

## Phonological Hierarchy

Four levels are postulated in this description of the phonological hierarchy of Jukun, Takum dialect;

Utterance  
Sentence  
Word  
Syllable

Utterance is the highest level considered in this analysis. It may however have a function in a larger linguistic context, such as a conversation. The elements of the Utterance are sentences.

Sentence Sentences function in the utterance. Sentences of any phonological structure may occupy any position in the utterance although when sentences of the question phonological type occur they most frequently occur utterance finally. The elements of the sentence are words. There is no restriction on the order in which phonological words may occur.

Features Sentences are characterized by pause or potential pause preceding and following. Two phonological types are postulated. The question type is characterised by lengthening of the final syllable. The statement type by the absence of such lengthening. (Thus the two types are differentiated on the basis of differing syntagmatic features only, not of differing elements)

Word or morpheme. Words function in the sentence. All phonological words are of the same class since there is no restriction on the order in which they occur in the sentence. The elements of the word are syllables. A word may consist of one, two or three syllables. The restrictions on the order in which classes of syllables may occur, and the basis on which such classes are set up are described below.

Features Words are characterised by the occurrence of an initial nasal cluster, which does not occur elsewhere; by the distribution of certain consonant phonemes (see below) which may occur only initially; by the occurrence of the gliding tones on the final syllable of the word only.

Syllable Syllables function as elements of the word. These classes of syllables are postulated on the basis of their distribution in the word.

Class 1 syllables may occur as first, second, third, or only element in the word. These all have the structure CV or NV and include the great majority of syllables in the language.

Class 2 syllables comprise those which may occur as first or only syllable in the word. These have the structure V or N.

Class 3 syllables comprise those which occur only as only syllables in the word (except in reduplicated forms) These have the structure CVm.

Only a few syllables occur with a final consonant other than m. These are Har 'until (of arabic origin), adup 'ten', lob 'lust' lub 'very soft', hang, vang (expressions after intense heat and brightness. These are considered as exceptions in the following analysis.

Also wálwál 'ghetening', 'Kang P. (m...)' ? 'som say Kén  
warwar

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The elements of the syllable are phonemes. Three classes of phonemes are set up according to their function in the syllable.

Consonants function as 1st element in class 1 & 3 syllables.

Vowels function as 2nd element in class 1 & 3 syllables, and as only element in class 2 syllables.

Nasals Nasals function as 1st element of class 1 & and 3 and as only element of class 2 syllables. ( There is a syllabic n and m)

Features of the syllable comprise:

palatalization; labialization, absence of pal. or lab.

nasalization; absence of nasalization.

high tone, mid tone, low tone, falling tone, rising tone.



CV Patterns

Throughout 'consonant' is used as an inclusive term covering both consonants as defined above and nasals.

Syllable

CV	zo	'friend'	ŋa	'hate'
V	ána	'yesterday'		
N	mbi ra	'I have come'		
CV <sub>m</sub>	tam	'hat'		

Morpheme

CV	do	'benniseed'																	
CVCV	kusá	'calabash'																	
CVCVCV	dūgbari	'hippopotamus'	tākira	'cooking place'															
V	u	2nd singular																	
VCV	aga	'staff'	( not common pattern, only a,u,i may occur as initial V)																
VCVCV	afunu	'then, yet'	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
N	m	'I'																	
Cv <sub>m</sub>	tam	'hat'	nem	'certain tree'	kom	'squeeze'													

All morphemes are phonologically separate words.

Work Chart

p t k kp

py ky

b d g gb

by dy gy

f s h

fy sy

v z

vy

r

ny

l

m n ŋ

mb nd ng

mby ŋgy

w y

pw kw

hw

ŋw

i: i u u:

ɪ ʊ

e: e o o:

ē ō

a ǣ a:

Tones high, mid, low, level tones. rising glides. falling glides



### Suspect Segments

- i u As no CC occur i and u between consonants and finally in the syllable following a consonant are interpreted as vowels. Initially preceding a vowel and between vowels they are interpreted as C.

Certain onomatopoeic and loan words (rarely) have a final ai sequence - eg. kokwai 'partridge'  
bawaawai 'chimpanzee'

( but I have later found the ff:-

pyeo a kaka	'proverb'
myeu	'dew'
mia	'newborn or weak'
bui	'guilt'
zai	'muscle' tendon
ngai	'crooked'
ntai bara	'back of leg'

Vowel sequences do not occur. Final consonants are very rare. Tone glides occur only on long vowels - these are tentatively interpreted as long vowels rather than a sequence ( see below) ai might therefore be considered as a diphthong which patterns as long vowels do.

Following a large number of consonants ( see ahead) i and less frequently, u occur preceding another vowel. These may be extracted as palatalisation and labialization features of the syllable, since neither CC or VV occur. These have been written with a y or w following the consonant.

h functions as C throughout.

### Suspect sequences.

$\tilde{V}$  functions as a unit.

ɲw, ny, kp, gb function as single units since no CC occur .

V: No VV occur. V: always carries a rising or falling tone. Rising or falling tones do not occur on short V. The alternatives are (1) to consider V: as a sequence of 2 identical vowels with one tone each. But there is no contrast between a high low fall a mid low fall, nor between a low high rise and a mid high rise - also this is against the CV pattern. ( there is a low high rise, a contrast to a high low fall) (2) to consider V: as a unit and the gliding tones as tone units. This interpretation has been tentatively chosen, because of the pressure of the CV pattern.

mb, nd, ɲg

ɲɲg

p pára 'pot' apina 'two'  
 t tana 'house' ta 'to show'  
 k kana 'war' ka 'to dig'  
 kp kpa shi ya 'go forward' kpaati 'palm tree'  
 b bana 'stone' bina 'goat' be 'money'  
 d dàt 'hit' den 'lick a finger' duma 'vulture'  
 g gasa 'horn' goho 'leather'  
 gb gba 'road', path' gbe 'pull'  
 f fura 'sheltering place' fo 'slave'  
 s sa 'do' se 'tie' su 'rain'  
 h goho 'skin, leather' hum shi 'faint'  
 v vuna 'horse' vi 'steal' vo 'hand'  
 z zaa 'guinea corn' ze 'take' za 'sweep'  
 r asara 'three' shara 'hole'  
 l lee 'tongue' lengege 'a cross, or barricade'  
 m mana 'gishiri' me 'see'  
 n nami 'crocodile' nee 'cow'  
 ŋ ngana 'tooth' ŋa 'refuse'  
 mb mba 'give birth to' mbere 'buttocks'  
 nd ndo 'heavy' ba nde 'be quiet' ndura 'small bag'  
 ng nga 'try' ngo 'tough' ngoo 'anger'  
 w wa 'wife' 'wuwe' 'much' Uwa 'woman'  
 y ya 'go' yooka 'town'  
 py pyē 'front' pyee 'new'  
 ky 'kyona' 'stranger' kyura 'throat', voice'  
 by byē 'ripe'  
 dy dyē 'get lost', lose dyibaa 'leaf';  
 gy gya 'adultery'  
 fy fyekē 'peanuts'  
 sy syara 'hole in the ground'  
 vy vyō 'relative' fo vya 'feel well'  
 ny nyā 'seek' nyina 'tree' (before nasalized V, submember of y)  
 mby 'mbya' 'ask'  
 ngy 'nggye' 'to push or hold down with load'



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pw	gban pwa	'chicken pox'	
kw	kwara	'boat, canoe'	akwaki 'large'
sw	?		
ɲw	ɲwā zu	'save, heal'	ɲwō 'be dry' (submember of w)
hw	hwa	'to pay'	hwadē 'to hinder'

/w/ ɲw occurs only before nasalized vowels  
w never does

/h/ hw only before i, e, a  
h never does

/y/ ny occurs only before nasalized V  
y never does.

Long vowels occur only in syllables carrying a rising or a falling tone  
Short vowels occur elsewhere.

i and e have slightly centralized variants following a /k/.

i	fi	'pick up tiny grain or small bit'
ɪ	fi	'proud, affected'
e	be	'money'
	fe	'fry'
e	fē	'untie'
a	fa	'turn over'
ā	fā	'to skin or flay'
ū	pufū	'to open'
	furu	'gruel'
ū	tu	'to wash'
	du	'rise up'
o	fo	'arrive at'
	poo	'camp'
ō	kom	'to gather'
	ton	'to deceive'

### Tones

There are five tonemes - high, mid, low, fall, rise.

For examples see grammar.

Phoneme Chart

p	t	k	kp
b	d	g	gb
f	s	h	
v	z		
	r		
	l		
m	n	ŋ	
mb	nd	ng	
w	y		
	i	u	ai
	e	o	
		a	

Syllable features

Nasalisation: Palatalization: Labialization: Vowel length

5 tone prosodies: high, mid, low, falling, rising



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Palatalization of the syllable is marked by writing a y following the initial consonant of the syllable.

Tone: High, mid and low tones are not marked except where ambiguities may occur. Falling and rising tones are marked by doubling the vowel on which they occur. eg. kwii 'toad.  
High tone is marked on imperative pronoun.

The Question intonation pattern is marked by a question mark. This also follows sentences of the statement phonological pattern which contain a question word.

Elision Where a vowel is elided, the preceding vowel is doubled, this fits the pattern of the rising glide. e.g. pere / apina  
> pere pina 'two persons'

### Word Division

For purposes of the orthography subjects and object pronouns will be attached preceding and following the verb root, also particles indicating tense will be attached to the verb. The possessive pronoun also the plural marker ka, and the article ni and zun are attached to the noun.

### Orthography conventions regarding n

Nasalized vowels are written by the appropriate vowel followed by n.  
eg. ã written an

Long nasalized vowels have one n finally. eg. gãã gaan

Word initially nasalized syllables beginning with y or w are written with n preceding the y or w.

eg. nyena, nyinto,  
'four' 'bow'

This convention is probably suitable for the same situation word medially eg. danyã 'turn off' written danya. If however this formation should be found to be in contrast with a nasalized vowel preceding y eg. hypothetical dāya - which would then be written danya, it might be better to write danyã 'turn off' as dayan.

Word medially n before the consonants d, j, t is not a marker of the nasalization of the preceding vowels but represents the consonant n. (No nasalized vowels occur preceding these consonants except in fluctuation with an unasnalized vowel plus n.

eg. gondo or gōdo 'ground, hill'  
wandi written wandi 'hawk'  
ganti written ganti 'medicine'  
ashinji written ashinji 'six'

or gonodon (gods)

Nasalized vowels preceding a word medial n are written in the usual way, a double medial n thus resulting.

eg. kyēna written kyenna 'egg'

A single orthographical medial n represents the consonant n.

eg. dana written dana 'grass matting.' > danna

ŋ is written ng

The cluster ng is written nng.

Orthography

/p/	p	/i/	i
/t/	t	/e/	ē
/k/	k	/a/	a
/kp/	kp	/o/	o
/b/	b	/u/	u
/d/	d	/ai/	ai
/g/	g		
/gb/	gb		
/f/	f		
/s/	s		
/h/	h		
/v/	v		
/z/	z		
/r/	r		
/l/	l		
/m/	m		
/n/	n		
/ŋ/	ng		
/mb/	mb		
/nd/	nd		
/ng/	nng		
/w/	w		
/y/	y		
/sy/	sh		
/dy/	j		

In spite of that h and hw are submembers of /h/, because of the pressure previous writing years ago they are written as h and hw respectively.

Nasalization of the syllable is marked by writing an n following the last segment of the syllable. eg. /tā~/ 'hide'  
tan

Labialization of the syllable is marked by writing a w following the initial consonant of the syllable