SYLLABLE-BASED REDUPLICATION IN SHUSWAP: AN ANALYSIS OF STUDENTS' ERRORS*

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0. Introduction. In this paper, we analyse the results obtained from a group of students at the Saskatchewan Indian Federated College (SIFC) in response to an exam question concerning a particular reduplicative pattern in Shuswap. This pattern belongs to a distributionally rare type (i.e., it is found in a relatively low number of languages) and, as the exam results illustrate, it has apparently a low psychological salience as well (in other words, it is not a type that one would easily recognize or conjecture). Of course, the typological rarity and the low psychological status of this pattern are in concord with each other. They also may shed light on the distribution of similar patterns throughout Salish. Below, we first give a typology of reduplicative formations including Shuswap reduplication (1), then the exam results (2), and finally we draw some conclusions from the data (3).

1. Typology of reduplicative formations. Hess (1966:351) defines reduplication as follows: 'Chameleon morphemes are distinguished from other affixes by the fact that they appear in allomorphs which are actual repetitions or anticipations, in full or in part, of certain elements of the bases with which they occur.'[1] Marantz (1982) argues persuasively that reduplication is indeed nothing but affixation (prefixation, suffixation, infixation) with the additional feature of copying material from the base. (Marantz's definition of reduplication, given on p. 437 of his article, is not essentially different from Hess'.)[2] Aside from the fact that reduplication may be prefixal, suffixal or infixal, we can divide reduplication exhaustively into 4 types:

(1) Total reduplication, i.e., the total reduplication of an entire morpheme or word, regardless of the length of this morpheme of word. This type is employed by, among others, Warlpiri (Nash 1980, quoted in Marantz 1982:437):

kurdu 'child'	kurdukurdu 'children'
kamina 'girl, maiden'	kaminakamina 'girls, maidens'
mardukuja 'woman, female'	mardukujamardukuja 'women, females'

The same device is employed by Bahasa Indonesia (examples from Arsath Ro'is 1983:64):

orang 'person'	orang-orang 'persons, people'
kucing 'cat'	kucing-kucing 'cats'
pedati 'cart'	pedati-pedati 'carts'
perkumpulan 'union, society'	perkumpulan-perkumpulan 'unions, societies'

(The last example contains the verbal prefix per- which has a causative function, and the nominalizer -an.)[3]

(2) Partial reduplication, i.e., reduplication of part of a morpheme. For example, Lushootseed (Hess 1966) has several reduplicative patterns, one of which copies the first consonant-vowel-consonant sequence (CVC) of the root. The semantic function of this type is augmentative:

cápa 'grandfather'	cáp-capa 'grandfathers'
bədá? 'offspring'	bəd-bədá? 'offspring (pl.)'
čáxʷad 'to club it'	čáxʷ-čaxʷad 'to club it repeatedly'
gʷad 'to speak'	gʷád-gʷad 'to speak seriously'

As the last example shows, where a morpheme is already of the shape CVC, the resulting CVC reduplication gives the impression of being type (1). Although Hess (op cit:355) analyses CVC reduplication as infixal, I find that there is compelling (comparative Salish) evidence to describe it as prefixal.

As is adumbrated in Hess 1966:354 and proven in Broselow 1983, the CVC morpheme cannot

copy from two morphemes. Thus, the form ḍí-ḍəbya? 'little striped skunk' (diminutive of ḍəbyá? 'striped skunk') has the CVC reduplication ḍí-ḍi-ḍəbya? 'little striped skunks,' rather than *ḍíḍ-ḍi-ḍəbya?. In other words, the second C of the reduplicative CVC morpheme cannot 'reach beyond' the diminutive prefix and cross the boundary between two morphemes.

(3) Total syllabic reduplication. The two reduplicative types discussed so far target morphemes. However, in at least one language it is the syllabic structure of the word that is targeted. The language in question is Yidiny, where a reduplicative pattern copies the first two syllables of the word. The reduplicative morpheme then varies in length with the length of the string it targets. Examples (from Dixon 1977) are given in Marantz 1982:453-4:

ḍimurU 'house'	ḍimuḍimurU 'houses'
gindalba 'lizard sp.'	gindalgindalba 'lizards'
ḍaḍama-n 'to jump'	ḍaḍaḍaḍama-n 'to jump a lot'
ḍugarba-n 'to have an unsettled mind'	ḍugarḍugarba-n 'to have an unsettled mind for a long period'

(4) Partial syllabic reduplication. A number of languages employ a type of reduplication which targets a certain syllable, but limits the material copied (in contrast to type (3), where all material preceding and following the nucleus of a syllable is copied). An example of a language with partial syllabic reduplication is Bella Coola. One reduplicative type in this language repeats the first voiced segment (either a vowel or a resonant) plus the preceding (voiceless) consonant, as demonstrated by the following examples (from Nater 1984:109-10; the vowel of the reduplicative affix is dropped in some formations, and in some formations the targeted vowel is lengthened; semantically, this reduplicative type serves various functions):

p̓ɬa 'to wink, blink one eye'	p̓ɬaaɬa 'to blink both eyes'
tq̓ɬa 'knife'	tq̓ɬaaɬa-y 'little knife' (-y diminutive)
skʷcals 'cheek'	skʷcacls 'both cheeks'

Here belong also sx̌p̓iip̓k 'spine' (V¯sx̌p 'dividing in half,' -i(i)k 'back'), plplak 'both arms missing' (V¯pl 'missing,' -ak 'arm').[4]

Similarly, Shuswap repeats the consonant before the stressed vowel once more after the stressed vowel. (We assume an underlying stage where both the stressed vowel and the preceding consonant are repeated.)[5] The semantic function of this formation is the expression of diminutiveness. Examples (from Kuipers 1974:39) are:

pésəɬkʷe 'lake'	pépsəɬkʷe 'small lake'
cq̓éɬp 'fir, tree'	cq̓éq̓ɬp 'small tree'

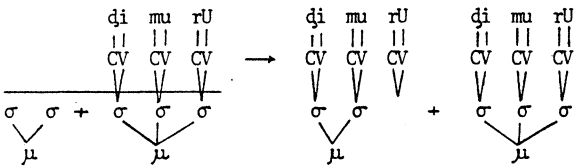
(The deglottalization of the first q̓ to q in the last example is regular, as Shuswap does not tolerate the cooccurrence of glottalized obstruents within certain morphemic contours, see Kuipers 1974:23.) A case like sxʷəpmx-ʔúʔy 'a real Shuswap' (with the categorically stressed suffix -ʔúy 'real, par excellence,' Kuipers 1974:68-9) proves that it is the stressed vowel, and not just the first one which attracts the stress (cf. səxʷépmx 'Shuswap' which yields its stress to -ʔúy).

Several Shuswap dialects apply this reduplication in forms with a first person singular subject or object (Kuipers 1974:23,39,passim), as in:

lʕʷ-xít 'to hide (lʕʷ-) it from (-xit) s.o.'	lʕʷ-xíxt-n 'I (-n) hide it from him'
səp̓-ús 'to be hit (səp̓-) in the face (-us)'	səp-úp̓s-kn 'I (-kn) am hit in the face'
cút 'to intend'	cúct-kn 'I intend'
xsy-eqsm 'to have a running nose (-eqs)'	xsy-éyqsm-kn 'I have a running nose'
ptínəsm 'to think'	ptítnəsm-kn 'I think'

Cases like Bella Coola sx̌p̓iip̓k and Shuswap xsyéyqsm-kn and səpúp̓s-kn demonstrate that syllable-based reduplication can operate across morpheme-boundaries, in contrast to partial morpheme-based reduplication (see ḏí-ḏi-ḏəbyaʔ above; Broselow 1983 gives an in-depth analysis of cross-morpheme reduplication).

Marantz (1982:455) integrates the syllabic structure with the morphemic structure, giving, for example, the following analysis of Yidinʸ dimudimurU:



where σ stands for 'syllable' and μ for 'morpheme.' The first two syllables (σ's) are copied, after which the C-V skeleton and the phonemic melody are copied over the σ. However, as Broselow (1983) points out, the syllabic structure must stand outside the morphemic structure, in order for syllable-based reduplication to copy across morpheme-boundaries.

We sum up the four types in the following chart (where 'total' indicates that there is no preestablished limit to the length of the redunlicative affix but that the length of this affix varies with the length of the targeted string; 'partial' means that there is such a limit, e.g., CVC, CV).

	total	partial
morpheme-based	(1)	(2)
syllable-based	(3)	(4)

Syllable-based reduplication is a relatively rare morphological process. Marantz (1982: 437) even remarks: 'Why, of all the reduplication processes studied by Moravcsik, myself, and others, is there only one clear example of syllabic reduplication (namely, Yidinʸ)?' However, a footnote on p. 453 treats Samoan reduplication in terms of syllabic structure.[6] Interestingly, Hendriks (in a treatise long predating Marantz, but obviously not available to Marantz) discusses Madurese reduplication as syllable-based, giving such examples as rʌn-ǰʰʌrʌn 'horses' (ǰʰʌrʌn 'horse'), rat-sorat 'letters' (sorat 'letter'), ǰʌ-meǰʌ 'tables' (meǰʌ 'table'), pe-sape 'cows' (sape 'cow'). Hendriks analyses these cases as reduplicating the final syllable (Hendriks n.d.:24-25).[7]

Type (4), partial syllable-based reduplication, is not discussed at all by Marantz. The rarity of this type is probably due to the fact that two conditions must be met: (a) the reduplicative affix attaches itself not to the morphemic structure of the word but to the syllabic structure; (b) rather than copying the entire onset and/or coda (besides the nucleus) of the syllable, it copies only part of the onset and/or coda.

2. Exam results. During the winter semester of 1990 the author taught a course in contrastive analysis of Native Indian languages at SIFC. Reduplication was dealt with in terms of the Lushootseed patterns, as discussed in Hess 1966. Stress-systems were also discussed, and the students were taught to recognize written stressed vowels from unstressed ones. One of the questions on a midterm exam that was given as part of the course concerned the type of stress-based Shuswap reduplication that is discussed in (1). The first part of the question listed the final three examples of this type, as given in (1), viz., cút/cúct-kn, xsyéqsm/xsyéyqsm-kn, ptínəsm/ptítnəsm-kn, together with their translations (morpheme-boundaries, except for -kn, were not indicated). The second part of the question listed five Shuswap stems and requested the students to give the correct

first person singular subject forms of these stems, as follows:

səxʷépmx	'Shuswap Indian'	_____	'I am Shuswap'
ʔíɬn	'to eat'	_____	'I eat'
xʔúɬxʷ	'to go into (e.g., into a sweatlodge)'	_____	'I go into the sweatlodge'
ʔstqíc̓	'to be faced with something sudden'	_____	'I am faced with something sudden'
ḏlstém	'to steam-cook'	_____	'I steam-cook'

(The correct forms to be filled out on the blanks are, of course, səxʷéxʷpmx-kn, ʔíʔɬn-kn, xʔúʔɬxʷ-kn, ʔstqíqc̓-kn, ḏlstétm-kn.)

Of the 25 students who took the exam, 12 gave answers which were completely erroneous (for example, one student gave səyxʷépmx-kn, ʔíɬn-kn, xʔúcɬxʷ-kn, ʔstqítc̓-kn, ḏlstéym-kn), 1 gave all five form correctly, 1 answered the last four questions correctly, but gave 'I am Shuswap' as səséxʷpmx-kn (unfortunately altered from the originally given correct form səxʷéxʷpmx-kn), and 11 gave səsxʷépmx-kn for 'I am Shuswap' (of these, 10 gave correct forms for the four remaining stems, while 1 gave incorrect forms for 'I go into the sweathouse' (xʔxúʔɬx-kn) and 'I am faced with something sudden' (ʔstqic̓-kn)).

We are of course mainly concerned here with the students who gave səsxʷépmx-kn for 'I am Shuswap' (especially the 10 candidates who answered the final four questions correctly). A quick look at the collected results reveals that these students religiously reduplicated the consonant before the first vowel. (When questioned after the exam, the students confirmed that this was indeed their motivation.) In the provided examples (cút/cúct-kn, xsyéqsm/xsyéyqsm-kn, ptínəsm/ptítnəsm-kn), the first vowel is also the stressed one, but the placement of the stress played no part in the analysis applied by the students. (It was of course noticed by the one student who answered all questions correctly, and by the one student who originally gave səxʷéxʷpmx-kn, but then changed it to səséxʷpmx-kn.)

3. Conclusions. The fact that partial syllable-based reduplication is a rare morphological process is underscored by the fact that out of a group of 25 students only one (possibly 2) recognized this process correctly in a given set of examples. The factor that will prevent a large percentage of those who are confronted with this process from recognizing it correctly is certainly the same factor that has prevented a wide distribution of this process. As we have seen above, this factor consists of the attachment of a morpheme (i.e., the reduplicative affix) to the syllabic structure, in combination with the fact that only part of the syllable is repeated.

(One may argue that səsxʷépmx has in common with Bella Coola p̓ɬaɬa that in both cases the first vowel is targeted. One could thus argue that səsxʷépmx and p̓ɬaɬa belong to one type, and səxʷéxʷpmx to a different type. However, in both səxʷéxʷpmx and p̓ɬaɬa the target has prosodic predominance over its immediate surroundings, while in səxʷépmx the ə is subordinate in the syllabic-prosodic structure to stressed é. (Shuswap does not allow stressed ə, and where ə occurs its persence is often due to epenthesis rather than to more basic etymological factors. See also Kuipers 1974:27-30 for the somewhat marginal status of ə in Shuswap.) Thus, the formation səsxʷépmx-kn targets ə on no other basis than the fact that it is the first [+ vocalic] segment, in the same way that in Lushootseed cáp-capa the first [+ consonantal] segment is targeted.)

One may briefly sum up the difference between the 4 types of reduplication by stating that in type (1) the reduplicating affix is μ, while in (3) it is σ. In type (2) it is μ (or μ, μ, whatever the case may be), and in (4) it is σ (or σ, σ, etc.).
CVC CV VC CV VC CVC

For comparative-historical Salish the low psychological and distributional status of partial syllabic reduplication has important implications. A number of Salish languages employ 'final' reduplication, which in some languages repeats the second consonant of the root, while in other languages it repeats the stressed vowel plus following consonant. Semantically, this type has an out-of-control function, while it generally also serves an aspectual (continuative or telic) function (see Carlson and Thompson 1982, Kinkade 1982, Kroeber 1988, Mattina 1989 and Van Eijk (in press)). Historically, both subtypes go back to the same process, but it is not clear which of the two subtypes has preserved the original state. Van Eijk (in press) argues that the root-based type is old, and that the stress-based type developed out of the root-based one. Kinkade (as quoted in Van Eijk's article), however, argues for the opposite route (from stress-based to root-based). Referring to the distribution of both types throughout Salish, and arguing (correctly) against an older version of Van Eijk's article in which Chehalis final reduplication is treated as root-based, Kinkade remarks: 'I disagree for two reasons. (1) I find my evidence that Chehalis end-reduplication is stress-oriented convincing, so on the basis of this odd distribution of stress-oriented reduplication (Lillooet, Thompson, Chehalis) it is likely to be old. (2) This is even more likely on typological grounds. Reduplications (world-wide) predominantly involve and are centered on roots/stems, rarely involving affixes, and virtually never crossing morpheme boundaries. This makes stress-oriented reduplication in Lillooet, Thompson, and Chehalis very highly marked, and unlikely to have developed in two unconnected areas. On the other hand, a shift to more usual root-oriented reduplication patterns seems rather natural (...).' As the Shuswap exam results make clear, stress-based reduplicative patterns are indeed very highly marked (marked not in the sense of being highly visible and easily recognizable, but in the sense of being rare and psychologically "off the beaten track"). On the other hand, a reduplicative pattern that operates within a linear order ('target first consonant, or second consonant, or first vowel') comes more easily to anyone who is involved in language structure (either as a student or as a native speaker). This supports Kinkade's thesis that it is easier to go from a stress-based (or, as I would add, syllable-based) pattern to a root-based one than vice versa.

NOTES

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1. The term 'chameleon' is from Hockett 1950(1957).

2. In his excellent description of Saanich, Montler (1986) discusses reduplication as a process that stands outside prefixation or suffixation, and treats it under 'radical morphological processes.' However, as Marantz makes abundantly clear, there are some definite advantages to treating reduplication as affixation.

3. Total reduplication of morphemes of words should not be confused with the mere repetition of morphemes of words. In the latter process, the lexical meaning of the morpheme or word is expressed once more without an added grammatical semantic dimension. (An example of repetition is English 'very very good,' or Lillooet ka-xim̓ʌ-ʌ-tú?-ʌ 'he disappeared (xim̓-) for good (-tu?),' where the reinforcing enclitic -ʌ (required by the resultative prefix ka-) is repeated as part of the metrical structure of the word. In Cree, the diminutive suffix -is can often be repeated without altering the basic meaning, as in sisip 'duck' → sisip-is or sisip-is-is 'little duck, duckling' (distribution often depending on idiolect—Solomon Ratt, p.c.).)

The power of morpheme-based or word-based total reduplication is attested to by the fact that it can be used readily in affected or affective speech, even within languages

that normally do not employ reduplication. For example, one of the characters in Amis' Ending Up tosses off such gems as 'bootle-pootles' (for 'boots'), 'dockle-pockles' (for 'docs' or 'doctors'), 'thingle-pingle' ('thing'), 'kiddle-widdles' ('kids'), and 'chummy-wummies' ('chums'), with a pre-associated p or w in the reduplicative affix (cf. Marantz 1982:449). One shudders at the thought that the only extant information on English would consist of the idiolect of this character.

4. Nater (1989) attacks Van Eijk (1989) for analyzing p̓ɬaɬa and other cases of Bella Coola reduplication in terms of syllabic structure. However, Nater's attack is based more on gross ignorance of syllabic-reduplicative theory than on factual errors in Van Eijk's analysis.

5. We symbolize the Shuswap process as follows: $C_pV\acute{C}_q \rightarrow C_pV\acute{C}_pVC_q \rightarrow C_pV\acute{C}_pC_q$. An intermidiate state where the targeted vowel is repeated before being dropped must be set up because otherwise we would have a reduplicative type where the targeted segment (the stressed vowel) is not repeated itself, and such a type seems not to have been recorded anywhere.

6. The type in question repeats the CV of the penultimate syllable just before (or after) this CV. Semantically, this operation expresses the plural of some verbs, as in alofa → alolofa 'love' (sg. and pl.), maliu → maliliu 'die' (sg. and pl.). Since Samoan allows only open syllables and no consonant clusters, it is not clear whether we have partial or total syllabic reduplication here (cf. Marsack 1962:11).

7. The Madurese data have been retranscribed by me from Hendriks' orthography. Marantz also treats Madurese reduplication on p. 451 of his article, giving bûwâq-ân 'fruit' → wâq-bûwâq-ân 'fruits.' Historically, these formations go back to total reduplications of the first morpheme, with later aphaeresis of the first syllable, and synchronically they could be also described as such (cf. Bahasa Indonesia buah-buah-an 'several kinds of fruits,' Arsath Ro'is 1983:65; Hendriks mentions that total reduplication of the Madurese nouns is also possible, but that reduplication of the final syllable is more common).

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