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Infixation, Reduplication, and Metathesis in the Saanich Actual Aspect

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Introduction. Saanich, a dialect of North Straits Salish,[1] has a very productive aspectual morpheme, the 'actual' (a kind of imperfective), with three variants whose distribution is predictable from the phonetic environment but seem to have nothing phonetically in common: a /ʔ/ infix, C_1 reduplication, and metathesis of C_2 and a following vowel. These are exemplified in (1)-(3).[2]

1a. táqʷəŋ 'cough'
b. táʔqʷəŋ 'coughing'

2a. ɬáp' 'eat (with a spoon)'
b. ɬáɬəp' 'eating (soup)'

3a. ƛ'kʷɔ́t 'extinguish it'
b. ƛ'ɔ́kʷt 'extinguishing it'

[1]The Saanich data discussed here were collected at East Saanich Reserve during the summers of 1979, 1980, 1981, 1985, and 1987. Fieldwork was supported by grants from the Phillips Fund of the American Philosophical Society, the Jacobs Funds of the Whatcom Museum, a National Endowment for the Humanities Summer Stipend, and Faculty Research Grants from the University of North Texas. I thank Elsie Claxton, Violet Williams, Manson Pelkey, Earl Claxton, Norman Williams, and the late Cecilia Jim and Baptist Jimmy for their time and interest in helping me understand and preserve their languages.

[2]The distinctive sounds of Saanich are: /p t č kʷ q qʷ p' tˢ t' ƛ' č' kʷ' q' qʷ' ʔ θ s ɬ š xʷ x̣ x̣ʷ h m n l y w ŋ m' n' l' y' w' ŋ' i e ə a/. /k/ and stressed /u/ occur in only a few loan words from European languages. Other instances of /u/ are phonologically predictable variants of /w/ or /w'/. In this paper prefixes and suffixes are indicated where relevant with a hyphen; clitics are indicated with a subscript hyphen. C indicates any consonant; V is any stressed vowel; v is any unstressed vowel; X represents zero or more segments. For details on Saanich phonology and morphology see Montler 1986.

In Montler 1986 I describe in detail the distribution of these three allomorphs and show how the occurrence of each can be predicted from the shape of the stem. In this paper I show how nearly all instances of these three forms of the 'actual' can be related to a single underlying principle. The proposed underlying form is an abstract CVCC template which attaches to the stressed vowel of the stem. This template functions as a sort of Procrustean bed to which the available phonological material of the stem must conform.

Section 2 is a summary--amended from Montler 1986--of the distributional facts of the three forms of the 'actual'. Section 3 shows how the three forms are related to a CVCC common phonological denominator. Since the implementation of the 'actual' template is not entirely straightforward, and its effects are often obscured by later regular phonological processes, I first show its application in the clear cases then account for the superficially divergent forms. The conclusion, section 4, summarizes the procedure for forming Saanich 'actuals'.

2. The distribution of the 'actual' allomorphs.[3] The glottal stop infix is the most common of the three forms. Since there are apparent variations in the position of this form itself, the rule for its placement is the most complicated--it is the 'elsewhere' case. The other two forms, reduplication and metathesis, are less common only because their typical environment is less common. I will begin with a description of the distribution of the two simpler cases and then go on to the infixed forms.

2.1. Reduplication. The 'actual' is formed by reduplication of the first consonant of a CVC root when stress is on the root and the root either 1) stands alone as a stem by itself or 2) is followed by a suffix beginning with a consonant. The copy of C_1 appears after the

[3]The term 'actual' in reference to this aspect was first used by Thompson and Thompson 1969 and 1971 in their description of Klallam (the other Straits Salish language). Demers 1974 discusses the phonology of the 'actual' morpheme in Lummi, and Efrat 1978 describes some forms of the infixed form of the 'actual' in Sooke and Saanich. Lummi and Sooke are two other dialects of North Straits Salish.

Though the semantics of this aspect is not the subject of this paper, it is worth a few words. The 'actual' is a kind of imperfective often translated with English 'be ...ing'. It often has a continuative or progressive but never habitual or repetitive meaning. It seems that it can occur in words which are basically inchoative, stative, or resultive as well as in those which are basically active. It is fully productive and, in words which translate into English as verbs, it is very easy to elicit. I have directly elicited hundreds of actual/non-actual pairs in both Klallam and Saanich, and I have encountered many more in Saanich texts.

stressed vowel and is followed by a schwa. That is C_1VC becomes $C_1VC_1əC$, and C_1VC-CVX becomes $C_1VC_1əC$-CVX. Examples (4)-(7) illustrate the former, and example (8), which has the /-sən/ 'foot' suffix, illustrates the latter. In each example the (a) form is in the 'non-actual' and the (b) form is in the 'actual'.

4a. sqén' 'It's stolen.'
b. qéqən' 'He's stealing.'

5a. tʷé? 'be on top'
b. tʷétʷə? 'riding (a horse)'

6a. qʷśl 'say'
b. qʷśqʷəl 'saying (something)'

7a. s-kʷúl 'school'
b. s-kʷúkʷəl 'going to school'

8a. ɬíkʷsən 'trip (lit. snag-foot)'
b. ?i?_ɬíɬəkʷsən' 'tripping'

Note that prefixes and clitics do not form any part of the environment for reduplication. (7), a recent loan from English, indicates the productivity of this process. The initial /s/ in the word is treated as the very common /s-/ 'nominalizer' prefix and the remaining segments as a typical CVC root.

All sonorant consonants in the 'actual' forms other than those in prefixes or clitics are glottalized. Glottalization of sonorant consonants accompanies the 'actual' aspect in all of its forms. In the reduplicated and metathesis forms it is all non-initial resonants that become glottalized, and in the infixed form it is all resonants following the stressed vowel.

2.2. Metathesis. The 'actual' is formed by metathesis of the second root consonant and a following vowel in two situations: 1) when the root is CC, i.e. underlyingly vowelless, and it is followed by a suffix beginning with a vowel, such as /-ət/ 'control transitive' or /-əŋ/ 'control middle', and 2) when the root has three consonants and the shape CCVC. In both cases C_1C_2VC becomes C_1VC_2C.

In Montler 1986 I show that the set of two consonant roots which take the metathesis form of the 'actual' is the same set of roots that allow stress to fall on a set of suffixes[4] that are otherwise never stressed. In other words the vowels of this set of suffixes take stress only when there is no other vowel in the word. When a vowelless root occurs without suffixes, a /ə/ is automatically inserted between the two consonants, and this may then take stress and the reduplicated form of the 'actual'.[5]

Examples (9)-(17) are clear examples of this form of the 'actual'. Each is based on a CC vowelless root followed by the 'control transitive' suffix.

9a. xʷ-qˀpˀət 'patch it'
b. xʷ-qˀśpˀt 'patching it'

10a. sqˀśt 'tear it'
b. sśqˀt 'tearing it'

11a. sχśt 'push it'
b. sśχt 'pushing it'

12a. šč́śt 'whip it'
b. ?i?_šśč́t 'whipping it'

13a. tkʷśt 'break it (a stick)'
b. tśkʷt 'breaking it'

14a. tqʷśt 'tighten it'
b. tśqʷt 'tightening it'

15a. tˀsśt 'broke it'
b. tˀśst 'breaking it'

16a. θkʷśt 'straighten it out'
b. θśkʷt 'straightening it out'

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[4]These suffixes are /-ət/ 'control transitive', /-naxʷ/ 'non-control transitive', /-əŋ/ 'control middle', /-sat/ 'reflexive', /-tal/ 'control reciprocal', and /-staxʷ/ 'causative'.

[5]/yəq/ 'big' is such a root. It occurs reduplicated as /čśyˀəq/ (with the /č/ ~ /y/ alternation discussed below) in the 'actual'. When /yəq/ occurs with /-sat/ 'reflexive' or /-staxʷ/ 'causative', two of the suffixes which are ordinarily unstressed, the suffix gets the stress. This root occurs stressed only when there is no suffix.

17a. θχɔ́t 'shove it'
b. θɔ́χt 'shoving it'

Note that in these examples as in the reduplicated forms, prefixes and clitics take no part in the process and do not form an environment for its application.

The 'actual' occurs as metathesis also in roots whose underlying form is CCVC. That is CCVC roots appear in the 'actual' aspect as CVCC. Examples (18) and (19) illustrate this.

18a. tᵒɬɔ́kʷ 'pinch'
b. tᵒɔ́ɬkʷ 'pinching'

19a. x̓pɔ́χ 'scatter'
b. x̓ɔ́pχ 'scattering'

2.3. Infixation. The 'actual' is formed with a glottal stop affixed after the stressed vowel in environments not covered by the reduplication or metathesis environments. The most common environment for the infix is where the stressed vowel of the root occurs in an open syllable.[6] Stems containing a stressed vowel followed by CV are very common; they are usually formed of a CVC root and a VC suffix. The effect the 'actual' infix has on such stems varies depending on the quality of the vowels and of the second consonant. The

[6]Although a precise definition of syllables in Saanich is not required for this analysis, I assume that they are fairly ordinary. A syllable has a one consonant onset and may have a coda of one or more consonants that decrease in sonority from the nucleus, which is a single or, rarely, a geminate vowel. In so far as stress must be assigned to prosodic units, the only units significant to stress assignment in Saanich are syllables defined in this way. Hoard (1978) and others have claimed that many other types of syllables including all kinds of syllabic obstruents, even syllabic glottal stops, must be recognized in Salishan languages. Certainly a word like Saanich /ɬq'əčsɬše?/ 'fifty' must be pronounced with four or five expiratory pulses corresponding to four or five peaks of relative sonority. But it's useful (as Pike 1947 points out) to distinguish between phonetic expiratory pulses and phonological syllables. The Saanich word for 'fifty' has not four or five syllables but only two phonological CVC syllables. All other segmental material is extrasyllabic in the sense used in Clements and Keyser 1983. Saanich (and other Salishan languages) are unusual in that they have no or only minimal restrictions on what extrasyllabic material can occur on the surface.

simplest case is where the stressed vowel is /í/, /é/, or /á/ (i.e. not /ɔ́/) and the second consonant is not /l/.[7] Examples (20)-(26) illustrate this environment.

20a. ʔítᵒəŋ 'get dressed'
b. ʔíʔtᵒəŋ̓ 'getting dressed'

21a. ʔéč̓ət 'wipe it'
b. kʷɬ_ʔéʔč̓ət 'wiping it'

22a. ʔíɬən_sən 'eat'
b. kʷɬ_ʔíʔɬən̓ 'eating'

23a. čáqʷəŋ 'sweat'
b. čáʔqʷəŋ̓ 'sweating'

24a. wéqəs 'yawn'
b. wéʔqəs 'yawning'

25a. xʷítəŋ 'jump'
b. ʔiʔ_xʷíʔtəŋ̓ 'jumping'

26a. ʔáməɬ 'sleep'
b. kʷɬ_ʔáʔmˈəɬ 'sleeping'

When the stressed vowel is an underlying /ɔ́/, it is replaced by /é/ as in examples (29).

27a. χɔ́šəŋ 'trip'
b. χéʔšəŋ̓ 'tripping'

[7]In Montler 1986 I more or less consistently did not include the glottal stop in representations of the 'actual' form of words with a resonant following the stressed vowel such as example (26). That is, I wrote (26b) as /ʔámˈəɬ/. The phonetic realization is actually [ʔáʔmˈəɬ] or [ʔáʔməɬ] or [ʔámˈəɬ], but a sequence of stressed vowel-glottal stop-resonant never contrasts on the surface with a sequence stressed vowel-glottalized resonant.

28a. ɬáƛ̓əm 'fish for herring'
b. kʷɬ_ɬéʔƛ̓əm 'herring fishing'

29a. tášəlt 'turn it upright'
b. kʷɬ_téʔšəlt 'turning it upright'

When the stressed vowel is /í/ or /é/ and is followed by /l/ there is a tendency for a schwa to be inserted between the infix and the /l/. The 'actual' in such cases has two apparently freely varying forms as in (30) and (31):

30a. híləŋ 'fall from a height'
b. híʔl̓əŋ ~ híʔəl̓əŋ 'falling'

31a. qéləc̓ 'spin'
b. qéʔl̓əc̓ ~ qéʔəl̓əc̓ 'spinning'

3.0. Toward a unified account. The data presented thus far represent the clearest cases.[8] To see the underlying pattern it will be best to look first at metathesis and infixation. The phonological common denominator for these two forms is that both create a C_CC environment for the stressed vowel. Metathesis rearranges the phonological material of the stem so that CCVC becomes CVCC, and infixation turns CVCX into CVCCX.

The reduplicated forms in examples (4)-(8) do not obviously follow the same pattern as metathesis and infixation. Reduplication seems to turn a CVC stem into CVCvC rather than CVCC. This second vowel in the reduplicated 'actual' is always an unstressed schwa. There are several possible explanations for the source of this schwa. It may be (as assumed in Montler 1986) that the 'actual' is formed in these cases by regressive reduplication of a full CV taking the main stress and that the schwa is derived from the root vowel by the regular process in Saanich that reduces all unstressed vowels to /ə/. Another possibility is that the rule for the reduplicated form of the 'actual' states explicitly that a copy of C_1 followed by /ə/ be infixed after the stressed vowel of the root. While either of these two

[8]Aside from the the forms obscured by later phonological processes to be discussed below, there are around ten words which are apparent 'actual' forms but do not fall into any of these regular classes. See Montler 1986 for a list of these. One, /ʔáaɬ/ 'go aboard' /ʔəl̓ál̓ʔəɬ/ 'going aboard', is probably suppletive, and any of the others may not actually represent this aspect. 'Actual' forms are easy to elicit but problems arise with the English 'be ...ing' frame. For example, if 'he's floating' is elicited the response would be /p̓akʷ̓/, which is not an 'actual' form at all but the regular 'resultive' of /p̓əkʷ̓/ 'rise to the surface'.

customary descriptions seems plausible, neither offers a satisfactory way of showing how the reduplicated form may be related to the infixed and metathesis forms. Such a relationship is clear if we assume that reduplication also creates a C_CC environment for the stressed vowel and that the unstressed schwa in the reduplicated forms is inserted by a later phonological process; no reduplicated 'actual' is unaffected by later processes. There is evidence suggesting that at one stage in the derivation of the surface forms of the reduplicated 'actuals' the stem does conform to the CVCC pattern. This evidence comes from the 'actual' of CVC stems whose second consonant is /y/, /w/, or the glottalized counterpart of either or these.

32a. téy 'canoe race'
b. téti? 'canoe racing'

33a. x̓íw̓ 'run away'
b. x̓íx̓u? 'running away'

34a. qew 'rest'
b. s-qéqu? 'resting'

The 'actual' forms of (32)-(34) show the effect of a regular process in Saanich which vocalizes the glides /y/, /w/, /y̓/, and /w̓/ between obstruents or between an obstruent and a word boundary with the glottalized glides decomposing into the homorganic vowel and a glottal stop. This process must follow the 'actual' reduplication and, since there are no other environments where glides become syllabic, the immediate input to glide vocalization for (32b), for example, must be /téty̓/, a form having the same CVCC pattern as produced by metathesis and infixation. We must conclude that it is the 'actual' reduplication rule that produces this CVCC structure. If the 'actual' rule produced a CVCəC structure then, the schwa must be deleted to provide the environment for glide vocalization, but there is no external motivation for such a schwa deletion rule.[9]

If the 'actual' rule produces CVCC, then the appearance of the schwa in (2) and (4)-(8) must be accounted for. The necessary rule inserts /ə/ in the environment C_iVC_i_C#, where C_i=C_i and # is a word boundary. Unfortunately this rule is no less *ad hoc* than a rule deleting /ə/ in this environment, but it does allow us to see the general pattern for all three forms of the 'actual', and it is consistent with the fact that no sequence C_iVC_iC# exists on

[9]In Montler 1986 such a schwa deletion rule was proposed. This rule was intended to account for just such cases as those discussed here. All other examples of schwa deletion followed by glide vocalization can be better accounted for by assuming that the schwa is epenthetic in the forms that do not do not show vocalization.

the surface in Saanich. This rule of schwa insertion must, of course, follow glide vocalization.

A unified 'actual' formation process for the three forms, infixation, reduplication, and metathesis, can be informally summarized as: achieve a CVCC structure. If the stressed syllable of the stem is open, close it with a glottal stop. If it is already closed, rearrange whatever is there into CVCC. So if all that is there is CVC, reduplicate the first C, and if there are three consonants, CCVC, metathesize the vowel and the second consonant.

As mentioned earlier, for the sake of perspicuity only the clearest cases have been presented. I have systematically excluded two types of data: (1) those that exhibit phonological processes that apply to obscure the CVCC structure and (2) 'non-actual' stems that are not of the form CCVCX, CVCVCX, or CVC (where X represents zero or more segments). In the following sections I present these data and explain their apparently divergent behavior.

3.1. Epenthesis in sonorant clusters. The (a), 'non-actual', examples in (35)-(38) have the CCVC shape typical of stems that take the metathesis form of the 'actual'. These differ from examples (9)-(19) in that the third consonant here is a sonorant.

35a. t$^{\theta}$q'ɔŋ 'drip'
b. t$^{\theta}$ɔq'əŋ̓ 'dripping'

36a. č'tɔŋ 'crawl'
b. č'ɔtəŋ̓ 'crawling'

37a. k^{w}sɔŋ 'count'
b. k^{w}ɔsəŋ̓ 'counting'

38a. štɔŋ 'walk'
b. k^{w}ɬ_šɔtəŋ̓ 'walking'

The metathesis is obscured in the (b) examples by a regular process of epenthesis that splits a pair of consonants when the second is a sonorant. Thus the 'actual' rule applied to (35a), for example, produces /t$^{\theta}$ɔq'ŋ̓/, and then the sonorant cluster is later split by epenthesis. This epenthesis rule must be quite late since it must follow the glide vocalization rule discussed above in section 3.0.

The metathesis is obscured in examples (39)-(44) by the same process of epenthesis in sonorant clusters. In these examples the sonorant is the second consonant, so it is the 'non-actual' forms that have undergone the epenthesis.

39a. t'ɔm'ət 'hit it'
b. t'ɔm't 'hitting it'

40a. q'ɔm'ət 'cut it in two'
b. q'ɔm't 'cutting it in two'

41a. k^{w}ɔnət 'look at it'
b. k^{w}ɔn't 'looking at it'

42a. čɔnət 'bury it'
b. čɔn't 'burying it'

43a. ɬɔləṭ 'splash it'
b. ɬɔl'ṭ 'splashing it'

44a. k^{w}ɔl'ət 'pour it out'
b. k^{w}ɔl'ṭ 'pouring it out'

In (39)-(44) the 'actual' forms conform to the CVCC target. Each of the roots is basically vowelless like those in examples (9)-(17) so that the input to 'actual' formation for (39), for example, is /t'm'-ət/. In the 'non-actual' the two consonants of the root are split by epenthesis and stress is then later assigned to this penultimate vowel.

Examples (45)-(48) show this same epenthesis in basically CCVC(C) roots.

45a. ləm'é? 'kick'
b. lém'ə? 'kicking'

46a. ɬəy'ɔq^{w} 'smash'
b. ɬɔy'q^{w} 'smashing'

47a. ɬq'élč 'moon'
b. ɬéq'əl'č 'it's a bright moon'

48a. məlɔč 'roll over'
b. mɔl'č 'rolling over'

3.2. Glide obstruentization. An unusual phonological process common to the Straits Salish languages causes some instances of underlying /y/ and /w/ to surface as /č/ and /k^{w}/,

respectively.[10] Examples (49)-(51) show the effects of this process in 'non-actual'/'actual' pairs.

49a. čə́q 'big'
b. čə́y̓əq 'getting big'

50a. kʷíntəl 'fight'
b. kʷíw̓ən̓təl̓ 'fighting'

51a. x̓əčə́q̓ 'press down on'
b. x̓ə́y̓q̓ 'pressing down on'

The underlying root in (49) is /yəq/ and in (50) it is /win/ (followed by the 'control reciprocal' suffix). (49) and (50) thus exhibit 'actual' reduplication followed by glide obstruentization. The derivation of (49b), for example, proceeds in the following steps: stem /yəq/ → 'actual' formation /yəy̓q/ → schwa epenthesis /yəy̓əq/ → glide obstruentization /čəy̓əq/. The relative ordering of these latter two process is not decidable.

Example (51b) is the metathesis form of the 'actual' from an underlying stem /x̓yəq̓/. (51a) shows that glide obstruentization follows the process of sonorant cluster splitting (discussed in section 3.1): /x̓yəq/ → /x̓əyəq/ → /x̓əčəq̓/.

3.3. The 'actual' of stems that are not CVC, CCVCX, or XCVCVX. All stems whose shapes have not yet been discussed take the glottal stop infix form of the 'actual'. These include XCVVCX and CVCCX stems and those where the stressed vowel occurs at the end.

The stems in examples (52)-(55) are underlying XVVC, and the stems in (56)-(58) end in a stressed vowel. Each of these stems is based on roots ending in a stressed vowel. This root shape is very rare; the examples given here are the only ones I have recorded.

52a. χʷáŋ 'weep'
b. χʷá?əŋ̓ 'weeping'

[10]See Montler 1986 for discussion and examples of this process. This alternation is apparently not completely automatic. Many cases of /w/ and /y/ do not alternate at all, while in some cases the alternations occur in apparently free distribution. And in a number of forms, the obstruent occurs if stress follows and the sonorant occurs when stress precedes. In suffixes a /y/ or /w/ surfaces only when it is glottalized in the 'actual', otherwise it is /č/ or /kʷ/.

53a. nét 'name it'
b. né?ət 'naming it'

54a. sét 'send him'
b. kʷɬ_sé?ət 'sending him'

55a. ɬəŋés 'remove it'
b. kʷɬ_ɬəŋé?əs 'removing it'

56a. ?ən?é 'come'
b. ?ən?é?ə 'coming'

57a. ?əlχəẃé 'pit-lamp'
b. ?əlχəẃé?ə 'pit-lamping'

58a. θəŋé 'carry on back'
b. θəŋé?ə 'carrying on back'

In (52) the root is /χʷa/ and has the /-əŋ/ 'control middle' suffix.[11] In (53) and (54) the suffix is the 'control transitivizer' /-ət/ and in (54) it is /-əs/, what I have called the 'effort transitivizer' (Montler 1986). The schwa is regularly deleted when immediately following another vowel. A final glottal stop preceded by a stressed vowel is regularly followed by an excrescent schwa as in (56b)-(58b). None of the 'actual' forms in (52)-(58) achieve the CVCC target, but the placement of the infix in these examples is like that of the infixed forms in examples (20)-(26) in that it is positioned after the vowel of a stressed open syllable.

[11]In Montler 1986 this form was incorrectly analyzed as containing the root /χʷaaŋ/ with the infix splitting the geminate. It is clear to me now that this is a CV root with the vowel sounding sometimes long and sometimes short. A very regular process assimilates a schwa to another vowel across a glottal stop so that (52b) will sound like /χʷá?aŋ̓/ and (53b) will sound like /né?et/. In a functioning writing system that some of the Saanich people (primarily the late Dave Elliot of Tsartlip (West Saanich) Reserve) have developed on their own without the help of a linguist, the word represented in (52b) is consistently written XO,EN. The comma is the symbol for the glottal stop and E is the consistent symbol for /ə/. The native speakers' judgement thus supports the analysis given here.

Stems having the shape XCVCCX are not common. The 'non-actual' stem of example (59) is a rare CVCC root. It is the only such root I have recorded in the 'actual'. In example (60) the glottal stop is infixed into the suffix /-eɬsəʔ/ 'water'.

59a. šápt 'whistle'
b. šáʔpt 'whistling'

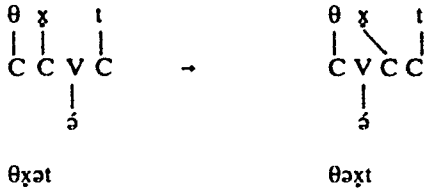
60a. čχʷéɬsəʔ 'spit'
b. čχʷéʔɬsəʔ 'spitting'

In these two examples the basic stem already conforms to the CVCC target of the 'actual'.

[illegible]ion. The 'actual' in Saanich is not an affix in the ordinary sense. The 'actual' [illegible]nt rule can be considered to be a procedure whose primary goal is to close the [illegible]d syllable. The infixed forms such as (25)-(35) are not proportionately represented here. In fact, this is the form of well over half of recorded instances of the 'actual'. In these cases and in cases like (52)-(58), which do not achieve the CVCC pattern, the 'actual' is formed by closing an open stressed syllable. Thus the most common realization of the 'actual' closes the stressed syllable and at the same time produces the CVCC structure which then becomes the pattern for the formation of the 'actual' for those stems whose stressed vowel is already in a closed syllable, that is, those that take reduplication or metathesis. In other words the procedure for forming the 'actual' from a 'non-actual' stem seems to be: close the stressed syllable (with /ʔ/); if it is already closed, achieve the prototypical closed syllable (CVCC) using the segmental material already available.

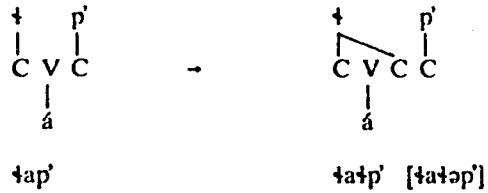
This prototype can be represented as a CVCC template, similar to those proposed for Semitic languages by McCarthy (1983), which must attach to the stressed vowel of the stem. The segments of the stem link autosegmentally to this template from left to right. (61)-(63) suggest how this relinking might be accomplished.

61. Metathesis



θχət θəχt

62. Reduplication



ɬap' ɬaɬp' [ɬaɬəp']

63. Infix to CVCVC stem

weqəs we?qəs

The feature [+constricted glottis] is always associated with the 'actual' morpheme. It spreads to all post-tonic [+sonorant] consonants. In the infixed forms such as (63) this feature, represented here as /ʔ/ on a separate tier, links to the empty C slot.

This solution provides a unified phonological statement for three phonetically dissimilar allomorphs, reduplication, infixation, and metathesis. Whether or not this particular solution is correct, I expect that an approach such as this will be useful in explaining the distribution of the radical morphological processes of this and other morphemes having phonetically dissimilar but predictable allomorphs[12] in Saanich and in other Salishan languages.

[12]One such morpheme is the Saanich 'plural', which is ordinarily indicated by a /əl/ infix after the first consonant of the root. But if the stressed vowel is /ə́/, the plural is marked by C_1 reduplication and the change of the stressed vowel to /í/. And if the stem is one CVC syllable, the 'plural' is a /ʔlə/ infix after the vowel.

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