THE PHONOLOGICAL STRUCTURE OF STEMS IN SARAMACCAN

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Most stems in Saramaccan[1] have the potential for occurring in isolation. They include simple stems that correspond to one phonological foot such as **muyẹ́ẹ̀** 'woman', **dágu** 'dog', **wáka** 'walk', **haíka** 'listen', **wẹ** 'well'; simple stems that correspond to more than one phonological foot such as **sikí/si** 'six', **kalu/wá** 'lizard'; and compound stems such as **líba/-sẹ** 'upriver', **gan/-gádu** 'the great god' (/ indicates foot boundary and - morpheme boundary). They combine with affixes and clitics as in **ta-woóko** 'working', **o-woóko** 'will work', **sí-dẹ** 'see there'. Phonological feet thus correspond to simple stems, to parts of stems, and to stems with affixes and clitics.

This paper deals with the phonological properties of simple and compound stems. Combinations of stems with affixes and clitics involve sandhi phenomena that are the subject of a separate study.

Stems are composed of one to seven syllables. Syllables of any pattern may occur at any position in the stem. The syllable patterns may be formulated as (C)V1(V2)(N). There are restrictions on the V2 slot fillers. N represents nasalization of the syllable and will be explained separately.

Fillers of the consonant slot may be charted as shown.

		labial	apical	laminal	dorsal	dorsolabial	general
nasals		**m**	**n**	**nj**			**N**
stops	prenasalized	**mb**	**nd**	**ndj**	**ng**		
	voiced	**b**	**d**	**dj**	**g**	**gb**	
	voiceless	**p**	**t**	**tj**	**k**	**kp**	
fricatives	voiceless	**f**	**s**				
	voiced	**v**	**z**				
lateral			**l**				
semivowels		**w**		**j**			**h**

Contrasts between consonants are illustrated as follows:
Labial: **máta** 'mortar', **mbáta** 'deer', **báta** 'bottle', **páda** 'paddle', **fínu** 'thin', **víndẹ** 'throw', **wáta** 'water'.
Apical: **tẹnẹ́** 'tear, rip', **tẹndẹ́** 'stretch', **ẹ́di** 'head', **ẹ́ti** 'yet', **kuŊsu** 'pillow', **líNzo** 'smooth', **siló** 'three-toed sloth'.
Laminal: **njuNnjú** 'new', **ndju** 'type of peanut', **djómbo** 'jump', **tjotjo** 'beat', **ju** 'you, singular'.
Dorsal: **ngáku** 'stutter', **gádu** 'god', **kási** 'cupboard'.
Dorsolabial: **gbamba** 'meat', **kpáta** 'black and white Capuchin monkey'.

The general nasal N occurs only in syllable final position and is not in contrast with the other consonants. It is described later.

The semivowels /h/ and /w/ are frequently dropped from certain words when they occur foot initial: **wósu ~ ósu** 'house', **wómi ~ ómi** 'man', **wápa ~ ápa** 'star apple (Chrysophyllum cainitao)', **hópo ~ ópo** 'up', **hẹ́di ~ ẹ́di** 'head'. There are other words in which they occur foot initial and are never dropped: **wáta** 'water', **wási** 'wash', **hóndi** 'hunt', **haŊso** 'handsome'. Both occur foot medially and are not dropped from that position: **agadáwẹdi** 'type of swallow', **suwáki** 'sick', **ahalala** 'centipede'.

As will be shown, a phonetic nasal-contoid sequence [NC] in which the contoid is a voiced stop is considered a unit: a prenasalized stop, symbolized generically as M. The same kind of sequence with any other contoid, however, is considered to be a sequence of two units across a syllable boundary for the following reasons. First, voiced prenasalized stops occur foot initially: **mbéi** 'make', **ndẹ́ti** 'night', **ngáku** 'stutter', **ndju** 'type of peanut'. Other nasal plus contoid sequences do not. Second, in forms that contain no nasal plus contoid sequences, high lax muffled [i̤] and high tense bright [i] are allophones of /i/. [i̤] occurs only in nasal syllables (described later): /gbẹliŊ/ [gbẹli̤ ~ gbẹli̤ŋ] 'absolute indicator'. [i] occurs only in nonnasal syllables: /guli/ [guli] 'swallow'. In forms in which [i] or [i̤] precede nasal plus contoid sequences, [i̤] occurs only when the contoid that follows is not a voiced stop: /viNtu/ [vi̤ntu] 'wind'. [i] precedes sequences of nasal plus voiced stop: /víndẹ/ [víndẹ] 'throw'. In other words [i̤] behaves exactly as it would be expected to behave in a nasal syllable, whether it is followed by another syllable or not, while [i] has the properties that are characteristic of the vowel /i/ in nonnasal syllables. The nasal that follows the bright allophone [i] of /i/ is by this argument part of the onset of the next syllable. Third, native speakers indicate a syllable break before prenasalized stops /mb nd ndj ng/ but after the general nasal in /Np Nt Nk Ns Nz Nj/.

Since Saramaccan has no consonant clusters, the double stops /gb/ and /kp/ function as single units. They have as allophones [gb] in free variation with [gw] and [kp] in free variation with [kw]: /gbamba/ [gbamba ~ gwamba] 'meat', /kpáta/ [kpáta ~ kwáta] 'black and white Capuchin monkey'.

Voorhoeve (1959) labels these phonemes as implosives without going into further details about their phonetic makeup.

Voorhoeve (1959, 1961, 1964, Voorhoeve and Donicie 1963) studied the Lower Surinam River dialect of Saramaccan. This study is of the Upper Surinam River dialect. Although it agrees essentially with his conclusions, there are some differences. For example, he has the same number of vowels, but different phonetic norms. The Upper Surinam vowels are:

		front	central	back
high	bright	i		u
	muffled	[ị]		[ụ]
mid	muffled	e		o
	bright	ẹ		ọ
low			a	

In the V1 slot of the syllable there is clear contrast in nonnasalized between high bright **i**, mid muffled **e**, and mid bright **ẹ**: **tíi** 'steer', **téi** 'take', **léi** 'learn', **lẹ́i** 'ride', **biífi** 'letter', **teégi** 'slowly', **pẹ́ẹ́gu** 'nail'.[2] There are also relationships of free variation among these vowels which will be discussed under archiphonemes.

High muffled [ị] occurs in nasalized syllables, as already mentioned, whereas the high bright [i] never occurs in nasalized syllables: **gbẹ̀liN** [gbẹ̀lĩ ~ gbẹ̀lĩN] 'absolute indicator', **gulí** [gulí] 'swallow', **víNtu** [vịntu] 'wind', **víndẹ** [víndẹ] 'throw'. The mid muffled [e] also appears in nasalized syllables: **séNsi** [sẽsi ~ sẽnsi] 'since', **peéNja** [pẽẽj̃ã] 'piranha'. For these reasons [ị] must be an allophone of /i/ rather than of /e/ as in the lower Surinam dialect.

There is also clear contrast in nonnasalized syllables between high bright **u**, mid muffled **o**, d mid bright **ọ**: **gúdu** 'rich', **kóti** 'cut', **kọ́tọ** 'cold', **dúngu** 'dark', **tóNpi** 'thorn', **tọ́ngo** 'tongue'. There are also relationships of free variation between u and o which will be discussed under archiphonemes.

The low central **a** is neither bright nor muffled and has only one allophone: **da** 'give', **fáa** 'cut down', **wáka** 'walk', **paabí** 'saucer', **baáa** 'brother'.

The high muffled /ụ/ is treated here as an archiphoneme because of its special relationship to **u** and **o**. It occurs in CVN.CV and CV.MV stems. In the environments l—N, l—M there is no contrast between u and o, and the phone [ụ] occurs consistently: **lụ́Ntu** [lụ́ntu] 'around', **lụ́ngi** [lụ́ŋgi] 'long'.[3] In the environment s—N, s—M there is contrast between u and o, as in **súndju** [súndju] 'dirty', **sóndo** [sóndo] 'without', but free variation and no contrast between [ụ] and [o], **sụní** [soní ~ sụní] 'thing',[4] **sụ́nde** [sóndẹ ~ sụ́ndẹ]

'Sunday'. In other environments there is free variation between [u] and [ụ] in contrast with [o]: **mụ́ndu** [mụ́ndu ~ múndu] 'world', **moNngó** [mõŋgó] 'proper name'. In other stems **u** and **o** occur with no free variation involved: **búngu** [búŋgu] 'pitcher', **kúŊsu** [kúnsu] 'pillow', **sóndo** [sóndo] 'without'. The archiphoneme /ụ/ is written to indicate the various ranges of free variation and the lack of contrast in l—N, l—M.

A similar free variation occurs among the front vowels in nasalized syllables CVN, CVŊ, and before prenasalized stops CV.MV: **sịŊ** [sĩ ~ sẽ ~ sę̃ ~ sĩŋ ~ sẽŋ ~ sę̃ŋ] 'shame', **lịNzo** [lịnzo ~ lénzo ~ lẹ́nzo] 'smooth'. In other stems the front vowels occur with no free variation involved: **siNkíi** [siŋkíi] 'body', **peéNja** [pẽẽ̃jã] 'piranha' **fẹ́Ŋsẹ** [fẽsẹ ~ fẽnsẹ] 'window'. /ị/ is written to indicate free variation among front vowels.

Free variation with syllable final nasals will be discussed under nasalization. The archiphonemes /ị,ụ, Ŋ/ represent these ranges of free variation that are distinct from phonemes that show no such variation.

The second vowel of a syllable is either a repeat of the first vowel or a dissimilar high vowel. The high back vowel can follow only central and back vowels in the same syllable: **tíi** 'steer', **teégi** 'slowly', **pẹ́ẹ́gu** 'nail', **paabí** 'saucer', **dọ́ọ́ngo** 'intoxicated', **koósu** 'clothes', **fuúku** 'early', **léi** 'learn', **lẹ́i** 'ride', **bái** 'buy', **bói** 'cook', **búi** 'chain', **páu** 'tree', **kọ́úsu** 'socks', **foóu** 'flood'.[5]

Stems with three consecutive vowels are three syllables. Native speakers classify them rhythmically with three syllable stems: **baáa** [ba.á.a] 'brother', **guúuN** [gũ.ũ.ũ] 'green', are like **kumútu** 'come out' in rhythm.

Every vowel carries one tone. Two tones, high and low, are contrastive: **tẹ́mbẹ̀** 'build', **sẹ̀mbẹ̀** 'people', **lẹ̀mbẹ́** 'lick'. In long syllables the tones may be HL, **káima** 'alligator', HH **matúítúí** 'spotted sandpiper', LH **noíti** 'never', or LL **peiká** 'fix'.

In the most common stem pattern, one and only one syllable has a high tone: **wáka** 'walk', **fuúku** 'early', **sikí/si** 'six', **apeesína** 'orange'. A less common stem pattern has no high tone: **vuNvuN** 'hummingbird', **logoso** 'turtle', **lẹgẹdẹ** 'lie', **sẹmbẹ** 'people', **gbamba** 'meat', **maisi** 'electric eel'. A third stem pattern has more than one high tone: **matúítúí** 'spotted sandpiper', **búmbúu** 'state of well-being'.

The stress pattern of stems can be predicted according to the following rules. (1) The first long syllable in each foot of the stem is stressed. (2) If there is no long syllable, the next to the last syllable in the phonological foot is stressed. In simple stems that correspond to more than one phonological foot, the first stress is the heaviest. Compound stems remain to be investigated. Two-syllable stems with a LH tone pattern have no set

pattern; the stress varies freely between the syllables: ˈbẹbẹ́ ~ bẹˈbẹ́ 'drink', ˈgulí ~ guˈlí 'swallow', ˈkiní ~ kiˈní 'knee'.

Nasalization is primarily a feature of the syllable. It is manifested as a general nasal /N/ and as the archiphoneme /Ɲ/. /N/ occurs as a final nasal consonant before /p, t, k, z/ that takes the same point of articulation as the following consonant: **taáNpu** [taámpu] 'stand', **lụ́Ntu** [lụ́ntu] 'around', **siNkíi** [siŋkíi] 'body', **láNza** [lánza] 'spear'. In all other environments it occurs only as nasalization of a vowel: **waN** [wã] 'one', **djaNpanẹ́Nsi** [djampanẹ́si] 'Japanese'. /Ɲ/ includes free variation between a final consonant and nasalization of a vowel together, or nasalization of the vowel only: **faáƝsi** [fããsi ~fããnsi] 'French', **taƝ** [tã ~ tãŋ] 'stay'.

Nasalization extends over consonants and nasalizes the next syllable when the consonant is /j/ or /nj/: **peéNja** [pẽẽj̃ã] 'piranha', **muNnjá** [mũnjã] 'wet', but **muNngá** [mũŋgá] 'bracelets'.

FOOTNOTES

[1]Saramaccan is spoken by twenty to twenty-four thousand Bush Negroes who live along the Surinam and Saramacca rivers in the central interior of Surinam. The data were gathered in Paramaribo with the aid of a Saramaccan speaker, Mandó, from March to September 1968, and while living in the paramount chief's village from October of 1968 to January of 1969. The other principal language helpers were Edme (proper names deviate from the regular phonological pattern), Mẹ́no Muyẹ́ẹ, and Faánsi. In doing this study I have corroborated Voorhoeve's work and refined it in certain details. My purpose is to lay the groundwork for a complete study of Saramaccan.

[2]Vowels are described as bright and muffled because pharyngeal cavity shape rather than tongue height is the parameter on which they contrast consistently. **e, i, o, u** are usually more high and tense than **ẹ, ị, ọ, ụ**. For the distinction between bright and muffled see Sapir 1931, Chomsky and Halle 1968, Pike 1966, and Ladefoged 1964.

[3]These words are written with an **o** in the practical orthography: **lóngi** 'long', **lóntu** 'around', according to the choice of native speakers literate in Dutch.

[4]**sụní** 'thing' is exceptional in that it fits neither the CVN.CV nor the CV.MV syllable pattern within which /ụ/ alternates with **u** and **o**. It is a free variant, however, of **sụndí**, which does fit the pattern.

[5]The solution of writing the last front vowel in a syllable as a /y/, the last back vowel as /w/, and a repeat vowel as /h/ was considered. But since the second vowel carries tone, this solution was rejected.

Grimes, Joseph E., editor. 1972. *Languages of the Guianas.* Summer Institute of Linguistics Publications in Linguistics, 35. Norman: Summer Institute of Linguistics of the University of Oklahoma. ix, 91 p.