

SOME PHONOLOGICAL RULES IN MAINLAND COMOX

by

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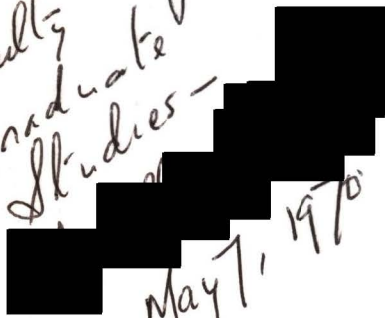
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ABSTRACT

This thesis consists of a phonemic analysis at the word level of the phonology of Mainland Comox, a language spoken by the Sliammon, Klahoose, and Homalco peoples of British Columbia.

Presented are some of the phonological rules necessary to map the morphemes of an utterance onto the phonetic level of speech.

Included are appendices consisting of word lists specifically designed for comparative Salish studies and an introductory section of explanation for the non-linguist.

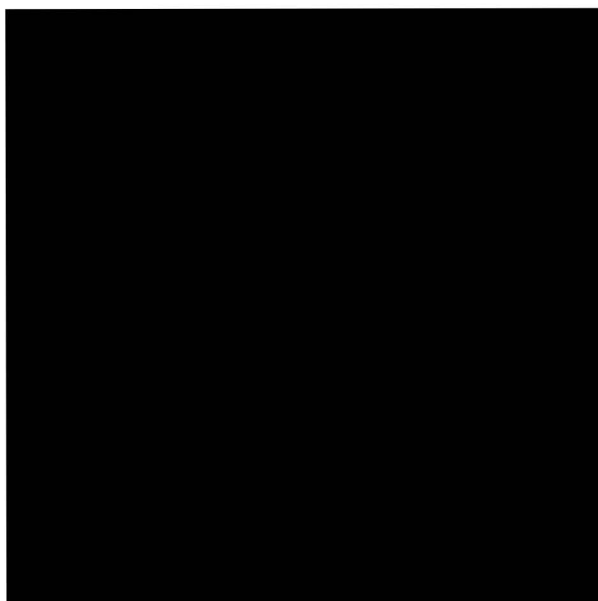


TABLE OF CONTENTS

LIST OF TABLES	iv
ACKNOWLEDGEMENTS	v
EXPLANATION FOR THE NON-LINGUIST	vi
I. BACKGROUND INFORMATION	1
Description of the Language Area	2
History of the Language Area	3
Previous Work Done	7
Description of Informants	7
Description of Field Experience	10
II. THE PHONOLOGICAL STUDY	12
A. General	13
1. Introduction	13
2. Special Features of Mainland Comox	15
3. The Articulatory Setting	17
4. Stress and Pitch	21
B. Nonsyllabics	24
1. The Problem of Glottal Constriction	24
2. The Problem of Rounding	27
3. Inventory of Nonsyllabic Phonemes	28
4. Geminate Nonsyllabics	42
5. Problematic Phones	43
6. Chart of Features	45
C. Vowels	47
1. Back and Nonback	47
2. Inventory of Vowel Phonemes	48

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EXPLANATION FOR THE NON-LINGUIST

This section **is** meant to explain to the non-linguist some of the spellings used in this thesis. The symbols used are part of a technical alphabet of several hundred letters used by linguists around the world.

1. Use of Bracketing

- a. Square brackets indicate the exact pronunciation, including features that are not distinctive. As examples from English, the word spit would be written [spit] and the word pit would be written [p^hit]; in English, the aspiration after the p in pit is not distinctive.
- b. Diagonal lines indicate underlying forms. As examples from English, the word went [went] would be /go-D/ and cows [kawz] would be /kaw-S/.
- c. Words in parenthesis on this page are presented in order to help explain the words in square brackets.
- d. A dot on the line indicates a syllable boundary.

2. Vowels

The language spoken by the Sliammon, Klahoose, and Homalco has five underlying vowels. However, fourteen vowel symbols are being used in this thesis to indicate the exact pronunciation.

- [ə] as in English again [ə.gén] ~ [ə.gén]
 as in Mainland Comox 'belly' [k^wú.wə] (k^oəwə)
 The name of this letter is schwa [šwa].

Schwa is a somewhat obscure sound and for this reason an underlying schwa will usually take on the colouring of neighbouring consonants and vowels in actual pronunciation. Many of the following letters represent an underlying schwa.

- [a] as in English but [bat]
 as in Mainland Comox 'white' [paq] (pəq)
- [ɜ̥] as in English women [wímɜ̥n], "just a minute" [jɜ̥st a mɪnɪt]
 as in Mainland Comox 'towing' [sɜ̥sq^ənəč] (səsqnəč)
- [u] as in English school [skul]
 as in Mainland Comox 'star' [k^oúsɜ̥n] (k^oosən)
- [u:] like [u], but longer
 as in Mainland Comox 'dragging' [gú:q^waʔam] (gəwq^oaʔam)
- [u] as in English book [buk]
 as in Mainland Comox 'drag' [gúq^wəm] (gəq^oəm)
- [a] as in English father [fáðr̥]
 as in Mainland Comox 'what?' [tam] (tam)
- [a:] like [a], but longer
 as in Mainland Comox 'working' [pá:pəm]
- [æ] as in English bat [bæt]
 as in Mainland Comox 'sneak' [š^væsəm] (šasəm)
- [o] as in English boat [bot]
 as in Mainland Comox 'ten' [ʔópan] (ʔopan)
- [ɔ̥] halfway between [o] and [ə]; a "relaxed" [o]
 as in Mainland Comox 'come' [q^wɔ̥l] ~ [q^wal] (q^oəl)

- [i] as in English machine [mə.ʃɪn], seem [sim]
as in Mainland Comox 'little' [títolʔ] (titolʔ)
- [i:] like [i], but longer
as in Mainland Comox 'running' [ʃi:ʔ] (ʃeyʔ)
- [ɪ] as in English pin [pɪn]
as in Mainland Comox 'run' [ʃɪʔ] (ʃəʔ),
'itchy' [síčim] (səčəm)
- [e] as in English late [let]
as in Mainland Comox 'deer' [qegəθ] (qigəθ),
'hand' [čéyiš] (čəyiš)
- [e̞] halfway between [e] and [ə]; a "relaxed" [e]
as in Mainland Comox 'early' [qáʃe̞] (qajə),
'house' [ʔáye̞] (ʔayə)
- [ɛ] as in English bet [bet]
as in Mainland Comox 'house' [ʔayéʔ] (ʔayə),
'sunshine' [tʔéxəm] (tʔəxəm)

3. Consonants*

The following letters are pronounced as in English:

g h k l m n p s t w y

Mainland Comox has other sounds like English, but in using the technical alphabet the rule is "one sound, one letter". The following letters represent sounds that occur both in English and in Mainland Comox:

- [č] as ch in English chew [ču], ouch [ʔawč] ~ [awč]
as in Mainland Comox 'hand' [čéyiš]

* For technical reasons, the term "consonant" is not used in the main body of this thesis. The term "nonsyllabic", which is used, has roughly the same meaning.

- [j] as j in English jam [jæm]
as in Mainland Comox 'to exchange' [ʔájiš] (ʔaǰəš)
- [š] as sh in English ship [šip], sheep [šip]
as in Mainland Comox 'nice; pretty' [ʔá:ǰumiš]
- [θ] as th in English thin [θin], thick [θik]
as in Mainland Comox 'bullfrog' [walθ] (wəθ)
- [k^w] as qu in English quick [k^wik]
as in Mainland Comox 'sit down' [k^wánəč]
- [k^o] almost as c in English 'cool' [kul], except that the lip rounding for the vowel is made while pronouncing the k
as in Mainland Comox 'star' [k^oúsɛn] (k^oosən)
- [k^y] as c in English cute [k^yut]
as in Mainland Comox 'coffee' [k^yápi] ~ [kápi]
- [ʔ] as in English "yup" [yaʔ], "uh-oh" [ʔáʔ ʔo]
as in Cockney 'bottle' bo'le [báʔl̩]
as in Mainland Comox 'house' [ʔáye] ~ [ʔayéʔ] (ʔayəʔ)
- ['] "creaky voice"; raising the adam's apple without producing a glottal stop [ʔ]
as in English stop [sto'p], tack [ta'k]
as in Mainland Comox 'mussel' [sá'ma] (saʔma)

The following sounds are harder to describe in terms of English:

- [ç] almost as t-th; try to pronounce "fatso" or nazi with a lisp. "fat-tho" [fæço], "nat-thi" [náçi]
as in Mainland Comox 'I will come' [q^walçɛm] (q^oəlçəm)

- [q] a k type sound pronounced slightly further back in the mouth than [k]; almost like c in cough [qɔf] as in Mainland Comox 'eye' [qáwum] (qawəm)
- [q^w] a k^w type sound pronounced slightly further back in the mouth; almost like qu in quarry [q^wóri] as in Mainland Comox 'flower' [q^wásɛm] (q^oasəm)
- [q^o] a g in which lip rounding for the adjacent vowel is made also while pronouncing the g as in Mainland Comox 'snow on ground; age' [q^oómay]
- [x^o] almost like a whispered [u], but with more friction as in English "whew!" [x^ox^o] as in Mainland Comox 'fish' [jɛnx^o] (jɛnx^o)
- [x^w] same as above, but with a [^w] afterglide as in [k^w] or [q^w]; almost as in English what pronounced emphatically [x^wat!?] as in Mainland Comox 'boat' [núx^wɛɪ] (nɛx^oɛɪ)
- [ɬ] a "breathed l"; like the [x^o] this sound has considerable friction, but with the air flowing around the tongue through the molar teeth. as ll in Welsh 'ship' llong [ɬoŋ] or lh in Tibetan Lhasa [ɬasa] (the capital city of Tibet) as in Mainland Comox 'blood' [q^wɛɪ]
- [x̣] a sound of rough friction pronounced at the same place in the mouth as the [q]; like χ in Greek 'choir' Χορος [xoros]; like ch in German ach [ax̣]; like kh in Russian kolkhoz 'collective farm' [kalx̣óz] as in Mainland Comox 'small frog' [wáx̣as]

[x̣^o] a x^o type sound, but pronounced slightly further back in the mouth and with rough friction. Unlike [x^o], this sound never sounds like a separate syllable. It is like a [x̣] in which lip rounding for the neighbouring vowel is made also while pronouncing the [x̣].

as in Mainland Comox 'to spit' [λox̣^ot] (λox̣^ot)

[x̣^w] same as above, but with a [^w] afterglide as in [k^w] or [q^w]

as in Mainland Comox 'to vomit' [jox̣^wɔ̣t] (jox̣^wɔ̣t)

[λ̣] just as [č] can be considered a combination [tš] and [ç] a combination [tθ], this can be considered to be a combination of [tʃ̣]

as in Mainland Comox 'wet' [λ̣ámλ̣əm] (λ̣əmλ̣əm)

In addition to the above sounds, Mainland Comox has nine glottalised consonants. These are:

p̣	ç̣	ṭ	λ̣	č̣	ḳ	ḳ ^o	ḳ ^w	q̣	q̣ ^o	q̣ ^w
1	2	3	4	5	6	7		8	9	

The best way to gain an impression of what they are like is to hear a native speaker pronounce them. They are not at all difficult to pronounce, but they are quite difficult to describe in writing. For a verbal description, however, see page 24 below.

4. Diphthongs

Mainland Comox has eight diphthongs:

[ay] as in English eye [ay], buy [bay]

as in Mainland Comox 'horse clam' [máʔay]

- [aw] like ow in English cow [kaw] or ou in English
ouch [ʔawč] ~ [awč]
 as in Mainland Comox 'toilet' [wáčawtx^o] (wačawtx^o)
- [oy] as in English boy [boy]
 as in Mainland Comox 'finished' [hoy] (hoy)
- [ey] as in English hay [hey] ~ [he]
 as in Mainland Comox 'hand' [čéyiš] (čeyəš)
- [ɛw] as in Mainland Comox 'very' [héhɛw] (hɛhɛw)
- [iw] as in Mainland Comox 'stinging nettle' [síwsiw]
 (siwsiw)
- [əw] as in Mainland Comox 'cough' [təwqət] (təwqət)
- [əy] as in Mainland Comox 'startle' [xəyp] (xəyp)

4. Further Reading

For more examples of Sliammon-Klahoose-Homalco words see Appendix I of this thesis.

In 1915 Edward Sapir's Noun Reduplication in Comox was published; see the section below on References Consulted. In his book he included a large number of Comox words accurately written and presented so as to show some of the grammatical paradigms occurring in Comox.

Comox is the island dialect of the Coast Salish language that includes Comox, Homalco, Klahoose, and Sliammon.*

* Some other Coast Salish languages are Sechelt, Squamish, Nootsack, and Halcomelem. The dialects of Halcomelem include Nanaimo, Cowichan, Chemainus, Musqueam, Kwantlen, Katzie, Sumas, Chehalis, Chilliwack, and Tait. ((from Kuipers, 1967))

I. BACKGROUND INFORMATION

BACKGROUND INFORMATION

Description of the Language Area

The North Georgia branch of the Coast division of the Salish language family is composed of Pentlatch, Sechelt, and Comox (Kuipers, 1967). Generally listed as dialects of the Comox language are Comox, on Vancouver Island, and, on the mainland, Sliammon, Klahoose (at Squirrel Cove), and Homalco (at Church House).

The three mainland dialects are the three which I studied. Although some people have relatives at Comox (near Courtenay), no mention was made that the island dialect is still spoken.

Chafe (1962) lists the speakers of Comox as two or three in number, aged 50 or over, and the speakers of Sliammon as five to six hundred, all ages. He is apparently including Homalco and Klahoose in the category of Sliammon. The Department of Indian Affairs and Northern Development (DIAND) (1967) lists the population of the three bands as 392 for Sliammon, 92 for Klahoose, and 217 for Homalco.

No name was given by native speakers for the language, but all agree that they speak the same language, /ʔayjəθəm/ 'talking Indian' ([ʔayəjəθəm], [ʔayjəθəm]).

Some speakers stated that the dialects are slightly different in their pronunciation of words. I was unable to gather enough data to show what the distinctions are;

however, I was able to note some interpersonal differences which on further study may prove to be dialectal in nature. One of the distinctions mentioned is the tempo of speech: it was stated that Comox was spoken the most slowly, Sliammon the most rapidly, and Klahoose and Homalco in between.

Some speakers say that Sliammon is mutually intelligible with Sechelt, "just the ends of the words are a little different", while other speakers have said that someone from Sechelt cannot understand Sliammon. Boas and Haeberlin's (1927) data would tend to support the latter view. Barnett (1955) includes Pentlatch and Sechelt both as dialects of Comox. A map compiled by the Provincial Museum (1956) includes Sechelt within Comox, but sets Pentlatch apart. Jorgensen (1969), following Swadesh (1950), considers both Pentlatch and Sechelt to be separate from Comox, as do the DIAND, Kuipers, and Boas and Haeberlin. Chafe cross references Sliammon and Comox, but lists Sechelt separately. Swadesh lists Comox and Sechelt as sharing 55 percent of their basic vocabulary, Sechelt and Pentlatch 51 percent, and Pentlatch and Comox 45 percent.

History of the Language Area

Regarding the pre-contact cultural classification of Mainland Comox, Jorgensen (1969) writes:

... The Gulf of Georgia Culture Cluster ... is comprised of northern and southern subsets with Sechelt as an intermediate member between the two. It is interesting to note that Comox and Pentlatch of Vancouver Island are significantly

different from Klahuse and Homalco (mainland Comox), and that these four units are linked to the southern subset most closely through mainland Sechelt... (p 65)

Presumably, Jorgensen includes Sliammon as "mainland Comox"; he does not mention Sliammon either here or elsewhere in his book. Barnett (1939) makes the same observation as Jorgensen, and includes Sliammon culturally with Klahoose and Homalco.

Prior to European contact the Homalco wintered at Waddington Harbour, at the head of Bute Inlet. The Klahoose originally wintered in underground houses approximately ten miles up the Toba River; later, still prior to contact, they wintered at Salmon Bay, where the Brem River enters Toba Inlet. The Sliammon wintered in two groups: at Grace Harbour (in Malaspina Inlet) and at what is today Sliammon (Barnett, 1955).

Immediately prior to contact all three groups were wintering together at Grace Harbour. Barnett (1955) considers this to be a unique occurrence aboriginally, probably resulting from European contact elsewhere on the Northwest Coast. Possibly this was in response to pressure from the Kwakiutl, who had obtained guns by this date.

Barnett also states that specifically Kwakiutl influence did not antedate contact. He bases his inference on a postulated recent spread of masks and dances. Although a complete linguistic comparison has not been made, Mainland Comox seems to have been under Wakashan influence

for a long time (see below, section II.A.2.). Regarding Barnett's inference, it must be kept in mind that Kwakiutl ceremonies and ceremonial equipment became especially elaborated only after European contact and the introduction of trade goods, including iron tools (Codere, 1961).

In the 1870's the Oblate priests under the leadership of Father (later Bishop) Durieu persuaded the Homalco, Klahoose, and Sliammon to unite in one community at present day Sliammon (Lemert, 1954).

For a variety of reasons, the project failed after approximately two decades. The reasons told me by Ambrose Wilson, who was born at Old Church House and has lived at Church House all his life, are as follows. The Klahoose and Homalco, being outsiders, were required by the Sliammon to act as outsiders, e.g., to ask permission to go hunting. Friction developed, and the Klahoose and Homalco moved to Squirrel Cove (Barnett (1955) dates this at about 1896). The Homalco then decided not to allow a chance for similar friction to develop between them and the Klahoose, and moved on to Bute Inlet. A village was built at Old Church House, on Sonora Island opposite the mouth of Bute Inlet. The village, consisting of a frame church and frame houses, lasted less than twenty years. During a bad storm the Bute Wind removed the village, causing considerable hardship. The village was then moved to present day Church House, where it has remained.

Today there is much contact among the three bands and visits and marriages among them are common. In recent years several families have moved from Church House and Sliammon Cove to Sliammon in order to obtain employment in the Powell River area. The three villages do not participate in winter ceremonials, but they do take part in summer sport events in Sechelt and Vancouver. For a general discussion of continuing contacts among the Coast Salish see Suttles (1963).

Today all three communities have fairly intensive contacts with the English speaking society around them. Sliammon and Church House have electricity and television sets. Homalco children attend school on the reserve through the second grade, but the older children attend residential school, as do all Klahoose and some Sliammon children, usually at Sechelt until high school and then in North Vancouver. Most Sliammon children attend local schools in Powell River. Almost all children at Church House can speak Homalco, but at Sliammon many children know only a few words of their language. Except for Bella Coola, Mainland Comox is the most alive of the Coast Salish languages, but it is encountering intensive competition from English and there is a possibility that it may die during the next half century.

¹ Although the Bella Coola are a Coast Salish people, Kuipers (1967) and Jorgensen (1969) do not include their language as a member of the Coast Division. Bella Coola is a Salish language spoken further up the coast but is isolated from the rest of the Salish area by Wakashan and Athapaskan languages.

Previous Work Done

Before 1900, various persons interested in languages collected small vocabularies of Comox. The earliest seems to have been in 1857 by George Gibbs (published 1877). The most comprehensive work was by Franz Boas, much of which is unpublished and thus not readily available. For a complete listing of published and unpublished sources see Pilling (1893). In 1896 Father LeJeune published at Kamloops a collection of prayers, hymns, and catechism in the "Slayamen" language, written in the Wawa script.

In this century little work has been done on Comox-Sliammon. Boas and Haeberlin (1927) and Swadesh (1950) draw upon Boas' notes from before 1900. In 1915 Sapir published his Noun Reduplication in Comox, which was later used for comparative purposes by Swadesh (1952) and by Jorgensen (1969). In 1965 Laurence C. Thompson spent a few days at Sliammon and T. M. Hess spent six weeks there, working with Bill Galligos.

For lists of published sources, see Murdock (1960) and Adler (1961).

Description of Informants

Material for this thesis was gathered from a wide variety of informants, mostly at Sliammon but some at Church House and Squirrel Cove. The youngest informant was eight years old, the oldest was seventy-seven. Even though some informants have teeth missing and others do not, the enunciation of words is remarkably similar.

The variations of pronunciation that do occur reflect differences of idiolect or of dialect or differentiation between men's and women's speech.

A description of each of the main informants follows.

Bill Galligos, sixty-five years old, is the son of a Sliammon woman and an Argentinian sailor who settled at Sliammon. Bill was raised at Sliammon and his parents spoke Chinook Jargon at home. Bill married Amelia, daughter of Noel George Harry, and lived with her at Church House for several years. They later moved to Sliammon, where they live now. Bill and Amelia speak to each other and to their family and friends in Sliammon-Homalco, even though much of their daily activity requires that they speak English. Bill verbalizes the concept of a minimal pair as being two words that are "just a little bit different". He describes the glottalised stops /p̣ ṭ ḳ/ by drawing an analogy between them and the English stops /b d g/. He thinks of p̣ and ṭ as being "on the side of g" and of ḳ and q̣ as being "a little like k or c".

Noel George Harry, seventy-seven years old, was born and raised a Homalco, at Church House, but has been at Sliammon over twenty years now. He and his wife speak Homalco to each other, even though they can both speak English. He was able to give me many words that the old people used to describe their houses and tools and to tell many stories.

Mrs. Mary George, forty-six years old, was born at Sliammon and has lived there all her life. She speaks "real Sliammon", as opposed to Klahoose or Homalco. Her maiden name was Mary Tom, her husband's name is John George. She speaks English and Sliammon with equal fluency and was able to give **several alternative translations for many of the English sentences which I presented her.**

Jim Wilson, twenty-four year old son of Ambrose Wilson, was raised at Church House and was monolingual in Homalco until age seven. From age seven to nineteen he spent over half of each year at residential school. Since graduating from high school, he has lived at Church House. He can verbalise to a considerable extent about the grammar and vocabulary of his language. In March, 1970, he visited Victoria for two weeks. His help and explanations were invaluable, coming at a time when they could be incorporated with the analyses made thus far.

John Mitchell, fifty-two years old, was born at Gibson's Landing. His father was from New Zealand and his mother was the daughter of a British man and a Sechelt woman. From the age of four he grew up in the home of his Sechelt grandmother. At age sixteen he started working in the woods in the Powell River area, where he learned Sliammon. At age thirty he was involved in a hunting accident, and has been under medical care since then. He now lives in a rest home near Victoria. Since he has not spoken the language for a long time, he can not answer

many questions on the grammar, although he would undoubtedly be able to understand more than he could speak. He was able to give many words of the vocabulary; his pronunciation is closer to the pronunciation recorded by Sapir (1915) than is the pronunciation of most other present day speakers. He does not remember Sechelt.

Description of Field Experience

Because of a shortage of housing at Sliammon, my wife and I were unable to find living space on the reserve. We rented a small house in Wildwood, the part of Powell River closest to Sliammon. We stayed there for the four months of the 1969 academic summer, from mid May to mid September. Except for two trips to Victoria and a trip to Squirrel Cove and Church House, I was able to spend an average of ten hours per week talking with native speakers about the language and/or tape recording stories in English and Homalco.

My wife was also doing field work for her thesis, a study of the relationship between school experience and attitudes toward school of Indian students. Through daily contacts, the two of us were able to meet many more members of the community and make many more friendly contacts than either of us could have alone.

Initially, I tried to establish a basic list of morphemes from which to work and learn new morphemes. Paradigmatic eliciting was employed, both in an attempt to discover the interrelationships of morphemes and in an

attempt to discover the alternations occurring in the phonology. Almost all material collected over the summer was tape recorded, including word lists, songs, anecdotes, and traditional stories.

In February, 1970, Professor G. N. O'Grady and I returned to Sliammon to check as many forms as possible. We succeeded in collecting 120 pages of field notes.

II. THE PHONOLOGICAL STUDY

II A. GENERAL

II.A.1. Introduction

The following study consists of an exposition of the surface features of Mainland Comox and an account of some of the processes required to derive these features. Considered to be primes are: word boundaries, morpheme boundaries, stress, pitch, vowels, and nonsyllabics. Stress and pitch are used to define the syllable. Two levels are discussed: the systematic phonemic (hereafter called the phonemic)² and the phonetic. Allophony and assimilation are discussed in terms of feature analysis and ordered rules.

A syllable is an utterance fraction which begins with the onset of stress and ends at the next onset of stress or next pause, whichever is sooner.

A word boundary is marked by a space. A morpheme boundary is marked by a hyphen; e.g., /k^oam-nəč/. A syllable boundary is marked by a period; e.g., [k^wám.nəč]. Syllable boundaries will be marked only where it is necessary to avoid ambiguity.

A vowel is a segment which is described by the features [+sonorant], [-consonantal], and [+syllabic]. Also described by the feature [+syllabic] are [.m.] and [.x^o.], which are phonetic variations of phonemes described by the feature [+consonantal]. A nonsyllabic is any segment that

² In some previous literature, the level of the systematic phoneme has been called the morphophonemic level.

is described by the feature [-syllabic]. Nonsyllabics occur as onsets and codas, vowels and other syllabics occur as syllable peaks.

A long vowel is indicated by a colon, e.g., [pá:pəm]. A half-long vowel is indicated by a raised period; e.g., [ʔéla·wəʔ^ə]. Afterglides are indicated by the raised letters [^{wy}ə]; e.g., [k^wámneč], [píč^yu], [juk^{wə}t].

The underlined letters [a] and [u] represent vowels as in English but [bat] and book [buk]; cf., English boot [but].

Three types of bracketing are used herein: diagonal lines // are used to indicate the phonemic, or underlying, representation; square brackets [] are used to indicate phonetic realisations; no bracketing is used for the intermediate steps.

An asterisk * placed before a form shows that the form is hypothetical. For a precedent to this usage see Drachman, e.g., pages 137 and 196.

A comma is placed between phonetic forms to show that the variation is across idiolects; a tilde ~ between phonetic forms shows that they are instances of variation within one idiolect; e.g., [pox^o], [pux^o] but [jɪ.iA'] ~ [ji.iA'].

Place names cited herein are located in the Sliammon-Klahoose-Homalco area.

II.A.2. Special Features of Mainland Comox

There are four phonological features in which Mainland Comox is unlike other Salish languages but similar to Wakashan languages. The first two are innovations probably as a result of extended contact with the neighbouring Kwakiutl. The second two appear to be retentions of earlier Salish features. These were lost in other Salish languages but maintained in Comox, apparently under Kwakiutl influence.

(1) In most Salish languages initial clusters of three, four, or more consonants are common. Some examples are:

Clallam ³ :	/nʔsqʷáqʷiʔ/	'your talking'
Snohomish ³ :	/dxʷsxʷálikʷ/ [txʷsxʷálekʷ]	'predilection for biting'
	/xqʷúcid/ [xqʷócid]	'knee'
Bella Coola ³ :	/łmkmłp/	'jack-pine tree'
	/kxłc/	'I looked'
	/cʰłmayxs/	'it was unlikely'
Cowichan ³ :	/šłpiʔwən/	'shirt'
	/spkʷəm/	'dust'

However, in Mainland Comox there have been only two words recorded with initial consonant clusters, and these two seem to be recent borrowings from other Salish languages (see below). A comparison of four

³ The Clallam form is from Thompson and Thompson (in press) the Snohomish forms are from T. M. Hess (private communication); the Bella Coola forms are from Newman (1947); the Cowichan forms are from G. N. O'Grady (private communication).

forms with Cowichan⁴ shows the following correspondence:

Cowichan	Mainland Comox	English
/sɬénəyʔ/	[saɬtx ^o]	'woman'
/pɬɛt/	[paɬt]	'thick'
/ɬwɛt/	[gat]	'who?'
/tʰxəm/	[tʰáxam]	'six'

See also appendices I and II of this thesis⁵.

- (2) Probably as a result of having no initial consonant clusters, Mainland Comox lacks an s- nominaliser prefix at the word level. Only two forms have been recorded with it:

[paq sčéàʔɪn]	'weasel'
[sq ^w íčɪ]	'bothersome, noisy'
cf. [q ^w íq ^w íčɪ]	'bothering'

- (3) In Mainland Comox the phoneme /ɬ/ occurs frequently, while in other Salish languages known to me /ɬ/ is not a phoneme. It is interesting to note, however, that Swadesh (1952) lists /ɬ/ among the Proto-Salish phonemes. Many instances of /ɬ/ will most likely prove to occur in words borrowed from Kwakiutl; however, a couple of forms appear to be retentions of Salish etyma and not borrowings:

⁴ From Kava (1969).

⁵ Two forms recorded by Sapir (1915) were not recognised by any Mainland Comox speakers: [ɬpɪ:ʔca] 'yellow cedar bark blanket/basket' and [q^htá:ʔabas] 'wooden ball for a game'.

Musqueam ⁶	Cowichan ⁴	Mainland Comox
	/ɬxéɬcə/	[λox ^o t] 'to spit'
/sɬiq ^w / 'meat'		[λɛ'q ^w] 'fish meat'

- (4) Swadesh (1952) writes, "There is no Salish language, with the exception of Tillamook, in which h is a common phoneme" (p 236). The phoneme /h/ is common in Mainland Comox and it also occurs in coda position, which has not been reported for other Coast Salish languages.

/tan-VOCATIVE/	[tah]	'mother!'
/man-VOCATIVE/	[mah]	'father!'
/p ^h ah/	[p ^h ah]	'Raven' (mythical name)
/qah-t/	[qaht]	'to lift something'
/ʔah-šín/	[ʔáhšín] ~ [ʔáxšín]	'sore foot'

II.A.3. The Articulatory Setting

It can be argued that inclusion of only the segmental features of a language is not sufficient for descriptive adequacy. Chomsky and Halle write:

As already noted, phonetic transcriptions consistently disregard many overt physical properties of speech. Among these are phonetic effects that are not locatable in particular segments but rather extend over entire utterances, such as the voice pitch and quality of the speaker and also such socially determined aspects of speech as the normal rate of utterance and what has been called by some writers the "articulation base"... (p 295)

⁶ From Elmendorf (1962). Elmendorf also gives the Musqueam form /k^wá^wá^wa/ 'sea', which may possibly be cognate with Mainland Comox [k^oú^wá^wu] 'salt water'.

In her paper "Articulatory Settings", Honikman (1964) justifies and gives a framework for future descriptions of what Chomsky and Halle mention as the "articulation base". Her explanation is:

...utterance of a particular language ...[is] more than its parts. While it is dependent upon them, it is not exhaustively analysable into them...Something which links all these parts is necessary for their integration. The link, so far as articulation goes, is the articulatory setting,... (p 83)

By articulatory setting is meant the disposition of the parts of the speech mechanism and their composite action, ..the over-all arrangement and manoeuvring of the speech organs necessary for the facile accomplishment of natural utterance.... (p 73)

For the purposes of analysis, Honikman divides the articulatory setting into two subparts: the external, or visible, setting, and the internal setting, which takes place within the oral cavity.

Her explanation is given within the context of teaching European languages to speakers of other European languages, but it can profitably be adapted to descriptions of American Indian languages. For this reason, the settings for Mainland Comox are presented here. The description of the external setting is largely a paraphrasing of Jim Wilson's observations; the statement of the internal setting is based on my own inferences.

External:

Jaws: The jaws remain closed with the teeth touching or almost touching throughout most of the process of speaking. Failure to hold the jaw this way makes

it impossible to articulate the uvular sounds acceptably. By comparison, in Arabic, which also employs the uvular position, the jaw is moved much more than in Mainland Comox.

Lips: The lips are not moved vigorously. Because there is so little lip movement, it is probable that part of the acoustic effect of rounding (or flattening) is created by the position of the tongue. For a discussion of internal rounding see Thompson and Thompson (1966). Like English, Mainland Comox employs vertical lip rounding; French, on the other hand, employs horizontal lip rounding with concomitant lip protrusion. For a discussion of horizontal and vertical lip rounding see Heffner (1960).

Internal:

Tension: There seems to be little tension in the tongue and cheeks; in this respect Mainland Comox is closer to English than to French (cf Honikman p 79). But, just as in English, this does not mean that there are no relative distinctions of tenseness among segments. There also seem to be relative degrees of tension in the laryngeal/pharyngeal area in conjunction with various degrees of glottal constriction.

Pressure: In the articulation of stops, there seems to be more pressure exerted between the lips and by the tongue against the teeth and roof of the mouth than in English.

Still in the category of internal setting, Honikman gives four parameters for the tongue setting: body, underside, anchorage, and tip. The first two can be inferred with a degree of surety; the last two require explanation and will be described at some length.

The tongue body and underside seem to be held slightly concave to the roof of the mouth, as in English (cf pp 76-81). Such a setting would be consistent with (1) internal rounding/flatting (2) low vowels (3) Drachman's observation, concerning another Coast Salish language, of "non-maximal use of the phonological space" (p 185). In Mainland Comox, the high tense vowels are best represented as [i^v] and [u^v] although throughout this thesis they will be written [i] and [u]. (The symbols [ɪ] and [ʊ] are being reserved for more centralised lax vowels.)

Concerning the tongue anchorage and tip, Honikman (p 76) writes:

Among the consonants of English, cardinal alveolar articulation occurs, in general, more frequently than any other; for this reason, the anchorage described below, ...should be regarded as the basis of the internal articulatory setting of English utterance.

She continues (pp 76-77):

Almost throughout English, the tongue is tethered laterally to the roof of the mouth by allowing the sides to rest along the inner surface of the upper lateral gums and teeth; the lateral rims of the tongue very seldom entirely leave this part of the roof of the mouth, ...one might regard the tethered part ...as the anchorage, and the untethered part as the free or operative part of the tongue-setting.

By anchoring the tongue we, naturally, lessen its freedom of movement. Therefore it is important to note the extent of the anchorage, for this prescribes

the range of play of the free part as well as of the tongue as a whole. The forward limit(s) of tethering might well serve as points of reference in describing the anchorage.

Thus, the alveolar consonants of English ...require lateral anchorage as far forward as the upper posterior pre-molars ...This anterior lateral contact is released for a following further back consonant or open or back vowel, and very slightly extended forward for dental sounds.

Since this anchorage is not tensely held, but is rather a pliable cushioning of the tongue-rim, adjustments to it such as lowering, retracting, and advancing are comfortably and smoothly made when required, as for some vowels and the less frequent lingual consonants....

With regard to the free part of the tongue: for the most frequent English consonants ...the tip is the effective articulator; the tip is somewhat narrowed and tapered by lateral contraction....

In Mainland Comox, velar and uvular consonants are quite common. Also, Jim Wilson states that for [q] the tongue tip is neither high nor low, but floating. Thus it is possible that the tongue is anchored laterally, as in English, but further back. Also, the anchorage must be moveable, since palatal, alveolar, and interdental consonants also occur frequently. In the lateral series, the tongue tip is anchored to the roof of the mouth and the side of the tongue is the active articulator. The question of whether or not the tongue tip is tapered is perhaps best left until a native speaker can again be consulted.

II.A.4. Stress and Pitch

In Mainland Comox, stress and pitch operate either partially or totally independently of one another; the strongest stress and the highest pitch do not usually occur on the same syllable either at the sentence level or at the word

level (for a similar phenomenon in a European language, cf Welsh). Most words in most idiolects have primary stress on the first syllable and the highest pitch on the last syllable in citation form.

On the hypothesis that stress and pitch are predictable on the basis of grammar, neither will be marked at the phonemic level in this thesis. In my field notes I did not usually mark pitch, so for the most part forms are cited herein with stress but not pitch marked at the phonetic level. For a discussion on the effects of the co-occurrence of stress and pitch, see section II.C.4. below.

In Mainland Comox there are three or four distinct levels of stress. Since an overdifferentiated transcription is preferable to an underdifferentiated one, I mark four levels of stress as follows:

[v́]	primary
[v̂]	secondary
[ṽ]	tertiary
[v̇]	unstressed

where [v] means any vowel. Stress will not be marked on monosyllabic words.

There are also at least three levels of pitch. These will be marked as follows:

1	
[v ¹]	high
2	
[v ²]	mid
3	
[v ³]	low

A minimal pair between pitch levels one and three, as volunteered by Mrs. Mary George, is:

1	
[tam]	'what?'
3	
[tam]	'Tom'

Some examples of words with both pitch and stress marked are:

2 3 1	
[tá·nášìn]	'stepmother'
2 3 1	
[ʌ'ék ^w ǎnəm]	'Scuttle Bay'
3 3 1	
[ʔéʔšněčx ^o]	'I beg your pardon?'
3 1	
[ʌ'əp a]	'is it deep?'

II B. NONSYLLABICS

II.B.1. The Problem of Glottal Constriction

In describing glottalised stops in Mainland Comox two observations made by native speakers must be taken into account. One Sliammon speaker, Bill Galligos, equates the glottalised stops with their voiced English counterparts.⁷ One Homalco speaker, Jim Wilson, classifies some instances of glottalised stops as "exploded" but most as "not exploded". Thus any description of the glottalised stop series in Mainland Comox must take two factors into account:

- (1) In some way they are like voiced stops.
- (2) They are not usually exploded; that is, they are not usually ejective.

In writing of glottalised stops in Twana, Drachman notes that

The most important factor,...is the raising of the glottis (probably, of the whole larynx) during the oral closure of a glottalized stop, which increases the pressure in the oral chamber.... (p 215)

Boas⁸ makes essentially the same observation. Chomsky and Halle write, "Ejection is produced by an upward movement of the glottal closure" (p 323).

⁷ In private conversation, Aert H. Kuipers has mentioned that his Squamish informants also equate glottalised stops with voiced stops. In addition, T. M. Hess has mentioned that field linguists have mistakenly written voiced stops for glottalised stops in Snohomish.

⁸ Boas (1911). It should be noted that in his 1890 report Boas failed to transcribe most instances of glottalisation in Comox.

Thus factor (2) above can be changed to read:

- (2) They are not usually accompanied by increased oral pressure.

However, that they are glottalised is proven by two observations: (a) the native speaker knows and verbalises the difference between glottalised and nonglottalised stops; (b) the voice box (i.e., adam's apple) is visibly raised when articulating a glottalised stop.

A description which fits all the above criteria can be found. In reference to stops which occur in Korean with glottal constriction, Chomsky and Halle write:

...That the vocal cords are, ... not wide open is shown by the timing of the voicing onset in the adjacent vowel. This begins in these stops as soon as the primary stop closure is released, whereas in the stops without glottal constriction the onset of voicing is delayed, ... (p 315)

If this description is assumed to apply also to Mainland Comox, it explicates the similarity verbalised between glottalised and voiced stops and it also accords with the fact that the modal realisation of the glottal stop phoneme /ʔ/ is that of partial, not complete, closure. With the phoneme /ʔ/, a laryngeal constriction ['] rather than a stop [ʔ] most often occurs. Example:

[sá'ma] not *[sáʔma] 'mussel'

For the remainder of this section the following convention will be used: when a glottalised stop, e.g. /t̚/, is pronounced as an ejective it will be written [t!], but when it is not it will be written [t̚].

A stop with a secondary constriction at the larynx (i.e., glottis) will often cause a neighbouring vowel to be laryngealised (i.e., pronounced with creaky voice). In these instances, the entire syllable can be considered to be laryngealised, both vowel and stop.

Ladefoged (1965) allows four types of stops in languages of the world: ejective, voiced, voiceless, and laryngealised. All four occur phonetically in Mainland Comox.

Thus the nonejective [t̚] can be termed laryngealised.

While there seems to be greater tension in the vocal tract with ejectives than with plain voiceless stops, there seems to be less with laryngealised stops.

A complete closure of the glottis usually occurs only during extremely careful articulation, what Jim Wilson calls "biting into your words", a term which he uses to describe artificially precise pronunciation both in Indian languages and in English. For this reason, complete closure is more common when short words are pronounced in isolation.

Among my informants, women pronounced more glottal stops [ʔ] and ejectives [t̚!] than men did. It is possible that complete closure of the glottis is generally more frequent in women's than in men's speech.

Note that Jim Wilson classifies the ejectives as "exploded", the aspirated stops (those occurring word finally)

as "a little exploded", and the laryngealised and the un-aspirated stops as "not exploded".

Examples of some words transcribed at the phonetic level so as to show the distinction between ejective and laryngealised stops would be:

/t̥sn/	[t̥s̃n] ~ [t̥s̃n], [t̥s̃n] ~ [t̥s̃n]	'barbecued fish'
/ʔapok̥°/	[ap̥ok̥°], [ʔap̥!ok̥!]	'maggot'
/pox̥°/	[pox̥°], [pux̥°] not *[p!ox̥°], [p!ux̥°]	'stink'
/çamq̥°ɿ/	[çamq̥°ɿ], [çamq̥°ɿ]	'cloud'

For practical purposes, the glottalised stops will be written as [t̥], etc., throughout the rest of this thesis; the difference between ejective and nonejective will not be transcribed. It is sufficient to note the problem and to realise that sometimes a linguistically untrained native speaker will make observations that are very helpful to the researcher.

II B.2. The Problem of Rounding

At the velar and uvular positions rounding/flatting is distinctive, thus /k k̥ h q q̥ x̥/ are separate phonemes from /k̥ k̥° x̥° q̥° q̥° x̥°/. However, a native speaker does not feel the rounded series to be rounded when he pronounces them next to a tense rounded vowel. Also, Sapir (1915) does not write rounded k or q next to a rounded vowel and Newman (1969) makes the observation that the sequence /k̥^Wu/ is actually pronounced [ku]. For this reason, I

adopt the following symbols at the phonetic level:

/k ^o om-nəč/	[k ^o úmneč]	'red bottom'
/k ^o am-nəč/	[k ^w ámneč]	'root'
/ʔo.k ^o /	[ʔu:k ^o]	'all'
/-εq ^o /	[-εq ^w]	'nose'(lexical suffix)

where [k^w], etc., signify visible labialisation with an audible off-glide, whether voiced or unvoiced (i.e., aspirated word-finally), and [k^o], etc., signify visible labialisation with no audible off-glide.

Before a tense rounded vowel [k^o], etc., occur, but before a nontense rounded vowel [k^w], etc., occur:

/qatx ^o -oł/	[qátx ^w uł]	'it burned'
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Sapir's transcription (p 17) reflects the same phenomenon:

kwúdjāk ^u	[k ^w úja.k ^w]	'trout'
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Throughout this thesis, velars and uvulars are symbolised /C^o/ at the phonemic level; that is, with no off-glide. The off-glide will be inserted where appropriate by a phonological rule.

For a description of lip movement, see section II.A 3. above.

II.B.3. Inventory of Nonsyllabic Phonemes

The nonsyllabic phonemes of Mainland Comox are 34 in number and involve eight positions and five manners of articulation. The two voiceless stop series in all seven positions have distinctive presence or absence of secondary glottal constriction or closure. Within the voiceless stop

and fricative series, two positions have distinctive presence or absence of labial/internal rounding.

This verbal description agrees with that made by Swadesh (1952) in his discussion of "certain phonemic features characteristic of all the Salishan languages" (p 235).⁹

	bilabial	interdental	alveolar	lateral	palatal	velar	uvular	glottal
fricatives		θ	s	ʃ	š	x ^o	x̣ x̣ ^o	
voiceless stops	{ p	{ ç	t	ʎ	č	k k ^o	q q ^o	
	{ p̣	{ ç̣	ṭ	ʎ̣	č̣	ḳ ḳ ^o	q̣ q̣ ^o	
voiced stops					j	g		ʔ
sonorants	m		n	l	y	w		ʔ h

Table I: Chart of Nonsyllabic Phonemes

3.a. There are two voiceless stops at the bilabial position: /p/ and /p̣/.

/pa:ʔa/	[pá:ʔa]	'one'
/C ₁ V ₁ C ₂ -*x̣ ^o op/	[x̣ ^o óp̣x̣ ^o op]	'humming bird'
/ʎ̣épeç̣a/	[ʎ̣'ép̣eç̣à]	'woman's slip; underblanket (sheet?)'
/pəq/	[pəq]	'white'

⁹ This description also agrees with the arrangement of nonsyllabics in the chart on page 211 of Drachman (1969).

/pəq̣/	[pəq̣]	'smoke'
/x ^o op̣-t/	[x ^o óp̣et]	'to poke with something'
/ɬop̣-t/	[ɬóp̣et]	'to peel off'

3.b. There are two voiceless affricates and one voiceless fricative at the interdental position: /ç/ /ç̣/ /θ/

The nonglottalised affricate occurs in only one morpheme, which is one of the first person singular pronominal affixes.

/ɬ-ç tan/	[ɬɛç tan]	'my mother'
/t-ç man/	[təç man]	'my father'
/ç tan/	[ç tan]	'my mother'
	[ʔaç tan]	'my mother'
/q ^w əl-ç-əm/	[q ^w əlçɛm]	'I will come'
cf. /q ^w əl-s-əm-č/	[q ^w əlɬsəmč]	'I will come'

(where /č/ also refers to first person sg)

Although /ç/ occurs only in this morpheme, it is heard frequently in the language; cf. the instance of English /ð/, which occurs in few morphemes outside the deictic system.

Examples of /ç̣/ and /θ/:

/pəç̣-m/	[pəç̣əm]	'body odor'
/ç̣iḳ-t/	[ç̣iḳ ^h t]	'a scream'
/ma:q ^w ç̣/	[ma:q ^w ç̣] ~ [ma [?] q ^w ç̣]	'onions'
/ç̣ač̣-m/	[ç̣ač̣əm]	'throw overhand'
/ç̣osos/	[ç̣ ¹ ó·sos]	'towards evening (dusk, twilight?)'

/ɬ-θ tan/	[ɬθ tan]	'your mother'
/čspθ/	[č ^Y spθ]	'aunt, uncle'
/k ^o θays/	[k ^o úθays]	'island'
/qigəθ/	[qégəθ]	'deer'
/əaysɬ/	[əáyɬ]	'lake'

3.c. At the alveolar position there are two voiceless stops and one voiceless fricative: /t/ /t̥/ /s/.

/ma-t/	[mat]	'to take'
/tam/	[tam]	'what?'
/sit̥-t/	[sit̥ət]	'throw underhand'
/mat̥ay/	[mát̥ay]	'geoduck; horse clam'
/ɬagət̥/	[ɬágət̥]	'herring'
/t̥osos/	[t̥ ^l ó·sos]	'be quiet!'
/məsən/	[m̥s̥ɛn]	'gall bladder'
/t̥ɛn/	[t̥ɛn]	'barbecued fish'

3.d. The lateral position, like the alveolar, is coronal. However, in the alveolar nonsyllabics the active articulator is the tongue tip, while the sides of the tongue are the anchorage; in the laterals, the tongue tip is the anchorage while the side(s) of the tongue is/are the active articulator.¹⁰

Swadesh (1952) writes that "Comox ...lacks the affricates c and ɬ ..." (p 238). For c (that is, /ç/) see above. Sapir includes both L and L' (i.e., /ʎ/ and

¹⁰ Pike (1943) writes "Some orals have central escape of the air ...whereas others have a lateral air escape" (p 141).

/ʌ'/ in his table of consonants and there are several occurrences of L throughout the book (1915).

Examples of /ʌ/ /ʌ'/ and /ɪ/:

/ʌiʔ-m/	[ʌi'əm]	'cockle'
/ʌaq-m/	[ʌáqəm]	'grass'
/pəʌ/	[pəʌ]	'plucked bare; e.g., duck of feathers or hillside of trees (naturally or cleared by man)'
/C ₁ V ₁ C ₁ *ʌəm/	[ʌámʌəm]	'wet'
/ʌəpx ^o /	[ʌəpx ^o]	'broken (in middle)'
/məʌ'/	[məʌ']	'the water's calm'
/C ₁ V ₁ C ₁ *ʌ'əm/	[ʌ'ámʌ'əm]	'it's square'
/ʌ'əp/	[ʌ'əp]	'deep'
/ʌ'áɪs-m/	[ʌ'áɪsɪm]	'physically strong'
/ʌəs-m/	[ʌásəm]	'hit with fist'
/C ₁ V ₁ C ₂ *ɪəx/	[ɪáxɪəx]	'physically weak'
/ɪáq-m/	[ɪáqəm]	'to wait'
/cɪɪ/	[cɪɪ]	'rain (noun or verb)'
/ɪéʔ-m-n/	[ɪáʔəmən]	'Sliammon (adj.)'
/ʔaʌ-m/	[ʔáʌəm]	'dump (place)'
/q ^w ɛɪey/	[q ^w éɪey]	'chunks of driftwood'
/ʌa:k/	[ʌa:k]	'clock'

It should be noted that most speakers are aware of and will point out the differences between the above phonemes.

3.e. There is one lateral sonorant /l/.

Boas and Haeberlin (1927) and Swadesh (1952) note the shift of Proto-Salish to /y/ and /w/ in Comox.

Some examples of this shift are:

Cowichan ⁴	Mainland Comox	
/čéliš/	[čéyĩš]	'hand'
/qéləm/	[qáwũm]	'eye'

However, /l/ still occurs in Mainland Comox, although I cannot speculate about the sources of its various occurrences:

/ʔɛlqay/	[ʔé1qǎy]	'to dry out clams or meat over a fire in order to preserve them/it'
/q ^w əl/	[q ^w al]	'come'
/q ^w aləs/	[q ^w áləs]	'raccoon'
/ha:l-aq/	[há:lǎq]	'woman's genitals'
/səl-m/	[sáləm]	'turn, spin'
/səl-t/	[sált]	'turn, spin'

The following forms seem to be from Chinook Jargon and English:

[saplén]	'bread'
[lapláš]	'timber; board (as opposed to shakes)'
[lík ^h lě]	'key'
[matá'ale]	'Victoria'
[tá ^l ·lǎ]	'money; dollar'
[tá ^l ·lǐč]	'it's round'

3.f. Four voiced stops occur in Mainland Comox: [b] [d] [ʃ] [g].

The first two are restricted to the idiolects of a few older people and occur as variants of /m/ and /n/. This phenomenon is reflected in the notations of Gibbs (recorded in 1857; he wrote no nasals), Boas, and Sapir. Swadesh notes that in Comox "m n tend to be pronounced as voiced stops in prevocalic position" (1952, p 238).

Today, when a speaker pronounces a word with [b] or [d] (e.g., [báʃəθ] 'meat' or [ʃídɪs] 'tooth'), he usually corrects himself by pronouncing the word again with the nasal. Also, nasals are often pronounced as stops in allegro delivery of traditional tales. Concerning [ʃ] and [g], Sapir (1915), Boas and Haeberlin, and Swadesh (1952) note that Proto-Salish /y/ and /w/ have gone to [ʃ] and [g] in prevocalic position. Some examples of this are:

Cowichan ⁴	Mainland Comox	
/ɬwst/	[gət]	'who'
/sméyəθ/ 'deer'	[máʃəθ]	'meat'

In the present day language /y/ and /w/ are [ɨ̞] and [ʉ̞] prevocalically but [ɨ̞] and [ʉ̞] postvocalically. That is, before vowels the articulation of semivowels is more close: they approach more nearly the articulation of an obstruent. Swadesh notes that this allophonic difference may have been a factor in the /y/ to

/j/ and /w/ to /g/ shift (1952, pp 247-248). In Mainland Comox, whenever an underlying /j/ or /g/ falls at the end of a word or before another nonsyllabic, it becomes the corresponding glide (see also section II.D.). Some examples of [j] [g] [y] [w] are:

/C ₁ V ₁ -jε/	[j ^y éj ^y ε]	'log; cousin'
/jεq̣/	[j ^y εq̣]	'smooth (surface)'
/C ₁ V ₁ -x̣ ^o aj̣-m/	[x̣ ^w áx̣ ^w aj̣im]	'telling traditional tales'
/təjəx̣ ^o /	[tíjix̣ ^o]	'pull hard'
/čəjə/	[č ^y éj ^y e]	'grandmother'
/ʔayis/	[ʔá·yis]	'clean'
/yiaǵəy/	[yí.ǵə̀y]	'inner bark of cedar'
/qayx̣/	[qáyix̣]	'Mink (mythical name)'
/x̣ ^o ay-m/	[x̣ ^w áyim]	'to dive into the water'
/təgix̣ ^o /	[tíg ^y ix̣ ^o]	'nine'
/gəji/	[g ^y íji]	'place, ground, dirt'
/gəq̣ ^o -t/	[guq̣ ^w t]	'drag'
/C ₁ V ₁ -gəq̣ ^o -t/	[gu:q̣ ^w t]	'dragging'
/C ₁ V ₁ C ₂ -sɪw/	[sɪwsɪw]	'stinging nettle'
/wələ/	[wələ]	'(big) frog' (bullfrog?)
/wuʔ-m/	[wú'um]	'very dry wood'

3.g. The two sonorants which have not yet been discussed are /ʔ/ and /h/. Chomsky and Halle define sonorants as "sounds produced with a vocal tract cavity configuration in which spontaneous voicing is possible" (p 302).

They describe the phones [ʔ] and [h] as [+sonorant] [+consonantal] [-vocalic] (p 303) and, in tongue body features, [-back] [-high] [+low].

That /ʔ/ is [+low] in Mainland Comox is evident from the fact that it causes a neighbouring vowel to be lowered:

/ʔayə/	[ʔáye] ~ [ʔayéʔ]	'house'
/ʔiʔaǰ-m/	[ʔé'aǰim]	'young woman'
/ʔiʔičin/	[ʔé'ičín]	'back'
/ʔiʔitsən/	[ʔé'it.sɛn]	'forehead'
/ʔɛ:ʔ/	[ʔɛː:ʔ]	'yes'
/ʔi:/	[ʔi:] ~ [ʔeyʔ]	'good'

For the allophony of /ʔ/, see the section above on glottalisation.

The allophones of /h/ are [h] and, less frequently, [x], occurring in free variation except before coronals.

	[ʔáhšín] ~ [ʔáxšín]	'sore leg/foot'
	[hásəm] ~ [xásəm]	'sneeze'
but	[qaht] not *[qaxt]	'lift'

3.h. There are three dorsal fricatives, one plain and two round: /x̣/ /x̣^o/ /x̣^o/.

Examples:

/wax̣as/	[wáx̣as]	'small frog that has a loud voice'
----------	----------	------------------------------------

/č̣εx̣/	[č̣εx̣]	'ripe, cooked'
/x̣ak ^o -m/	[x̣ák ^w əm]	'Grief Point'
/x̣aʔa/	[x̣áʔa]	'large clam'
/ṭεx̣-m/	[ṭéx̣əm]	'sunshine'
/pox̣ ^o /	[pox̣ ^o]	'stink'
/x̣ ^o ə ^w ə-m-wəɬ/	[x̣ ^w á ^w əməwɬ]	'suitcase'
/jox̣ ^o -t/	[jóx̣ ^w ɔ̣t]	'to vomit'
/əox̣ ^o -t/	[əox̣ ^o t]	'to spit'

The third fricative, /x^o/, often is syllabic when it is not between two vowels. Examples of /x^o/:

/nəx ^o əɬ/	[núx ^w ɬ]	'boat'
/θəx ^o /	[θux ^o] ~ [θu.x ^o]	'stab'
/tix ^o əaɬ/	[tí.x ^o əaɬ]	'tongue'
[x ^o .ə̣] ~ [x ^o .áʔ] ~ [x ^w ɔ̣ʔ] ~ [húwəʔ]		'no'
/jɛnx ^o /	[jɛnx ^o]	'fish'
/ʔax ^o /	[ʔa.x ^o]	'one falling snow flake'
/C ₁ V ₁ -ʔax ^o /	[ʔáʔa.x ^o]	'falling snow'
/ʔasx ^o /	[ʔasx ^o]	'fur seal'
/C ₁ V ₁ C ₂ -ʔasx ^o /	[ʔásʔasx ^o]	'fur seals'

3.i. In addition to /y/ and /j/, treated above, there are /č/ /č̣/ and /š/ at the palatal position. Examples:

/C ₁ V ₁ C ₂ -k ^w iš/	[k ^w išk ^w iš]	'bluejay'
/ʔayiš/	[ʔáyiš]	'younger brother or sister'
/səč-m/	[síčim]	'itch'
/mač̣ən/	[máč̣in]	'louse'

/č [?] iʔət/	[č [?] iʔɪt]	'a short time'
/č [?] iʔ-t/	[č [?] iʔɪt]	'to hear'
/x [?] sčəč [?] /	[x [?] sčɪč [?]]	'autumn'
/x [?] sʔəč [?] /	[x [?] sʔɪč [?]]	'old fish (one that is at spawning time)'
/C ₁ V ₁ -*səč [?] /	[sɪsč [?]]	'jack frost'
/θəč [?] /	[θɪč [?]]	'straight'
/xawš [?] in/	[xáwšɪn]	'bone'
/č [?] əməš [?] /	[č [?] ɪmɪš [?]]	'son-in-law'
/təš [?] -m/	[t [?] ɪš ^Y ɪm]	'to be cloudy; e.g., water'
/təš [?] -sq ⁰ /	[t [?] ɪš ^Y sq ^W]	'nasal mucus'
/šet/	[šɪst]	'up, high; sky'

3.j. Swadesh writes, "Comox and Bella Coola share with Kwakiutl, their common neighbor, a fronted pronunciation of k sounds, giving a y-like timbre to k and g, and speaking x like German front ch in ich" (1952, p 247).

This observation is reflected in Sapir (1915) and is accurate for today's pronunciation of /k/, /k⁰/, and /g/ before a nonback vowel. However, the phone [x^Y] occurs in only one morpheme (see section II.B.5.). The remaining two velar nonsyllabics, /x⁰/ and /w/, are not pronounced with a fronted articulation. The phonemes /k/ and /k[?]/ are infrequent, so I include here all the forms containing them in my notes:

/C ₁ V ₁ -*k [?] ik [?] /	[k ^Y ɪ:k ^Y ɪk ^Y]	'crow'
/C ₁ V ₁ -*kəyə/	[k ^Y ɪk ^Y .yə]	'spider, bug'

/tək-awəs/	[t'ík ^y awùs]	'to wink'
/tək-t/	[t'ík ^y t]	'to aim a rifle'
/kɛlt-t/	[k ^y ɛltət]	'to hang up'
/čiyík/	[čiyík ^y]	'to fry'
/təl'k-t/	[t'álk ^y ət] ²⁰	'to drill a hole'
	[t'álɪk ^y]	'something that has a hole in it'
/k ^y ɛlɛθ/	[k ^y ɛlɛθ]	'to have a bit of a curve; not straight'
/čik-t/	[čik ^y h ^t]	'a scream'
/liklɛ/	[lik.lɛ]	'key'
/ʌa:k/	[ʌa:k]	'clock'
/C ₁ V ₁ -k ^o ilɛx ^o /	[k ^y ík ^y ɛlɛx ^o]	'few'
/šisəklɛ/	[šísɪklɛ̰]	'Jesus' (note voiceless but not fricative lateral /l/)
/lɛsɛ:k/	[lɛsɛ:k ^y]	'scrotum'
/qakɛyo/	[qák ^y eyu]	'trap'
/kə.č/	[k ^y ɛ:č]	'deck of cards'
/C ₁ V ₁ -mə'kɛyos-m/	[mám ^o k ^y eyùsəm] ¹	'looking into clear water'
/kɛpəč/	[k ^y ɛp.ɪč]	'cabbage'
/kɛpo/	[k ^y ɛ˘po]	'coat'
/C ₁ V ₁ -tikɛ-l-čx ^o /	[títk ^y e.əlɛčx ^o]	'tickle him!'

3.k. The phonemes /k^o/ and /k^o/ occur frequently.

Like the nonround velars, the phones [k^w] and [k^w]

are also fronted. However, since [k^o] and [k^o] occur

next to the vowel that agrees with them for backing, they are not fronted. Examples of [k^o] [k^w] [ḳ^o] [ḳ^w]:

/k ^o osən/	[k ^o úsɛn]	'star'
/C ₁ V ₁ -k ^o osən/	[k ^w ík ^o usɛn]	'small star'
/ḳ ^o oʌk ^w ə/	[ḳ ^o úʌk ^w u]	'salt water'
/ḳ ^o ɛn/	[ḳ ^w ɛn]	'how many'
/çoḳ ^o /	[çoḳ ^o]	'day'

3.1. The six uvular consonants are extremely common. The two fricatives have been discussed above, the four stops are described below.

The phoneme /q/ is optionally [+delayed release]; that is, it can be affricated even in non-citation pronunciation. This affricated quality was noted by Sapir (1915). One student in an introductory linguistics course, upon hearing the form [qégəθ] pronounced by a native Homalco speaker, remarked that there seemed to be an "r" after the initial stop. He was hearing the short period of rough uvular friction concomitant with the release of the stop.

Less frequently, /q̣/ is also affricated. It can be affricated even in rapid speech, but it is especially noticeable in final position in a word that is being pronounced with emphasis.

Examples of /q/ and /q̣/:

/C ₁ V ₁ -nəq-m/	[nán ^o qəm]	'blackfish (killer whale)'
/q ₁ gəθ/	[qégəθ]	'deer'
/q'aw-m/	[q'áwum]	'paycheque; reward; rue, regret'
/qalq'/	[qalq']	'warrior'
/ta:qa.q'/	[ta.qá:q']	'southeast wind'
/səq'/	[səq']	'split; half'
/səq'-nəč/	[səq' ^o nəč]	'getting cedar bark'
/səq-nəč/	[səq ^o nəč]	'towing; e.g., logs'
/θsəq'-nəč/	[θsəq' ^o nəč]	'digging cedar roots'

3.m. The phonemes /q^o/ and /q'^o/ are rarely affricated.

Examples of [q^o] [q^w] [q'^o] [q'^w].

/q ^o omay/	[q ^o ómay]	'snow on ground; age ("snow years")'
/q ^o ənəs/	[q ^w ánəs]	'humpback whale'
/q ^o əłəy/	[q ^w áłəy]	'bits of driftwood'
/łoq ^o /	[łoq ^o]	'clear and calm'
/q ^o oç/	[q ^o oç]	'waterlogged wood'
/q ^o ayəx/	[q ^w áyıx]	'wood'
/təm-q ^o -m/	[təmq ^w əm]	'buck wood (with saw)'
/q ^o at-m/	[q ^w átəm]	'river'
/çaq ^o -m/	[çá.q ^w əm]	'opposite of slippery'

II.B.4. Geminate Nonsyllabics

At the phonetic level Mainland Comox has very few geminate nonsyllabics.

Where combinations of morphemes would seem to give rise to geminate stops, they are pronounced as single stops.

Examples:

/q̣as-nəč-č/	[q̣ásnəč]	'I'm tired on the behind'
rarely	[q̣ásnəč ^h č]	
/x ^o əsg-t-čx ^o /	[x ^w ús.gə.čx ^o]	'soak it!'
not	*[x ^w ús.gət ^h čx ^o]	

On two separate occasions, two informants volunteered the following minimal pair. Apparently, it is unusual and they are both aware of this.

[x ^w ix ^w ə]	'fast runner'
[x ^w ix ^o .x ^w ə] ~ [x ^w ix ^o x ^w ə]	'light (weight)'

where the second form varies in both idiolects between being geminate and being rearticulated.

Two sibilants coming together across a morpheme boundary will vary between being articulated as a single nonsyllabic and being rearticulated; they will rarely be pronounced geminate.

/mos-s-əm ʒok ^o /	[mósəm ʒok ^o] ~ [mós.səm ʒok ^o]
	'in four days'

A few words are regularly pronounced by most people with geminate nasals:

[čínnač]	'lagoon'
[hámmə]	'hammer'

[čín̩nam], [čín̩ʔəm] 'dogs'

[mém̩mawʔ], [mém̩^εmawʔ], [mém̩ma:goɪ] 'kitten'

where the last two words are pronounced differently by different people. The last form of the last word exhibits a feature noted by Sapir (1915), which is that the diminutive suffix (/ -oɪ /) added to a word will either have a lengthened vowel itself or will lengthen the preceding vowel.

The last four examples illustrate a phenomenon that is definitely a part of the phonological system, although rare. Nasals share the specification [+sonorant] with vowels, thus a geminate nasal can be considered to be another instance of length occurring with a segment that is [+sonorant].

II B.5. Problematic Phones: [x^Y] [ǝ̩] [g]

The phone [x^Y] (as in German ich) has been found in one morpheme as pronounced by an older Sliammon and a younger Homalco man:

[x ^Y í [!] tɛt]	'to raise something'
[x ^Y í: [!] tɛt]	'raise it more!'
[x ^Y í:x ^Y tɛwus]	'weight lifting'
[x ^Y í [!] taɪšɪn]	'lift one heel off the ground'
[x ^Y íx ^Y í [!] taɪšɪn]	'lift both heels off the ground'

This same lexical item is pronounced differently by a middle-aged Sliammon woman:

[š ^Y í [!] tɛt]	'lift something that is already in the hand'
-------------------------------------	---

The phones [š] and [x^Y] are distinguished only by the feature [diffuse].

Since [h] and [x] are the only occurring allophones of /h/ in all other lexical items, and [x^Y] occurs nowhere else in the corpus, its occurrence remains unsolved: it does not fit into the rules at present.

It is interesting to note that Elmendorf recorded [x^Y] in the Musqueam dialect of Halkomelem where Kava recorded [š] in the Cowichan dialect.

There are three lexical items in which some older men pronounce [θ̥]; that is, a theta with simultaneous laryngeal constriction. These are:

[θ̥o], [θ̥óθ̥o]	'go, going'
[θ̥é:θ̥ə]	'she'
[-θ̥-]	an unanalysed element in the pronominal system

From women, the first form has been heard as [θo], [θóθo]; the second form has been heard as [θé'θə] ~ [θé'θə] and the third form has been heard as [-θ-] ~ [-θ̥-], especially in the combination [-θ̥ot], as in [čí'ɪθ̥ot] 'listening'.¹¹

One man has been heard to pronounce the following four forms with a back [q]:

[qáqaθ]	'married woman'
[qáwqaqaθ]	'married women'
[qaxéqɛn]	'tell lies'
[qa'agɛna:qawtx ^o]	'bawdy house'

However, on other occasions he has pronounced the first two forms with a nonback [g]. Thus, these can probably be considered cases of free variation where /g/ can be assimilated toward the neighbouring [q].

One case that cannot be explained away is that one woman has given the following form:

[č̣é.ʔəqəy] 'old time wooden spoon'

which would seem to have the underlying form /č̣əʔqəy/.

This form has not been heard from other people, however, and remains in question.

II.B.6. Chart of Features of Some Nonsyllabic Segments

Section II.B. of this thesis concludes with a chart of features for some nonsyllabic segments in Mainland Comox. Not all segments that occur are here represented, as the number would exceed seventy. The feature specifications are not restricted to distinctive features but includes redundant features as well; thus some allophonic differences can be described.

11 This segment is especially problematic since there have been no phonetic occurrences of laryngealised sonorants (e.g., *[ẉ]) recorded for Mainland Comox.

	p	ç	θ	t	t̥	t!	n	s	λ	ɹ	ç ^y	š	k ^o	k ^w	g ^y	q	x ^o	x ^w	x̣	w	l	y	'	?	h
sonorant	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+
consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-
syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	±	±	-	-	-	-	-	-	-
after glide ¹²	-	-	-	-	-	-	-	-	-	+	-	-	+	+	-	-	+	-	-	-	-	-	-	-	-
round	+	-	-	-	-	-	-	-	-	-	-	+	+	-	-	+	+	-	+	-	-	-	-	-	-
anterior	+	+	+	+	+	+	+	+	+	-	-	+	+	-	-	+	+	-	+	+	-	-	-	-	-
coronal	-	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
high	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	+	+	-	+	-	+			
low	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	
back							-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	-	-	-	-
2nd'ary aperture	-	-	-	-	-	-	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
?-constriction	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-
ejective	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
distributed	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	+	-	+	-	-	+
continuant	-	-	+	-	-	-	-	+	-	+	-	+	-	-	-	-	+	+	+	+	+	+	+	-	+
instan release	+	-		+	+	+	-	-	-	-		+	+	+	±										+
voiced	-	-	-	-			+	-	-	-	-	-	-	-	+	-	-	-	-	-	+	+			-

Table II: Chart of Features of Some Nonsyllabic Segments

¹² This is not meant to be a feature in Chomsky-Halle terms, but to be a label pointing out that [^y] and [^w] are not actually a part of the segment being described, any more than is [^θ] (see page 14 above).

II.C. VOWELS

II.C.1. Back and Nonback

Following Gleason (1961) and Hall (1964), the vowels of Mainland Comox can be said to involve three positions of tongue height and three degrees of backing:

i			u
ɪ	ɨ	ɤ	ʊ
e	ɛ	ə	ɑ
ɛ		ɔ	
æ		ɑ	

Table III: Chart of Vowel Phones

However, Chomsky and Halle allow only three tongue body features: [high] [low] [back]. They do not include a feature *[front] because the tongue body for the speech-neutral position is already more forward than schwa [ə]. For further discussion, see Drachman (1969).

Chomsky and Halle (pp 176, 300) consider the sound [ɛ] as in English bed to be close to the speech neutral position. Mainland Comox has the sound [ɛ], but it also has the sound [ɛ̄], written by Sapir (1915) as [E], which seems to be closer to the speech neutral position as described by Chomsky and Halle and by Drachman.

Thus the modified vowel diagram would be:

i	ɪ	ɘ	u
	e	ɛ	o
	æ	a	

Table IV: Revised Chart of Vowel Phones

and the feature specifications for the segments:

	i	ɪ	e	ɛ	ɛ̃	ə	ɘ	u	u	ɔ	a	o	ɔ̃	æ
high	+	+	-	-	-	-	+	+	+	-	-	-	-	-
low			-	-	+	-				-	+	-	+	+
back	-	-	-	-	-	+	+	+	+	+	+	+	+	-
round	-	-	-	-	-	-	-	+	+	-	-	+	+	-
tense	+	-	+	-	-	-	-	-	+	+	+	+	-	+

Table V: Chart of Features of Vowel Phones

II.C.2 Inventory of Vowel Phonemes

There are five vowel phonemes in Mainland Comox: /i ɛ a o ə/. The phonetic realisations of these phonemes are:

/i/	[i ɪ e]	/o/	[u ɔ̃ o]
/ɛ/	[e ɛ ɛ̃]	/a/	[a ɔ̃ æ]
/ə/	[ə ɛ̃ ɛ̃̃ ɪ ɪ̃ ɘ ɘ̃ ɔ̃ ɔ̃̃]		

The five phonemes contrast with one another as follows:

/a/ - /o/	[táçəm]	'to bleed'
	[tóçəm]	'to shoot'
	[k ^o úmneč]	'red bottom'
	[k ^w ánnəč]	'root'

/o/ - /ə/	[x ^o ox ^o ʔ]	'shakes (split planks)'
	[q ^w ɔx ^o]	'faded color'
	[q ^w álos]	'be facing toward'
	[q ^w aləs]	'raccoon'
	[lɔq ^o]	'clear and calm'
	[lɔq ^w]	'bow'
	[p ^o q ^o]	'grey'
	[páq]	'smoke'
	[q ^o ópšin]	'hairy leg, leg hair'
	[q ^w áqałšin]	'split sole (a name given by the Homalco to the Sliammon in reference to their calloused feet)'
	~ [q ^w éqałšin]	
/ə/ - /ɛ/	[páq]	'smoke'
	[pɛq]	'wide'
	[táɣəm]	'sun, moon; month'
	[tɛɣɛm]	'sweet'
	[çuk ^w t]	'rub (it off)'
	[çɛçɛk ^w]	'earthworm'
/ɛ/ - /a/	[tɛn]	'roast fish'
	[tan]	'mother'
	[táɣam]	'six'
	[tɛɣɛm]	'sunshine; the sun shines'
	[ʔɛːʔ]	'yes'
	31	
	[haː]	'what did you say?'

/i/ - /ɛ/	[tɪntɪn]	'hour; bell'
	[tʰsn]	'barbecued fish'
	[ʔi:] - [ʔeyʔ]	'good'
	[ʔɛːʔ]	'yes'
	[çikʰt]	'a scream'
	[çéçɛkʰw]	'earthworm'
/ə/ - /ɪ/	[çukʰt]	'rub (it off)'
	[çikʰt]	'scream'
	[síčim]	'itchy'
	[sí·tʰt]	'throw underhand'
/a/ - /ə/	[qʰáles]	'raccoon'
	[qʰálos]	'be facing toward'
	[wáxwaxas]	'several wáxas (a small frog that sings loudly)'
	[wáxwəx]	'to smoke; cigarettes'
	[táçɛm]	'red'
	[tʰéçɛm]	'pink'

II.C.3. The Vowel [ɛ]

The sound [ɛ] in Mainland Comox is peculiar.

As a phoneme, it is the only vowel other than schwa that is nontense. In addition, it alternates with the sequence /ay/ as follows:

[héw <u>u</u> qàynok ^o t]	feminine name
[héw <u>u</u> qèn]	masculine name
[ç'áyç'o]us]	'crazy'
[ç'ésç'ayç'o]us]	'half-crazy'

and replaces /ay/ across idiolects:

[x ^w áy ^λ 'ay], [x ^w és ^λ 'ay]	'mountain sheep'
[k ^w ayt], [k ^w εt] ¹³	'beach'
[qaxáygɛn], [qaxégɛn]	'tell lies'

In at least one form, present day [ε] reflects a Proto-Salish [ay] (see Appendix II, item 10):

[ç'εx]	from * [k ^w ayq]	'ripe, cooked'
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In one lexical item the island dialect (Sapir (1915)) has [a:] where the mainland dialects have [εː]:

[sɪjá:qo:p], [θíj ^y εː:q ^o op]	'hat'
--	-------

At the phonetic level, [ε] occurs as an allophone of schwa:

[y <u>ax</u> t] ~ [yεxt]	'ribs'
[t'ésxɛm]	'sunshine'
[ʔ'és'x ^w i]	'a little food left over'
from [ʔ'áx ^w i]	'it has been left over'
[má <u>s</u> εq ^w] ~ [má <u>s</u> εq ^w]	'(large?) sea urchin'
[x'ésx ^ə yεq'], [x'ésx ^ə yεq']	'crab'
[λ'épəms]	'under it'
from [λ'ap]	'deep; under'

¹³ It is possible that these forms could be [q^wayt], [q^wεt]. However, this would not affect the discussion.

Further, [ɛ] may prove to be an allophone of /ə/ in the following forms:

[xéx ^ə neq̣]	'owl'
[pá:p̣ɛm]	'working'
[ʔáxɛθ] ¹⁴	'to go to bed'

In one lexical item, when /ɛ/ is lengthened it is pronounced tense, as [æ:] or [e:]:

[tékinàyoq̣ ^o]	'toque, stocking cap'
[tæ:kin], [té:kin] ¹⁵	'sock, stoking'

II.C.4. Vowel Length

Long vowels are possibly all derivable from the grammar; that is, with a more complete analysis than is presently possible, all long vowels may be eliminated from the lexicon.

Some of the forms that are unexplained at the present time are:

[ʔu:ḳ ^o]	'all'
[θíj ^y ɛ:ṿ:q̣ ^o op]	'hat'
[tæ:kin] ¹⁴	'sock, stocking'
[há:laq̣]	'woman's genitals'

¹⁴ Cf Musqueam /ʔéxəθ/ 'to lie down' (Elmendorf (1962)) and Twana ʔáxcəð 'bed' and ʔaxéc 'go to bed' (Drachman (1969)).

¹⁵ Note that this comes from an English word with a tense vowel, as does [ʌ:k] 'clock'; such words could be noted in the lexicon as foreign: apparently there is no way to derive their long vowels via the grammar.

Vowels are frequently lengthened rhetorically:

[qáqa]	'tide's out'
[qá:qa]	'tide's way out'
[θo] ~ [θəw]	'to go; he goes'
[θ ^ə o::]	'he went and went'
[çik ^Y t]	'one scream'
[çi:k ^Y t]	'lots of screams'
[páq]	'smoke'
[pá:qem] ¹⁶	'it's smoking'

In some forms of the past tense, the schwa of the intransitive verbal ending becomes [a:]¹⁷:

[λ'épəms]	'under it'
[λ'εpá:mołč]	'I was under'
[k ^o úk ^o təm]	'sick; he's sick' (imperfective)
[k ^o uk ^o tá:mołč]	'I was sick'

For some lexical items, the prefixed vowel is long in CV- reduplication:

[p'sq], [p's·q]	'wide'
[p'ε:p'sq]	'a little wider'
[p'ε:p'q ^ə nəč]	'Orford Bay'
[k ^Y i:k ^Y ik ^Y]	'crow'

¹⁶ Note the apparent similarity of this form to [pá:pəm] 'working' (imperfective), which might possibly be /C₁V₁-*pa-m/. No perfective form exists, and only the attenuative [pípa:pəm] was elicitable ('do a bit of work').

¹⁷ Most native speakers will readily point out this lengthening.

When the diminutive ending /-oɪ/¹⁸ is added to a word the vowel of the ending itself will be long or the preceding vowel will become long in many idiolects. This phenomenon was also noted by Sapir (1915).

[wáwɣa:soɪ]	'baby wáɣas'
[mémma:goɪ]	'kitten (baby mémaw(?))'
[tɛ̃·tqaygo:ɪ]	'foal (baby tɛ̃qayw, tɛ̃qɛw)'

A vowel before a sonorant is potentially pronounced

half-long:	[ʔéla·wɛ̃ ¹ ʔ [⊖]]	'turnips'
	[tɛ̃·nɛq ^w]	'salmonberries'
	[qa·wum]	'eye'

as is one which occurs under simultaneous primary stress and high pitch:

[ʔá ¹ ptɛ̃n]	~	[ʔá ¹ ·ptɛ̃n]	'small green sea urchin'
[k ^w iš ^w iš ¹]	~	[k ^w i ¹ ·š ^w iš ¹]	'bluejay'

When all three conditions are met, the vowel is potentially

long:	[tɛ̃ ¹ :nɛq ^w]	'salmonberries'
	[qá ¹ :wum]	'eye'

That vowel length is distinctive is evident in two ways: (1) most native speakers will correct a person learning the language if he mispronounces a vowel by making it

¹⁸The past tense suffix is also /-oɪ/, but it does not cause vowel lengthening and is moreover often pronounced with a lax vowel as in [qátx^wuɪ] 'it burned'.

too long or too short, (2) there do exist some minimal and near minimal pairs showing contrastive vowel length, although such pairs are rare.

Some surface contrasts between short and long vowels are:

[ɪ] - [i:]	[číc ^ʔ ɪ]	'raining'
	[čí:c ^ʔ ɪ]	'short'
	[jɪɪ ^ʔ]	'run' (perfective)
	[jɪ.ɪɪ ^ʔ] - [ji.ɪɪ ^ʔ]	'running' (imperfective)
[ɪ] - [i:]	[k ^ʔ ɪk ^ʔ .yɛ ^ʔ]	
	~ [k ^ʔ í:k ^ʔ .yɛ]	'spider; bug'
	[k ^ʔ í:k ^ʔ í:k ^ʔ]	'crow'
/u/ - /u:/	[ʔók ^{w1} awtx ^o]	'outside toilet (literally: outhouse)'
	[ɬuk ^o]	'to fly'
	[ʔu.k ^o]	'all'
[ɛ] - [ɛ:]	[pɛq]	'wide'
	[pɛ:pq ^ə nəč]	'Orford Bay'
[a] - [a:]	[tam]	'what?'
	[pá:pəm]	'working'

Some contrasts between long vowels are:

[i:] - [ɔ:]	[tí:tx ^o əaɬ]	'small tongue'
	[tó:tx ^o laɬ]	'necklace'
[ɛ:] - [i:]	[pɛ:ɪ ^ʔ aq]	'foreskin pulled back'
	[jɪ.ɪɪ ^ʔ]	'running'

[a:] - [ɛ:]	[pá:pɛm]	'working'
	[pé:pq ^ə nəč]	'Orford Bay'
[o:] - [a:]	[tó:tx ^o laž]	'necklace'
	[pá:pɛm]	'working'

II.D. SOME PHONOLOGICAL RULES

II.D.1. Stem Extenders in Mainland Comox

At the Fourth International Conference on Salish Languages (1969), Mary R. Haas presented the paper "Stem Extenders in Nootka-Nitinat"; during the discussion that followed T. M. Hess and other Salishists mentioned a similar phenomenon in Salish languages.

Examples of stem extenders in Mainland Comox are:

/paçx/	[paçx]	'flatulence'
/paç-m/	[paçəm]	'body odor'
/çətq-m-in/	[çítqamIn]	'knife'
/çət-m-in/	[çítamIn]	'saw'
/çət-/	[çít-]	'to cut'

where [x] is a stem extender which sometimes occurs with the stem 'body odor' and [q] is a stem extender which sometimes occurs with the stem 'to cut'.

The canonic shape of stems in Mainland Comox is $C_1V_1C_2$, and an occurrence of a C_3 can be considered an instance of a stem extender. In the present day language, most stem extenders are not separable from the stem; that is, whenever the stem occurs, it occurs with its stem extender.

For example,

[qatx^o] 'to burn'

and [jənx^o] 'fish (generic)'

never occur without final [x^o]. Some forms have an epenthetic vowel¹⁹ between C_2 and C_3 :

¹⁹ For a discussion of epenthesis as a historical process see Lehmann (1962) p 167 and Bloomfield (1933) pp 383-4.

[ʔáxsθ]	'to lie down'
[čéyiš]	'hand'

When a word with a stem extender occurs in the stative aspect, if it does not already contain an epenthetic vowel, a vowel is inserted:

[t̥alkʷ-]²⁰ 'to make a hole'

[t̥álikʷ] 'something with a hole in it'

but if it already contains an epenthetic vowel, that vowel is replaced by an underlying vowel which, in some idiolects, attracts the stress in the surface realisation:

[ʔaxsθ] 'to be lying down'

For a continuation of this discussion, see section II.D.2.

II D.2. Aspects

Most stems in Mainland Comox occur in one of three aspects: perfective, imperfective, or stative. Examples of all three are:

/toç-t/	[t̥óçət]	'to shoot' (perfective)
/C ₁ V ₁ -toç-t/	[t̥ótoçət]	'shooting' (imperfective)
/toç-ə-t/	[t̥ó çst] ²¹	'something that's shot' (stative)

in which the stative aspect is derived by the following steps;

²⁰ This is possibly [t̥alkʷ-].

²¹ Cf. the Cowichan forms /kʷénət/ 'take' and /kʷənét/ 'hold' (Kava, 1969).

	/təç-ə-t/	underlying representation
step one:	təçət	assignment of stress on the marker of the stative
step two:	təçét	vowel quality change as a result of the stress
step three:	tóçét	stress adjustment for citation form
step four:	[tó·çét]	lengthening of vowel in careful pronunciation

These same steps can be followed to derive [tá·çém] 'red' from [táçém] 'to bleed'. With schwa ablaut, [tɛçém] 'pink' can also be derived from 'to bleed' via these rules.

Two examples of the stative aspect occurring with words that have lexical suffixes are:

[tɪš^yɛq^w] 'visible nasal mucus'

and [sɪčɪ·maq] 'itchy pubic area'

cf.

/təš-ɛq^w/ [tɪš^yɛq^w] 'nasal mucus'

/səč-m-aq/ [sɪčɪmaq] 'to have an itchy pubic area'

II.D.3. Some Phonological Rules

Some of the following rules are naturally ordered. For the purposes of presentation, they have been totally ordered (i.e., they are presented in sequence).

1. /C₁V₁-C₁V₁C₂X/ → C₁V₁C₁C₂X

This rule stipulates that after CV- reduplication the stem vowel is then lost. This rule applies only to certain lexical items; it is possible that these

lexical items could be considered to have an underlying schwa /ə/ as the stem vowel.

/C ₁ V ₁ -*ɬomoʔm/ ²²	[ɬó·ɬ ^o moʔm]	'butter clam'
/C ₁ V ₁ -*xəyəq̣/	[xéx ^o ysq̣]	'crab'
/C ₁ V ₁ -waxas/	[wáwxas]	'small wáxas (frog)'
/C ₁ V ₁ -ʔəms/	[ʔ ^o éʔ ^o mes]	'small house'
/C ₁ V ₁ -səq̣-nəč/	[sésq̣ ^o nəč]	'getting cedar bark'
/C ₁ V ₁ -təm-šin/	[ʔéʔ ^o mšin]	'getting the feet wet'

Some words that do not drop the stem vowel are:

/C ₁ V ₁ -əsəq̣-m/	[əsésq̣əm]	'digging'
/C ₁ V ₁ -ɪ ^w əl/	[q ^w éq ^w əl]	'coming'
/C ₁ V ₁ -gox ^o -m/	[g ^o úg ^o uh ^w um]	'barking'

2.



This rule states that before or after a stop or word finally the voiced stops /j g/ become homorganic glides.

/x ^o aj-t/	[x ^w ájit]	'kill several'
/x ^o aj/	[x ^w ay]	'several perish'
/C ₁ V ₁ C ₂ -q̣aga/	[q̣áwq̣aga]	'canes' (plural)
/C ₁ V ₁ -čəjə/	[čičy ^e] ~ [čičy ^é ʔ]	'granny'

22

Asterisks are used to mark forms that do not occur in the data. The form *xəyəq̣ (i.e., not reduplicated) has not been recorded. Sapir (1915) did record ɬomoʔm, but I did not.

3. The voiceless lateral fricative, which is coronal, becomes zero (drops out) when it is followed by the nonlateral coronal fricative in word final position.

$$ɬ \rightarrow \emptyset / _x_s\#$$

/nəx ^o əɬ-s/	[núx ^w a.is]	'his boat'
/nɛ-oɬ-s/	[néʔos]	'his having been there'

4. The positions /k q/ become [k^o q^o] before or after a tense rounded vowel.²³

/gox ^o -m/	[g ^o úh ^w um]	'to bark'
/*qatx ^o -os/	[qátx ^o os]	'skull'

A historical application of this rule is:

/kok/	[k ^o uk ^o]	'to cook'
/kol-awtx ^o /	[k ^o úlawtx ^o]	'schoolhouse'

5. When the intransitive suffix /-m/ is added to a word a schwa is inserted.

/has-m/	[hásə̃m]	'to sneeze'
/ɬəxanč-m/	[ɬəxančim]	'to get angry'
cf.	[ɬəxanč]	'cranky'

6. When the transitive suffix /-t/ is added to a word that ends in /t/, /t̥/, /g/, an affricate, or a nasal, a schwa is inserted.

/xan-t/	[xanət]	'give (it to him)'
/t̥oç-t/	[t̥óçət]	'to shoot'
/x ^y iɬ-t/	[x ^y i:ɬt]	'raise it more!'
/x ^o əsg-t/	[x ^w úsɣət]	'to soak (it)'

²³

See the section above on rounding for an explanation of the raised symbols.

7. When the transitive suffix /-t/ is added to a word that ends in any other nonsyllabic except /h/, a [ə] or [h] is potentially inserted.

/tok ^o -t/	[tu ^k hw ^t t]	'to pull'
/ʌəpx ^o -t/	[ʌ ^ɛ px ^{wə} t]	'to break (in two)'

8. At morpheme boundaries and before a stem extender that is not already preceded by a full vowel [ə] or [h] is optionally inserted.

/k ^o am-nəč/	[k ^o úam ^ə nəč]	'root'
/ʌ'əčt/	[ʌ'ič ^ə t] ~ [ʌ'ič ^h t]	'going to sleep'
/ʌ'əčt-ABLAUT/	[ʌ'ač ^ə t] ~ [ʌ'ač ^h t]	'asleep'

9. At a morpheme boundary when the first morpheme ends in a nasal or a continuant and the second morpheme begins with a vowel, a [ʔ] is optionally inserted.

/pən-m/	[pánʔamʔ]	'to plant'
/joe-m/	[júəʔamʔ]	'to push'
/tala-awəs/	[tálaʔaw ^u s] ~ [tála.aw ^u s] ~ [tálahaw ^u s]	'glasses; to wear glasses'

10. The vowel /i/ becomes [e] after a back nonhigh nonsyllabic or between two low nonsyllabics.

/qigəθ/	[qégəθ]	'deer'
/xıç/	[xəç]	'steel, metal'
/ʔiʔaǰ-m/	[ʔé'aǰim]	'young woman'
/ʔiʔičin/	[ʔé'ičin]	'back'
/ʔiʔitsɛn/	[ʔé'it.sɛn]	'forehead'
/ʔi:/	[ʔi:] ~ [ʔeyʔ]	'good'

11. The vowel /i/ has an [ɨ] offglide before a back non-high nonsyllabic.

/miχaɪ/ [mí^ɨχaɪ] ~ [m^ɨéχaɪ] 'black bear'

12. The vowel /i/ becomes [ɪ] immediately after a morpheme boundary.

/čətq-m-in/ [čítqamɪn] 'knife'

/θəč-m-in/ [θíčimɪn] 'adze'

/ʔεχ-m-in/ [ʔéχamɪn] 'draw knife'

/tɪč-m-in/ [tíčimɪn] 'comb'

13. Elsewhere, /i/ remains [i].

14. The vowel /ε/ becomes [e] next to a high nonback nonsyllabic.

/čsyiš/ [čéyiš] 'hand'

/qaksyo/ [qák^ɨeyù] 'a trap'

15. Between two low nonsyllabics /ε/ lowers to [ε̞].

/ʔε:ʔ/ [ʔε̞:ʔ] 'yes'

16. Elsewhere, /ε/ remains [ε].

17. The vowel /o/ becomes high [u] next to a high nonsyllabic.

/ʔaʝomiš/ [ʔá·ʝumiš] 'pretty, nice'

/x^oop-t/ [x^oupt] 'to whistle with
the lips'

/k^oomt/ [k^oumt] 'kelp'

/tok^o-ana/ [túk^wana] 'deaf'

18. After the sequence nonglottalised high nonsyllabic and morpheme boundary /i/ becomes high and nontense.

/qatx^o-oɪ/ [qatx^wuɪ] 'it burned'

19. In most idiolects /o/ remains [o] after the sequence glottalised high nonsyllabic and morpheme boundary.

/çáç^ʔ-os/ [çáç^ʔos] 'mosquito'

/gáç^ʔ-os/ [gáç^ʔos] 'bald head'

However, one younger informant pronounced these forms as [çáç^ʔus] and [gáç^ʔus].

20. Elsewhere, /o/ remains [o].

21. The vowel /a/ becomes fronted and raised slightly after a palatal nonsyllabic; this slight acoustic and articulatory difference has not been marked in the transcription used in this thesis. However, after /š/ it is fronted to the degree that it becomes nonback [æ].

/šas-m/ [š^yæ^ssəm] 'sneak'

/C₁V₁-šas-m/ [š^yæ^sš^yæ^ssəm] 'sneaking'

22. Under tertiary stress, /a/ becomes the more centralised [a] (i.e., [ʌ]).

/maʔna/ [máʔnă] 'son, daughter'

/čalas/ [čéàlăš] 'three'

23. Elsewhere, /a/ remains [a].

24. Schwa /ə/ becomes [e] in unstressed word final position after a palatal.

/C ₁ V ₁ -čəjə/	[čičy _e]	'granny'
/qajə/	[qáj _e]	'early'
/ʔayə/	[ʔáy _e]	'house'

25. Schwa becomes [ɛ] when under primary stress and next to a low nonsyllabic.

/ʔayə/	[ʔay _ɛ ʔ]	'house'
/C ₁ V ₁ -čəjə/	[čičy _ɛ ʔ]	'granny'
/C ₁ V ₁ -ʔəx ^o i/	[ʔ _ɛ x ^w i]	'a little food left over'
cf.	[ʔ _ɛ x ^w i]	'it has been left over'

26. Schwa becomes [ɪ] between two nonsyllabics if one is high and front

/š-ç/	[šič]	'my' plus hypothe- tical 'the'
/čəɪ/	[čɪɪ]	'rain'
/səč-m/	[síčɪm]	'itch'
/yəm-m/	[yíməm]	'to kick'

27. or if both are high front glottalised

/C ₁ V ₁ -čəɪ/	[čič _ɪ ɪ]	'raining'
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28. /ə/ becomes [ɪ] between two high front nonsyllabics if both are nonglottalised.²⁴

/C ₁ V ₁ -jək ^o -.../	[jí:k ^w aʔam]	'rubbing'
/C ₁ V ₁ -yəm-.../	[yí:maʔam]	'kicking'

²⁴ Thus [čéyiš] could be /čəyěš/; there is no distinction between /ə/ and /i/ in this environment.

29. Schwa becomes the lax [u] between two nonsyllabics if one is round and one is high in the same morpheme

/gəq ^w -m/	[gúq ^w əm]	'drag'
/çək ^o -t/	[çúk ^w t]	'rub (it off), wipe'
/k ^o ə-wə/	[k ^w u.wə]	'belly'
	but [x ^w á?]	'no!'

30. and becomes [u] between two nonsyllabics if both are high and one is round.

/x ^o -k ^o t/	[x ^o uk ^o t]	'there is not'
/C ₁ V ₁ -gəq ^o -.... /	[gú:q ^w a?am]	'dragging'
/jək ^o -m/	[júk ^w əm]	'to rub'

31. Schwa becomes [ɛ] under primary stress between two coronal nonsyllabics.

/C ₁ V ₁ -çək ^o -.... /	[çɛçk ^w a?am]	'wiping'
/C ₁ V ₁ -səq-nəč/	[sɛsq ^o nəč]	'towing'

32. Schwa becomes [ɔ] under primary stress between two nonhigh rounded nonsyllabics

/q ^o əx ^o /	[q ^w ɔx ^o]	'faded color'
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33. and varies between [ɔ] and [a] under primary stress next to one nonhigh round nonsyllabic.

/q ^w ə1/	[q ^w á1] ~ [q ^w ɔ1]	'to come'
/q ^w əs-m/	[q ^w ásɛm] ~ [q ^w ɔsɛm]	'wooly grouse'

34. Under some conditions schwa is affected by the neighbouring vowels; at present I cannot predict when this will happen.

/t̥ɛx̥-m/	[t̥ɛx̥ɛm]	'sunshine'
/čiʔ-t/	[čiʔɪt]	'to hear'
/t̥ax̥-m/	[t̥ax̥am]	'six'
/joo-t/	[jooɔt]	'push'
/wuʔ-m/	[wuʔum]	'very dry wood'

35. Schwa /ə/ varies between [ə] and [ɜ] elsewhere in unstressed position.

/qaʃə-k ^o i/	[qáʃək ^w i] ~ [qáʃɜk ^w i]	'early morning'
/k ^o osən/	[k ^o úsən] ~ [k ^o úsɜn]	'star'
/l̥agət̥/	[l̥ágət̥] ~ [l̥ágɜt̥]	'herring'
/C ₁ V ₁ -čəɪ-m/	[číc ^o ɪəm] ~ [číc ^o ɪɜm]	'dancing'

36. If the position k^o or q^o is followed by a nonround or nontense vowel, then it becomes [k^w] or [q^w].

/k ^o am-nəč/	[k ^w ámneč]	'root'
/qatx ^o -oɪ/	[qatx ^w uɪ]	'it burned'

A historical example of this would be:

[šúk ^w ə]	'sugar'
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37. If any one of the high nonround nonsyllabics is followed by a vowel which is nonhigh or does not agree with it for the feature [back], a [Y] afterglide is inserted.²⁵

/šas-m/	[š ^Y æsəm]	'to sneak'
/čɛ/	[č ^Y ɛ]	'where?'
/pəčo/	[píč ^Y u]	'basket'

²⁵ In velars, insertion of the [Y] afterglide is simultaneous with fronting. For Swadesh's observation, see p 38 above.

/gəʃi/	[g ^Y íʃi]	'place, ground, dirt'
/C ₁ V ₁ -*kík/	[k ^Y í:k ^Y ik ^Y]	'crow'
/kapi/	[k ^Y ápi]	'coffee'
/čspə/	[č ^Y spə]	'aunt, uncle'

38. If either of the high back round stops is followed by a front vowel, a [Y] afterglide is inserted in addition to the [W] afterglide.

/C ₁ V ₁ -k ^o osən/	[k ^Y wík ^o usɛn]	'small star'
/k ^o ɛn/	[k ^Y wɛn]	'how many?'

Acoustically, the [Y] afterglide is less perceptible than the simultaneous [W] afterglide. For practical purposes, it is not being transcribed elsewhere in this thesis.

39. If a rounded stop occurs word finally and is preceded by a vowel that is not both tense and round, then the stop has a [W] afterglide inserted.

/tɪ-ɛq ^o /	[tíhɛq ^w]	'large nose'
/ɫaʔnɛk ^o /	[ɫá'nak ^w]	'pelt, hide'

40. All nonglottalised voiceless stops are usually aspirated word finally. Sapir (1915) also noted this in his transcription, even for the labialised series. For practical purposes, this phenomenon is not being transcribed in this thesis.

/qas-nəč/	[qásnəč]	'tired of sitting'
/səč-m-ɛq ^o /	[síčimeq ^{hw}]	'to have an itchy nose'

41. In the stative aspect, stress is assigned to the underlying vowel that is the marker of that aspect. See pages 58 and 59 above.

42. In most idiolects, stress in citation form is on the first syllable of the word. The second syllable takes tertiary stress and the third syllable of a three syllable word takes secondary stress.

/čiget-m/	[č'ígětàm]	'almost'
/?aǰomiš/	[?á·ǰǔmiš]	'nice; pretty'

43. If a high stop with a homorganic afterglide (i.e., not [k^Y] or [q^W]) is followed by [á], then the afterglide is potentially syllabic.

/k ^o am-něč/	[k ^o úàmneč]	'root'
/C ₁ V ₁ -*jɛ/	[j ^Y éj ^Y ɛ] ~ [j ^ɛ ji ^ɛ] ~ [j ^ɛ ji]	'log; cousin'
/čalas/	[čéàlas]	'three'
/k ^o əs-ABLAUT/	[k ^W as] ~ [k ^o úàs]	'hot'
/C ₁ V ₁ -čəɫ-ABLAUT/	[čéàč ^h ɫ]	'heavier rain'
/C ₁ V ₁ C ₂ -*čəm-ABLAUT-m/	[č'ímčéàməm]	'getting cold (of human)'

II.D.4. Some Illustrations of the Rules

The following derivations are presented here as illustrations of the above rules.

1. 'run' (perfective aspect)

	/jəʔ/	underlying form
step 1	[jɪʔ]	by rule 26

2. 'running' (imperfective aspect)

	/C ₁ V ₁ -jəʔ/	underlying form
step 1	jəjʔ	by rule 1
step 2	jəyʔ	by rule 2
step 3	jɪyʔ	by rule 28
step 4	[jɪ:ʔ]	

3. 'rub' (perfective aspect)

	/jək ^o -m/	underlying form
step 1	jək ^o em	by rule 5
step 2	juk ^o em	by rule 30
step 3	juk ^w em	by rule 36
step 4	[júk ^w em]	by rule 42

4. 'rubbing' (imperfective aspect)

	/C ₁ V ₁ -jək ^o -t/	underlying form
step 1	jəjk ^o -t	by rule 1
step 2	jəyk ^o -t	by rule 2
step 3	jəyk ^{oθ} t	by rule 7
step 4	jɪyk ^{oθ} t	by rule 28
step 5	jɪyk ^{wθ} t	by rule 36
step 6	[jɪ:k ^{wθ} t]	

5. 'young man'

	$/C_1V_1-^*wil-os/$	underlying form
step 1	wiwlos	by rule 1
step 2	wiw ^ə los	by rule 8
step 3	wiw ^I los	by rule 34
step 4	[w ^I w ^I los]	by rule 42

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HO	Human Organization
IJAL	International Journal of American Linguistics
Lg	Language
SJA	Soutwestern Journal of Anthropology

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APPENDIX I

BASIC WORDLIST

The following lexical items are Mainland Comox equivalents of the words listed in Elmendorf (1962). I have supplied numbering to match Elmendorf's list; for this reason, there are gaps between some numbers.

1.	all	[ʔu:k ^o]	/ʔo:k ^o /
2.	bad	[ɬax]	/ɬəx/
4.	belly	[k ^w u.wə]	/k ^o əwə/
5.	big	[ti·]	/ti/
6.	bite	[qac̣-], [qic̣]	/qac̣-/ , /qic̣/
7.	black	[pəθ], [x ^w us]	/pəθ/ , /x ^o əs/
8.	blood	[q ^w ɛɬ]	/q ^w ɛɬ/
9.	bone	[xawšin]	/xawšin/
11.	burn	[qatx ^o]	/qatx ^o /
12.	child	[má'nə]	/máʔna/
14.	cloud	[çamq ^w ɬ]	/çamq ^o ɬ/
15.	cold	[čímčim]	/C ₁ V ₁ C ₂ -*čəm/
16.	come	[q ^w al]	/q ^w əl/
17.	die	[qay]	/qay/
18.	dog	[čéàno], [čéʔəno]	/čano/
19.	dry	[ʔiyúʔ]	/ʔiyəʔ/
21.	ear	[q ^w ə.wə'ənə]	/q ^o əwa-anə/
23.	eat	[ʔéɬtɬn], [mok ^o t]	/ʔéɬtən/ , /mok ^o t/
24.	eye	[qawũm]	/qawəm/

26.	fat, lard	[x ^w as]	/x ^o as/	
27.	father	[man]	/man/	
30.	fish	[jén.x ^o]	/jɛnx ^o /	
31.	to fly	[ɫuk ^o]	/ɫuk ^o /	
32.	foot	[jišin]	/jišin/	
33.	full	[yɪč̣]	/yɛč̣/	
34.	give	[xán-]	/xan-/	
35.	good	[?i.] ~ [?ey?]	/?i:/	
36.	green	[ɫásɛm]	/ɫɛs-m/	
37.	hair	[máqɛn] ~ [máqɛn]	/maqɛn/	
38.	hand	[čéyiš]	/čeyiš/	
39.	head	[mó.os] ~ [mó'os]	~/mo?os/	
40.	hear	[čí?ɪt]	/čɪ?-t/	
41.	heart	[ɫ'ɛk ^w inəs]	/ɫ'ɛk ^o inəs/	
43.	hundred	[t ^h sá'yɪč̣]	/tsa?yɛč̣/	
45.	ice	[tu?] ~ [tɔw?]	/tɔ?g/	
	cf.	[tá'əgit]	/ta?g-ə-t/	be frozen
48.	laugh	[qásɫ'ɛč̣]	/qas-ɫ'ɛč̣/	
		[qásɛm]	/qɛs-m/	'real smile'
49.	leaf	[sáy?jɛ] ~ [sá?i]jɛ]		
		~ [sáyi]jɛ]	/sáy-jɛ/	(?)
50.	lie down	[?áxsθ]	/?áxsθ/	
51.	liver	[qá:tɔm]	/qá:t-m/	
52.	long	[ɫ'aqt]	/ɫ'aqt/	
53.	louse	[máčɪn]	/mačɛn/	
54.	man	[tú.miš] ~ [tú.miš]	/toměš/	
55.	many	[qax]	/qax/	

56.	meat	[máj̥aθ] ~ [mɛ́j̥θ]	/məjəθ/	
	fish meat	[ʌɛ'q ^w], [ʌɛʔq ^w]	/ʌɛʔq ^o /	
57.	mouth	[θóθɛn]	/θoθen/	
58.	name	[nan]	/nan/	
60.	new	[xáwʔus]	/xawʔəs/	
61.	night	[nat]	/nat/	
62.	nose	[máqsɛn]	/məqsən/	
63.	one	[pá·'a]	/paʔa/	
64.	rain	[číɫ]	/čəɫ/	
65.	red	[tá·č̣ɛm]	/tač̣-ə-m/	
	cf.	[táč̣ɛm]	/tač̣-m/	to bleed
	and	[tɛč̣ɛm]	/təč̣-ə-m/	pink
66.	road	[ʔémɛn], [ʔémɪn]	/ʔɛm-ɪn/	
67.	root	[k ^w ámneč]	/k ^o am-nəč/	
68.	circular	[tá·lɛč]	/talə-č/	
	spherical	[páwuq]	/pəwəq/	
70.	say	[q ^w ay]	/q ^o ay/	
71.	see	[k ^w ɛnɛt]	/k ^o ən-t/	
72.	seed	[xàxéygɛn]	/xaxɛygən/	
73.	short	[čí·č̣ɪʌ']	/čič̣ɪʌ'/	
74.	sit down	[k ^w ánəč]	/k ^o a-nəč/	
75.	skin	[x ^o úmič]	/x ^o omič/	
	cf.	[láʔ ^θ nuk ^w], [lá'nak ^w]	/laʔnək ^o /	pelt, hide
76.	sleep	[ʌ' ačt]	/ʌ' ačt/	
77.	small	[títolʔ] ~ [tí·tolʔ]	/títolʔ/	
78.	smoke	[páq]	/pəq/	
79.	stand	[k ^w éʔɪš]	/k ^o ɛʔ-š/	

80.	star	[k ^o úšɤn]	/k ^o osɤn/
81.	stone (rock)	[xá'jɪ:s], [xá ^ʔ jeis]	/xá ^ʔ jeys/ (?)
82.	sun, moon	[tágam]	/təg-m/
83.	swim	[nɛnšim]	/nənš-m/
88.	tongue	[tɪ.x ^o .əaɪ]	/tix ^o əaɪ/
89.	tooth	[jínis]	/jənəs/
90.	twenty	[əamšɪ.a ^ʔ]	/əəm-šɪə ^ʔ / (?)
91.	two	[sá.'a]	/sa ^ʔ a/
92.	walk	[ʔɛmaš]	/ʔɛm-š/
93.	warm, hot	[k ^w as], [k ^w as]	/k ^o as/, /k ^w əs/
94.	water	[qá:ʔi], [qá:'i]	/qa:ʔi/
96.	what	[tam]	/tam/
97.	white	[paq]	/pəq/
98.	who	[gat]	/gət/
99.	woman	[saɪtx ^o]	/saɪtx ^o /
100.	woods	[əičim]	/əič-m/

APPENDIX II.

ETYMOLOGICAL WORDLIST

The following lexical items have been chosen to match the hypothesized Proto-Salish forms in the far left hand column, as given in Kuipers (1969). The numbering follows Kuipers' numbering; thus, there are gaps between some numbers and other numbers have more than one entry.

2.	pəɬ	thick	[paɬt]	thick
4.	puh	blow, pant	[púx ^w ut] ~ [púwut]	blow with mouth
5.	pač	string	[pačt]	tin can
6.	pič	squeeze	[pič ^ə t]	squeeze
7.	pəl ^k	turn over	[payč ^ə t]	turn over
9.	paq	bright	[paq]	white
			[paq]	smoke
10.	payq	ready	[čsx]	ripe, cooked
		(the Mainland Comox form suggests that the P-S form should be <u>k^wayq</u>)		
12.	mačuɬ	pus	[mačowum]	a boil
14.	məq	eat one's fill	[maq]	full from eating
17.	s-tam	what?	[tam]	what?
19.	taɬ	straight	[taɬt]	to straighten out
			[táɬet]	straightened out
22.	taq	pin down	[taqét]	closed
23.	tim	cut, chop	[támq ^w ət]	buck wood (with a saw)
25.	taq	cross over	[táqɪš]	bring back
			[táxam]	six

29.	cim	small	[čú:'i(?)]	child, young one
30.	cil	five	[θíyačís]	five
31.	cək ^w	to pull	[túk ^w um]	to pull
32.	caq	be in place	[čáqet]	(small object)
			[nóq ^w et]	(large object)
				standing upright with no support; e.g., knife in wall.
40.	čik ^w -a?	left side	[č'ík ^o ujē]	left handed
41.	čuq ^w	to suck	[č'óq ^w ət]	to nibble
			[t'óq ^o .ət]	to suck
46.	sal	turn, spin	[sáləm], [sált]	turn, spin
49.	saq	split, crack	[saq]	split, crack
51.	nak	one	[náčax ^o]	first
52.	ɬu?	touch	[ʔɛɬaw]	wound, hurt (noun)
			[ʔɛɬa ¹ quh ^w un]	to wound something
53.	ɬi-	sprinkle	[ɬítet]	spatter, splatter
54.	ɬap	hang folded	[ɬápčəm]	the motion of fluttering, flapping, as of clothes on a line
56.	ɬik ^w	hook up	[ɬík ^w et]	sew
57.	ɬaq	stretch	[ɬáqəm]	to wait
58.	ɬuq ^w	peel off	[ɬópət]	peel off
61.	ɬ'ex ^w	win	[ɬ'ux ^w um]	to win
62.	ka	do what?	[č ^y ɛ]	where?
			[č ^y ɛm]	how?
			[č ^y ɛmčx ^o]	what's wrong with you?

64.	kinʔ	touch, hold	[č ^y ɛ̃·n.ɔs]	to lean (human)
65.	kalx	hand	[čéyɪš]	hand
69.	k ^h ih	near	[č ^h é.ʔə]	far out on water; ocean
72.	k ^w upi	elder	[k ^o uk ^o pá]	grandfather maternal or paternal
73.	k ^w um	ascend from shore	[k ^o um]	ascend an easy climb; e.g., a sloping hill or up from the beach
75.	k ^w uɫ	borrow	[k ^o úɫmaʔam]	borrow
76.	k ^w ar	green, yellow	[páy xay]	alder
78.	k ^w as	hot	[k ^w as], [k ^w as]	hot
79.	k ^w in	how many?	[k ^w ɛn]	how many?
80.	k ^w anʔ	inspect	[k ^w ɛt ga] [k ^w ɛnɛt]	look! see, look at
86.	x ^w u-x ^w l	whistle	[x ^o úp ^h ət]	to whistle
87.	x ^w uy	appear	[x ^w áyit]	hanging over a ledge or shelf
88.	qam	to nurse	[qáʔam] [qam]	suck, nurse (baby) spouse, friend, companion
89.	s-qaláwʔ	beaver	[q ^o ówit]	beaver
90.	qax ^w	gather	[qápet]	group/put together, include
91.	s-qawc	potato	[qáwuθ]	spud, potato
92.	qam	swallow	[qáqa]	hungry
93.	qit	hoist up	[qata]	split stake used to hold fish for barbecuing
94.	qač	intertwine	[qač], [qáč]	bite

98.	q̣ay-	build, raise	[q̣áyɪm]	stay temporarily; e.g., overnight
101.	q ^w al	speak	[q ^w ay]	speak
108.	q̣ ^w ax̣	claw, nail	[q̣ ^w ax̣t]	cut open, skin; e.g., deer
110.	q̣ ^w ay	black	[q̣ ^w áygəs]	ashes
111.	x̣am	grab to hold	[x̣ámɓəm]	grab to hold
114.	x̣ ^ʔ cay	log	[x̣ápay]	stick
115.	x̣iɬ'	cut, bite	[x̣eç']	steel, metal
120.	x̣ ^w ay	perish	[x̣ ^w ay]	several perish
			[x̣ ^w á]it]	beat up/kill several
121.	həwy	cease	[hoy]	finished
			[hoy gi]	quit it!
124.	s-wat	who?	[gat]	who?
125.	waç'	pry loose	[gátət]	to pry
			[gá ^ʔ awt']	oar
126.	wənax ^w	real, true	[gánəx ^o]	true
128.	waç'	take apart	[gaç'ést]	it's open; e.g., store
129.	yaç'	file, whet	[yéç'ysç']	old and worn
132.	ʔupn	ten	[ʔópan]	ten
135.	ʔiməç	grandchild	[ʔéməθ]	grandchild
137.	ʔacq	out	[ʔasç']	(be) outside
142.	ʔiɬn	eat	[ʔéɬtɬn]	eat
148.	ʔawt	behind	[ʔá ^ʔ awt]	follow behind
149.	ʔay	exchange	[ʔá]iš]	to exchange
150.	ʔay ^ʔ x̣	crab	[x̣éx̣ ^ə ysç']	crab

APPENDIX III

PARADIGMS

Included here are some paradigms and a list of the independent pronouns; this is intended as an aid in comparative Salish studies. For some paradigms involving reduplication see Sapir (1915).

It should be noted that some of the pronominal suffixes are not used by people under twenty.

[təθ nəwʔɪ]	your older brother
[təç nəwʔɪ]	my older brother
[ɬɛθ nəwʔɪ]	your older sister
[ɬɛç nəwʔɪ]	my older sister
[šɪç čʲéʔpθoɪ]	my deceased uncle
[ɬɛç čʲéʔpθoɪ]	my deceased aunt
[čɪɪ]	rain
[čɪčɪ]	raining - not heavy
[čéáčʲəɪ]	heavier rain
[jʲéʔvʲʌ'tən]	widow(er)
[jʲíʌ' jʲéʔvʲʌ'tən]	widow(er)s
[jʲéʔvʲɪʌ' jʲéʔvʲʌ'tən]	they're all widow(er)s
[jʲáqʷəm]	sweat
[jʲá jʲáqʷəm]	he, she, it, they are sweating
-č]	I'm
-čx ^o]	you're (sg)
-št]	we're
-čəp]	you're (pl)

[čín <u>e</u> ɪ], [čín ^ə ɪ]	I, me
[négɪ], [négɪɪ]	you, thou, thee
[tí'tə], [tí'tə]	he, him, it
[θés'əə], [θés'əə]	she, her
[nəmoɪ], [nəmuɪ]	we, us
[núwəp], [núwəp]	you, ye
[ta'és'nəw <u>u</u>]	they, them
[tí'tahəw]	they, them
[ç ná'a], [ç na]	mine; for me
[θ ná'a], [θ na]	yours; for you
[ná'as], [nas]	his, hers, its, theirs; for him, her, it, them
[ams ná'a]	ours; for us
[ná'ap]	your (pl), for you, ye
[hè k ^w č ^y é'ə ¹ ç nés'ɛ]	where am I?
[hè k ^w č ^y é'ə ¹ ms nés'ɛ]	where are we?
[hè k ^w č ^y é'ə ¹ ə nés'ɛ]	where are you?
[hè k ^w č ^y ɛ nés'ə ¹ wəp]	where are you (pl)?
[hè k ^w č ^y ɛ nés'ə ¹ gəp]	where are you (pl)?
[hè k ^w č ^y ɛ nés'ə ¹ es]	where is he, she, it?
[hè k ^w č ^y ɛ nés'ə ¹ wəs]	where are they?

APPENDIX IV
SOME IMPERFECTIVES

Almost all Mainland Comox imperfectives are formed by CV- reduplication. The remainder are formed by CVC- reduplication.

Underlying Form	Perfective	Imperfective	
/C ₁ VC ₂ -qəs-m/	[qásɛm]	[qásqasɛm]	'smile'
/C ₁ VC ₂ -təwq̣-t/	[təwq̣ət]	[təwtəwq̣ət]	'cough'
/C ₁ VC ₂ -hayl-m/	[háylɛm]	[háyhaylɛm]	'flirt'
/C ₁ V-has-m/	[xásəm]	[xáxasəm]	'sneeze'
/C ₁ V-šas-m/	[šʷæsəm]	[šʷæsšʷæsəm]	'sneak'
/C ₁ V-ʔaq ^o -š/	[ʔáq ^w ɛš]	[ʔáʔaq ^w ɛš]	'go down-stream'
/C ₁ V-θéq̣-m/	[θéq̣am]	[θéθesq̣am]	'dig'
/C ₁ V-ɫiç-m/	[ɫiçɛm]	[ɫiɫiçɛm]	'comb'
/C ₁ V-ɫik ^o -m/	[ɫik ^w um]	[ɫiɫik ^w um]	'sew'
/C ₁ V-ɫok ^o /	[ɫuk ^o]	[ɫú:ɫuk ^o]	'fly'
/C ₁ V-xag-m/	[xágam]	[xáxagám]	'cry tears from apprehension'
/C ₁ V-xεʔn-m/	[xéʔnɛm]	[xéxεʔnɛm]	'growl'
/C ₁ V-gox ^o -m/	[g ^o úx ^w um]	[g ^o úg ^o ux ^w um]	'bark'
/C ₁ V-jaq ^o -m/	[jʷáq ^w əm]	[jʷájʷaq ^w əm]	'perspire'
/C ₁ V-juθ-t/	[júθət]	[jújuθət]	'push'
/C ₁ V-səq-nəč/	[sáq ^o nač]	[sésq ^o nač]	'tow'
/C ₁ V-k ^o ot-m/	[k ^o útam]	[k ^o úk ^o tam]	'be after (of time)'
/C ₁ V-sit-t/	[sitat]	[sésitat]	'throw underhand, toss'
/C ₁ V-čaq-m/	[čaqam]	[čéčəqam]	'throw overhand'

Underlying Form	Perfective	Imperfective	
/C ₁ V-čək ^o -m/	[č ^u k ^w ɛm]	[č ⁱ č ⁱ k ^w aʔəm]	'wipe'
/C ₁ V-pən-m/	[pánʔəmʔ]	[pápnaʔəm]	'plant'
/C ₁ V-ləxanč-m/	[lâxanč]	[lélâxančim]	'cranky; getting angry'
/C ₁ V-něš-m/	[níšim]	[nénšim]	'swim'
/C ₁ V-qah-m/	[qáhʔəm]	[qáqhaʔəm]	'lift'
/C ₁ V-tək ^o -m/	[túk ^w um]	[tétk ^w aʔəm]	'pull'
/C ₁ V-tək ^o -t/	[túk ^{hw} t]	[tátk ^{hw} t]	'pull'
/C ₁ V-jək ^o -t/	[juk ^{wə} t]	[jí:k ^{wə} t]	'rub'
/C ₁ V-jəʔ/	[jɪʔ]	[jí:ʔ]	'run'
/C ₁ V-jəq-š/	[jâqεiš], [jéqεš]	[jí:qε ⁱ š]	'crawl'
/C ₁ V-yəm-m/	[yímam]	[yí:maʔəm]	'kick'
/C ₁ V-gəq ^o -m/	[gúq ^w ɛm]	[gú:q ^w aʔəm]	'drag'

APPENDIX V

PERSONAL NAMES AND PLACE NAMES

The first list is of some of the non-European names used by the Sliammon, Klahoose, and Homalco. The second list is of some place names in the Powell River to Bute Inlet area, except for the last three, which are further south.

Masculine Names

[héwuqə̀n]

[ʔatwé1]

[č̣i1hélɛm]

[móx^wi.àləs][tèč^hwahánɛm]

Feminine Names

[héwuqàynok^ot][č̣ič^hláʔ]

[ʔóšil]

Place Names

[tísq^wat]

Powell River

[ṭéš^yusəm]

Sliammon (old name)

[láʔamɛn]

Sliammon (new name)

[to:q^o]

Squirrel Cove

[ʔo:p]

Church House (new name)

[ʔáʔamɛn]

Lund (old name)

[ʔaméy]

Lund (older name)

[θáθqaysəm]

Southview

[ʔék^wánəm]

Scuttle Bay

[jɛj^oṣ̌céàmɛn]

Bliss Landing

[xák^wam]

Grief Point

[tat ^o lá.x ^o .nəč]	Blubber Bay
[k ^w inspà:l <u>a</u>]	Westminster
[mata'ale]	Victoria
[spasta'anoł]	the United States side of the border

APPENDIX VI

THE NOTATIONS OF BOAS AND SAPIR

Boas, 1890

Boas here writes a macron over a vowel sometimes to indicate length and sometimes to indicate quality. Possibly he did not then notice the distinction or consider it important.*

He does not mark syllable initial glottal stops and in only eighteen words does he mark glottalised stops.

Symbol Used	Examples	Transliteration	
∅ - ?	mā'ana	má?ana	'child'
	sā'atlq	sá?altx ^o	'girl'
tl - t̥, ʔ, ʔ'	sātltq	saltx ^o	'wife, woman'
	nō'utl	nó:ʔuʔ	'elder brother'
	tlE'k·cin	ʔéqšín	'moccasins'
	tlEms	ʔəms	'house'
E - e	mE'k'sEn	méqsən	'nose'
k - k, k ^o	ku'çais	k ^o úθays	'island'
	kuō'tlkō	k ^o ó:ʔk ^o	'sea'
k' - q, q ^o	k·ai'miq	qáymix ^o	'man'
	k·oā'anā	q ^w á:ʔana	'ear'
q - x, x̣, x ^o , x̣ ^o	qē'ep	xéʔep <u>or</u> xés:ʔep	'infant'
	k·ē'eq	qéʔex̣ <u>or</u> qés:ʔex̣	'younger brother'
	djānq	ʃanx ^o	'fish'
	qus	x ^w us	'black'

* Boas' first language was German, which does not have a distinction between tense short vowels and tense long vowels.

Symbol Used	Examples	Transliteration	
ç - ɵ	çō'çin	θó(:)θin	'mouth'
dj - ĵ	djāia	ĵáya	'tree'
c - š	dji'cin	ĵíšin	'foot, leg'
tc - č	tcō'i	čó:ʔi	'boy'
tsi- č ^Y	tsiā'tlas	č ^Y á ^l as	'three'
	tsiā'anō	č ^Y á ^ʔ ano	'dog'

Sapir, 1915

As in Boas (1890), ts - c, c - š, c - č, and dj - ĵ. Unlike Boas (1890), a macron over the vowel indicates length, not quality, and the following symbols are used:

Symbol Used	Examples	Transliteration	
‘ - h	t!á [‘] aq!at [‘]	ʔá:ʔ ^ə qat ^h	'mountain'
	sá!t ^{‘u}	sa:łtx ^o	'woman'
' - ʔ	mó'os	móʔos	'head'
L - λ	aL	ʔaλ	'leggings'
tc! - č̣	tc!eq	č̣eq	'robin'
q!w - q̣ ^w	q!wá'ix	q̣ ^w á ^ʔ ix	'wood'
x̣ - x	tī ^l x̣ ^u	tí: ^l x̣ ^o	'yellow cedar'
x - x̣, o - ɔ	ts!ox̣ó' ^o	č̣ox̣ ^o ó:ʔ ^ə	'codfish'
ę - e	qéix	qeyx̣	'salmon eggs'
l - ɬ, i - i	L!íkuinas	λ'ɛk ^w inas	'heart'

Boas and Haeberlin, 1927

This is closer to today's notation than is Boas (1890) in that q is used to indicate the uvular stop, x is used to indicate x, x^o, x̣, and x̣^o, and L is used to indicate ɬ, λ,

and λ' . Apparently, Boas and Haeberlin are using the same notes that Boas used for his 1890 report; the same inaccuracies appear in both articles and the macron is still used ambiguously. For further information, see Boas (1911) and (1916).

Necessity to Distinguish Notations

Failure to distinguish carefully between present day notation and older notations has resulted in distortions of the data used by Jorgensen (1969). On page 26 he refers to Comox as a "phonemicized Salish language". On page 131 he uses the phonemicized data in his table 'Phonemic Rank Orders of Ten Salish Languages'.

Since Jorgensen is apparently considering all occurrences of \underline{d} to belong to the phoneme /n/, he interprets \underline{dj} as */nž/, this interpretation introduces */ž/ rather than /j/ into the data and raises the statistical count for /n/. He apparently does not note that Sapir is not writing labialised velars and uvulars before labialised vowels, because he has a seemingly low count for /k^w/ and /q^w/. He lists two plain voiceless stops at the velar position, /k/ and /k^y/. He also throws out schwa in Comox, although he does not in, e.g., Twana. Apparently, he has read Sapir's statement that some occurrences of schwa-type vowels are inorganic and thus has decided that they all are.

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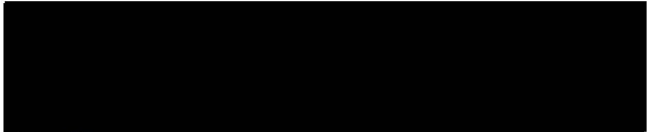
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