

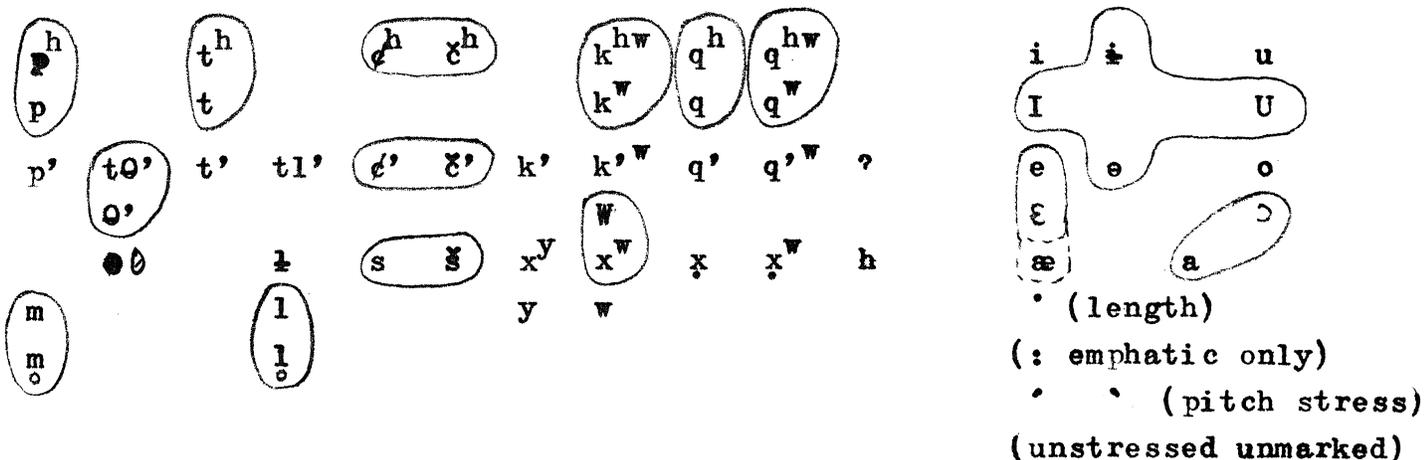
REDUPLICATION IN THE CHILLIWACK DIALECT OF HALKOMELEM
(WITH A SKETCH OF PHONEMICS)

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1.0. Introduction. Halkomelem is a Coast Salish language spoken in a dialect chain^{of} ten or eleven dialects along the Fraser River (from Yale, B.C. to Vancouver, B.C.) and along the coast of Vancouver Island (from just above Victoria north to Nanaimo). The most easterly dialect is Tait, spoken from a little above Yale to a little below Popkum. Southwest of Tait and on the south side of the Fraser River is the Chilliwack dialect, centered around the Chilliwack River, Vedder Crossing, Sardis and Chilliwack. On the north side of the Fraser is the Chehalis dialect, centered around Harrison Lake and Harrison River. Then west of the Chilliwack dialect and largely on the south side of the Fraser River is the Sumas dialect, centered around Sumas and the Sumas River. North and east of Tait is Thompson, an Interior Salish language. Thompson also forms an eastern border for the Chilliwack dialect. The language which is on the south side of the Sumas and Chilliwack dialects is Nooksack, a Coast Salish language with a single surviving speaker. The Nooksack tribe otherwise is reported to use the Chilliwack dialect. The Halkomelem dialects mentioned so far can be termed upriver dialects and seem to share several phonological features which distinguish them from the other dialects (distinctive vowel length and pitch accents, l replacing n, and æ replacing a in many words.

Excluding Nooksacks, the Chilliwack dialect appears to have perhaps 20 to 30 speakers, mostly elderly or middle-aged. My principal informant has been Mrs. Amy Cooper who lives on the Chilliwack River just above Vedder Crossing with her husband Albert Cooper and their son Ted. I have also worked briefly with Mr. and Mrs. Ed Kelly, and Tillie Gutierrez, Amelia Douglas, Margaret Emory of Yale and members of the Skulkayn Heritage Project (speakers of all the upriver dialects, on two days). I owe thanks to all these people for their kindness, patience and interest. My field work has been supported by the Survey of California and Other Indian Languages, which support I gratefully acknowledge.

1.1. Phonetics & phonemics. The phonemic and phonetic inventory of Chilliwack Halkomelem can be summarized as follows (allophones are circled):



With a broad brush the allophony can be painted for /e/ as:

- [I] immediately adjacent to [l, ɪ, x^y, y, s, ɸ, ɸ'], especially likely between members of this set, in free variation with [ə] in some cases (when in variation usually before [l, ɪ, s]).
- [U] immediately adjacent to [m], [w], and C^w (labialized consonants), especially before [m], [w] or C^w, also in free variation with [ə] in many cases.
- [ə] elsewhere in normal speed speech.
- [ɪ] in allegro speech.
- [o] (syllabicity) in allegro speech before [l] or [m] (/l/ and /m/ become syllabic). Syllabicity and [ɪ] may freely vary here.
- [ɛ] in hyper-slow speech (sounding out by syllables). Overlaps [ɛ], the allophone of /ɛ/, in this environment.

For /ɛ/: [e] occurs before [y]; [ɛ] occurs elsewhere, usually unstressed, with some free variation of [ɛ] ~ [æ]; [æ] occurs under stress in most cases and often varies freely with [e] before [y]. Due to cases of stressed [ɛ] and unstressed [æ], these two may be separate phonemes. More work remains to settle this point. Before length [æ] is much more common than [ɛ] or [e] ([æ] occurs in about 200 examples in the data so far versus [ɛ] in 17 and [e] in 24). [e] occurs before [y]. There is much more free variation of æ ~ ɛ before length ([æ] ~ [ɛ]), and both are nearly always stressed.

[ɔ] occurs in a dozen examples, always stressed and adjacent to labialized consonants, and usually in free variation with [a^ʷ]. It appears that [ɔ] is a free variant of /a^ʷ/ in the environment adjacent to labialized consonants.

Length can occur after any vowel but /e/, and all long vowels are stressed (with [˙] or [˘]). Of some 630 examples of long vowels only 21 at most occurred apparently unstressed (a[˙] 7/170, o[˙] 1/21, u[˙] 0/16, æ[˙] 3/200, ɛ[˙] 2/17, e[˙] 0/24, i[˙] 9/172) and most of these are equivocal. Length can occur also with consonants (for example with liquids, t, and s) but rather infrequently. When length occurs after a vowel and before a consonant the vowel is almost always lengthened phonetically; in a few cases the consonant is lengthened, but never both vowel and consonant (/q[˙]e[˙]i[˙]lɛm/ > [q[˙]e[˙]ɪl[˙]ɛm ~ q[˙]e[˙]f[˙]lɛm]).

/i/ and /i[˙]/ receive schwa off-glides before postvelars (q, q^ʷ, q', q'^ʷ, x, x^ʷ). With /i[˙]/ the effect is often so great that a y-glide and an extra syllable are the result: /i[˙]q/ > [i[˙]y^əq] or [i[˙]y^əq] rather than just [i[˙]q]; in such cases the length is often absorbed in the [y]. For /i/ the result is a plain glide, as in [i^əq].

Unaspirated plain stops occur only in two positions: s__V (pre-vocally after s) and __C̣ (before syllabic consonants, i.e. before ṃ or ḷ). Elsewhere plain stops are aspirated, for example: [p^hʌp^hq^ʷṃ] 'puffball; Popkum', [t^hk^{hw}i[˙]ṃ] 'red', [tɪ^hʌq^ht^h] 'long', [stɛ^ht^ho] 'light; illumination', [mʌq[˙]et^h] 'swallow something', [spapḷ^əq^{hw}it^əæ] 'screech owl, "little ghost at night"'. [k^{hw}] was occasionally transcribed [k^h] before rounded vowels, but in actuality the rounding is still present, only obscured in the more prominent rounding of the following vowels (as in [k^ho^ʷx^ʷeθ] 'coho salmon' for example).

/tθ'/ has allophones [θ'] after [s], and [tθ'] elsewhere.

/s/ has allophones [ʃ] before [x^ʷ], [s] elsewhere (including before [x^ʷ]). At times /s/ before [ɬ] sounds somewhat like [ʃ], but close hearing shows this to be more the sound of [ɬ] after an [s] than the [ʃ] allophone.

/x^ʷ/ has an allophone [w] in allegro speech after [ʃ]. In careful or slow speech the [x^ʷ] is heard. /x^ʷ/ also has an allophone [W] in free variation with [x^ʷ]; [W] occurs mainly in allegro and normal speed speech, less in careful speech and never after [ʃ]. [W] is not very common however; only 21 words with [W] were found in the data

so far (out of about 2500 words). The surrounding environment was irrelevant as [W] occurs adjacent to a wide variety of phones and even in clusters such as in [lič^hW] 'do you?' (loose translation) and [Wtɪ'ǎ'q^ht^hes] 'long face, morose'.

/c/ has allophones [ç^h] and [č^h] which outwardly appear to be in free variation everywhere. However in the data so far [č^h] occurs before rounded vowels and before [i[◌]] and not before [I] nor before consonants (except -č^hx^w ~ -č^hW can occur in allegro speech as a variant of -č^hUx^w 'you (singular)' (verbal subject affix among other things)). On the other hand [ç^h] does not occur before rounded vowels nor before [i[◌]], but does occur before [I] and before consonants. In addition [č^h] is found before [æ, æ[◌], a, a[◌]] and perhaps [i] much more frequently than is [ç^h], while [ç^h] occurs before [ɛ] and # more frequently than [č^h] does. There doesn't appear to be a particular preference for [č^h] or [ç^h] before [ɪ] or [ə]. The environment preceding apparently is irrelevant since the following pronominal affixes can appear after any consonant or vowel and yet always begin with the same allophone:
 -ç^hIɪ 'I' -ç^hIt^hwe'
 -č^hUx^w 'you (sg.)' -č^hæ^(◌)p^h 'you (pl.)'
 (verbal subject pronoun affixes). These can also be prefixed and can occur independently.

There are also a few examples such as [sç[č^hǎ] 'sitting astride' which show both ç and č in the same word. (The lack of aspiration in this example and the following, in the environment s__V may be inadvertent omission or actual absence. My field notes are not clear on this matter. If unaspirated allophones of ç and č do exist I would suspect them in the same environments as unaspirated plain stops.) On the other hand from examples contrasting ç and č are examples of free variation such as [sčǎ'ɪt^hel ~ sçǎ'ɪt^hel] 'dried fish', [yǒç^hɛt^hɪǎ ~ yǒç^hɛt^hɪǎ] 'give it to somebody (with you) as a gift (imperative)', [stɪ'ep'ɛɪ'ç^h ~ stɪ'ep'ɛɪ'ç^h] 'tail', [ç^hǎ'ç^hew č^hǎ'č^hew] 'beach'. Some of the latter examples were recorded in the field with ç or č which indicated the sound was halfway between č^h and ç^h (like a [t^hs]). Such a mid-placed phone could explain some of the free variation.

Similar problems exist with [č[◌]] and [ç[◌]] which I have grouped as allophones of /c'/. Two of the same complementary environments exist: [ç[◌]] occurs before [I] and before consonants while [č[◌]] does not.

However [ç'] is very frequent (70 words) in comparison to [č'] (10 words) and, perhaps consequently, appears in all the remaining environments cited above with /ç/. In addition, since my material shows so few examples of [č'] it may be that [č'] appears in other environments than those found so far (before [i', ε, æ, æ', e]).

There are two sounds, each found in one word, which are not part of the general Chilliwack system, [k^y] and [k'^y]. [k^yæ'k^y] 'younger sibling (pet name)' (a pet name for [sqæ'q^h] 'younger sibling') appears to be either a borrowing or diminutive consonant symbolism. And [sk'^yek'^yeyæ p^h ~ sk'^yik'^yiyæ p^h] 'coyote' is a borrowing from the Thompson language. There are also anomalies in distribution of phones and phonemes, as well as two additional borrowed sounds which are outside the Chilliwack system, and appear only in borrowed words. For example: [k^{hw}əšú'] 'pig' (< Chinook < French cochon), [p^hUs] 'cat', [k^hap^há'] 'coat' (< Chinook < French (la) capote 'hooded cloak', [k^hIník^hIník^h] 'Kinnickinnick, Indian tobacco' (a "white word"), and [t^hæwn] 'town' (< English). In these examples [š], [U] and [u'] occur in the wrong environments, and the sounds [k^h] and [n] appear.

In the remaining phonetic citations aspiration has not been indicated because it is predictable and is quite frankly a pain to write. Similarly on monosyllabic words primary (high pitch) stress can be assumed and is not written. More than one primary or secondary (mid pitch) stress can occur on a polysyllabic word, and in some cases polysyllabic words were recorded with only low pitch (unstressed). The distribution of pitch patterns can also occasionally change with derivation, inflection or insertion into a phrase or sentence. The distribution of pitch patterns has not been fully worked out at present.

1.2. Morphophonemics. There is no space here for a full discussion of Chilliwack morphophonemics. But a few comments on vowel ablaut, vowel alternations and the shape of roots are necessary to account for some of the reduplicated forms. Most roots have the shape CVC. Of the examples cited in this paper over 70 % have CVC roots. 13 % have CVCVC roots, 10 % have CVCV roots and a handful each have CVCCV, CVCC or CV roots. The number of non-CVC roots is certain to decrease from this number however because some work remains in isolating derivational affixes, and all the remaining shapes but CV could contain suffixes (-VC, -CV, -C, -V). At any rate, the only portion of roots subject to reduplication is the first CVC.

Some morphophonemic vowel alternations appear to be:

//ey// → /i/ before consonants, /iy/ before vowels, and also in some examples /ey/ and /ɛy/.

//ew// → /o(w)/, sometimes /ew/.

Some vowel ablaut relationships appear to be:

e ~ æ'	a' ~ e	i' ~ æ'
e ~ ɛ, æ	a ~ æ	i' ~ ɛ
e ~ i'	ɛ ~ æ (unless allophones)	i ~ ɛ
e ~ i	v' ~ v	i ~ a

Many of these are particularly noticeable in plural formations. In addition, the few continuatives not formed by reduplication are formed with these types of ablaut. Conditioning factors remain to be worked out.

2.0. Types of reduplication. Reduplication occurs prefixed, suffixed and infix. One of the infix types is extremely productive. Some types of reduplication are stress attracting, others are always unstressed but occur in predictable locations in regard to stress. The range of meanings conveyed by reduplication also shows some patterning, sometimes predictable by word class, sometimes by semantic domain, sometimes unpredictable.

All examples of reduplication found in my field work so far have been included. The basis for inclusion was solely phonological: all examples were included in which at least a consonant of the root word was duplicated in an adjacent syllable. As a result, the examples include (besides productive types of reduplication) a number of non-productive types and a number of examples in which no clear meaning has been isolated for the reduplication (through lack of an unreduplicated form). The latter examples may be crystallized forms in which there was originally a verb plus continuative or noun plus diminutive or the like, which has since lost its literal meaning and its unreduplicated counterpart. This process can be seen taking place in at least one example ('Scotch thistle'). In addition to including such examples the selection process may have also included forms whose apparent reduplication is the result of historical merger or derivational affixation as yet undetected. I would be grateful to learn of any such deceptive reduplications.

Examples will be quoted in phonemic transcription with affixes segmented. Twelve types of reduplication (R) have been classified

on the basis of shape and position regarding the root. Each type is given a subscript number and hyphenated to indicate whether prefixed, infix or suffixed. The consonant reduplicated is numbered in the description of each type to correspond with the position of the consonants in the root. Thus $-R_1-$ is the first type of reduplication, an infix with the shape $-C_1e-$ where C_1 is the first consonant of the unaffixed root and e is the phoneme /e/. (A root is a morpheme with lexical meaning which has been stripped of all affixes.) After the description of the types and examples of reduplication a discussion will follow (Section 3) of the semantic patterning of reduplication.

2.1. $-R_1-$ infixes $-C_1e-$ after the first vowel of the root (prefixes, such as $s-$, x^w- or tex^w- , of course are not part of the root). The infix is unstressed and follows a primary-stressed (high pitch) syllable, with ten exceptions (#9, 27, 37, 44, 45, 52, 53, 55, 56, 64). All of the exceptions but #27 and 37 have the infix immediately before a primary-stressed syllable; #37 may have the infix immediately after a secondary-stressed syllable (like #8) whose stress was inadvertently omitted; #27 shows the infix stressed. Five of the exceptions can be analyzed instead as $R_{10}-$ (#9, 45, 52, 53, 56), but they violate the stress pattern of $R_{10}-$ too. Perhaps it is relevant that the exceptions have unusual (#9) or long (#37, 44, 55, 56, 64) root shapes or have already been infixes (#52, 53). In two examples (#7, 33) stress is shifted left one syllable in getting from the unreduplicated form to the reduplicated form. Otherwise there is no shift in stress with this reduplication type. $-R_1-$ encompasses the following meanings: 'continuative, plural, distributive; diminutive, pet name; verbal adjective; comparative'; it is also crystallized in many nouns. $-R_1-$ is very productive. The left column has reduplicated forms while the right column has unreduplicated forms. Absence of a form in the right column means the form has not been obtained yet and may or may not exist. All symbols are phonemic except for [ç, ç', æ, æ', ε, ε'].

Reduplicated

Unreduplicated

- | | |
|---|----------------------------|
| 1. $x^y f x^y e ç'$ -em 'it stinks' | |
| 2. $q' a q' é y-é t-é s$ 'they're killing them' | $q' a y$ 'dead' |
| 3. $x^y á x^y é k'^w$ -em 'bathing' | $x^y á ' k'^w$ -em 'bathe' |
| 4. $s-w f' w e l$ 'shining' | |

- | | |
|--|---|
| <p>5. yá'yéq^w-em 'sweating' 9/8/71,
yá'yéq^w-em 'sweating' 8/21/72</p> | <p>yá'q^w-em 'sweat (as when someone stops driving, gets out of a car and sweats)' 8/21/72</p> |
| <p>6. p'á'p'etl'-em 'smoking'</p> | <p>s-p'á'tl'-em 'smoke (noun)'</p> |
| <p>7. mæ'tetθ'-æ'l-em 'refusing'</p> | <p>mæ'tetθ'-æ'l-em 'refuse'</p> |
| <p>8. mæ'tetθ'-el-qéyl-em 'lying'</p> | <p>mæ'tetθ'-el-qéyl-em 'lie'</p> |
| <p>9. qeqemá' 'suckling'</p> | <p>qemá' 'suckle'</p> |
| <p>10. yiyéq 'snow falling'</p> | <p>yiq 'have a snowfall'
(s-yiq 'avalanche')</p> |
| <p>11. p'æ'p'etθ'-et 'sewing (s-th)'</p> | <p>p'æ'tetθ'-et 'sew (s-th)'</p> |
| <p>12. q^wáq^wel 'talking'</p> | <p>q^wael 'talk'</p> |
| <p>13. k^wík^wem-el 'getting red' (i° 10/1/71)</p> | <p>k^wím-él 'get red' (i° 10/1/71)</p> |
| <p>14. q^wáq^weq^w-et 'beating something'</p> | <p>q^wáq^w-et 'beat something'</p> |
| <p>15. q'éyq'ex-el 'getting black'</p> | <p>q'éyx-el 'gone black'</p> |
| <p>16. q^wáq^wéy-el 'getting yellow'</p> | <p>q^wáy-el 'gone yellow'</p> |
| <p>17. lés'leç'-ewtx^w-em 'visiting many places or houses'</p> | <p>lés'ç'-ewtx^w-em 'visit one place or house' (derivation with vowel metathesis:
lés'ç' + æwtx^w + em
'one' 'house' 'middle voice'
(verbal suffix)</p> |
| <p>18. t'f't'el-em 'singing'</p> | <p>t'f'l-em 'sing' (i 10/15/71)</p> |
| <p>19. lfley-em or lfliy-em 'laughing'</p> | <p>lfy-ém 'laugh'</p> |
| <p>20. tθ'á'tθ'eq^w-et-es 'he's sucking it'</p> | <p>tθ'á'q^w-et-es 'he sucks it'</p> |
| <p>21. mæ'meqe '(it's) snowing'</p> | <p>mæ'qe 'snow' (noun & verb)</p> |
| <p>22. p'æ'p'etθ' 'sewing'</p> | <p>p'æ'tetθ'-çel 'I'm going to sew'</p> |
| <p>23. mímélæ 'Winterdancing' (verb)</p> | <p>mílæ '(to) Winterdance'</p> |
| <p>24. x^yi'x^yek^w'am 'swimming' (cp. #3)</p> | |
| <p>25. mámét'es 'pointing; 2nd finger'
(also name of a peak in the Fraser River gorge in the story of the Flood)</p> | <p>mát'es 'point (at?); aim'</p> |
| <p>26. k^wék^w'i 'climbing'</p> | <p>k^w'i //k^wey// 'climb'</p> |
| <p>27. mæ'miy-et or mæ'míy-et 'helping someone'</p> | <p>mæ'y-t 'help someone'</p> |
| <p>28. s-t'it'el-em-s 'his singing'</p> | <p>s-t'íl-em 'song'</p> |
| <p>30. ç'f'ç'es-em 'growing'</p> | <p>ç'f's-em 'grow'</p> |
| <p>31. q'éyq'ek^w-et 'biting'</p> | <p>q'éyk^w-et 'bite'</p> |
| <p>32. táteq^w-em 'coughing'</p> | <p>tá'q^w-em 'cough'</p> |
| <p>33. q'éyq'emas 'dip-netting'</p> | <p>q'emás '(to) dip-net'</p> |
| <p>34. ?á'emet 'sitting down'</p> | <p>?á'met 'sit'</p> |
| <p>29. q^wi'q^wam-a.θəl 'trout- or line-fishing'</p> | |

35. s-qæ' qel(°)ə 'baby'
36. s-k^wik^wex^yel 'baby sockeye'
 tem-k^wik^wex^yel 'Spring; time of
 the baby sockeye's coming'
 (tem - k^wi(x^y) -R₁- x^yel
 'time' 'call'? '-ing' 'foot')
 (if k^wik^we then 'climbing foot'
 is possible source)
37. s-pápeleq^witθ'æ 'screech owl;
 little ghost at night'
38. q'æ' q'əmi 'little girl (4 yrs.
 old or so)'
39. s-tá'telo 'creek'
40. xá'x(ə)çé 'little lake'
41. s-tí'təθ-el 'puny'
42. s-wíweles 'boy, youth'
43. s-tl'i'tl'eqeł (poss. -el) 'child
 (generic, not kin term)'
44. mamelé'ylaq^w 'flock of little birds'
45. s-x^wex^weyæm 'story, fable'
46. læ'lem 'small house (not longhouse)'
47. ç-q'^wiq'^w(ə)x^w-el 'brownish-black'
 (cp. ç-q'eyx 'black', ç-k^wiq'^w
 'gray', and
 ç'-q'^wiyex^w (8/22/72) 'brown')
48. sísele 'granny (pet name)'
49. tæ'tel 'Mom (pet name)'
50. mæ'mel 'Dad (pet name)'
51. s-ç'á'ç'əmeq^w 'great grandparent;
 great grandchild (pet name for both)'
52. s-ç'əç'ə-el-á'meq^w 'great grand-
 parents; great grandchildren'
 (possibly pet names)
53. s-pepelál 'bunch of small crows'
54. yá'yetel 'relatives, relations'
55. x^yix^yi-yá'tel (//x^yix^ye-//) "two
 wives of one husband and one is
 jealous of the other"
56. xeçe'á'θel 'four to each' (possibly
 Nooksack says informant)(none of
 the other numerals have distributives
 like this)
- s-páleq^wftθ'æ 'ghost, dead
 body'
- q'æ'mi 'girl (10-15 yrs.)'
- s-tá'lo 'river'
- xá'çé 'lake'
- s-tí'θ 'skinny'
- sx^weyé'm 'myth' (this form
 from Elmendorf & Suttles 1960)
- si'le 'grandparent'
- tæ'l 'mother'
- mæ'l 'father'
- s-ç'á'meq^w 'great grandparent;
 great grandchild'
- s-ç'-el-á'meq^w 'great grand-
 parents; great grandchildren'
- s-pepélál (//s-p-R₆-a'l//) 'small
 crow (smaller than ordinary)'
- xe'á'θel 'four' (possibly
 xe'-a'θel with 'mouth' suffix)

57. s-pipow (//s-pi^o-R₁-w//) 'frozen' s-pi^ow 'ice', pi^(o)w-et 'freeze (s-th)'
58. t'æ t'etθ'-em 'fermenting, sour
(of apples, half-ripe fruit, etc.)'
59. tθ'ætθ'eɪ-em 'chilled' (a^o 8/4/70)
60. tɪ'æ tɪ'eɪ-em 'salty' tɪ'æ^(o)ɪ-em 'salt'
61. k'w^hæ'k'w^hæs 'hot' k'w^hæs 'get burned'
62. sæ 'sæx-em 'sour'
63. q'æ 'q'et'-em 'sweet'
64. s-lælek'w^hiweɪ 'stupified'
65. tʃi'çel 'high, top, above' s-tʃi'ɪ 'first born', also
s-tʃel-æyeθel 'upper lip' (suffix
related to -a^oθel 'mouth')
66. pipeham 'frog'
67. θæ^oθel 'mouth'
68. t'æt'eɪ-em 'flea'
69. x^w-θæ^oθel 'large mouth'
70. x^wix^wel 'bush growing on river edge'
x^wix^wel '(under)brush (bush)'
71. tʃæ 'tʃo(w) or tʃæ 'tʃew 'beach, shore'
72. s-qɪqewθ 'rabbit'
73. s-yæyeq' 'log'
74. s-wiwe 'eulachon'
75. s-θæθiyel (//s-θæθeyel//) 'blood'
76. s-lɪlowye or s-lɪlewye 'seagull'
(in one of the other upriver dialects)
77. li-tʃx^w tətɛlæ'm-et 'Do you under-stand?' (?)ðwe-tʃel-ɪ tɛlæ'm-et
(//talæ'm-et//) 'I don't under-stand'
78. te k^wik^wex^y-et-em 'what they call something' k^wix^y-et 'name someone',
s-k^wi^x^y 'name (noun)'
79. θiθe 'larger'
80. tʃ'æ tʃ'el 'very'
81. tæ tiyeq' 'be angry' (gloss may be slightly in error)
82. q'w^hæ'q'w^helex 'excuse me; watch out'

2.2. $-R_2$ suffixes $-C_1eC_2$ after C_2 of the root. This suffix is unstressed and follows a primary-stressed syllable. The semantic area covered is a sort of inherent continuative, so continuative that it extends the meaning of the root. A few examples may show the ordinary continuative. A larger number of examples have the reduplication crystallized in terms for flora and fauna. Not very productive.

83. $leq'æ'leq'el$ 'travel', $leq'æ'leq'el$
'travelling'
84. $lút q^w\`elq^w\`el$ 'gone overripe' $lút q^w\`el$ 'get ripe, become
ripe'
85. $q^w\`ú'leq^w\`el$ 'they were all talking
(more than one talking)'
86. $s-ʔéʔéʔéʔé$ 'stuttering (noun)',
 $ʔéʔéʔéʔé$ 'stuttering (verb)' (there is
no non-continuative form because
"you can't stutter just once")
87. $ʔ'eq^w\`é'eq^w\`é-θa'x^y-es$ 'it's poking
you'
88. $s-q^w\`elq^w\`el-s$ 'what they told',
 $s-q^w\`elq^w\`el$ 'talking (noun)'
89. $ʔ'eq^w\`é'eq^w\`é$ 'Scotch thistle' (lit.
'poking', coined for non-native item)
(shows crystallization occurring)
90. $mék^w\`mèk^w\`$ (Harris 1966) 'bumblebee'
 $mo'kmok$ (Hill-Tout 1902) 'bumblebee'
91. $tθ'éx^w\`tθ'éx^w\`$ 'osprey, fishhawk'
92. $tθ'éxtθ'éx$ 'stinging nettle'
93. $músmes$ 'cow' (< Chinook jargon)
94. $xémxəm$ 'mushroom'
95. $s-q^w\`éiq^w\`é$ 'muskrat'

2.3. R_3- prefixes C_1eC_2- to C_1 of the root. This prefix is unstressed and immediately precedes a primary-stressed syllable (with two exceptions, #103 and #106). The meaning is 'plural' in most cases, 'eldest' in another (#111), 'verbal adjective' in #108, possibly 'continuative' or crystallized in #109 and #110, and crystallized in #107. The meaning development in #111 is unusual for reduplication and

may be a feature of a non-Chilliwack

dialect (the form was obtained in a session with speakers from all upriver dialects and not yet verified with Mrs. Cooper).

- | | |
|---|--|
| 96. selsi'le 'grandparents' | si'le 'grandparent' |
| 97. ?em?i'meθ 'grandchildren' | ?i'meθ 'grandchild' |
| 98. s-melmae'lt 'rocks, mountains' | s-mae'lt 'rock, mountain' |
| 99. s-teltae'li 'women (16 yrs. or older)' | s-tae'li 'woman (16 yrs. or older)' |
| 100. ?el?ae'lex ^y 'siblings' | ?ae'lex ^y 'sibling' |
| 101. s-x ^w -?el?ae'lex ^y 'husband's sisters' | s-x ^w -?ae'lex ^y 'husband's sister' |
| 102. θeqθeqet 'trees' | θeqae't 'tree' |
| 103. s-x ^w emx ^w emθiyae't 'deceased uncles, aunts, grandmothers, or others deceased who were responsible for ego directly or indirectly' | s-x ^w emθiyae't 'deceased uncle, aunt, grandmother, or someone else deceased who is responsible for ego directly or indirectly' |
| 104. s-telta'les 'wives' | s-ta'les 'wife' |
| 105. (Hill-Tout: tEltā'lū 'arms', probably /t'elt'ae'low/) | t'ae'low 'arm (from wrist up)' |
| 106. s-q ^w emq ^w emae'y 'dogs' | s-q ^w emae'y 'dog' (æ 10/13/71) |
| 107. x ^w elx ^w éyleq ^w 'a kind of duck' | |
| 108. s-meiméiq ^w 'rough (of wood)' | |
| 109. xemxim-el-s 'hawk (lit. 'it scoops down and grabs)' | |
| 110. ?el?él(i)yε 'dream (verb)', s-?el?él(i)yε 'dream (noun)' | |
| 111. s-é'emé'á'meq ^w 'eldest great grandchild' | s-é'á'meq ^w 'great grandchild, great grandparent' |
| 112. temtaem 'when?' (included here in error; not an example of reduplication at all. tem- 'time, season' + tæm 'what?' as in s-tæm 'what?') | tem- ([tIm-]) 'time, season' (as in /tem-k ^w á'k ^w es/ 'summer', lit. 'time'-'hot'; also in 'winter', 'fall' and 'spring' (#36)) |
| 113. é'ié'ae'yε 'in-laws after death of connecting relative' | é'ae'yε 'in-law after death of connecting relative'
(é' possibly tθ' in other idioms & dialects than Mrs. Cooper's) |

2.4. Examples #97, 112 and 113 were originally thought to be cases of an R₄- which had the shape of C₁εC₂- or C₁iC₂-, was unstressed, and immediately preceded the primary stressed syllable. However,

it now seems more likely that the [ɛ] in #97 and in #112 may be a hyper-slow variant of /ə/ and the [i] in #113 may be an example of //əy//. If these are indeed the facts, then all three examples fit nicely under R₃-, and R₄- can be dispensed with.

2.5. R₅- prefixes C₁f^W- to the root and has the meaning 'diminutive'. It attracts the primary stress of the word in all cases but #118 and #119 and has a long vowel in all cases but #118 and #119. #120 is a dubious example semantically but may fit here.

- | | |
|---|--|
| 114. ?f ^W ?ɛx ^W f ^W l 'smaller (than ?ɛx ^W f ^W l) | ?ɛx ^W f ^W l 'small' |
| 115. mf ^W maq ^W (9/10/71, 10/23/71) 'small bird' (ə for a 8/8/70, 10/23/71) | ma ^W q ^W 'bird' (may mean 'duck' in other idiolects) |
| 116. s-q ^W f ^W q ^W (ə)məy 'puppy' | s-q ^W əməy 'dog' (~ s-q ^W məy) |
| 117. f ^W f ^W 'f ^W 'etl' (allegro speech) ~
f ^W ɛf ^W 'f ^W 'etl' 'short' | |
| 118. s-x ^W ix ^W ax ^W tθ' 'stupid, not all there' | s-x ^W ā ^W x ^W tθ' 'crazy' |
| 119. q ^W iq ^W āy-əl-s 'orange (color and fruit)' | q ^W āy-əl 'gone yellow' |
| 120. si ^W si 'be afraid' | |

2.6. -R₆- infixes -əC₂- before V₁ (root vowel). It is unstressed and occurs before a primary-stressed syllable. It seems to have two meanings: 'diminutive' and 'plural'.

- | | |
|---|---|
| 121. s-f ^W iyāye 'twins' (//əy//) | |
| 122. s-pelāl 'crow (smaller than ordinary)' | s-pā ^W l 'crow' (see #53 for R ₁ - plus -R ₆ -) |
| 123. x ^W ex ^W iyā ^W 'ye 'small fly' (//əy//)
(R ₁₀ - plus -R ₆ -) | x ^W ex ^W ā ^W 'ye 'large fly'
(with R ₁₀ -) |
| 124. seléle ^W 'two different things'
(possibly the plural infix -el- or -le- instead of -R ₆ -) | selā ^W 'f ^W 'different' |

2.7. R₇- prefixes C₁ā- to the root. In one example it attracts the primary stress and in the other it precedes primary stress. The meaning is 'emphatic' in #125 and crystallized in #126.

- | | |
|--|---------------|
| 125. ?ā ?ɛlθɛ 'I, me (emphatic)' | ?ɛlθɛ 'I, me' |
| 126. fā ^W fā ^W l 'inside, in the back' | |

2.8. R_3 - prefixes $C_1\acute{e}$ - to the root and attracts the primary stress. The only two examples found so far have 'plural' meaning.

127. $m\acute{e}$ 'mele 'children' $m\acute{e}$ le 'child, offspring'

128. tex^w - $m\acute{e}$ 'mele-m 'stepchildren' tex^w - $m\acute{e}$ le-m 'stepchild'

2.9. R_9 - prefixes $C_1\epsilon$ - to the root, remains unstressed, and precedes the primary-stressed syllable. In #129 (combined with ablaut) it means 'continuative'; in #130 it means 'plural'.

129. $p'\epsilon p'\acute{e}k^w$ 'floating' $p'\acute{e}k^w$ 'float, come to surface'

130. s - $t\acute{e}t\acute{f}'wel$ 'sibling's children' s - $t\acute{f}'wel$ 'sibling's child'

2.10. R_{10} - prefixes $C_1\epsilon$ - to the root, remains unstressed, and precedes the primary-stressed syllable. The meaning is 'inherent continuative', possibly 'continuative', and crystallized in some examples such as #123 above or #132 below.

131. s - $q^w\acute{e}q^w\acute{e}$ 'a hole (in wood, in a pail, etc.)' $q^w\acute{e}$ 'get a hole in something'

132. s - $t\acute{e}t\acute{f}s$ 'near, close' ti (particle appearing with li 'be there', meaning unclear, for ex. [$li\ t\acute{f}$] '(be) over there')

133. $x^w\acute{e}x^w\acute{f}$ 'waking' (verb) $x^w\acute{f}$ 'wake' (verb)

134. $\acute{x}\acute{e}y$ - l - t 'writing, drawing (for ex. on a drum head)' $\acute{x}\acute{e}y$ - l - t 'write it, draw it'

123. see above

2.11. $-R_{11}$ - infixes $-C_1\acute{e}^{(o)}$ - after the root vowel V_1 . This infix attracts primary stress. The meaning is 'continuative' (in process of crystallization) in #135 and 'verbal adjective' in #136.

135. $\acute{f}'i\acute{e}'\acute{e}t\acute{l}'-em$ 'grasshopper; jumping' $\acute{f}'i\acute{t}\acute{l}'-em$ 'jump'

136. s - $\theta\acute{e}\theta\acute{e}'k^w$ 'stretched, straight, pulled tight' s - $\theta\acute{e}k^w$, $\theta\acute{e}k^w$ 'straight' $\theta\acute{e}k^w$ - $\acute{e}t$ 'pull (a rope)'

2.12. R_{12} - prefixes $C_1\acute{a}$ - to the root and attracts the primary stress. It is a person classifier for numerals ('one' and perhaps 'two').

137. $l\acute{a}l\acute{e}\acute{f}'e$ 'one person' $l\acute{e}\acute{f}'e$ 'one (unmarked)'

138.? $y\acute{f}'y\acute{s}e\acute{l}e$ 'two people' $\acute{y}i\acute{s}\acute{e}'le$ 'two (unmarked)'

2.13. Residual cases.

139. ?æ mi'mel 'a small bit'
 140. s-x^yi'x^yeç' 'woods' x^yeç'-f'l-em '(go) through the woods'
 141. s-x^wem-læ'lek^w 'parent's siblings' s-x^wem-li'k^w 'parent's sibling'
 142. s-q'eq'ip 'gathered' s-q'ep 'a gathering'
 143. x^w-páp-a's 'hair on the face' (-a's 'face')
 144. s-θæθqi 'thimble- or salmon-berry shoots'
 145. s-wéx^yix^yeq' 'mountain or swamp blueberry'
 146. s-qeqá'qel 'pond (a clear one)' qá'qe 'drink, drinking' qa' 'water'
 147. s-k'^wok'^wqæq ~ s-k'^wok'^wqæ'q 'robin'
 148. q'ayiyæç 'elk'

Possible analyses:

139. ?æ - + -R₁- + root mi'l or ?æ - + R₅- + root mel 'diminutive'
 140. -R₁- + ablaut or R₅-
 141. ablaut + -le- 'plural' infix
 142. R₁₀- + ablaut 'verbal adjective'
 143. crystallized?
 144. -R₁- ? crystallized
 145. -R₆- 'diminutive'? crystallized?
 146. s- 'nominalizer' + R₁₀- 'diminutive' { + qá'qe 'drink' + -l (unclear)
 { + qa' 'water' + qel 'bad'
 147. onomatopoeic? or new types of R
 148. crystallized (R₁, R₅, R₆, R₁₀?)

3. Semantic systems in reduplication.

3.0. From the following summary we can see the semantic areas covered by each type of reduplication (see next page).

- R₁- 'continuative (#1-34, 77, 78?, 81?, 82?), plural (#53-55), distributive (#17, 56); diminutive (#35-47), pet name (#48-51, 52?); verbal adjective (#57-65); comparative (#79-80)' and crystallized in nouns (#66-76).
- R₂- 'inherent continuative (#83-86), continuative (#87-88)' and crystallized in flora & fauna (#89-95).
- R₃- 'plural (#96-106, 113); eldest (#111); verbal adjective (#108); continuative (#109?, 110)' and crystallized (#107, 109).
- R₅- 'diminutive' (#114-119, 120?).
- R₆- 'diminutive (#121?, 122-123); plural (#121?, 124)'.
- R₇- 'emphatic' (#125) and crystallized (#126).
- R₈- 'plural' (#127-128).
- R₉- 'continuative (#129), plural (#130)'.
- R₁₀- 'inherent continuative (#131-132), continuative (#133-134)' and crystallized (#123).
- R₁₁- 'continuative (#135); verbal adjective (#136)'.
- R₁₂- 'person classifier for numerals' (#137, 138?).

This summary raises a number of questions: 1. Is the type of reduplication predictable from phonemic or sememic shapes? 2. Is the meaning of reduplication predictable for each type? 3. Is the meaning of reduplication predictable across types of reduplication? 4. Given the gloss of the plain form and the gloss of the type of reduplication is the gloss of the reduplicated form predictable in narrow semantic transcription? 5. What are the narrow (allosemantic) glosses for the types of reduplication? The answers to these questions will reveal the systematic semantic structures at work in reduplication.

3.1. Allomorphy. The type of reduplication is partly predictable from the meaning desired for the reduplication.

'continuative' R₁, R₂, R₃, R₉, R₁₀, R₁₁

'plural' R₁, R₃, R₆, R₈, R₉

'distributive' R₁

'diminutive' R₁, R₅, R₆

'pet name' R₁

'verbal adjective' R₁, R₃, R₁₁
 'comparative' R₁
 crystallized R₁, R₂, R₃, R₇, R₁₀, R₁₁
 'inherent continuative' R₂, R₁₀
 'eldest' R₃
 'emphatic' R₇
 'person classifier for numerals' R₁₂

It can be seen that 'distributive', 'pet name' and 'comparative' can be expressed by R₁ and no other type, 'eldest' by R₃ and no other type, 'emphatic' by R₇ and no other type, and 'person classifier for numerals' by R₁₂ and no other type. These sememic categories can sometimes be expressed by other means but not by other types of reduplication.

The type of reduplication otherwise is partially predictable from the phonemic shape of the root. C₁ and C₂ of the root are not helpful in this prediction. But V₁ of the roots taking R₁ is practically never /e/ or /u/ or /u^o/ (#9, 26, 45, 52, 53, and 56 out of 82 examples show e, but #26 and 45 have ey which varies with i(y); #52 and 53 only have e through the plural infix -el- (the unfixed root does not have e for V₁); and it may be relevant that #9 /qemâ^o/ has a very unusual syllabic shape (reminiscent of borrowings like /k^wešû^o/ 'pig') and that the use of #56 /xə^oâ^oθel/ with reduplication is probably a borrowing from Nooksack.) Beside the probability then that the V₁ of native roots taking R₁ is never /e/, /u/ or /u^o/ stands the fact that R₂ occurs only with roots whose V₁ is /e/, /u/ or /u^o/. It would seem that R₂ may be an allomorph of R₁.

R₇, R₉ and R₁₀ also lack examples with /e/, /u/, or /u^o/ as V₁ of the root, while R₃ has only examples with /e/ as V₁. However, not much can be made of these facts since each type has so few examples (two each, five for R₁₀). The other types show examples with a mix of vowels (for example, e with i, e with a, e with all the other vowels, etc.). The only other trend is that R₃ has mostly polysyllabic roots and R₁₀ has mostly CV roots while R₂ and R₁₁ have neither. If it were not for the qualification "mostly" a case for allomorphy could be made here.

In connection with allomorphy it should be mentioned here that ablaut is sometimes used with reduplication. (This includes loss of vowel length after reduplicating in several examples. Loss of vowel length also seems a function of the speed of speech at times, and in a few cases a function of poor hearing on a particular day.)

3.2. Morphosememics. Most of the above types of reduplication have several meanings, and many of these are predictable from the sememic or morphological environments.

With R_1 it can be seen that:

- 'distributive' occurs only with 'numeral' roots (#17, #56).
- 'plural' occurs only with 'kinship terms' (#52 is probably 'pet name', #53 may well have R_1 'diminutive' with -el- reanalyzed as plural infix; if these are accurate hypotheses for #52 and #53, 'plural' occurs only with 'kinship terms').
- 'pet name' occurs only with 'direct ancestors' (that is words for 'mother', 'father', 'grandparent', 'great grandparent' and probably the plural 'great grandparents'; the two latter terms also mean respectively 'great grandchild' and 'great grandchildren' and the 'pet name' can apply to these meanings also). 'Pet name' may be merely a subtype semantically of 'diminutive'.
- 'diminutive' occurs with a variety of nouns and a few adjectives (or nouns translated as adjectives) and has a number of interesting alloemes described later. The sememic areas included are probably too diverse to form a coherent environment ('human age categories', 'fish', 'bird', 'river', 'lake', 'myth', 'house', 'skinny' and 'brown').
- 'verbal adjective' occurs with verb or noun roots describing 'physical states (especially of taste or feel (here temperature))'. #64 and #65 may not quite fit this sememic environment and may have to be predicted morphologically. #41 and #47 ('skinny' > 'puny' and 'brown' > 'brownish-black') may fit here possibly rather than with diminutives.
- 'comparative' occurs in what are translated as an adjective (#79 'larger') and an adverb (#80 'very'). Without evidence of unreduplicated forms it is hard to generalize. 'Augmentative' is another possibility for glossing the meaning of R_1 here, but the gloss used would be clearer if the meaning of the roots were known.

'continuative' occurs only with 'verb' roots (though #28 is an intriguing case with a noun root, /s-t'it'el-em-s/ 'his singing'; #25 shows a verb form with two noun forms crystallizing from it).

'Continuative' forms are inflected as verb forms otherwise. crystallized meanings occur only with specific 'flora', 'fauna' or 'anatomical parts of fauna' (except for #71 'beach, shore').

With R₂ 'inherent continuative' occurs with 'travel', 'ripen', 'stutter' and possibly 'talking', not a very coherent set semantically except that all are 'verb' roots. #85 'they were all talking' may be somewhat 'distributive', but the gloss probably has incorporated in error some semantic material from the semantic context of the elicitation session. #87 with 'poke' and #88 with 'talk' seem to have the more usual 'continuative'. The meaning is crystallized in #89-95 and occurs there only with 'flora' and 'fauna'.

R₃ 'plural' occurs with 'kinship terms', 'human age categories', 'rock; mountain', 'arm', 'tree' & 'dog' ('flora & fauna?'). The first two environments form a coherent set, but the last four appear to be historical survivals. 'Verbal adjective' occurs with a verb or noun root describing a 'physical state (of taste or feel)'. Possible 'continuative' occurs with #109 'hawk; it scoops down and grabs' and #110 'dream' ('hawk' is also being crystallized). 'Eldest' occurs with a 'kinship term' but appears to be idiosyncratic. Crystallization occurs only with 'fauna'.

R₅ 'diminutive' occurs with adjectives ('small', 'crazy', 'short'), 'fauna' ('dog', 'bird') and 'verbs' ('gone yellow', 'be afraid').

R₆ 'diminutive' occurs with 'fauna' and possibly a 'human age category'. 'Plural' may occur with the 'human age category' ('twins') and the noun or adjective 'different (things)'. The 'plural' meaning is weakly established because #124 more likely has the plural infix -el- or -lə-, and 'twins' may have been cited as a generic plural with 'diminutive' reduplication rather than 'plural'.

R₇ 'emphatic' occurs with an independent 'pronoun', and crystallization occurs with an adverb (?) whose meaning is not too clear.

R₈ 'plural' occurs with 'kinship terms' only.

R₉ 'plural' occurs with a 'kinship term' and 'continuative' with a 'verb' ('float').

R₁₀ 'continuative' occurs with 'verbs' ('wake', 'draw, write')

and possibly 'get a hole in something'), while 'inherent continuative' occurs with one 'verb' ('get a hole in something') and with what may be an adverb (yeilding 'near, close'). It is crystallized in one example of 'fauna'.

R₁₁ 'continuative' appears with a 'verb' ('jump'), and is becoming crystallized in one example of 'fauna' ('grasshopper'). 'Verbal adjective' occurs with the verb or adjective 'straight(en), stretch(ed)' which describes a 'physical state (possibly experienced through feel)'.

R₁₂ is a 'person classifier' for 'numerals' only.

In the above, most of the sememic environments are mutually exclusive. Thus R₁ need not be considered seven homophonous morphemes but only four at most and possibly may be a single morpheme. Most of the sememic environments are also structural sememic categories, independently justifiable, which function in other ways as well in the language. (For example, words containing the suffix -əɪp 'tree, bush, vine' are all 'flora', and where there is a fruit on such a plant the fruit is designated by removing the suffix. Similarly 'anatomical parts of fauna' contains a large class of lexical body part suffixes which can be attached to nouns, verbs, adjectives, etc. in very distinctive ways. They are bound forms but all have free form equivalents as well.)

One of the characteristics of 'plural' nouns (as will be seen from the appendix) is that there are almost as many ways of forming plurals as there are nouns which can be pluralized. (There are only a small number of nouns which can be pluralized. For the rest, number must be expressed by context or modifiers like /qəx/ 'many'.) Due to the variety of methods of pluralizing it is not surprising that six types of reduplication are used. The other methods of pluralizing nouns are ablaut and the {-el-} infix and its variants. Ablaut is also the chief means of forming verbal continuatives other than by reduplication and is sometimes used with reduplication.

So ablaut and reduplication are both used to form 'plural' for nouns and 'continuative' for verbs. There is also a certain semantic similarity between the Chilliwack 'plural' for nouns and 'continuative' for verbs ('continuative' not as an 'iterative' but at least 'distributive over a period of time' rather than 'confined to a point in time').

It seems entirely feasible therefore that 'noun plural' and 'verb continuative' are joined in a close morphosememic relationship which is entirely predictable. This joining across the boundaries of noun and verb is quite natural to Chilliwack Halkomelem and other Salish languages because the distinctions between noun and verb are weakly made in most Salish languages. This is true derivationally and inflectionally in Chilliwack Halkomelem as well.

Since non-reduplicated continuatives are so rare, and since they show the same types of ablaut as occur in noun plurals and in some reduplicated continuatives, I will give here those found to date.

149. ʔéʔitel 'eat (a meal)'	ʔf'ʔitel 'eating (a meal)'
150. ʔiyeq ^w éʔls 'dig'	ʔéyeq ^w éls 'digging'
151. ʔ'f'x ^w tes 'he dries it'	ʔ'éʔ'x ^w tes 'he's drying it'
152. ʔfmex ^y 'walk'	ʔf'mex ^y 'walking'
153. yeq ^w 'burn (a fire)'	héyeq ^w 'burning'
154. hšq ^w lox ^w 'smell (with nose)'	hš'q ^w lax ^w 'smelling'
155. q' ^w eyflex ^y 'dance'	q' ^w eyél'ex ^y 'dancing'
156. ʔəwá'lem 'play'	ʔf'wálem 'playing'
157. ʔex ^w éʔčæ 'spit (saliva)'	ʔéx ^w éʔčæ 'spitting'
158. ʔiyá'tel 'fight'	ʔé'ytel 'fighting'
159. ʔit 'make something'	ʔéʔ'yt 'making something'
160. mšq'et 'swallow'	həmq'et (normal speed speech) ~ hámq'et (slow) 'swallowing'
161. k' ^w ex ^y éʔ't 'count (something)'	k' ^w éʔx ^y tes 'he's counting (s-th)'
162. ʔ'éʔtá'm 'crawl'	ʔ'éʔtem 'crawling'
163. ʔeq'em 'drip'	ʔéq'em 'dripping'

The morphosememic linking of 'plural' and 'continuative' in reduplication and ablaut leads to the question whether any other relationships appear which also hold for all types of reduplication. Indeed they do. The whole set of **sememic co-occurrence** restrictions for reduplication can be shown in the following table (following page):

Sememes of reduplication

Occur with

'continuative'	'verbs'
'inherent continuative'	'verbs'
'noun plural'	'kinship terms', 'human age categories', 'flora & fauna'?, and some others
'distributive'	'numeral' roots ('one', 'four')
'diminutive'	'human age categories', 'fauna', 'adjectives', 'colors'
'pet name'	'direct ancestors'
'verbal adjective'	'physical states (esp. of taste or feel, testable by senses)'
'comparative'	(unclear)(adjective, adverb)
crystallized	'flora', 'fauna', 'anatomical parts of fauna'
'eldest'	'kinship term'
'emphatic'	'pronoun'
'person classifier'	'numeral' ('one', possibly 'two')

(A category like verb or pronoun is sememic as well as morphological.)

3.3. Semantics and sememics. This section considers the narrow semantic content (allosemes) of reduplication and reduplicated forms. The goal is to discover the systems of semantic environment present in the unreduplicated forms which condition the sememes of reduplication to produce the glosses of reduplicated forms (allosemes). Where necessary for clarity, brackets outside single quotes will indicate allosemes (for example ['little ghost at night']) and slashes outside single quotes will indicate sememes (for example /'screech owl'/).

<u>Sememe</u>	<u>Alloseme</u>	<u>Semantic environment</u>
/ 'continuative' /	['continue an action already begun, action starts before temporal reference point of sentence, continues through it and after without indication of end']	['verb'], ['noun, nominal'] (the latter are #28, 78, & 88)
/ 'inherent continuative' /	['continue to excess']	{ ['get ripe, become ripe'], * ['pronounce a syllable (like ?əʔ)'], ? ['over, *within a moderate distance']
	['continue to permanency']	['get a hole in s-th.']

<u>Sememe</u>	<u>Alloseme</u>	<u>Semantic environment</u>
/'inherent continuative'/ (continued)	['continue an action already begun and add multiple actors'] ?	['talk, speak'] ['travel'](#83)
/'noun plural'/	['bunch'] ['two'] ['plural (more than one)']	['small crowd'] ['jealous wife'], ['different thing'] elsewhere
/'distributive'/	['distribute number specified to each recipient'] ['continue an action already begun and distribute it to many of its objects']	['four'] ['visit one house']
/'diminutive'/	['a little, -ish'] ['little as well'] ['more than ____, comparative'] ['little, small']	['colors'], ['crazy (mental powers gone)'] ['skinny'] ['small'] elsewhere
/'pet name'/	['pet name']	['direct ancestors']
/'verbal adjective'/	['have the quality of being ____-ed'] (usually translated into English as an adjective, or past passive participle)	everywhere it occurs (i.e. ['physical states (verifiable by touch or taste especially)']
/'comparative'/	['larger'] ['very']	? (#79) ? (#80)
/'eldest'/	['eldest (descendant not ancestor)']	['great grandchild, great grandparent']
/'emphatic'/	['emphatic']	['I, me']
/'person classifier'/	['__ person'] ['__ people']	['one'] ['two']
crystallized	any of the above, possibly others	unattested

The inherent continuatives could perhaps be analyzed as allosemes of the plain /'continuative'/, and the two 'distributive' allosemes could be analyzed as allosemes perhaps of 'noun plural'. 'Pet name' could be analyzed as an alloseme of 'diminutive', especially if there is such a connotation to the speakers.

4. Appendix on Noun Plurals. The following is a list of the noun plurals in Chilliwack Halkomelem which have come to light to date. More probably exist but the total number is small. The marking of plural here is an interesting blend of reduplication, ablaut, and infixation. The individuality these forms display hints that they may be survivals from a time when these processes applied to larger groups of nouns. The examples are in phonemic notation as above.

<u>Singular</u>	<u>Plural</u>	<u>Meaning of singular</u> (or plural when no singular is attested)	
44.	maməɬʰyɫaq ^w	'a flock of little birds'	
53.	s-pelál	'small crow'	
54.	yá'yetəl	'relatives, relations'	
55.	x ^y ix ^y yá'təl	'two jealous wives of one husband'	
96.	sí'le	'grandparent'	
97.	?ɛm?í'meθ	'grandchild'	
98.	s-mæ'lt	'rock, mountain'	
99.	s-tá'li	'woman (16 yrs. & up)'	
100.	?æ'lex ^y	'sibling'	
101.	s-x ^w -?æ'lex ^y	'husband's sister'	
102.	θeqæ't	'tree'	
103.	s-x ^w emθiyæ't	'deceased parent's sibling or grandmother or someone responsible for you (ego)'	
104.	s-tá'les	'wife' (Sumas dial.)	
105.	t'æ'low	(Hill-Tout: tEltā'lū 'arms', 'arm' probably /t'elt'æ'low/)	
106.	s-q ^w (ə)mæ'ʰy	s-q ^w éq ^w eməy, s-q ^w emq ^w emæ'y	'dog'
113.	ɬ'æ'yɛ, tθ'æ'yɛ	ɬ'iɬ'æ'yɛ	'in-law after the death of the blood relative'
121.		s-ɬ'iyáye	'twins'
124.	sələ'ɬ'	sələlə'ɬ'	'different (thing)'
127.	méle	mæ'mele	'child (kinterm)'
128.	tex ^w -méle-m	tex ^w -mæ'mele-m	'stepchild'
130.	s-tí'wel	s-tətí'wel	'sibling's child'
164.	s-wíqe	s-i'-wíqe	'man'
165.	q'æ' ^(ə) mi	q'æ' ^(ə) -le-mi	'girl (10-15 yrs.)'

<u>Singular</u>	<u>Plural</u>	<u>Meaning of singular</u>
166. s-wiweles	s-wáweles	'boy (10-15 yrs.)'
167. s-tiqiw	s-t-el-iqiw	'horse'
168. q'æ'q'emi	q'eq'-el-æ'mi	'little girl (about 4 yrs.)'
169. s-wiqe-?ált (a poss. sic for a')	s-i-wiqe-?a'lt	'boy'
170. siyálex ^w e	s-f-?-yálex ^w e	'old person'
171. s-x ^w emli'k ^w	s-x ^w emlæ' -le-k ^w	'parent's sibling'
172. s-qæ'q	s-q-el-æ'q	'younger sister'
173. sétl'ætel	sæ'tl'ætel	'elder sister'
174. s-ç'ámex ^w	s-ç'á-le-meq ^w (11/16/71)	'great grandchild; great grandparent'
175. tθ'ép'ayeq ^w	tθ'e-li'-p'ayeq ^w (~ tθ'εtθ'f'p'ayeq ^w)	'great great grandchild; great great grandparent'
176. s-k' ^w ifo	s-k' ^w æ'to ~ s-k' ^w æ-le-to	'in-law (parent-, child-, sibling-)'
177. s-čutēt or s-čiwēt	s-čf-?-wetēt ~ s-čiw-e-tēt	'son-in-law, daughter- in-law'
178. s-k' ^w él(ə)wəs	s-k' ^w ek' ^w ilwes	'child's in-law, in- law from any side'
179. s-tl'itl'eqet	s-tæ'x ^w et	'child (generic)'
180. mimstiyex ^w	mēmestiyex ^w	'kid (child)'
181.	s-x ^y yæye	'younger co-wives'
182. x ^w élmex ^w	yε-x ^w élmex ^w	'Indian'
183. siyæ'm	si-?-yæ'm	'person of highest rank, (later) chief'
184. s-qæ'qele	s-q-el-æ'qele	'baby'
185. s-ç'ámex ^w	s-ç'-el-á'meq ^w and s-ç'eç'-el-á'meq ^w (8/23/72)	'great grandchild; great grandparent'
186. s-ç'emç'ámex ^w	s-ç'emç'á-le-meq ^w	'eldest great grand- child'
187. čæ'x ^w	čæ'-le-x ^w -s	'wife (Tait dialect)'
188. s-wæ'qeθ	s-wæ'-le-qeθ-s	'husband'
189. s-q ^w iq ^w emey	s-q ^w éq ^w emey	'puppy'

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