

## UPPER CHEHALIS SLOW REDUPLICATION

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Upper Chehalis has one or more reduplication types characterized by the repetition of the stressed vowel and following consonant.<sup>1</sup> The most common meaning of this type of reduplication seems to be that the action indicated by the stem occurs slowly or gradually. But other meanings also occur, and the inconsistency of vowel deletion/reduction may indicate there is more than one reduplication involved, at least one of which does not allow deletion. The number of attestations of this reduplication is severely limited, and nearly all come from Franz Boas' 1927 field notebooks. It is no longer possible to check or elicit these forms, so conclusions on the number of distinct types involved must remain somewhat tenuous.<sup>2</sup> I will examine the patterns that occur with the goal of reducing them to the fewest types possible. To do this, both form and meaning will have to be examined, and I begin with meaning.

MEANING. It is possible to identify nine classes according to meaning differences, with some subdivisions and indeterminacies. As will be seen, this need not imply that there are nine different reduplication morphemes here.

1. *slow, gradual* These are the most frequently given glosses for -VC reduplication. 41 roots occur so glossed (with 56 actual forms),<sup>3</sup> making this much the most frequent class. We find the following roots here (only glosses are given at this point): *carry<sub>1</sub>, carry<sub>2</sub>, snow, die<sub>1</sub>, go after, eat<sub>1</sub>, feel, stand up, gather berries, feed, eat<sub>2</sub>, change, sneak, boil, die<sub>2</sub>, rock, slow down, climb, get cold, go through, land, stick, learn, wake up, get light, get mad, slowly, smoke, get wet, grow, get dark, stretch, start travelling, get untied, open, fly, get tired, go upriver, get warm, go home, walk back and forth.*

2. *superlative*. 29 roots occur with -VC reduplication serving this function (with 39 actual forms). Two other forms have superlative meanings, but are not reduplicated. This is the type best represented in my own data. The following roots occur here: *last, good, no good, strong, small<sub>1</sub>, warm, weak, far away, low, young<sub>1</sub>, sharp, wide, long<sub>1</sub>, high, old<sub>1</sub>, new, old<sub>2</sub>, black, many, fat, young<sub>2</sub>, white, dirty, big, first, short, long<sub>2</sub>, bad, small<sub>2</sub>.*

3. *persistent, frequent*. There are only 9 roots (with 11 actual forms) with meanings to fit this category. The actual glosses vary considerably: *which is always with him, drop singly, size up or examine, top or whirligig, keep on coming, keep on grinding, strike oneself often, get darker and darker, be or get hungry all the time.*

4. *while going*. Only three roots have this gloss: *whisper, touch, talk.*

5. *become a color*. Only four roots have this gloss: *it yellows, whiten or be very white, bluish, kind of dark.*

6. *by oneself*. This applies only to forms glossed as pronouns in English. Four are represented, plus the plural of third person (and with two variants of singular third person): *I by myself, we by ourselves, you by yourself, he by himself, they by themselves*. Numerals which would seem to belong here semantically (*alone, two by themselves, three among themselves*) have instead a different reduplication pattern, CVC (with apparent minor irregularities).

7. *counting forms*. All ten numeral stems fall into this category (with 13 forms), plus four forms of *twenty* (a secondary derivative of *two*), and a derivative of *deep* that seems to belong here. Glosses here include *X to each, X poles* for all numeral stems, plus *once in a while, twenty of a kind, twenty fires, twenty canoes, twenty houses, under weeds*. *One to count, two to count, three to count* are given as alternate glosses to *one to each, etc.* The fact that *one pole* does not show this reduplication suggests that this pattern is a kind of pluralizing device when used with numeral stems. Forms glossed *X to each* and *X poles* are the same for numbers from four to ten, but differ for two and three, suggesting that those from four up are convergences of two different derivations.

8. *plural of the lexical suffix* = $\acute{\epsilon}$ 1was. This suffix means *middle, consisting of more than one part* (hence has the

<sup>1</sup>Material for this article was collected from 1960 onward under the auspices of the American Philosophical Society Library, Indiana University, and the National Science Foundation. Forms cited from Boas are taken from his notebooks and other papers housed in the Library of the American Philosophical Society in Philadelphia. I am particularly grateful to my Upper Chehalis informants Silas Heck and Lillian Young for their patience and willingness to work with me.

<sup>2</sup>Unless otherwise indicated by my initials, forms cited are from Boas 1927.

<sup>3</sup>Several roots occur with -VC reduplication of both continuative and completive aspect forms; since the part of the word actually reduplicated may vary according to where stress falls, these are always counted here as separate instances of the reduplication.

apparently contradictory translations *together, apart, many pieces*. All these forms seem to have some notion of plurality. It is coincidental that words with this suffix always have reduplication on the suffix; this reduplication pattern is associated with the stressed vowel, and stress in these cases is always on the suffix. 12 roots with this suffix (with 16 forms) occur with this reduplication pattern: *two pieces, mix up, hollow, apart, pile up or overlap, stick together (together), splice, chop in two, all together or all at once, put (together), break into pieces, joints or connections.*

9. *residual*. Another dozen roots (in 14 forms) show this reduplication pattern, but do not fall easily into any of the above categories, nor do they form a logical subset by themselves. Some could indeed belong to categories above, but are not specifically glossed so that they can be assigned there. Full glosses are given for this class: *he grunted, dropping (dimin.), what is he saying to him?, strongly, getting married, at once or immediately, straightly or really, plan, he had it pass through and they went through, drag oneself, starvation, first or ahead*. Of these, *at once, starvation*, and *first* consistently retain the vowel of the reduplicated portion, and may represent a distinct morpheme.

A quick look at the figures given above for each semantic class shows that the first two groups contain over half of all the attested instances of -VC reduplication. Classes 5, 6, and 7 (and perhaps 8) are of necessity limited, since there are fewer than ten basic color words, five predicative pronominal roots, and thirteen numeral roots (*one, two, and three* have two each) in the language.

Only three roots fall into more than one of the classes given above, but it is not clear that they fit better in one or the other, or that the range of meaning cannot cover both classes where they occur. *Dark* is in both 1 and 5, *drop* in 3 and 9, and *white* in 2 and 5. Class 2 forms a distinctive semantic group, all being descriptive terms. In Upper Chehalis, these are normally stative predicates, but have special inflection to indicate *superlative*. However, roots in some of the other classes could also conceivably be used in superlative constructions, and it may not be the reduplication that is significant here, since superlatives also have a distinctive prefix and (usually) suffix as well. Nevertheless, it is difficult to see a semantic connection between *superlative* and *slow*. Likewise, it is hard to make a connection between classes 7 and 8 and any of the others, or to imagine a context in which the glosses *slow* or *superlative* would be appropriate to roots in classes 6 or 7. Since these two groups indicate plurality in a general way, they may constitute a distinct reduplication type. On formal grounds (to be discussed shortly), class 5 and certain items from class 9 may also be a distinct type. On the other hand, the complementarity of the semantic content of these various classes makes it difficult to claim that they represent more than one reduplication pattern.

FORM. Slow reduplication is characterized by repetition of the stressed vowel and its following consonant to follow the sequence being copied. After copying, vowel deletion rules operate, so that often all that appears as the reduplication is a single consonant. Vowel deletion rules are not fully understood, although their general outline seems clear. The main problem with the rules as I can best formulate them is that they do not always work. The reason for this seems to be that they are not entirely obligatory, even for the same speaker. In general, all unstressed vowels are deleted if the word ends in a closed syllable (that is, ends in an obstruent or a non-syllabic resonant), but are kept if the word ends in an open syllable (that is, a vowel or a syllabic resonant—one that occurs word-finally following another consonant). A consonant cluster within a word has the same effect on preceding vowels as a word-final obstruent; that is, vowels will be deleted before any consonant cluster, and vowels will be retained only back to a cluster.

I had formerly thought that there were two types of end-reduplication in Upper Chehalis, one of the pattern -VC, the other just -C. It now seems better to assume that all are -VC, and that vowel-deletion rules very often take out the vowel of the reduplicated portion. Nearly all superlative forms show only -C; that can now be shown to be due to the fact that superlative forms nearly always end in a suffixed -s or -st, thus creating a closed syllable and a vowel-deleting environment (why a few forms lack this suffix is unclear). Boas does give a few superlative forms with the vowel retained, however, showing that it is not a distinctive reduplication type at all.

To show how the reduplication appears, and how the vowel deletion rules operate, a few examples will be given here.<sup>4</sup> A complete annotated inventory is given in the appendix.

1. s/ʔáʔš[•aš]aq-n it is snowing slowly

Here the final n is syllabic, and all vowels are kept, resulting in a series of open syllables. The root is /ʔášaq-, itself consonant final.

2. s/típ[•ip]i-w-n it gets dark gradually

Here the root is /tipi-, the -w- continuative intransitive is consonantal, and the final syllabic n allows all vowels to

<sup>4</sup>Special conventions in these transcriptions are as follows: / marks roots, • marks the beginning of the reduplication, [ ] marks an infix, = marks a lexical suffix, - marks any other affix.

- stay.
3. /ʰiʰi-áwəw-m it got cold slowly  
Here the final m is syllabic; stress is on the inchoative suffix, and the VC of that suffix is repeated; all vowels are again kept.
4. /ʰát[ət]mn he died slowly MDK  
Here the root is /ʰátmin-, with the final n having consonantal value and hence causing vowel deletion.
5. s/xʰát[ət]qʰ-w-n it is getting warm slowly  
Here the root is /xʰátəqʰ-, with a final consonant. Although the final n is syllabic, the qʰw cluster causes vowel deletion.
6. s/yáʰá-wəw-n he is going home slowly  
The root is /yáʰá-, and vowel retention is regular. Note here that the reduplication is operating across a morpheme boundary; w is continuative intransitive, and the reduplication picks up the final vowel of the root.
7. /yáʰáəʰ he went home slowly  
This form must be considered irregular, since the expected vowel deletion rules do not operate. (Furthermore, I would expect a final -t completive intransitive.) But the form also shows a stress shift to the first vowel of the root, which I would expect to be due to a rule earlier than vowel reduction. The result is a reduplicated form, but one in which the reduplicated portion is completely different from its continuative counterpart.
8. sxʰ-ʰac/náwəw-s the eldest one  
The root is /náwəw-, but the suffixed s closes the last syllable and vowels are deleted. A very late rule which vocalizes w or y between consonants or between a consonant and word end produces the u here. Boas also recorded sxʰ-ʰac/náwəw=t-c the oldest one, with a lexical suffix for child and an unclear final consonant and an unexpectedly retained vowel, and sxʰ-ʰac/náw=t-s oldest child, where reduplication is lacking entirely.

Some forms which unexpectedly retain the vowel of -VC reduplication in closed syllables may actually represent a second reduplication morpheme. However, those semantic classes which consistently retain the vowel are so small that it is impossible to generalize because there are elsewhere so many exceptions to the vowel deletion rule. Class 3 become a color and a few forms from the residual class 9 are the most likely candidates for a separate morpheme.

9. čs/qʰásəas it yellows (root /qʰásə-)  
10. čs/qʰúxʰəuxʰ it is very white, whiten (root /qʰúxʰə-)  
11. čs/qʰíxʰixʰ it is bluish (root /qʰíxʰ-)  
12. s/típəip-n it is kind of dark (root /típə-)  
13. /čʰúsəus at once, immediately MDK (root /čʰús-)  
14. /tácəac-xʰqʰ starvation MDK (root /tác-)  
15. /tulápəap u first, ahead MDK (root /tuláp-)

Perhaps the most likely semantic class to represent a distinct morpheme is number 6 by oneself. All but one of these forms occur with -aC, rather than repeating the stressed vowel (with one exception).

16. /ʰán[əan]ca I by myself (root /ʰánca)  
17. /ʰiniməam uʰ we by ourselves (root /ʰinim)  
18. /cán[əan]i u, /cəni[əan]i he by himself (root /cəni)  
19. /cəny-áw[əaw]mš ʰu they by themselves (root /cəni)  
20. /nəw[əaw]i you by yourself (root /nəw)

CONCLUSIONS. What I am calling here *slow reduplication* (after the largest semantic class) may actually be two or three different reduplications. The data are messy, largely because of material taken from Boas' notes. These are not necessarily incorrect, but they are sometimes difficult to interpret (his representation of mid central vowels is not consistent, and he often writes such vowels where he may have heard no more than a murmur vowel or some other sort of non-distinctive transition vowel). In other cases, environment (particularly labialized consonants) may have affected a mid central vowel, causing him to write the wrong vowel. Furthermore, informants clearly were inconsistent on the application of the vowel deletion rule (or I have simply been unable to formulate it correctly).

This reduplication pattern is not unique within Salishan languages, but its function in Upper Chehalis does seem to be. I know of no other language where these meanings are assigned to -VC or -C reduplication. End-reduplication in Interior Salish has been called *out-of-control* (Carlson and Thompson 1982, Kinkade 1982), but that gloss seems totally inappropriate here. In languages closer to Upper Chehalis, Tillamook (Edel 1939:16) and Twana (Drachman 1969:269-279) *inchoative* seem more like Interior Salish. Lushootseed (Hess 1966:354, Hess and Hilbert n.d.:58, 161-162) *inconclusive* may be more like the Upper Chehalis functions; this possibility may bear further study. Haeblerlin (1918) gives almost no information on end-reduplication in other than Interior Salish. Its semantic range in Upper Chehalis is odd, but inability to

check the forms or to try to elicit the same root with the different glosses makes it impossible to say just how many morphemes are involved.

## APPENDIX

All attested instances of slow reduplication are given here, including those cited in the text. They are given by their semantic class, and in alphabetical order within each class. Where more than one derivation of a single root occur, they are not given separate identification numbers. The root is given in parentheses after the gloss. A few instances of non-reduplicated forms are given where reduplication would be expected from the gloss given. Forms that I consider irregular for one reason or another are marked with a dagger, and an explanation of what is irregular is given except when it is because of the failure of the vowel deletion rule to operate.

1. *slow, gradual*  
1. /ʰámə-m-l-n' he carried it slowly, compl. (/ʰám-)  
2. /ʰás[əas]u-xʰ† he carried it slowly, compl. (/ʰású-)  
3. s/ʰáʰás[əas]aq-n it is snowing slowly, cont. (/ʰáʰaaq-)  
4. /ʰát[ət]mn he died slowly, compl. MDK (/ʰátmin-)  
5. /ʰíkʰəikʰ-n go after slowly, compl. (/ʰíkʰə-)  
6. /ʰé-†[əit]n eat slowly away, compl. (/ʰé†n)  
6a. s/ʰé†[əit]n-n he's eating slowly, cont.  
6b. s/ʰé-†[əit]n-n eating slowly away, cont.  
6c. s/ʰé-†[əit]n-n† eating slowly away, cont.  
7. /ʰíw[əiw]n-xʰ† feel slowly, compl. (/ʰíwn'-)  
7a. s/ʰíw[əiw]ni-y-n feeling slowly, cont.  
8. /ʰúcl[əuc]axʰ-m he stood up slowly, compl. (/ʰúcaxʰə-)  
8a. s/ʰuc[əuc]xʰ-m†-n† standing up slowly, cont.  
9. /ʰúl[əul]ax-n she gathered berries slowly, compl. (/ʰúlaxi-)  
9a. s/ʰúl[əul]axi-t-n she's gathering berries slowly, cont.  
10. /ʰó-məum-n† he fed him slowly, compl. (/ʰúmal-)  
11. /ʰóp[əup]†† he ate slowly, compl. (/ʰúpál-)  
11a. s/ʰup[əup]á-l'-n he's eating slowly, cont.  
12. /ʰuxʰ-t-áwəw-m it changes gradually, compl. (/ʰuxʰ-)  
13. s/c'úm[əum]i-cš-t-n he is sneaking slowly, cont. (/c'úmi-); continuative reflexive forms do not cause vowel deletion, in spite of the heavy consonant cluster  
14. s/lápəp-mit-n it boils slowly, cont. (/láp-)  
15. ʰit /təpəp-†† they die slowly, compl. (/təp-); the stress shift to the reduplicated vowel, and its quality, are irregular  
16. /tə-n[ən]i-t-n† she's rocking it, cont. (/təni-); deletion is not expected  
17. s/ʰál[əal]aw-n† it slows down, cont. (/ʰál-); expected would be \*sʰálłwn--even given the first a, the third is unexplained, and its absence would cause deletion of the second  
18. s/ʰéqʰəqʰ-w-n he climbs a little slowly, cont. (/ʰéqʰí-)  
19. /ʰiʰi-áwəw-m it got cold slowly, compl. (/ʰiʰi)  
19a. s/ʰiʰi-áwəw-mit-n† it's getting cold slowly, cont.  
20. s/pəl[əel]w-n he went through slowly, cont. (/pəlúwə-); an unstressed ə before any resonant is epenthetic  
21. s/pənəp-w-n† he lands slowly, cont. (/pəni-); stress location is unexpected, but the forms would be right if it were on the first syllable, since the unstressed ə would be epenthetic  
22. s/pátə-t-w-n it sticks and sticks slowly, cont. (/pát-)  
23. s/put[əút]i-t-n† he learns slowly, cont. (/púti-); stress location is unexpected, but the retained vowels are OK, and would be even if stress were on the first vowel  
24. /pál[əal]†† he woke up slowly, compl. (/pála-)  
24a. s/p'al[əál]a-w-n† he's waking up slowly, cont.; stress location is unexpected, but the retained vowels are OK, and would be even if stress were on the first vowel  
25. /qəl[əel]x-t† it shines gradually, it gets light slowly, compl. (/qələx-); stress should be on the first syllable, then the second would be merely epenthetic  
25a. s/qəl[əel]x-w-n† it's shining gradually, it's getting light slowly, cont.; stress should be on the first syllable  
26. /qə†[əé]†† he got mad slowly, compl. (/qə†éx-); stress would be expected on the first syllable, and the a



95. /cám'əam=sɪ ʔwo to count, ʔwo to each (/cám-)  
 96. /cám=ál'əal=sɪ ʔwo poles  
 97. /čán-áwəaw=sɪ ʔthree to count, ʔthree to each (/čán-aw-)  
 98. /čán-aw=ál'əal=sɪ ʔthree poles  
 99. /mus=ál'əal=sɪ ʔfour to count, ʔfour poles (/mús)  
 Note here and in higher numbers the convergence of *to count* and *poles*. In lower numbers, the latter requires the linking suffix =al-, but the former does not; it is required for both constructions in higher numbers. Alternatively, the ending for *poles* could be analyzed as unitary; then there would be a convergence of =al's *poles* and =al's *to count*. One pole does not show reduplication at all: /nac'-áw=al=s.  
 100. /cilčs-t=ál'əal=s ʔfive to count, ʔfive poles (/cflačis-)  
 101. /t'əxm-st=ál'əal=s ʔsix to count, ʔsix poles (/t'əxám-)  
 102. /c'ò-ps-t=ál'əal=s ʔseven to count, ʔseven poles (/c'úps-)  
 103. /cámus-t=ál'əal=s ʔeight to count, ʔeight poles (/cámus)  
 104. /tux<sup>0</sup>-st=ál'əal=s ʔnine to count, ʔnine poles (/təwix<sup>0</sup>-)  
 105. /pančs-t=ál'əal=s ʔten to count, ʔten poles (/pánačs)  
 106. /cəm=túmum=ayqst ʔtwenty of a kind (/cəm=túms-)  
 107. /cəm=túmum=stqɪ ʔtwenty fires  
 108. /cəm=túm[əm]š=awɪ ʔtwenty canoes  
 109. /cəm=túmum=ut=χš ʔtwenty houses  
 110. /λ'pɪ=ay=ál'əal=sɪ ʔunder weeds (/λ'əp); this seems to be parallel to *to count, poles* in form

VIII. *plural of the lexical suffix =əlwas*; this suffix takes many different shapes, depending on environment

111. /cam=ál[əl]wəs ʔtwo pieces (/cám-)  
 112. /cayaʔ=ál[əl]wa-x<sup>0</sup> ʔhe mixes it up, compl. (/cáya-)  
 113. /k'əlx<sup>0</sup>=ál[əl]us ʔhollow in the middle, compl. (/k'əlx<sup>0</sup>-)  
 114. /ɪiw=ál[əl]uʔs ʔapart, full apart, compl. MDK (/ɪiw-)  
 114a. /ɪiw=ál[əl]us-n ʔapart, falling apart, cont. MDK  
 115. /λ'aq<sup>0</sup>=ičn=ál[əl]wa-x<sup>0</sup> ʔpile up, overlap, compl. MDK (/λ'aq<sup>0</sup>f-)  
 116a. s/λ'aq<sup>0</sup>=ičn=ál[əl]uw-stw-n ʔpiling up, overlapping, cont. MDK  
 117. /ʔac/pat=ál[əal]usɪ ʔthey were stuck together, compl. (/pát-)  
 117a. s/pat=ál[əl]us ʔher sticking (them) together MDK  
 118. /pát'=ál[əl]wa-x<sup>0</sup> ʔsplice together, compl. MDK (/pát'a-)  
 119. /q<sup>0</sup>iλ'=ál[əal]wa-x<sup>0</sup>ɪ ʔchop in two many times or in many places, compl. (/q<sup>0</sup>əyáλ'-)  
 120. /šam=ál[əl]us ʔall together, all at once, compl. (/šám-)  
 121. /t'əlp=ál[əl]wa-x<sup>0</sup> ʔput together, compl. (/t'əlp-)  
 121a. s/t'əlp=ál[əl]uws-tw-n ʔput together, cont.  
 122. /xaλ'=él[əal]wa-x<sup>0</sup>ɪ ʔbreak into many pieces, compl. (/xəλ'-)  
 123. /s/x<sup>0</sup>uq<sup>0</sup>=ál[əl]was ʔjoints, connections; get together, compl. (/x<sup>0</sup>úq<sup>0</sup>i-)

IX. *residual*

124. /ʔəñ[ən]x-m ʔhe grunted, compl. (/ʔəñx-)  
 125. /ʔəp[əp]x<sup>0</sup>-ɪ ʔdropping (dimin.), compl. (/ʔəpx<sup>0</sup>-)  
 126. s/ʔin[ən]wa-t-n ʔwhat is he saying to him?, cont. MDK (/ʔinwat-)  
 127. /c'əpəp ʔstrongly (/c'əp)  
 128. s/čawál'əal-twal-nɪ ʔgetting married, cont. (/čəwáli-)  
 129. /č'úsəust ʔat once, immediately (/č'ús)  
 130. /k'əpəp-ɪ uʔ ʔstraightly, really (/k'əp-); the ə is most likely illusory  
 131. /nax=ín[ən]wat-n ʔplanning, cont. (/nəx-)  
 132. /pál'[əl]wa-x<sup>0</sup> ʔhe had it pass through, compl. (/pəluw'a-)  
 132a. /pál[əl]uw-cš-t-itti ʔthey went through, cont.  
 133. /šál[əl]č-cš ʔdrag oneself, compl. (/šálč-)  
 133a. s/šál[əl]č-t-cš-t-n ʔdragging oneself, cont.  
 134. /táč'əac-/x<sup>0</sup>q<sup>0</sup>ɪ ʔstarvation MDK (/táč-)  
 135. /tulápəap uɪ ʔfirst, ahead (/túláp-)

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