by X' constructions, like *saʔasyaʔ* 'two by two', and verbs that take
the affix with a similar iterative interpretation. The data presented in this paper
provide evidence that *-Vʔ-* functions as a temporal pluractional marker.

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Vestiges of Tsimshianic and other Penutian in Bella Coola

Hank Nater

Abstract: Bella Coola is a Salish language that has been heavily influenced by North Wakashan, while more than half of its free morphemes and about a third of its bound morphemes have no known origin. In this paper, I identify possible Tsimshianic matches for some of these morphemes, and evaluate relations within Bella Coola-Tsimshianic-other NW Pacific sets of like forms as well. I also contemplate a Tsimshianic origin for vowel length in Bella Coola, and examine a few connections with coastal Oregon Penutian languages.

Keywords: Bella Coola, Tsimshianic-Penutian, diffusion, lexical and structural copying, trade and migration patterns

1   Introduction

In native Bella Coola, we find an amalgamation of populations from Stuie (1), Kwatna (2), the head of Dean Channel (3), the head of South Bentinck Arm (4), locations along North Bentinck Arm (5), the Bella Coola valley (between 1 and 5), the Dean River area (east-southeast of 3), Dean Channel (south-southwest of 3 and east of Ocean Falls), Kwatna River (east of 2), and South Bentinck Arm (north-northwest of 4) (numbers correspond with the ones in Figure 1). Denizens of this region spoke the Salish language we now call Bella Coola or Nuxalk.
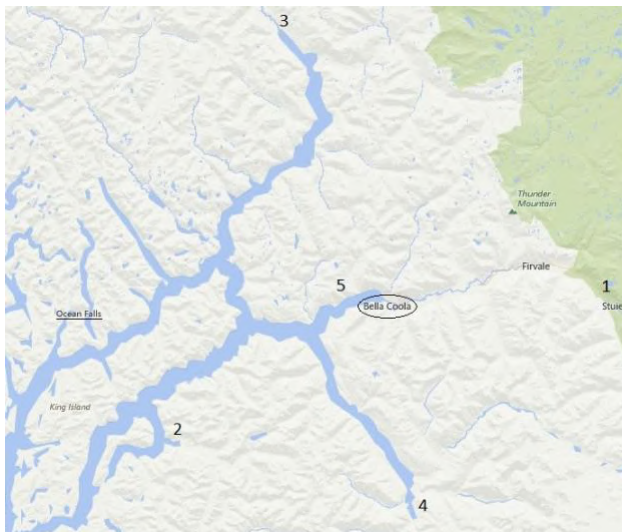
Figure 1: Bella Coola language region (based on bing.com/maps)

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In regard to physical, cultural, and linguistic traits of the Bella Coola people, Franz Boas (1898:26,122–126) saw a close affinity between Bella Coola and Coast Salish on the one hand, and between Bella Coola and North Wakashan on the other. But it was not until much later that areal properties of Bella Coola lexicon as such were addressed in detail, i.e., when Stanley Newman (1973) deliberated the North Wakashan origin of a portion of Bella Coola vocabulary. In 1974, I presented my first account of lexical similarities between Bella Coola and Heiltsuk (Bella Bella), and in 1994, 2010, and 2013, I expanded and adjusted Newman's findings, and cited unique links that indicate southern maritime origins of the Bella Coola (see Section 4.3 for details). Evidence for one such origin is given by Boas himself, who refers to an oral tradition that mentions the location of *Naws* (Bute Inlet, 226 km south of Bella Coola):

> … the Sun created a number of men whom he sent down … Another group of men was sent down to Bute Inlet, and later on migrated to Bella Coola River. (Boas 1898:50)

> Anoxema′axōts, Spānpaʟtnaiʹxꞏ, Ōʹʹmeaʟkꞏas, Ōʹʹmeaʟmai, and Nanaʹtskuiʟ were sent down to Naʹus. They desired to move to Nuxaʹlkꞏ!, and travelled overland until they reached the mountain Nusq!ɛʹlst, where they found stones for making axes. (Boas 1898:70)

This myth may be based on one or more of a number of events: slaves escaping or being liberated, feuding and warfare, banishment, emergency evacuations (fires, earthquakes, tsunamis), etc. As for the five individuals mentioned by Boas, the names Ōʹʹmeaʟkꞏas, Ōʹʹmeaʟmai, and Nanaʹtskuiʟ are not analyzable within Bella Coola, and look North Wakashan: cf. Kwakwala √ʔwm 'mortal, ordinary' (-*ił-kas* and -*ił-may*, both also originally North Wakashan, recur in the names *Kaniłkas* and *Kaniłmay*) and Heiltsuk *nánáskʷṃala* 'to hang over one's face (said of hair)' (Lincoln & Rath 1980). I recorded the name *Naws* myself in 1972 as referring to a place mentioned in a *Sniniq'* myth. (But geographic and other particulars of *Naws* were ostensibly unknown to my Bella Coola language consultants.) *Sniniq'* has a North Wakashan origin as well: cf. Oowekyala-Kwak'wala *ʒunuqʷa* 'Sasquatch' (√*ʒuqʷ* 'to pucker lips') (Lincoln & Rath 1980). In line with the overall North Wakashan aspects of these *Naws* myths (including the location of Bute Inlet), the place name *Naws* itself has a North Wakashan appearance: cf. Heiltsuk *'Náwís* 'name of Nowish Inlet on Roderick Island' and/or *Náwís* 'name of a place on Hunter Island' (Rath 2010).

My 1974–2013 records suggest that the Bella Coola (a pre-Coast Salish division, see Nater 2013) began, arriving from the south prior to and while settling in the area outlined in Figure 1, to interact with other populations in the following regions: southwest of the head of South Bentinck Arm (Ooweekeno: lexicon, loss of distinctive stress and schwa), west of Kwatna (Heiltsuk: lexicon), east of Stuie (Athabascan: lexicon, other phonological developments), and north of the head of Dean Channel (Haisla: lexicon). (For other scenarios, see Baker 1973:77–79.) But as far as northern contacts other than Haisla are concerned, I have to date seen

little linguistic evidence of frequent interaction with speakers of Tsimshianic languages, even though some Tsimshianic villages were once located rather close to Bella Coola-speaking communities (e.g., the village of *Sucl* was separated from Kitlope by less than 80 km of grease trail). However, Boas writes that there are myth-related and cultural links with Tsimshianic:

> It is very remarkable, that, besides the ancestors of the villages enumerated here, the Bella Coola state that the Sun created a number of men whom he sent down to a mountain on Skeena River, and that they became the ancestors of a part of the Tsimshian.[1] (Boas 1898:50)

> The prayers of the Bella Coola directed to Sᴇnx or Tāʹata bear a remarkable resemblance to the prayers of the Tsimshian directed to Laxha, the sky. In both tribes we find the idea that when the Sun wipes his face it will be clear weather … (Boas 1898:126)

Boas' remarks call for a continued investigation into Bella Coola-Tsimshianic lexical resemblances. In the examination carried out in Section 2 below, I cite forms from proto-Tsimshianic (Tarpent 1997 and p.c.) and three surviving Tsimshianic variants (North Tsimshian (= Dunn's Sm'algyax), Nisqaʔ, and Gitksan) where they are available. Tarpent (p.c.) places North Tsimshian and Sgüüχs (the latter is now extinct) within a Maritime Tsimshianic branch, and classes Nisqaʔ and Gitksan as Inland Tsimshianic, at the same time deeming Nisqaʔ and Sgüüχs more conservative than Gitksan and North Tsimshian.

In Section 3, I aim to show that Bella Coola vowel length has evolved via Tsimshianic pre-glottalization, and in Section 4, links between Bella Coola and Tsimshianic, between older Bella Coola and pre-Tsimshianic, and between pre-Bella Coola and other Penutian, are considered.

2   Bella Coola-Tsimshianic similarities

In Sections 2.1–2 below, I list Bella Coola morphemes that can be linked with Tsimshianic. In most cases, the copying direction appears to be either Tsimshianic → Bella Coola or Bella Coola ← substrate → Tsimshianic, but ten morphemes are also matched in Wakashan (with two in Quileute and one in Tlingit as well), while 'rabbit' is originally Tlingit-Eyak-Athabascan, and Tsimshianic 'to sweep' and 'to crack' may have a substrate or Salish origin. Where a resemblance may appear opaque, the common sequence is contained in curly brackets (entries 7, 20, 23).

The Bella Coola phonemes are:

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[1] The Skeena is located – as the crow flies – 383 km north of Bella Coola.

p	*t*	*c*		*k*	*q*	*kʷ*	*qʷ*	
p'	*t'*	*c'*	*λ'*	*k'*	*q'*	*k'ʷ*	*q'ʷ*	*ʔ*
		s	*ł*	*x*	*χ*	*xʷ*	*χʷ*	*h*
m	*n*		*l*	*y*			*w*	
m̥	*n̥*		*l̥*	*i*			*u*	*a*

Figure 2: Bella Coola phoneme inventory

Tarpent (1997:70) tentatively reconstructs the proto-Tsimshianic consonant inventory as follows:

*p	**t*		**ts*	**k*	**kʷ*	**q*	**qʷ*		
*p'	**t'*		**ts'*	**k'*	**k'ʷ*	**q'*	**q'ʷ*		
		*ł	**s*	**x*		**χ*	**χʷ*		
*m	**n*	**l*		**y*	**w*			**h*	**hʷ*
*m'	**n'*	**l'*		**y'*	**w'*			**ʔ*	**ʔʷ*

Figure 3: Proto-Tsimshianic consonant inventory according to Tarpent (1997)

Bella Coola χ^w corresponds with current Tsimshianic χ deriving from proto-Tsimshianic $^*\chi^w$ (entries 1 and 11); current Tsimshianic [xʷ] varies freely with [χʷ] (entry 8); Bella Coola plain stop = Tsimshianic voiced stop:

> The modern Tsimshianic languages have no labialized postvelar series (…), since labio-uvulars merged with uvulars. … CT has only *X*; others also have *x, xw ~ Xw*. CT and ST also have glides *ü* and *ü'*, central, unrounded counterparts of *w* and *w'*. Plain stops are usually allophonically voiced before vowels.[2] (Tarpent 1997:70)

The geo-linguistic setting of Tsimshianic is as shown in Figure 4 below (which shows a large portion of Bella Coola territory (in white) to the east of Heiltsuk). Sgüüχs was once spoken at Klemtu, which is located behind the letter *u* in the word *Heiltsuk* at the bottom of the map shown below.

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[2] CT = Coast Tsimshian = North Tsimshian, ST = South Tsimshian = Sgüüχs
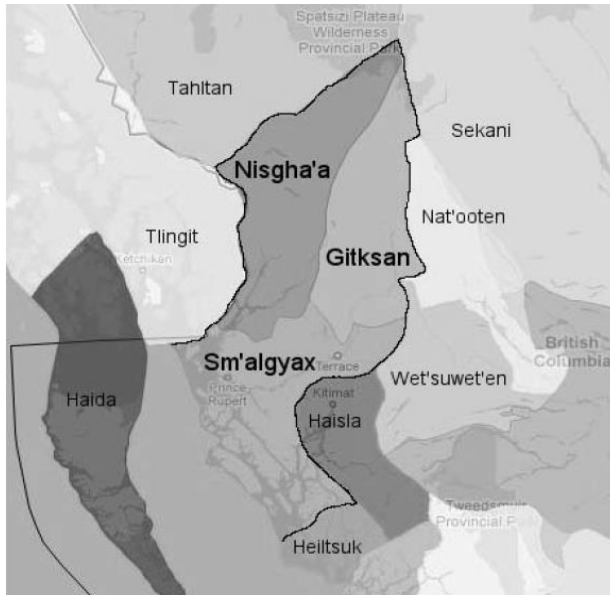
Figure 4: Tsimshianic and neighboring languages (Peterson 2010:7)

2.1 Bella Coola–Tsimshianic common lexicon and bound morphemes

In Nater 2013, I linked four Bella Coola words with North Wakashan or Salish rather than with Tsimshianic, while other connections with Tsimshianic also remained undetected. Thus, *ʔaχʷ* 'not' was believed to derive from older Salish **hawq*, *naχnχ* 'mallard duck' was linked with Heiltsuk *n(i)snáq*, *saaχʷan* 'tidal flats' with Haisla *sàɢʷan* 'grass', and *χaχaqʼ* 'goose' with Heiltsuk *hńɢáq*. These etymologies are revised here, and new ones are added.[3, 4]

    (1)   BC *ʔaχʷ, ʔaχ…* 'not' (pre-predicative particle), 'it is not (so), there is no …' (verb stem) = Ni (F) *ʔaχ-* 'not' (pre-predicative prefix)

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[3] Abbreviations used hereafter are: BC = Bella Coola, C = consonant, Ch = Upper Chehalis, Gi = Gitksan, F = FirstVoices, H = Hindle & Rigsby (1973), Ha = Haisla, He = Heiltsuk, K = Kuipers (2002), L = Lincoln & Rath (1980), N = Newman (1973), Ni = Nisqaʔ, NT = North Tsimshian (source: Dunn 1995), NW = North Wakashan, Oo = Oowekyala, P = Peterson (2010), PT = proto-Tsimshianic, R = Rath (2010), TEA = Tlingit-Eyak-Athabascan, tr. = transitive, Ts = Tsimshianic, V = vowel.

[4] While prevocalic plain (allophonically voiced) stops are usually rendered as *bV*, *dV*, *gV*, etc. (Dunn 1995, FirstVoices, Hindle & Rigsby 1973, and in part Peterson 2010), I write phonemically, concurring with Tarpent (1997), *pV*, *tV*, *kV*, etc. in Sections 2.1 and 2.2 (where *c* equals Tarpent's *ts*). However, there is a marginal *plain vs. aspirated* contrast in NT: *taagan* [tʰa·ɢán] 'planking' vs. *daaw* [da·w] 'frozen', *puksk* [pʰukskʰ] 'spit' vs. *bu'il* [búʔɪl] 'warn', *kyooxt* [cʰo·χtʰ] 'grass' vs. *gyoos* [ɟo·s] 'algae' (Dunn 1995).

Allomorphic *ʔaχ* is in BC found before *_kʷ...* and *_k'ʷ...*: *ʔaχ_kʷ* 'I heard that is not so', *ʔaχ_kʷu* 'but that is not so', *ʔaχ_k'ʷ* 'that is never so'. Ts origin: Tarpent (p.c.) relates *ʔaχ-* to *ʔaq* 'not to be'.

(2) BC *cap* 'bone' = Ni (F, T:88) *c'ip*, Gi (H) *sip*, NT *sayp*
BC *cap* appears to be a hybrid of the different Ts forms.

(3) BC *muχʷmuχʷ-łt'-uł-ikan-ta* 'large earrings' = Gi (H) & Ni (F) *maχmuxʷ* 'earrings', Gi (H) & Ni (F) *muxʷ* 'ear(s)'
The BC word is an unusual compound consisting of an unidentifiable noun + verb ('?-attach with a hook') followed by *-uł-ikan-ta* 'bulky-ear-gadget' (cf. entry 27). √*muχʷmuχʷ* certainly has been copied from Ts.

(4) BC *naχnχ* 'duck' = Ni (F) *naχnaaχ*, Gi (H) *naχnaaχt*
PT or substrate origin (and cf. Nootkan (Davidson 2002) *na·ḥt'ač*).

(5) BC √*pakʷ* 'having been reached, joined, caught up with' = Gi *pakʷ* 'arrive pl.' (H, P:32), Ni *pakʷ* 'return pl.' (F)
PT or substrate origin. The BC stem is found in *pakʷ-nix* reached-NC.TR 'catch up with somebody' and *pakʷ-n-m̥axʷ* reached-NC-RECP 'arrive together'.

(6) BC *qaaχ* 'salmonberry', *qaaχaaχ-łp* 'salmonberry bush (-łp)' = NT *qaχaaχ* 'berries in bloom'
Definitely NT origin. BC *qaaχaaχ-łp* is structurally close to NT *qaχaaχ*, which according to Tarpent (p.c.) may consist of *qa-* noun-forming prefix and **χaaχ* = Ni *χeeq* 'blossoms' (= NT *χéeχ* 'foam', cf. entry 9).

(7) BC *{qacq}ił* 'ant' = NT *{qasq}acaχ*, Gi *s{qansq}ocinχt* (H), Ni (F) *{q'asq'}ocinχ*
The formal diversity within Ts suggests a PT origin (cf. entry 2 for glottalization in Ni). BC …*ił* is fossilized *-ił* 'ring-shaped', and *qacq…* may also be linked with *qacχ* 'starfish' (entry 23).

(8) BC *saaχʷan* 'tidal flats' = Gi (H) & Ni (F) *saxʷ* 'mouth of a river'
PT or substrate origin. For Ts [xʷ] ~ [χʷ], see comments after Figure 3. BC …*an* is fossilized *-an* (various glosses).

(9) BC *xʷiq'* 'cow parsnip' = Ni & Gi *χeeq* 'sea foam, foamy white blossoms (e.g., those of cow parsnip or elder)' (Tarpent, p.c.)
Here, Ts appears to have copied from BC, via **xʷeʔq* ~ **χʷeʔq* (for pre-glottalization see Section 3, while [xʷ ~ χʷ] alternation and unrounding is discussed by Tarpent under Figure 3). Cf. entry 6.

(10) BC *χαχaq'* 'goose' = NT *haʔa, haʔq, haaʔq*, Gi (H) & Ni (F) *haq*
PT or substrate origin. For BC *q'* = NT *ʔq* see Section 3.

(11) *χʷsan-im* 'gambling game' = Gi (H), Ni (F), NT *χsan* 'gamble'
PT, substrate, or BC (cf. Nater 2013, entry 557) origin. Regular
unrounding of *$*\chi^w$ in Ts. BC *-im* 3SG.PASS is found in a number of
nouns denoting useful or enjoyable things: *knix-im* eat-3SG.PASS
'food', *qaaχla-m-im* drink-APPL-3SG.PASS 'beverage', *nu-ʔakʷn-als-
im* inside-buy-space-3SG.PASS 'store'.

Below, I list a number of BC bound morphemes that have been copied from Ts:
a deictic root, three enclitics, and four prefixes (two of which – as entry 17 –
appear related).

(12) BC √*ʔaw(a)* 'in area, nearby' = Ni & Gi *ʔawáʔ* (Tarpent, p.c.)
PT origin.

(13) BC *ʔit-* 'to speak the language of …' = Ni (Tarpent, p.c.) *ʔit-kʷ* 'to
name', *ʔit-im-* 'to utter, call out'
PT origin. Ni *ʔit-* is isolable as per Tarpent (p.c.).

(14) BC ‿*ma* 'maybe, possibly, likely' = Gi & Ni (P:57-63) ‿*ima*
PT origin.

(15) BC ‿*mas* 'likely, inclined to' = Gi (P:140) ‿*ima‿s* 'might, must have
…'
PT origin. Gi ‿*ima‿s* = ‿*ima* + ‿*s* (a noun determiner) (P:140).
Unlike BC ‿*ma* and Gi ‿*ima(‿s)*, BC ‿*mas* conveys, besides
possibility/likelihood, an additional sense of frustration: *cutnu‿mas* 'I
knew you might say that, you always say that', *ʔaχʷ‿mas ʔixʔakʷkʷas*
'I don't expect him to do any shopping, he never does the shopping'.

(16) BC *sm-* 'from the very start, totally, truly' = Ts *s(i)m-* 'real, genuine'
PT origin. BC *sm-* combines with verbo-nominal stems: *sm-yalxs* 'he
got better right away', *sm-ʔałʔatma* 'he was already dead', *sṃ-nṃnṃ-
uuc* absolutely-obstructed-mouth 'mute'.
Tarpent (p.c.) disagrees, deeming BC and Ts *sm-* too dissimilar
semantically to be related.

(17) BC *sta(m)-* 'beside, together with', *sti-* 'asymmetrical, one-sided' =
Ts *st…* 'companion, half of symmetrical items' (Tarpent, p.c.)
PT origin. Tarpent states that *st…* is "common in some Northern
Penutian with 'dual' meaning."

(18)   BC ˌck, ˌcki 'I assume that…, I'm almost sure it is …, it has to be …'
        = Ni *ski* 'circumstantial (weak) necessity' (Matthewson 2013:380–
        385)
        PT origin.

2.2   Bella Coola-Tsimshianic-Other common lexicon and one prefix

We will now examine multilateral resemblances. The direction in which material
was copied is here not always easily determined. Did elements diffuse from
language A to language B to language C, did they spread from A to B and C, did
the shared element come from a substrate language X, etc.? Below, I posit copying
directions where they appear to be implied by structural or other factors. Haisla
data are from Lincoln & Rath 1986, Nootkan data from Davidson 2002, Quileute
data from Powell & Woodruff 1976.

(19)   BC *hawhaw* 'mythical bird' = NT *hawhaw* 'fabulous monster' = Oo
        hauhaukʷ 'mythical bird' (Rath, p.c.)
        Oo *hauhaukʷ* is derived from √*hwkʷ* (L). Oo → BC → NT.

(20)   BC *c'ikʷʼicʼ* sea urchin' = Ni (F) *c'ikʷʼicʼ*, NT *cükʷiic* = He (R)
        c'kʷʼicʼ, c'kʷʼísa = Quileute *{ci~ckʷ}ókʷaʔ* (and cf. Nootkan √*kʷʼič*
        'spiny')
        A widely diffused term. Either originally NW (from where it would
        have diffused to Ts, BC, and Quileute) or of substrate origin.

(21)   BC *łaqʼs* 'seaweed' = Gi (H) *łaqʼasxʷ*, Ni (F) *łaqʼaskʷ*, NT *łaʔask* =
        Ha *łaqʼs, łaqʼsg* (NW (L) √*łq*) = Tlingit *łaaqʼásk* (Edwards 2009)
        łaqʼ(a)s has likely been copied from Ts to NW and Tlingit, and from
        Ha to BC: Tarpent (p.c.) posits PT *łaq-ʔ[a]s-kʷ = √*łaq-*
        ANTIP+epenthetic [a]-formative suffix.

(22)   BC *plχani* 'abalone' = NT *pilhaa*, Gi (H) & Ni (F) *pilaa* = Ha *plχʔà*
        Either of substrate origin, or copied from Ha to Ts and BC.
        Formative suffix *-ani* added in BC.

(23)   BC *qacχ* 'starfish' = Gi (H) *{qasq}aac* = Oo (R) *ɢacχ* (NW (L)
        √*ɢaʒ/c/s*) = Quileute *{qasq}ayap* = Nootkan *{qasq}eyap*
        Like entry 20, a wide-spread term that originated either in a substrate
        language or in NW (from where it would have been copied into Ts,
        BC, and Quileute).

(24)   BC *qaχ* 'rabbit' = Gi (H) & Ni (F) *qaχ* = TEA *ɢaχ, *ɢəχ* (N:210,
        Nater 1994:182) = Oo *qaaχ* (L)
        Diffused from TEA to Tsimshianic and BC, and from BC to Oo.

(25)   BC *qayt* 'hat' = Gi (H) & Ni (F) *qayt*, NT *qaayt* 'billed hat' = NW
        (R) √*qyt* 'to surround, encircle (like ring a finger, hat a skull)'

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Does NW √*qyt* underlie the BC and Ts forms, or is it a back-formation of a substrate term?

(26) BC *q'pst* (tr.) 'to taste' = NW (L) √*p'q* = NT *paq*, Gi (H) *paq* 'try, feel', Ni (F) *paq* 'feel, try, taste'
The BC form (← *q'əp-st*) contains fossilized -*st* (TR or CAUS).
Either originally NW or a substrate word. The Ts words deviate in terms of semantic range and absence of glottalization.

(27) BC *q'ʷumsxiwa* 'whiteman, European' = Ni *q'amksiiwaa* (Tarpent, p.c.) = He *q'ʷm̓xsiwa*, Ha *q'ʷm̓ksiwa*
BC *q'ʷumsxiwa* is analyzable as *q'ʷum-sx-iwa* "high-bad-similative" (√*q'ʷum* (uniquely combined with another adjective, cf. entry 3), is originally NW (L)); copying sequence is likely NW ← BC → Ts.

(28) BC *sq'* (tr.) 'to cut open' = Gi (H) *saq'* 'to split', Ni (F) *saq'* 'to crack', NT *saʔqt* 'be split' = proto-Salish (K) **səq'* 'split, crack'
Salish or substrate origin.

(29) BC *tχ-* 'geographic location' (a rare prefix) = He (Rath, p.c.) *tχ̣…*, *tχ̣a̱s* … 'the geographical place of …' = NT *tχa-* 'locative', Ni (F) *tχas-* 'all along a place'
The BC and Ts prefixes have likely been copied from NW (where it is more productive than both BC *tχ-* and Ts *tχas-*).
Rath (p.c.) states "The HE/OO use of {tχ-} as a proclitic before a place name is compulsory whenever that name is not being used as the predicate of a sentence."

(30) BC *t'q* (tr.) 'to spread out, paste to surface' = PT (Tarpent 1997:98) **t'ʌq* 'flattening, especially by applying pressure' = NW (L) √*t'aq* 'scatter, spread' = proto-Interior Salish **t'əq* (K) 'to put down, pile soft material'
Substrate origin.

(31) BC *t'xʷ* (tr.) 'to sweep, brush' = proto-Coast Salish (K) **t'əxʷ* = Gi (H) & Ni (F) *t'axʷ*
Salish or substrate origin.

3   Bella Coola vowel length from Tsimshianic pre-glottalization

Bella Coola has, unlike most (if not all) other Salish, distinctive vowel and syllabic sonorant length (doubling, see Nater 1984:15): *qaχ* 'rabbit' vs. *qaaχ* 'salmonberries', *ʔiχʷ* 'far' vs. *ʔiiχʷ* 'to burn', *puχ* 'to stir, poke' vs. *puuχ* 'moldy', *mnmnta* 'path' vs. *mnmnnta* 'stairway', *tltlkʷ* 'slippery' vs. *tltllkʷ* 'pill'. In Nater (1994), I ascribed this contrast to older Athabascan influence, but an allophonic-distributional trait of Tsimshianic indicates that it is more plausibly the result of diffusion from Tsimshianic, for which see below.

My hypothesis about a Tsimshianic → Bella Coola copying direction is in part based on an apparent correlation between Tsimshianic pre-glottalization and distinctive vowel/sonorant length in Bella Coola. Regarding pre-glottalization, note that in Tsimshianic, [C'V…] appears to be in complementary distribution with […VʔC#], as observed in some Nisqaʔ and Gitksan FirstVoices sound clips, and as reflected in Dunn's (1995) orthography of North Tsimshian:[5]

Gloss	Nisqaʔ (F)	Gitksan (F, H)	North Tsimshian
'ball'	*łit'* [ɬɪʔtˈ]	*łit'* [ɬɪʔtʰ]	*łaʔt* [ɬaʔt]
'dress'	*naq'* [naʔqˣ]	*naq'* [naʔqˣ]	*naaʔq* [na·ʔq]
'sockeye'	*kiƛ'* [ɟɪʔtˈ]	*kiƛ'* (not in F)	*kiʔƛ* [ɟɪʔtˈ]

Figure 5: Pre-glottalized syllable-final stops in Tsimshianic

This distributional feature appears to have diffused to Bella Coola, likely via speakers of Tsimshianic, who – prior to acquiring full fluency in Bella Coola – would have been prone to replace Bella Coola word-final VC'# with VʔC#. Such a trend, then, would result in a, however short-lived and limited, VC' → VʔC phonemic shift. This shift would eventually give rise to the emergence of (I) distinctive vowel length in Bella Coola lexicon (including two suffixes) and (II) VC'# ~ V·C# allomorphy in a few verb stems and suffixes. The allomorphs of two of the latter suffixes ('skin', 'eye') are now distributed randomly throughout the lexicon, while *-aq' 'food' and *-iqˈʷ 'head' are fossilized (non-productive).

(I) <u>VC' → VʔC</u> and <u>VʔC → V·C</u>

√wiiχ 'to pry open' (← *wiʔq ← **wiq'); paaχʷu 'to be afraid' (← *paʔqʷu ← **p'aqˈʷu); q'aat 'small baited hook' (← *q'aʔt ← **q'at'); -aliixc 'tongue' (← *-al-ixˣc ~ *-al-iʔxˣc); -aaχla 'berries, juice, liquid' (← *-aʔ-qla, cf. qla 'water', qaa-χla 'to drink')

(II) <u>VC' ~ V·C</u>

xʷuk' ~ √xʷuuk 'to bathe'; kic' ~ √kiic 'to wring'; √łuk' ~ √łuuk 'disinclined'; sqˈʷ ~ √siiqʷ 'to fly'; tiq' ~ √tiiq 'to sew, stitch'; -lic' ~ -liic 'bark, skin'; -aqˈʷs ~ -aaqʷs 'eye'; *-aq' ~ -aaχ 'food' (*-aq' is found only in sl-aq'-k 'sliced

___

[5] In re Nisqaʔ and Gitksan phonetic details, Tarpent (p.c.) disagrees insofar as she appears to perceive /VC'#/ as [VʔC'#] rather than [VʔC#]. However, my findings are unequivocally confirmed by Rigsby & Ingram (1987), who state:

In Rigsby's earlier work, he derived all the preglottalized allophones by a rule that segmentalizes the preconsonantal and the final glottalized obstruents into /ʔ/ followed by the relevant homorganic plain voiceless stop or affricate. The latter segment in final position then undergoes the aspiration rule as formulated in Rule 2 above. (Rigsby & Ingram 1987:11)

(The "earlier work" must be Rigsby 1967, where […VʔC#] is considered on pp. 11–12).

smoked salmon' and *sl-aq'-nk* 'smoked fish tail' (*sl* 'to cut, slice', *-k = -ik* 'flat top surface', *-nk* 'tail')); *-iq'ʷ ~ -iiχʷ* 'head' (*-iq'ʷ* occurs only in *q'ʷumn-iq'ʷ* 'skull')

4 Interaction through time: Tsimshianic, pre-Tsimshianic, Penutian

The observations made above raise a few questions. Can one determine when Bella Coola groups began to interact with Tsimshianic people? How, and where, was contact first made? In the following sections, I posit an approximate time depth for Bella Coola-Tsimshianic relations, reflect on possible contacts with pre-Tsimshianic groups, and consider three Bella Coola–Penutian links.

4.1 Bella Coola and Tsimshianic

If one accepts Swadesh's 55 *century units* of divergence for Bella Coola and Coastal Salish (see Baker 1973:15), one might infer that interaction between Bella Coola and Tsimshianic may have started as early as 5500 BP, when proto-Bella Coola groups would have entered, and settled in, the area shown in Figure 1. But the *century unit* concept is notoriously flawed, and Swadesh did not take into consideration the substantial non-Salish lexical influence that must have accelerated the attrition of Salish vocabulary in Bella Coola (e.g., the entries 'dog', 'horn', 'stone' (North Wakashan), 'not', 'bone' (Tsimshianic), 'tree' (Athabascan), 'hair', 'head' (other) from his 100-word list). We should therefore hypothesize a shallower time depth, say, around 2000 BP. Note here that Suttles & Elmendorf (1963) prefer to think in terms of *relative units*: they agree with Swadesh on the number, but not the size, of units counted.

4.2 Pre-Tsimshianic or other substrate presence in the Kwatna area

Having considered the linguistic evidence for the comparative recentness of Salish migrations into the Bella Coola region, let us now contemplate pertinent archaeological records:

> An even earlier phase which is not found at FaSu 2 is manifest at four sites in the area. Carlson has named this earlier phase "Cathedral" and says:
>
> > The geological picture suggests that the sites of this phase belong in a period of time when sea level was lower than it is today, at least in the Kwatna locality … The site locations themselves are strongly indicative of a maritime coastal oriented culture with watercraft and utilization of sea resources (1972:43).
>
> The Cathedral phase material is described by Carlson as probably the earliest in the locality … One radiocarbon estimate from the type site at Cathedral Point yielded a date of approximately 300 B.C., but Carlson

feels the Cathedral phase will eventually be shown to date between 4000–1000 B.C.[6] (Baker 1973:62)

A time depth of this magnitude, however, casts doubt on the presence of Bella Coola populations in the region so long ago. One might expect Bella Coola and other Salish languages – if they did separate 6000–3000 years ago – to have diverged a bit more than they actually have. As well, the links with Chimakuan, South Wakashan, and Chinookan mentioned earlier may imply a more recent origin, as do Hobler's (1970) observations (italics mine):

> Within the Bella Coola domain, four intensive use areas can be identified: the Bella Coola Valley, the Dean River at Kimsquit below the canyon, the Kwatna River, and the south end of South Bentinck Arm. … *With the exception of the Kwatna sites, few artifacts were found by the survey*. We did only surface collecting and no test excavations. *On the basis of surface characteristics only five of the forty-eight surveyed sites are estimated to have any quantity of cultural material or depth of deposit. Taken as a whole, the sites do not give an impression of great time depth or of a large population*. (Hobler 1970:85)

Regarding the identity of these early Kwatna inhabitants, we should allow for the possibility that they were either pre-Tsimshianic Penutians or speakers of another substrate language alluded to in Sections 2.1 and 2.2. This population, then, may later have made contact with Salish groups travelling through and/or settling around Kwatna Inlet. The language spoken by the ancient Kwatna ethnos may be the source of e.g. Bella Coola $\chi^w u \chi^w u c i$ 'yearling mountain goat'; this word resembles Tahltan $x\acute{u}\cdot ʒe$ 'id.' (a non-Athabascan word listed in my Tahltan field notes), but differs from 'yearling mountain goat' terms in all surrounding languages. (However, Oo $x^w u x^w c i ʒ a$ 'mountain goat suet' – now analyzable as $\sqrt{x^w w(x^w)s}$ 'ball, airbag, lungs' + -$s i ʒ$-a 'foot, base' (Rath 2010 and p.c.) – may, like Bella Coola $\chi^w u \chi^w u c i$ and Tahltan $x\acute{u}\cdot ʒe$, also be based on substratal *$x^w u(x^w)c i$ ~ *$\chi^w u(\chi^w)c i$.)

4.3 Bella Coola and Penutian: beyond Tsimshianic

There is a striking resemblance between Bella Coola and Coast Oregon Penutian reciprocal suffixes: this suggests that Penutian- and pre-Bella Coola Salish-speaking populations must once have been in close contact. In Figure 6 below, Penutian data are from Frachtenberg 1917:506 (Siuslaw) and Frachtenberg 1914:332 (Coos), Bella Coola data from Nater 1984:66, other Salish data from Kinkade 1989:29.

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[6] Cathedral Point is a cape located at the confluence of Kwatna Inlet and Burke Channel about 12 km north-northwest of Kwatna.

Penutian		Bella Coola	Interior Salish	Coast Salish
Siuslaw -*muxʷ*/-*muχʷ*	-*maxʷ*		Kalispel -*uwéxʷ*	Tillamook -*əgʷl*
Coos -*mew*			Colville -*nwáxʷ*	Squamish -*way*
			Spokane -*wéʔxʷ*	Sechelt -*áwəł*

Figure 6: The reciprocal suffix in Coast Oregon Penutian and Salish

As concerns Siuslaw -*muxʷ*/-*muχʷ*, note that Hymes (1966:338) states that in Siuslaw the /k(ʷ)/ series and /q(ʷ)/ series do not appear to be phonemically distinct. Note also that while the difference between Interior Salish and Coast Salish here seems considerable, Kinkade managed – taking Cowlitz -*awlx* and Quinault -*tulalxʷ* into account as well – to reconstruct proto-Salish *-*awalxʷ*, effectively uniting the Coast and Interior Salish forms. Bella Coola -*maxʷ* may be based on *-*n-waxʷ* (with transitivizing -*n*-, see Nater 1984:64) (via *-*mwaxʷ*, à la "sandwich" [sǽ<u>nw</u>ɪtʲ] → [sǽ<u>m</u>ɪtʲ]), cf. Colville -*nwáxʷ*.

It appears, then, that a pre-Bella Coola reciprocal suffix was here copied by Coos and Siuslaw, rather than the other way around. (Frachtenberg 1917:506 writes that -*muxʷ*/-*muχʷ* is less productive than -*naw(a)* RECP.) Note, in this respect, that Tarpent (p.c.) quotes Kinkade (2005) in re Alsea ← Salish pronominal suffix copying. Of these pronominal suffixes, Kinkade cites two that, conversely, appear to have been copied (with 2SG.SBJ → SG.IMP and DU → PL modifications) from Alsea-Siuslaw into pre-Bella Coola:

Bella Coola	Alsea	Siuslaw
-*χ* SG.IMP	-*aχ* 2SG.SBJ	-*nχ* 2SG.SBJ
-*aw* 3PL.SBJ	-*auχ* 3DU.SBJ	-*awχ* 3DU.SBJ

Figure 7: Similar pronominal suffixes in Bella Coola and Alsea

Reduction of Coast Oregon Penutian -*awχ* to -*aw* in pre-Bella Coola is likely due to …*χ* being construed and copied as IMP. However, -*χ* IMP was later added to -*aw* again to form *-*aw-χ* → -*aχʷ* PL.IMP (Nater 1984:37).[7]

We can now confidently add -*maxʷ*, -*χ*, and -*aw* to the list of morphemes that Bella Coola has in common only with maritime languages spoken west of the Cascade Range:

(1)   BC *x˞* 'via' (Nater 1984:50) = Ch *š* 'to, into' (Kinkade 1991:127)

(2)   BC -*(s)t(u)*- CAUS (Nater 1984:67) = Ch -*(s)t(u)*- (Kinkade 1991:371-73)

(3)   BC *t'nχʷ* (**t'əχʷ*) 'head' = Quileute *ʔó˞-t'iqʷ* (Powell & Woodruff 1976) = Nootkan √*t'uχ*, √*t'uḥʷ* (Davidson 2002)

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[7] For pronominally neutral -*aw*… PL.SBJ in general, see Nater (1984:113, 116, 130–131).

(4) BC *mnⱡkʷa* (*m-əⱡkʷ-ən*) 'hair' = Quileute *boⱡkʷ* (*moⱡkʷ*) (Powell & Woodruff 1976)

(5) BC *k'awn* 'type of salmon' = Chinook *i-k'awan* (Nater 2010)

(6) BC *-uks* PL = Chinook *-ukš* (Nater 2010)

(7) BC *ʔaw* 'yes' = Chinook *aw* (Nater 2010)

(8) BC *-maxʷ* RECP = Coast Oregon Penutian *-muxʷ/-muχʷ*, *-mew* (this paper)

(9) BC *-χ* SG.IMP = Coast Oregon Penutian *-aχ*, *-nχ* 2SG.SBJ (this paper)

(10) BC *-aw* 3PL.SBJ = Coast Oregon Penutian *-auχ*, *-awχ* 3DU.SBJ (this paper)

The pairs shown in 1–2 are obviously cognate, whereas the ones in 3–10 are the result of lexical copying between unrelated languages. Entries (1) and (2) (with …*(u)*…) are to my knowledge not attested as such in Salish other than Upper Chehalis and Bella Coola.

5   Summary

In Sections 2–4 above, I considered Tsimshianic influence on Bella Coola and interaction around Kwatna and the Olympic peninsula, citing diverse evidence: archaeology (Baker 1973, Hobler 1970), oral traditions (Boas 1898), and etymologies (various sources). Below, I offer additional evidence and summarize my findings.

Further to the southern pre-Bella Coola phase considered in Section 4.3, one notes that the significance of ancient migrations and trade patterns is as a rule overlooked, ignored, or underestimated. Thus, Kinkade (2005) found it difficult to reconcile similarities between Salish and Coast Oregon Penutian languages with the seemingly insurmountable distances separating these languages. Neither could he imagine how similarities between Penutian and Salish could have resulted from interaction with Tillamook, as this language would – in view of its deviant phoneme inventory – not appear to be a likely source for Penutian pronominal suffixes. In his own words (italics mine):

> If Alsea has borrowed from Salish, how did it get forms with *p* or *m*, which could not have come from Tillamook, Alsea's only Salishan neighbor (*unless the changes of *p to h and *m to w are recent changes in Tillamook*)? Unless there have been major population shifts in the area, borrowing is possible, although problematic, given changes in Tillamook phonology and morphology. *Intermarriage, slavery, or trade would not*

provide adequate sources for borrowing in either direction because of the distances involved. Contact between Alsea and non-Tillamook Salish must have been minimal. (Kinkade 2005:66–67)

Yet, Alsea is located (between Chinookan and Takelma) within the ancient trade region shown below, and it is inconceivable that contact with Salish (incl. pre-Bella Coola and (pre-)Tillamook) would <u>not</u> have transpired. It is precisely this type of regular interaction that would motivate lexical and structural copying. (But contact between speakers of pre-Bella Coola and groups located in, and east of, the Cascade Range must have been rather infrequent, as there is a noticeable lack of lexical similarities between Bella Coola and e.g. Sahaptin (for the latter see Beavert & Hargus 2009).) And whereas Kinkade *did* allow for contact between Coast Oregon Penutian and Tillamook prior to the *$p \rightarrow h$ and *$m \rightarrow w$ shifts, his assumption that these shifts would have to have been completed *recently* is unwarranted, since Penutian–(pre-)Tillamook contact may have been established much earlier than surmised (see below for details).
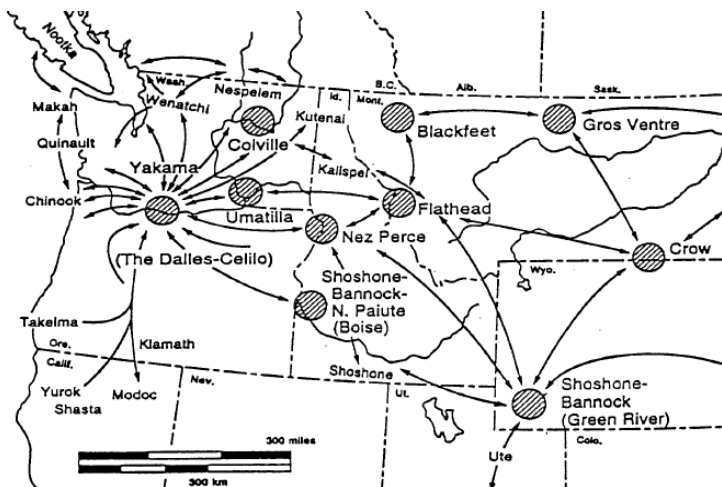
Figure 8: Traditional trade centers and networks (Walker 1997)

On the scope and antiquity of this network, Walker (1997) states (italics mine):

> Archaeological evidence suggests that the Plateau way of life has remained fundamentally the same for *at least ten thousand years* prior to the first Euroamerican influences of the eighteenth century … The Yakama were part of a *prehistoric, protohistoric, and historic system of trade and exchange* that linked them with other Plateau tribes as well as more distant tribes of the Northwest Coast, Plains, and Great Basin culture areas.

Eventually, proto-Bella Coola parties began their northbound exodus out of the Olympic area. Contact was now made with Coast Salish and North Wakashan groups, as confirmed by certain terms that Bella Coola has in common only with Kwak'wala or with Kwak'wala and Coast Salish: *łq* 'wet' = Kwak'wala √*ƛ̓q* 'id.', *sχʷat* 'globe, bulb' = Kwak'wala √*χʷat* 'testicle', *sχiiłla* 'boastful song' = Kwak'wala *χiƛla* 'to shout', *k'ʷult* 'porpoise' = Kwak'wala *k'ulut'a* 'id.' = Sechelt and Squamish *k'ʷúnut'* 'id.', *χʷs* 'to oil, grease' = proto-Coast Salish **χʷəs* 'id.' = Kwak'wala √*χʷs* 'seal blubber', *cał* 'lake' = proto-Coast Salish *cal'ał* 'id.' = Kwak'wala *ʒl'ał* 'id.' (Kuipers 2002, Lincoln & Rath 1980, Nater 2013). Continuing their voyage, these travellers made contact with more northerly coastal groups, i.e., Heiltsuk and Ooweekeno.

In view of (a) connections between pre-Bella Coola and other populations west of the Cascade Range and (b) Bella Coola-Coast Salish-Kwakwala lexical overlap, I infer that proto-Bella Coola migrants approached the territory shown in Figure 1 via the Inside Passage, Fitz Hugh Sound, and then via Fisher Channel–Dean Channel and Burke Channel.[8] Having passed through North Wakashan territory west of Elcho Harbour and Kwatna, some would settle on or near King Island and in the Kwatna River area. Others would move on, with Dean Channel travellers venturing deeper into Dean Channel and beyond. The latter would interact with NT groups, as suggested by the occurrence of names with NT mythical origins: *Wic'lks* 'a man's name' ← NT *W'ii C'alks* 'Big Whirlpool', *Wiłpun* 'a woman's name' ← NT *W'ii Łpuun* 'Big Whale' (Tarpent, p.c.). Those who continued to travel up Burke Channel entered North Bentinck Arm, with some settling there and others dispersing into South Bentinck Arm and throughout the Bella Coola valley. Athabascan and inland Tsimshianic groups now came into contact with Bella Coola speakers. Later, contact was established with Haisla groups that had dislodged Tsimshianic populations.

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[8] Note here that the dialect formerly spoken at the head of Dean Channel and the mouth of Dean River was considered by some of my language consultants to be a deviant form of Bella Coola (cf. Boas 1895:31). This view is consistent with the Fisher Channel/Burke Channel split path scenario.
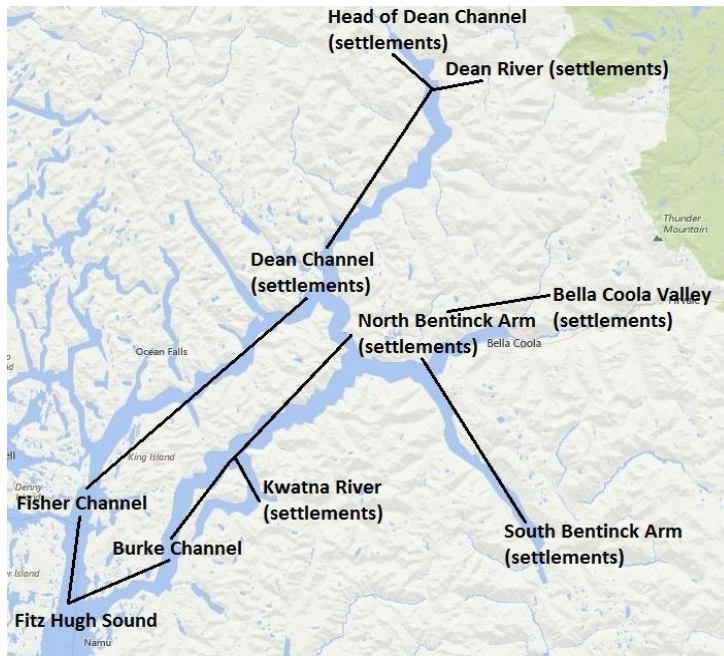
Figure 9: Prevailing Proto-Bella Coola migration routes (based on
bing.com/maps)

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Contact and change in Central Salish words for salmon[*]

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Abstract: Within comparative Salish linguistics, the problems of frequent irregular sound correspondences and overlapping lexical isoglosses are well known. In this paper, the possible effects of contact on lexical change within the Central Salish branch are examined, focusing on the semantic domain of words for salmon. This builds on previous work by Thom Hess, Donna Gerdts, Aert Kuipers, and others, studying lexical diffusion within the Salish family. All cognate sets shared by two or more languages are listed, and comments on phonological form and meaning are given. The geographic distribution and phonological irregularity of certain sets imply a mechanism of diffusion which has likely been ongoing for most of Central Salish history, and suggest that alternatives to the traditional tree model are required to account for these processes of change.

Keywords: Central Salish, historical linguistics, language contact, irregularity, diffusion

1   Introduction

The goal of this paper is to examine the words for salmon in the Central Salish family to see what patterns they show in their distribution. Salmon was the most important food resource for Central Salish speaking peoples, and likely has been for millennia (Donald, 2003:296). All five species of Pacific salmon spawn in streams within Central Salish territory, but they are not evenly distributed throughout this area. During the spawning season, people would travel long distances to fish in the most productive streams, possibly providing an opportunity for contact between speakers of different dialects or languages (Suttles, 1990:457). Because of these cultural and historical factors, names for salmon provide a potentially interesting domain for the study of lexical change within Central Salish.

The distributions of certain lexical items in Central Salish are known to have a wave-like patterning (Hess, 1979), but investigation of this phenomenon has been limited. The wave-model of language change, which views innovations as spreading outwards from a central point like ripples on a pond, has a long history in comparative linguistics. It is used especially frequently in dialectology, where isoglosses are expected to intersect, since dialects may share innovations with multiple neighbouring dialects (François, 2015:169). This is

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very similar to the situation described for Central Salish languages, which form a chain where each language shares features with those neighbouring it (Thompson & Kinkade, 1990:36). Therefore, we may expect wave-like patterns in the lexicon to be the norm rather than the exception.

Section 2 provides a listing of all terms for salmon that are found in at least two Central Salish languages, with some comments on their form and meaning. Section 3 examines the distribution of some of these sets, and outlines how these distributions may have arisen, where there is historical evidence. Section 4 discusses the implications of these and previous findings, as well as suggesting some avenues for future research. The paper concludes with Section 5, which summarizes the key findings of the study.

2   Cognate sets

Most of the data for this paper come from the comparative Central Salish lexical database I have been working on with Peter Jacobs. Sources are as follows: Comox-Sliammon words are from Watanabe 2003, Kuipers 2002, and First Voices, Sechelt words from Beaumont 2011, Squamish words from "Sḵwx̱wú7mesh Sḵexwts" 2011, Kuipers 1967, and Kuipers 1969, Halkomelem words from Gerdts 1977, "Hulʼqumín̓um̓ Words" 1997, Suttles 2004, and Galloway 2009, Nooksack words from Richardson & Galloway 2011, Galloway 1988, and Kuipers 2002, Northern Straits words from Montler 1991 and Kuipers 2002, Klallam words from Montler 2012, Lushootseed words from Bates, Hess & Hilbert 1994, Twana words from Kuipers 2002 and Nile Thompson, personal communication, Kwak'wala words from Grubb 1977 and Fortescue 2007, Nuu-chah-nulth words from Fortescue 2007 and First Voices. Any errors in transcription are my own.

A note on reconstructed forms: the majority of these are from Kuipers (2002), some of which have been slightly modified. Where no source is provided, these are my own reconstructions. Unless otherwise noted, these do not represent Proto-Central Salish level reconstructions, but simply the most plausible ancestor of the attested forms.

2.1   List

(1)   'any fish, salmon': *sčaliłtən (Kuipers, 2002:24, modified); Sechelt
       sčáliłtən 'fish, salmon (generic)', Squamish sčáyiłtən 'fish (a 'high' word)',
       Halkomelem (Island and Downriver) scé:łtən 'salmon (generic)'.

The sound correspondences in these words are mostly regular, although some require explanation. The long vowel and lack of *l in Halkomelem is probably due to reduction of a secondary *lł cluster, with compensatory lengthening of the preceding vowel (see Suttles, 2004:18). The reduction of the cluster *lt in Squamish is paralleled in the word ʔiłən 'to eat' from Proto-Salish *ʔił(t)n (Kuipers, 2002:16), but this does not appear to be a regular process. Kuipers tentatively connects this form *sčaliłtən to the Proto-Salish root *ciłn 'fish,

food' (2002:24), noting that the initial consonant correspondences are irregular. There is the possibility that this root contains the plural infix -*l*-, though this morpheme does not otherwise occur in Sechelt and Squamish.

(2) 'any fish, salmon': *sčananxʷ; Samish and Songish sče:nəxʷ 'fish (generic)', Saanich sče:nəxʷ 'salmon', Klallam sčanənəxʷ 'salmon', Lushootseed sčədadxʷ 'salmon'.

The correspondence of Straits č to Lushootseed č is not regular, since the phoneme č in Straits generally derives from *p or *y, while Lushootseed č comes from earlier *k. This may suggest that this form was borrowed, although determining the direction of borrowing is impossible without knowing which Proto-Salish consonant the *č is derived from.

    Kuipers (2002:38) reconstructs Proto-Salish *kanaxʷ because of the Interior Salish words for 'Kokanee salmon' (Lillooet kəkn'i, Thompson kəkn'iy, Shuswap kəknexʷ, and Okanagan kəkn'i), as well as the Upper Chehalis word sčanánxʷ 'salmon'. The ending in several Interior languages is unexpected, and raises doubts that these words are related to the Coastal ones, although Shuswap is a perfect match. Kuipers suggests that the -*i* forms may be borrowed from English *kokanee* (2002:38), in which case only the Shuswap and Upper Chehalis forms would be directly related to *sčananxʷ. The direction of borrowing in this case would be Lushootseed to Straits.

(3) 'pink, humpback salmon': *hənun'; Sechelt hə́nun, Island Halkomelem ha:n' ~ hanən' (Chemainus, Nanoose and Nanaimo, respectively), Downriver Halkomelem hu:n', Upriver Halkomelem ho:liyɛ, Samish and Saanich hə́nən', Klallam hənən, Lushootseed hədúʔ, Twana hədiqʷ.

The forms of this set are phonetically divergent, but clearly related. The Island and Downriver Halkomelem words show an unexpected *a : u* correspondence, where the long vowel appears to derive from reduction of a cluster of identical resonants, with compensatory lengthening (Suttles, 2004:18). Lushootseed lacks the final -*n* of most other languages, while both Upriver Halkomelem and Twana have added suffixes to the root. Cognates occur in Interior Salish that lack final -*n* (Kuipers, 2002:35), noting that the Columbian form is likely borrowed from Lushootseed (Kinkade, 1995:42), which may indicate that -*n* is an innovation in some Central Salish languages (possibly a form of final reduplication). Kuipers reconstructs Proto-Salish *hənəw ~ hənəy to account for the varied reflexes (2002:35).

(4) 'dog, chum salmon': *kʷ'úluxʷ (Kuipers, 2002:225, modified); Comox-Sliammon kʷúʔuxʷ 'smoked/dried fish', Sechelt skʷ'úluxʷ 'dried fish', Downriver and Island Halkomelem kʷ'ál'əxʷ 'chum salmon', Upriver Halkomelem kʷ'á:ləxʷ, Nooksack kʷ'ólʔoxʷ, Songish kʷ'ayəxʷ, Samish and Saanich kʷ'al'əxʷ, Klallam qʷ'aʔə́ləxʷ.

This form is widespread in Central Salish, and is also found in Lillooet *kʷʼalʼxʷ* (likely borrowed from Halkomelem due to the vowel) and Thompson *kʷʼúluʔxʷ*. The semantic shift in Comox-Sliammon and Sechelt is interesting, and may reflect the importance that preservation of this species played in the diet of the northern Central Salish (Kennedy & Bouchard, 1990:444). Kuipers includes under this root a Squamish word *kʷʼálʼaxʷm* 'Dog Salmon River', referring to the Qualicum River, which is probably borrowed from Halkomelem, as shown by presence of *a* rather than expected **u*. However, the regular word for this species in Squamish is *qʷáχnis,* a loan from Kwak'wala *ɢʷaχnis*. The *l* in the Klallam form is irregular.

(5)   'dog, chum salmon': **ƛʼəxʷayʼ*; Comox-Sliammon *ƛoxʷay,* Klallam *ƛʼχʷayʔ*, Lushootseed *ƛʼəxʷayʔ*.

This form is limited to only three languages, but these include the northern- and southernmost Central Salish languages, making borrowing unlikely. This makes **ƛʼəxʷay'* a good contender for the Proto-Central Salish term for 'dog, chum salmon', which was then replaced by words of Set 4 in most Central Salish languages.

(6)   'dog, chum salmon': **syanxʷ*; Comox-Sliammon *ǰanxʷ* 'fish, salmon', Sechelt *syanxʷ* 'dog salmon'.

The original referent of this set is difficult to determine, since the two languages disagree in meaning. Both semantic narrowing and widening seem plausible here.

(7)   'coho salmon': **cawʼin* (Kuipers, 2002:223); Comox *səʔn,* Squamish *cáwʼin*, Island Halkomelem *θeʔwən,* Samish and Saanich *sewʼən*.

The forms in this set are phonologically regular apart from the Comox word, which lacks a reflex of **w*. A possible explanation is that the glide was vocalized and then reduced: **cawʼin > *cawʼn > *cəwʼn > *cuʔn > *cəʔn > səʔn*. This form is also found in Lillooet *cáʔwin,* which could be a loan from Squamish. Similar forms also appear in all Wakashan languages, and reflexes display sound correspondences consistent with descent from a Proto-Wakashan root **dzəwʼin* (Fortescue, 2007:131, modified). The word therefore appears to be ancient in both families, and determining the direction of borrowing may be impossible.

(8)   'coho salmon': **kʷəxʷic ~ *kʷəxʷac*; Downriver and Upriver Halkomelem *kʷə́xʷəθ*, Nooksack *kʷóxʷəc,* Lushootseed *skʷxʷic,* Twana *kʷáxʷac*.

Although the words in this set show clear phonological similarities, the vowel correspondences are not regular, and in fact contradict each other. The vowels in the initial syllable of the Halkomelem and Nooksack forms suggest either **u* or **ə*, while the Twana form suggests **a*. The Lushootseed final syllable vowel points to **i*, but Twana implies **a*.

(9)   'coho salmon': *q'əčəqs; Island Halkomelem q'əčəqs, Nooksack q'əčqs,
       Lummi q'əčqs, Klallam q'əčqs, Lushootseed sq'əčqs.

The medial č in the forms of this set is irregular: generally, Halkomelem c,
Lummi s, and Klallam c would be the expected to correspond to Nooksack and
Lushootseed č. This strongly suggests borrowing has occurred.

(10) 'sockeye salmon': *scəqay' (Kuipers, 2002:215, modified); Comox sə́qayʔ,
       Sechelt scə́qay, Squamish scə́qiʔ, Island Halkomelem sθəqiʔ, Downriver
       Halkomelem sθə́qəy', Upriver Halkomelem sθə́qi ~ sθə́qəy, Saanich
       θəqəy', Songish səqeʔ, Klallam scə́qiʔ, Lushootseed scəqiʔ, Twana scə́qay.

This word is found in every Central Salish language except for Nooksack, and
all reflexes are phonologically regular. Therefore, it can be securely
reconstructed as the Proto-Central Salish term for 'sockeye'. Lillooet scqaz'
'barbequed salmon, dried and stored away' also belongs to this set, with a
similar semantic shift as found in Sliammon and Sechelt in Set 4.

(11) 'spring, chinook salmon': *sc'uqʷay' (Kuipers, 2002:224); Squamish
       sc'úqʷiʔ 'fish, salmon (generic)', Island Halkomelem sθ'aqʷiʔ 'spring
       salmon', Downriver Halkomelem sθ'áqʷəy' 'spring salmon, salmon
       (generic)', Upriver Halkomelem sθ'á:qʷi 'fish, salmon (any kind)',
       Nooksack sc'úqʷəyʔ 'salmon', Samish sθ'áqʷiʔ ~ sc'áqʷiʔ 'spring salmon',
       Saanich sθ'aqʷiʔ.

The phonological forms of this set are consistent; however, the meanings vary
across, and sometimes within, languages. Squamish, Upriver Halkomelem, and
Nooksack have a more general meaning of 'salmon' or 'any fish' for this word.
Evidence suggests that in earlier times, spring salmon, not sockeye, was the
primary catch in most of Central Salish territory (Ware, 1983:9). This includes
Lillooet territory (Romanoff, 1992:228), the only language outside Central
Salish with a cognate from this set in sc'úqʷaz' 'fish, salmon'. This may imply
that speakers of some languages generalized the name of an economically and
culturally significant species to refer to the category as a whole.
      However, since the more general meaning of 'any fish, salmon' for this root
is just as common, it is possible that the semantic shift went the other way. A
generic term for 'fish, salmon' could come to refer to a key species representing
the prototypical fish in the minds of the speakers. A comparable shift has
affected the words for 'meat' in some Central Salish languages, where it now
means 'deer', the primary source of meat (Hess, 1979:8). For the sake of
simplicity, I have followed Kuipers' reconstruction.

(12) 'spring, chinook salmon': *yumač (Kuipers, 2002:230, modified); Sechelt
       yúmač, Nooksack yúməč, Samish yaməč, Lushootseed (Northern dialect)
       yúbəč.

This set is phonologically regular except for the Samish reflex, where the consonantal reflexes are irregular (the expected form would be something like **čaŋəc; Thompson, Thompson & Efrat, 1976). The only other language with a related form is Lillooet *zúmak* 'spring salmon', which clearly indicates that the original form must have been *yumak*. If this form was borrowed into Lillooet from Central Salish, it must have occurred prior to the fronting of *k > č in the latter (Galloway, 1988:304).

(13) 'spring, chinook salmon': *sac'əm ~ cac'əm; Sliammon *θáθ'əm*, Lushootseed (Southern dialect) *sác'əb* 'king salmon'.

The fact that this word is found in only in the languages at either end of the Central Salish continuum makes direct borrowing between them unlikely. Note that the initial *θ* in Sliammon implies earlier *c*, while the Lushootseed form implies *s*.

(14) 'spring, chinook salmon': *sineʔəč; Island Halkomelem *sinéʔəc ~ siné:c* 'tyee (large spring salmon)', Saanich *sinéʔəč* 'large salmon going upstream'.

The final *č* in Saanich is irregular; the expected correspondent to Island Halkomelem *c* is either *s* or *θ*. This could suggest that one language borrowed the term from the other. However, the term does not appear to be morphologically analysable in either language, so this principle cannot be used to determine the direction of borrowing.

(15) 'steelhead': *qiw'χ (Kuipers, 2002:149); Comox-Sliammon *qiwʔχ*, Sechelt *sqíwəχ*, Squamish *sqiw'χ*, Island Halkomelem (Nanaimo dialect) *qiw'χ*, Downriver Halkomelem *qiw'χ*, Upriver Halkomelem *qí:wχ ~ qə́ywχ ~ qé:wχ ~ qéwχ*, Lushootseed (Northern dialect) *qiwχ*.

This set is widespread in Central Salish, with related forms also found in Upper Chehalis *sqíw'χ* and the Mount Currie dialect of Lillooet *qiw'χ*. Most likely, this is the Proto-Central Salish word for 'steelhead', and it subsequently diffused into neighbouring the Tsamosan and Interior branches. The Southern Wakashan languages show very similar forms (see Nuu-chah-nulth *qiw'ah̵*), indicating that the word was likely borrowed from Central Salish speakers. The Kwak'wala word *gəχʷa* may also be connected (Fortescue, 2007:35), although the initial plain velar is unexpected.

(16) 'steelhead': *sχəw'q'əm; Island Halkomelem *sχəw'q'ə́m'*, Saanich *sχə́w'q'əm*.

This set, like Set 14, is limited to the Island dialect of Halkomelem and the neighbouring Saanich dialect of Northern Straits. The fact that the Saanich form has *m* and not expected **ŋ may indicate that this word was loaned from Halkomelem into Straits, although the presence of labials in Straits does not necessarily imply a foreign origin (Montler, 1997:299). The initial portion of the

word resembles words for 'salmon backbone': Sechelt *sx̣ə́wa*, Squamish *sx̣əw'*, Island Halkomelem *sx̣əw'ə,* Upriver Halkomelem *sx̣ə́wə*.

(17) 'steelhead': Lushootseed *skʷáwəl'*, Twana *skʷáwal*.

This set is limited to the Central Salish languages spoken on Puget Sound. There do not appear to be any morphological or phonetic factors that suggest borrowing in either direction.

3   Distribution

Examining the geographic distribution of the various cognate sets for salmon reveals interesting, but inconsistent, patterns. Originally, I had planned on presenting the cognate sets using maps, like those found in Hess' original paper which inspired this one. However, this proved to be ineffective, since the diagrams quickly became cluttered with text. In the end, I opted for a more abstract visualization using isogloss maps (Hock & Joseph, 2009:340-342; Anttila, 1989:304-306). Each map represents a specific meaning, so all the forms with that meaning occurring in two or more languages are included. This means, for instance, that Set 11 *sc'úqʷay'*, is included in the maps for both 'any fish, salmon' and 'spring salmon'. If multiple isoglosses overlap within the same language, this could mean either that different dialects of that language participate in different isoglosses, or that multiple forms with the same meaning occur in that language. The specific examples can be consulted in those cases.
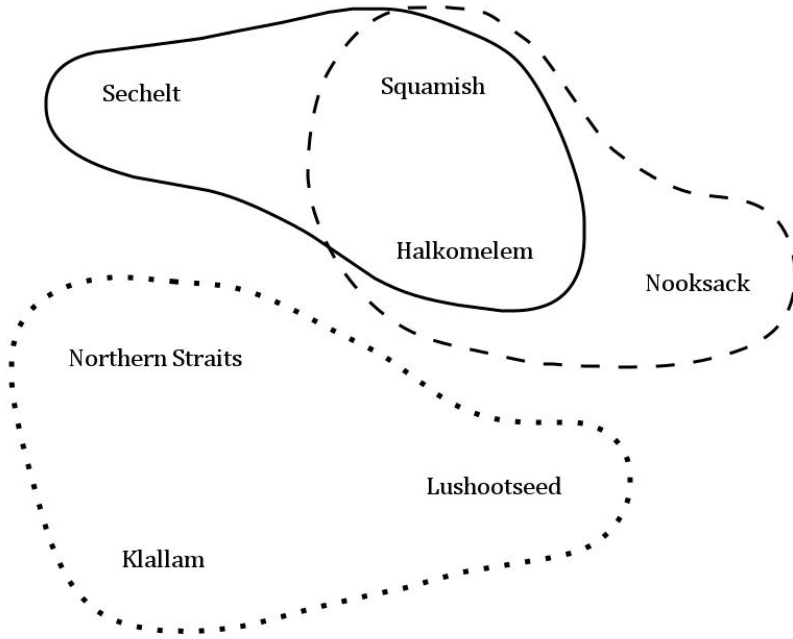
Figure 1: Words for 'any fish, salmon'. Solid line: **scaliłtən*; Dashed line: **sc'úqʷay'* 'spring salmon', semantic shift to 'fish, salmon'; Dotted line: **sčananxʷ*

The overlap of the **sčaliłtən* and **sc'uqʷay'* isoglosses in Squamish and Halkomelem is of particular interest. Although the word *sčáyiłən* occurs in Squamish, speakers considered it to be a "high word" (Kuipers, 1967:58), while *sc'úqʷiʔ* was the more common word. This may indicate that the word was more archaic, but had not yet been fully replaced by the more common word, *sc'úqʷiʔ*. Assuming the latter's original meaning was 'spring salmon', the shifting of the word to a generic meaning must have caused the older form to be gradually replaced. In the Island dialect of Halkomelem, *sθ'áqʷiʔ* refers specifically to the spring salmon, in Downriver, it refers to both 'spring salmon' and 'fish, salmon' in general, while in Upriver it only has the more generic meaning. The evidence seems to imply that this semantic shift was still in progress, possibly spreading from an origin in the Upriver Halkomelem-Nooksack area.
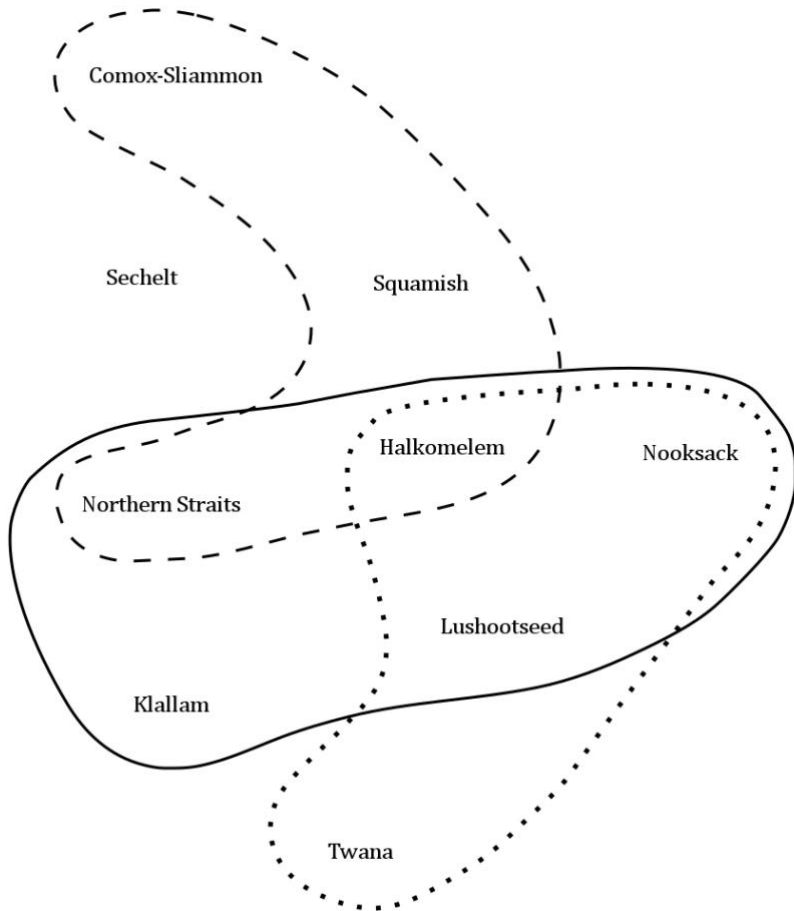
Figure 2: Words for 'coho salmon'. Solid line: *q'əčqs*; Dashed line: *caw'in*; Dotted line: *kʷəxʷic*

The isoglosses for 'coho salmon' show a significant amount of overlap. All three forms are found in the Halkomelem speaking area, while Northern Straits, Nooksack, and Lushootseed have reflexes of 2/3 forms. The geographic distribution and phonological regularity of *caw'in* suggests that this is the oldest form. The form *q'əčqs* is clearly more recent. As Hess (1986:72) recognized, this word must have originated in Lushootseed, since it is analysable in this language (meaning 'bent/crooked nose', from *q'əč* 'bent, crooked' and *=qs* 'nose') but not in the others. It must have been borrowed after the shifts affecting the phoneme *č* in Halkomelem and Straits. The word *kʷəxʷc* is more obscure in origin. Although the languages that have it are geographically contiguous, there is no direct evidence that it was borrowed.
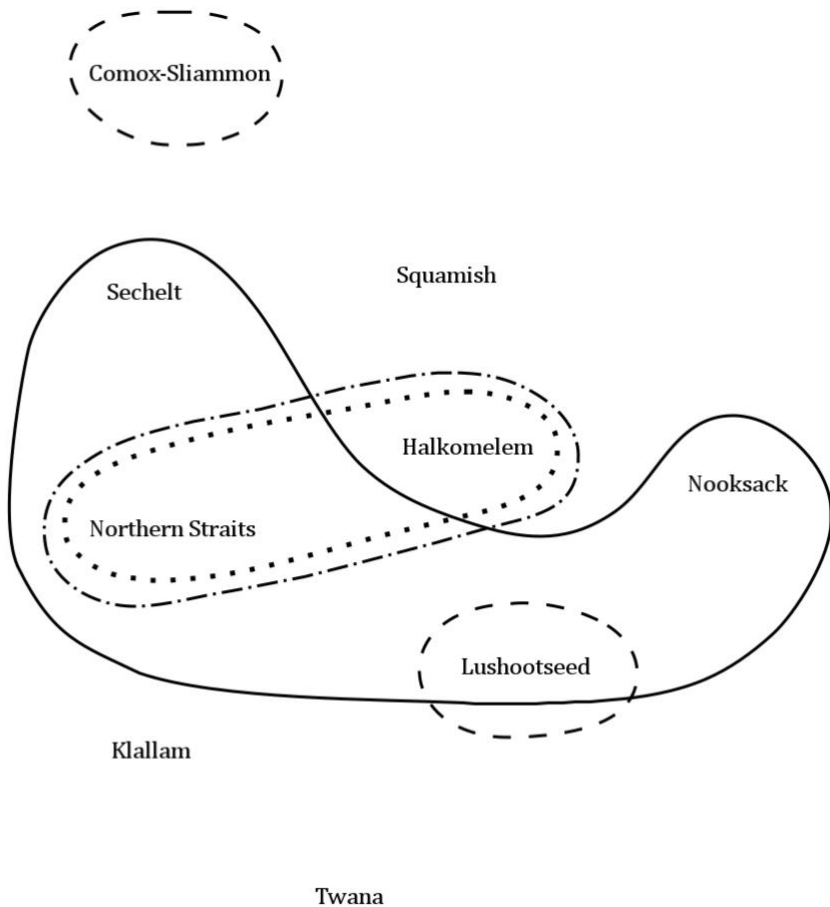
Figure 3: Words for 'spring, chinook salmon'. Solid line: **yumač*; Dashed line: **sac'əm*; Dotted line: **sc'uqʷay'*; Dashdotted line: **sineʔəč*

The most widely distributed term is **yumač*, although the Northern Straits Samish word is likely a loan from Lushootseed, making its earlier distribution somewhat less contiguous. The Lillooet form *zúmak* shows that this word originally had final *-k,* and must have been loaned from Central Salish before the fronting shifts affecting velars in that branch. The discontinuous distribution of **sac'əm* strongly implies that it is either an ancient term that has been replaced in the central part of Central Salish territory, or that Comox-Sliammon and Lushootseed have independently borrowed the term from Wakashan. All Wakashan languages have words clearly related to this form (see Kwak'wala *sac'əm*, Nuu-chah-nulth *sac'up*; Fortescue, 2007:487). Fortescue states that the Wakashan languages borrowed the term from Salish, however, the limited

distribution of the form in Salish compared with its ubiquity in Wakashan suggests that the borrowing was actually in the opposite direction.

The word *sc'uqʷay'* has a more compact distribution, even when including the semantically shifted forms in Figure 1. The form *sineʔəč* has the most limited distribution, only occurring in Saanich and Island Halkomelem, suggesting diffusion at a late stage.

4   Discussion

4.1   Implications

The distributional patterns outlined in this paper confirm that geography plays a significant role in the spread of cognates, since related forms almost always occur in geographically contiguous languages. It is more difficult to determine what causes these patterns. A common form in multiple languages could be a borrowing, a shared retention, or a shared innovation (Gerdts, 1977:25), and distinguishing between these three possibilities is not always easy. Hess (1986) outlines six principles to infer the presence and direction of borrowing, and these have been applied here where possible (Set 9 illustrates his Principle 1, for example).

One problem which Hess does not explicitly mention is the widespread occurrence of irregular sound correspondences in Salish. Kuipers states that "the reason is not borrowing in the narrow sense, but interpenetration of languages resulting from bi- and even trilingualism" (1996:209). Multilingualism was probably the norm in the Central Salish area, since intermarriage among language groups was common. Once one considers that Central Salish languages have remained in contact over the entire course of their history, the probability of "multiple correspondences" becomes magnified. However, these irregular correspondences allow the comparative linguist a window into the relative chronology of changes in the family, which is otherwise difficult in languages without written history.

Set 2, *sčananxʷ* 'any fish, salmon', is a good demonstration of this. The Straits forms here show an irregular *č* reflex of Proto-Salish *k,* while the Lushootseed word is phonologically regular. The simplest conclusion is that the Straits languages borrowed this word from Lushootseed after the shifts fronting the *č* series (Galloway, 1988:304). Interestingly, the correspondence of Northern Straits *e* to Klallam/Lushootseed *a* is regular and expected, implying that the shift of *a > e* in Northern Straits happened after the borrowing of this word. The sequence of changes in Straits must have been: (1) *č > *c*, (2) borrowing *sčananxʷ* from Lushootseed, (3) *a > e* in Northern Straits. The Samish word *yaməč* under Set 12, *yumač* 'spring, chinook salmon' reinforces this conclusion, since the vowel correspondences are regular while the consonant correspondences are irregular. Examination of more cognate sets will reveal whether this pattern is consistent, and serves as a useful starting point for investigating the relative chronology of sound changes in Central Salish.

One implication of this and similar research is that it argues against the classification of Central Salish into a binary-branching tree (see the

lexicostastical analysis in Swadesh, 1950), since this does not allow for overlapping isoglosses. The Central Salish branch, and perhaps the Salish language family more generally, therefore seems to be a prime example of a linkage: "a group of communalects which have arisen by dialect differentiation" (Ross, 1988:8). This agrees with Thompson & Kinkade's description of Central Salish as "the surviving heart area of the original dialect continuum" (1990: 36). François (2015) suggests "historical glottometry" an alternative to the tree model in historical linguistics. This model allows intersecting subgroups, incorporating insights from the wave model as used in dialect studies, while maintaining the focus on shared innovations that is the foundation of the comparative method. This approach for understanding change in Central Salish may be more useful than one which relies on exclusively shared innovations and non-intersecting subgroups.

4.2   Future directions

Although this study was limited in both its scope and detail, it can hopefully serve as a useful exploration of language contact and language change within Central Salish. It largely reaffirms what other linguists have said about the problems intersecting isoglosses and irregular correspondences in the family. However, the strong wave-like patterns of "innovations emanating from centrally located Halkomelem" (Hess, 1979:14) that Hess described in words for 'deer' and 'lake' were not found in the data here. Instead, different words show different focal points of diffusion, which create diffusion areas that frequently overlap, sometimes even within languages. This phenomenon was noted in Gerdts' (1977) survey of Halkomelem dialects, where she found that when the Island and Mainland dialects differ on a particular lexical item, the Island dialect shares more cognates with Straits, while the Mainland dialects share more cognates with Sechelt, Squamish, and Nooskack (26). The simplest explanation for these patterns is that the central position of the Halkomelem language created many points of contact with neighbouring languages, which would have facilitated diffusion both into and from Halkomelem.

    Speculation on the pre-contact sociolinguistic situation of Central Salish languages may help explain the processes by which diffusion occurred. For example, people from across Halkomelem-speaking territory, as well as from Squamish and Northern Straits, would had converged on the Fraser River at certain times of the year to fish the prolific runs of salmon and eulachons that migrate up the river to spawn (Suttles, 1990:457). It is easy to imagine that words for salmon or fishing techniques and equipment could diffuse across language boundaries in such an environment. Intermarriage and trade are well known as means of language contact in the Salish family, but it may be possible to examine more detailed sociolinguistic factors. By examining patterns of shared innovations, retentions, and borrowings in specific semantic categories, we can gain further insight into ancient language contact and change.

5   Conclusion

This investigation of the distribution of cognate sets for salmon within Central Salish reveals patterns of lexical diffusion similar to those described by previous researchers. Over a very long period, this diffusion could result in the complicated system of multiple sound correspondences observed in modern Central Salish languages. This aligns exactly with descriptions of the branch as an old dialect continuum which has diverged while the languages remained in contact, implying that the distinction between "shared innovations" and "borrowings" may not always be clear cut. Since language differentiation is a process rather than a single event, there is no specific moment in time when a shared innovation becomes an example of borrowing. In the case of Central Salish, both are important processes of differentiation, but also convergence.

I suggest that the "problem" of multiple correspondences is actually a very useful example of linguistic stratigraphy, which can be used to establish a relative chronology of change in Central Salish languages. This is especially true in a family like Salish, where written records cannot be used to provide an absolute dating of linguistic shifts. If a solid relative chronology of changes can be established, other lines of evidence such as archaeology and oral history, can be consulted to shed light on the history of the Central Salish languages and their speakers.

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Modality in Comox-Sliammon[*]

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Abstract: Despite substantial documentation efforts in recent years (e.g., Blake 2000; Watanabe 2003), not much is known about the modal system of Comox-Sliammon. This paper aims to fill this gap in documentation. Drawing on data elicited from 12 fluent speakers, I will not only show how epistemic and circumstantial modality can be encoded, but also how speakers of this language express modal-temporal interactions.

Keywords: Comox-Sliammon, modality, evidentiality, variable force modals, modal-temporal interactions

1   Introduction

This paper is the first description of the modal system of Comox-Sliammon (also known as ʔayʔaǰuθəm), a critically endangered Central Salish language traditionally spoken by four communities along the Northern Strait of Georgia in British Columbia. Despite substantial documentation efforts in recent years (cf. Andreotti 2018; Blake 2000; Caldecott & Mellesmoen 2018; J. Davis 2005, 2012, 2015, 2016, 2018; H. Davis & Huijsmans 2017; Huijsmans, Mellesmoen, & Urbanczyk 2018; Huijsmans, Reisinger, Lo, & Xu 2018; Lo 2017; Kroeber 1999; Mellesmoen 2017a, 2017b, 2018; Mellesmoen & Andreotti 2017; Reisinger & Lo 2017; Watanabe 2003), not much is known about the modal system of this language. This survey aims to fill this gap in documentation. The following four research questions will be addressed in this paper:

(1)   a.   What are the dedicated modals of Comox-Sliammon?
       b.   How do these modals carve up the semantic space?
       c.   How are modal-temporal interactions expressed?
       d.   How can we formalize their semantics?

Drawing on data elicited from 12 fluent speakers, I will argue that the lexical inventory of Comox-Sliammon contains several modal markers. Epistemic readings emerge from the use of the inferential evidential *ča*, the reportative

evidential *k̓ʷa*, and the complex clitic strings *səm=kʷa*, *sem=kʷi*, and *sem=kʷu*. The circumstantial domain contains the English borrowing *have to* and – potentially – also the auxiliary *ǰaqaʔ*. As will be shown, some of these markers act as variable force modals, while others appear to be lexically specified in terms of quantificational force and modal base. This non-uniform distribution suggests that Comox-Sliammon is best classified as a 'mixed system' in the emerging formal typology of modals (e.g., Nauze 2008).

In Section 2, I will provide a brief introduction to Kratzer (1977, 1981, 1991)'s theory of modality as well as Condoravdi (2002)'s theory of modal-temporal interactions. Drawing on the cross-Salish literature on modality, I will introduce the concept of variable force modals. With the theoretical background in place, Section 3 will describe the modal inventory of Comox-Sliammon and illustrate how the dedicated modal markers carve up the modal space. Subsequently, Section 4 turns to the issue of modal-temporal interactions. Section 5 will explore how the semantics of the modals can be formalized, before Section 6 concludes this paper with a short summary.

2 Background

2.1 The Kratzerian Theory of Modality

Before we take a closer look at the modal system of Comox-Sliammon, let us briefly revisit the framework of modality developed by Kratzer (1977, 1978, 1981, 1986, 1991), which has become the standard account of modality within formal semantics. [1] According to the Kratzerian framework, modals can be regarded as quantifiers over possible worlds. As noted by Kratzer (1981), we need three formal components to aptly capture the meaning of a modal expression: (i) a modal relation, (ii) a modal base, and (iii) an ordering source. The latter two are contextually determined by conversational backgrounds.

The modal relation (also known as modal force) describes the strength of a modal expression and can be conceptualized as quantification over possible worlds. Using this approach, we can easily explain the difference in force of the modals in example (2). While the necessity reading of *must* in (2a) emerges due to universal quantification ($\forall$), the possibility reading of *can* in (2b) is the result of existential quantification ($\exists$) (cf. Kratzer 1977, among others).

(2)   a.   You **must** bring crampons.   [NECESSITY]
       b.   You **can** bring crampons.   [POSSIBILITY]

The first conversational background is the modal base B. After it receives a value by the assignment function c, the modal base restricts the domain of quantification to a set of relevant worlds, i.e., the set of worlds in which all propositions of $B(w)$ are true. In general, the Kratzerian framework distinguishes between two types of modal base: epistemic and circumstantial. While epistemic modals are concerned

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[1] An overview of alternative approaches – such as the force dynamics theory by Talmy (1988) – can be found in Portner (2009).

with the speaker's knowledge or evidence, circumstantial modals involve facts about the world. The examples in (3) illustrate this fundamental distinction.

(3) a. Saoirse **must** be home. Her car is in the driveway. [EPISTEMIC]
  b. Saoirse **must** be home by midnight or she'll be
   grounded by her parents.   [CIRCUMST.]

In addition to the modal base, Kratzer's framework also requires a second conversational background, namely an ordering source g. Using a set of propositions, the ordering source ranks the worlds in the modal base with regard to their relevance. Eventually, the best-ranked worlds in $\cap B(w)$ will be accessible by the modal. As illustrated by example (4), these rankings can be motivated by a variety of reasons, such as the law (deontic), desires (bouletic), goals (teleological), beliefs (doxastic), or the normal course of events (stereotypical).

(4) a. According to the law, cyclists **must** wear a helmet. [DEONTIC]
  b. I **must** try this cake! It looks delicious! [BOULETIC]
  c. To go to Bowen Island, you **must** take the ferry. [TELEOLOG.]
  d. That guy at the gas station **must** have been Elvis. [DOXASTIC]
  e. It **must** be cold outside. It's snowing like crazy! [STEREOTYP.]

2.2 Modal-Temporal Interactions

To capture modal-temporal interactions, we need to introduce two more concepts: temporal perspective and temporal orientation. Both of these terms emerge from Condoravdi (2002)'s seminal work on the temporal interpretation of English modals.

2.2.1 Temporal Perspective

The term *temporal perspective* refers to the time when the worlds a modal quantifies over are assessed. For epistemic modals, this is the time when the relevant evidence or knowledge holds. Example (5), for instance, exhibits a present temporal perspective since the evidence – i.e., the puddles – is visible at the utterance time.

(5) It **must** have rained. There are puddles on the ground.

Similarly, it is the time when certain facts are true that determines the temporal perspective for circumstantial modals. In example (6), which represents a teleological context, the facts two centuries ago were such that a ship journey was necessary if you planned to go to Vancouver Island. Nowadays, however, you could also take a plane to get there. In other words, the circumstances which necessitated a ship journey 200 years ago no longer hold at the present. Thus, the sentence in (6) expresses a past temporal perspective.

(6)   200 years ago, you **had to** take a ship to get to Vancouver Island.

Of course, it is also possible to think of contexts which require a future temporal perspective. That is, at some point in the future, the evidence or facts will be such that MODAL (p). However, since such interpretations are very difficult to elicit, I will not explore future temporal perspectives in this investigation.

2.2.2   Temporal Orientation

The term *temporal orientation* describes the relation between the temporal perspective and the time of the event that is embedded under the modal. To illustrate this, let us take a look at the examples in (7). While all of these sentences indicate a present temporal perspective (i.e., the speaker obtains the evidence at the utterance time), they differ in their temporal orientation. The sentence in (7a) exhibits a past temporal orientation since the raining event precedes the observation of the puddles. In (7b), the raining event and the pattering on the roof coincide, giving rise to a present temporal orientation. Lastly, in (7c), the speaker sees the dark clouds before the raining event, which means that the modal takes on a future temporal orientation.

(7)   a.   There are puddles on the ground. I guess it **might** have rained.
         b.   What's that pattering on the roof? I guess it **might** be raining.
         c.   Just look at the dark clouds! I guess it **might** be raining soon.

Since tense provides the temporal perspective for English modals, Condoravdi (2002) argues that the concept of temporal orientation can be regarded as aspectual – it essentially indicates the relation between the reference time and the event time. As will be shown in Section 4, this analysis also holds for most of the modals in Comox-Sliammon.

2.3   Modality in Salish

Over the last couple of years, several researchers have noted striking typological differences between Salish modals and their English counterparts (cf. Rullmann et al. 2008, Menzies 2013, among others).

While English modals tend to be lexically specified with regard to their quantificational force, their conversational backgrounds can vary.[2] The modal *must*, for instance, acts as universal quantifier and, consequently, always evokes a necessity reading. While the modal force of *must* is fixed, its conversational backgrounds are not, so that *must* is compatible with different modal bases. To illustrate this, the instantiation of *must* in (8a) represents an epistemic modal base, while its equivalent in (8b) involves a circumstantial modal base.

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[2] As noted by Rullmann et al. (2008) as well as Peterson (2010), this classification holds for isolated modals, but is often difficult to maintain for entire modal systems.

(8)   a.   Peter's coat is wet. It **must** be raining outside.

[NECESSITY: EPISTEMIC]

b.   It **must** rain or the crops will spoil.

[NECESSITY: CIRCUMSTANTIAL]

In several varieties of Salish, modals tend to pattern quite differently. Rullmann et al. (2008) note that all modals in St'át'imcets have variable quantificational force, but are lexically specified with regard to their conversational backgrounds. The modal marker *ka*, for instance, is restricted to deontic or irrealis readings, but allows universal as well as existential interpretations. Strikingly, the cross-Salish literature suggests that such variable force modals are not limited to St'át'imcets, but can also be observed in other members of this language family, such as Nsyilxcen (Menzies 2013) and Sḵwx̱wú7mesh (Gillon & Jacobs 2017). Example (9) presents some sentences that support this claim.[3]

(9)   a.   St'át'imcets (Rullmann et al. 2008):
lán-lhkacw   **ka**   áts'x-en   ti   kwtámts-sw-a
already-2SG.SBJ   DEON   see-DIR   DET   husband-2SG.POSS-DET
'You must / can / may see your husband now.'

b.   Nsyilxcen (Menzies 2013):
mat   ks-c-pix̌-aʔx
EPIS   IRR-CUST-hunt-INCP
'He must / might be going hunting.'

c.   Sḵwx̱wú7mesh (Gillon & Jacobs 2017):
Nilh=**ch'**   tiwa
FOC=EPIS   DEM
'It must / might be him.'

However, it should be noted that the modal system of Nsyilxcen is not as uniform as in St'át'imcets or Sḵwx̱wú7mesh. While all modals in the latter have a fixed conversational background and variable force, this is not the case for Nsyilxcen. As pointed out by Menzies (2013), the force of the modal *mat* may vary, while the modal *cmay* appears to be fixed with regard to both dimensions. In other

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[3] Abbreviations used in this paper are: BOUL = bouletic; CAU = causative; CLF = cleft; CLT = clitic; CNJ = conjunctive; CONJ = conjunction; CTR = control transitivizer; CUST = customary; DEM = demonstrative; DEON = deontic; DET = determiner; DIR = directive transitivizer; EPIS = epistemic; ERG = ergative; EVD = evidential; EXCL = exclusive marker; FOC = focus; FUT = future; IMPF = imperfective; INCP = inceptive; INF = inferential; INT = intensifier; IRR = irrealis; LEX = lexical particle; MD = middle; NEG = negation; NMLZ = nominalizer; NTR = non-control transitivizer; OBJ = object; OBL = oblique; PASS = passive; PL = plural; POSS = possessive; PST = past; Q = question marker; REFL = reflexive; RPT = reportative; SBJ = subject; SG = singular; TELE = teleological; TR = transitivizer.

words, it is restricted to an epistemic modal base as well as to possibility readings, as shown in example (10). This suggests that the modal system of Nsyilxcen is best described as a 'mixed system'.

(10)   Mary   **cmay**   ac-qíc-lx   [POSSIBILITY: EPISTEMIC]
       Mary   EPIS   CUST-run-LEX
       'Mary might be running.'

Taking these cross-linguistic observations into consideration, the formal typology of modals shown in Table 1 emerges.[4] One of the goals of this paper is to determine where Comox-Sliammon should be placed in this model.

Table 1: A typology of modals

	SPECIFIED CONVERSATIONAL BACKGROUND	VARIABLE CONVERSATIONAL BACKGROUND
SPECIFIED FORCE	English (*might*) Nsyilxcen (*cmay*)	English (*must*)
VARIABLE FORCE	St'át'imcets Skwxwú7mesh Nsyilxcen (*mat*)	?

3   The Modal Inventory

With the theoretical background in place, we can now return to the four research questions presented at the beginning of this paper. In the following subsections, I will provide an overview of the modal markers of Comox-Sliammon and show how they carve up the modal space.

   The data presented on the following pages were elicited from 12 fluent speakers of the language over a period of several months. The consultants (age range: 60–86 years) represent all three remaining speech communities of Comox-Sliammon, i.e., the Homalco, Klahoose, and Tla'amin. Of the Island dialect, traditionally spoken by the K'omoks, no native speakers remain.

   As eliciting modals can be a challenging endeavour, a variety of elicitation methods were employed over the course of this investigation, including direct elicitation with contextual support, judgment tasks, storyboards, and other visual prompts (created with the web-service pixton.com).

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[4] For a more comprehensive typology of modals, see Nauze (2008).

3.1 Epistemic Modals

First, let us take a look at the class of epistemic modals. As noted by Portner (2009), these modals require an epistemic modal base and usually involve a doxastic or a stereotypical ordering source. In English, the modals *must* and *might* are frequently used to encode this type of modality. Comox-Sliammon also seems to have dedicated markers that can be used to convey epistemic readings, namely the inferential evidential *č̓a*, the reportative evidential *k̓ʷa*, and the complex clitic strings *səm=k̓ʷa*, *sem=k̓ʷi*, and *sem=k̓ʷu*. [5] The following subsections will examine these epistemic markers more closely.

3.1.1 The Inferential Evidential *č̓a*

The inferential evidential *č̓a* is the most common marker of epistemic modality in Comox-Sliammon.[6] Watanabe (2003:517) glosses it as a conjectural marker and states that speakers tend to use this second-position clitic with presumptions. This observation is supported by the example given in (12), where the speaker draws an inference about the weather based on the clothing choice of another person.[7]

(12)   CONTEXT**:** You spent the night in a chalet. The next morning, you walk down to the foyer. You haven't looked outside yet, but someone walks by with winter clothes and a snow shovel. Therefore, you think it must have snowed last night.

ʔaxʷ-uɬ=**č̓a**   s   nat-uɬ
snow-PST=EVD.INF   NMLZ   night-PST
'It must have snowed last night.'
Comment (by E.P.): "You have to see it." [i.e., the winter clothes and the snow shovel]

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[5] In addition to these dedicated modals, speakers of Comox-Sliammon can also use periphrastic constructions to express epistemic modality. In particular, the attitude verb *qʷayigen* ('I think') is often used for this purpose, as illustrated by the example in (i).

(i)   **qʷayigan**   č̓ə~č̓ɬ   ƛaʔamin
      I think   IMPF~rain   Lund
      Prompt: 'It must / might be raining in Lund.'
      Literally: 'I think it is raining in Lund.'

[6] Although traditional analyses regard epistemic modals and evidentials as two distinct categories (e.g., de Haan 1999; Aikhenvald 2004), a growing body of research challenges this dichotomy. Among others, Kratzer (1991), Izvorski (1997), Matthewson et al. (2007), and Peterson (2010) have presented modal analyses for evidentials.

[7] Cognates of *č̓a* can also be found in other Salish languages. While the modal *k'a* in St'át'imcets has been linked to indirect inferential evidence (Rullmann et al. 2008), the Skwx̱wú7mesh modal *ch'* has been classified as a marker for indirect sensory evidence (Gillon & Jacobs 2017).

The examples in (13) and (14) illustrate that this epistemic modal allows both necessity and possibility readings, suggesting that its quantificational force is variable. Considering that the cognates of *čʼa* in Sḵwx̱wú7mesh (Gillon and Jacobs 2017) and St'át'imcets (Rullmann et al. 2008) have also been described as variable force modals, this observation is not completely surprising.

(13) čə~čɬ=**čʼa**   λaʔamin
    IMPF~rain=EVD.INF   Lund
    'It must / might be raining in Lund.'

- ✓ CONTEXT 1 [NECESSITY]: You are in Sliammon. You look out of your window, and it is pouring outside. You start to think about Lund, the neighboring village just up the road, and you are absolutely convinced that it must be raining there, too.

- ✓ CONTEXT 2 [POSSIBILITY]: You are in Campbell River (on Vancouver Island). You look out of your window, and it is pouring outside. You start to think about Lund, a small village on the mainland, and you think it is possible that it might be raining there, too.

(14) niš=**čʼa**   kʷ=qʷuwət   tiʔi   θaẏaɬ
    be.here=EVD.INF   DET=beaver   DEM   lake
    'There might / must be beavers in this lake.'

- ✓ CONTEXT 1 [POSSIBILITY]: You are hiking through the backcountry to take some wildlife photographs. Suddenly, you stumble upon a big lake in the forest. You think it is possible that beavers might live in this lake.

- ✓ CONTEXT 2 [NECESSITY]: As you continue your hike along the lake, you notice some bite marks on a pair of trees and, eventually, you even spot a beaver lodge in the lake. Now, you are absolutely convinced that there are beavers in the lake.

3.1.2   The Reportative Evidential *k̓ʷa*

Epistemic modality in Comox-Sliammon can also be expressed via the evidential marker *k̓ʷa*. Watanabe (2003:522) labels this second-position clitic as a quotative and explains that it indicates hearsay evidence. As expected, cognates of this evidential can also be found in other Salish languages. In Sechelt, hearsay evidence is marked by the clitic *k̓ʷa* (Beaumont 2011), while *eḵa* acts as the quotative in Sḵwx̱wú7mesh (Gillon & Jacobs 2017). The epistemic-reportative evidential *ku7* in St'át'imcets as described by Rullmann et al. (2008) might also be related to these forms. The examples given in (15) and (16) illustrate the evidential nature of *k̓ʷa* in Comox-Sliammon.

(15) čə~čɬ=k̓ʷa   Vancouver
      IMPF~rain=EVD.RPT   Vancouver
      'It is raining in Vancouver.'
      Comment (by E.P.): "Somebody had to tell you."

(16) niʔ=k̓ʷa   ʔə~ʔimaš   ʔə=tə=q̓ʷit
      be.there=EVD.RPT   IMPF~walk   OBL=DET=beach
      'She is walking on the beach.'
      Comment (by E.P.): "You didn't see it, but somebody said [it occurred]."

Just like the inferential evidential *ča*, the reportative marker *k̓ʷa* allows both
necessity and possibility readings, suggesting that we can classify it as a variable
force modal as well. Evidence for its variable quantificational force is presented
in the examples (17) and (18) below.

(17) ʔaxʷ-uɬ=k̓ʷa   tawən
      snow-PST=EVD.RPT   town
      'It must have snowed in the city.'

    ✓ CONTEXT [NECESSITY]: Your friend Peter, a weatherman who always
      seems to be correct, tells you that it snowed in Vancouver yesterday and
      you believe him. Now you want to tell me about it, and you say that you
      heard it must have snowed in Vancouver yesterday.

(18) čəɬ-uɬ=k̓ʷa   Vancouver
      rain-PST=EVD.RPT   Vancouver
      'It might have rained in Vancouver.'

    ✓ CONTEXT [POSSIBILITY]: Your other friend John, who is usually not very
      reliable, tells you that it rained in Vancouver yesterday. You are not sure
      whether you should believe him. But you want to tell me about it anyway,
      and you say that you heard it might have rained in Vancouver yesterday.

3.1.3   The Clitic Strings *səm=kʷa*, *sem=kʷi*, and *sem=kʷu*

In addition to the use of evidentials, epistemic modality can also be expressed by
the clitic strings *səm=kʷi*, *səm=kʷa*, and *səm=kʷu*. While *səm* is generally analyzed
as a plain future marker (e.g., Watanabe 2003:527; Davis in this volume), my data
suggest that this clitic does not always convey real futurity. Under certain
circumstances, namely when *səm* is directly followed by a clausal demonstrative,
usually of the form *kʷi*, *kʷa*, or *kʷu*, the future interpretation seems to be

abandoned in lieu of an epistemic interpretation.[8] This contrast is exemplified by the sentences in (19) and (20).

(19) čəɬ=**səm**   kʷəy̓səm
      rain=FUT   tomorrow
      'It will rain tomorrow.'

(20) **səm=kʷu**=t   čə~čɬ   q̓ʷit   ʔaǰu
      FUT=DEM=CLT   IMPF~rain   beach   too
      'It must be raining in Campbell River [i.e., down by the beach], too.'

Cross-linguistically, it is not uncommon for future markers to exhibit this ambiguity. The English modal *will*, for instance, allows both of these readings as well, as exemplified by (21a) and (21b).

(21) a.   Saoirse **will** be home in three hours.   [ROOT]
      b.   Saoirse **will** be home by now.   [EPISTEMIC]

As highlighted by Sweetser (1991:51), the use of *will* in the root scenario primarily marks actual futurity, i.e., the futurity of the event. In (21a), for instance, the modal conveys that Saoirse's arrival will take place in the future. In contrast, the use of *will* in (21b) is primarily epistemic and marks the futurity of knowledge. It is not the event itself, but its verification by the speaker that lies in the future. In other words, Saoirse may or may not already be home at the time of utterance, but the speaker cannot verify the occurrence of the event right now; the verification has to happen in the future. Thus, (21b) could also be paraphrased as "If we check, we will see whether Saoirse is home."

   In contrast to English, Comox-Sliammon explicitly distinguishes both of these readings. The root interpretation only emerges when *səm* appears on its own, while the epistemic reading is only available when *səm* is followed by a clausal demonstrative. In addition, both readings also pattern differently from a syntactic perspective. While the plain future marker always has to follow the main predicate, the complex epistemic clitic strings are more flexible and can both

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[8] While Watanabe (2003) treats some of these clitics as evidentials, Huijsmans and Reisinger (this volume) argue that these elements are best characterized as clausal demonstratives. According to their analysis, clausal demonstratives deictically link the event situation to the utterance situation. More specifically, the clausal *kʷ*-demonstratives (i.e., *kʷa, kʷi, kʷu*) indicate that the speaker is not directly observing the described proposition, while the *t*-demonstratives (i.e., *ta, ti*) indicate that the event is visible to the speaker. Considering this, it is not surprising that only the former set of clitics appears to combine with *səm* to express epistemic modality. Forms like **səm=ta* and **səm=ti*, on the other hand, remain unattested as they would violate the *known truth test* (cf. Peterson 2010:111, among others). That is, epistemic modals cannot be used if the speaker knows that the proposition is true.

precede or follow the main predicate, as shown in the examples given in (22) and (23).[9]

(22) a.   čəl=**səm**   kʷəy̓səm
           rain=FUT   tomorrow
           'It will rain tomorrow.'

       b.   * **səm**=čəł   kʷəy̓səm
           FUT=rain   tomorrow
           'It will rain tomorrow.'

(23) a.   ƛaq̓ʷ-uq̓ʷ   **səm=kʷi**   qaya
           tide.up-INCP   FUT=DEM   water
           'I guess the tide would be up now.'

       b.   **səm=kʷi**   ƛaq̓ʷ-uq̓ʷ   qaya
           FUT=DEM   tide.up-INCP   water
           'I guess the tide would be up now.'

Parallel to the evidentials *ča* and *k̓ʷa*, the epistemic clitic strings *səm=kʷa*, *səm=kʷi*, and *səm=kʷu* seem also to allow both necessity and possibility readings, as highlighted by the example in (24). Thus, all epistemic modals pattern uniformly in this regard.

(24) **səm=kʷu**=t   čə~čł   ƛaʔamin
       FUT=DEM=CLT   IMPF~rain   Lund
       'It must / might be raining in Lund.'

   ✓ CONTEXT 1 [NECESSITY]: You are in Sliammon. You look out of your window, and it is pouring outside. You start to think about Lund, the neighboring village just up the road, and you are absolutely convinced that it must be raining there, too.

   ✓ CONTEXT 2 [POSSIBILITY]: You are in Campbell River (on Vancouver Island). You look out of your window, and it is pouring outside. You start to think about Lund, a small village on the mainland, and you think it is possible that it might be raining there, too.

3.2   Circumstantial Modals

The following subsections will show that the inventory of circumstantial modals in Comox-Sliammon is not nearly as rich as its epistemic counterpart. More specifically, only one marker, namely the English borrowing *have to*, appears

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[9] Although both orders presented in (23) are acceptable, the complex epistemic clitic strings usually precede the main predicate.

frequently in circumstantial contexts.[10] Section 3.2.1 will examine this (semi)-modal in more detail. Subsequently, Section 3.2.2 will take a look at circumstantial contexts that appear to lack dedicate modal markers altogether.

3.2.1 The English Borrowing *have to*

The (semi)-modal *have to*, which has been borrowed from English, exclusively encodes priority modality in Comox-Sliammon.[11] According to Portner (2009)'s classification of modality, priority modals are concerned with reasons that prioritize one situation over another. In general, they require a circumstantial modal base and are compatible with deontic, teleological, or bouletic ordering sources – i.e., the worlds in the modal base can be ranked according to their relevance with regard to laws, goals, or desires. As will be shown, the modal *have to* can be used for all of these contexts in Comox-Sliammon.

3.2.1.1 Deontic Uses

Deontic modals encode obligations and permissions with regard to some kind of ethical, moral, or legal norm (Portner 2009). In English, the modals *must* (necessity)*, should* (weak necessity), and *can* (possibility) are usually associated with this category.

In Comox-Sliammon, speakers have borrowed the English (semi)-modal *have to* to express deontic necessity and weak necessity readings, as illustrated by examples (25a) and (25b). For possibility readings, as in (25c), the use of this modal marker is infelicitous, suggesting that it does not act as a variable force modal in the language.

(25)   CONTEXT: You are about to go through airport security and the officer in charge informs you of the regulations. According to the law...
      a.   you *have to* take off your shoes   [DEONTIC NECESSITY]
      b.   you *should* take off your belt   [DEONTIC WEAK NECESSITY]
      c.   you *can* take of your coat   [DEONTIC POSSIBILITY]

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[10] The modal marker *ǰaqa*, which will be examined more closely in Section 3.4, might also belong to the class of circumstantial modals. However, since its semantic contribution is currently not well-understood, I refrain from attributing it to a specific modal category for now and, instead, leave a more detailed analysis for another time.

[11] In Comox-Sliammon, *have to* does not show the English verbal agreement, but instead marks number and person with a possessive marker that introduces the predicate. As shown in (ii), *have to* can also be embedded.

(ii)   qʷayigan   **have to**   tˀ=ṗaṗi=m
        I think   DEON   1SG.POSS=work=MD
        'I think I might have to work.'

a. **have to** Ɵ=xʷaʔa-t   qʷəłaẏšən
    DEON   2SG.POSS=take.off-CTR   shoes
    Prompt: 'You have to take off your shoes.'
    Literally: 'You have to take off your shoes.'

b. **have to** Ɵ=xʷaʔa-t   təm̓
    DEON   2SG.POSS=take.off-CTR   belt
    Prompt: 'You should to take off your belt.'
    Literally: 'You have to take off your belt.'

c. #**have to** Ɵ=xʷaʔa-t   kapu
    DEON   2SG.POSS=take.off-CTR   coat
    Prompt: 'You can take off your coat.'

While the use *have to* in deontic contexts is quite common among younger speakers of the language, older speakers resort to it less often or even completely reject it.[12] Those speakers who refrain from the use of *have to* often employ periphrastic constructions (such as imperatives) instead when prompted with deontic contexts. To illustrate this, the three example sentences given in (25) above can all be realized without the use of the English borrowing, as shown in (26).

(26) a. xʷaʔa-t=čxʷ   tə=Ɵ=qʷəł~qʷəłaẏšən
      take.off-CTR=2SG.SBJ   DET=2SG.POSS=PL~shoe
      Prompt: 'You have to take off your shoes.'
      Literally: 'Take off your shoes!'

    b. xʷaʔa-t=čxʷ   tə=Ɵ=təm̓
      take.off-CTR=2SG.SBJ   DET=2SG.POSS=belt
      Prompt: 'You should take off your belt.'
      Literally: 'Take off your belt!'

    c. ʔəẏ=ʔut   xʷaʔa-t   kapu
      good=EXCL   take.off-CTR   coat
      Prompt: 'You can take off your coat.'
      Literally: 'It is okay to take off the coat.'

The use of such periphrastic constructions is also observed in contexts where imperatives are not available, for instance in interrogatives. This is illustrated by the sentences in (27).

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[12] Watanabe (2003:533) mentions that even the most fluent speakers of Comox-Sliammon use English words like *have to* quite commonly in casual speech. However, in more formal contexts, the use of such borrowings is less common. This might explain why *have to* never showed up during my elicitations with older speakers.

(27) CONTEXT: You ask your friend whether...
    a.   you *have to* stay   [DEONTIC NECESSITY]
    b.   you *should* stay   [DEONTIC WEAK NECESSITY]
    c.   you *can* stay   [DEONTIC POSSIBILITY]

    a.   xʷaʔ   χaƛ̓=as   kʷə=t⁰   niš
        NEG   want=3.CNJ DET=1SG.POSS be.here
        Prompt: 'Do I have to stay?'
        Literally: 'I don't want to stay.'

    b., c.   ʔəǰ-a   ga   niš=an
            good-Q   if   be.here=1SG.CNJ
            Prompt: 'Should / Can I stay?'
            Literally: 'Is it okay if I stay?'

To conclude, the data suggest that Comox-Sliammon lacked a dedicated marker for deontic modality at an earlier point, leading to the use of periphrastic constructions. The younger generations of speakers, however, have found another way to deal with this gap in the modal system by borrowing the English (semi)-modal *have to* for necessity and weak necessity readings.

3.2.1.2   Teleological Uses

Teleological modals are concerned with goals (Portner 2009). Speakers of English usually use the modals *must* (necessity)*, should* (weak necessity), and *can* (possibility) to convey teleological readings. Once again, Comox-Sliammon lacks dedicated modals for this purpose and, consequently, has borrowed the English (semi)-modal *have to*. As illustrated by example (28), this modal is compatible with teleological necessity and weak necessity readings, but infelicitous in possibility contexts.

(28) šəʔ-ət=səm   təyta ta̓q̓t̓   **have to**   yaʔq̓a-stxʷ χʷiɬəm
     climb-CTR=FUT DEM mountain TELE   use-CAU   rope
     'When he climbs this mountain, he must/should use a rope.'

    CONTEXT: You ask your friend, who is a renowned mountaineer, what you have to do to climb three particular mountains. Your friend tells you: To climb these mountains, you...
  ✓ a.   *have to* use a rope   [TELEOLOGICAL NECESSITY]
  ✓ b.   *should* use a rope   [TELEOLOGICAL WEAK NECESSITY]
  # c.   *can* use a rope   [TELEOLOGICAL POSSIBILITY]

Once again, older speakers refrain from the use of *have to* and instead employ other constructions to convey teleological readings, as illustrated by the examples given in (29) and (30).

(29)   CONTEXT: The same contexts as in (28a, b).

ʔut=čxʷ   θu šəʔ-ət   ṫaʔqɬ   yaʔq̇a-stxʷ=čxʷ   tə=χʷiɬəm

if=2SG.SBJ go climb-CTR   mountain use-CAU=2SG.SBJ DET=rope
Prompt: 'To climb this mountain, you have to / should use a rope.'
Literally: 'If you climb the mountain, you use a rope.'

(30)   CONTEXT: The same context as in (28c).

ʔəy̓=ʔut   yaʔq̇a-stxʷ   χʷiɬəm
good=EXCL   use-CAU   rope
Prompt: 'To climb this mountain, you can use a rope.'
Literally: 'It is okay to use a rope.'

To conclude, the teleological category seems to pattern exactly like the deontic one.

3.2.1.3   Bouletic Uses

Bouletic modals form the third and last class of priority modals. They are usually concerned with wishes or desires (Portner 2009). In English, speakers use the modals *must* (necessity)*, should* (weak necessity), and *can* (possibility) to express this type of modality. Comox-Sliammon, on the other hand, again lacks dedicated modals for this purpose. Instead, periphrastic constructions – often involving the verb *χaƛ* ('to want') – tend to be used to convey bouletic necessity readings, as illustrated by example (31). For weak necessity readings (i.e., recommendations), the use of imperatives – as in (32) – seems to be a common strategy.

(31)   CONTEXT: You see a cake in a bakery and feel a strong desire to try it.

χaƛ   kʷə=t̓θ   ṫaʔaʔ-t   tin   kiks
want   DET=1SG.POSS taste-CTR   DEM   cake
Prompt: 'I have to try this cake!'
Literally: 'I want to try this cake!'

(32)   CONTEXT: Your grandmother baked a cake and tells you that you should try it.

ṫaʔaʔ-t   ga
taste-CTR   IMP
Prompt: 'You should try this cake.'
Literally: 'Taste it!'

However, analogous to the deontic and teleological categories, the English borrowing *have to* can also be used to express necessity and weak necessity readings. This is illustrated by the example in (33):

(33) **have to** Ɵ=qaǰi-t   ǰanxʷ
      BOUL   2SG.POSS=try-CTR   fish
      Prompt: 'You have to / should try the salmon!'
      Literally: 'You have to try the salmon!'

      CONTEXT: You are in a restaurant with your best friend. It's your first time
      at this restaurant and you don't know what you should order. Your friend...
      ✓ a.   urges you to try the salmon   [TELEOLOGICAL NECESSITY]
      ✓ b.   recommends the salmon   [TELEOLOGICAL WEAK NECESSITY]

Once again, *have to* is mostly found in utterances by younger speakers, whereas
older speakers tend to avoid using this English borrowing. In addition, just like in
the deontic and teleological cases, *have to* seems to be specified both in terms of
its modal base and quantificational force.

3.2.2   The Absence of Dynamic Modals

For the sake of completeness, this section will outline how dynamic modality is
expressed in Comox-Sliammon. As noted by Portner (2009), dynamic modals
require a circumstantial modal base and an existential modal force. Traditionally,
two types of dynamic modals can be distinguished: (i) volitional modals and (ii)
quantificational modals.[13] While the former describe how the circumstances
affect the actions available to a volitional subject, the latter force existential
quantification over individuals. For this investigation, I will only focus on the
concept of volitional modality, which encompasses the sub-flavours of ability and
opportunity. As will be shown, Comox-Sliammon does not have any dedicated
modals to express these readings.[14]

3.2.2.1   Ability Modals

As emphasized by Portner (2009), ability modals describe intrinsic abilities and
skills of an individual. While English uses the modal *can* to encode ability
readings, Comox-Sliammon does not employ an overt modal marker for this
purpose, as illustrated by the examples below.

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[13] The out-of-control cases described by Davis et al. (2007) in St'át'imcets would form a
third sub-category of dynamic modality.
[14] Portner (2009) also attributes dispositional modals to the category of volitional modality.

(34) CONTEXT: While you are out on a hike in the forest with your 5-year-old
nephew, you spot a beaver sitting on the bank of a small lake. Your nephew
asks you whether beavers can swim. You tell him that they do.

(taʔat)   nəšəm   tə=qʷuwət
(use to)   swim   DET=beaver
Prompt: 'Beavers can swim.'
Literally: 'Beavers do swim.'

(35) CONTEXT: There was a big event in the town hall. Your neighbor Drew
sang a couple of traditional songs at this event. The next day, you tell your
friend about Drew's remarkable singing skills.

hiw   ʔəy̓=mut   tə=wuwuwum=s   Drew
INT   good=INT   DET=sing=3.POSS   Drew
Prompt: 'Drew can sing very well.'
Literally: 'Drew's singing is really good.'

3.2.2.2   Opportunity Modals

Opportunity modals link the actions available to an individual to the situation they
are in (Portner 2009). In English, this kind of modality is usually encoded by *can*.
Comox-Sliammon, on the other hand, does not have a dedicated modal to express
this kind of modality. Instead, speakers employ periphrastic constructions for this
particular purpose, as illustrated by the examples in (36) and (37).

(36) CONTEXT: It is midnight and you are sitting in your living room. Suddenly,
your friend Freddie comes in from outside and tells you that you can see
the stars tonight.

k̓ʷən-əxʷ=čxʷəm   tə=kʷusən   tin   nat
see-NTR=2SG.SBJ.FUT   DET=stars   DEM   night
Prompt: 'You can see the stars tonight.'
Literally: 'You will see the stars tonight.'

(37) CONTEXT: You and your friend are in a nice hotel room in Victoria. While
you unpack your suitcase, your friend walks over to the window and takes
a look outside. Then he tells you that you can see the ocean from your
room.

tačəm   tə=qay̓aʔ
be.visible   DET=water
Prompt: 'You can see the ocean (from here).'
Literally: 'The water is visible.'

3.3 Summary

Based on the data presented above, we can now start sketching the modal inventory for Comox-Sliammon. As highlighted in Table 2, the epistemic domain encompasses three modal markers, the evidential clitics *ča* and *kʷa* as well as a set of complex clitic strings that consist of the future marker *səm* and a clausal demonstrative. The inventory of circumstantial modals, on the other hand, is considerably less populated. Apart from the English borrowing *have to* which is compatible with deontic, teleological, and bouletic readings, circumstantial modality does not seem to be explicitly marked in Comox-Sliammon.

In addition, Table 2 also illustrates that the three epistemic modals are all specified in terms of their modal base, but variable in terms of their quantificational force, i.e., they allow both necessity or possibility readings. In contrast, the circumstantial modal *have to* is specified with regard to its quantificational force as well, since it is only compatible with (weak) necessity readings. Considering that not all modal elements in Comox-Sliammon seem to encode force constraints, the modal system of the language can be described as a 'mixed system'.

Table 2: The modal inventory of ʔayʔaǰuθəm

MODAL BASE	ORDERING SOURCE	NECESSITY	POSSIBILITY
EPISTEMIC	STEREOTYPICAL	*ča* *kʷa* *səm*=DEM	*ča* *kʷa* *səm*=DEM
CIRCUMSTANTIAL	DEONTIC	*have to*	*
	TELEOLOGICAL	*have to*	*
	BOULETIC	*have to*	*
	ABILITY	*	*
	OPPORTUNITY	*	*

3.4 The Potential Modal *ǰaqaʔ*

In addition to the four modal markers presented above, Comox-Sliammon also contains another potential modal, namely the auxiliary *ǰaqaʔ*.[15] However, since the contribution of this modal marker is currently not well-understood, I refrain from classifying it as either epistemic or circumstantial at this point. Instead, I will only provide some examples that illustrate its use and leave a detailed analysis of this item for another time.

One of the biggest challenges in providing an analysis for *ǰaqaʔ* is its versatile nature, since this auxiliary appears in a perplexing pandemonium of

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[15] Cognates of *ǰaqaʔ* can be found in other Central Salish languages as well. Beaumont (2011) translates the Sechelt auxiliary *yaḵa* as 'might (could), or (if not, otherwise)', while the modal *yeq* in SENĆOŦEN has been associated with counterfactual and bouletic interpretations. In addition, *ǰaqaʔ* also seems to have more distant cognates. The deontic/irrealis modal *ka* as well as the out-of-control modal *ka...a* in St'át'imcets (Davis et al. 2007; Rullmann et al. 2008) appear to be diachronically related to *ǰaqa*.

contexts. In particular, it has been encountered in (i) bouletic contexts, (ii) counterfactual contexts, and (iii) contexts where the event expressed by the proposition was not expected by the speaker.

The examples given in (38) to (40) represent bouletic contexts of use, since all of these sentences express some kind of wish, hope, or desire. More specifically, the first two sentences can be regarded as counterfactual wishes, while the proposition in (38) appears to be rather a direct statement of desire. Regardless, the data suggest that *ǰaqaʔ* could be a modal with a circumstantial modal base and a bouletic ordering source.

(38) **ǰaqaʔ=č**   ʔə   qəǰi   čuẏ
      ǰAQAʔ=1SG.SBJ   CLF   again   young
      'I wish I were a child again.'

(39) **ǰaqaʔ=č**   ʔə   xʷaʔ   ʔaxʷ=as-uɫ
      ǰAQAʔ=1SG.SBJ   CLF   NEG   snow=3SG.CNJ-PST
      'I wish it hadn't snowed.'

(40) **ǰaqaʔ=č**   xʷaʔ   čəɫ=as   kʷəẏ
      ǰAQAʔ=1SG.SBJ   NEG   rain=3SG.CNJ   tomorrow
      'I hope it doesn't rain tomorrow.'

Secondly, *ǰaqaʔ* can also be used to indicate hypothetical or counterfactual events, as exemplified by (41) to (43). Whether the auxiliary functions as a circumstantial or an epistemic modal in these cases remains to be tested.

(41) **ǰaqaʔ=č**   niš   taq̇us
      ǰAQAʔ=1SG.SBJ   be.here   get.stranded
      'I might get stranded here.'

(42) **ǰaqaʔ**   ɫaχaẇ   tə=mijiθ
      ǰAQAʔ   spoil   DET=meat
      'The meat might spoil.'

(43) kʷən-ət=čxʷ   tə=θ=kʷukʷ.   **ǰaqaʔ**   q̇atxʷ
      see-CTR=2SG.SBJ   DET=2SG.POSS=cooking   ǰAQAʔ   burn
      'Watch your cooking! It might burn.'

Lastly, *ǰaqaʔ* also appears frequently in contexts where the speaker is surprised by the proposition. In these cases, *ǰaqaʔ* is often translated as 'surprisingly',

'suddenly', 'unexpectedly', or 'accidentally'. Examples for this context of use are provided in (44) to (47).[16, 17]

(44) **ǰaqaʔ** hihiw titul ʔayaʔ
ǰAQAʔ INT small house
'The house was surprisingly small.'

(45) **ǰaqaʔ** q̓ə̀č̓-θay̓-əm mimaẇ
ǰAQAʔ bite-1SG.OBJ-PASS cat
'All of a sudden, the cat bit me.'

(46) **ǰaqaʔ**=č pəč-əm-əxʷ Bruno
ǰAQAʔ=1SG.SBJ wake-MD-NTR Bruno
'I accidentally woke Bruno up.'

(47) **ǰaqaʔ** ʔi qʷəl̓ təs
ǰAQAʔ=1SG.SBJ CONJ come arrive
'What a surprise! He arrived.'

As highlighted by the data in this section, the auxiliary *ǰaqaʔ* can fulfill a variety of functions. Although providing a unified modal analysis for all of its uses is not within the scope of this paper, it will be worthwhile to undertake such an endeavour at some point in the future.

4 Modal-Temporal Interactions

Having explored the modal inventory of Comox-Sliammon, the following subsections take a closer look at the modal temporal-interactions for the three epistemic modals *č̓a*, *k̓ʷa*, and *səm=*DEM, and for the circumstantial modal *have to*.

4.1 The Inferential Evidential *č̓a*

The inferential evidential *č̓a* is compatible with either present or past temporal perspectives. In example (48), the speaker hears the rain hitting the roof at the utterance time, which suggests that the evidence temporally coincides with the modal claim. Thus, this sentence is interpreted as having a present temporal perspective. In example (49), on the other hand, the evidence does no longer hold at the utterance time, but was only in effect at some point in the past. Consequently, this sentence unambiguously exhibits a past temporal perspective.

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[16] It should be noted that the examples in (45) and (46) resemble the out-of-control contexts described by Davis et al. (2007) for the St'át'imcets modal *ka...a*.
[17] Davis (2012), Van Eijk (2013), as well as Davis and Matthewson (2016) describe a particle in St'át'imcets (namely *séna7*) which could be glossed as 'counter-to-expectation'. This label might be appropriate for some instantiations of *ǰaqa* as well.

(48) CONTEXT: You wake up and hear pattering on the roof.

čə~čɬ=**č̓a**
IMPF~rain=EVD.INF
'It might / must be raining.'
[PRES. PERSPECTIVE | PRES. ORIENTATION]

(49) CONTEXT: This morning, you heard some pattering on the roof. It sounded like it might have been raining. Later you found out that your uncle was on the roof, fixing some holes.

čə~čɬ=**č̓a**
IMPF~rain=EVD.INF
'(It sounded like) it might have been raining.'
[PAST PERSPECTIVE | PRES. ORIENTATION]

With this in mind, let us now consider the notion of temporal orientation. In sentences with a present temporal orientation, such as (48) and (49) above, my consultants often produced the predicate with imperfective marking to highlight that the described event is or was ongoing when the evidence was obtained. However, the imperfective marking is neither sufficient nor obligatory for a present temporal orientation, as it can also be omitted without affecting the temporal orientation. Likewise, sentences with a past temporal orientation, such as (50) and (51), often involve the past tense morpheme -*uɬ*. While my consultants generally preferred to include this marker, they also implied that it is not necessary to derive a past temporal orientation.

(50) CONTEXT: You see puddles on the ground and flowers looking fresh.

čəɬ-uɬ=**č̓a**
rain-PST=EVD.INF
'It might / must have rained.'
[PRES. PERSPECTIVE | PAST ORIENTATION]

(51) CONTEXT: This morning you looked out your window and saw that the ground was wet. It looked like it might have rained. Later you found out the water was actually from your neighbors sprinklers.

čəɬ-uɬ=**č̓a**
rain-PST=EVD.INF
'I thought it might have rained earlier.'
[PAST PERSPECTIVE | PAST ORIENTATION]

While it is not necessary to mark present or past temporal orientations explicitly, sentences with a future orientation must be marked. In order to express that the temporal perspective precedes the described event, the future clitic *səm* is used. Two examples illustrating this requirement are given in (52) and (53) below.

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(52)   CONTEXT: You hear thunder and see some dark clouds approaching.

čəɬ=ča=səm
rain=EVD.INF=FUT
'It might / must be raining soon.'
[PRES. PERSPECTIVE | FUT. ORIENTATION]

(53)   CONTEXT: This morning, you heard a loud noise that sounded like thunder.
It seemed like it might have been going to rain soon. Later you found out
that it was not the thunder you heard. It was your neighbor who had crashed
his car into his mailbox.

čəɬ=ča=səm
rain=EVD.INF=FUT
'I thought it might have been about to rain.'
[PAST PERSPECTIVE | FUT. ORIENTATION]

4.2   The Reportative Evidential *k̓ʷa*

In terms of modal-temporal interactions, the reportative evidential *k̓ʷa* patterns
exactly like the inferential evidential *ča* – with one exception. While *ča* is
compatible with both present and past temporal perspectives, *k̓ʷa* is always
interpreted as having a past temporal perspective. This restriction is due to an
evidential constraint. Intuitively, the report that serves as evidence and the modal
claim cannot take place simultaneously. Instead, the hearsay evidence has to
precede the speaker's utterance, which explains why *k̓ʷa* only allows a past
temporal perspective.

As far as temporal orientation is concerned, the reportative *k̓ʷa* patterns
exactly like the inferential *ča*. That is, it allows both past and present temporal
orientations in the absence of the future marker *səm*, as illustrated by (54) and
(55). Marking the reportative with *səm*, however, forces a future temporal
orientation. In other words, adding the clitic *səm* is necessary to ensure that the
potential event follows the report that serves as evidence. An example for this is
given in (56).

(54)   CONTEXT: Your friend told you that it rained in Lund yesterday. Later on
the same day, you tell me about it.

čəɬ-uɬ=k̓ʷa   λaʔamin
rain-PST=EVD.RPT   Lund
'It was raining in Lund yesterday (I heard).'
[PAST PERSPECTIVE | PAST ORIENTATION]

(55)   CONTEXT: Your friend from Lund tells you over the phone that it is raining
       in Lund right now. Directly after the phone call is over, you tell me about
       it.

       čə~čɬ=k̓ʷa   ƛaʔamin
       IMPF~rain=EVD.RPT   Lund
       'It is raining in Lund (I heard).'
       [PAST PERSPECTIVE | PRESENT ORIENTATION]

(56)   CONTEXT: Your friend (a weatherman) told you that it is going to rain in
       Lund tomorrow. Later on the same the day, you tell me about it.

       čə~čɬ=k̓ʷa=səm   ƛaʔamin
       IMPF~rain=EVD.RPT=FUT   Lund
       'It's gonna be raining in Lund tomorrow (I heard).'
       [PAST PERSPECTIVE | FUTURE ORIENTATION]

4.3   The Clitic Strings *səm=kʷa*, *sem=kʷi*, and *sem=kʷu*

In Section 3.1.3, I argued that the clitic *səm* is associated with two different
interpretations. While *səm* on its own generally acts as a future marker, it seems
to encode epistemic modality when it is directly followed by a clausal
demonstrative, like *kʷa*, *kʷi,* or *kʷu*. In this section, I will focus primarily on these
complex epistemic clitic strings and explore the modal-temporal interactions
associated with them.
       In terms of temporal perspective, *səm=kʷa*, *səm=kʷi*, and *səm=kʷu* are
compatible with a present temporal perspective, i.e., the modal claim is based on
the speaker's beliefs at the utterance time. Whether sentences involving these
clitic strings also allow a past temporal perspective remains to be tested.
       More intriguing, however, is the question of how the use of these clitic
strings affects the temporal orientation of an utterance. As I have shown in the
sections that dealt with the epistemic evidentials *ča* and *k̓ʷa*, the clitic *səm* on its
own is necessary and sufficient to force a future temporal orientation. Strikingly,
the opposite is true when *səm* is followed by a clausal demonstrative. As
illustrated by the examples given in (57) to (59), these complex clitic strings are
only compatible with past and present temporal orientations, and do not allow a
future temporal orientation.

(57)   CONTEXT: You are in Sliammon. You look out of your window, and it is
       pouring outside. Then you begin to wonder what the weather in Vancouver
       is like.

       səm=kʷa   čəɬ   Vancouver
       FUT=DEM   rain   Vancouver
       'Maybe it's raining in Vancouver.'
       [PRES. PERSPECTIVE | PRES. ORIENTATION]

(58)   CONTEXT: You are thinking about some visitors that came to the cultural
       lodge earlier, and you're just guessing that they've already left again.

    səm=kʷi   θu   ɬaw-n-um-uɬ-as
    FUT=DEM   go   leave-NTR-1PL.OBJ-PST-3ERG
    'I guess they've already left us.'
    [PRES. PERSPECTIVE | PAST ORIENTATION]

(59) # **səm=kʷi**   θu   ɬaw-n-um-uɬ-as
    FUT=DEM   go   leave-NTR-1PL.OBJ-PST-3ERG
    'I guess they are going to leave us.'
    [PRES. PERSPECTIVE | FUT. ORIENTATION]

Considering this, the clitic *səm* appears to be ambiguous indeed. While its root
interpretation is purely aspectual, it adopts a modal interpretation in the company
of a clausal demonstrative.

4.4   The English Borrowing *have to*

To complete the analysis of modal temporal-interactions, the following
paragraphs will take a closer look at the circumstantial modal *have to*.

In terms of temporal perspective, the English borrowing *have to* is
compatible with both past or present temporal orientations. In (60), the speaker
makes a modal claim based on a rule that was valid in the past, but which no
longer holds at the utterance time, thus unambiguously exhibiting a past temporal
perspective. In (61), on the other hand, a present temporal perspective is
expressed, since the rule is still valid at the time of utterance.

While *have to* is variable in temporal perspective, it is fairly restricted in
temporal orientation, i.e., it only allows future temporal orientations. The
examples in (60) and (61) illustrate this phenomenon. Since *have to* acts as a
circumstantial modal, this limitation is expected (Condoravdi 2002; Copley 2006;
Werner 2006; Kratzer 2010; Matthewson 2013).

Interestingly, the future marker *səm* is not necessary to force a future
orientation for this modal. One may speculate that this idiosyncrasy is linked to
the fact that *have to* has been borrowed and does not belong to the set of traditional
Comox-Sliammon modals.

(60)   CONTEXT: You tell a friend who visits you daily that the house rules have
       changed. Although they don't have to take their shoes off today, they had
       to do so yesterday.

    have to   θ=xʷaʔa-t-uɬ   qʷəɬaỳšən sǰasuɬ
    DEON   2SG.POSS=take.off-CTR-PST   shoe   yesterday
    'Yesterday, you had to take off your shoes.'
    [PAST PERSPECTIVE | FUT. ORIENTATION]

(61)   CONTEXT: You tell a friend who is visiting you that they have to take their shoes off before they come in.

have to	ɵ=xʷaʔa-t	qʷəɬay̓šən
DEON	2SG.POSS=take.off-CTR	shoes

'You have to take off your shoes.'
[PRES. PERSPECTIVE | FUT. ORIENTATION]

4.5   Summary

To conclude, the modal-temporal interactions in Comox-Sliammon can be summarized as follows. In the epistemic domain, both the inferential evidential *ča* and the reportative *k̓ʷa* tend to pattern the same. Most importantly, they both allow past temporal perspectives and require the addition of *səm* to force a future orientation. In contrast to *ča*, however, the reportative *k̓ʷa* cannot express a present temporal perspective, as this would involve hearing the report that serves as evidence at the utterance time. With regard to the complex epistemic clitic strings *səm=k̓ʷa*, *səm=k̓ʷi*, and *səm=k̓ʷu*, I showed that they can be oriented towards the past or the present, but not towards the future. This suggests that the clitic *səm* is ambiguous in nature and acts – depending on its environment – either as a modal marker or as an aspectual marker, but not both. A summary of the modal-temporal interactions in the epistemic domain is given in Table 3.

Table 3: Modal-temporal interactions for the three epistemic modals

		PAST T. O.	PRES. T. O.	FUT. T. O.
ča	PAST T. P.	*ča*	*ča*	*ča=səm*
	PRES. T. P.	*ča*	*ča*	*ča=səm*
k̓ʷa	PAST T. P.	*k̓ʷa*	*k̓ʷa*	*k̓ʷa=səm*
	PRES. T. P.	*	*	*
səm=DEM	PAST T. P.	?	?	?
	PRES. T. P.	*səm*=DEM	*səm*=DEM	*

In the circumstantial domain, modal-temporal interactions appear to be much more restricted, as highlighted by Table 4. While the English borrowing *have to* allows both past and present temporal perspectives, it is exclusively limited to temporal future orientations. Past or present temporal orientations, on the other hand, are not available. In addition, we saw that this circumstantial modal cannot carry the prospective marker *səm*.

Table 4: Modal-temporal interactions for the circumstantial modal *have to*

		PAST T. O.	PRES. T. O.	FUT. T. O.
have to	PAST T. P.	*	*	*have to*
	PRES. T. P.	*	*	*have to*

5 Variable Force Modals

As highlighted in Section 3, none of the epistemic modals are specified with regard to their quantificational force. Consequently, we need a formal analysis that can account for this variability. Over the years, several researchers have presented approaches to solve similar challenges in other languages. The following paragraphs will focus on two of these approaches in particular, the choice function account by Rullmann et al. (2008) and the strengthening account by Peterson (2010).[18]

Rullmann et al. (2008) employ modal choice functions to account for the variable force effects in St'át'imcets.[19] In this approach, the modal base B – which is provided by the context of the utterance – determines a set of possible worlds that are accessible from w. The choice function f then selects a subset of the worlds in B and universally quantifies over them. Since the choice function can select a larger or smaller subset of accessible worlds, the notion of QUANTIFICATIONAL FORCE is best conceptualized as a continuum, i.e., the larger the subset of $B(w)$ selected by the choice function, the stronger the proposition will be. Accordingly, one particular scenario deserves to be mentioned: If the modal choice function matches the identity function, it will select the entire set of worlds provided by the modal base. As the subsequent universal quantification consequently applies to the entire set, a strong necessity reading will result. All things considered, the formalization presented in (62) emerges.

(62) If defined, ...
$$[\![\text{MODAL}]\!]^{w,c} = \lambda f. \lambda \varphi. \forall w' [\, w' \in f(B(w)) \rightarrow \varphi(w') = 1 \,]$$

... where φ is a proposition, B the model base, c a variable assignment function, w a possible world, and f the choice function.

While Rullmann et al. (2008) disregard ordering sources for the sake of simplicity, these conversational backgrounds play a major role in the strengthening analysis by Peterson (2010). To account for the distribution of modals in Gitksan, he relates variable force effects to the number of propositions in the ordering source. As noted earlier, the purpose of an ordering source is to restrict the domain of quantification over the set of worlds provided by the modal base B. An empty

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[18] A third account that tackles the issue of variable force effects can be found in Deal (2011).
[19] Rullmann et al. (2008) note that the lexical restriction of modals in St'át'imcets is analyzed as a presupposition on the modal base and ordering source.

ordering source will not restrict the domain of quantification. However, as the number of propositions in the ordering source increases, the domain of quantification will be narrowed down, leading to a strengthening of the existential quantification. Eventually, it might even collapse with universal quantification over a singleton set. The formalization in (63) summarizes the strengthening account by Peterson (2010).

(63)   If defined, ...
$$[\![\text{MODAL}]\!]^{w,c} = \lambda g. \lambda \varphi. \exists w' \left[w' \in Og(w)(B(w)) \wedge [\![\varphi]\!](w') = 1 \right]$$

... where φ is a proposition, B the model base, g an ordering source, c a variable assignment function, w a possible world, and O a selection function comparable to max by Fintel and Heim (2007).

For this investigation, I choose Peterson (2010)'s account to formalize the semantics of the modal expressions in ʔayʔaǰuθəm. Drawing from his analysis, I propose the following lexical entries for the evidentials $\check{c}a$ and $\acute{k}^wa$, the complex epistemic clitic strings $səm{=}k^wa$, $səm{=}k^wi$, and $səm{=}k^wu$, and the circumstantial modal *have to*:

(64)   The lexical entry for $\check{c}a$ (inferential):
$[\![\check{c}a]\!]^{w,c}$ is only defined if c provides an epistemic modal base B such that for all worlds $w' \in B(w)$, the inferential evidence in w holds in w'.

$$[\![\check{c}a]\!]^{w,c} = \lambda g. \lambda \varphi. \forall w' \left[w' \in Og(w)(B(w)) \rightarrow [\![\varphi]\!](w') = 1 \right]$$

(65)   The lexical entry for $\acute{k}^wa$ (reportative):
$[\![\acute{k}^wa]\!]^{w,c}$ is only defined if c provides an epistemic modal base B such that for all worlds $w' \in B(w)$, the relevant report made in w is made in w'.

$$[\![\acute{k}^wa]\!]^{w,c} = \lambda g. \lambda \varphi. \forall w' \left[w' \in Og(w)(B(w)) \rightarrow [\![\varphi]\!](w') = 1 \right]$$

(66)   The lexical entry for $səm{=}$DEM:
$[\![səm{=}\text{DEM}]\!]^{w,c}$ is only defined if c provides an epistemic modal base B.

$$[\![səm{=}\text{DEM}]\!]^{w,c} = \lambda g. \lambda \varphi. \forall w' \left[w' \in Og(w)(B(w)) \rightarrow [\![\varphi]\!](w') = 1 \right]$$

(67)   The lexical entry for *have to*:
$[\![\textit{have to}]\!]^{w,c}$ is only defined if c provides a circumstantial modal base B and a bouletic, deontic, or teleological ordering source g.

$$[\![\textit{have to}]\!]^{w,c} = \lambda g. \lambda \varphi. \forall w' \left[w' \in Og(w)(B(w)) \rightarrow [\![\varphi]\!](w') = 1 \right]$$

It should be noted that in the lexical entries presented above, all modals are treated as universal quantifiers by default. Whether this assumption is accurate – or

whether an existential quantifier would be a better choice for the default setting – has yet to be determined.

6 Conclusion

To conclude, this paper provides a first description of the modal inventory of Comox-Sliammon. Based on data from 12 fluent speakers of the language, I have identified several markers which encode modality. The evidentials clitics *ča* and *k̓ʷa* are compatible with epistemic modal bases and allow both necessity and possibility readings. Thus, these markers pattern like the variable force modals found in other Salish languages. In addition to these evidentials, epistemic modality can also be expressed by the clitic strings *səm=k̓ʷa*, *səm=k̓ʷi*, and *səm=k̓ʷu*. The circumstantial domain currently only includes the modal marker *have to* which is borrowed from English and encodes deontic, teleological, or bouletic modality. Its quantificational force is restricted to strong and weak necessity readings, suggesting that Comox-Sliammon is best classified as a 'mixed system' in the formal typology of modals.

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The flip side of lexical tabooing: Coast Salish puns, names, and intangible cultural heritage[*]

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Abstract: Newly identified humorous word play in Washington State Coast Salish languages may be a corollary of areal onomastically-conditioned postmortem lexical taboos, revealing historical Native cultural values and perceptions of homonymy.

Keywords: homonymy, intangible cultural heritage, linguistic archaeology, onomastics, puns, tabooing

1   Introduction

William Elmendorf's much-cited ethnographic work documented an onomastically-based custom of lexical prohibition practiced among Twana Salish speakers on the Olympic Peninsula of Washington state, USA, up to the late 19th century (1951, expanded upon in 1992:391–396). This observance was known as *stə́bəqəb*, which roughly means 'spoken of/for the dead' (N. Thompson, p.c.). It involved eliminating from a community's vocabulary any words perceived as sounding similar to the unused name of a deceased eminent high-class person, substituting a semantically transparent neologism until such time as the name was bestowed on a living kinsperson (pp. 205–206). A specific example was the 1880s initiative to taboo the Chinuk Wawa loan *láys* 'rice' following the death of a Skokomish woman known as Eliza (p. 207).[1] As to its geographic distribution, Elmendorf observed cryptically, "There is some slight evidence that the same type of word tabooing was practiced by other coastal groups speaking Salish

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[1] Various factors prevented tabooing from decimating the lexicon; for instance, Eliza's was rejected by the community because she was not high-status and the application of the observance to an English name (and presumably to a Chinuk Wawa word of English provenance) "was felt to be 'queer'" (ibid.). And almost all personal names eventually came to be "empty...of semantic content" (ibid.). This development implicitly reduced any pressure to taboo the many obviously cognate derivatives (e.g., lexically-suffixed formations) that would likely exist in a Salish language. Such observations are reminiscent of observations on the lack of analyzable meanings among neighboring Klallam Salish personal names (Montler et al. 2012; Montler 2015:377), and regarding Kiksht (Wishram) Chinookan (Sapir 1990:258).

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languages" (p. 205). The present study proposes novel evidence to confirm, albeit in a paradoxical way, his sense of the broad occurrence of such customs.

Clearly, the Native tradition of word avoidance shows that this region's cultures possessed a keen awareness, if a negative valuation, of some kind(s) of homophony. A positive counterpart to it – word play – is mentioned in passing by Thelma Adamson in connection with a 1926 myth performance in the Humptulips dialect of Lower Chehalis. Although it is less than clear in storyteller Lucy Heck's husband Silas Heck's English translation as edited by Adamson, the researcher calls attention to a

> ...play on words, a feature that is not uncommon in Coast Salish mythology, and one that always gives rise to a humorous situation. It is impossible to render a passage of this sort adequately in English. (Adamson 2009:287 fn. 2)

In the following sections, I solidify Adamson's claim by documenting Salish-language punning in some detail for the first time, showing some of the parameters of the homophony it involves. I discuss how this species of humor can be seen as part and parcel of a single cultural trait with lexical tabooing, thus supporting Elmendorf's view of a fairly widespread practice. I end with a call for further investigation by specialists in the various Coast languages, perhaps even beyond Salish.

2   Methodology

A de facto methodology that has proven productive for detecting Coast Salish puns, since I am not fluent in all of the languages I will be referring to, has been to read traditional stories in English translation, pausing to check a dictionary of the original language when a particularly bizarre misunderstanding happens between characters. For example, when some villagers report the ridiculous experience of being terrorized by a lark but the culprit turns out to be the basket ogress, a glance in the Upper Chehalis dictionary shows that the words for both are closely similar (Kinkade 1991). Thus a play on words is found.

Similarly, in the course of dictionary-building for the Shoalwater Bay Indian Tribe, in the rare situation when etymologies prove indeterminate between a prosaic and an absurd reading, I have found this a predictor of probable puns in Lower Chehalis. The following section tabulates the outcome of both approaches.

3   Examples

The following Table displays the probable Coast Salish puns found as of this writing, including at least one masterful three-way wordplay (the notations "+" and "-" are explained in the immediately following section; roots are visually demarcated from other material):

Table 1: Some Coast Salish puns

LANGUAGE	+WORD 1	-WORD 2	WORD 3	CONTEXT
Lushootseed[2]	báščəb +'Mink'	bščád -'Louse'	--	There are many Mink stories (Bierwert 1996:64); just one Lady Louse story (op. cit.:16; MacDonald 2006:14).
	háʔɬ +'good'	ṗáƛ•aƛ -'insignificant'	--	"...ṗáƛaƛ...which expresses the impression Mink hopes the waterfall will make on Changer, is replaced in this later passage with háʔɬ, which expresses what Changer thinks when he sees the little fall" (Bierwert 1996:98).
Upper Chehalis[3]	χaƛ-éʔč +'dentalium'	χaƛ-ílaxʷc -'brush(y place)'	--	xʷəné·xʷəne makes a necklace by stringing cut brush segments and tries to pawn it off on basket ogress as dentalia (Amrine Goertz 2018:35).

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[2] Lushootseed words are as found in Bates et al. (1994). A probably additional example occurs in a "Changer Story", where the repeated verb 'travel' (presumably ʔíbəš) is said to be replaced with 'spit' (presumably tuʔáɬəd) for humorous effect by narrator Martha Lamont (Bierwert 1996:98). Despite the obvious dissimilarity of those two words, here the humor may again lie in homophony, since Bates et al. (1994:228) define tuʔáɬəd as both 'spit' and a salmon species.

[3] Upper Chehalis words cited are as found in Kinkade (1991), where three more potential examples are (A) +'his little sister, his younger sister' (pés-ns, from pəsé·n-) vs. -'his monster' (pə́s-ns ~ pés-ṅs, from pə́saʔ), since the latter word documented by Franz Boas (in some text unfortunately not yet found by me) makes unexpected use of the Inalienable Possession marking otherwise typically associated with kin terms (cf. Robertson forthcoming), (B) (?)-čát-tiqi-ṁɬ 'policeman' using a variant form of the root tə́q- 'tie up, get arrested' vs. (+)tíq-ṁɬ 'soak dried food' using the root tíqi- 'soak, under water', and (C) (?)+qʷáɬ[=]iš- 'neighbor, company, companion' vs. (?)+kʷáɬ 'aunt' vs. (?)-<KwaL> 'slave', the latter perhaps a jocular personal name since we know that slaves were named by their owners (Donald 1997:77), often but not always for their place of origin (T. Johnson, p.c.). (Also note that in closely related Lower Chehalis, among Xʷəníxʷəni's disconcerting ways of addressing his daughters, whom he also calls "my wives", is "my companions", Boas 1890.)

	xʷə́n, *xʷəní•xʷəni*[4] +'myth hero's name'	*xʷə́n-* -'buzzing'	*xʷə́n-* -'impotent, tired'	*malé* and daughter are trying to retrieve grandson from the "buzzing of the world" place; many people suspect *xʷəné·xʷəne* of his abduction, but Mountain Lion sneers that "*xʷəné·xʷəne*'s hip is wearing out" (Amrine Goertz 2018:50–51).[5]
	qʷə́cχaʔ +'lark'	*qʷcχʷé* -'witch'	--	"The people say it is Lark who always kills the people but it is not that. It is a real monster" (Amrine Goertz 2018:67).
	s-yal-ə́m̓ +'hired help'	*s-ya-qín̓*[6] -'slaves'	--	Mink's wife's relatives are her "hired help"; this is a known euphemism for "slaves" (Amrine Goertz 2018:143–144, 295n3).
	mánc +'salmon fry'	*mə́nč* -'excrement'	--	Mink's wife gives him "fry" five times but it tastes oddly terrible (Amrine Goertz 2018:143–144).
	wə́li +'name of Raven' (?)	*wəlí-*[7] -'fly (away)'	--	"The Crows" are addressed by someone from inland as they paddle hard, "Where are you going, *wə́li*?" (Amrine Goertz 2018:169).
Lower Chehalis[8]	*kə́cə* +'Bluejay's happy call'	*kə́sə* -'urinate'	--	Bluejay is trying to distract potential wives for the Chief by saying "Piss, piss, piss," causing them an uncontrollable need to urinate (Amrine Goertz 2018:204).

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[4] Based on comparison with Lower Chehalis, I transcribe the myth hero's name with a velar initial, *xʷ*, whereas Kinkade (1991) has it as a uvular, *x̣ʷ*. Kinkade's spelling matches Boas', but Boas was using the x-with-subscript-dot character to indicate a velar.

[5] *ʔac-xʷə́n̓=yəlps* 'tired tail, tired hips; impotent, paralyzed ḥips [swear word]'.

[6] Comparison with Lower Chehalis *syəlqín* and Quinault *jəlqín* (Modrow 1971) shows that 'slave' is historically *s-yəl=qín* 'NOMINALIZER-round=head'. Since the word no longer closely resembles 'hired help', but once did, this is perhaps a very old pun.

[7] Compare also Lushootseed *wəlíʔ* 'appear, be visible'.

[8] Lower Chehalis words are as in our Lower Chehalis Language Project dictionary draft.

nə́č +'sink into water'	*s-n̓ə́č* -'area around rectum'	--	A local man nicknamed "Snitchy" was remembered for having fallen into an outhouse as a child (T. Johnson, p.c.).[9]
ʔúlps +'go out(side)'	*ʔúl=ps* -'urinate (FEM)' [seemingly 'bare-backside']	--	Mentions of people "going outside" and of women urinating alternate throughout the narrative (Boas 1890).[10]

4   Structure

Regularities run throughout the above dyads (and triad): For one, a semantic polarity contrast occurs in every case, in that a word with neutral to positive connotations ("+") is replaced with a word having negative or absurd ones ("-").

With regard to morphology, all of the above puns involve at least roots; most involve the more complex level of the stem.

Of course homophony is evident, here definable as a strong tendency for each word pair to have both the same number of syllables and the same stress pattern (unless a stress contrast is the only way available to clearly differentiate meanings), and fairly strict segmental identity. Articulations are identical (especially those of vowels) or differ minimally, with consonants essentially allowed to differ by either an adjacent place position or a coarticulation/secondary articulation (thus fricative vs. affricate; plain vs. labialized; plain vs. ejective).[11]

5   Motivations

Perhaps a major reason for so much punning is to be inferred from the evaluative differences that characterize the members of each pun pair (or triplet). This reason may be similar or even identical to that which drives lexical tabooing: avoidance of powerful forces. In telling myths, one obviously has to mention their potent central characters and themes, yet one might run the risk of summoning "dangerous beings" by mentioning their names. For example, in Lower Chehalis tradition, three successive utterances of the name of one type of dangerous being (viz. the titular character of J. Miller n.d.) calls them to one's presence (E. Davis and T. Johnson, p.c.). It may be no coincidence that the name of that being appears

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[9] The *s-* is the NOMINALIZER prefix and *-i* is a HYPOCORISTIC suffix. The form for 'sink into water' is cited from Upper Chehalis, but I expect it to be of identical form in Lower Chehalis if our ongoing work on the latter encounters it outside this name.

[10] 'Go outside' is itself an areally-shared euphemism in the inland and coastal Pacific Northwest for elimination of bodily wastes, for example in Spokane Salish *snʔóʔcqeʔtn* 'outhouse' derived from *ʔócqeʔ* 'outside' (Carlson and Flett 1989).

[11] The postulated *h~p̓* correspondence in Lushootseed is interesting for its similarity with Tillamook's historical **p > h* development (Kuipers 2002:3).

to be a prefixed, metathesized form of the Upper Chehalis word for it, *pə́saʔ* – perhaps, in its origin, an avoidance form. Alternating mentions of homophonous spiritually powerful and non-powerful entities might serve to ward off the untoward consequences of invoking powerful names.

Of course avoidance has little to do with the non-mythic puns seen above. The sheer pleasure of creative wordplay seems sufficient to explain Lower Chehalis's puns on female urination and the area man's nickname. In this light it is interesting that Jay Miller has written (2006) of "puns" in Salish visual art as well, and in fact the Coast Salish artist lessLIE speaks overtly of graphically punning in pieces such as Figure 1.

Figure 1: "Sun, Salmon, Frogs, and Raven" by lessLIE (2007)

6   Implications

Identifying puns via this sort of linguistic archaeology holds the promise of repatriating Salish intangible cultural heritage (cf. UNESCO 2003; as Smeets 2004 observes, language is a somewhat neglected component within the latter concept). It does so by allowing a deeper ethnolinguistic comprehension of these languages, all of which are undergoing revitalization among generations who did not grow up speaking them. Examples of the information brought to light include:

- Cultural values: Some of these are perhaps eroded or forgotten by the tide of Anglophone dominance, e.g., around proper behavior with respect to spiritual powers, and regarding the sense that traditional stories are in

fact more humorous in the Native language than in translation (cf. Archibald 2014:75–76).

- The native sense of phonology: Which of a language's sounds "feel" similar enough to be substituted for each other while maintaining identifiability of each word in the pun relationship? This takes us beyond the limited observations hitherto made about segmental substitutions, e.g., those typical of baby talk in this region's languages (as in Thompson 1984:334, Frachtenberg 1920:296).
- Cross-reference notations: Dictionaries and grammars of these languages will be able to make overt connections among words that would not otherwise have occurred to linguists.

Among other explanations for the rampant yet non-predictable $C_1VC_2 \leftrightarrow C_2VC_1$ root alternations that have motivated lexical change from Proto-Salish onward, Michael Noonan (1997:507–508) speculates that such metathesis might be historically traceable to either a language game or to lexical tabooing à la Elmendorf. The latter idea has support in Tuite and Schulze's observations in Caucasus languages (1998). I suggest that whatever its explanation, metathesis reinforces a claim that Salish people have for uncounted centuries engaged in deliberate manipulation of their languages. In a language family that demonstrably relies on a variety of root-centered reduplicative templates as grammatical devices (Czaykowska-Higgins and Kinkade 1998, section 3.5.1), it would be absurd to ignore the heightened sensitivity to root-segment manipulations that Salish speakers would possess.

And indeed, out of all Northwest Coast groups (Figure 2), nearly all those ethnographically reported as tabooing not just names of the deceased but also similar-sounding lexemes are Salish: besides the Twana there are the Southwestern Coast Salish (i.e. Tsamosan branch; Hajda 1990:512) and Tillamook (Seaburg and Miller 1990:563). That this phenomenon is areally diffused is suggested by facts about two immediate non-Salish neighbors. Lower Chinookan manifests homonymy-tabooing of words resembling the names of the dead (Boas 1910:617; a memorable instance is the tabooing of the word for 'dead' in such circumstances, page 666!), and partially similar is the Quileute phenomenon of avoiding at least a proper name, if not other word classes, resembling a decedent's name (Powell 1990:433).

The distribution of groups recorded as avoiding dead people's names but not said to taboo phonologically similar names or common nouns further supports an idea of an areal split between an Olympic Peninsula-northwest Oregon zone and everywhere else: only onomastic, not phonological, avoidance is noted for names of deceased people among the Central Coast Salish (Suttles 1990b:465), Kwakwaka'wakw (Webster 1990:389), Nuuchahnulth (Arima and Dewhirst 1990:407), and Athapaskans of southwestern Oregon (Miller and Seaburg 1990:585).
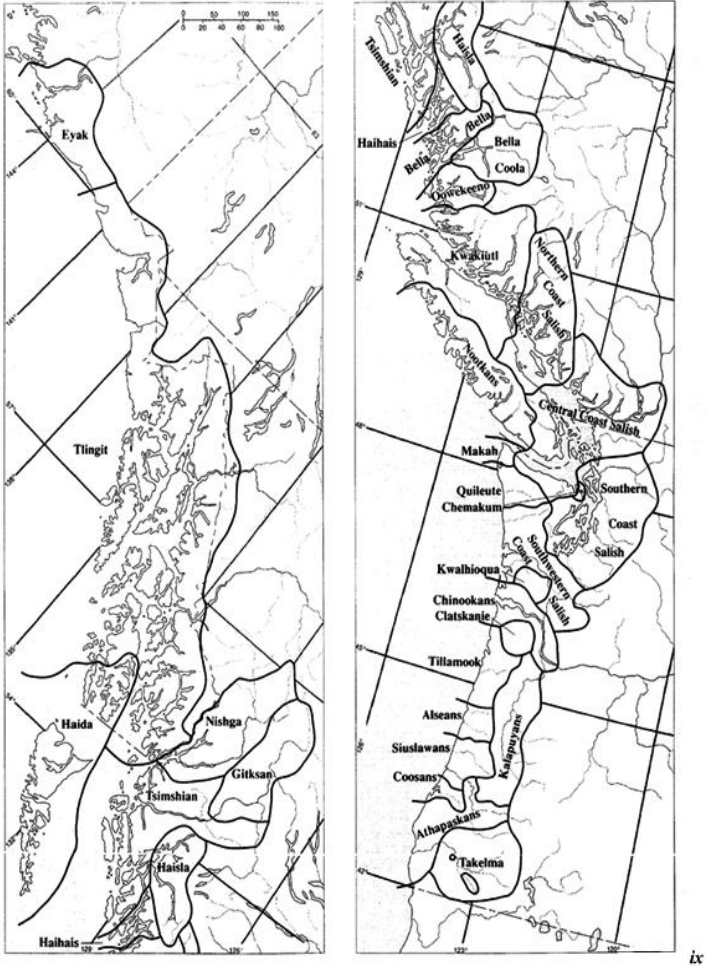
Figure 2: Northwest Coast cultures (Suttles 1990a:ix)

Given the ease with which examples of puns have already been spotted in western Washington Salish, the corpus thereof is likely to expand a great deal. They have certainly been noted in nearby sister languages such as Twana (N. Thompson, p.c.) and Stó:lō (my friend Emmett Chase was quickly nicknamed *emét* 'sit down' when visiting Mission, BC (C. Renteria, p.c.)), as well as in the Interior Salish language Lillooet (van Eijk 1984), and are probably widespread. We can look forward to further contributions by Salish and other Pacific Northwest scholars to this hitherto little-known topic of study.

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Deriving Eventuality Types in Kwak'wala[*]

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Abstract: Greene (2013) proposes that verbs in Kwak'wala fall into three lexical aspectual classes: States, Processes, and Transitions. In this paper, my aim is to extend this system by proposing that Kwak'wala possesses grammatical means for deriving these same three eventuality types. Below, I discuss three suffixes: -*ała* which derives States, -*la* which derives Processes, and –*xʔid* which derives Transitions.

Keywords: lexical aspect, event structure, verbs, semantics, Kwak'wala, Wakashan

1   Introduction

Greene (2013) proposes that verbs in Kwak'wala fall into three lexical aspectual classes: States, Processes, and Transitions. The general aim of this paper is to corroborate Greene's central insight that States, Processes, and Transitions are basic eventuality types within Kwak'wala grammar, in particular by proposing that the language possesses grammatical means for deriving these same three eventuality types. Here, I will focus on three especially common aspectual suffixes: –*ała* which derives States, -*la* which derives Processes, and –*xʔid* which derives Transitions. An implication of my analysis of these suffixes is that the three eventuality types posited in Greene (2013) turn out to be even more pervasive categories in Kwak'wala grammar than previously recognized.

My analysis of –*la* and –*xʔid* differs from the one proposed in Greene (2013), where –*la* is analyzed as a frozen pluractional and –*xʔid* as a (non-canonical) perfective. My first task in this paper, then, will be to demonstrate that my analysis accounts for those empirical generalizations reported previously in relation to –*la* and –*xʔid*. My second task will then be to demonstrate that my analysis is plausible. To do so, I'll show that the range of interpretations available for *duqʷ*- 'see' predicates containing –*ała*, -*la*, and –*xʔid* is consistent with these predicates being derived States, Processes, and Transitions, respectively. My hope is that this paper will both stimulate a new way of thinking about these suffixes' role in the grammar, and will draw renewed attention to the importance of Greene's three eventuality types.

The rest of the paper proceeds as follows: Section 2 introduces Greene's (2013) theory of lexical aspectual classes; Section 3 provides background on the aspectual suffixes *–ała*, *-la*, and *–xʔid* and restates my analysis; Section 4 summarizes and critiques Greene's (2013) analysis of *–xʔid* and *-la*; Section 5 discusses the range of interpretations available for *duqʷ-* 'see' predicates with *–ała*, *-la*, and *–xʔid*, and how this range is explained by my analysis; and Section 6 summarizes and concludes by pointing out some implications of the analysis.

2   Greene (2013) on lexical aspectual verb classes

The study of lexical aspect[1] is concerned with the inner temporal structure of situations. Greene (2013) proposes that verbs in Kwak'wala fall into three classes with respect to lexical aspectual type: States, Processes, and Transitions. Greene's three proposed verb classes are summarized in Table 1, along with their associated verb templates and semantic features.[2]

Table 1: Lexical aspect classes in Kwak'wala (from Greene 2013)

	Verb class	Template	Semantic features
a.	States	$\lambda e.P(e)$	[-telic, -stages/-dynamic]
b.	Processes	$\lambda e.(\text{DO}(P))(e)$	[-telic, +stages/+dynamic]
c.	Transitions	$\lambda e.(\text{BECOME}(P))(e)$	[+telic, -stages/-dynamic]

States are eventualities which do not develop or progress through time. Some examples of States listed in Greene (ibid.) include *ċaxqa* 'to be sick', *ṗisa* 'to be hard', and *gəltəx̌st* 'to be tall'. In Kwak'wala, bare State predicates can be interpreted either in the present tense or the past tense, as shown by the two possible translations of the sentence in (1).[3] Since bare States do not possess an inherent initial point, they cannot receive an inchoative interpretation (2).

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[1] Lexical aspect is also sometimes referred to as situation aspect or aktionsart.

[2] The templates for Processes and Transitions in Table 1 replicate Rothstein's (2004) templates for Activities and Achievements (in English), respectively. The operators DO and BECOME in Table 1 are from Dowty (1979); their definitions are given in Appendix A.

[3] Some of the glosses in Greene (2013) have been amended for presentation here. All data other than what is attributed to Greene (ibid.) are from fieldwork carried out during 2008-2018. Examples are presented in the APA (UVic variety) orthography. Abbreviations used in glosses include the following: 1 'first person', 2 'second person', 3 'third person', AUX 'auxiliary', ACC 'accusative case', BEC 'become, momentaneous/inchoative, transition marker', CONN 'connective', CONJ 'conjunction', DET 'determiner', DIST 'distal', FUT 'future tense', FV 'final vowel', GRAD.ADV 'gradual advancement', HG 'Hannah Greene', HYP 'hypothetical', IMP 'imperative', INST 'instrumental case', INV 'invisibility marker', KS 'Katie Sardinha', MED 'medial', NEG 'negation', NEG.EXIST 'negative existential', OST 'ostensive', PL 'plural', POSS 'possessive', PREP 'preposition', PROC 'process', REFL 'reflexive', STAT 'stative', VER 'verum focus', VIS 'visibility marker'.

(1) p̓isox̌da   dzəx̌ʔən
    p̓is   =ox̌   =da   dzəx̌ʔən
    hard   =3MED =OST   metal
    i. 'The metal is hard'
    ii. 'The metal was hard.'   (Greene 2013:34)

(2) c̓əxq̓ən
    c̓əxq̓   =ən
    ill   =1
    i. 'I'm ill.'
    ii. *'I became ill.'   (Greene 2013:35)

Greene considers States in Kwak'wala to be generally comparable to States in English (2013:110).

 Processes are eventualities which unlike States, do develop and progress through time. Also, they are eventualities which are instigated by an Agent. Some examples of Processes investigated in Greene (2013) include *qas-* 'to walk', *k̓ʷəmt-* 'to smoke', and *nix̌-* 'to pull'. Like States, bare Processes may have either a present tense or past tense interpretation (3) and cannot receive inchoative interpretations on account of the fact that they lack inherent initial points (4). Another notable feature of Processes is that unlike their translational equivalents in many languages (including English), Processes consistently fail telicity tests. An example of this is shown in (5) with the Process verb stem *ʔəx̌ila* 'to make, do'. This example illustrates how the culmination of a Process eventuality can be felicitously cancelled (unlike its English translation, which is infelicitous).

(3) nix̌ox̌   Hannah   x̌a   dənəm
    nix̌ =ox̌   Hannah   =x̌   =a   dənəm
    pull=3MED   Hannah   =ACC   =DET   rope

     lax̌a   xʷak̓ʷəna
     la   =x̌   =a   xʷak̓ʷəna
     PREP   =ACC   =DET   canoe

      lax̌a   wa
      la   =x̌   =a   wa
      PREP   =ACC   =DET   river
    'Hannah was pulling/pulled the rope of the canoe on the river.'
                                                        (Greene 2013:37)

(4) nix̌ən   x̌a   pəlawas
    nix̌ =ən   =x̌   =a   pəlawas
    pull=1   =ACC   =DET   flower
    i. 'I am pulling the flower.'
    ii. *'I started to pull the flower.'   (Greene 2013:36-7)

(5) ʔəx̌ilox̌   Jen λox̌   Alexisax̌a

     Ɂəx̌-(g)ila   =ox̌   Jen λəẁ= ox̌   Alexis   =x̌   =a

     do -make   =3MED Jen CONJ =3MED Alexis   =ACC =DET

        xʷaḱʷəna   x̌a   hiɁənx̌

        xʷaḱʷəna   =x̌   =a   hiɁənx̌

        canoe   =ACC =DET summer

    'Jen and Alexis made a canoe during the summer time, and never finished.'

                                    (Greene 2013:39)

    The set of verbs which pattern as Processes in Kwak'wala are comparable to the combined set of Activities and Accomplishments in English (Greene 2013:41).

    The third eventuality type, Transitions, are eventualities which consist of an interval of time in which a change of state occurs. Unlike Processes, Transitions do not develop over time or progress in stages, but are instantaneous, or at least nearly so. Some examples of Transitions given in Greene (2013) include *dulo* 'to win', *ċo-* 'to give', and *q̇a* 'to find'. Note that unlike States and Processes, Transitions do possess an inherent endpoint – namely, the moment that a change of state occurs – and therefore consistently do give rise to telic predicates. As such, bare Transitions can only receive a past tense interpretation, never a present progressive one (6). Greene notes, however, that with Transitions the interval of time containing the change of state is generally not accessible to the grammar for modification. Thus, Transitions cannot co-occur with initial bound modifiers like *galabənd* 'to start' (7) or final bound modifiers like *Ɂox̌seṁ* 'still' (8).

(6) dulowida   dzułtu gudan

     dulo   =i   =da   dzułtu gudan

     win   =3DIST =OST   black   horse

    i. 'The black horse won the race.'

    ii. *'The black horse is winning the race.'   (Greene 2013:40)

(7) # ləṁox̌   galabəndox̌   Catherine
     lə   =ʔm   =ox̌   galabənd   =ox̌   Catherine
     AUX   =VER =3MED   start   =3MED   Catherine

        q̓a   x̌is   wayas
        q̓a   =x̌   =is   wayas
        find   =ACC   =3REFL.POSS   honey
     Intended: 'Catherine has started to find her honey.'
     Speaker: "You either have or you haven't found your wayas."
                                                    (Greene 2013:41)

(8) # ʔox̌səṁox̌da   gənanəm   q̓a x̌is
     ʔox̌səṁ =ox̌   =da   gənanəm   q̓a =x̌   =is
     still   =3MED =OST   child   find =ACC   =3.REFL.POSS

        cəya
        cəya
        chair
     Intended: 'The child is still finding his chair.'   (Greene 2013:48)

Greene notes that the class of Transitions in Kwak'wala is comparable to the class of Achievements in English, though she reports that (at least certain) Kwak'wala Transitions are more resistant than their English counterparts to receiving in-progress interpretations (Greene 2013:55).

In summary, Greene's (2013) theory of lexical aspectual classes takes Kwak'wala verbs to belong to three classes – States, Processes, and Transitions. These lexical aspectual classes differ in various ways, such as whether they develop or progress through time in stages (Processes do, States and Transitions don't) and whether they are telic (Transitions are, Processes and States are not).

3   The proposal: *-ała*, *-la*, and *–xʔid* derive eventuality types

Greene's (2013) analysis explains the aspectual classification of bare verbs – that is verbs without aspectual morphology. In this paper, I propose that Kwak'wala possesses morphological means for deriving these same three eventuality types. My claim is therefore that in addition to being lexical classes, the eventuality types States, Processes, and Transitions are capable of being grammatically derived. The three suffixes I will be concerned with are among the most frequent grammatical suffixes on Kwak'wala verbs. Their basic forms are *-ała*, *-la*, and *-xʔid*. In the rest of this section, I'll discuss background information on each suffix, followed by my analysis.

The suffix *-ała* is described in Boas (1911) as a 'continuative' suffix, which "indicates the continued position implied in an act, not the continued activity itself" (pg. 489). This definition is echoed in Boas (1947), where *-ała* is glossed as meaning 'to be in the position of performing some action' (pg. 291) and 'continued position'. Since the time of Boas' writing, I am not aware of additional research having been carried out on this suffix. However, in the course of my

own research, I have found -*ała* to have a general aspectual meaning. Rather than being specifically concerned with spatial position, as Boas' definition might suggest, -*ała* seems to indicate stativity in general. Some examples illustrating -*ała* as a stativizer are given in (9).

(9)   Examples of verb stems containing -*ała*

a.	*dała*	'to hold something'	(√*da-* 'to be in hand')
b.	*quqała*	'to be crooked, tilted over'	(√*quq-* 'to tilt, list')
c.	*w̓ənała*	'to be in hiding'	(√*w̓ən-* 'to hide oneself')
d.	*ƛəxała*	'to be driving, steering'	(√*ƛəx-* 'to drive, steer')
e.	*tikʷała*	'to be hanging'	(√*tikʷ-* 'to hang')
f.	*dəxała*	'to have eyes wide open'	(√*dəx-* 'to open eyes')
g.	*q̓ʷəqała*	'to be on, be lit up'	(√*q̓ʷəq-* 'to light up, blink')

I propose analyzing -*ała* as an aspectual suffix for deriving States, and gloss it here as 'STAT'.

The suffix -*la* is described in Boas (1911) as a 'continuative' suffix which indicates the continuation of an activity itself (pg. 488–9). Boas (1947) provides some additional details about -*la*, noting that "it expresses actions that imply multiplicity, repetition or continuity. It is used when the action is continued, when the same actor performs the same action several times, when several objects are handled in the same way, or the whole action consists of many parts" (pgs. 291, 306). Some examples of verbs with this suffix are given in (10).

(10)   Examples of verb stems containing -*la*

a.	*dala*	'to carry something'	(√*da-* 'to be in hand')
b.	*dzəlxʷəla*	'to run'	(√*dzəlxʷ-* 'to run')
c.	*dəłʔəla*	'to laugh'	(√*dəʔ ƛ-* 'to laugh')
d.	*puƛəla*	'to be full from eating'	(√*puƛ-* 'to be full from eating')
e.	*nəłəla*	'to shake'	(√*nəł-* 'to shake')
f.	*məlqʷəla*	'to remember'	(√*məlqʷ-* 'to remember')
g.	*yola*	'to be windy'	(√*yu-* 'to be windy')

Greene (2013) analyzes -*la* as a pluractional suffix. In addition, Greene's analysis centers on the claim that -*la* is no longer fully productive in modern Kwak'wala – a claim which I do not think is correct. I will return to discuss reasons for rejecting this claim in Section 4. In the meantime, I propose analyzing -*la* as an aspectual suffix for deriving Processes, and gloss it here as 'PROC'.

The suffix -*xʔid* is described in Boas (1911) as an 'inchoative' (pg. 486-8). In Boas (1947) the label 'momentaneous' is added to its description, and it is stated

that "-xʔid expresses fundamentally the change from one state to another" (pgs. 290, 365). Some examples with this suffix are provided in (11).

(11) Examples of verb stems containing -xʔid

a.	*daxʔid*	'to take, pick up'	(√*da-* 'to be in hand')
b.	*mənxʷʔid*	'to smile'	(√*mənxʷ-* 'to smile')
c.	*puɬʔid*	'to get full from eating'	(√*puƛ-* 'to be full from eating')
d.	*qəlxʔid*	'to get tired'	(√*qəlk-* 'to be tired')
e.	*təṗid*	'to get broken, to break'	(√*təp-* 'to be broken')
f.	*kəɬʔid*	'to get scared'	(√*kəɬ-* 'to be scared')
g.	*q̇ʷax̌ʔid*	'to turn on, light up'	(√*q̇ʷəq-* 'to light up, blink)

Depending on its phonological environment *-xʔid* can lose its initial velar segment and/or final coronal segment, thus appearing minimally as *-ʔi*. Moreover, when *-xʔid* attaches to verb stems containing lexical suffixes, it has an alternate set of realizations, appearing as *-d*, *-nd*, or *-ud* depending on its phonological environment (see Boas 1947:365 for details). Some examples of verb stems containing –*xʔid* as it is realized after lexical suffixes are given in (12).

(12) Examples of verbs containing *-xʔid* after lexical suffixes

a.	*ʔəx̌stud*	'to open'	(√*ʔəx̌-* '∅', √*-ʔstu* 'round opening')
b.	*gəlćud*	'to crawl into container	(√*gəl-* 'crawl', √*-ću* '(to) inside')
c.	*ʔəx̌stənd*	'to put in water'	(√*ʔəx̌-* '∅', √*-ʔsta* '(in) water')

Greene (2013) analyzes *-xʔid* as a marker of perfective aspect. It is a non-canonical perfective, however, because its use does not give rise to an entailment that the described eventuality culminated in totality, as canonical perfective aspect markers do. I propose here that *-xʔid* should be analyzed not as a marker of perfective aspect, but as an aspectual suffix for deriving Transitions. I gloss it as 'BEC' below. In Section 5, I will discuss the empirical evidence which led Greene to propose her analysis of *-xʔid*, and will argue that this evidence is also accounted for on my analysis.

The analysis I am proposing in this paper is summarized in Table 2, alongside each suffixes' gloss in Boas (1911, 1947) and its analysis in Greene (2013).

Table 2: Suffixes for deriving eventuality type in Kwak'wala

Suffix form(s)	Eventuality Type derived by the suffix (my analysis)	Gloss in Boas (1911, 1947)	Analysis in Greene (2013)
-aɫa	State	'continuative' 'continued position'	(not discussed)
-la	Process	'continuative'	frozen pluractional
-xʔid, -d/-nd/-ud	Transition	'inchoative' 'momentaneous'	non-canonical perfective

My claim, therefore, is that *-aɫa*, *-la*, and *-xʔid* are overt indicators of whether a verbal predicate is a State, Process, or Transition.[4] A tentative formal analysis of these suffixes is offered in Appendix B.

Note that the eventuality type of any verb stem which does not contain an aspectual suffix will correspond to the eventuality type of the verb itself (Greene 2013). Typically, verb stems lacking aspectual morphology surface with the stem completive final vowel *-a*, though this *-a* is often not apparent due to elision in the presence of determiners (Greene ibid.:7–8).

4   Greene's (2013) analysis of *-la* and *-xʔid*

The analysis of *-la* and *-xʔid* in Section 3 differs from the analysis of these suffixes in Greene (2013) (recall that Greene did not investigate *-aɫa*). It stands to be shown, then, that my analysis can account for the same empirical generalizations that Greene's analysis does. I'll begin by discussing Greene's analysis of *-xʔid* (4.1), and then will discuss her analysis of *-la* (4.2).

4.1   *-xʔid* as a non-canonical perfective

Greene (2013) analyzes *-xʔid* as a non-canonical perfective aspect marker. This analysis was proposed to account for two types of empirical generalizations: one related to the function of *-xʔid* in narratives, and the other related to the culmination properties of verbal predicates containing *-xʔid*.

Greene's first finding, which she uses to motivate the analysis of *-xʔid* as a type of perfective marker, is that *-xʔid* moves event time forward in narratives. An example illustrating this property of *-xʔid* from my own fieldwork is given in

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[4] More precisely, the eventuality type of a verbal predicate is indicated by the leftmost aspectual suffix in cases where more than one is present on the stem. For simplicity in this paper, I will not discuss examples containing more than one aspectual suffix. As might be expected, there are co-occurrence constraints and ordering constraints on strings of aspectual suffixes. Spelling these constraints is a topic of ongoing research.

(13), where I provide an excerpt from a narrative where the speaker is describing her late relative's procedure for preparing cockles. The suffix *-xʔid* is present in lines (13a), (13c), (13d), and (13e), where each time it functions to introduce a new, sequential eventuality, thereby moving the narrative's event time forward.

(13) *Excerpt from a story about preparing cockles*:

a. ləʔəm   ʔəx̌studida
   lə   =ʔm   ʔəx̌ -ʔstu   **-xʔid**   =i   =da
   AUX   =VER do -round.opening **-BEC** =3DIST =OST

   dzoli
   dzoli
   cockle
   'Then the cockles open up.'

b. ləʔəm   *15-minutes* lax̌
   lə   =ʔm   *15-minutes* la   =x̌
   AUX   =VER *15-minutes* PREP   =ACC

   mədəlkʷəlakənaʔɬ
   mədəlkʷ -la   =kənaʔɬ
   boil   -PROC   =nice
   'And they stay 15 minutes in the nice boiling (water).'

c. ləṁis   Adi   qəṗi
   lə   =ʔm   =(w)is   Adi   qəp   **-xʔid**
   AUX   =VER =and.so   Adi   spill **-BEC**

   sa   ẇap
   =s   =a   ẇap
   =INST =DET   water
   'Then Adi poured out the water.'

d. ləʔəm   ʔəx̌stus
   lə   =ʔm   ʔəx̌ -stu   =s[5]
   AUX =VER   do -round.opening =INST

   lax̌ada   ẇəda
   la   =x̌   =a   =da   ẇəda
   PREP   =ACC =DET   =OST   cold

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[5] It's likely that *-xʔid* is present underlying in this verb stem as well (*ʔəx̌studs...*), given that *-d* often gets elided in coda position, especially in quick speech.

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qəs			t̓usʔideʔ		
q(a)	=is		t̓us	-x̌ʔid	=eʔ
PREP	=3REFL.POSS		cut	-BEC	=INVIS

x̌ada				dzoli	
=x̌	=a	=da		dzoli	
=ACC	=DET	=OST		cockle	

'Then she put them into the cold so that she could cut the cockles,'

e.
qəs			ʔəx̌ʔideʔ		
q(a)	=s		ʔəx̌	-x̌ʔid	=eʔ
PREP	=3REFL.POSS		do	-BEC	=INVIS

sada			q̓ʷəx̌	lax̌	
=s	=a	=da	q̓ʷəx̌	la	=x̌
=INST	=DET	=OST	flour	PREP	=ACC

ƛəẃida			*garlic*	
ƛəẃ	=i	=da	*garlic*	
CONJ	=3DIST	=OST	*garlic*	

'So then she could put flour in there, together with garlic.'

(20160728 VF)

The way *-x̌ʔid* functions in narratives resembles the way canonical perfective markers function in other languages (Smith 2007).

The second finding, which motivates Greene's analysis of *-x̌ʔid* as a 'non-canonical' perfective marker, is that unlike canonical perfectives, the presence of *-x̌ʔid* does not entail total culmination of an eventuality. The presence of *-x̌ʔid* does, however, entail that an initial transition into the eventuality has taken place, and thus that the eventuality has culminated *to some degree*. For instance, in an eventuality like the one described in (14), what is entailed is that Stacey began eating the apple when the speaker showed up; how much of the apple was eaten and whether the apple-eating was finished when the speaker showed up is left up to pragmatics.

(14)
həṁx̌ʔidox̌			Stacey	x̌a		ʔabəls	gax̌ən	
həṁ	-x̌ʔid	=ox̌	Stacey	=x̌	=a	ʔabəls	gax̌	=ən
eat	-BEC	=3MED	Stacey	=ACC	=DET	apple	come	=1

niɬʔida			
niɬ	-x̌ʔid	-a	
show	-BEC	-FV	

'Stacey ate an apple when I showed up.'   (Greene 2013:87)

The finding that *-x̌ʔid* entails culmination to some degree, but not necessarily to a total degree, is what underlies Greene's decision to describe it as a 'non-canonical' perfective. Greene's (2013) formal analysis of *-x̌ʔid* is given in (15).

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(15) $[\![x\text{ʔid}]\!] = \lambda P_{<v,<s,t>>}.\lambda t_i.\lambda w_s.\exists e.(\text{BECOME}(P))(e)(w)\ \&\ time(e) \subseteq t\ ^6$

<div align="right">(Greene 2013:88)</div>

On this analysis, *-xʔid* denotes a function which takes a property of events and returns an event with an initial transition, e_1 whose event time, $time(e_1)$, is included within reference time *t*. Significantly, the BECOME operator in (15) is the same operator that was used in defining Transition eventualities (see Table 1). This means that predicates with *-xʔid*, on Greene's analysis, are semantically very similar to lexical Transitions (Greene 2013:97).

The only difference between Greene's analysis of *-xʔid* and my own is that I'm not committed to *-xʔid* establishing a relation between event time and reference time, as canonical perfectives do (e.g. Kratzer 1998). One reason to be skeptical of *-xʔid* being a perfective, is that while the presence of *-xʔid* is indeed sufficient for expressing a perfective meaning, it is not necessary for such a meaning to arise. For one thing, predicates without *-xʔid* can also have perfective readings. For instance, (16) and (17) are interpreted as descriptions of culminated eventualities, even though *-xʔid* is not present in either example.

(16) **KS:** "Let's say Shelly did a hu:ge load of laundry. She didn't have time to finish hanging it to dry. So she asked Eddie to do it. So he started doing it, but then he got a phone call, and he only hung up some of the laundry. So, Shelly calls him later, and – she asks him – and he admits that he didn't finish it."
Speaker: "Mhm."
KS: "And she's like, 'Oh my gosh! Some things really need to get dry.'"
Speaker: "Mhm."
KS: "So she asks him, 'What got hung up, and what didn't?' […] And then he says, 'The shirts got hung up, but none of the pants did.'"

ǧix̌ʷaλələn			λa	x̌a		q̓əsəneʔ,
ǧix̌ʷaλ	-la	=ən	λa	=x̌	=a	q̓əsəneʔ
hang.up	-PROC	=1	CONN	=ACC	=DET	shirt

k̓iʔsən	ǧix̌ʷaλəla		x̌a		qəx̌sis	
k̓iʔs	=ən ǧix̌ʷaλ	-la	=x̌	=a	qəx̌ -(x)sis	
NEG	=1 hang.up	-PROC	=ACC	=DET	ring -foot/leg	

'I hung up the shirts, I didn't hang up the pants.' (20160708 VF)

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^{6} I have substituted '*v*' for '*l*' as the semantic type for eventualities; otherwise, the definition is identical to the one given in Greene (2013:88).

(17) Context: *The speaker and KS are talking about a character named Hope, who is getting prettied-up for a date.*

walas	ʔəx̌əla	sada		
walas	ʔəx̌ -la	=s	=a	=da
big/very	do -PROC	=INST	=DET	=OST

ʔixp̓alakəna ʔɬ			lax̌is		
ʔix	-p̓ala	=kəna ʔɬ	la	=x̌	=is
good	-smell	=nice	PREP	=ACC	=3REFL.POSS

q̓ʷəmdzuy̓u
q̓ʷəmdzuy̓u
dress

Speaker: "She put some nice smelly stuff on her dress." (20160728 VF)

The fact that *-x̌ʔid* is not necessary for perfective readings casts some doubt on its analysis as a perfective. Another reason for doubt is that predicates with *-x̌ʔid* can be used to describe in-progress eventualities; this is shown with the verb *k̓at-* 'write' in (18) and *ƛ̓əp-* 'climb' in (19). (In this latter example, sentence (19a) was volunteered in the given context, and (19b), with *-x̌ʔid*, was subsequently judged to be felicitous in the same context).

(18) *Context: Abby is Mabel's Kwak'wala language teacher.*

KS: "Um, she [Mabel] overhears Abby saying something kind of neat, so she [Mabel] writes it down. So how would we say, 'Mabel is writing down what Abby said'...?"

k̓at̓idux̌		Mabelx̌	wałdəmes	Abbi
k̓at **-x̌ʔid**	=ux̌	Mabel =(ə)x̌	wałdəm =s	Abbi
write **-BEC**	=3MED	Mabel =VIS	saying =3POSS	Abby

'Mabel is writing down what Abby said.' (20160711 VF)

(19) *Context:* [HG shows the speaker a picture of Katie starting to climb a tree]

HG: "But now the situation I want you to describe just has her starting to climb the tree. She's taking her first step. So how would you say, 'Katie's starting to climb the tree.'"

a. ləm̓uх̌   **galabənduх̌**   Ketiyəх̌

lə	=ʔm	=uх̌	**galabənd**	=uх̌	Keti	=(ə)х̌
AUX	=VER	=3MED	**start**	=3MED	Katie	=VIS

     ƛ̓əpaƛ   х̌ʷa   λoʔsiх̌

ƛ̓əpa	=ƛ	=х̌	=w	=a	λoʔs	=(ə)х̌
climb	=FUT	=ACC	=3MED	=DET	tree	=VIS

'Katie's gonna start climbing the tree.'   (20130618 VF)

b. ləm̓uх̌   Ketiyəх̌   **ƛ̓əp̓id**

lə	=ʔm	=uх̌	Keti	=(ə)х̌	**ƛ̓əp**	**-х̌ʔid**
AUX	=VER	=3MED	Katie	=VIS	**climb**	**-BEC**

     х̌ʷa   λoʔsiх̌

=х̌	=w	=a	λoʔs	=(ə)х̌
=ACC	=3MED	=DET	tree	=VIS

'Katie's climbing the tree.'   (20130618 JF)

Data like these suggest that *-х̌ʔid* is not necessary for establishing a relation between event time and reference time. Kwak'wala appears, rather, to lack a grammatical perfective. This makes Kwak'wala similar to languages like Finnish which do not grammaticalize viewpoint aspect in their verbal morphology (Smith 1997).[7]

In any case, given that Greene's analysis of *-х̌ʔid* and my own are very similar, I would like to suggest that Greene's empirical findings are accounted for on my analysis as well, where *-х̌ʔid* derives Transitions. To begin with, Transitions are eventualities which include a change of state and thus do culminate (at least to a degree). Given this, we still predict *-х̌ʔid* predicates should play a role in advancing event time in narratives. Secondly, the fact that *-х̌ʔid* predicates need only culminate to a degree follows from the fact that *-х̌ʔid* modifies eventualities which themselves can culminate by degree. For instance, the eventuality described using *həm̓-* 'eat' in (14) can culminate to various degrees, depending on how much of the apple is eaten. By comparison, the fact that lexical Transitions must culminate in totality follows from the type of eventualities they are – namely, ones which do not culminate by degree, but which culminate instantaneously. Thus, the fact that lexical Transitions culminate in totality while *-х̌ʔid* predicates need only culminate by degree is not a sufficient reason for classifying lexical

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[7] I argued as such in a presentation delivered at the 44th Meeting of the Berkeley Linguistics Society, February 10, 2018 entitled: "Kwak'wala and Finnish are semantically mirrored: Implications for a theory of viewpoint aspect". A paper on this topic is in preparation.

Transitions and *-xʔid* predicates as different eventuality types. They are, rather, both examples of Transition eventualities, the difference between them being that the former are lexical Transitions and the latter are grammatically derived ones.

Finally, Greene (2013) reports that *-xʔid* is found on States and Processes, but is ungrammatical on Transitions (Greene 2013:96–101). This pattern of ungrammaticality is illustrated in (20) with the Transition verb *gax̌-* 'come'.

(20) a. *gax̌**ʔid**ida   dagʷada x̌ʷa
     gax̌   **-xʔid**   =i   =da   dagʷada =x̌   =w   =a
     come   **-BEC**   =3DIST =OST   doctor =ACC   =3MED   =DET

          ṅala
          ṅala
          day

  b. gax̌ida   dagʷada x̌ʷa   ṅala
     gax̌   =i   =da   dagʷada =x̌   =w   =a   ṅala
     come   =3DIST =OST   doctor =ACC   =3MED   =DET   day
     'A doctor came today.'   (Greene 2013:97)

Greene proposes a semantic explanation for why *-xʔid* cannot be added to lexical Transitions. In particular, she surmises that modifying a Transition with *-xʔid* would give rise to a non-sensical property of times (namely, one "in which there is an instantaneous transition into an event, e.g. from not arrived to arrived, in addition to an instantaneous transition into the initial subevent of that embedded transition" pg. 98). This explanation carries over to my analysis, where *-xʔid* derives Transitions: for the same reason, we should expect semantic anomaly when trying to derive a Transition of a Transition.

In summary, I've suggested that the data which led to Greene's (2013) analysis of *-xʔid* as a non-canonical perfective can also be accounted for on an analysis where *-xʔid* derives Transitions.

4.2 *-la* as a frozen pluractional

In Greene (2013), *-la* is analyzed as a frozen pluractional. The label 'pluractional' is adopted, at least in part, because it is a label that fits the constellation of properties associated with *-la* reported in Boas (1911, 1947). On the other hand, Greene considers *-la* to be a frozen (that is, unproductive) on account of its limited distribution in the modern language. Thus according to Greene (2013:107), *-la* can never occur with States or Transitions, and can only occur with a subset of lexical Processes. This leads Greene to compare Kwak'wala –*la* to the old iterative suffixes *-er* and *-le* in English, found in lexical verbs such as *chatter, glitter, shimmer, crumble, twinkle,* and *wriggle* (Cusic 1981:244). In other words, Greene takes *-la* to be an historical remant.

Contrary to Greene, I believe *-la* to be productive in modern Kwak'wala, and have proposed here that it is used to derive Processes. Not only is *-la* very frequent in the language (as any dictionary will attest), but its distribution is not

obviously arbitrary. In order for my analysis to be tenable, then, the distributional restrictions on *-la* cited in Greene's study require explanation.

To begin with, why should *-la* be impossible on lexical States? A possible explanation for this is semantic: if lexical States are fundamentally non-dynamic eventualities, and if *-la* derives Processes which are fundamentally dynamic eventualities, then lexical States should indeed be unable to co-occur with *-la*. In fact, there are some apparently stative roots in Kwak'wala which do allow *-la*. For instance, I discuss *-la* on the root *duqʷ-* 'see' in the next section, and *kəɬ-* 'be scared' is another example (*kəɬəla* 'to be scared'). A more accurate generalization seems to be that States can in fact take *-la*, but only if the resulting predicate can be construed as a dynamic eventuality. How exactly this generalization fleshes out is a topic for future investigation.

Second, why should *-la* be impossible on lexical Transitions? A possible explanation for this is again semantic. Since lexical Transitions are eventualities which consist of a near-instantaneous change of state, it may just be impossible to modify one part of the change of state to turn the eventuality into a Process. On this note, recall Greene's (2013) finding, reported above, that Transitions cannot be modified by *galabənd* 'to start' or *ʔox̌sem̓* 'still'. In any case, I have not come across any clear exceptions to the generalization that lexical Transitions do not take *-la*.

Finally, why should *-la* be confined to occuring on only a subset of Processes? Greene (2013) reports that the set of Processes which can take *-la* are those "in which the repetitive nature of the process can be emphasized." (pg. 107) Greene then lists the following examples of Processes which are compatible with *-la*: *dənx̌əla* 'singing', *dzəlkʷəla* 'running', *dəxʷəla* 'jumping', *dəɬəla* 'laughing', *mədəlkʷəla* 'boiling', *duqʷəla* 'seeing'[8], and *dala* 'carrying' (pg. 105). One possibility is that Greene's generalization itself contains the seed of an explanation for why *-la* is restricted on lexical Processes. Namely, if *-la* derives Processes, as I propose it does, then we might expect *-la* to be redundant on lexical Processes. However, those lexical Processes which allow their repetitive nature to be emphasized could still be modified by *-la*, in which case the resulting predicate would denote a Process of a Process, of some sort. This, too, is a topic which deserves further attention.

In summary, I've argued that contrary to what is stated in Greene (2013), *-la* is productive in modern Kwak'wala. I've suggested that the distributional restrictions on *-la* noted in Greene (ibid.) could be explained on an anlysis where *-la* derives Processes.

5 Evidence from the interpretation of *duqʷ-* 'see' predicates

In this section, I turn to look at the interpretation of predicates involving the verb root *duqʷ-* 'to see' with the aspectual suffixes *-aɬa*, *-la*, and *-x̌ʔid*. My aim in doing this is to show that the interpretation of these predicates is consistent with an

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[8] I consider it more likely that *duqʷ-* 'see' is a lexical State, though because it occurs rarely without aspectual suffixes, this turns out to be hard to prove (on this, see footnote (9)).

analysis where these suffixes derive States, Processes, and Transitions, respectively.

I've chosen to look at *duqʷ-* 'see' predicates because they provide a particularly clear illustration of the meaning that is added by *-aɫa*, *-la*, and *-xʔid*. The verb *duqʷ-* readily occurs with all three aspectual suffixes (while for many verbs, this is not the case), and all three relevant verb forms – *duqʷaɫa*, *duqʷəla*, and *dux̌ʷʔid* – are fairly frequent and show relatively clear biases in how they are interpreted.

In Kwak'wala, the root *duqʷ-* 'to see' is used in forming the vast majority of expressions related to seeing.[9] To express nuances of meaning beyond the meaning of the bare root, Kwak'wala speakers make use of a wide array of suffixes, both lexical and grammatical.[10] Some examples illustrating the use of suffixes on *duqʷ-* are provided in (21), alongside the translations these predicates receive in the First Voices online dictionary (2009).[11]

(21) Examples of verb stems with the root *duqʷ-* 'see'

a.	*duqʷaɫa*	'to watch'
b.	*duqʷəla*	'to see'
c.	*dux̌ʷʔid*	'to look'
d.	*dux̌ʷsiʔstala*	'looking around'
e.	*duǧʷəťala*	'look out to sea'
f.	*duqʷustoɫa*	'looking up'
g.	*duq̓ʷəx̌stənd*	'looking at the rear end'
h.	*duqʷəm*	'look in the face'
i.	*daduqʷəm̓a*	'attempting to look someone in the face'

The relevant forms here are the forms in (21a)–(21c), containing *-aɫa*, *-la*, and *-xʔid*. My purpose in the remainder of this section will be to show data that are consistent with *duqʷaɫa* predicates being derived States, *duqʷəla* predicates being derived Processes, and *dux̌ʷʔid* predicates being derived Transitions. I

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[9] Interestingly, *duqʷ-* is very rarely volunteered without aspectual suffixes (with default *-a*). Example (i) is one of only a few examples of *duqʷa* predicates in my fieldwork data:

(i) *Context: Mabel heard a noise behind her, so she turned around to look at it.*

ləm̓isi				məlsiʔlela	**duqʷax̌**	
lə	=ʔm	=(w)is	=i	məlsiʔlela	**duqʷ-a**	=x̌
AUX	=VER	=and.so	=3DIST	turning.around	**see-FV**	=ACC

'She turned around to look at it.'
Speaker: "She looked around."   (20160712 VF)

[10] Some of these suffixes mutate a consonant in the stem they attach to, causing either lenition (e.g. *q* → *ǧ*) or glottalization (e.g. *q* → *q̓*). Sometimes, the final consonant of the stem spirantizes (*q* → *x̌*).

[11] Except for example (21h), which is from my own research.

confine myself below to examples involving at most one aspectual suffix, leaving a discussion of stems with multiple aspectual suffixes to future research.

First, it is important to note that it is usually the case that more than one verb form is possible, strictly-speaking, in a given context. For instance, take the simple context in (22) which describes a situation of looking out a window and seeing a bear. This context could be truthfully described using any of the four different English 'see' verbs in (22a)–(22c). Yet while all of these descriptions of the event are true, each description differs subtly in how it construes the event.

(22) *Context: An hour ago, a bear was rummaging through my trash. I looked out my window, and there was a bear.*

    a.   I **saw** a bear.
    b.   I **spotted** a bear.
    c.   I **glimpsed** a bear.
    d.   I **witnessed** a bear.

Likewise in Kwak'wala, it is often the case that one and the same seeing eventuality can be truthfully described using more than one of the verb stems *duqʷaɬa*, *duqʷəla*, and *dux̌ʷʔid*. What I will be specifically interested in below, then, is what factors bias speakers towards choosing *duqʷaɬa*, *duqʷəla*, or *dux̌ʷʔid* in a given context to express a certain type of meaning.

I'll begin with volunteered instances of *duqʷaɬa* (5.1), followed by *duqʷəla* (5.2) and *dux̌ʷʔid* (5.3); I'll then summarize the findings (5.4).

5.1 *duqʷaɬa* predicates

The verb stem *duqʷaɬa*, containing the aspectual suffix *-aɬa*, is consistently volunteered in contexts where an action of seeing is sustained over a period of time. The most common English translation for *duqʷaɬa* predicates is 'watch'. The interpretation of *duqʷaɬa* predicates, I suggest, is consistent with them being derived States.

Four examples of *duqʷaɬa* predicates are shown below. Examples (23), (24), and (25) each describe eventualities in which Mabel is maintaining a fixed gaze on something for an extended period of time; in each example, the corresponding English verb is 'watch'.

(23) *Context: Mabel thinks she heard something in the bushes. She keeps her eye on the bushes to see if it'll move again.*

ləṁis			**duqʷała**		xada		
lə	=ʔm	=(w)is	**duqʷ**	-ała	=x̌	=a	=da
AUX	=VER	=and.so	**see**	-STAT	=ACC	=DET	=OST

q̓ʷax̌mis	k̓əyosida			yawix̌a	
q̓ʷax̌mis	k̓əyos	=i	=da	yawix̌	-a
bushes	NEG.EXIST	=3DIST	=OST	move	-FV

'She watched the bushes, but nothing moved.' (20160712 VF)

(24) *Context: Mabel saw a black bear on the road, but then it disappeared. So she keeps her eye on the road to see if it re-appears.*

ləṁis			**duqʷała**		x̌a		kənl̓as
lə	=ʔm	=(w)is	**duqʷ**	-ała	=x̌	=a	kənl̓as
AUX	=VER	=and.so	**see**	-STAT	=ACC	=DET	road

qu	edaqa	lax̌	
qu	edaqa	=lax	
if	return	=HYP	

'She's watching the road to see if it comes back.' (20160712 VF)

(25) **duqʷałux̌**   Mabelex̌is   wəyugʷəmala

duqʷ	-ała	=ux̌	Mabel	=x̌	=is	wəyugʷəmala
see	-STAT	=3MED	Mabel	=ACC	=3REFL.POSS	baby

ləʔəm		mix̌aṅakʷəla		ċiċaṅiqəlabidu	
lə	=ʔm	mix̌	-a	=ṅakʷəla	ċiċaṅiqəla	=bidu
AUX	=VER	sleep	-FV	=GRAD.ADV	cute	=DIM

'Mabel's watching her baby as it goes to sleep, it's so cute.'

(20160712 VF)

    In example (26), the speaker uses *duqʷała* to describe an eventuality that involves 'looking at one's heart'. The intended meaning of the predicate in (26) is that in order to live a moral life, people should monitor themselves by looking inwards and sustaining this inner gaze. While *duqʷała* in this case is not translated as 'watch', the eventuality is still understood as sustained over time.

(26) **duq^wałaĺa**   x̌us   noqeʔ   qe

    duq^w **-ała** =ĺa   =x̌   =us   noqeʔ   q(a)

    see   **-STAT** =IMP =ACC =2POSS heart   PREP

     ʔikeʔsux̌

     ʔik   =eʔ   =s   =ux̌

     good =INVIS =3POSS =3MED

    Speaker: "Look at your heart to be good."   (20160712 VF)

In summary, *duq^wała* predicates are volunteered in contexts where what is being emphasized is a sustained action of seeing. This finding is consistent with *duq^wała* predicates denoting States, and with *-ała* being the grammatical source of this aspectual interpretation.[12]

5.2   *duq^wəla* predicates

Processes are eventualities which develop and progress over time and are instigated by an Agent. The verb stem *duq^wəla*, containing the aspectual suffix *–la*, is the most commonly volunteered *duq^w-* stem for translating sentences with the English verb 'see' into Kwak'wala. Additionally, *duq^wəla* predicates are

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[12] When a sustained seeing eventuality involves a high degree of agentivity, Kwak'wala speakers can also use *humoła* 'to watch, to be a spectator', which itself also appears to contain *-ała*. A use of this verb is shown in (ii). Note the appearance here of the word *humołaċi* 'television', which is derived from the same stem. Example (iii) shows a context where either *humoła* or *duq^wała* is felicitous.

(ii) ʔom̓ox̌   n̓əmcaqux̌   Annax̌   mənx^wała

    ʔo =ʔm =ox̌   n̓əm -caq   =ux̌   Anna =(ə)x̌ mənx^w -ała

    so =VER=3MED one -hour =3MED Anna =VIS   smile -STAT

     leʔəx̌   **humoła** x̌ida   **humołaċi**

     la   =(ə)x̌ **humoła** =x̌   =i   =da   **humołaċi**

     PREP =VIS **watch** =ACC =3DIST =OST **television**

    'Anna smiled for a whole hour while she watched the television.' (20160725 VF)

(iii) *Context: One evening, Mabel went out to the beach to relax.*

    n̓əm   ǧanuλ   leʔ   Mabel **humoła** /   **duq^wała**

    n̓əm   ǧanuλ   la   =eʔ   Mabel **humoła** /   **duq^w** -ała

    one   night   PREP=INVIS Mabel **watch** /   **see**   -STAT

     x̌ida   λisəla   k̓əyox^wʔidan̓ak^wəla

     =x̌   =i   =da   λis   -la   k̓əyox^wʔid -a =n̓ak^wəla

     =ACC =3DIST =OST sun.shine -PROC disappear -FV =GRAD.ADV

    'One evening, Mabel went out to watch the sun disappear.'   (20160712 VF/JF)

I have found *duq^wała* to be possible in every context that *humoła* is (of those contexts I've tested). The reverse generalization is not true, however.

volunteered as translations for 'look over (something)' and 'be looking at (something)', and are usually the *duqʷ-* stem of choice when an abilitative, iterated, or habitual meaning is intended. This range of possible interpretations for *duqʷəla* predicates, I suggest, is consistent with them being derived Processes.

Example (27) contains two instances of *duqʷəla*. In the first clause, *duqʷəla* describes an eventuality in which Eddie is looking over an object, while in the second clause, *duqʷəla* describes an eventuality in which Eddie fails to see an object. Example (28) shows another instance of the 'look over' use of *duqʷəla*, and example (29) shows another instance of the basic 'see' use of *duqʷəla*. This 'see' use of *-la* is shown again in (30), this time with a sentential complement.

(27) *Context: Vicky drew a complicated picture of a garden. In it there was a butterfly. She asked Eddie if he could find the butterfly.*

duqʷəluX̌			Eddiyəx̌		X̌ada		
duqʷ	**-la**	=ux̌	Eddi	=(ə)x̌	=x̌	=a	=da
see	**-PROC**	=3MED	Eddie	=VIS	=ACC	=DET	=OST

k̓atəmakʷ	k̓iʔsX̌ux̌			**duqʷəla**	
k̓atəmakʷ	k̓iʔs	=X̌	=ux̌	**duqʷ**	**-la**
picture	NEG	=FUT	=3MED	**see**	**-PROC**

X̌ida			həmumu
=x̌	=i	=da	həmumu
=ACC	=3DIST	=OST	butterfly

'Eddie looked over the picture, but he didn't see the butterfly.'

(20160712 VF)

(28) *Context: Mabel woke up and looked out the window. She looked all over the sky, and didn't see a single cloud.*

ləṁi			Mabel	**duqʷəla**		X̌a	
lə	=ʔm	=i	Mabel	**duqʷ**	**-la**	=x̌	=a
AUX	=VER	=3DIST	Mabel	**see**	**-PROC**	=ACC	=DET

ʔik̓i	k̓əyosX̌a		ʔənweẏa	
ʔik̓i	k̓əyos	=X̌a	ʔənweʔ	=a
sky	NEG.EXIST	=but	cloud	=INVIS

'Mabel looked all over the sky, and there weren't any clouds.'

(20160712 VF)

(29) *Context: Mabel was walking along the road, and happened to glance over her shoulder. She saw a black bear.*

ləṁis   qasʔid
lə   =ʔm   =(w)is   qas   -xʔid
AUX   =VER   =and.so   walk   -BEC

   lax̌ada   kənl̓as   ləṁis
   la   =x̌   =a   =da   kənl̓as   lə   =ʔm   =(w)is
   PREP   =ACC   =DET   =OST   road   AUX   =VER   =and.so

     məlsʔi   ləʔəm   **duqʷəla**
     məls   -xʔid   lə   =ʔm   **duqʷ**   **-la**
     turn   -BEC   AUX   =VER   **see**   **-PROC**

     x̌ada   ƛ̓eʔ
     =x̌   =a   =da   ƛ̓ayi
     =ACC   =DET   =OST   black.bear
'She was walking down the road, then she turned, and she saw a black bear.'
(20160712 VF)

(30) *Context: Mabel looks out her window one morning and sees that the eagle living in the tree out there had made a nest.*

ləṁisi   **duqʷəl**   =i
lə   =ʔm   =(w)is   =i   **duqʷ**   **-la**   =i
AUX   =VER   =and.so   =3DIST   **see**   **-PROC**   =3DIST

   Mabelx̌   leʔeda   kʷikʷ
   Mabel   =(ə)x̌   la   =aʔ   =i   =da   kʷikʷ
   Mabel   =VIS   PREP   =INVIS   =3DIST   =OST   eagle

     ʔəx̌ila   x̌a   kʷigʷac̓i
     ʔəx̌ -(g)ila   =x̌   =a   kʷigʷac̓i
     do -make   =ACC   =DET   eagle.nest
'Mabel saw that the eagle had made a nest.'   (20160712 VF)

These data show that the semantics of *duqʷala* must allow for both 'look over' and 'see' interpretations. The fact that *duqʷala* can have a 'look over' interpretation is consistent with this predicate being a derived Process, as the activity of 'looking over' something is obviously dynamic in nature. On the other hand, an eventuality in which someone simply 'sees' something is not as obviously a Process, since it is not dynamic in nature. Basic seeing eventualities do, however, satisfy another criterion for being a Process – namely, the criterion of being instigated by an Agent, the one who is doing the seeing. If we assume that instigation by an Agent is enough to qualify the predicate *duqʷala* as a Process, then we arrive at an explanation for why *duqʷala* can simply mean 'see'.

There is a potential problem, however, with the explanation in the previous paragraph, which is that all seeing eventualities are presumably instigated by an Agent – not just ones involving *duqʷəla* – and should thereby qualify as Processes. Why, then, are some seeing eventualities described using verb stems other than *duqʷəla*? The reason, I suggest, may be that other *duqʷ*- predicates, such as *duqʷała* and *dux̌ʷʔid*, are preferred when the speaker wishes to express a more specific meaning. On this point, it's worth pointing out that *duqʷəla* is the most basic 'see' verb in the language, in the sense that it is volunteered the most frequently and is found in the widest range of contexts. The fact that *duqʷəla* functions as the language's default 'see' verb may follow from the fact that all that is required for an eventuality to qualify as a Process (and hence, appear with -*la*) is agentivity, whereas more than mere agentivity is required to qualify a given seeing eventuality as a State or as a Transition.

The next two examples show *duqʷəla* predicates with abilitative meanings; in (31) the verb has an object, while the verb in (32) does not.

(31) k̓iʔsux̌   Mebəlx̌   ʔoləkal **duqʷəla**
    k̓iʔs =ux̌   Mebəl =(ə)x̌   ʔoləkal **duqʷ**   **-la**
    NEG   =3MED Mabel =VIS   truly   **see**   **-PROC**

      x̌a   kənl̓as ƛumeʔ   p̓ədəkəla
      =x̌   =a   kənl̓as ƛum   =eʔ   p̓ədək   -la
      =ACC =DET road   really =INVIS   dark   -PROC
      'Mabel could barely see the road, it was so dark.'   (20160712 VF)

(32) ƛumida   dəkdəxəluł **duqʷəla**
    ƛum =i   =da   dəkdəxəluł **duqʷ**   **-la**
    really =3DIST =OST owl   see   -PROC

      lax̌a   p̓ədəkəla
      la   =x̌   =a   p̓ədək   -la
      PREP   =ACC   =DET dark   -PROC
    'Owls see really well in the dark.'   (20160712 VF)

As in (27), (29) and (30), the seeing eventualities described in (31)–(32) are instigated by an Agent; therefore, they too qualify as Processes.

Finally, I present some data which complicate things somewhat – namely, data in which *duqʷəla* is used to describe an eventuality that consists of multiple 'seeing' subevents. Example (33) describes a seeing eventuality which is interpreted as iterated via the quantifying phrase *ʔoʔəm həyulis* 'always', while (34) describes a seeing eventuality with an iterated interpretation (i.e. Mabel saw the baby eagle on multiple occasions) in which there is no overt quantifying phrase.

(33) *Context: Every morning Mabel looks out her window and sees an eagle sitting in the tree there.*

ʔom̓i		həyulisi		Mabel	**duqʷəla**	
ʔo =ʔm	=i	həyulis	=i	Mabel	**duqʷ**	**-la**
so =VER	=3DIST	continue	=3DIST	Mabel	**see**	**-PROC**

	x̌ida			kʷikʷ	lax̌a			λoʔs
	=x̌	=i	=da	kʷikʷ	la	=x̌	=a	λoʔs
	=ACC	=3DIST	=OST	eagle	PREP	=ACC	=DET	tree

		lax̌ida				ǧəʔala
		la	=x̌	=i	=da	ǧəʔala
		PREP	=ACC	=3DIST	=OST	morning

'Mabel always sees an eagle in the tree in the morning.'   (20160712 VF)

(34) *Context: The eagle has a baby eagle. Mabel watches the eagle's nest over a series of days, and sees it get bigger and bigger.*

ləm̓i			Mabel	**duqʷəla**	
lə	=ʔm	=i	Mabel	**duqʷ**	**-la**
AUX	=VER	=3DIST	Mabel	**see**	**-PROC**

	x̌ida			wəyugʷəmala	kʷikʷbidu
	=x̌	=i	=da	wəyugʷəmala	kʷikʷ =bidu
	=ACC	=3DIST	=OST	baby	eagle =DIM

	q̓ʷax̌ən̓akʷəla		
	q̓ʷax̌	-a	=n̓akʷəla
	grow	-FV	=GRAD.ADV

'Mabel saw the baby eagle grow.'   (20160712 VF)

The problem that these examples highlight is that it is not obvious from data like these whether *-la* is a source of iterative meaning or not. On the one hand, recall that Boas (1911, 1947) takes *-la* to be associated with 'multiplicity' and 'repetition'. On the other hand, it could be that *-la* does not actually add meaning related to multiplicity and repetition, and that the iterative meaning in these examples could instead come from *ʔoʔəm həyulis* in (33) and from pragmatics in (34).[13] Thus, a listener encountering (34) could infer that for Mabel to see an eagle-baby grow, practically speaking she must have seen it on multiple occasions; hence, the eventuality being described must have involved iterated seeing subevents (note that the alternative would be for Mabel to have kept her eyes constantly on the eagle for a series of days – a very unlikely scenario in the real world!). In short, it is not at all clear from data like these whether *-la* actually

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[13] Note that if this is true, it has repercussions for my explanation in Section 4.2 concerning why *-la* can only occur on certain Processes.

does give rise to meanings of 'multiplicity' and 'repetition'. Ultimately, more work is needed to know whether -*la* contributes this type of meaning under any particular circumstances. For now, it's worth noting that *duqʷəla* is the verb stem (of the three looked at here) which tends to be volunteered in contexts involving multiplicity or repetition. While for the moment unexplained, this generalization is not obviously inconsistent with *duqʷəla* predicates denoting Processes.

In summary, *duqʷəla* describes eventualities which qualify as Processes, either because they are clearly dynamic or because they involve agentivity. These findings are consistent with *duqʷəla* predicates denoting Processes, where –*la* is the grammatical source of this aspectual interpretation.

5.3   *dux̌ʷʔid* predicates

Recall that Transitions are telic eventualities. They consist of an interval of time containing a near-instantaneous change of state. The most common English translations for *dux̌ʷʔid* predicates are 'look at' and 'glance at', though it is not uncommon for them to also be translated simply as 'see'. This range of possible interpretations for *dux̌ʷʔid* predicates, I'll suggest, is consistent with them being derived Transitions.

Example (35), which should be compared against example (27), contains two *duqʷ*- predicates. In the first clause, *dux̌ʷʔid* is used to describe glancing at a picture, while in the second clause, *duqʷəla* is used to describe seeing a butterfly.

(35) *Context: Vicky drew a complicated picture of a garden. In it there was a butterfly. Shelly walks into the room, glances at the picture, and right away sees the butterfly.*

gaṁi			Shelli	**dux̌ʷʔi**		x̌a	
ga	=ʔm	=i	Shelli	**duqʷ**	**-x̌ʔid**	=x̌	=a
come	=VER	=3DIST	Shelly	**see**	**-BEC**	=ACC	=DET

k̓atəmakʷ	ʔoṁis			hix̌ʔidaʔəm	**duqʷəla**	
k̓atəmakʷ	ʔo	=ṁ	=(w)is	hix̌ʔidaʔəm	**duqʷ**	**-la**
picture	so	=VER	=and.so	suddenly	**see**	**-PROC**

x̌ada			həmumu
=x̌	=a	=da	həmumu
=ACC	=DET	=OST	butterfly

'Shelly came and {looked at, glanced at, saw} the picture, and just right away she saw the butterfly.'   (20160712 VF)

In comparison with (27) which contains *duqʷəla* in the first clause, the presence of *dux̌ʷʔid* in the first clause of (35) emphasizes a quick transition into seeing ('look at', 'glance at', 'see'), rather than a process of seeing ('look over'). Two additional examples of the use of *dux̌ʷʔid* to indicate a quick transition into seeing are shown in (36)–(37).

(36) *Context: The speaker is telling a story about paying her hydro bill at the bank. The bill was for an absurdly small sum.*

ləṁi			da	c̓ədaq	**dux̌ʷʔi**	
lə	=ʔm	=i	=da	c̓ədaq	**duqʷ**	-x̌ʔid
AUX	=VER	=3DIST	=OST	woman	**see**	-BEC

x̌ən			*bill*	ləʔəm		dəʔɬʔi	
=x̌	=ən		*bill*	lə	=ʔm	dəʔɬ	-x̌ʔid
=ACC	=1POSS		*bill*	AUX	=VER	laugh	-BEC

'Then the woman saw/looked at my bill, and laughed.'   (20150527 VF)

(37) *Context: The speaker is describing something that just happened in the elicitation session.*

ʔoṁisux̌			la	**dux̌ʷʔi**	
ʔo	=ʔm	=(w)is	=ux̌	la	**duqʷ**	-x̌ʔid
so	=VER	=and.so	=3MED	AUX	**see**	-BEC

x̌ux̌		Ketiyəx̌		lux̌		Ketiyəx̌	
=x̌	=ux̌	Keti=(ə)x̌		lə	=ux̌	Keti	=(ə)x̌
=ACC	=3MED	Katie	=VIS	AUX	=3MED	Katie	=VIS

dux̌ʷʔix̌			ləṁux̌			ʔoʔəm	
duqʷ	-x̌ʔid	=x̌	lə	=ʔm	=ux̌	ʔo	=ʔm
see	**-BEC**	=ACC	AUX	=VER	=3MED	so	=VER

didəʔɬəla
Ci~ dəʔɬ -la
PL~ laugh -PROC

'She just looked at Katie, and Katie looked at her, and they just laughed.'

(20150629 VF)

In each of these examples, *dux̌ʷʔid* is used to express the initial moment of a seeing eventuality. The eventualities thus described are inchoative states, a fact which is consistent with them being derived Transitions.

In summary, *dux̌ʷʔid* describes eventualities which involve near-instantaneous transitions into seeing eventualities. This finding is consistent with *dux̌ʷʔid* predicates denoting Transitions, with *-x̌ʔid* being the grammatical source of this aspectual interpretation.

5.4   Interpretations of *duqʷ*- predicates: Summary

In this section, I've presented data involving *duqʷ*- predicates in order to illustrate that the analysis in Section 3 is plausible. The findings from this section are summarized in Table 3.

Table 3: Summary of *duqʷ*- predicates

duqʷ-‘see’ predicate	Eventuality type	English translation(s)	Description
duqʷała	derived State	‘watch’	sustained action of seeing
duqʷəla	derived Process	‘look over’, ‘see’	action of seeing
dux̌ʷʔid	derived Transition	‘look at’, ‘glance at’, ‘see’	inchoative; transition into seeing

I also pointed out that more research is needed to discover whether or not *-la* is semantically associated with multiplicity and iterativity, as claimed in Boas (1911, 1947).

6   Conclusion

In this paper, I proposed an analysis of three common aspectual suffixes in Kwak’wala that builds upon several key insights in Greene (2013). I began by introducing Greene’s analysis of lexical aspectual verb classes in Kwak’wala, in which verbs belong to three eventuality types: States, Processes, and Transitions. I then proposed that Kwak’wala possesses grammatical means of deriving these three eventuality types: *-ała* derives States, *-la* derives Processes, and *-xʔid* derives Transitions. After this, I discussed how my analysis accounts for previously reported generalizations about *-xʔid* and *-la* reported in Greene (2013). Finally, I looked at the interpretation of *duqʷ*- ‘see’ predicates containing *-ała*, *-la,* and *-xʔid* in order to illustrate the plausibility of my analysis. While I don’t feel I’ve provided enough evidence in this paper to establish my analysis with great certainty, I have at least tried to frame a new way of thinking about the semantics of *-ała*, *-la*, and *-xʔid*. Along the way, I have also made note of some open questions and avenues for future work.

A significant implication of analyzing *-ała*, *-la*, and *-xʔid* as morphemes for deriving eventuality types is that it shows the three aspectual categories of States, Processes, and Transitions to have even greater significance within the grammar of Kwak’wala than previously thought. In essence, this means that Greene’s (2013) insights into aspectual organization in Kwak’wala were more far-reaching than she herself realized. Future research on aspect in Kwak’wala should take into account the central importance of these three eventuality types.

The analysis proposed above also has important implications for teaching Kwak’wala. If the three categories of State, Process, and Transition are indeed as pervasive within the grammar of Kwak’wala as I’ve claimed they are, then it will be important going forward to come up with intuitive ways of teaching these concepts to students of Kwak’wala.

Appendix A: Definitions of DO and BECOME from Dowty (1979)

Greene's (2013) templates for lexical Processes and Transitions make use of two semantic operators from Dowty (1979), DO and BECOME. The denotations of these operators are given in (38) and (39), respectively, accompanied by notes regarding their truth conditions from Dowty (ibid.).

(38) a. DO(α, φ) $\leftrightarrow$ φ & u.t.u.c.o.a.(φ)

     b. "…the abbreviation [u.t.u.c.o.a.] stands for "is under the unmediated control of the agent (individual denoted by α)" and is this is of course a blatant fudge since I have no way of giving a standard (explicit model-theoretic) interpretation for this notion." (pg. 118)

(39) a. [BECOME φ] is true at I iff there is an interval J containing the initial bound of I such that ¬φ is true at J and there is an interval K containing the final bound of I such that φ is true at K.

     b. Interval: Let T be the set of real numbers. Let $\prec$ be the standard dense linear ordering of T. I is an interval iff $I \subset T$ and for all moments $t1, t2, t3$, if $t3 \in I$, and $t1 \prec t2 \prec t3$, then $t2 \in I$.

     c. Initial and final bound: t is an initial bound for I iff t is the latest moment just before I. Final bound is defined similarly.

In her discussion of these operators and their application to modeling lexical aspectual classes in Kwak'wala, Greene (ibid.) suggests that the DO operator may be in need of revision in order to make it based on a property like [+ stages] (Landman 1992) or [+dynamic], rather than on agentivity alone.

Appendix B: Formal analysis of *-ała*, *-la*, and *-xʔid*

A tentative formal analysis of *-ała*, *-la*, and *-xʔid* is given in (40)–(42).

(40) $[\![-a\text{ł}a]\!] = \lambda P_{<v,<s,t>>}.\lambda e.(\text{STATE}(P))(e)$

(41) $[\![-la]\!] = \lambda P_{<v,<s,t>>}.\lambda e.(\text{DO}(P))(e)$

(42) $[\![-x\text{ʔ}id]\!] = \lambda P_{<v,<s,t>>}.\lambda e.(\text{BECOME}(P))(e)$

    The analysis in (40)–(42) treats *-ała*, *-la*, and *-xʔid* as event modifiers. On this analysis, each suffix denotes a function from properties of events, to properties of events which correspond to a particular eventuality type: a State in the case of *-ała*, a Process in the case of *-la*, and a Transition in the case of *-xʔid*.

The analysis is stated as "tentative" only because I am unsure at this time whether these suffixes are also responsible for binding the event variable.

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