

Ministry of Scientific Research and Innovation

Notes on the Phonology of Kemezung

by
Bruce Cox

SIL
B.P. 1299, Yaoundé
Cameroon

2005

Table of Contents

Abbreviations	iii
1. Introduction.....	1
2. Basic Phonology.....	1
2.1 Overview.....	1
2.2 Consonants	2
2.2.1 Inventory of unmodified consonants	2
2.2.2 Modified consonants	2
2.2.2.1 Labialised consonants.....	2
2.2.2.2 Palatalised consonants.....	3
2.2.2.3 Prenasalised consonants	3
2.2.3 Phonetic description	4
2.2.3.1 Onset consonants.....	4
2.2.3.2 Coda consonant	4
2.2.4 Contrast	5
2.3 Vowels	5
2.3.1 Inventory and phonetic description	5
2.3.2 Vowel system type.....	6
2.3.3 Vowel nasalization.....	6
2.3.4 Vowel length	6
2.3.5 Vowel Sequences.....	6
2.3.6 Contrast	7
2.4 Tone	7
2.4.1 Level tones	7
2.4.2 Contour tones.....	7
2.4.3 Tone bearing units.....	8
2.5 Syllable Types	9
3. Phonological Structure of Morphemes and Words	9
3.1 Nouns	9
3.1.1 Noun Class Affixes	9
3.1.2 Root structure	10
3.1.3 Tone patterns	10
3.2 Verbs	11
3.2.1 Root structure	11
3.2.2 Tone patterns	12
3.2.3 Extensions	12
4. Morphophonemic Processes and Alternations.....	12
4.1 Vowel-vowel interactions	12
4.2 Consonant-consonant interactions	13
4.3 Noun gender alternations	13
4.3.1 Class 5 suffix {-li}	13
4.3.2 Historic labialization.....	13
4.4 Vowel alternations	14
4.4.1 Progressive aspect.....	14
4.4.2 Negation	14
4.4.3 Nominalizing suffixes and verbal extensions	15
4.4.3.1 Abstract nominalizer {-lɔ}	15
4.4.3.2 Concrete nominalizer {-nɔ}	15

4.4.3.3 Causative and reciprocal extensions {-si} and {-nə}.....	15
5. Residue.....	15
5.1 Prenasalised nasals.....	16
5.2 A fourth tone level?.....	16
5.3 Irregular Palatalization.....	16
6. Conclusion	16
References	17

ABBREVIATIONS

2s	second person singular
2p	second person plural
C1, C2, etc	noun class 1, 2, etc
CAUS	causative
μ	mora
P1	immediate past tense
P2	unmarked past tense
P3	remote past tense
PL	plural
PROG	progressive aspect
RECIP	reciprocal
SG	singular
<i>sp.</i>	species

Phonetic pitch is indicated by the following IPA symbols (within phonetic brackets [...]):

1	high tone
˧	mid tone
˨	low tone
˥˩	high-low falling tone
˧˩	mid-low falling tone
˨˩	low-mid rising tone
˧˥	mid-high rising tone

The following IPA symbols are used in a non-standard manner:

ɨ	close-mid central vowel [ɨ]
ə	open-mid central vowel [ɜ]

Notes on the Phonology of Kemezung

Bruce Cox

SIL Cameroon

November 2005

This document presents some preliminary notes on the phonology of Kemezung. It is primarily focused on the basic segmental and tonal phonology as it applies to lexical items. Exploration of morphophonology is limited to a few random observations as an aid to subsequent researchers.

1. INTRODUCTION

The Kemezung language is spoken in Misaje subdivision, Donga-Mantung division, in the North-West province of Cameroon. Most speakers live in the Fondom of Dumbu and call themselves *bədzumbu*, and their language *dié ji bədzumbu lə* (words of the Dumbu people). The name Kemezung comes from the name they give to their land.

The language is also spoken in the village of Kwei, which has its own Fon and represents a different people group. Reports of the provenance of this group are varied, but it seems that they originated further west, possibly near Maashi, but were displaced when the Dumbu cattle ranch was formed. They were granted permission to settle within Kemezung territory and largely adopted the same language, although their former language may still be retained in some domains. There are some dialectal differences between Kwei and Dumbu.

In all, the number of speakers of this language has been estimated at 4500.

Kemezung is classified as follows: Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Beboïd, Eastern (Grimes, 2000: I:40).

This phonological sketch of Kemezung was prepared with the assistance of several language informants, notably the late Kwatu Peter NDZU and NDITAMA David Nchotu, residents in Dumbu, and Kifung WABI William, also from Dumbu but residing in Yaoundé for some years. Most of the data was accumulated over a period of a year and a half spent living in Dumbu.

Other than a list of Kemezung words presented by Chilver & Kaberry (1974) and a survey of five languages of the Eastern Beboïd group by Brye & Brye (2001), nothing has been published on this language.

2. BASIC PHONOLOGY

2.1 Overview

The Kemezung language has two main syllable types: CV and CVC¹. In the latter case, a single nasal archiphoneme may close a syllable. The onset consonant can be complex however: homorganic NC sequences as well are common word-initially. In addition, sequences CG with G an approximant are prevalent. The vowel also may be either short or long, although the latter is rather uncommon.

The burden of phonological complexity in Kemezung, then, is borne by the consonants, vowels and tone. These will be described in turn below.

¹ There is also a marginal syllable type V.

2.2 Consonants

2.2.1 Inventory of unmodified consonants

The unmodified consonant phonemes of Kemezung which occur syllable initial are displayed in the chart below:

		Labial	Coronal	Palatal	Velar	Labialvelar	Laryngeal
Plosives	vl		t		k	kp	
	vd	b	d		g	gb	
Affricates	vl		ts				
	vd		dz				
Fricatives		f	s				(h)
Nasals		m	n	ɲ ²	ŋ		
Approximants			l	j		w	

Although the presence of the affricates /ts dz/ and absence of palatal plosives might suggest that the former are functioning in the role of the latter, the allophonic palatalisation manifested by the affricates is identical to that of the fricative /s/. The arrangement above better captures this parallel.

The laryngeal fricative /h/ is a marginal phoneme restricted to possessives, negatives, some adverbs of time and place and the word /hahɔ/ [hahɔ] ‘OK’. Except for this last word, it is invariably found between two identical vowels and is often realised as a long vowel.

Word-finally, all contrast between nasal and prenasalised consonants is neutralised in favour of /ŋ/.

2.2.2 Modified consonants

Only ambiguous vowel sequences V_1V_2 where V_1 is high are attested in Kemezung. Moreover, they only occur after certain consonants. It is convenient, then, to interpret V_1 as a semivowel /w/ or /j/ and to discuss the resulting consonant combinations as labialised or palatalised consonants, respectively.

The only other type of consonant cluster attested is the homorganic NC sequence discussed as prenasalised consonants in section 2.2.2.3 below.

2.2.2.1 Labialised consonants

Labialised consonants /Cw/ are attested when C is a plosive, fricative or nasal consonant of the labial or velar series. Labialised coronal consonants are not attested. The labialised velar phonemes are the most common.

Sometimes labialised consonants are produced when a prefix Cu- is affixed to a vowel-initial root. Such roots are quite uncommon.

1)	bu- + a	/bwa/	[bwa]	‘C14.that’
	mu- + εŋ	/mwεŋ/	[mwɛ̃]	‘C26.mine’

There is one example which, surprisingly³, appears to attest a phonemic labialised labialvelar plosive. The contrast with the labialised velar plosive is shown below.

2)	/kpwi/	[k̠pwi]	‘fool’
	/kakpi/	[k̠ak̠pi]	‘agama lizard’

However, as a term of abuse, this unique example should perhaps be considered an ideophone which falls outside the normal phonological pattern in Kemezung.

Labialised consonants are not attested before the high back vowel /u/. Although uncommon, they can occur before other back vowels.

3)	/kifwɔŋ/	[kifwɔ̃]	‘lip’
	/mwo/	[mwo]	‘razor’

² This phoneme is distinct from the palatalised alveolar nasal /nʲ/ both acoustically and in distribution—it may occur before /i/ unlike palatalised consonants.

³ “There are no clear cases of labialized labialvelars /kp^w, gb^w/ as independent phonemes” (Cahill, 2001).

2.2.2.2 Palatalised consonants

Palatalised consonants /Cj/ are attested in monomorphemic words primarily when C is a plosive, affricate, fricative or nasal consonant of the labial or coronal series. A single datum attesting a palatalised labialvelar plosive is also attested.

4)	/ŋgbjaŋsi/	[ŋmgbjãsi]	‘star’
----	------------	------------	--------

However, palatalised consonants frequently occur at morphological boundaries, when a prefix Ci- is affixed to a vowel-initial root, or the rather productive pluralising suffix {-jə} is appended to a root-final consonant. In the latter case, the restriction on C given above no longer applies.

5)	fi- + əŋ	/fjəŋ/	[fjõ]	‘thing’
	bi- + a	/bja/	[bja]	‘c8.that’
6)	ŋ- + tsək	/ŋtsək/	[ntsək]	‘stab, pound (once)’
	ŋ- + tsək + -jə	/ŋtsəkjə/	[ntsəkjə]	‘stab, pound (repeatedly)’

Palatalised consonants do not occur contrastively before the high front vowel /i/, but they do occur before the other front vowels.

7)	/fi/	[fi]	‘kidney’
	/fe/	[fe]	‘bone marrow’
	/fje/	[fje]	‘debt’
	/fɛ/	[fɛ]	‘two’
	/fjɛ/	[fjɛ]	‘palm rat’

The palatalised affricates and fricative of the coronal series are realised as portmanteau phones at a postalveolar point of articulation. In addition, the palatalised voiceless alveolar plosive is realised with noticeable friction before the semivowel. Thus:

/tsj/	→	[tʃ]
/dzj/	→	[dʒ]
/sj/	→	[ʃ]
/tj/	→	[tʃi]

2.2.2.3 Prenasalised consonants

Homorganic sequences NC are very common word-initially in Kemezung. Indeed, every unmodified consonant⁵ and most labialised and palatalised consonants C are attested after the homorganic nasal in that position. However, many such examples are not monomorphemic, arising instead from the /ŋ-/ prefix indicating the infinitive of a verb. Among nouns, there is also some evidence to suggest a similar prefix can occur between the noun class prefix and the root,⁶ resulting in polymorphemic NC sequences. In root-medial positions on the other hand, the consonant C is restricted to plosives, fricatives and affricates, although the last of these are poorly attested.

8)	/tsaŋti/	[tsanti]	‘head pad’
	/dziŋgə/	[dʒiŋgə]	‘watch!’
	/kpəŋsi/	[kpãsi]	‘pot’
	/bi-kwəntsə/	[bikwəntsə]	‘reward’

There is no indication that word-initial prenasalised consonants should be treated as syllabic. Such initial nasals do not bear contrastive tone; whatever pitch they do bear appears to be predictable from the context.

⁴ Underlyingly CVC verb roots often form the non-progressive form by deleting the final consonant.

⁵ This apparently includes the nasal consonants—the prenasalized version is realized with extra length.

⁶ In particular, initial prenasalised consonants are rare in gender 3/4 but relatively common in other classes. There are also some clear examples of a nasal prefix, for example, /ki-ŋ-feŋtɛ/ “act of choking” vs /ki-feŋtɛ/ “something stuck in the throat”.

2.2.3 Phonetic description

2.2.3.1 Onset consonants

Only one significant process of allophonic variation is present in Kemezung: palatalisation before the high front vowel /i/. However, several phonemes exhibit free variation, particularly intervocally or before /i/.

The remaining phonemes (in particular, all the plosives and nasals, as well as /w/ and /h/) are realised with the corresponding phone and will not be discussed further below.

The alveolar affricates are subject to palatalisation before the high front vowel /i/, being realised as the corresponding postalveolar phone.

/ts/ → [tʃ] / _ i
[ts] elsewhere
/dz/ → [dʒ] / _ i
[dz] elsewhere

9)	/bitsi/	[bitʃi]	‘all’
	/kitsu/	[kitsu]	‘iron’
	/dzi/	[dʒi]	‘hoe’
	/bidze/	[bidze]	‘mud’

The same process applies to the alveolar fricative /s/. In addition, in root-medial intervocalic environments, it is weakened to either a slightly voiced fricative or an alveolar flap. The latter is particularly common in fast or casual speech, although some speakers seem to use it at all speeds.

/s/ → [ʃ] / _ i
[ʃ] ~ [r] / V _ V, root-medial
[s] elsewhere

10)	/si/	[ʃi]	‘wound’
	/ki-ɣəsə/	[kiɣəsə] ~ [kiɣərə]	‘tooth’
	/fi-sə/	[fisə]	‘knife’

The approximant /j/ is always realized with a hint of fricativisation which is crucial for discriminating between the sequence /ɲj/ and the phoneme /ɲ/. Before /i/, it is optionally realized as a postalveolar fricative.

/j/ → [ʒ] ~ [j] / _ i, root-medial
[j] elsewhere

11)	/jiɲ/	[jī] ~ [ʒī]	‘leopard’
	/ji/	[ji]	‘name’
	/jɛji/	[jɛji] ~ [jɛʒi]	‘truly’

Free variation between [l] and [d] is attested in many words before /i/ in root-medial positions, although there are certainly some words where only [l] is attested (see example (12c) below). In view of the rarity of root-medial /d/ except after the homorganic nasal, /l/ would appear to be the originally underlying phoneme.

It appears that realization with [d] is preferred in Dumbu, whereas [l] is preferred in Kwei.

/l/ → [l] ~ [d] / _ i, root-medial
[l] elsewhere

12)	a. /ɲwali/	[ɲwali] ~ [ɲwadi]	‘spreading’
	b. /fele/	[fele]	‘bone marrow.SG’
	c. /bilika/	[bilika]	‘paw-paw’

2.2.3.2 Coda consonant

Word-finally, /ɲ/ is usually realized by nasalizing the preceding vowel. After a long vowel, a very distinct [ɲ] is also produced. Word-medially, NC sequences with C a fricative (or approximant⁷) is similarly realized by nasalizing the vowel. But when C is a plosive or affricate, the vowel nasalization is minimal and a homorganic nasal consonant is pronounced.

⁷ Homorganic NC sequences with C an approximant do not occur in monomorphemic words.

/V:ŋ/	→	Ṽŋ	/_#
/Vŋ/	→	Ṽ	/_#
		Ṽ	/_C _[+cont]
		Vm	/_C _[+labial]
		Vn	/_C _[+coronal]
		Vŋ	elsewhere

13)	/lɔŋ/	[lɔ̃]	‘trousers’
	/dzə:ŋ/	[dzə̃ŋ]	‘where?’
	/səŋfi/	[sə̃fi]	‘laugh!’
	/jiŋbi/	[jiŋbi]	‘song’
	/tsaŋti/	[tsaŋti]	‘head pad’
	/laŋgə/	[laŋgə]	‘point’
	/ki-liŋgbə/	[ki-liŋgbə̃]	‘bat’

2.2.4 Contrast

Contrast between the consonants is shown by the set of examples below:

14)	/ta/	[ta]	‘stone’
	/ka/	[ka]	‘heap’
	/kpa/	[k̄pa]	‘drag!’
	/ba/	[ba]	‘rattle’
	/da/	[da]	‘cutlass’
	/ga/	[ga]	‘put!’
	/gba/	[ḡba]	‘ceiling’
	/tsa/	[tsa]	‘jujus’
	/dza/	[dza]	‘porcupine’
	/fa/	[fa]	‘at that time’
	/sami/	[sami]	‘friend’
	/hahɔ/	[hahɔ]	‘OK’
	/manə/	[manə]	‘thus’
	/nasi/	[nasi]	‘lower grinding stone’
	/ja/	[ja]	‘give!’
	/ŋa/	[ŋa]	‘walk boastfully!’
	/la/	[la]	‘what?’
	/ja/	[ja]	‘buffalo’
	/wa/	[wa]	‘Cl.that’

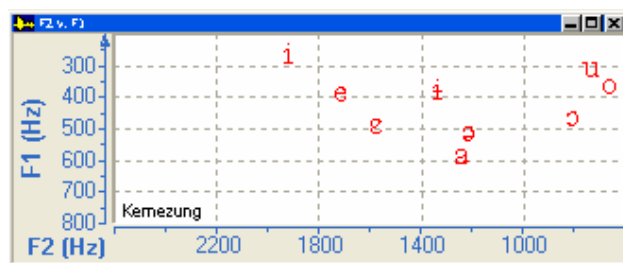
2.3 Vowels

2.3.1 Inventory and phonetic description

The basic vowel phonemes of Kemezung are displayed in the chart below. Note that the symbols *i* and *ə* are used in both phonemic and phonetic transcriptions to refer to the rather lower vowel phones [ə] and [ɜ], respectively.

High		i		u
Close-mid		e	i	o
Open-mid		ɛ	ə	ɔ
Low			a	

The following chart produced with Speech Analyzer plots the vowels according to the first and second formant frequencies. Note that [u] and [o], as well as [ə] and [a], are extremely close to each other.



2.3.2 Vowel system type

The presence of the (non-low) central vowel phones makes the Kemezung vowel system rather unlike its closest documented Beoid relatives. Richards (1991) did not report any central vowel phones in his description of Nsari. In Noonii, [ə] occurs as an allophone of /e/, but phonemically still retains an upper-type 7-vowel system. Seven vowel systems with additional central vowels, however, are quite common among Western Grassfields languages and are found in the wider neighbourhood.

It is possible that there are some vestiges of a vowel harmony system present. The co-occurrences of vowels in disyllabic noun roots reveal a marked preference for front and roundness harmony. Moreover, when both are front or both are back, only four of the six possible combinations are attested.

2.3.3 Vowel nasalization

Contrastive vowel nasalization does not occur in Kemezung. Nevertheless, nasalized vowels do occur as the realization of /Vŋ/ sequences, with no restriction on the vowel V.

15)	/biŋ/	[bĩ]	‘C7.these’
	/beŋ/	[bē]	‘children’
	/bɛŋ/	[bɛ̃]	‘C2.these’
	/biŋ/	[bĩ]	‘mosquito’
	/bəŋ/	[bə̃]	‘2p’
	/baŋ/	[bã]	‘close!’
	/buŋ/	[bũ]	‘hawk’
	/ŋfoŋ/	[ŋfõ]	‘blowing’
	/ŋbɔŋ/	[mbõ]	‘bush jackass’

2.3.4 Vowel length

Contrastive vowel length is attested in a small number of words, all of which have monosyllabic roots. In addition, most are adjectives; this suggests that, underlyingly, they may result from affixation. The restrictedness of the adjective class may then explain the absence of long vowels corresponding to /u/ and /i/ in the data. In closed syllables, the lengthening is applied to the coda nasal instead of to the vowel.

16)	/ŋfi:ŋ/	[ŋfĩŋ]	‘round’
	/ŋfiŋ/	[ŋfĩ]	‘magic’
	/bo: /	[bo:]	‘white’
	/bo/	[bo]	‘bird <i>sp.</i> ’
	/kiwə: /	[kiwə:]	‘slow’
	/wə /	[wə]	‘2s’
	/ŋbɛ: /	[mbɛ:]	‘address to Fon’
	/kambɛ /	[kambɛ]	‘snail’

There is also a shorter but predictable vowel lengthening which applies to vowels with certain contour tones. In particular, the rising contour tone LM and the fall ML are slightly lengthened, while the more obvious falling contours HL and MX remain short.⁸

2.3.5 Vowel Sequences

The only vowel sequences V_1V_2 attested in the data have a high vowel in the V_1 position. There are, however, a few sequences /ijV/ which are in contrast with sequences lacking a semivowel.

⁸ Verb negatives which end in /VhV/ sequences often elide the /h/, presumably being realized as a long vowel.

17)	/bi-jəŋ/	[bijɔ̃]	‘roosters’
	/bi-əŋ/	[bjɔ̃]	‘things’
	/tijɛ/	[tijɛ]	‘rafters’
	/tiɛ/	[tjɛ]	‘C10.three’

Among the four instances of /ijV/, two occur at the boundary between a noun class prefix ending in /i/ and a /j/-initial root (as opposed to the vowel-initial root in “things” above).

The other two are /tijɛ/ “(bamboo) rafters” and /ɲtiɛ/ “hanging” which may possibly be related to /ɲti/ “piercing (of bamboo)” by the addition of the pluralizing suffix {-jə}.

2.3.6 Contrast

Contrast between short vowels is shown by the set of examples (18) below:

18)	/fi/	[fi]	‘kidney’
	/fe/	[fɛ]	‘bone marrow.PL’
	/fɛ/	[fɛ]	‘C4.two’
	/fi/	[fi]	‘sign of a swelling’
	/fə/	[fə]	‘do!’
	/fa/	[fa]	‘at that time’
	/fu/	[fu]	‘army ant’
	/fo/	[fo]	‘head’
	/fɔ/	[fɔ]	‘axe’

2.4 Tone

2.4.1 Level tones

Kemezung has three contrastive tone levels: high, mid and low. Before a pause, low tone is realized falling from low to extra low pitch. High tone is rather rare in monomorphemic words, although it does occur in some grammatical words as shown in example (19) below.

19)	/səʔ/	[səʔ]	‘P1’
	/səʔ/	[səʔ]	‘goiter’
	/nəʔ/	[nəʔ]	‘P3’
	/nəʔ/	[nəʔ]	‘P2’

Other examples of contrast between the tone levels are shown in examples (20) to (22) below.

20)	/ŋkɔʔ/	[ŋkɔʔ]	‘grow’
	/ŋkɔʔ/	[ŋkɔʔ]	‘sew’
	/ŋkɔʔlɔʔ/	[ŋkɔʔlɔʔ]	‘stir’
21)	/kɪbaʔlɔʔ/	[kɪbaʔlɔʔ]	‘sheath for a cutlass’
	/kɪbaʔlɔʔ/	[kɪbaʔlɔʔ]	‘rope for climbing palm trees’
22)	/kuʔ/	[kuʔ]	‘pineapple’
	/kuʔ/	[kuʔ]	‘thick rope’

2.4.2 Contour tones

Several contour tones are attested in Kemezung. The prevalence of rising and falling⁹ contour tones in short words, particularly monosyllables, and their absence (except word-finally) in longer words suggests that, as in many African languages, they are to be analyzed as sequences of level tones.

Kemezung has multiple falling tones¹⁰. Two of these do not result in vowel lengthening, although they both fall noticeably (high-low and mid-low, written ʘ and ʘ respectively). No minimal pairs are attested, but the examples (23) below demonstrate the contrast between these two tones.

⁹ Suggestions of rising-falling tones in some words with monosyllabic roots with palatalized or labialized onsets have failed to be substantiated by analysis of digital recordings.

¹⁰ Three question words may have high-mid tone.

23)	/gbaŋV/	[gbaŋV]	‘root’
	/kpaŋV/	[kpaŋV]	‘finger’
	/gbaV/	[gbaV]	‘ceiling’

A third falling pattern is associated with a lengthened vowel¹¹ and is perhaps also mid-low¹² (written ʌ below). Whether it really constitutes a genuinely distinct tone pattern is unclear—if it does not, it would be the only place where long vowels occur which cannot be explained as a morpheme break.¹³ The examples below show contrast with the shorter falling tones.

24)	/biʌ/	[biV]	‘raffia palm’
	/biV/	[biV]	‘sleep dust’
	/fjɔʌ/	[fjɔV]	‘trouble makers’
	/fjɔV/	[fjɔV]	‘a very slimy “soup”’

One rising tone (low-mid, written ʌ) is well attested.¹⁴ Syllables with this tone sequence are slightly lengthened, but not as much as true long vowels. Contrasts with low and mid tones are shown below.

25)	/juʌ/	[juV]	‘weevil’
	/juV/	[juV]	‘hair’
26)	/sjaŋʌ/	[ʃãV]	‘country Sunday’
	/sjaŋV/	[ʃãV]	‘corn beer’

Class 9 nouns are regularly produced at a lower pitch than the corresponding class 10 plural. A second rising tone (mid-high, written ʌ) may perhaps be attested in the following gender pair.

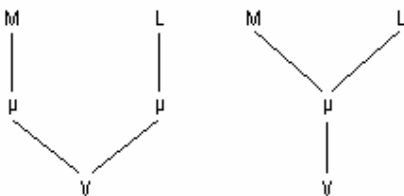
27)	/bjəʌ/	[bjəV]	‘dog’
	/bjəV/	[bjəV ~ iʰbjəV]	‘dogs’

Note, however, that the rise is partly realised on the semivowel; a further example shows that this does not occur with the low-mid rising tone.

28)	/bjəʌ/	[bjəʌ]	‘rib’
-----	--------	--------	-------

2.4.3 Tone bearing units

The presence of both short and lengthened vowels bearing falling tones suggests the existence of a tone bearing unit smaller than the syllable. The short falling tone can be conceived of as a vowel bound to a single mora which is in turn bound to two tones; the long falling tone vowel, on the other hand, is bound to two moras, each bound to a single tone:



While sonorant segments in the onset or coda of a syllable are pronounced with a certain phonetic pitch, such pitch is predictable from the surrounding moras or other contextual considerations; these segments do not constitute tone bearing units. In particular, the initial nasal of a prenasalised onset at the beginning of an utterance is regularly produced with lower pitch than the following mora; this is never known to be contrastive.

29)	/mbaʌ/	[mɭbaV]	‘come’
	/ŋgɔʌ/	[ŋɭgɔV]	‘scratch’

¹¹ The vowel length is claimed to be shorter than the long vowels described in section 2.3.4.

¹² The crucial difference seems to be the length, but it is possible that high-mid would be a better characterization of the pitch.

¹³ See section 2.3.4.

¹⁴ A second rising tone (mid-high) is attested in three monosyllables from a restricted class of words (/sɔ/ ‘in it’, /su/ ‘with it’, /kwa/ ‘only’) and one class 9 noun discussed in section 2.4.3 below. The few remaining instances occur following a mid tone noun class prefix and could possibly be explained in terms of spreading.

2.5 Syllable Types

The syllable types attested in Kemezung can be summarized as ((N)C(G))V(V)(N), where N denotes the nasal archiphoneme and G the glide of labialized or palatalized consonant sequences. If two vowels V are present, they are constrained to be the same.

Most possible combinations are attested, as shown in examples (30) below. However, syllable types without an onset consonant are marginal, being attested only in a noun class prefix and the ideophone ‘yes’.

30)	V	/i-bi/	‘cracked egusi’
	VVN	/ə:ŋ/	‘yes’
	CV	/dɔkɔ/	‘crocodile’
	CVV	/gɔ:/	‘red’
	CVN	/fuŋ/	‘roof’
	CVVN	/dzə:ŋ/	‘where?’
	CGV	/fju/	‘chalk’
	CGVN	/bwaŋ/	‘cup’
	CGVVN	/djə:ŋ/	‘correct’
	NCV	/ŋbe/	‘bangle’
	NCVN	/ŋfiŋ/	‘magic’
	NCVVN	/ŋtsa:ŋ/	‘clean’
	NCGV	/ŋfja/	‘slave’
	NCGVN	/ŋgwiŋ/	‘my brother’

Since a nasal may appear at either end of a valid syllable, it is not obvious whether word-medial NC combinations should be treated as a unit commencing a syllable or split over two syllables. Since the nasal is incorporated into the preceding vowel by nasalization before a fricative C, the latter choice seems probable, but no adverse repercussions stem from either decision.

3. PHONOLOGICAL STRUCTURE OF MORPHEMES AND WORDS

3.1 Nouns

Like many Benue-Congo languages, Kemezung nouns may be classified according to their affixes and concord. The typical structure of a noun is NCPx Stem although class 5 nouns are characterized by a noun class suffix instead. The stem itself usually consists of a root with zero or more derivational affixes.¹⁵

3.1.1 Noun Class Affixes

The following chart lists the noun class affixes for each class.

NC	Affix	Example	NC	Affix	Example
1	Ø-, (w-)	ŋkuŋ “chief”	2	bə-, (b-)	bəŋkuŋ “chiefs”
3	Ø ^(w) -	kpɔŋ “ridge”	4	(i)-	kɔŋ “ridges”
5	{-li}	gili “egg”			gi “eggs”
7	ki-, k-	kida “broom”	8	bi-, bj-	bida “brooms”
9	Ø- ɭ	bi “goat”	10	(i)- ɭ	ibi “goats”
14	bu-	budəŋfi “story”	25	məŋ-	məŋdəŋfi “stories”
19	fi-, fj-	fiso “knife”	26	muŋ-, mw-	muŋsɔ “knives”
			6a	ŋ-, məŋ-	ŋgɔŋ “water” məŋsjaŋbo “sand”

Some prefixes are occasionally attested in a different form before vowel-initial roots.¹⁶ This is discussed further in section 4.1 below. The class 6a prefix has two forms: məŋ- occurs before an alveolar consonant,

¹⁵ The discussion in this section is based on a corpus of 764 nouns.

while η - occurs elsewhere.¹⁷ The notation (^w) in class 3 indicates that velar-initial roots are realized with a labialvelar plosive; this appears to be an older labialized form and is discussed further in section 4.3.2 below.

No other alternation is attested in the prefixes. In particular, the prefix vowel does not harmonize with the root vowel in any way. The class 5 suffix, however, manifests considerable allomorphic variation: the consonant is elided in certain contexts and the vowel assimilates to the root vowel. This is discussed further in section 4.3.1 below.

3.1.2 Root structure

The root normally consists of one or two syllables. Apart from some very rare vowel-initial roots, two syllable roots are invariably CVCV while one syllable roots may be CV or CVN. A number of one syllable roots may be derived historically from CVCV roots by deleting the most of the final syllable, retaining only a nasal consonant.

A small number of longer words are also attested; further research may reveal that these are borrowed or have stems derived by affixation or compounding.

31)	/fi-bataku/	[fɪbataku]	‘cat’
	/ki-mbulukpa/	[kɪmbulukpa]	‘bubble’
	/ki-tamandiki/	[kɪtamandiki]	‘hat’

Most consonants are attested root-initially in noun roots; the unmodified exceptions are /ŋ/ and /h/. It is unclear whether NC sequences immediately after a noun class prefix should be regarded as the start of the root or the result of prefixing some derivational affix /ŋ-/—while such sequences are common in many noun classes, they are almost absent in gender 3/4, and some instances are clearly derivational.

32)	/ŋ-feŋtɛ/	[ŋfɛntɛ]	‘choking’
	/ki-feŋtɛ/	[kɪfɛntɛ]	‘something stuck in the throat’
	/ki-ŋ-feŋtɛ/	[kɪfɛntɛ]	‘act of choking’

Subsequent root consonants are much more restricted. Voiceless plosives are well-attested, whether alone or prenasalised. Voiced plosives do not occur unless prenasalised.¹⁸ Affricates and approximants are rare, except for the lateral approximant.¹⁹ A single labialized consonant is attested in this position; palatalized consonants are more common.²⁰

3.1.3 Tone patterns

The tone patterns attested on nouns are many and varied. At least eight patterns are solidly attested among nouns with disyllabic roots and a prefix. This includes cases where the same tone melody is assigned to syllables in different ways, for example, both low-high-high and low-low-high are attested, and all three of mid-high-low, mid-high-high falling and mid-mid-high falling occur.

Among disyllabic noun roots with zero prefix, four patterns are common, viz: low, low-high, mid and mid falling. These easily correlate with the expected low, high, rising and falling patterns. However, other patterns are occasionally attested and remain to be explained.

33)	/gɪlɪɪ/	‘fool’
	/dɔɪkɔɪ/	‘crocodile’
	/bjaɪkɔɪ/	‘rat’
	/diɪŋaɪ/	‘okra’

It is possible that the eight common prefixed patterns can be regarded as the same four patterns prefixed by either a low or a high prefix, as shown in the chart below.

¹⁶ The only example attested in gender 1/2 is /wɛŋ/ ‘child’, /bɛŋ/ ‘children’ which also exhibits an unexplained root vowel change.

¹⁷ Classes 6a and 25 are distinguished only in that the former contains mass nouns, while the latter is the plural of class 14. All instances of class 25 except one have an alveolar consonant root-initial; the exception /f/ is not attested root-initially in class 6a.

¹⁸ There are, however, three instances of non-prenasalised voiced palatalized plosives.

¹⁹ The lateral approximant initiates a derivational suffix, however, so many of these instances may really be monosyllabic roots.

²⁰ In at least some cases, the palatalized consonant arises morphologically; /kidzimjə/ ‘place where you are sitting’ is clearly related to the root /dzim/ ‘sit’.

Prefix	low	rising	falling	high
Ø	L L	L H	M ML	M M
low	L-L L	L-L H	L-M ML	L-H H
high	M-M M	M-M HL	M-H L	M-H HL

Monosyllabic roots also may occur after low or high prefixes and again fall into four similar groups which are charted below.

Prefix	low	rising	falling	high
low	L-L	L-M	L-ML	L-H
high	M-L	M-M	M-HL	M-H

However, the mid-prefix plus rising, falling or high root assignments are not compelling for disyllabic roots.²¹ In addition, Hombert (1980, p93) suggests that for other Beoid languages, the prefix tone is usually predictable from the first tone of the stem: when it is high or mid, the prefix is mid and otherwise the prefix is low. Moreover, the same noun class prefix is often realized with both low and mid tones (as demonstrated by example (34) below).

- 34) /kiḥkuḥmɔḥ/ 'storm'
 /kiḥkiḥsiḥ/ 'fingernail'

Because of this, it seems possible to suggest that something other than the prefix, as yet unknown, is causing the entire word to be realized in a higher register, with high register nouns occurring with a mid-tone prefix.

In monosyllabic roots with zero prefix, there are seven well-attested tone patterns: high, mid, low, rising and the three falling patterns described in section 2.4.2 above. A tentative assignment of these patterns to underlying low, rising, falling and high patterns is charted below.

Register	low	rising	falling	high
low	L	LM	ML	M
mid	long ML	(MH) ²²	HL	H

3.2 Verbs

3.2.1 Root structure

The preferred non-finite form of Kemezung verbs is formed by prefixing /ŋ-/ to the non-progressive form. In this form, verbs with no obvious extensions may have NCV, NCVN or NCVCV shape, all of which are common.²³

The relationship between progressive and non-progressive verb forms of monosyllabic verbs is not always predictable. Progressive aspect forms sometimes include a consonant which is deleted in the non-progressive form and cannot be predicted from it (see examples (35) and (36)). However, there is often a vowel shift which is easier to explain in terms of the non-progressive vowel (see example (37)). This suggests underlying verb root shapes of CV and CVC which can only be reconstructed by considering both of these changes together.

- 35) Non-progressive Progressive
 a. /ba/ /ba/ 'come'
 b. /bɔ/ /bot-o/ 'resemble'
 c. /bɔ/ /bok-o/ 'ring'
- 36) a. /fe/ /fe/ 'rot'
 b. /fe/ /fek-e/ 'lend'
- 37) a. /tsɔ/ /tsok-o/ 'stab'
 b. /tsɔ/ /tsok-o/ 'shake'

Some hints are encoded into the tone of the verb: four different tone patterns are attested on monosyllabic non-finite forms, although three (high, mid and mid-low) of these merge so only two imperative patterns exist. All of the high-toned verbs have CV progressives, while the remainder have deleted a root-final non-nasal consonant. Moreover, when the consonant added is a voiceless plosive, as in examples (35bc) above, the non-finite form usually has mid-tone; other consonants correspond to a mid-low non-finite form.

²¹ In particular, the fall at the end is hard to explain in the M-M HL and M-H HL patterns.

²² Mid-high rising tone is not well attested by any means; it would fit naturally at this point however.

²³ The discussion in these sections is based on a corpus of 445 verbs.

There are also a few cases where the choice of final vowel and tone in verbs with surface shape NCVCV is grammatically significant (see examples (38) below). This also supports an underlying CVC shape for some verb roots.²⁴

38)	/maɪmb-ɔɪ/	‘feeding at the breast (intransitive)’
	/maɪmb-ɔɪ/	‘breastfeeding (transitive)’
	/muɪŋk-ɔɪ/	‘smell, be malodorous (intransitive)’
	/muɪŋk-ɔɪ/	‘smell, use the olfactory sense (transitive)’

3.2.2 Tone patterns

Underlying CV verb roots, therefore, occur with one of only two tone patterns in their non-finite form (high or low). This is typical of neighbouring languages.

Three tone patterns (mid, mid-low, low) occur in monosyllabic verbs derived from CVC roots by apocope. As discussed in section 3.2.1 above, this distinction vanishes in the imperative, and there seems to be a strong correspondence between tone and the second root consonant. When the second root consonant is retained, the resulting disyllabic non-finite forms also exhibit three tone patterns (mid, mid-low, low), again corresponding to two imperative patterns (mid-high, low-high)²⁵. However, as evidenced in examples (38) above, the final vowel itself contributes its own tone. These facts suggest that with further research, an explanation in terms of two underlying root tone patterns is quite possible.

3.2.3 Extensions

In narrow Bantu languages, extensions typically have a -VC shape. Kemezung is not narrow Bantu, however, and it appears that its extensions have a -CV shape instead. This is particularly evident when the final consonant of a CVC verb root is lost when it is extended, as shown in example (39) below, or when the two adjacent consonants coalesce.

39)	underlying	phonemic	gloss
	ŋ- + let	/ŋle/	‘fearing’
	let + -ə	/lete/	‘fear.PROG’
	ŋ- + let + -sə	/ŋlese/	‘frighten’

4. MORPHOPHONEMIC PROCESSES AND ALTERNATIONS

No systematic research into morphophonemic processes has been conducted. Nevertheless, some interesting combinations and alternations have been observed and will be described in the following sections.

4.1 Vowel-vowel interactions

It is occasionally possible for two vowels to adjoin at a morpheme boundary, producing an illegal sequence of phonemes. This illegality is rectified by reinterpreting the sequence as a semivowel in a labialized or palatalized consonant cluster if it is high and the preceding consonant is not already an approximant, or by eliding the first vowel otherwise.²⁶ All known examples arise when a noun class prefix meets a vowel initial root. A few of these are noun roots; demonstratives and possessives also qualify and can follow any noun class concord prefix.

40)	fi- + ɔŋ	/fjɔŋ/	‘C14.thing’
	bi- + ɔŋ	/bjɔŋ/	‘C8.(visible) things’
	mu- + ɔŋ	/mwɔŋ/	‘C26.(invisible) things’
41)	ki- + ako	/kako/	‘C7.frog’
	bi- + ako	/bjako/	‘C8.frogs’

²⁴ Presumably the particular final vowels used in this example prevent the apocope process that applies elsewhere to CVC roots with the second consonant /ŋk/.

²⁵ Mid-initial non-finite forms have mid-initial imperatives; low-initial non-finite forms have low-initial imperatives.

²⁶ No examples of the low vowel /a/ are known as the first vowel.

42)	bə- + a	/ba/	‘C2.that’
	bi- + a	/bjə/	‘C8.that’
	bu- + a	/bwa/	‘C14.that’
	ji- + a	/ja/	‘C4.that’

4.2 Consonant-consonant interactions

Two consonants can come into contact at the morpheme boundary between a CVC verb root and a -CV extension or other derivational suffix, as noted in section 3.2.3 above where an example of the first consonant being elided before /s/ was given.

When the second consonant is /j/, the two consonants may form a palatalized consonant cluster, even if the resulting sequence is not attested in monomorphemic contexts. This occurs often with the pluralizing extension {-jə}, as illustrated in example (43):

43)	ŋ- + tsək	/ŋtsə/	‘stab, pound (once)’
	tsək + -ə	/tsəkə/	‘stab, pound.PROG’
	ŋ- + tsək + -jə	/ŋtsəkjə/	‘stab, pound (repeatedly)’

Several words exhibit a derivational process in which a stative verb root²⁷ gives rise to an abstract noun of class 14 by suffixing {-lə}. Normally the root-final consonant is elided. However, if prenasalised, the /ŋ/ is retained and the /l/ of the suffix is elided.

44)	ŋ- + jet	/ŋje/	‘get thin’
	jet + -ə	/jete/	‘get thin.PROG’
	bu- + jet + -lə	/bujele/	‘thinness’
45)	ŋ- + feŋk	/ŋfeŋ/	‘sharpen’
	feŋk + -ə	/feŋke/	‘sharpen.PROG’
	bu- + feŋk + -lə	/bufeŋε/	‘sharpness’

A similar alternation is attested in the possessive construction in nouns when the possessing noun ends with the nasal archiphoneme.²⁸

46)	bəba bə wεŋ + -lə	/bəba bə wεŋε/	‘the child’s rattles’
-----	-------------------	----------------	-----------------------

4.3 Noun gender alternations

Consonant alternations sometimes become apparent when the singular and plural of certain noun gender pairs are compared. Two different types of alternation are attested.

4.3.1 Class 5 suffix {-li}

A similar suffix {-li} marks a few monosyllabic nouns as being of class 5. The class 4 plurals have no suffix. Similar alternations to those shown in section 4.2 above, examples (44) to (46), are attested. However, different nasal consonants can appear in the singular form, all of which are neutralized in the plural.²⁹

47)		singular (C5)	plural (C4)	gloss
	kwə + -li	/kwəli/	/kwə/	‘cheek(s)’
	dʒiŋ + -li	/dʒiŋi/	/dʒi/	‘guinea corn’
	sem + -li	/seme/	/sē/	‘palm tree(s)’

4.3.2 Historic labialization

Alternations between root-initial labialvelar plosives in the singular and velar plosives in the plural are attested regularly in gender 3/4 and occasionally in gender 1/2.

²⁷ In non-progressive aspect, the idea of being in a state is conveyed; in progressive aspect, the idea is more of entering the state.

²⁸ It is not clear at this stage where the word boundaries are.

²⁹ Similarly, a group of verbs with progressive form ending in /-mi/ has non-progressive form ending in /ŋ/.

48)	singular	plural	gloss
	/kpɔŋ/	/kɔŋ/	‘C3/4.ridge(s)’
	/gbo/	/gɔ/	‘C3/4.leg(s)’
	/kpansi/	/bəkansi/	‘C1.woman/C2.women’

Hombert (1980) reconstructs a class 3 noun prefix *u- for Proto-Beboid which is realized by labializing the initial consonant in seven of the eight Beboid languages he studied (including all four Eastern Beboid languages). In Nooni, the labialized velar plosives are realized as [kw], [kp] or [kpw] depending on dialect. In Kemezung, it appears that historical forms of the labialized velars, distinct from /kw gw/, have become fossilized in many class 3 nouns with velar-initial roots.³⁰

4.4 Vowel alternations

There are many morphological contexts in which vowel alternations occur. They arise when forming the progressive aspect, in negation and in some nominalizing suffixes and verbal extensions.

4.4.1 Progressive aspect

Verb roots, whether CV or CVC, where the root vowel is non-front and open-mid, often raise the vowel to close-mid in forming the progressive aspect.³¹ This does not seem to occur with the front open-mid vowel /ɛ/. Root vowels that are other than open-mid are normally unchanged.³²

49)	root	non-progressive	progressive	gloss
	bək	/bə/	/biki/	‘belch’
	fɔt	/fɔ/	/foto/	‘come out’
	djə	/djə/	/dji/	‘eat’
	kɔ	/kɔ/	/ko/	‘grow’
	fɔnd	/fɔndu/	/fondo/	‘clear (land)’
	lɛt	/lɛ/	/letɪ/	‘go (to the farm)’

Note also that the final vowel (where one exists) in these examples is also altered. Agreement with a high or close-mid (modified) root vowel is usual, although there are exceptions that add /i/ or /i/.

50)	root	non-progressive	progressive	gloss
	ləm	/ləŋ/	/ləmi/	‘stand’
	gwek	/gwe/	/gweki/	‘grind’

4.4.2 Negation

Negation is marked in the progressive aspect (and sometimes in non-progressive aspect) by the suffix {-əhə}. The final vowel of the progressive form is typically lowered to open-mid, and then the suffix vowel is assimilated to it. The only exception is that progressive forms with final vowel /i/ are sometimes not lowered, but rather the preceding consonant is palatalized.

51)	positive	negative	gloss
	/foto/	/fotəhə/	‘come out’
	/dji/	/djəhə/	‘eat’
	/letɪ/	/letɛhɛ/	‘go (to the farm)’
	/ləmi/	/ləmjəhə/	‘stand’
	/bi/	/bjɛhɛ/	‘ask’

³⁰ There are however, a few monosyllabic roots which do not take the suffix for class 5 (which has the same concord and plural), nor do they manifest this historical labialization. Examples include /ka/ ‘heap’, /kə/ ‘farm’ and /ku/ ‘pineapple’.

³¹ My data include seven verbs which retain a central open-mid vowel and two which retain a back open-mid vowel.

³² Two roots with high back vowels are altered to close-mid back vowels.

4.4.3 Nominalizing suffixes and verbal extensions

4.4.3.1 Abstract nominalizer {-lə}

A derivational process in which a stative verb root³³ gives rise to a noun by suffixing {-lə} was referred to in section 4.2 above with respect to alternations of the consonant /l/. However, the vowel also alters in accordance with the verb root vowel, as shown by the following.

52)	bu- + jet + -lə	/bujele/	‘thinness’
	bu- + kpat + -lə	/bukpali/	‘fatness’
	bu- + η- ³⁴ + sjaŋk + -lə	/buŋsjaŋə/	‘tight-fitting’
	bu- + dzu + -lə	/budzulu/	‘shortness’ ³⁵

It would appear that the vowel assimilates to the root vowel in terms of frontness and roundness. But the low vowel does not provoke uniformity.

4.4.3.2 Concrete nominalizer {-nə}

A different nominalizing suffix {-nə} converts a verb X into a noun meaning “thing(s) which are Xed”. It appears to assimilate only to the roundness of the preceding root vowel.

53)	bi- + bi + -nə	/bibinə/	‘asking price’
	fi- + djə + -nə	/fidjənə/	‘something to eat’
	bi- + mu + -nə	/bimunə/	‘drinks’

4.4.3.3 Causative and reciprocal extensions {-si} and {-nə}

The extensions {-si} “CAUS” and {-nə} “RECIP” both vary in accord with the preceding root vowel. The presence of the causative extension causes an open-mid root vowel to become close-mid (as in the progressive aspect) and the extension vowel assimilates to it. High and low root vowels correlate with an open-mid extension vowel; in addition, the two vowels agree in roundness.

54)	/ŋkpə/	/ŋkpisi/	‘die; kill’
	/ŋle/	/ŋlese/	‘fear; frighten’
	/ŋgbə/	/ŋgbosə/	‘fall; drop’
	/ŋsi/	/ŋsisə/	‘be hot; heat’
	/ŋka/	/ŋkasə/	‘be finished; finish’
	/ŋsu/	/ŋsusə/	‘tie; tie’ ³⁶

The reciprocal extension assimilates to the frontness and roundness of the preceding vowel. It remains open-mid even after a close-mid vowel or /i/, but may assimilate to /u/.

55)	/ŋkə/	/ŋkənə/	‘know; know each other’
	/ndze/	/ndzenə/	‘take; copulate’
	/nti/	/ntinə/	‘copulate (with each other)’
	/mbə/	/mbənə/	‘resemble (each other)’
	/ʔʔʔʔ ³⁷ /	/ntsuŋunu/	‘joining ends (to each other)’

5. RESIDUE

Much of the above must still be regarded as a work in progress—the observations are made but not fully explained. To that, three more puzzles are added:

³³ In non-progressive aspect, the idea of being in a state is conveyed; in progressive aspect, the idea is more of entering the state.

³⁴ The function of this prefix is unclear.

³⁵ No verb /ndzu/ is known, but the existence of /ndzufə/ “shorter” shows that the underlying root is /dzu/ or /dzuf/.

³⁶ The semantic difference between these two words is not clear.

³⁷ The underlying root is not attested in the data; the identification of the reciprocal extension is proposed on the basis of the meaning.

5.1 Prenasalised nasals

It appears that word initial nasals can be long or short. One might expect nasal-initial verb roots, then, to have imperatives with short nasals and a non-finite form with a long nasal. This, does not appear always to be the case; indeed, sometimes the reverse seems to occur.

56)	non-finite	imperative	gloss
	/mili/	/mmili/	'dive'
	/mmi/	/mmi/	'blow (nose)'
	/mme/	/me/	'sleep'

5.2 A fourth tone level?

Two words seem to attest a tone melody mid-high-extra low, in contrast to the relatively common mid-high-low tone melody.

57)	/waʔŋgbiʔkəʔ/	'lizard'
	/kiʔkəʔlɔʔ/	'bastard'
	/kiʔbəʔŋəʔ/	'window'
	/kiʔŋəʔlɔʔ/	'hiding place'

Whether that necessitates a fourth tone level or can be explained in terms of floating tones should be examined.

5.3 Irregular Palatalization

The numerals two through five appear to palatalize their initial consonant to show concord with class 10. However, the resulting form for the number five is irregular.

58)	class 4	class 10	gloss
	/fɛ/	/fʃɛ/	'two'
	/tɛ/	/tʃɛ/	'three'
	/nna/	/nnja/	'four'
	/tiŋ/	/sjɪŋ/	'five'

6. CONCLUSION

The Kemezung language exhibits many features common to other Southern Bantoid languages. The presence of prenasalised, labialized and palatalized consonant clusters is unremarkable. However, the restrictions which limit the formation of labialized consonants to consonants of the labial and velar series and the formation of palatalized consonants to those of the labial and coronal series (except at morpheme boundaries) are more unusual.

The existence of additional phonemic central vowels is a feature of neighbouring Western Grassfields languages, although they are absent in other documented Beoid languages. Their realization in Kemezung (as two mid vowels, rather than one high and one mid vowel) has not been identified in the Western Grassfields languages.

The status of vowel length in Kemezung is questionable, being clearly attested in rather circumscribed lexical or tonal environments. By contrast, vowel length has a much stronger function in other Beoid languages.

The tone system of Kemezung is complicated, with three tone levels and several contour tones. This appears to be typical of Beoid languages. Moreover, although it is unusual for Grassfields and narrow Bantu languages, some other Southern Bantoid languages (Kwanja, Mambila) outside those groups also exhibit comparable complexity (Stephen C. Anderson, p.c.).

This paper has not attempted to analyze the tone system fully. In particular, whether verb and noun tone patterns could relate to underlying sequences of high and low root tones (and, if so, how) remains a topic for further research.

REFERENCES

- CAHILL, Mike. 2001. *A Sketch of Labialvelar Consonants*. LinguaLinks Library.
- HAMM, Cameron, Jason DILLER, Kari JORDAN-DILLER and Ferdinand ASSAKO A TIATI. 1999. "A Rapid Appraisal Survey of the Western Beoid Languages (Menchum Division, North-West Province)". MINREST. Yaoundé: SIL.
- HOMBERT, Jean-Marie, 1980. "Noun classes of the Beoid languages". In *Noun Classes in the Grassfields Bantu Borderland* edited by Larry M. Hyman. SCOPIL 8.
- RICHARDS, Russell M. 1991. *Phonologie de trois langues béboïdes du Cameroun : noone, ncanti et sali*. Thèse de doctorat, Université de la Sorbonne Nouvelle, Paris III.