A PHONOLOGY OF BASSA

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0. Introduction

0.1. Bassa is an English word applied to a group of people who call themselves /ɓà sɔ́ɔ́/ or /gbɔ̀ɔ̀/ and who call the language they speak /ɓà̃ sɔ́ɔ́ wɑ̰̄/ or /gbɔ̀ɔ̀ wɑ̰̄/. The expression /ɓà̃ sɔ́ɔ́/ is said to be a more recent term and to be derived from a compound of /ɓà/ 'father' and /sɔ́ɔ́/ 'rock'.[1] /ɓà̃ sɔ́ɔ́/ or 'father rock' was a /gbɔ̀ɔ̀/ coastal chief during the time that the Spanish and Portuguese were trading along the West African coast. /ɓà̃ sɔ́ɔ́/ was respected both by the indigenous peoples and by the European traders. When the indigenous /gbɔ̀ɔ̀/ people brought goods to trade with the Europeans, they identified themselves as /ɓà̃ sɔ́ɔ́/'s people. The Anglicized version of /ɓà̃ sɔ́ɔ́/ has come to be Bassa.

0.2. The Bassa people who number 166,000 constitute the second largest ethnic group in Liberia (Bureau of Statistics, Office of National Planning 1964). They inhabit the coastal area between Monrovia in Montserrado County and the Po River in Grand Bassa County, and they cover an area extending into the interior for almost seventy-five miles. There are also Bassa settlements in the larger towns of Liberia such as Gbarnga, Saniquellie and Harper and in other West African cities such as Freetown, Sierra Leone. Before the settlers arrived in the Monrovia area in 1822, the Bassa territory is said to have

extended northwest of Monrovia to the St. Paul River which formed a boundary between the Bassa and the Dey people. The Bassa are bordered by the Dey on the west, by the Kru on the south and southeast and by the Kpelle, Mano, Gio and Krahn on the north and east. The shaded area in Map 1 shows the approximate boundaries of the Bassa-speaking people in Liberia. This shaded area includes all people who are classified under the term "Bassa" used in its most general sense. It therefore includes a group of people who actually belong to two or more distinct ethnic groups. Siegmann(1969:III) refers to this area on the eastern edge as being populated by the Gbi-Doru peoples.

A survey of the Bassa dialects(Bertkau, Gbadyu, Duitsman and Mueller 1974) indicates that some kind of linguistic division exists between the Gbi-Doru group of dialects and the rest of Bassa although the Gbi-Doru group probably cannot be classified as a separate language or as separate languages at this time. In a word list closely similar to the Swadesh 200 word list there is over 98 percent cognation for the majority of Bassa dialects. However, five dialects in the Gbi-Doru area do not score such a high percentage with the central Bassa group. Gbii, Kpoɖɔɔ and DoBɔɔ are 88 to 92 percent cognate with the central Bassa group, and Dowudu (Siegmann's Doru) and Seɖeto are 82 to 85 percent cognate with the central Bassa group. Moreover, tests of mutual intelligibility indicate that speakers of central Bassa dialects expreience difficulty understanding some of the peripheral eastern dialects.

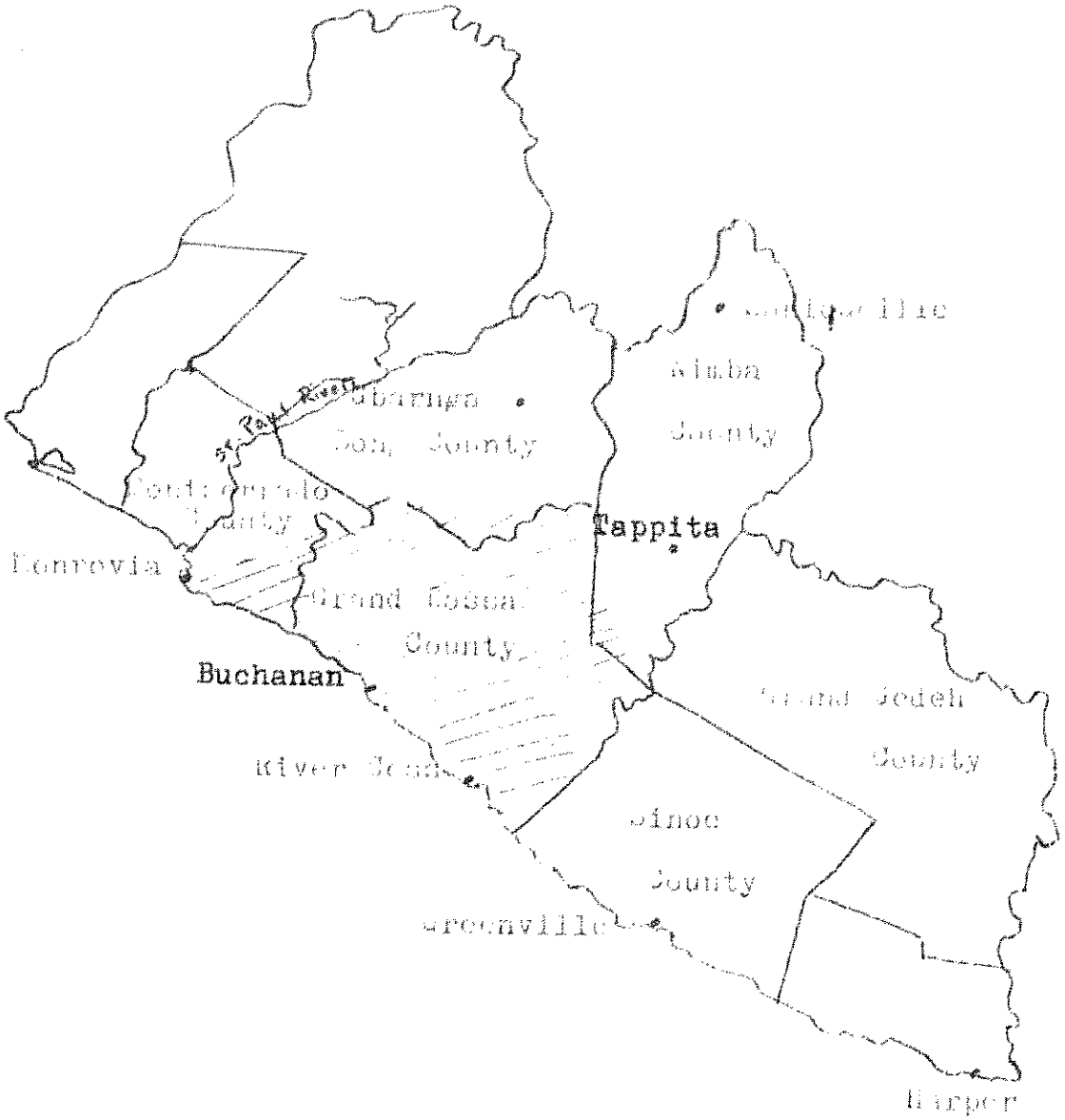


Fig 1. Location of Basin within Liberia

This paper is based on the type of Bassa spoken in and around Buchanan known under the general English term Grand Bassa.

0.3. Linguists first noted the relationships among the languages of the eastern section of Liberia in the middle part of the nineteenth century. Koelle(1854, reprinted 1963) grouped Bassa along with Dey, Kru, Grebo and Gbii as members of "Liberian or Kru languages". Westermann and Bryan(1952:50-51) have added Krahn and Belle to their group of "KRU-speaking tribes in Eastern Liberia". Greenberg (1966) has included the KRU group as a sub-branch of the larger category KWA, which is itself a branch of the Niger-Congo family.

Aside from Koelle's word list collected in the middle of the nineteenth century, previous descriptions of Bassa are limited to two articles written by June Hobley(1964; 1965) describing the Bassa tonal system and the Bassa verbal system. The Peace Corps(n.d.) printed a language learning book, Beginning Bassa, which includes a sketch of Bassa grammar for the purposes of instruction.

1. Consonants

1.1.

Table 1. Consonants

p		t	ʦ		k	kp
b		d	ʤ		g	gb
ɓ		ɗ		ᶑ		
m		n		ɲ		
	f	s				x^w
	v	z				$ɣ^w$
w						h

Particular qualities have been noted for some of these consonants in stem-initial position. /b/ and /d/ are aspirated whereas /ɓ/ and /ɗ/ are unaspirated and slightly implosive. /ɓ/, /ɗ/ and /ᶑ/ are never immediately followed by nasal vowels; however there are a few instances where /m/ and /n/ are followed by oral vowels and one instance has been found where /ɲ/ is followed by an oral vowel. When /gb/ is followed by a nasal vowel it becomes [ŋm]. /h/ is rare and occurs mostly in borrowed words. /x^w/ and /$ɣ^w$/ are labialized velar fricatives.

Orthographic conventions for some of these sounds are: dy for /ɗ/; ny for /ɲ/; d for /ᶑ/; c for /ʦ/; j for /ʤ/; and xw and hw for /x^w/ and /$ɣ^w$/. Representative examples of these consonants as they occur word-initially are:

/p/: /plɪ̃/ 'grass'
/pɻá/ 'to roll'

/b/: /bòò/ 'banana'
/bɻũ/ 'neck'
/bɻã̀/ 'swamp'

/ɓ/: /ɓɔ̀ɔ̀/ 'log'
/ɓɻɛ́/ 'flying insect'
/ɓɛ́ɛ̀/ 'pepper'

/m/: /mɲà/ 'to make a mistake'
/mɛ̃ɛ̃̀/ 'guinea fowl'
/mɔ̃/ 'to want, to wish'

/w/: /wɑ̃/ 'third person plural pronoun; to peel'
/wɻí/ 'money, possessions'
/wá/ 'day'

/f/: /fàɑ̃/ 'comb'
/fɻɛ̃/ 'peeling of fruit'
/fɔ̀/ 'to wait'

/v/: /vɻɑ̃̀/ 'to curse, abuse'
/vàɑ̃/ 'grunt'
/vɔ̃/ 'tail'

/t/: /tɑ̃́/ 'salt'
/tɲɔ̀/ 'to abandon'
/tɻɔ̃/ 'mountain'

/d/: /dú/ or /dɻú/ 'hand'
/dɑ̃/ 'basket (specific)'
/dɔ̃/ 'to buy'

/n/: /nɲà/ '(country devil)'
/nɛ̃ɛ̃̀/ 'bird'
/nmɪ̃/ 'animal'

/ɻ/: /ɻɑá/ 'to kill'
/ɻɛ̃/ 'mother'
/ɻɔ/ 'squirrel (sp.)'

/s/: /sɛ̃/ 'snake'
/sɔ̃/ 'arm'
/sɛ̀/ 'orange'

/z/: /zà/ 'to take'
/zmɪ̃/ 'fish'
/zɑɑ̃̀/ 'today'

/c/: /cɑ̃/ 'tree; stick'
/cwɪ̃/ 'grease, oil'
/cɛ́/ 'to learn'

/j/: /jɛ̃̀/ 'squirrel (sp.)'
/jɪ̃́/ 'leopard'
/jɪ̀ɲɔ̃́/ 'to brew'

/ay/: /ayɛ́/ 'to see'
/ay-ɛ́/ 'to steal'
/ayɔ̃̄/ 'to urinate'

/ny/: /nyɛ̃̄/ 'to enter'
/ɲɔ nyɛ̃̀/ 'to plant in rice soil'
/nyɛ̃́/ 'name'

/k/: /kɛ̀/ 'to burn'
/kɛ̃́ɛ̃́/ 'king'
/kʊ̄/ 'ripe, full'

/ŋ/: /ŋɪ̀ɔ̄/ 'farm'
/ŋɔ̀ɲɔ̀/ 'duck'
/ŋɪ̀ɛ̃̄/ 'man'

/kp/: /kpɛ̀pɛ́/ 'bone'
/kpɔ́/ 'stool'
/kpɔ̃̄/ 'to catch'

/gb/: /gbɛ̄/ 'dog'
/gbɔ̃̀/ 'to bark'
/gbàɛ̃̀/ '(farm kitchen)'
/gbɛ̃̄/ 'law'
/gbɛ̃̀/ 'chair, horn'

/ɲ/: /ɲɪ̀ɲɪ̀/ 'round'
/ɲɪ̃̀nyɛ̃̄/ 'four'
/ɲɔ́ɲɪ̀ɛ̀/ 'hundred'

/xw/: /xwɪ̀ɲɛ́/ 'main forest (bush)'
/xwɛ̄/ '(deer) (sp.) (falling tongue)'

/hw/: /hwɪ̀ɲɔ̃́/ 'to vomit'
/hwɛ̃̀/ 'chimpanzee (baboon)'
/hwɪ̀ɛ̀/ 'road, path'

1.2. Intervocalic consonants are not a basic feature of individual morphemes in the Grand Bassa dialects of Bassa. When they do occur, they can be assigned to one of these four categories: a) intervocalic consonants which occur as the second consonant in a consonant "cluster", b) intervocalic consonants which appear in reduplicated words, c) intervocalic consonants which occur in borrowed words, d) intervocalic consonants which appear in compounds and e) intervocalic consonants which occur in words which are not immediately recognizable as borrowed words or as compounds.

a) /d̩/, /n/, /ɓ/ and /m/ can occur as the second member of a consonant "cluster". That is, separating the initial syllabic consonant and the second consonant is a very short, transitional vowel which is entirely predictable. The full vowel spreads to the left of /d̩/, /n/, /ɓ/ or /m/ and appears in a shortened form. In slow speech this transitional vowel has the same quality as the full vowel whereas in fast speech the transitional vowel may be somewhat centralized. The tone of the transitional vowel may be somewhat higher or lower than the tone of the full vowel. This different tone is predictable in terms of a conditioned glide effect that consonants have on tone (see 3.7.). I do not write the transitional vowel in this paper.

In initial position, /m/ and /n/ have been found to occur before oral vowels in a few instances (see 1.1.). This is not

the case when /m/ or /n/ appears as the second member of a consonant "cluster". After syllabic consonants, /m/ and /n/ always precede nasal vowels while in the same position /b/ and /d/ always precede oral vowels.

Bassa contains many examples of /d/ or /n/ occuring after syllabic consonants. /d/ does not occur after /d/, /m/, /n/ or /ny/. /n/ does not occur after /n/, /b/, /d/ or /dy/. /d/ and /n/ have the following surface realizations after other consonants: /d/ and /n/ occur as a flap [ɾ̌] after /t/ or /d/.

/tdõ/ 'mountain' [tᵊɾ́õ]
/dnũ̄/ 'fog' [dᵊɾ́ũ̀]

/d/ occurs as flap [l̆] after all other consonants.
/n/ occurs as flap [n̆] after all other consonants.

/fdú/ 'to float' [fᵊl̆ú]
/xwdá/ 'rain forest' [xwᵊl̆á]
/dydí/ 'to steal' [dyᵊl̆í]
/vnɛ̀/ 'big' [vᵊn̆ɛ̀]
/cnã́/ 'grease' [cᵊn̆ã́]
/gbnɛ̀/ 'root' [ŋmᵊn̆ɛ̀]

Other examples of /d/ or /n/ in this position are:

/pdá/ 'to fold'
/wdí/ 'money, possessions'
/vdà/ 'to abuse, curse'
/pnɔ̃̄/ 'bow'
/tnṹ/ 'to pluck as corn'
/snɛ̀/ 'bumps (on people)'

/ß/ and /m/ occur much less frequently than /ɖ/ and /n/ as the second member of such consonant "clusters". /ß/ has been found to occur after /t/, /d/, /ɖ/ and /k/. /m/ has been found to occur after /t/, /n/, /s/, /z/ and /k/.

ɖßá 'to kill'
tßā 'to sew'
dßā nyɛ̄ 'to stoke a fire'
kßɛ̀ɛ̀ 'cup'
kmà̃ mū́ 'to be difficult'
nmū̃ 'to bite'
tmɛ̀̃ 'to teach'
smã́ 'to scratch'
zmĪ́ 'fish'

b) Reduplication usually occurs either as repetitions of verbal morphemes to form nouns or as ideophonic expressions.

pàpà 'slipper'
bōbō 'ripe'
ßàßà 'grandfather'
mã̄mã̄ 'dry'
wɖɛ́wɖɛ́ 'lightning'
fɔ̀fɔ̀ 'breath'
vòvò 'many'
tɛ̀tɛ̀ 'tree (sp.)'
dùdù 'seasonings for cooking'
nã́nã́ 'drinking'
ɖōdō 'emptiness'
sɔ́sɔ́ 'conspiracy, plot'
zùzù 'heat'
cōcō 'bright color'
jàjà 'trembling'
dyĪ̀dyĪ́ 'come, come'
nyɛ̄̃nyɛ̄̃ 'relatives'
gɔ̀gɔ̀ 'duck'
kpɔ̄Kpɔ̄ 'knock, knock'
gmã̄gmã̄ 'sound of ringing'
hdɛ̃̄ɛ̃̄hdɛ̃̄ɛ̃̄ 'sound of dripping'
xwã́xwã́ 'short'

c) Borrowed words especially of English origin form an increasingly larger part of Bassa vocabulary. Such words are introduced either as terms representing new concepts or as additional terms for familiar concepts. In borrowed words, nearly all Bassa consonants occur which are equivalent to English consonants. /v/ is an exception in that it is replaced by /β/ intervocalically. 5. discusses borrowed words in greater detail. Illustrations of borrowed words with intervocalic consonants are:

ɖɛ́pò	'lamp'	màzíǐ̀	'machine'
sɔ́βò	'shovel'	bìsti	'belt'
cɔ́ɔ́cì	'church'	áwà	'hour'
kékè	'cake'		

d) Compound words occur frequently. All Bassa consonants with the exception of /h/ have been found to occur intervocalically in compounds. When /dy/ appears intervocalically in compounds, it sometimes appears as [y] in some dialects of Grand Bassa. Special tonal rules which apply to noun compounds are discussed in 3.8. Examples of compounds are:

/cɛ́è/ 'to write' + /ɖɛ̃/ 'thing' → [cɛ́é ɖɛ̂] 'book'

/xwɖá/ rain forest' + /gbɛ̃/ 'dog' → [xwɛ̌lá gbè] 'hunting dog'

/ɖǐ/ 'to eat' + /ɖɛ̃/ 'thing' → [ɖǐ ɖɛ̂] 'food'

/bũ/ 'gun' + /dyúà/ 'seed' → [bù dyũâ] 'gunshot'

/ɖà/ 'knife' /dyú/ 'child' → [ɖà yû] or [ɖà dyâ] 'small knife'

e) There is a small category of Bassa words which contain intervocalic consonants and which are not immediately recognizable as members of one of the above categories. This group, for the most part, includes words for musical instruments and living things. I suspect that these words are originally borrowed words or compounds. Either the source of borrowing has not been identified in the case of borrowed words or individual morphemes are not now recognizable in the case of compounds. Below are illustrations of such words with comments as to the possible derivations of a few of them. All intervocalic consonants in this group belong to the lenis category of consonants (see 3.2.).

gófɪ̀	'black ant (sp.)'	bɛ̃nɪ́	'mouth organ'
déɪ́wé	'mongoose'	zàká	'musical instrument (sp.)'
geɪ́kɪ̀	'giant rat'	hwàsà	'musical instrument (sp.)'
gɛ̃mɛ̃	'musical instrument (sp.)'		

bɛ́ṹdɛ́ 'bird (sp.) (bɛ́ 'to color'; ṹ 'first person singular pronoun'; dɛ̀ 'here')

dàbò 'old lady' (dà 'sister-in-law or mother-in-law')

bàto 'friend, ally' (bɛ́à 'friend'; tō 'war')

1.3. Two consonants, [n] and [m] can be heard in phrase final position after [ĩ] and [ũ] respectively. The [n] or [m] is particularly distinct if another word follows the nasalized ending. These final consonants are purely transitional sounds between the final nasalized vowels and the following initial consonants.

A final [m] is most evident in the pronouns for first and second person singular: [ḿ] and [m̀]. I believe that these pronouns are actually /ṹ/ and /ũ̀/ with a phonetic final [m].[3] The Bassa Vah script which has no symbol for /m/ represents these pronouns as nasalized /ṹ/.

2. Vowels

2.1. There are seven oral vowels and five nasal vowels:

Table 2. Oral and Nasal Vowels

i	u	ɪ	ʊ
e	o		
ɛ	ɔ	ɛ̃	ɔ̃
a		ã	

Illustrations of these oral and nasal vowels are:

bí	'to eat'	bũ	'to beat in a mortar'
bɛ́	'mother'	sʊ̃	'squirrel (sp.)'
bú	'baby'	sɔ̃	'cloth'
		sã	'to fry'
sí	'to step out'	sĩ	'to get burned'
sʊ́	'purpose'	sʊ̃́	'bark of tree'
bũ	'pain'	bũ̀	'to smell'
bɔ̀	'to rest'	bɔ̃	'to lend'
sɛ̀	'to be tired'	sɛ̃	'to tie'

2.2. All vowels may be lengthened (written doubly). Illustrations of long oral and nasal vowels are:

ɔ̀fí	'medicine'	dī	'to eat'
ńń	'to pour; to be sweet'	gɛ́	'there'
ɛ́ńń	'the bird (sp.)'	ɔ̄	'snake'
mɛ̀nɛ̄	'woman'	kɔ̀	'father'
jṵ́ú	'rope'	ɛ̀ṵ́	'to buy'
bòò	'banana'	pō	'to put, throw'
nɔ̄ɔ́	'(country devil)'	nɔ̂	'to be'
fɪ̀ɪ̄	'leaf'	ɔ̄ī	'to get burned'
tṵ̀ṵ̄	'well'	vṵ̄ pfɔ̄	'to fan air'
nɔ̄ɔ̄	'story'	ɔ̄ɔ̄	'two'
nɛ̄ɛ̄	'bird'	nɛ́	'to drink'
ʌvɛ̄ɛ́	'fishing hook'	ʌvɛ́	'bow or tree'

2.3. Oral vowels can occur in certain sequences and nasal vowels can occur in certain sequences. The following charts summarize the possible sequences of oral vowels and of nasal vowels.

Table 3. Oral vowel sequences

	second vowel							
		i	u	e	o	ɛ	ɔ	ʌ
first vowel	i	x	x	x	x	x	x	x
	u	x	x	x	x	x	x	x
	e			x				
	o				x			
	ɛ					x		
	ɔ	x					x	
	ʌ							x

x^1: iɛ, io and ia occur as ɛɛ, ɛo and ɛa in some dialects of Grand Bassa.
x^2: uɛ, uɔ and ua occur as ɔɛ, ɔɔ and ɔa in some dialects of Grand Bassa.
x^3: ii appears as ɛi in some dialects of Grand Bassa in the word xwíī (xwɛ́ī) 'plaintain'.

bɪ̀ì 'mud'
pɪ̀ù 'liver'
dɪ̀è dyī 'to ask'
ɖɪ̀ò 'tree (sp.)'
kɪ̀ɛ̀ (kɛ́ɛ̀) 'to laugh'
pì͡ɔ̄ (pɛ̀ɔ̄) 'wing'
kpɪ́ā kpɪ́ā (kpɛ́ā kpɛ́ā) 'bird (sp.)'
bùì 'trap'
ɖúú 'rope'
kpúɛ̄ 'tree(sp.)'

zùɔ̄ 'thanks'
zūɛ̄ 'animal(sp.)'
ɓūɔ̄ (ɓɔ̄ɔ̄) 'squirrel(sp.)'
dyúà (dyɔ́à) 'seed'
gbɛ̀ɛ́ 'tree'
bɔ̀ɔ̀ 'banana'
sɛ́ɛ́ 'red bird(sp.)'
nɔ̄ɔ́ '(country devil)'
gàā 'man'

With the exception of two unusual words, oral vowel sequences begin with i or u. I do not believe that a y exists after i or that a w exists after u. Neither is there any evidence of additional tongue-raising after i to indicate a y nor is there any additional lip-rounding to indicate a w. Intervocalic consonants are not often found within morphemes in the Grand Bassa dialects (see 1.2.).

There is evidence, however, that other intervocalic consonants may have originally existed in CVV words of the Grand Bassa dialects. Intervocalic consonants have been recorded in the eastern Bassa dialects. Below are some correspondences between Grand Bassa and Gbii.

Grand Bassa	Gbii	
dyũ̀ò	dyípõ	'to know'
kí̀è	kíɛ̃	'to laugh'
dyóó	dyɓó	'ocean'
dɛ́è̀	dɛ́gbɛ̃	'stranger'
dɛ́ú́	dɓú	'rope'
nãã̀	nãkpɛ̀	'bird'
plì	plɛ́lì	'grass'

I believe that the two words which do not correspond to the general vowel sequence pattern are /oi/ sequences. They are /ɓóí/ 'fish(sp.)' and /vòì/ 'fat, fleshy'. June Hobley wrote these words as bóéí and vòèì, and although I hear the [ɛ] in these words, I believe it to be a transitional element. An [ɛ] appears elsewhere as a transitional element when a verb ending in /o/ is followed by an i. [õ fò nǐ] 'he is tired' can be contracted to [õ fòèì] . It is possible that the words /ɓóí/ and /vòì/ may also be contractions.

Table 4. Nasal Vowel Sequences

first vowel \ second vowel	ĩ	ũ	ɛ̃	õ	ã
ĩ	x			x	x
ũ	x	x	x	x	x
ɛ̃	x		x		
õ				x	
ã					x

fĩ̀ĩ̀	'leaf'	tũ̀ũ̀	'wall'
gĩ̀ĩ̃	'death'	bũ̀ã̀	'rat'
gɪ̀ɪ̀ã	'tree(sp.)'	zũ̀ɔ̀	'pitcher'
wɛ̃́ĩ̀-wɛ̃́ĩ́	'mosquito'	sṹã́	'fish(sp.)'
zũ̀ĩ́	'court case'	nã̀ã̀	'bird'
		nɔ̃́ɔ̃́	'story'

The pattern for nasal vowel sequences is not as clear as that for oral vowel sequences. One reason for this may be the relative infrequency of nasal vowel sequences .

Bassa also contains a few examples of oral vowels followed by nasal vowels. Usually, these combinations are found in contractions and in verb stems followed by suffixes.

/tà/ 'to chew':

[ɔ̃ mũ̀ jàɔ̃ tà ũ̀] 'he will chew the squirrel'

[ɔ̃ mũ̀ mã̀ã̀ gɛ̀lɛ̃̀ mṹ] 'he went to the farm':

[ɔ̃ mũ̀ mã̀ã̀ gɛ̀lɛ̃́] 'he went to the farm' (contracted)

[ɔ̃ wɛ́ nɪ́] 'he is sick:[ɔ̃ wɛ́ĩ́] 'he is sick' (contracted)

There are also a few oral-nasal vowel sequences which appear within morphemes. In all examples of such words that I have elicited, either the first vowel is an /e/ or /o/ and not subject to nasalization, or the first vowel follows a consonant such as dy or b which cannot be contiguous to a nasal vowel.

déĩ́wé	'mongoose'	báṹ ɓáṹ	'many'
jóũ̀ jóṹ	'bird(sp.)'	nwɔ̀ dyĩ̀	'good'
séĩ́ or céĩ́	'all'		

In all examples of oral-nasal sequences that I have encountered, front oral vowels are followed by /Ĩ/ and non front vowels are followed by /ũ/.

2.4. Sequences of more than three vowels are found in certain expressions in which the unusual length is the result of the addition of a long vowel to a stem to add emphasis to the statement. Occasionally such sequences are found in contractions of two or more words.

[dyĺáẽẽẽ] 'come here' (used when one is impatient)
[dé péâ nĺõõõ] 'it is cold there' (answer to standard greeting)
[sĺàũ̀] 'trousers' (contraction of sĺ 'to step in, dã̀ 'here' and mṹ 'in')

3. Tone

3.1. Baasa is a discrete level tone language.[4] Hobley(1964) identified three tonemes (high, mid and low), but she noted that there were two groups of low tones. One group of low tones rises before a following low tone and the other group of low tones does not. I would like to propose that the group of low tones which rises before a following low is actually an underlying low-mid tone. Illustrations of these four tonemes on CV words are:

Table 5. Tones on CV words

high tone	xwə́	'corpse'	kpá	'bone'
mid tone	xwə̄	'(deer, falling tonga)'	kpā	'debt'
low tone	hwə̀	'to finish'	gbà	'bad'
low-mid tone	hwə̀̄	'chimpanzee (baboon)'	gbā̀	'to lock'

Low tone does not occur on CV nouns.

The following rules account for the phonetic appearance of the low-mid tone:

Right Spread of Low-Mid Tone

The mid segment of a low-mid tone spreads to the right of the vowel it marks.

Loss of Mid Segment of Low-Mid Tone

When a low-mid tone is followed by a mid or high tone, the mid segment of the low-mid tone is lost to the following

mid or high tone. When the low-mid tone occurs in phrase final position the mid segment is not heard or is heard very faintly.

/jà/ /sɔ̃́/ 'squirrel' 'two'
jà sɔ̃́ Right Spread of Low-Mid Tone
jà sɔ̃́ Loss of Mid Segment of Low-Mid Tone
[jà sɔ̃́] 'two squirrels'

/jà/ /tã̄/ 'squirrel' 'three'
jà tã̄ Right Spread
jà tã̄ Loss of Mid Segment
[jà tã̄] 'three squirrels'

/jà/ /hm̀m̀/ 'squirrel' 'five'
jà hm̀m̀ Right Spread
[jà hm̀m̀] 'five squirrels'

/gbà/ /gbò/ 'to lock' 'house, door'
gbà gbò Right Spread
gbà gbò Loss of Mid Segment
[gbà gbò] 'lock the door'

Words with low-mid tone and words with low tone are difficult for me to differentiate in phrase-final position.[5] The final pitch of a low-mid tone may be slightly higher than the final pitch of a low tone. It is significant, however, that a person who is literate in the Bassa Vah script will immediately recognize a difference between the two tones and

will mark the difference using different Vah tone marks (see 6.).

3.2. Other rising and falling tones occur which are conditioned by two sets of consonants called lenis and fortis (Hobley 1964). The fortis consonants are marked by an asterisk in Table 6.

Table 6. Fortis and Lenis Consonants

p		t	c		k	kp
b*		d*	j*		g*	gb*
ɓ		ɗ		dy		
m		n		ny		
	f	s			xw	
	v*	z*			hw*	
w						h*

*fortis consonants

Lenis Raising and Fortis Lowering

The lenis set of consonants has a raising effect on the initial part of low and low-mid tones. The fortis set of consonants has a lowering effect on the initial part of mid and high tones.

Table 7. illustrates each of the four tonemes high, mid, low and low-mid as they occur with and without conditioned glides. Gliding tones for high and mid tonemes follow fortis consonants, and gliding tones for low and low-mid tonemes follow lenis consonants.

Table 7. Level Tones and Gliding Tones on CV Words

	Level Tones (lenis)			Gliding Tones (fortis)		
High Tone	/ḍú/	[ḍú]	'to pick up'	/gbá gbá/	[gbà gbá]	'trick'
	/ɓá/	[ɓá]	'to plant'	/dú/	[dû]	'head'
Mid Tone	/kpē/	[kpē]	'trap'	/gbē/	[gbè]	'dog'
	/ḍā/	[ḍa]	'to fry'	/vɔ̃/	[vɔ̃̀]	'tail'
	(fortis)			(lenis)		
Low Tone	/zà/	[zà]	'to take'	/tà/	[tà]	'to chew'
	/hwè/	[hwè]	'to finish'	/kò/	[kò]	'to sit'
Low-Mid Tone	/bà/	[bà]	'shoe'	/ɓà/	[ɓà]	'father'
	/dě/	[dě]	'palm kernel'	/ɓè/	[ɓè]	'second person plural pronoun; plural marker'

The Lenis Raising and Fortis Lowering rule is incorporated into the Loss of Mid Segment of Low-Mid Tone Rule. As stated in Loss of Mid Segment, "the $\overset{\text{mid}}{\wedge}$ segment of the low-mid tone is lost to the following mid or high tone". The following mid or high tone must be a phonetic mid or high tone. So if a following tone is an underlying low or low-mid tone preceded by a lenis consonant, Lenis Raising will cause an initial mid tone to appear. In the

following examples /bà/ 'shoe' and /hwɛ̀/ 'chimpanzee' lose their final mid segments to the phonetic mids of /bɛ̀/ and /tà/ respectively.

/bà/	/bɛ̀/	'shoe' 'plural marker'
bà	bɛ̀	Right Spread
bà	bɛ̄	Lenis Raising
bà	bɛ̀	Loss of Mid Segments
[bà	bɛ̀]	'shoes'

/hwɛ̀/	/tà/	/dɛ̀/	'chimpanzee' 'to chew' 'palm nut'
hwɛ̀	tà	dɛ̀	Right Spread
hwɛ̀	tà	dɛ̄	Lenis Raising
hwɛ̀	tà	dɛ̀	Loss of Mid Segments
[hwɛ̀	tà	dɛ̀]	'the chimpanzee chewed the palm nut'

Similarly, a final mid segment of a low-mid tone will not be lost to a following phonemic mid tone which has had Fortis lowering applied to it. In the following example /bà/ 'shoe' does not lose its final mid segment to the underlying mid in /hm̄̌nyɛ̄̌/ 'four'.

/bà/	/hm̄̌nyɛ̄̌/	'shoe' 'four'
bà	hm̄̌nyɛ̄̌	Right Spread
bà	hm̄̌nyɛ̄̌	Fortis Lowering
[bà	hm̄̌nyɛ̄̌]	'four shoes'

3.3. When a lenis consonant precedes a low-mid tone, lenis raising will not be heard in certain circumstances.

/bà hm̀m̀/ 'father five'

bà hm̀m̀ Right Spread

bà hm̀m̀ Lenis Raising

bà hm̀m̀ 'five fathers'

The above example illustrates a situation in which three tone segments could occur on a single vowel if Lenis Raising were applied to low-mid tones which did not lose their mid segments. Three tones occuring on a single vowel would be rather cumbersome and in these cases the lenis raising is lost.

3.4. There is one more tone glide - high-low - which appears frequently as a conditioned glide (see Right Spread of High Tone, 3.5.) and rarely as the underlying tone on a CV word. It has been found to be the underlying tone on three CV words: /mɔ̂/ 'first person singular pronoun, emphasized'; /nɔ̂/ 'here' and /pû/ 'just, only ?' and on one reduplicated word: /pûpû/ 'dust'.

3.5. On long vowels (CVV) there are sixteen theoretically possible combinations of the four tonemes described above. The following chart summarizes these possibilities and illustrates which combinations have been found to occur.

Table 8. Tone Sequences on CVV words

first tone	second tone: high	mid	low	low-mid
high	x	x	x	
mid	x	x	x	
low	x	x	x	x
lw-mid			x	

high-high

ḍúú́ 'rope'
dyóó́ 'ocean'
sóó́ 'rock'
xwíá́ 'unmarried man or woman'

high-mid

mā́ā̀ 'night'
pí͘ 'sand'
xwĺ̄ 'plaintain'
dyúā́ 'forehead'
gbáā̀ 'palm grub'

high-low

ḍé̋ 'stranger'
tóò 'to limp'
dyúà 'seed'

mid-high

xwē̋ 'fish hook'
dyō̋ó́ 'fish (sp.)'
kpūú́ 'fish (sp.)'
cā̋á́ 'parrot'

mid-mid

gī͘ 'death'
kpē̄ē̄ 'bell'
mī͘ 'tongue'
zū͘ 'animal (sp.)

mid-low

nā̀ā̀ 'bird'
dyṑò 'sky'
bī̀ì 'mud'
ḍī̀ò 'tree'(sp.)'
kā̀à 'to open'

low-high		low-mid		low-low	
gàáá	'mat'	màāā	'woman'	bùl	'trap'
gbùé	'bird (sp.)'	zùō	'thanks'	hwlè	'road'
gbàáá	'farm shelter'	dlē	'mouse'	gbāāā	'head wife'
jèé	'snake'	gàāā	'man'	dùà	'monkey (sp.)'
vèé	'fish (sp.)'			kūāā	'work'

low-mid --low		low--low-mid	
sèè	'orange'	bùī	'brother-in-law'
hwlà	'hungry time'	kòō	'bucket'
gbūì	'tree (sp.)'	plī	'grass'
gbāà	'to save'	blī	'eddoe'

Verbs occur only with tone sequences ending in low tone, i.e. high-low, mid-low, low-low and low-mid--low.

The phonetic realizations of these CVV tone sequences relect the tonal rules of the language in general. Low and low mid tones are raised following lenis consonants and mid and high tones are lowered following fortis consonants.

/kòō/	[kòò]	'bucket'	/gbáā/	[gbáā]	'palm grub'
/gīō/	[gīō]	'death'	/dùà/	[dùà]	'monkey (sp.)'

Not all sequences of tones occur with both fortis and lenis consonants; the conditioned glides cause certain groups of tone sequences to fall together.

Words with /high-low/ tones are realized as high--high-low : /ɖéè/ |ɖéê| 'to be sweet; stranger'; /dyúà/ |dyúâ| 'seed'. This right spread of high tone also appears across morpheme boundaries.

Right Spread of High Tone

When high tone is followed by low tone, the high tone spreads to the following low tone causing a high-low tone to appear. A high tone remains on the original high segment.

/nǐ kòò/ 'my bucket'
|nǐ kôò|

When a fortis consonant appears between the high and low tones, a high-low fall is not heard.

/nǐ dè/ 'my palm kernel'
|nǐ dè|

The combinations of low-mid tone with the other three tones are the most interesting of the CVV tonal patterns. Only after examining all tonal patterns within morpheme boundaries as well as across morpheme boundaries was I able to extablish the pattern seen in Table 6.

The /CV̀V̀/ combination is another example of Right Spread of Low-Mid. In such /CV̀V̀/ words no consonant separates the low-mid tone from the following low, and so the mid tone of the low-mid tone spreads to the right and appears on the following low.

/sɛ̀ɛ̀/ [sɛ̀ɛ̀] 'orange'

/hwì̀à/ [hwì̀à] 'hungry time'

/gbà̀à̀/ [gbà̀à̀] 'to free, redeem'

June Hobley(1964) analyzed these words as /CV̀V̀/ words. She suggested that the second high-low tone was lowered to a mid-low tone by the preceding low tone. Some Bassa Vah script writers represent such words as sequences of three vowels CVVV. However, the length of these words is not three full vowel lengths, and there are no other examples of three vowel sequences in the language occuring within morphemes. I came to the conclusion that these words are all sequences of a low-mid tone followed by a low tone after I discovered a word composed of two morphemes, the first a CV̀ with a low-mid tone and the second a V̀ with a low tone.

/bɛ̀/ 'second person plural pronoun' /à/ 'first person plural pronoun, exclusive' i.e. we without you'

bɛ̀ à Right Spread

[bɛ̀à] 'first person plural pronoun, inclusive' i.e. we and you

This word demonstrates that the low-mid tone spreads to a following low tone vowel when no consonant separates the two vowels.

The /CV̀V̀/ words appear as [CV̀V̀] in phrase-final position, and they are phonetically similar to /CV̀V̀/ words (cf. 3.1. /CV̀/ and /CV̀/ words). However, the second low in /CV̀V̀/ words is slightly lower than the preceding low: /bùĭ/ [bùĭ] 'brother-in-law'; /bùĭ/ [bùĭ] 'trap'. The conditioned lowering of a low tone following a low tone is not uncommon in Liberian languages and has been found to occur in a dialect of Interior Grebo (Cedepo) and in Mano.[6] Thus, when a low tone appears contiguous to a low tone the underlying tone of the second low is probably non-low. The following two sentences illustrate this feature as it occurs across morpheme boundaries.

/ṹ/ 'first person singular pronoun'; /zɔ̀/ 'to ask for';
/ũ̀/ 'second person singular pronoun':
[ɔ̃ zɔ̀ũ̀] 'he asked for me'
[ɔ̃ zɔ̀ũ̀] 'he asked for you'

When a /CV̀V̀/ word is followed by a low tone, the final rise is shortened. That is, the initial low of the low-mid tone is lost to the preceding low and the words appear as [CV̀V̄]:
/bùĭ/ 'brother-in-law'; /hm̀m̀/ 'five':
[bùĭ hm̀m̀] 'five brothers-in-law'

I have not been able to identify any examples of /CV́V̀/, /CV̀V̀/ or /CV̀V́/ sequences occuring within a morpheme although I have found them to occur across a morpheme boundary, i.e.

a high, mid or low tone CV noun followed by a low-mid tone V specific marker. The tone sequences resulting from such noun-specific marker constructions are discussed in 3.6.

3.6. The specific marker is a vowel which appears in post-nominal position and which I believe has a low-mid tone /ɔ̀/. It is marked as a low-mid tone in the Bassa Vah script. In post-nominal position, the specific marker serves to illustrate all combination of high, mid, low and low-mid tones followed by low-mid tones.

When the specific marker occurs after a mid or low tone, it undergoes regular application of Right Spread and of Loss of Mid Segment rules.

/dɛ̄/ 'mother'; /ɔ̀/ 'specific marker'; /gbù/ 'to run'; /dàbɔ̀/ 'old lady'; /mū/ 'to go' :

/dɛ̄ ɔ̀ mū māā/ 'mother-specific marker-go-past tense marker'
dɛ̄ ɔ̀ mū māā Right Spread
dɛ̄ ɔ̀ mū māā Loss of Mid Segment
[dɛ̄ɔ̀ mū māā] 'the mother went'

/dàbɔ̀ ɔ̀ gbù nɪ́/ 'old lady-specific marker-run away- recent past marker'
dàbɔ̀ ɔ̀ gbù nɪ́ Right Spread
dàbɔ̀ ɔ̀ gbù nɪ́ Loss of Mid Segment
[dàbɔ̀ɔ̄ gbù nɪ́] tone contraction; cf. /ɔ̀VV/ 3.5.
[dàbɔ̀ɔ̄ gbù nɪ́] 'the old lady ran away'

When the specific marker occurs after high or low-mid tones, the tone of the specific marker always appears as a mid tone regardless of the following tone. The causes for this unexpected surface form are not known.

/ká/ 'crab'; /hwɛ̀/ 'chimpanzee'; /zà/ 'to vomit'; /nã́/ 'to drink'

/ká ɔ̀ mũ̄ mãã̄/ 'crab-specific marker-to go-past tense marker'
[káɔ̃ mũ̄ mãã̄] 'the crab went'

/ká ɔ̀ gbù mãã̄/ 'crab-specific marker-run-past tense marker'
[káɔ̃ gbù mãã̄] 'the crab ran away'

/hwɛ̀ ɔ̀ nã̄ nĭ/ 'chimpanzee-specific marker-drink-water'
[hwɛ̀ɔ̃ nã́ nĭ] 'the chimpanzee drank water'

/hwɛ̀ ɔ̀ zà ɔ́ nĭ́/ 'chimpanzee-specific marker-vomit-pronoun-recent past tense marker'
[hwɛ̀ɔ̃ zàà nĭ́] 'the chimpanzee vomited it'

3.7. In /$C_1C_2V(V)$/ [$C_1{}^{V}C_2V(V)$] words, the tones of the transitional vowel and of the full vowel depend on the underlying tone of the full vowel and on the fortis-lenis status of C_1 and C_2.

When a lenis C_1 precedes a mid or a high tone, the transitional vowel and the full vowel are level high or mid tones. When a fortis C_1 precedes a mid or a high tone, Fortis Lowering applies causing a lower tone to appear on the transitional vowel.

/ɖɓá/ [ɖ̚ɓá] 'to kill'
/ɓɖē/ [ɓ̃ɪ̆lē] 'to sing'

/ɖɖé/ [ɖ̃ɾ̆é] '(red deer)'
/gɖē/ [g̀ɪ̆lē] 'farm'

When a lenis C_1 precedes a low or a low-mid tone, the transitional vowel is mid and the full vowel is mid-low or mid depending on the rapidity of speech.

/ɓɖì/ [ɓ̃ɪ̀lì] or [ɓ̃ɪ̀l̀ì] 'cow'
/kɓɛ̀ɛ̀/ [k̃ɓɛ̀ɛ̀] or [k̃ɓɛ̀ɛ̀] or [kɛ̃ɓɛ̀ɛ̀] 'cup'

When a fortis C_1 precedes a low tone, the transitional vowel is low and the full vowel is mid-low or low depending on the rapidity of speech.

/vnɛ̃̀/ [ṽ̀ɪ̀nɛ̃̀] or [ṽ̀ɪ̆nɛ̃̀] 'big'

When a fortis C_1 precedes a low-mid tone, the transitional vowel and the full vowel appear to be low. I am not able to hear any effect of Lenis Raising after C_2 in phrase-final position.

/hwɖū/ [hẁɪ̆lù] 'wooden pan'

When Loss of Mid Segment does not apply to low-mid tones, the low mid tone appears divided between the transitional vowel and the full vowel.

/hwɖ̰ũ̀ hm̀m̀/ 'wooden plate-five'

[hw̰ɖ̰ũ̀ hm̀m̀] 'five wooden plates'

/ɓɖ̰ĩ̀ hm̀m̀/ 'cow -five'

[ɓ̰ĩ̀ hm̀m̀] 'five cows'

3.8. Tone patterns on compound words are generally predictable given the lexical tones of the component morphemes.

Compound Noun Formation

The final tone in a compound is assigned low tone except when the final tone is an underlying low-mid tone, in which case the low-mid tone is retained. An underlying final tone which is low becomes extra low (see 3.9.).

/nĩ́/ 'water' + /dú/ 'head' → [nĩ́ dù hm̋m̋] 'five springs'

/bòò/ 'banana' + /cũ/ 'tree' → [bòò cù hm̀m̀] 'five banana trees'

/mɔ̃̀ɔ̃́/ 'rice' + /ɖ̰ĩ̀/ 'to eat' + /nãã̀/ 'bird' → [mɔ̃̀ɔ̃̀ ɖ̰ĩ̀ nãã̀] 'five rice birds'

/nɛ̃̀ɛ̃́/ 'breast' + /bɔ̀ɔ̀/ 'rice bag' → [nɛ̃̀ɛ̃̀ bɔ̀ɔ̀ hm̀m̀] 'five brassieres'

While most compounds follow this rule I have found one word /gbɔ̀/ where a final low-mid tone does not retain its low-mid tone but changes to low.

/sùkúù/ 'school' + /gbɔ/ 'house' → [sùkúú gbɔ̀ hm̀m̀] 'five school houses'

/bĩ̀ĩ̀/ 'mud' + /gbɔ̀/ 'house' → [bii gbɔ̀ hm̀m̀] 'five mud houses'

There are also a few noun-noun constructions which do not undergo Compound Noun Formation:

/bà/ 'shoe' + /ḍúú/ 'rope' → [bà ḍúú] 'shoe lace'

/gbã̀/ 'law' + /ḍ̃ẽ/ 'mother' → [gbã̀ ḍ̃ẽ] 'girl friend'

When the non-final syllable in a compound ends in a high-low tone, the high-low tone spreads to the right. While this rule occurs most often in compounds, it is also applicable to non-compound constructions.

Right Spread of High-Low Tone

When a high-low tone is followed by a low tone, the high-low tone spreads to the following low tone. A high tone remains on the original high-low segment.

/sùkúù	dyú/	'school-child'
sùkúù	dyù	Compound Noun Formation
sùkúù	dyǔ	Right Spread of High Tone
sùkúú	dyû	Right Spread of High-Low Tone
sùkúú	dyû	Lenis Raising
[sùkúú	dyû]	'school child'

/mɔ̃̂	nǏ	bó/ 'I(emphatic)- to be located-there'
mɔ̃́	nî	bó Right Spread of High-Low Tone
mɔ̃́	nǏ̀	ó contraction
mɔ̃́	nî	ò Low Tone Replacement (see 3.9)
mɔ̃́	nǏ́	ô Right Spread of High-Low Tone
[mɔ̃́	nǏ́ô]	'I was there'

If a fortis consonant appears between a high-low tone and a low tone, the high-low tone is lost (cf. Right Spread of High Tone; 3.5.)

Loss of High-Low Tone

When a high-low tone is preceded by a fortis consonant the high tone is lost.

/sùkúù gbò /	'school-house'
sùkúû gbò	Right Spread of High Tone
sùkúû gbô	Right Spread of High-Low Tone
sùkúú gbò	Loss of High Low Tone
sùkúú gbò	Right Spread of Low Mid Tone
sùkúú gbò	Loss of Mid Segment
sùkúú gbò	Lenis Raising
[sùkúú gbò]	'school house'

3.9. One morphotonemic change has been identified which appears when a stem morpheme and a functor such as a verbal ending or a preposition are joined.

Low Tone Replacement

When a stem morpheme ends in low tone and is followed by a V morpheme with no intervening consonant, the tone of the V morpheme becomes low if it is not low already.

/ɔ̃ fɛ̃ nĺ/	'he-to fear- recent past marker'
ɔ̃ fɛ̃ ĺ	contraction
ɔ̃ fɛ̃ l̀	'Low Tone Replacement'
[ɔ̃ fɛ̃l̀]	'he is afraid'
/ɔ̃ zɔ̀ ɔ̃ mãã́/	'he-to-ask for-it-past tense marker'
ɔ̃ zɔ̀ ɔ̀ mãã́	Low Tone Replacement
[ɔ̃ zɔ̀ɔ̀ mãã́]	'He asked for it'

4. Intonation

Wh-questions are marked by a question word at the beginning of a statement and by a particle at the end. No special intonation is required. Yes-No questions are marked by an intonational feature.

Yes-No Question Formation

a) When the final vowel in a statement ends in high, mid or low-mid tone, a yes-no question is formed by adding an additional vowel to the final vowel of the statement. This additional vowel has the same quality as the final statement vowel except that it always carries low tone.

[ɔ̄ nĭɛ̀ pɔ̄ɔ̄ĭ́] 'He is building it.'
[ɔ̄ nĭɛ̀ pɔ̄ɔ̄ĭ̀ĭ̀] 'Is he building it?'

[ɔ̄ mɔ̀ gbɛ̀] 'It is a dog.' /gbɛ̄/ 'dog'
[ɔ̄ mɔ̀ gbɛ̀ɛ̀] 'Is it a dog?'

[ɔ̄ mɔ̀ gbò] 'It is a house.' /gbɔ̄/ 'house'
[ɔ̄ mɔ̀ gbòò] 'Is it a house?'

b) When the final vowel in a statement ends in low tone, a yes-no question is formed by adding an additional vowel to the final stem vowel of the statement. The additional vowel has the same quality and tone as the final stem vowel.

[ɔ̄ mɔ̀ hwlɛ̀] 'It is a road.'
[ɔ̄ mɔ̀ hwlɛ̀ɛ̀] 'Is it a road?'

[ɔ̄ mɔ̀ ɖɔ̀] 'It is a tree(sp.).'
[ɔ̄ mɔ̀ ɖɔ̀ɔ̀] 'Is it a tree(sp.)?

[ɔ̀ nĭ dɛ̀ tà ãũ̀]	'He is chewing a palm kernel.' /tà/ 'to chew'
[ɔ̀ nĭ dɛ̀ tàà ãũ̀]	'Is he chewing a palm kernel?'
[ɔ̀ mũ̄ gbòȭ pɔ̄ ũ̀]	'He will build a house.' /pɔ̄/ 'to build, throw'
[ɔ̀ mũ̄ gbòȭ pɔ̀ɔ̀ ũ̀]	'Will he build a house?'

5. Borrowed Words

English words which have been incorporated into the Bassa language exhibit regular phonological changes from English to Bassa. Not only are consonants and vowels modified to conform to Bassa phonology, but tone is also assigned to English words in a systematic way. Some of the more obvious patterns of English loan words are summarized here.

5.1. Consonants

Bassa replaces unknown English consonants and known, native consonants in unfamiliar positions with the closest equivalent possible in Bassa. [w̰ɖv̰] is substituted for word-initial [r] as in wɖéɖíò 'radio' and wɖúù̀ 'room'. [ɖ] is substituted for word-initial [l] as in ɖáṕò 'lamp'. [s] replaces initial [š] as in sóßò 'shovel'. [ß] is substituted for intervocalic [v] as in sóßò 'shovel' and gɖẽßè 'gravy'.

The final consonants [l] and [r] are dropped: káà 'car'; bóò 'ball'. Final consonants are also dropped on two syllable words with stress on the first syllable and on all words with long vowels or diphthongs in the final syllable.

cékò	'checkers'	bíl	'to beat'
díkò	'deacon'	cẽ̃ẽ̃	'chain'
bàtáà	'baptize'	sóßò	'shovel'

Bassa adds a final vowel (either i or e) to a word-final

consonant when the English word is a monosyllabic word containing a short vowel or when the English word is a polysyllabic word with stress on the final syllable and a short vowel in the final syllable.

kékè	'cake'	sìmétè	'cement'
sótè	'shirt'	bètì	'belt'
cóócì	'church'	dààsì	'gift, bribe (dash)'
bìkósì	'because'		

When the English word contains a consonant cluster Cr or Cl, a transitional vowel is inserted in Bassa. Similarly, the transitional vowel is also inserted in borrowed English words like 'battery' and 'Bible' which have syllabic consonants similar to the Bassa syllabic consonants.

kɖísímósì	'Christmas'	[k'ísímósì]
gɖɛ̃sè	'gravy'	[gᵊlɛ̃sè]
bátɖè	'battery'	[bátᵊrɛ̂]
báśɖò	'Bible'	[báśᵊlɔ̂]

When the English word contains any other consonant cluster, one or both of the consonants may be dropped.

sótè	'shirt'	bàtáà	'to baptize'
cóócì	'church'	mákétì	'market'
sìmétè	'cement	zíì	'zinc'

5.2. Vowels

When a borrowed English word contains an unfamiliar vowel or diphthong, the vowel or diphthong is replaced by the closest Bassa equivalent.

[æ] is replaced by [ɛ] or [a]	tɛ́sì	'taxi'
	dɑ́pò	'lamp'
[ə] is replaced by [ɔ]	kɔ́bà	'cupboard'
	sɔ́bò	'shovel'
[ɪ] is replaced by [i] or [e]	físì	'to fix'
	dɖéè	'to drill'
[aɪ] and [aʊ] are replaced by [a]	dɑ́mɑ̃̀	'diamond'
	áwà	'hour'

5.3. Tone

Tone is assigned to borrowed words in accordance with English stress patterns.

Two syllable English words with stress on the first syllable or single syllable words beginning with a lenis consonant are assigned CV́CV̀,

cɛ́kò	'checkers'	cɔ́ɔ́cì	'church'
tɛ́sè	'taxi'	pɔ́sè	'purse'
sɔ́jà	'soldier'	kɔ́fì or kɔ́fɖè	'coffee'

Single syllable English words beginning with a fortis consonants are assigned CV́V̀, CV́(V̀)CV̀ or CV́CV́V̀.

bfl	'to beat'	dààsl	'(dash)'
zíì	'zinc'	bètfl	'belt'

Two syllable English words with stress on the second syllable or three or four syllable words with stress on the second syllable are assigned CV́CV́(C)V.

blkósl	'because'	dàsídà	'Liberia'
slmétè	'cement'	màzíì	machine'
àpósò	'apostle'		

Three syllable English words with stress on the first and last syllable are assigned CV́(C)VCV́V.

mótò káà	'motorcar'	kéàsíì	'kerosine'

Two syllable English words with syllabic liquids in the last syllable are assigned CV́CCV [CVĆCV].

bátdè	'battery'	dátdè	'doctor'
báɓdò	'Bible'		

Borrowed words are also subject to conditioned glides so that high tones following a fortis consonant appear as rises and low tones following a lenis consonants appear as falls: bdúù [bᵊdúù] 'blue'; bóò [bo͡o͡] 'ball'; blkósl [bl̀kósl̂] 'because'.

6. Vah Script

6.1. Bassa has an indigenous alphabetic writing system called the Vah script. The word và means sign or symbol. The script is said to have originated from various types of symbolic communication including facial expressions and leaves which had been folded and bitten leaving a characteristic toothprint. Some time in the early or middle part of the 19th century a man called Diwada lived who was an expert in this manner of communication. Diwada used to teach the symbols to Bassa women to enable them to arrange meetings with their lovers. Diwada taught these symbols to a chief's wife called Tomɛɛ, and when the chief discovered the liason between Tomɛɛ and Diwada, he arranged to sell Diwada to some slave traders. After some time the chief also sold his wife Tomɛɛ because she continued to be unfaithful to him. Both Diwada and Tomɛɛ were sent to the U.S. where they met. One of their children became interested in the symbols and learned them.

In the latter part of the 19th century, a Bassa boy later called Dr. Thomas Darvin Lewis was brought to the U.S. by some missionaries. Dr. Lewis attended high school in the southern part of the U.S., and he completed medical studies at Syracuse University. During his stay in the U.S., Dr. Lewis learned the Bassa symbols, presumably from the child of Diwada and Tomɛɛ, and he 'modernized' them. When he

returned to Liberia in 1910, Dr. Lewis introduced the modernized symbols, translated Biblical passages using the script, taught Bassa people to read and write the script and imported a printing press from Germany for the Vah alphabet. Table 10 contains a sample of the script as produced by this press.

It is not clear at what point the script developed from the original Bassa symbols contained in facial expressions and leaf imprints to an alphabet. However, Dr. Lewis claimed that he only modernized the script that he had learned in the U.S. Presently, the script is used mainly for letter writing by older people. The printing press was in working condition until a few years ago. The remains of it are now located in the Fair Grounds building of Lower Buchanan, Grand Bassa County.

6.2. The Vah script has 30 characters representing phonological segments plus 5 tone marks.

Table 9. Vah Script Consonants

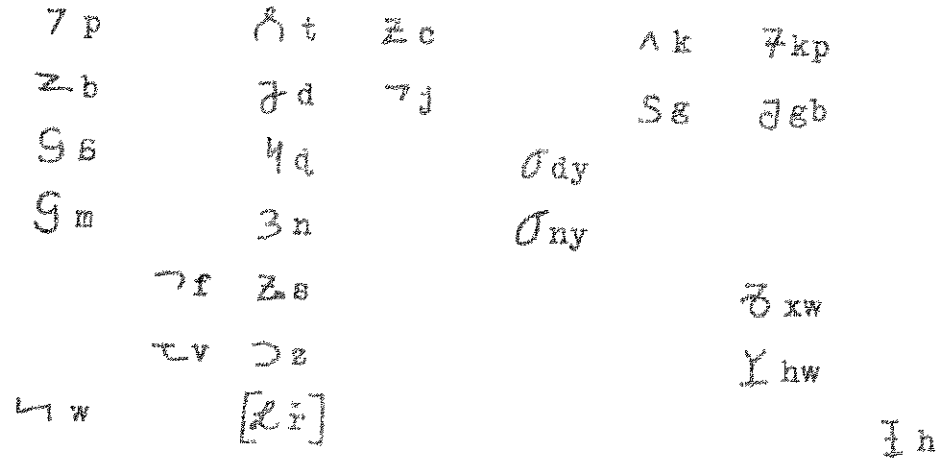


Table 10

Sample of the Bassa Vah Script

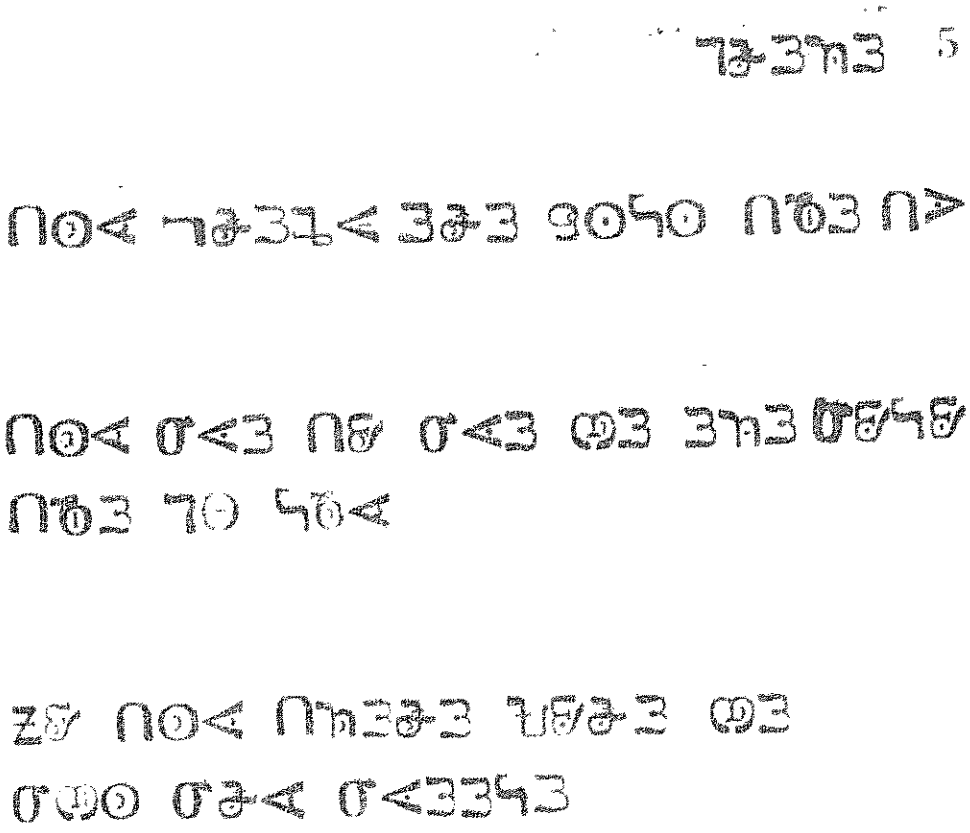
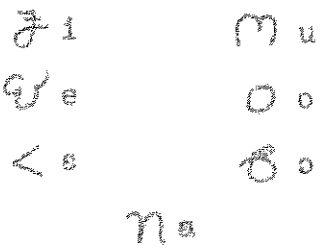


Table 11. Vah Script Vowels



Nazalization is indicated by the symbol 3 (/n/) in post-vocalic position. It is written following every nasal vowel and is sometimes attached to the vowel: /kùùã̀/ 'work' ΛՊ'ՊՐ. Intervocalic /n/ is represented by a double 33 thus avoiding confusion with 3 as a sign for nasalization: /vnɛ̀/ 'big' ᒣᐊ33ᐊ3.

There are no separate symbols in the script for /m/ or /ny/. These consonants are indicated by the letter 3 (/n/) written after 9V (/bV/) or ØV (/dyV/). Consequently, the script has no way of marking /m/ or /dy/ when they are followed by oral vowels. The following minimal pair is written the same: 9Ո /máà/ 'to make a mistake' and /báà/ 'friend'.

The script has a symbol for flap [ɾ̌]. [ɾ̌] is an allophone of /d/ and appears only after /d/ or /t/. I have been told by James Morgan of Buchanan that although Dr. Lewis introduced the ᒐ ([ɾ̌]) symbol, he did not use it himself.

In words with a transitional vowel between a syllabic consonant and a medial consonant, the Basse script represents the transitional vowel with the same vowel symbol used for the full vowel: ᒣᐊ33ᐊ3 /vnɛ̀/ 'big'.

6.3. The Vah script has five tone marks which are written inside the vowel symbols. The following chart illustrates these marks as they appear inside the vowel symbol 𖤀 (a).

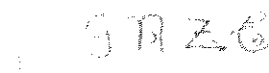
Table 12. Vah Script Tones

	translation of Bassa description
𖤀́ á	stress the word
𖤀̀ à	relax the word
𖤀̄ ā	raise voice from low
𖤀̌ ǎ	slant the word
𖤀́̀ áà	double

In learning the tonal marks, students of the script practice these tones in a chanting rhythm much as one might practice singing the "A, B, C's". The students sing: á, à, āā, àā, áà; ó, ò, ōō, òō, óò etc. By repeating this ordered chanting, any script writer can pick out what tone should be marked for a particular word. It is helpful and interesting to study the Vah script tone marks in relation to a tonal analysis of the language.

The most noteworthy tone of the Vah tone system is the 'slant the word' tone. This tone is equivalent to the underlying low-mid tone which is not audible or only barely audible when it appears on a word pronounced in isolation. Thus, a pair of words such as /dě/ 'palm kernel' and /dè/ 'to set down' are difficult to distinguish in isolation. A Bassa person who knows the script will immediately recognize that 'palm kernel'

requires a 'slant the word' tone and that 'to set down' requires a 'relax the word' tone.

'Stress the word' is equivalent to high tone. 'Relax the word' is equivalent to low tone. 'Raise voice from low' is equivalent to mid tone. 'Double' is equivalent to a high tone followed by a low. The double tone sounds to me as if it is used to mark tone on two vowels although it is written on a single vowel. The word for 'Bassa' Bàsɔ́ɔ̀ is written  . In oral practice the mid, rise and high-low tones are exaggerated in length. However, they are all used to mark the tone of individual vowels in written form.

Footnotes

[1]Mr. Joseph M.N. Gbadyu, Supervisor of Schools Grand Bassa County, first related this history to me. Many of the conclusions reached in this paper are the results of conversations held with Supervisor Gbadyu, Reverend Abba Karnga and Mr. James Morgan all of whom reside in Buchanan. Reverend Karnga provided most of the historical information concerning the Vah script. Mr. Morgan aided me in much of the phonological analysis. His comments and suggestions have been particularly helpful both because of his knowledge of the Vah alphabet and because of his linguistic training.

John Duitsman, June Hobley and Linda Thayer read earlier drafts and portions of the paper and provided many helpful comments. Professor Wm. E. Welmers of UCLA discussed various portions of the paper with me and his insights are reflected throughout the paper. Mrs. Bertha B. Azango, Assistant Minister for Research and Planning at the Ministry of Education, provided generous support for this research project.

[2]When glosses for Bassa words are given in Liberian English, they are written in parentheses.

[3]That this final [m] is conditioned by a word final /ũ/ was clearly demonstrated in a Bassa primer class in which children who were native speakers of Bassa were being taught to recognize nasalized vowels <in, en, an, on and un>. When the children read this drill, they read [ĩ, ɛ̃, ã, ɔ̃ and m̃].

[4]In this paper I follow Wm. E. Welmers' classification of tone languages (1973:). He defines a discrete level tone language as one which as "two, three or four level tones, and perhaps also a unit rising and/or a unit falling tone". In discrete level tone languages the position of the glides within the environmental pitch range is not significant.

[5]In the eastern dialect of Gbii, the contrast between low tones and low-mid rising tones is much more distinct. Even in phrase final position, low-mid rising tones can be clearly heard: /gbɔ̀/ 'house'; /jɛ̌/ 'squirrel'

[6]Wm. E. Welmers (personal communication)

[7]Professor Welmers first pointed out this feature to me in the speech of a Bassa woman speaking English. This woman assigned high tone to the word 'beat' in the expression 'I will beat you'. Since 'beat' begins with a fortis consonant, the high tone appeared as a rise [bíí]. It is likely that other features of the phonology of English words borrowed by the Bassa language are similar to the phonology English as spoken by the Bassa people.

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