1972

Interpreting tone in the Musey language

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Recommended Citation

Duncanson, Robert (1972) "Interpreting tone in the Musey language," *Work Papers of the Summer Institute of Linguistics, University of North Dakota Session*: Vol. 16, Article 3.

DOI: 10.31356/silwp.vol16.03

Available at: <https://commons.und.edu/sil-work-papers/vol16/iss1/3>

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INTERPRETING TONE IN THE MUSEY LANGUAGE¹

The Musey tribe numbers approximately 60,000 people. They are located in south western Chad, Africa, between the cities of Pala, Fianga and Kélo. The main center of the tribe is Gounou Gaya. The tribe is bordered on the East by the Marba (Azumeina) tribe which lives along the Logone River. The southern border is occupied by the Zime (Misme) tribe at Kélo, the western border by the Kado at Pala and the northern border by the Tupuri and Kera at Fianga and the Massana of Yagoua, Cameroun. Musey is a chadic language and is related to all the above named languages which are also chadic, except Tupuri and Kera which are Mbum.

The name, Musey, was given to the tribe by others. They call themselves Bananna, which means "the friends", however the name, Musey, is now accepted and used. The name, Bananna Hoho, the name of their yodeling language, is also used for the tribe. This is a partial language based almost exclusively on tone and is used to greet

friends, attract one's attention, to praise self or

1. This paper was written during the Summer of 1972 at the Summer Institute of Linguistics, University of North Dakota. I wish to acknowledge the help of the faculty at SIL, John Daly, who helped me with certain aspects of tone, and especially Richard Pittman who worked with me step by step in preparing this paper. Without his help it would never have been written. My principle language helpers were Jonas Dissou, Marc Hamtangou and André Tarsou. To these and others too numerous to mention, with whom I have lived and worked in Gounou Gaya since 1957, I wish to express my deep appreciation. Their help is gratefully acknowledged, but any errors which may be found are my own responsibility.

others, to warn the village of one's arrival or departure, to announce the presence of game or danger, etc. Every person has a name in this language, if you hear your name called, or if one calls for help in Hoho, and you don't respond, this is a very serious offence.

An introductory study of the Musey language by Suzanne Platiel was published by SELAF in about 1968. S. Platiel spent a few months in the tribe in 1972, and will no doubt revise and enlarge her work.

PHONOLOGY

Musey has 28 consonants, divided into three sets:

High set	p	t	c	k	ʔ
	'b	'd ¹			
	f	s			
	m	n		ɲ	
	w	l	r	y	
Low set	b	d	j	g	
	mb	nd	nj	ɲg	
	v	z			
Neutral set	tl ²			h	

Musey has five vowels.

i [i ∞ ɪ]	u [u ∞ ʊ]
e [e ∞ ε]	o [o ∞ ɔ]
a [a]	

All vowels may be long or short.

yona 'water'

yoona 'domestic animals'

1. 'b and 'd are implosive stops.

2. tl is a lateral fricative.

Some consonants and the vowel, a, may be nasalized, but nasalization is of limited significance (see articles),

Musey has three level tones and two contours, rising and falling. Tone contrasts:

f'āttá	' 5 days ago'
fáttá	'the sun'
kōyrá	'the trip'
kóyrā	'the raid'
hàlà	'to give'
hālá	'to look for'

Tone contrast in verbs is not typical of the language, tone contrast in nouns is typical, but not frequent.

Contours:

glī'ssā	'kidney'	ngà'yrā	'corn stalk'
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Gender and number in nouns

All Musey nouns have gender. Gender is marked by the article, a bound morpheme, which follows the noun.

sa'a	'a person' (no def. art. no gender)
sa-na	'person - the male'
ca-ra	'person - the female'

In these examples -na and -ra are the definite articles and show masculine and feminine gender respectively. All nasals, m, n, ŋ, and nasalized consonants in the article show masculine gender. All other consonants in this position show feminine gender. Non nasal consonants are nasalized only when they are used in the article to show masculine gender; they are then followed by the nasalized vowel ǣ. This the only time vowels are nasalized.

kulumma	'the stallion'	kulumba	'the mare'
gonā	'the son'	gorā	'the daughter'

kuluffa¹ 'the male fish' kuluffa 'the female fish'

If the root of the noun ends in a vowel the article will be -na or -ra. If the root ends in a consonant, the article will be a nasal (masculine) or another consonant (feminine) at the same point of articulation as the final consonant of the root.

fat-ta 'sun - def. art. feminine'

gotlom-ba 'glutton - def. art. feminine'

banan-na 'my male friend'

banan-da 'my female friend'

Polysyllabic words usually have the same vowel in all syllables of the root:

tuburuna 'the shoes'

Affixes usually have the same vowel as the root to which they are affixed.

gonā 'the son'

go-on-na 'child - my - the male'

zi-na 'the house'

zi-in-na 'house - my - the'

Most nouns have a plural form, but it is not always used. Plural formation is irregular..

di-na dew 'dog - the one'

di-na doogo 'dog - the ten'

1. In the practical orthography this is written /kulufna/ to avoid writing nasalized consonants and vowels.

INTERPRETING TONE IN THE MUSEY VERB SYSTEM

The phonetic data of Musey verbs exhibits three tones, high, mid, and low.

[dàrà]	'to tell'
[mbüttā]	'to untie'
[lūdnà]	'to grind'
[pāllá]	'to dig'
[nàm dārā]	'He tells.'
[nàm dārā]	'He told.'
[nàm pālā]	'He digs.'
[nàm pālā]	'He dug.'

There are two classes of verbs, high and low. The low verbs have an initial consonant from the low set and, in the infinitive, either a low tone on all syllables or a mid tone on all syllables. Finite forms all have the same tones as *dàrà* 'to tell.'

[jèbeèrà]	'to consider'	[mbüttā]	'to untie'
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The high verbs have an initial consonant from the high set and, in the infinitive, either high or low tone on the ending and mid tones on the root. Finite forms of the high verbs all have the same tones as *pāllá* 'to dig'.

[sūlūllá]	'to run over'	[lūdnà]	'to grind'
-----------	---------------	---------	------------

The two consonants, *ɲ* and *r*, are members of the high set, but never occur initially on any word.

The two neutral consonants, *h* and *tl*, function in both sets; there are pairs of verbs with these consonants initially, one of which is a high verb and the

other is a low verb. This makes a minimal pair for tone, and is not characteristic of the language as usually the class of the verb is predictable according to its initial consonant.

tlìrà 'to forge' (a low verb)

tlīrá 'to carry' (a high verb)

Some neighboring languages have the lateral fricative both voiced and voiceless, and some Musey people pronounce this phoneme voiced when word initial on low tone.

The verb system thus exhibits three level tones. However since there are only four patterns (out of eight possible with three tones on two syllable words), and since there is never more than one contrast in verbs (mid-high or mid-low), it seems more logical to interpret mid tone as either high or low in a two tone system. In most instances mid tone on infinitives will be interpreted as high, but in one case mid is interpreted as low. In explaining this interpretation, I will discuss:

1. High verb infinitives
2. Low verb infinitives
3. Finite verbs
4. Verbs with h or tl as initial consonant.

1. High verb infinitives

The two patterns in the high verbs are mid-high and mid-low. Since the initial consonant of all these verbs is from the high set, the initial mid is interpreted as high.

[pāllá]	/pállá/	'to dig'
[sūlūllá]	/súlúllá/	'to run over'
[lūdñà]	/lúdnà/	'to grind'

Tone need not be marked on the root since the initial consonant signals its tone. The tone on the ending is unpredictable, however those with low tone are only about 10 per cent of this class, and I expect that native speakers would know them without any indication in the orthography.

2. Low verb infinitives

The two patterns in the low verbs are low-low and mid-mid. Low-low is interpreted as low-low. Since the initial consonant of the mid-mid is from the low set, this mid is interpreted as low. The second mid of this verb is interpreted as high, partly from pressure to find a fourth pattern to fill out the symmetry.

[dàrà]	/dàrà/	'to tell'
[mbūtṭā]	/mbùttá/	'to untie'

In a two tone, two syllable system, there are four possible tone patterns.

high high	/pállá/	'to dig'
high low	/lúdnà/	'to grind'
low high	/mbùttá/	'to untie'
low low	/dàrà/	'to tell'

Interpreted this way all four patterns are present.

mbutta is the only example in my data of a verb with mid - mid tones. My data are not complete of

course, but it must be a rare pattern. I also have zaara 'to plant' with mid tones in one dialect and with low tones from another dialect.

3 Finite verbs

Musey verbs are divided into four tenses. Two are distinguished by tone, and two by auxiliary verbs. The primary division is by tone into past and non-, past tenses. Using the same tone as the simple past, but adding an auxiliary makes completed past. Using the same tone as the simple non-past (present) but adding an auxiliary makes the future. In the finite verbs the grammar (need to mark tense) overrules the phonology, that is, a low consonant may occur with a high tone.

Here again with three phonetic tones available, the language uses only high and mid; low tone never occurs anywhere in finite verbs. This table shows the phonetic tones to use for each tense with each class of verb.

tense	low initial consonant verbs	high initial consonant verbs
past tense	high-mid	mid-high
non past tense	mid-high	high-mid

Since in every case the mid contrasts with high, in every case mid is interpreted as low.

[nàm pālā]	/nàm pālà/	'He digs' (simple non-past, present)
[nàm hín pālā]	/nàm hín pālà/	'He will dig' (future)
[nàm pālá]	/nàm pàlá/	'He dug' (simple past)
[nàm pāl wā]	/nàm pāl wá/	'He has dug.' (past completed)

Polysyllabic verbs always have the same tone on all syllables of the root. When the tone changes to show tense -- all tones change together. *ludna* and all high verbs have the same tones as *palla* when used with a subject. Both sub-classes of low verbs have the same tones when used with a subject, but notice that their tones are the opposite from those of the high verbs.

4 Verbs with h or tl as initial consonant.

Since h and tl function as initial consonants of verbs in both classes, they present a special problem of ambiguity. It is not a question of whether or how many tones to write -- the ambiguity is always present in the finite form of these verbs.

[tlìrà]	/tlìrà/	'to forge' (to manufacture)
		(a low verb)

[tlírá]	/tlírá/	'to carry' (a high verb)
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When one hears:

[nàm tlí	kāwírā]
'He {forged carries }	hoe - the'

There is no way to know if it is the low verb past tense, 'He forged a hoe' or the high verb present tense, 'He carries the hoe'. Of course most of the time the context will make it clear. If the speaker is from

a border area, he may voice the initial consonant and tip off the hearer that it is the low verb 'to forge'. Since *hin* is used only with non past and *wa* is used only with past, the use of either of these would indicate the tense and from that and the tone the hearer could work back to the right infinitive. In any event the interpretation of tone has not added anything to the ambiguity present in these verbs.

INTERPRETING TONE ON MUSEY NOUNS

Certain features of the Musey verb system are relatively regular. For example there is a 90 percent correlation between the initial consonant on verb infinitives and the class to which the verb belongs. And, although three phonemic tones are used, there are only four combinations and they are readily interpreted into a two tone system. While the nouns exhibit some characteristics which indicate that they may have conformed to this system at one time, they seem to have shifted away from it farther than the verbs.

Writting in the "International Journal of American Linguistics", Greenberg makes the following observation, "There are several examples in Africa of languages in which tones have lowered allophones depending on the preceding consonant. One is Bassa (Hobley 1964), a Kru language of Liberia in which the consonants are divided into two mutually exclusive sets. After the first set, which may be called the lowering set,

a following high tone becomes a low-high glide, a following mid tone becomes a low-mid glide, and a following low tone is unchanged, After the second set, high and mid tones are unaffected, but a following low tone is replaced by a mid-low falling tone".¹

It is interesting to note that Greenberg's list of high and low consonants, insofar as they are the same as the Musey consonants, conform exactly to the high and low list in Musey. Furthermore most of the contour tones in Musey are of the type predicted by Greenberg. That is, after a high initial consonant the contour is falling and after a low initial consonant the contour is rising.

Rising contours	Falling contours
vēétnā 'rabbit'	f'āttá '5 days ago'
gūtnā 'calabash'	kō'linā 'basket'
bō'llā 'the speech'	'b'āyá 'our hand'
ngā'lnā 'the basin'	cāāmbá 'his wife'
nddósnā 'the smoke'	
zè'wnā 'the rope'	

The low consonants may occur with high tone on nouns.

bíllā 'the small knife' ngótā 'the calabash'

But the high consonants do not occur with low tones.

vàtl 'five' but not *fàtl

1. Greenberg, Joseph H. "International Journal of American Linguistics", volume 36, number 2, 1970

Two syllable nouns, that is monosyllabic root + ending, occur in five tone patterns, they are:

A.	low-low	giì-nà	'grass shelter'
B.	mid-low	tīm-mà	'drum'
C.	mid-mid	būt-nā	'ashes'
D.	high-mid	pá-rā	'tobacco'
E.	mid-high	yūm-má	'bee'

Solution one: Mid before low is interpreted as high, mid before high is interpreted as low. Mid-mid is interpreted as high-high, partly to fill in the symmetry.

A.	low-low	remains low-low,	written LL
B.	mid-low	becomes high-low	" HL
C.	mid-mid	" high-high	" HH
D.	high-mid	" high-low	" HL
E.	mid-high	" low-high	" LH

This solution does not take into consideration the initial consonants, and it has one area of ambiguity in the two high-low interpretations.

Solution two: Initial mid is interpreted as high or low according to the initial consonant. If it is with a high consonant, mid is interpreted as high, if mid is with a low consonant, it is interpreted as low. Low consonants are symbolized by G and high consonants are symbolized by K.

A.	LL	are all	GLL	and remain	LL
B.	ML	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GML} \\ \text{KML} \end{smallmatrix}$	(2 words only) interpreted	$\begin{smallmatrix} \text{LL} \\ \text{HL} \end{smallmatrix}$
				"	
C.	MM	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GMM} \\ \text{KMM} \end{smallmatrix}$	"	$\begin{smallmatrix} \text{LH} \\ \text{HL} \end{smallmatrix}$
				"	
D.	HM	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GHM} \\ \text{KHM} \end{smallmatrix}$	"	$\begin{smallmatrix} \text{HL} \\ \text{HH} \end{smallmatrix}$
				"	
E.	MH	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GMH} \\ \text{KMH} \end{smallmatrix}$	(3 words only)	$\begin{smallmatrix} \text{LH} \\ \text{HH} \end{smallmatrix}$
				"	

In D and E there are words with a low consonant and a high tone, this seems difficult to interpret by this set of rules. The greater difficulty with this solution is the large area of ambiguity in the two LL sets, the three HL sets, the two LH sets and the two HH sets.

Solution three: In this solution I am assuming that all the noun roots were originally disyllabic and that in the present form the initial consonant is a vestige of a lost syllable and is an indication of its tone. Mid will be interpreted in terms of its environment, that is, a falling pitch will be preserved in the three tone reconstruction and if the two syllable word has a rising pitch, this too will be preserved in the reconstruction.

A.	LL	are all	GLL	interpreted	LLL
B.	ML	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GML} \\ \text{KML} \end{smallmatrix}$	(2 words) interpreted	$\begin{smallmatrix} \text{LHL} \\ \text{HLL} \end{smallmatrix}$
				"	
C.	MM	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GMM} \\ \text{KMM} \end{smallmatrix}$	"	$\begin{smallmatrix} \text{LHH} \\ \text{HHH} \end{smallmatrix}$
				"	
D.	HM	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GHM} \\ \text{KHM} \end{smallmatrix}$	"	$\begin{smallmatrix} \text{LHL} \\ \text{HHL} \end{smallmatrix}$
				"	
E.	MH	$\begin{smallmatrix} \nearrow \\ \searrow \end{smallmatrix}$	$\begin{smallmatrix} \text{GMH} \\ \text{KMH} \end{smallmatrix}$	(3 words)	$\begin{smallmatrix} \text{LLH} \\ \text{HLH} \end{smallmatrix}$
				"	

Of the five original categories, A through E, four are divided according to the initial consonant, this gives nine possibilities. This results in all eight possible combinations showing up in the reconstruction with one duplicated. As it presently stands, the solution would require special accounting and symbolization for only two words -- the GML words of group B. Since two of the categories are so small, 2 words and 3 words respectively, I expect that further checking and addition of more data might cause one to disappear and the other to grow. If this should happen, it would be a confirmation of this solution. Even as it now stands it is the most satisfactory of the three solutions offered.

There remain three and four syllable nouns, that is bisyllabic and trisyllabic roots + ending. These nouns sometimes have high, mid, and low tones on the same word, and so far I have not been able to discover a way to reduce these three tones to two without introducing a large area of ambiguity. It is apparent that the noun system is much more difficult to interpret than the verbs, even two syllable nouns are more difficult than the verbs, and the longer nouns, so far, have resisted all my attempts at reinterpretation.

Although Musey is a tone language, there are not a lot of minimal pairs for tone. There are at least as many homonyms as there are minimal pairs, which indicates that considerable ambiguity is tolerated.

Tone may be going out of the language. Being used in verbs to mark tense, it has prevented the verbs from evolving in other ways, for example the verbs retain a high correlation between initial consonant and verb class and tone. But the nouns are quite irregular.

A list of Musey verbs and nouns follows.

~~Robert~~ Duncanson

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HIGH VERBS

mid-low		mid-high	
ludna	'grind'	patta	'take out'
lusna	'swim'	wakka	'split'
losna	'eat (dry)'	tira	'eat'
lopna	'be tired'	cenda	'pray'
ligga	'run'	likka	'swallow'
ʔofna	'eat'	cilla	'weave'
ʔotla	'caught'	tiina	'cry'
ʔedna	'bite'	fira	'find'
ʔitna	'become thin'	'begga	'ruin'
caana	'dance'	'demba	'wring clothes'
luuna	'play'	fulla	'mount'
mutna	'chew'	minda	'wish'
komma	'eat' (of meat)	lotta	'dissolve'
mitna	'die'	tora	'break'
		sura	'be more than'
		suura	'swear'
		ʔoyra	'fill'
		'dara	'pound' (meat)
		'daara	'take short cut'
		kara	'cut'
		yakka	'accuse'
		ʔetla	'hatch'
		nera	'ripen'
		feʔra	'whistle'
		yoorra	'melt'
		cukka	'throw out'
		hatta	'study'
		tlakka	'hold under arm'
		tolla	'drip'
		ʔolla	'be happy'
		pira	'burry'
		malla	'thatch'
		toora	'sweep'
mid-mid-high			
kudukka	'sneak'		
hosokka	'murmur'		
haramba	'crawl'		
musukka	'breath'		
silikka	'fool self'		
cemekka	'wink'		
curuppa	'wash'		
tiginda	'stir'		
tafatta	'spit'		
peretta	'turn'		
saʔawra	'insult'		
polokka	'shell'		
hormossa	'grab, hug'		
tokolla	'sacrifice'		
tebekka	'hunt for'		
furutta	'pierce'		
cumukka	'steal'		

LOW VERBS

mid-mid		low-low	
mbutta	'untie'	ndoorra	'escape'
zaara	'plant'	juppa	'wait'
		zira	'skin'
		ziira	'carry'
		balla	'swell'
		duta	'pick' (fruit)
		gora	'draw' (water)
		gira	'weave' (hair)
		vira	'take'
		ndira	'fall'
		dayra	'germinate'
		haara	'dance'
		mbatta	'tease'
		daffa	'mix' (gravy)
		gappa	'hang'
		ṅgatta	'butcher'
		ṅgaappa	'choose'
		ṅgaara	'sink down'
		halla	'give'
		vinda	'vomit'
		jakka	'set bones'
		njaara	'line up'
		njara	'break'
		gatta	'command'
		bayra	'roar'
		vira	'catch'
		ndemba	'tempt'
		mbussa	'wash'
		dumba	'fail'
		ndumba	'count'
		ṅgulla	'insult'
		kuulla	'steal'
		bara	'shut up'
		ṅgalla	'burn'
low-low-low			
dotlomba	'fill pail'		
gutlukka	'churn'		
gutlukṇa	'chukkle'		
gurudta	'be crazy'		
gasakka	'move'		
giletta	'praise'		
gegetta	'shake'		
giriffa	'kneel'		
gitlikka	'touch'		
njogotta	'dig'		
ṅgurutta	'play instrument'		
ṅgotlokka	'release'		
valawra	'amuse'		
zubulla	'mix'		
mbusukka	'squirm'		
mbulukka	'divide' (mud)		
low-low			
dapa	'stumble'		
tlaka	'shake'		
vatta	'stir'		
gikka	'throw'		
mbeera	'move'		
bura	'rot'		
duuna	'war'		
gussa	'buy, sell'		
vudta	'birth'		
ṅgwira	'encircle'		
mba'ra	'decieve'		
bassa	'spend'		

These "minimal pairs" illustrate that low tone accompanies low initial consonant. Tone is not marked; in every case the word on the left starts with a low consonant and has low-low tones, the word on the right starts with a high consonant and has mid-high tones.

dira	'to say'	tira	'to eat'
zaara	'to plant'	saara	'to aim (a gun)'
dara	'to tell'	taara	'to tax'
dura	'to pound (of meat)'	tura	'to go'
doora	'to prevent'	toora	'to sweep'
dukka	'to close'	tukka	'to taste'
dayra	'to germinate'	tayra	'to step on'
dora	'to light a fire'	tora	'to break'
gappa	'to hang'	kappa	'to make a hole (to plant)'
gora	'to draw (water)'	kora	'to shake'
bata	'to cover'	patta	'to take out'
balla	'to swell'	palla	'to dig'
bara	'to shut up'	paara	'to make rope (by twisting)'
vora	'to pour'	fora	'to blow'
vira	'to take'	fira	'to find'
vaara	'to pick out'	faava	'to lose weight'
jara	'to clear land'	cara	'to move'
zira	'to skin'	sira	'to rain'
ziira	'to carry'	siira	'to blow'
zoora	'to attach'	soora	'to make noise'
zora	'to fall (one by one)'	sora	'to dry'

<u>low-low</u>	NOUNS	<u>mid-low</u>	96.
giina	'grass shelter'	cinna	'nose'
bikɲa	'upper arm'	jinda	'a tree'
ndimma	'a tree'	siina	'tooth'
viina	'monkey'	timma	'drum'
della	'neck'	ʔetna	'the bite'
deena	'shallow well'	fete	'light weight'
jella	'fish line'	heena	'mat'
mbeɲa	'cancer'	hikɲa	'owl'
ndemba	'temptation'	fulla	'dessert'
zeezeena	'mouse'	bukɲa	'a medicine'
dira	'saying'	fudta	'flour'
vinda	'vomit'	kopma	'grainery'
buuna	'day'	kokɲa	'a game'
mboora	'dyker'	lomba	'iron ore'
dokka	'part of deer'	mokɲa	'tobacco (ball)'
gona	'son'	pona	'breast'
vunna	'mouth'	'dikɲa	'pick ax'
ɲgufna	'porridge'	sena	'egg'
balna	'debt'	cayna	'grain on ground'
balla	'swelling'	caana	'a dance'
ndayra	'spear'	cara	'wife'
gonga	'walls'	'balla	'sewing'
ndakka	'ability'	yalna	'intelligence'
gayra	'wild cow'	sokɲa	'bone'
njena	'cricket'	yoona	'domestic animals'
gwina	'snake'	keena	'edible tuber'
jana	'a type of net'	lamba	'the hunt'
Mbalna	'ridge pole'	'bakɲa	'judgment'
zara	'antelope'	sana	'man'
tlara	'affair'	gayra	'sommersault'
vaana	'hill of dirt'	cora	'stingyness'
bakka	'skin'	kara	'a cut'
dabba	'the end'	tayra	'sorcerer'
ndaara	'lice'	'dikka	'a skin'

high/mid

high mid

para	'tobacco'	sanna	'laugh'
pana	'tobacco'	ceena	'a bird'
wana	'grain'	yona	'water'
wara	'grain'	humba	'ear'
baara	'grasshopper'	billa	'small knife'
gamma	'a tree'	bikka	'mushroom'
gamba	'a tree'	bissa	'rain in sun'
ngakna	'crown bird'	cinda	'a tree'
fayra	'a grass'	difna	'horn music'
fatta	'sun'	hiinga	'courageous'
patna	'ram'	hinga	'other'
baayna	'net'	jipma	'long spade'
sayra	'a corn'	ceena	'a bird'
tlema	'a plant'	beessa	'a tree'
guna	'tree, wood'	'della	'a game'
biira	'milk'	njefna	'hummingbird'
bilna	'knife'	lemba	'salty'
dana	'a grain'	meera	'kapok tree'
swera	'peanut'	nekka	'heavy'
ngota	'calabash'	soora	'a trap'
jumba	'hat'	zinga	'a lizard'
'bala	'a root'	ngusna	'shade'
wala	'dry season'	culla	'a grass'
yara	'anger'	boyna	'word'
zaaha	'antelope'	coora	'snare'
kaana	'log wall'	doyra	'dream'

mid/highmid/high

fokka	'future'	mbilla	'cat'
kona	'hand'	cimba	'rotten'
soola	'shout'	cilla	'weaving'
yuma	'bee'	'dikka	'thoughts'
sokṇa	'bones'	lina	'place'
heena	'mat'	liwra	'high grass mat'
panda	'insult'	nikka	'sudden pain'
paara	'commerce'		'temptation'
payra	'side'	piira	'flight'
'bana	'my hand'	pira	'the burying'
taara	'tax'	sinda	'tongue'
kaffa	'surprise'	tina	'food'
lona	'rain'	tiina	'cry'
jetna	'ox'	wira	'sight'
caayra	'our wife'	cenda	'prayer'
nera	'wisdom'	'deera	'household'
watta	'the blow (hit)'	feera	'whistle'
tanda	'the pull'	feta	'harvest'
tara	'lice'	hella	'crow of rooster'
hatta	'study'	hera	'a worm, ripe'
cetna	'ox'	tessa	'a trap'
cenda	'prayer'		
ṅgussa	'spirit'	<u>high/low</u>	
minda	'will'	tikṇa	'head pad'
warra	'black'	bikṇa	'mushroom'
tara	'body'		
kimba	'year'		

MUSEY NOUNS

mid-mid

This list is given
simply for comparison

butna	'ashes'	Marba		Musey
mbulna	'oil'	acata	'woman'	cara
butlna	'bull'	alayna	'bird'	layna
butla	'cow'	addina	'dog'	dina
cukka	'a sickness'	aguna	'stick'	guna
duuna	'war'	apona	'breast'	pona
dukka	'deer'	aduduka	'liver'	dukdukka
gorta	'children'	afatta	'sun'	fatta
njokya	'a plant'	ahuda	'goat'	hura
loora	'pus'	asokono	'bone'	sokya
lokka	'swamp'	amulna	'chief'	mulna
sira	'red dirt'	asena	'egg'	sena
lita	'beans'	atlekka	'hen'	tlekka
tlekka	'hen'	anjowda	'tail'	jawra
caffa	'blacksmith'	aciina	'chin'	cina
wayra	'thorns'	aseno	'foot'	sena
paayna	'mat'	abono	'hand'	kono
ganda	'a fetish'	andagada	'soil'	dagara
ngaana	'giraffe'	anjeke	'night'	njenje'e
dina	'dog'	ahepa	'cold'	hebbe
lumba	'boat'	awulida	'new'	wuliya
lumma	'river'	aseno	'name'	seno
malna	'thatch'	akadia	'few'	kidiya
ndaana	'fear'	ayoyona	'saliva'	yonona
zaka	'ability'	ambiira	'milk'	mbiira
kissa	'hundred'	asunu	'mother'	sunu
mbilna	'wound'	abunu	'father'	bunu
hina	'squirrel'	ambuuna	'day'	buuna
jikya	'porcupine'	ayuma	'bee'	yuma
tilna	'moon'	aluwma	'river'	lumma
myekka	'horn'	amyekka	'horn'	myekka
hulla	'turtle'	andosa	'smoke'	dossa
belna	'feather head dress'	ajewda	'old'	jewe

THREE SYLLABLE NOUNShigh-high-high

fufura 'tripe'

high-high-mid

warana 'black'

bubuna 'squash'

gonokka 'enemy'

valvalla 'a bird'

cufura 'a drink'

mo'ora 'a tree'

high-mid-mid

gursura 'money'

mid-mid-low

barina 'grasshoppers'

busuna 'blood'

timira 'brothers'

gorgorta 'fingers'

ganganga 'a dance'

mid-high-mid

gonira 'twins'

palatna 'white man'

galaka 'salty'

mburura 'arrow'

zolona 'shame'

yarira 'sorcerer'

furutna 'mosquito'

fofora 'a grass'

cukumba 'ant hill'

mid-mid-high

tafata 'insult'

tokolla 'sacrifice'

mid-low-low

gonira 'hyena'

cagira 'a fetish'

huluffa 'a cripple'

daarara 'a grass'

mid-mid-mid

cakira 'a rattle'

darira 'a drum'

golongga 'well'

lolona 'housefly'

mbumbuna 'sack'

hurukka 'scars'

tiningga 'long drum'

kesena 'necklace'

mid-high-high

bolina 'wild dog'

low-high-mid

galapma 'a tree'

dubulna 'pole for house'

gasira 'truth'

low-low-low

mbambara 'clever'

mbambuna 'slave'

low-low-mid

dalakka 'skin of fruit'

low-mid-mid

jonlongga 'a fish'

garina 'guinea fowl'

jongora 'ax'

mborhira 'sun shower'