

# Phonology of the Rigwe Language



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## 1. Introduction

Rigwe (Irigwe) is a Plateau language of the Central sub-group, spoken by people living in Miango (SW of Jos), Kwall and several other hamlets in Bassa local government, Plateau State and Kauru local government, Kaduna State, Nigeria. According to D.A. Daniel and J.K. Barry, *An Outline of Irigwe Phonology and Grammar (1983)*, data collected from electoral rolls estimates a total Rigwe population at over 60,000. However, Ethnologue (2005) repeats a UBS figure of 40,000 dating from 1985 for the number of Rigwe speakers. The Rigwe language has a very little dialectal variation among speakers.

Although some work on writing the Rigwe language began in 1919, followed by irregular vernacular publications, for example the *Katikism /Irigwe Catechism/* (Anon 1935), nine NT books (1935), Irigwe Hymnbook (1986), Alphabet chart (1986), the analysis of Rigwe phonology has remained at best incomplete. A more comprehensive overview of the history of the Rigwe orthography is contained in *Reading and Writing Irigwe* (2006), a product of the Irigwe Language and Bible Translation Project. This booklet is the main source of current Rigwe orthographic practice although it does not provide proof for its assessment of the Rigwe sound system.

No published reference book has noted the correct ethnonyms of the Rigwe people. These are;

One Rigwe person	y'irigw <sup>w</sup> è
Rigwe people	y'irigw <sup>w</sup> è
Rigwe language	rìgw <sup>w</sup> è

It can be seen from this that 'Rigwe' would be a better general name for the people and language and there is current interest in changing to this name, reflected in the title of the present paper.

Rigwe has been classified with Izere in the South-Central subgroup of Plateau (Gerhardt 1989) a view reprised in Crozier & Blench (1992). The evidence for this is limited although some comparative data is included in Gerhardt (1983). However, as the present paper will show it has developed a very distinctive phonology. The only other detailed account of a related language is Follingstad (1991) which describes Tyap (Kataf) which has a rich system of fortis/lenis contrasts quite unlike Rigwe.

## 2. The Rigwe sound system

### 2.1 Overview: Rigwe Phonemes

Rigwe is notable for its extremely rich phonemic system. A number of phonemes only occur once and it is a moot point as to whether they can be described as integrated into the phonological system. The source of this appears to be a combination of the erosion and rebuilding of CV prefixes and pervasive palatal and labial prosodies possibly arising from former pluralisation strategies. In addition, past contact with Chadic languages is probably responsible for both a lateral fricative and low-frequency preglottalised consonants.

Tones are described in more detail in §3. but are marked throughout this paper as follows;

High	'
Mid	Unmarked
Mid over a nasal or /i/	-
Low	`
Extra-Low	˘
Falling	ˆ
High-mid fall	ˆ

## 2.2 Vowels

Rigwe vowels are shown in Table 1;

**Table 1. Rigwe vowels**

Vowels	Front	Central	Back
High	i ii ĩ		u uu ũ
Close-Mid	e ee ě		
Open-Mid	ɛ ɛɛ ẽ		ɔ ɔɔ ɔ̃
Low		a aa ǎ	

The doubled vowels have been described as long vowels in other publications. However, they are better treated as sequences of two identical vowels, especially as they often bear distinct tones. Vowel copying between syllables is pervasive in Rigwe and they have probably arisen from intervocalic consonant deletion.

There are no clear examples of nasalised doubled vowels. Nasalised vowels are comparatively rare in the overall lexicon and there are strong restrictions on their occurrence; they can only follow /r/, /h/ and /m/.

Rigwe has sequences of CVŋ contrasting with CṼŋ for some vowels, showing that the nasalisation is not conditioned in words with this structure. However, this cannot be demonstrated for all vowels; no contrast has been found for /a/ and /ɛ/. However, it is assumed by analogy that these sequences are in principle contrastive for all vowels. The following pairs show a contrast for the other vowels;

/iŋ/ contrasts with /ĩŋ/

ríŋ seeing rĩŋ asking

/uŋ/ contrasts with /ũŋ/

huŋ to know ròhũŋ the leaf

/ɔŋ/ contrasts with /ɔ̃ŋ/

hóŋ to hear mǔŋ at the joint

/eŋ/ contrasts with /ẽŋ/

méŋ the handle mේŋ the fish

Final -ŋ (usually syllabic and tone-bearing) is typically a determiner for nouns, hence the probable origin of most of the above sequences.

Rigwe words are dominated by front and central vowels; back vowels are statistically quite rare in the overall lexicon. As a consequence, many initial consonants only occur with front or front and central vowels. Whether this is a result of phonotactic restrictions or simply reflects the relative rarity of back vowels remains to be seen.

The vowels are set out below with evidence for their phonemic status;

/i/ High front vowel

/i/ contrasts with /ii/

riŋí	head	riŋíi	egg
íjé	cliff	íjéi	locust
í	to sieve, k.o. ant	íi	k.o. bird

/i/ contrasts with /ĩ/

rî	to see	rî̂	sling
ḿí	new	ḿí̂	to burn food in a pot

Mid front vowels

/e/ Close mid front vowel

Contrast between /e/ and /ɛ/

ré	to touch	rɛ	not sufficient
dê	to praise	dɛ	mother
tʃé	life	tʃɛ	love
bé	come!	bɛ	to block off a hole
té	to sent	tɛ	to chew

/e/ contrasts with /ee/

tʃé	to multiply by	tʃieê	walking
dê	to praise	edeê	beard
ìjê	locust	íjeê	rib

/e/ contrasts with /ẽ/

ré	to touch	rẽ	anger
ḿé	dry, wound	ḿẽ	fish pl.
rʷé	to tie	èèrʷé	locust bean tree

/ɛ/ Open mid front vowel

/ɛ/ contrasts with /ɛɛ/

dʒɛ̃dʒɛ̃	tall	riɖʒɛ̃ɛ̃	sickle
kpê	to lick	rikpɛ̃ɛ̃	spear
cècèṅ	white	céncɛ̃ɛ̃	bat

/ɛ/ contrasts with /ẽ/

rɛ	not sufficient	rẽ	deaf
ḿé	to polish, rub	ḿẽ	to close

/a/ is a low central vowel

/a/ contrasts with /aa/

ka	to separate	kaâ	farm
tʃànʃà	better	tʃànʃàâ	wet
brâ	to deceive	braâ	steep slope

/a/ contrasts with /ã/

amá	bowl	mã	to pinch
rá	to refuse, reject	rãṅ	quietness

/u/ is a high back vowel

/u/ contrasts with /uu/

ruhú	sickness	ruhuû	knee
nu	to dislocate	nùùre	needle
úǰʷɔ̃	cheek	ùúǰʷɔ̃	shrub sp.

/u/ contrasts with /ũ/

hru	to jump	hrũ	mucus
hu	to know	rðhũ	leaf

/ɔ/ is a close-mid back vowel

Rigwe has an unbalanced vowel system, as there are no clear examples of contrast between /ɔ/ and /o/.

/ɔ/ contrasts with /ɔɔ/

teʷɔ̃	work	teʷɔ̃ɔ̃	five
óŋgɔ̃	plate	òógɔ̃	clock < Hausa
ró	bitter	ròó	male name
ruvɔ̃	hole	ruj <sub>o</sub> ʷuvɔ̃ɔ̃	fat

/ɔ/ contrasts with /ɔ̃/

hɔ̃	to hear	ɔ̃	swollen joint
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### Vowel harmony

Rigwe also operates vowel harmony based on a front/back opposition; nearly all words have only front or back vowels while the central vowel can combine with either set. Rare exceptions appear to be recent loanwords or compounds.

Co-occurrence of front vowels

rèntɛi	saliva
kéʃɛ	to arrive earlier
rèvĩ	dream
nêhĩ	evening
mĩntɛè	morning
rine	meat
̀ngeri	cricket

Back vowels co-occurring

ruvó	hole
ɔ́tú	day
rutó	sweet
úúf <sup>w</sup> ɔ̀	cheek
ùúj <sup>o</sup> <sup>w</sup> uvɔ̀ɔ̀	butterfly
ruj <sup>o</sup> <sup>w</sup> uvɔ̀ɔ̀	fat
zɔ̀ŋgru	room
runɔ	building

Co-occurrence of vowels with the central vowel;

halí	to grind roughly
ɲgràj <sup>w</sup> ɔ̀	lizard
rubá	mud
kááɔ̀	rain coat
ewémà	ring
ewéná	girl
risá	beauty
àâwô	no

Almost all exceptions to the vowel harmony rule are loanwords or compounds;

dè.mùr <sup>e</sup>	leafy vegetable (compound)
tʃè.úteuf	beginning (compound)
nùúre	needle (<Hausa)
gùre	gallon (<Hausa)
dúg <sup>w</sup> e	digger (< English)
tòrí	dysentery (<English)
ɲfúré	iron rod

It is notable that these words do not contain the central vowel /a/ or the high front vowel /i/ and are usually high back plus mid front.

**Vowel copying between syllables**

Vowel copying is also very common; in other words, V<sub>2</sub> is often identical to V<sub>1</sub>. A high proportion of multi-syllabic Rigwe words have the same vowel in all syllables and the likelihood is that this arose from the assimilation of CV prefixes with underspecified V. Examples;

àátá	granary
áha	because
bám̀bà	side
bàärà	wide
edeê	beard
dzendze	intelligent
gézé	persecution, suffering
εg <sup>w</sup> é	bow
tʃɪntʃɪ	suffering
fiɦ̀	k.o. grass
óηgó	plate
rɔ̃ <sup>w</sup> ò	blood
dùru	k.o. grasshopper
kúηgú	short

## 2.3 Consonants

### 2.3.1 Consonant phonemes

Rigwe consonants are shown in Table 2, together with their labialised and palatalised counterparts;

**Table 2. Rigwe consonants**

	Bilabial	Labial - dental	Dental	Alveolar	Palato- alveolar	Palatal	Velar	Labial- velar	Glottal
Plosive vl	p p <sup>j</sup>			t		c c <sup>j</sup> c <sup>w</sup>	k k <sup>w</sup>	kp	
vd	b b <sup>j</sup>			d		ʃ ʃ <sup>j</sup> ʃ <sup>w</sup>	g g <sup>w</sup>	gb	
Nasal vd	m m <sup>j</sup> (m <sup>w</sup> )	(m̥)		n		ɲ ɲ <sup>w</sup>	ŋ ɲ <sup>w</sup> ɲ <sup>wj</sup>	ŋm	
Fricative vl		f (f <sup>j</sup> )		s	ʃ ʃ <sup>w</sup>			ɸ ɸ <sup>j</sup>	h h <sup>j</sup>
vd		v (v <sup>j</sup> )	ð ð <sup>j</sup>	z	ʒ ʒ <sup>w</sup>				
Affricate vl	(tʃ)			ts ts <sup>j</sup>	tʃ tʃ <sup>w</sup>	te te <sup>w</sup>			
vd					dʒ dʒ <sup>w</sup>				
Flapped vd	B			r r <sup>j</sup> r <sup>w</sup>					
Trill vd				r r <sup>j</sup> r <sup>w</sup>					
Lateral				l l <sup>j</sup>					
Lateral- fricative vl				ɬ					
Appro vl						j j <sup>w</sup>		w w <sup>j</sup>	
vd						j j <sup>w</sup>			

Rigwe is remarkable for the very large number of possible consonants plus modification in initial position. Many of these are extremely rare in the overall lexicon and may only occur once or twice. It is therefore not always possible to provide unambiguous proof of their phonemic status. Rigwe also permits preglottalisation, prenasalisation and clusters with /l/, /r/ and /ɾ/ as well as combinations of many of these.

There is no evidence that these contrasts are in marginal words such as idiophones and exclamations. Almost all seem to occur in the standard lexicon.

### 2.3.2 Types of consonant modification

### Preglottalisation

Preglottalisation is not marked on the phonemic chart, since it only occurs with scattered consonants and then only on single words. The consonants that can be preglottalised are as follows;

/ʔk/

ʔkó stomach pain kó fight, to pack pl.  
ʔkùṃvú k.o. calabash kùṃvú male name

/ʔkp/

ʔkpâ he-goat, hill kpâ pounding  
ʔkpé insect sp., male name kpê to lick

/ʔgb/

ʔgbê male lizard òṃgbé and  
ʔgbâ cock òṃgba big

/ʔg<sup>w</sup> ~ g<sup>w</sup>/

ʔg<sup>w</sup>î female name  
ʔg<sup>w</sup>re crow

No evidence for contrast with /g<sup>w</sup>/ has been found and it is possible this is an example of free variation.

/ʔs/

ʔsúnú pepper sùsúkù exclamation to start a story

/ʔc/

ʔcê cocoyam cècèṅ white

/ʔʃ<sup>w</sup>/

ʔʃ<sup>w</sup>è hare ʃ<sup>w</sup>é to drink  
ʔʃ<sup>w</sup>â hero ʃ<sup>w</sup>á ten

/ʔṃ/

ʔṃè fish sg. ṃé fish pl.

/ʔṃʝ/

ʔṃè two in counting ṃje to count, read  
ʔṃè evil, wickedness ṃjé to polish, rub

/ʔj/

ʔjírìg<sup>w</sup>è Rigwe person jírìg<sup>w</sup>è Rigwe

/ʔb/

ʔbé father bé to block up a hole

The presence of a rare preglottalised series may reflect ancient contact with Chadic languages as this is otherwise almost absent in Plateau languages.

### Palatalisation

Palatalisation is an extremely common strategy to form related word families in Plateau languages. One of the consequences of this is that consonants already defined as palatal in IPA terms can be further palatalised. Thus /tʃ/ appears to contrast with /tʃʰ/. This is analysed here *pro tem* as a sequence of /tʃ/ + /i/ although this is rather unsatisfactory since there also appears to be a contrast between tone-bearing syllabic and non-syllabic /i/. In some ways, /tʃʰ/ still looks like a better solution. The consonants that can be palatalised are listed on the chart.

### Consonant plus lateral, flap and trill sequences;

Rigwe is rich in lateral and rhotic prosodies. Restrictions on co-occurrence with following vowels show no evident pattern and may simply be an accident of the small sample of words with these sequences.

#### C + /l/ sequences

gl

glè baboon  
glé to tickle  
glö shrub with yellow flowers

kl

klá to open  
kleê ghost  
klèê rainbow  
kló hard  
klû to be blunt

ml

mlé to crush

#### C + /r/ sequences

br

brâ to turn  
brô to hold  
brú to lose

fr

frô to complete  
frèè naked  
frí to scourge

gr

grìmè onion  
gré to scratch  
kòṅgròó empty

hr

hru to jump, fly  
hró to loose, untie s.t.  
hrù mucus

kr

krú to crawl  
krɔ to weed  
kré to search

mr

mrù hyena

wr

wré to drain  
wrá to slash  
wró to descend

ʌr

ʌra about to begin  
ʌrî to meet up with someone  
ʌré to peel, crush (skin)

kpr

kprâ to hit  
kprááta louse  
kprökprö struggle

gbr

gbré fruit  
gbrö trivet  
gbrä biting fly sp.

ŋr

ŋrá to climb

In labialised Cr clusters /C<sup>w</sup>r/ C is restricted to velars and is always followed by front and central vowels;

k<sup>w</sup>r

k<sup>w</sup>rèŋjí measuring bowl

g<sup>w</sup>r

g<sup>w</sup>râ rotten and smelling

ŋ<sup>w</sup>r

nàáŋ<sup>w</sup>ra chain

C + /r/ sequences

pr

prümprü powdery  
pre to catch pl  
príta k.o. grass

br

brâ to deceive  
braâ steep slope  
brúbrú to be weak

mr

mra to be accustomed to  
amraâ living site of a hare

tr

trènrè describes s.t. semi-solid, e.g. porridge  
trá to pay, stir  
trô to help bring load down from head  
trùtrù to struggle

dr

drí s.t. that stays hard in cooking  
drè stick  
dre to survive calamity, to become wayward  
mándrà okra  
drùŋwù dragonfly  
drɔ to travel, marry (women only)

ter

terä describes s.t. that falls into a bush

cr

crécré describes being scanty  
tjâncrú k.o. bat  
cràmää describes unbalanced standing position

jr

rɔjrú disturbance  
jrââ rɛk<sup>wè</sup> k.o. fire wood  
jrâŋjrâŋjrâ describes one jumping out of excitement

kr

krá to fry  
kre to mix  
kru to fold

gr

grè basket  
grê to stumble

kpr

kpré to break pl.  
kprê shower

nr

nrá to climb pl.

ɲr

ɲrá marriage  
ɲrú to plaster a surface

sr

sra to stay  
srú to be cold  
srô to re-cultivate

ʌr

ʌrê tight corner  
ʌrí to move s.t. close to oneself

In labialised Cr clusters, /C<sup>w</sup>r/, is always restricted to palatals and velars and can only be followed by front and central vowels;

k<sup>w</sup>r

teèk<sup>w</sup>rínì k.o. snake

j<sup>w</sup>r

j<sup>w</sup>ré dirty

c<sup>w</sup>r

c<sup>w</sup>ríc<sup>w</sup>ríc<sup>w</sup>rí describes the singing of a bird

ʃ<sup>w</sup>r

ridáɲ<sup>w</sup>rá k.o. vegetable leaf

ŋ<sup>w</sup>r

ŋ<sup>w</sup>ra to swallow

ɲ<sup>w</sup>r

ɲ<sup>w</sup>ra to lie down pl.

### Prenasalisation

Non-syllabic prenasalisation only occurs word-medially. Nasals in initial position are always syllabic and tone-bearing. In medial and final position, syllabicity is unpredictable and is probably the result of former morpheme boundaries.

Where nasalisation is non-tone bearing and homorganic with the following consonant, it forms a closed syllable with the preceding vowel. Tone-bearing nasals contrast with non-tone-bearing nasals as in the following examples;

kàn.ka	different	cè.ńcè	carpet grass
óm.pò	ball	bá.mba	side
gbàɲm.gbà	too much	gbá.ìmgbâ	remote past

Examples of tone bearing nasals in initial position;

ɲmgbajmgbaj̄	the biggest
ɲkà	speech
ɲfè	snake
ɲzè	rain
ɲteù	chair
ɲzi	we
ɲbè	soil
ɲbrù	woman

Examples of word-medial tone bearing nasals;

kpà.ɲmkpàâ	clean and beautiful
tʃà.ɲtʃàâ	wet and cold
tʃà.ɲdó	place for cooking
gbá.ɲmgbâ	since
gbi.ɲmgbiî	strong and healthy
ì.ɲmgbiî	k.o. shrub
cè.ɲcè	carpet grass
mɛ.ɲcê	to be unable to do
bá.ɲbà	side
gù.ɲgùù	hump

### Syllabic nasals

All nasal consonants have syllabic and non-syllabic counterparts in initial position, but only the velar nasal shows this contrast in final position. However, examples are very rare; most occurrences of final -ŋ seem to derive from the verbal system and many CV citation forms seem to have a final -ŋ that is only realised in context. For example;

hu <sup>/ŋ/</sup>	to know	citation form
huŋ	to know	in sentence context
huŋ	knowledge	citation form <i>and</i> in sentence context
gbèŋ	openly	citation form <i>and</i> in sentence context

Final -ŋ can also contrast in sentence context to mark tense/aspect;

kpéré	to break pl.	citation form and completive aspect in sentence context
kpéréŋ	to break pl.	continuous aspect in sentence context
kpéréŋ	breakage	citation form <i>and</i> in sentence context
hô	to hear	citation form and completive aspect in sentence context
hóŋ	to hear	continuous aspect in sentence context
hóŋ	hearing	citation form <i>and</i> in sentence context

Example of non-syllabic final /ŋ/

ɲàŋ rough

### 2.3.3 Bilabial plosives

/b/ is a voiced bilabial plosive with a palatal counterpart which occurs only before central and front vowels, except in b + r sequences;

b + r

brâ	to turn
eebre	k. o. tree
brô	to hold
brümbrü	blue (< English?)

b + r

bré	sorghum
brî	many
brô	to tell story, preach
brübrü	describes fresh leaves
brúbrú	describes a weak human being

/b/ contrasts with /bi/

bé	block off a hole	biéli	belt (<English)
bé	come!	lémbié	clod of earth
bám̀bà	side	biá	to stick s.t. on s.t. else

/b/ contrasts with /p/ before central and front vowels;

bäärä	wide	pará	feast
bî	to give birth	pírí	much, plenty
bé	come!	ǰéépé	rice

/p/ is a voiceless bilabial plosive with a palatal counterpart which usually occurs only before central and front vowels. However, there are some examples of words with back vowels which are probably recently borrowed. These are;

pô	plastic bowl for children
ómpò	ball
prümprü	powdery

/p/ contrasts with /pi/ in one case only;

pérí	k.o. cloth	pié	to catch
------	------------	-----	----------

/psi/ /=*psi*/ was a sound formerly heard in a single word *psié* ‘to catch’. However, this has disappeared in common speech to be replaced by /tsi/ in older people’s speech and /pi/ among the younger generation.

/β/ is a voiced bilabial flap

/β/ is not strictly used for this sound which is not currently recognised by the IPA. In articulatory terms it resembles the labio-dental flap *v* but the upper teeth do not come into contact with the lip. It is an extremely rare sound, only occurring in the following words;

βää	describes s.o. vomiting, sound of a sling
βèéβèéβèé	describes s.t. neat or clean
βìgìdì	describes a liquid that is thick and sticky

Contrasts with /b/ emerge from the following;

bäärä	wide
bé	to come
bí	to loose, untie, have

/b/ might be part of the preglottalised series but is here symbolised as an implosive. There is only a single attestation of this sound;

/b/ in contrast with /b̥/

bé	to block up a hole	b̥é	father
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### 2.3.4 Bilabial nasals

/m/ is a bilabial nasal with a palatalised and labialised counterpart;

/m/ contrasts with /m̥/ before central and mid front vowels;

mɛ	to hold tightly	m̥ɛ	to learn
mé	to suck	r̥ɛm̥i̯ɛ	oil
ma	too	m̥i̯a	dew

/m/ contrasts with /mʷ/ before central and mid front vowels;

ma	too	mʷa	measure sg.
mé	to suck	mʷe	to meet
mì	to laugh, measure pl.	mʷi	to swell, to be angry

However, /mʷ/ is only a contrastive phoneme in older people's speech. Among young people **mʷa** becomes **ma** and mʷ + mid front vowel becomes **ɲm**.

[ɲ] is a labial-dental nasal. It is a positional allophone of \m\ occurring only before voiced and voiceless labial-dental fricatives. It can either be homorganic or syllabic and tone-bearing.

f̥ɲf̥ɛ	bran	éɲvɛ	grandchild
ɲf̥á	roasting in traditional earth oven	f̥áɲvɛ	ram
ɲf̥úlù	k.o. disease	ɲv́á	side
		ɲv̥i̯èétó	frog

[ɲ] without a tone mark is treated as homorganic.

### 2.3.5 Labial dental fricatives

The labial dental fricatives /f/ and /v/ contrast in all environments;

f̥ɔ	to take	vò	cap
fú	to paint	vú	to break sg.
fí	k.o. grass	vî	to harvest edible leaves
fá(ɲ)	clause-final affirmative tag	vá	hand

/f/ and /v/ can be palatalised before the open-mid vowel /ɛ/. There is a contrastive pair for /v/ and /vʲ/ in a near-identical environment but not for /f/. Even so, this may well be phonemic rather than conditioned opposition.

/f/ and /fʲ/

/fã(ŋ)/ clause-final affirmative tag /fʲɛ/ to pull

/v/ and /vʲ/

/ŋvêê/ rizga /ɛvʲɛê/ to paint

### 2.3.6 Alveolars

Alveolar plosives only occur before central and mid front vowels except where there are t+r and d+r sequences;

/t/ is a voiced alveolar plosive which occurs in front of all vowels;

ti	to tell
té	to send
té	to chew s.t. hard
tá	leg
tó	to run, leak
tündü	to feel relief
tüntu	women's former hairstyle
túntú	weak, incapable, lazy

/t/ contrasts with /d/;

tí	to remove sg.	dî	to see
té	to send	dê	to praise
té	to eat s.t. hard	dè	mother
tá	leg	dââ	cutlass
tú	to be less than the size of s.t.	dúdú	near

/d/ is a voiced alveolar plosive occurring before all vowels;

dî	to see
dê	to praise
dè	mother
'dánrǎ	worm
dündu	heel
dúdú	near
dúkò	headtie
dû	cupping horn
dùru	k.o.grasshopper
dóróró	describes s.t. full to the brim

### 2.3.7 Fricatives

/s/ is a voiceless alveolar fricative

/s/ contrasts with /z/

sê	to buy sg.	zê	age mates
sî	to buy pl.	zî	to throw pl.
sé	until	zè	up
sra	to sit	ìzràâ	antelope sp.

/s/ contrasts with /ʃ/, but only before front and central vowels;

sá	to keep, to place s.t. on s.t.	ǰá	to fix pl.
sî	to buy pl.	ǰî	to agree
sê	iron ankle rattle	ǰê	to shift s.t. pl.
sê	to buy sg.	ǰê	to close

/s/ contrasts with /ts/, but only before front and central vowels;

sí	shine	tsî	to plant
sá	keep, place s.o. on	tsá	to cut down a plant
sê	iron ankle rattle	tsê	to expose, scald

/z/ is a voiced alveolar fricative

/z/ contrasts with /ʒ/ before front and central vowels

ezé	thunder	eʒé	thorn
zè	up	ʒé	termite
zî	to throw pl.	ʒî	quails
ĩzã	horse gear	ʒá	to filter

/ts/ is a voiceless alveolar affricate with a palatal counterpart /tʃ/

/ts/ contrasts with /tʃ/ only before /e/. Otherwise they are in complementary distribution, [ts] before high vowels and [tʃ] before mid vowels.

tsê	scald	tsié	to ferment
		tsiê	to find, discover, blow musical instrument
		tsíó	to join
		tsíòṅkù	to rebuke /?/
tsî	to plant, black ant sp.		
tsû	to gather		

/ts/ contrasts with /tʃ/

tsî	to plant, black ant sp.	tʃî	sweat
tsê	scald	tʃê	knives
tsá	to cut sg.	tʃá	to cut pl.

/tʃ/ is a voiceless post-alveolar affricate which only occurs with front vowels;

/tʃ/ contrasts with a sequence of /tʃ/ + /i/ (/tʃi/) which results from the palatalisation of /tʃ/. However, the /i/ is non-syllabic in the resultant /i/ + V sequences;

tʃé	life	tʃieê	walk
ne tʃé	force	etʃié	hoe
tʃê	love	tʃíé	to cut
ritʃé	charcoal	tʃíé	feather
tʃá	to cut	ruhú ritʃiaâ	plant sp.

This sequence only occurs before front and central vowels. /tsi/ is still in use among the older generation but is disappearing among younger speakers and being replaced by /si/.

/tʃ/ contrasts with /dʒ/

ntʃé	alive	ndzé	1 <sup>st</sup> p. sg.
tʃé	life	dzèê	promise
tʃéntʃé	true	dzendze	to be intelligent
tʃintʃí	suffering	dzíndzí	doubting, be unintelligent

/dʒ/ is a voiced post-alveolar affricate which occurs with all vowels;

/dʒ/ contrasts with (/dʒi/) [or alternatively a sequence of /dʒ/ + /i/] which results from the palatalisation of /dʒ/. Unlike /tʃ/ it is possible to have a sequence with syllabic, tone-bearing /i/ + V, although contrastive pairs are only found before /e/ and /ɛ/;

Sequence of syllabic /i/ + /e/

dzèê promise éndzîè calabash

Sequence of non-syllabic /i/ + /e/

dzèèdzè tall dzìèrìjwì dove

/ʃ/ is a voiceless post-alveolar fricative with a labialised counterpart which only occurs before front and central vowels;

/ʃ/ and /ʒ/ contrast, but only before front and central vowels;

ɨʃí	younger	ɨʒí	insect
ʃé	to thresh	ʒé	termite
ʃî	to agree	ʒî	quails
ʃá	transplanting	ʒá	to filter

/ʃʷ/ is a labialised voiceless post-alveolar fricative which can occur before all vowels;

ʃʷí	bee
ʃʷé	to drink
ʃʷê	aches
ʃʷá	ten
ʃʷó	to dance
ʃʷũnʃʷũ	chaff

/f/ and /fʷ/ contrast, but only before front and central vowels;

fɪ	to agree	fʷí	bee
fé	to thresh	fʷé	to drink
fɛ	to find, discover, realise	fʷɛ	to be satisfied
fê	to close	fʷê	aches
fá	to fix, dress	fʷá	ten

/ʒ/ is a voiced post-alveolar fricative with a labialised counterpart which only occurs before front and central vowels;

/ʒ/ and /ʒʷ/ contrast, but only before front vowels;

ʒé	termite	ʒʷé	seed
nʒí	we	ñʒʷí	locust beans
ʒɛ	to cuddle, hush s.o.	ʒʷɛ	to push through a hole

/ʒʷ/ is a labialised voiceless post-alveolar fricative which can occur before all vowels;

ñʒʷí	locust beans
ʒʷé	seed
ʒʷɛ	to push s.t. through a hole sg.
ʒʷá	to push s.t. through a hole pl.
ʒʷɔ	to be too much
ʒʷû	millet

/ð/ is a voiced dental fricative with a palatalised counterpart /ðʲ/

This sound is not completely equivalent to the typical interdental fricatives of English, as the tongue does not protrude between the teeth. It has a noticeable friction and was written dz in the preliminary orthography. The palatal form is common, but non-palatal /ð/ only occurs in one word, a personal name. /ð/ is still in use among the older generation but is disappearing among younger speakers and being replaced by /z/ and /ðʲ/ by /zi/ (see also /ts/)

/ð/ contrasts with /ðʲ/ in the single case

ði	name of person	ðʲé	to despise s.o.
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/ð/ contrasts with /z/

ði	name of person	zi	placenta
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/ðʲ/ contrasts with /z/

ðʲɛ	swamp, marshland	zê	youth
ðʲɔ	to spoil, destroy	zûnzrû	one
ðʲé	cooked, exclamation of greeting	zè	up

/ðʲ/ contrasts with /tsʲ/

ðʲɛ	swamp, marshland	tsʲé	to cut down pl.
ràðʲá	fresh milk	tsʲé	to ferment, shoot
ðʲé	cooked, exclamation of greeting	ntsʲè	horse

although there is only one example of this contrast.

Additional examples of /ð̥/

ràð̥à	fresh milk
rèð̥è	righteousness

### 2.3.9 Nasals

/n/ is an alveolar nasal

/n/ can be syllabic and tone-bearing or homorganic with the following consonant and without its own tone. When followed by another consonant, /n/ is always syllabic in initial position, but may be either syllabic or homorganic elsewhere in the word.

/ŋ/ contrasts with /n-/

nyî	presence of	ɲi	you (pl.)
ndzè	I	éndziè	calabash
ndà	lizard	tándá	shallow
nkà	speech	kànká	different

/n/ contrasts with /ɲ/

ní	that	ɲí	you pl.
ne	with	ɲe	to uproot pl.
né	go!	ɲé	who?
na	to stretch s.t., to give a gift	ɲàɲ	rough
nɔ	to build	ɲô	Exclamation imagining s.t. terrible will happen

/n/ contrasts with /ŋ/

na	to stretch s.t., to give a gift	ŋa	to uproot sg.
nu	to dislocate	ŋû	he/she/it

/ɲ/ is a palatal nasal

Uniquely among Rigwe consonants, it shows a length contrast. This probably arose because /ɲ/ was analysed as the appropriate homorganic nasal before /ɲ/. Thus;

/ɲ/ contrasts with /ɲɲ/ before front and central vowels;

ɲe	to uproot pl.	ɲɲé	across
ɲé	who		
ɲàɲá	rough	ɲɲá	to press sg.
ɲàɲ	rough	ɲɲà	uncle

However, there is an additional contrast with geminate /ɲ +ɲ/ where the first /ɲ/ is tone-bearing.

ɲí	you (pl.)	ɲ̄.ɲí	teeth
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Remarkably, it is also possible to precede long /ɲɲ/ with a third syllabic /ɲ/;



### 2.3.11 Laterals, flaps and trills

/ɾ/ is an alveolar flap with labial and palatal counterparts

/ɾ/ and /r̥/ contrast as follows;

ré	to touch	r̥é	year, heart
r̥é	insufficient	r̥é	to sell
rá	to refuse, reject	r̥á	to hang
ró	fire	r̥ó	to bite

/ɾ/ and /r<sup>w</sup>/ contrast, but only before front and central vowels;

rî	to see	r <sup>w</sup> î	to slap
ré	to touch	r <sup>w</sup> é	to tie
r̥é	insufficient	r <sup>w</sup> é	body
rá	to refuse, reject	r <sup>w</sup> á	bell

/ɾ/ contrasts with /r/

ré	to touch	re	to play
rá	to refuse, reject	ra	to bring food from the granary
ró	fire	ró	bitter
rû	rope	rú	to become soft by soaking

/ɾ/ is an alveolar trill with labial and palatal counterparts

/ɾ/ and /r̥/ contrast in a single case;

rà	emphatic particle	r̥à	to touch (repeatedly)
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/r̥/ only occurs in this one word. However, some people use /r̥à/ for /r̥à/ and in their speech the contrast disappears.

/ɾ/ contrasts with /r<sup>w</sup>/

re	to play	r <sup>w</sup> é	to tie pl.
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/r<sup>w</sup>/ only occurs in this one word.

/l/ is a voiced alveolar lateral

/l/ and /li/ contrast only before mid front vowels;

lèlé	dirty	lièliè	soft
lé	to lick	liélié	smooth

/li/ only occurs in these two words.

/l/ contrasts with /r/ as follows;

la	to hide	ra	to bring food from granary
lé	to lick	re	to play
ló	name	ró	bitter
lú	to push	rú	to become soft by soaking

/l/ contrasts with /r/ as follows;

la	to hide	rá	to refuse, reject
lé	to lick	ré	to touch sg.
ló	name	ró	fire
lu	remember	rú	rope

/ʎ/ is a voiceless alveolar lateral fricative. It can occur before all vowels;

ʎí	to sieve
ʎî	k.o. bird
ʎé	to pound s.t. fresh, to weed
ʎá	to tear
ʎô	to revive
ʎû	to pour gently

/ʎ/ and /l/ contrast as follows;

ʎê	to jump	lé	to lick
ʎô	to revive	ló	name
ʎá	to tear	la	to hide
ʎu	to frighten	lu	to remember

Lateral fricatives are typical of Chadic languages and not of Plateau, which points to loanwords. However, Rigwe is not in contact with Chadic languages today, except for Hausa, which has no lateral fricatives. The presence of abundant lateral fricatives in Rigwe in fundamental vocabulary items strongly suggests intense contact with a now-vanished Chadic language.

### 2.3.12 Palatals

/c/ is a voiceless palatal plosive with labial and palatal counterparts only occurring before front and central vowels;

/c/ contrasts with /ci/ as follows;

cá	something	ciá	to save
cé	to farm	ciê	to call pl.
ce	to share	cie	to select

/c/ contrasts with /c<sup>w</sup>/ as follows;

ce	to share	c <sup>w</sup> e	Exclamation of greeting ‘Did you sleep well?’
cí	to prepare vegetable salad	c <sup>w</sup> í	to doze
		c <sup>w</sup> ô	to pack pl.

/ɟ/ is a voiced palatal plosive with labial and palatal counterparts;

/ɟ/ contrasts with /ɟʲ/ as follows;

iiɟê	locust	ɟʲé	cliff	ɟʲê	to belch
ɟá	name of a person	ɟʲàà	prison		

/ɟʲ/ only occurs in these three words.

/ɟ/ contrasts with /ɟʷ/ as follows;

ɟɛ	to wrap s.t.	ɟʷèè	tick
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/ɟʷ/ occurs only in this word.

### 2.3.13 Velars

/k/ is a voiceless velar plosive occurring before all vowels;

/k/ contrasts with /kʷ/

ka	to separate	kʷá	to pull
kí	TAM remote past	kʷí	death pl.
ɲké	this	ɲkʷê	navel
ke	to insist	kʷê	to dig

/k/ contrasts with /g/

ka	to separate	gà	cross-ridge
kó	to pack pl.	gò	k.o. snake
kû	to close	gû	to cause to fall
ɲké	this	ɲgè	thing

/k/ contrasts with /c/ as follows;

kí	TAM remote past	cí	to prepare k.o. vegetable salad
ke	to insist	cé	to cultivate land
kû	to close	cu	to wash
ka	to separate	cá	something
ñkã	speech	ñcã	grains
kàɲká	different	àncã	things

/g/ is a voiced velar plosive

/g/ contrasts with /gʷ/ before front and central vowels;

gà	cross ridge	gʷâ	to bend
gí	TAM	ʷgʷí	female name
ɲgè	thing	ɲgʷè	chief, king

No example of non-preglottalised /gʷ/ preceding a high front vowel has been found and this may be a case of free variation.

/g/ and /j/ contrast as follows;

gí	TAM completed aspect	ji	axe
ngè	thing	ijé	locust
gà	name of a person	já	name of a person
gǒ	snake sp.	jǒ	place for storing things in kitchen
gù	yam	jû	name of a hill

### 2.3.14 Approximants

/w/ is a voiced labial velar approximant

/w/ contrasts with /ɱ/ before front and central vowels;

wé	to leave	ɱé	wound
wí	to lose	ɱí	new
wa	to pour	ɱã	to pinch

/w<sup>i</sup>/ only occurs before the mid-front vowels.

/w/ contrasts with /w<sup>i</sup>/ as follows;

wé	leave	w <sup>i</sup> é	to write, pain
wé	not	w <sup>i</sup> é	sexual intercourse

/w<sup>i</sup>/ occurs only in these words and in /ñw<sup>i</sup>é/ 'place'.

/ɱ/ is a voiceless labial velar fricative with a palatal variant;

ɱá	bowl
ɱí	new

/ɱ<sup>i</sup>/ only occurs before the mid-front vowels

/ɱ/ contrasts with /ɱ<sup>i</sup>/;

ɱé	wound	ɱ <sup>i</sup> e	to read, count, iron s.t.
ɱê	friend	ɱ <sup>i</sup> é	to rub, scrub, polish, remain

only in these words and /eɱ<sup>i</sup>é/ 'stomach, mind'.

/ɱ/ contrasts with /h/

ɱé	wound	he	to say
ɱó	swollen joint	hô	to hear
ɱá	bowl	áhà	because

/j/ is a palatal approximant with a labialised variant.

/j/ and /j<sup>w</sup>/ contrast, but only before front and central vowels;

jâ	food	j <sup>w</sup> a	to go
ji	to clean	j <sup>w</sup> í	black
jé	interrogative particle	j <sup>w</sup> ε	to throw pl.
jé	to eat	j <sup>w</sup> é	to lose weight, to become thin

/j<sup>w</sup>/ has a voiceless counterpart /j<sup>o</sup><sup>w</sup>/ but contrasts with it only before front and central vowels;

j <sup>w</sup> a	to go	j <sup>o</sup> <sup>w</sup> á	to blow
j <sup>w</sup> í	black	j <sup>o</sup> <sup>w</sup> í	kill pl., gruel
j <sup>w</sup> ε	to throw pl.	j <sup>o</sup> <sup>w</sup> é	kill sg., moon
j <sup>w</sup> é	to become thin	j <sup>o</sup> <sup>w</sup> ê	thin metallic rod for hair plaiting

### 2.3.15 Labial-velars

/kp/ is a voiceless labial-velar plosive

/kp/ contrasts with /p/

kpàrá	end	pará	feast
kpíri	s.t. remaining	píríri	much, plenty
kpré	to break pl.	pre	to catch pl.

/kp/ contrasts with /k<sup>w</sup>/

kpé	to pound	k <sup>w</sup> é	to rub s.t.
kpê	to lick	k <sup>w</sup> ê	to dig
kpí	to pluck pl.	k <sup>w</sup> í	to die pl.
kpâ	pounding	k <sup>w</sup> á	to pull pl.

/gb/ is a voiced labial-velar plosive

/gb/ contrasts with /b/

gbî	afterbirth pains, to raise	bî	to give birth
gbré	fruit in general	brèbrè	describes a flame flickering
gbé	to shake	bé	to block up a hole
gbrɔ̃	trivet	brɔ̃	to hold
gbrä	biting fly sp.	brä	to turn

/gb/ contrasts with /g<sup>w</sup>/

gbé	to shake	g <sup>w</sup> ε	to make a booming sound
gbágbá	describes being protective	g <sup>w</sup> á	to bend
gbéŋmgbé	together	g <sup>w</sup> é	monkey sp.

/ŋm/ is a voiced labial velar nasal. It can be either a syllabic nasal bearing a tone or non-syllabic and homorganic with the following consonant. It can occur either word-initially or word –medially.

Examples of non-syllabic ŋm-

kpèŋmkpè	viscous
ŋme / m <sup>w</sup> e	to meet (youth / elders respectively)
gbäŋmgbä	too much

ŋm- is the homorganic nasal preceding the labial-velar /kp/ which is highly unusual. /kp/ normally takes an alveolar nasal /n/, realised as /ɲ/ in most related languages.

Note contrast with;

gbáŋmgbâ remote past

where the word-medial labial-velar is syllabic.

Examples of syllabic /ŋm/

ŋmgbá	big
ŋmgbɔ	stick
kpáŋmkpáá	clean
gbáŋmgbâ	remote past
ŋmkepê	load

where /ŋm/ is syllabic and tone-bearing it also occurs before /kp/ as its homorganic counterpart.

Non-syllabic /ŋm/ may sometimes be used by the younger generation in place of /m<sup>w</sup>/. E.g;

ŋme	for	m <sup>w</sup> e	meeting
ŋmi	for	m <sup>w</sup> i	to swell

### 2.3.16 Glottals

/h/ is a glottal fricative with a palatalised counterpart;

/h/ and /hi/ only contrast in a single example;

he to say iíhě owl

and /hi/ only occurs in this one word.

### 2.4 Lexical variation

Between Rigwe villages there are small variations in pronunciation and tone, but these are not extensive enough to set up consistent dialect variation. For example, Miango people say /lédè/ pig, while Kwall people say /lèédè/; Miango people say /re/ play, Kwall people say /reê/. The people of Iishwo (Southern Kaduna) say /gbrùgbù/ dwarf, while all other Rigwe say /grìgbò/.

### 2.5 Synchronic variation

Rigwe, like other Plateau languages is constantly renewing its phonological system and there are some notable differences reflecting age and generation. Some examples are as follows;

/b<sup>w</sup>/ among the older generation is now pronounced /v/.

goat	b <sup>w</sup> è	→	vè
hand	b <sup>w</sup> á	→	vá
song	b <sup>w</sup> é	→	vé

/ŋm/ is sometimes used by the younger generation in place of /mʷ/;

meeting m<sup>w</sup>e → ŋme  
to swell m<sup>w</sup>i → ŋmi

/ð/ and /ð<sup>i</sup>/ are disappearing among younger speakers and being replaced by /z/ and /z<sup>i</sup>/;

### 3. Tone

Rigwe has four tones and at least two falling glide tones;

High	´
Mid	Unmarked
Mid over a syllabic nasal	ˉ
Low	ˋ
Extra-Low	ˋˋ
Falling	ˆ
High-mid fall	ˆˉ

There are apparently no rising tones.

Four-way contrasts are rare but the following example shows a contrastive set on a CV syllable;

tá leg  
ta to arrange  
tà place of lower altitude  
tä belt

In connected speech, extra low tone is raised to low, but normal low and extra low tone are easily distinguished in plural formations. Consider the examples below;

Words with normal low tone;

Gloss	sg.	pl.
baboon	glè	glé
hyena	mrù	mrú
man	ɲtò	ɲtó
woman	ɲbrù	ɲbrú
lizard	ɲgrà <sup>f</sup> wò	ɲgrá <sup>f</sup> wó
donkey	ɲzèéci	ɲzécí
frog	ɲvìèétó	ɲvìétó

Words with extra low tone;

Gloss	sg.	pl.
catfish	zrì	zrî
basket	grè	grê
knife	tʃè	tʃê
chair	ɲteù	ɲteû
king	ɲg <sup>w</sup> è	ɲgwê
scar	ɲmgbè	ɲmgbê

Extra low becomes Low in a sentence context. For example, grè ‘basket’ becomes grè;

níŋ	ŋ <sup>w</sup> à	grè	àná
to me	give	basket	that
give me	that	basket	

Most cases of falling tone are High-Low. However, the tone on some word-final velar nasals is High-Mid ( ˊ ) in sentence context. For example;

huŋ	knowledge
tiŋ	telling
céŋ	cultivating
m <sup>w</sup> éŋ	learning

There appear to be no true rising tones in Rigwe although they can occur phonetically as a consequence of a sequence of two identical vowels. Thus;

tèé	first steps of a child
̀̀̀zèé́cí	donkey
̀̀̀v <sup>w</sup> èé́t <sup>w</sup>	frog
lèé	toad

Rising tones do not occur on the citation form of single vowels but are heard phonetically as CVŋ sequences following tone perturbations on pronouns in the context of sentences when they are the object of mid-tone verbs. Thus;

tī	to tell
gí tīŋ	tell him
ré tīŋ	tell them
m <sup>w</sup> ē	to teach
gí m <sup>w</sup> ēŋ	teach him
ré m <sup>w</sup> ēŋ	teach them

The low tone on the singular verbs stems reflects the Rigwe system of verbal plurality. When the verbal object is singular the mid-tone on the stem is lowered.

#### 4. Conclusion

The Rigwe language is remarkable for the diversity of its phonemes and their modifications and the number of potential contrasts in C<sub>1</sub> position. In this it bears comparison with Khoesan and the languages of the Caucasus. The source of this large inventory is not clear and most neighbouring languages have nothing like so rich a set. Further work on the morphology and grammar of the language as well as comparison with neighbouring languages (many of which are poorly described) may throw some light on this situation.

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