

# A grammar of Kindigué

Bondu-so, Dogon

Kolobinye

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This grammar is dedicated to the late Chief Seini Sangalbah





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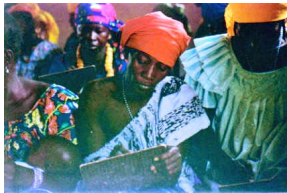
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## Author's note

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I became familiar with Kingigué while serving two years in the village of Kolobi with the Peace Corps. Although I had been taught to speak Fulfulde in the three-month training period prior to my installation in the village, the people of Kolobi did not respond to my attempts to converse with them upon my installation in the village. Later I found out that everyone in Kolobi is a fluent speaker of Fulfulde, yet they adamantly refuse to speak the language due to disputes over Fulani cattle entering Dogon fields. It is for this reason that the village insisted that I learn Dogon.

After a year's worth of tutoring from one of the village's school teachers, I was conversant in Dogon enough to be able to start a literacy program with the women's association. Through a collaboration with the Near Eastern Foundation (NEF), we were able to gather literacy materials in the neighboring dialect, Najamba. Twenty women from Kolobi were taught to read and write in their native language.



The men from the village became jealous that their wives could read and write and they could not. However, instead of forbidding them to continue, a group of men were also instructed in literacy of their language. Neighboring villages began to express interest and were also taught basic reading and writing techniques.

As the program began to succeed, though, the people of Kolobi and surrounding villages became dissatisfied with the materials presented to them. This is not our language! they complained. The slight differences in pronunciation and lexical items between the dialects were a source of pride for the villages. They demanded literature written in their own language.

With my background in psychology, I did not know how to provide them with the resources they requested but I had the desire to do so since they gave me everything they possibly could furnish me in the two years I lived with them in the village. Thus, I returned to the United States with the goal of becoming a linguist and documenting the Kindigué language. This is the final result of the wishes of a people.





wife, cut off his head, stuffed it into a sack full of *raison sauvage*, and when he went to take out a berry, the head spilled in front of his friend and he said, you tricked me.

Further, there is an informal expression [pòóǰò] which is based on a shared greeting pò and its standard reply jò, which designates the combination of Najamba plus the Kolobinye in the area around Koira Beiri (but not father east, e.g. around Borko).

Because Jeff Heath has already written a draft of a reference grammar for Najamba, the focus of this grammar is on Kindigué.

geographical information, including rough coordinates for the region in which it's spoken.

Description of what the language name means along with any demonyms of the people.

The villages Koira Beiri, Songoli, Ibisa (15°2' by W 3°16'), Borko, Dogani, and Tabou. Many of these villages frequent the weekly market of Boré instead of or in addition to that of Douentza. There are also small weekly markets at Koira Beiri, Borko, Ibissa and Dogani.

A full-page map, or perhaps a two-page spread, is recommended.

### 1.2.1. Kindigué Multilingualism

Contact languages are as follows: French is taught in schools, though to date relatively few individuals living in the villages can speak French passably. Fulfulde is spoken in most villages in the area, and is the lingua franca of the administrative and market town Douentza. Jamsay and Tommo-so (aka Tombo-so) are a kind of lingua franca in the area among Dogon. Speakers are also in contact with the Dogon language Tiranige (or Ndouléri), which is called Mombale in Kindigué and its speakers kelga.

### 1.2.2. A Note on Dialectology

Have you done any work on different dialects? Outline this here, with the option to expound on their differences. in a later chapter toward the end of the grammar. *write this section*

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## 1.3. Environment

The major economic activity is millet farming in the plains. Minor crops grown in the same fields are sorghum, sesame, peanuts, okra, cow-peas, roselle, cotton, and a little corn and peanuts. The rainy season is roughly June to September, with a harvest in late October or early November. During the long dry season, some off-season (*contre-saison*) gardening of cash crops is done: onions, garlic, lettuce, tomatoes, chili peppers, sweet potatoes, cassava. Livestock herding is practiced on a relatively small scale (sheep, goats, cattle). Transportation of goods to the villages is by donkey cart. Donkeys and camels also serve as mounts; horses seem to have disappeared from the immediate zone in recent times (though they are still found in some villages closer to Mopti-Sevaré.

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## 1.4. Previous and Contemporary Study of Kindigué

### 1.4.1. Previous Studies

What work has been done on this language in the past?

### 1.4.2. Fieldwork and Methodology

Because I have not been able to concentrate solely on Kindigué, the data used for this grammar were collected during two week periods over the last five years with two primary informants from Koira-Beiri in Mali and in Burkina Faso. All the data represented were recorded with a Marantz recorder and analyzed in Praat. Recordings which were difficult to hear due to excessive background noise were edited using the programs Adobe Soundbooth and Audition. Transcriptions were written and analyzed using SIL FieldWorks, which in turn was used to export texts and the lexicon.

### 1.4.3. Acknowledgements

The fieldwork on Kindigu/'e is being carried out under grant BCS 0853364 from the National Science Foundation (NSF) grant BCS-0537435, "Dogon languages of Mali", Documenting Endangered Languages (DEL) program, 2009–13. with Jeffrey Heath as the principle investigator. The data are from my familiarity with the language since learning in in the Peace Corps, fieldwork done in Mali in 2010 and in Burkina Faso in 2012 and 2013. I am indebted to the patient primary consultants who provided the data for this research, Hama and Issa Sangalbah, and to the villagers of Koira Beiri for their years of support, friendship, and willingness to share their language and culture. Enormous gratitude and awe is expressed towards project member Brian Cansler for furnishing us with this stupendous L<sup>A</sup>T<sub>E</sub>X template based on Jeffrey Heath's grammar outline. Although many of the interpretations of the data presented here differ from those of my team-members, without their input and support I would lost. Thus, my eternal gratitude to fieldwork companion and sister, Laura McPherson, and to Brian Cansler, Steve Moran, Vu Truong, Kirill Prokhorov, and Vadim Dyachkov. While the list of Malian assistants is endless, particular support has come from Minkailou Djiguiba, Oumar Koné, Seydou Moro, and Salif Morogoye. Comments are most welcome.



## CHAPTER 2

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### Phonology

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This chapter describes the phonology of Kindigué.

Changes from standard IPA are shown in table 2.1.

IPA	transcription
$\widehat{d}_3$	j
$\widehat{t}_f$	c
j	y
r and r	r

Table 2.1: Transcription conventions and their IPA equivalents

Nasalization is marked with a tilde, as in  $\tilde{v}$ ) and tone with diacritical accents  $\acute{a}$   $\grave{e}$   $\check{v}$   $\hat{v}$ ). Long vowels are transcribed as [vv].

The Dogon and Bangime Languages Project has established conventions for discussing tonal contours on stems and syllables. Syllable contours are enclosed in angular brackets (as in <HL>) and contours for stems or words are enclosed in curly braces (as in {HL}).

Examples are given in root and stem forms. The terms are defined following the conventions of Aronoff (1994) in that a root is a noun or verb without suffixes. Unless otherwise noted, examples using nouns are given by default in the singular form, verbs in the citation form, that which is used in chaining verb constructions such as ‘I am able to perform action X’ (where X is the verb in question).

## 2.1. Internal Phonological Structure of Stems and Words

The surface representation of a verb stem in Dogon consists of a root, a suffix, and a tonal contour. Verb roots are monosyllabic and are either consonant or vowel initial. All verb roots contain at least one vowel. Verb roots may be consonant or vowel final. Examples of verb roots in the Dogon language Kindigué are shown in 2.2.

ROOT	CITATION	PERFECTIVE	GLOSS
kɛj	kéj-é	kéj-èè	cut
bɛj	béj-í	bèj-èè	bury
nɔy	nóy-í	nòy-èè	sleep
dɔg	dóg-é	dòg-èè	abandon
ib	íb-í	íb-èè	catch
nɪŋg	níŋg-é	níŋg-èè	shut
kumb	kùmb-í	kùmb-èè	hold
gʊb	gúb-é	gùb-èè	hang up
>ab	áb-í	áb-èè	agree
jaŋg	jáŋg-é	jáŋg-èè	study

Table 2.2: Verb Roots

### 2.1.1. Syllables

Described as Post-Sonorant High-Vowel Deletion by ?, I analyze the same phenomenon as epenthesis of a high vowel to prevent the formation of a syllable of rising sonority. Examples are illustrated in 2.3.

	Root	NOM	gloss		Root	NOM	gloss
a.	dɔg	dóg-í-lé	abandon	a.	por	pór-lé	let escape
b.	jɔb	jób-í-lé	run	b.	bɛl	bél-lé	pick fruit
c.	kɛdʒ	kédʒ-í-lé	cut	c.	mʊl	mól-lé	gather
d.	jamb	jámb-í-lé	cover	d.	nal	nál-lé	give birth

Table 2.3: High Vowel Epenthesis

### 2.1.2. Metrical Structure

Kindigué shows relatively little of the metrical patterning that pervades the phonology (especially the verb morphophonology) of the northern Dogon languages that have been studied, where the second syllable of CvCvCv is subject to frequent vocalic reduction (to a high vowel or schwa, or to zero).

## 2.2. Consonant Inventory

The consonantal phonemes are in 2.4. Marginal phonemes are enclosed in parentheses or, in extreme cases, double parentheses. Notably absent from the inventory are nasalized sonorants [ɣ̃ w̃ ɾ̃], which are common in northeastern Dogon languages. A table approximating the relevant portions of the IPA chart is suggested, and it has been included below.

	labial	alveolar	palatal	velar	glottal
plosive	p b	t d		k g	ʔ
nasal	m	n	ɲ	ŋ	
fricative	f	s (z)	(ʃ) (ʒ)		h
affricate		(tʃ) (dʒ)			
approximant	w	l	y		
trill/tap		r			

Table 2.4: The consonant inventory of Kindigué

A table showing examples of each phoneme is shown in 2.5.

PHONEME	EXAMPLE	GLOSS	PHONEME	EXAMPLE	GLOSS
p	páà	‘clay bowl for washing’	f	fú	‘all’
b	bàá-n	‘horse-SG’	s	sún-ùù	‘ear-SG’
t	táà	‘leopard-SG’	c	cénd-àà	‘heart’
d	dán-àà	‘head’	j	jàà	‘dance’
k	kín-í	‘cliff-SG’	y	yàà	‘womansG’
g	gól-òò	‘fire’	w	wòòl-í	‘calabash scraper-SG’

Table 2.5: Kindigué consonant phonemes in context

### 2.2.1. Representations of Initial C[w] and [w]

A small number of stems appear to begin in Cwv, where v is a vowel. The w is audible when the following vowel is [a ε e]. The consonant C is a velar or a coronal. An additional initial homorganic nasal may occur before the C [úḡwéè] ‘dog’. Most examples of this feature are found among verbs 2.6, but some nouns are also listed in 2.7.

	gloss	Root	Perfective
a.	arrive	du	dwéè
b.	pound	du	dwéè
c.	leave	gu	gwéè
d.	eat	ku	kwéé

Table 2.6: Consonant-[w] Clusters Word-Initially in Verbs

	gloss	Singular	Plural
a.	country	g wàá	g wèé
b.	whip	swàá	swèè
c.	song	nunŋwɔɔ	nunŋwɛɛ
d.	nine	twáy	–

Table 2.7: Consonant-[w] Clusters Word-Initially in Nouns

Since these verbs simplify to Cu- in the verbal noun with suffix -le, I analyze these [CW] clusters as underlyingly [Cu], with glide formation occurring to prevent vowel coalescence with the tense/aspect or number suffix. Intervocally, [w] is rare, only occurring in a certain plurals of nouns such as [yáá] SG, [yàwóó] PL.

### 2.2.2. Sibilants [s ʃ z ʒ]

The only real sibilant phoneme is s. There is no particular tendency to palatalize it phonetically before i or other front vowels, with only one example found in the corpus *ʃbù ʃbù sín* ‘rope used as a belt to hold up pants’. Otherwise, ʃ only occurs in a handful of loanwords, chiefly *ínʃállw* ‘if god wills’ (< Arabic) and *ʃínwà* ‘Chinese’.

Likewise, z was difficult to find except in a very small number of borrowings: *zándármá’a* ‘gendarme’, *ózpórée* ‘forestry official’ (Fr Eaux et Forêts), and ʒ is recorded in *álʒéri* ‘Algeria’.

### 2.2.3. Nasalized Sonorants [w̃ ỹ r̃]

The nasalized sonorant phonemes [w̃ ỹ r̃] which are common in northeastern Dogon languages are unattested in native, (non-borrowed) Kindigué, words.

### 2.2.4. Nasals [m n ɲ n̄]

Although ɲ is a phoneme in the language, appearing before back vowels in words such as and *ɲam* ‘bad’, a neutralization rule before front vowels so that *dáɲ-è-è* ‘sat’ becomes *dáɲ-íy-èè* ‘sits’. Phonetically, ɲ occurs both in a nasal-consonant cluster *sàŋgál* ‘village from which the people of Koira-Beiri take their last name’ and as a singleton *gájá* ‘cat’.

### 2.2.5. Voiceless Labials [p f]

The phoneme /p/ is very common as in other Dogon languages, while /f/ is uncommon, occurring in a few regional terms probably borrowed from other languages: *kááfày* ‘saber’, *málfá* ‘rifle’, *yááfè* ‘pardon, forgive’ (<Arabic).



### 2.2.6. Laryngeals [h, ʔ]

The phoneme /h/ occurs in Fulfulde loanwords, e.g. *hiyá* ‘OK’, *hàkìlé* ‘thoughts, mental attentiveness’. A glottal stop [ʔ] occurs only in the usual *unh-unh* type of interjections and does not have phonemic status.

### 2.2.7. Voiced Velar Stop [g g]

Some spirantization of [g] to [ɣ] was observed, as in e.g. *Jamsay*, intervocalically between back, [+ATR] vowels.

### 2.2.8. Consonant Clusters

Examples of consonant clusters are a good idea, to show the permissible sequences in the language. Example sub-sections follow.

#### 2.2.8.1. Word- and Morpheme-Initial CC Clusters

Nasals rarely occur before a homorganic voiced stop word-initially. The nasal is phonetically low-toned when the word is pronounced in isolation. Prenasalized stops include [nd nj ng] but [mb] is unattested. Examples are given in 2.9.

	Cluster	Stem	gloss
a.	nd	̀ndé	‘give’
b.	nd	̀ndíy	‘listen’
c.	nj	̀njíí	‘honey’
d.	ng	̀ngín	‘hot season’

Table 2.8: Pre-nasalized Stops

	Cluster	Stem	gloss
a.	ng	bóngò	‘navel’
b.	mb	yàmbí	‘cover’
c.	nd	yéndè	‘west’
d.	nj	dènjá	‘god’

Table 2.9: Pre-nasalized Stops

Additional consonant clusters may be formed through derivation. As mentioned above in 2.3, when a syllable of rising sonority would be created, a high front vowel is epenthesized as a repair strategy. In 2.10, we see that in cases where acceptable consonant clusters are allowed, no epenthesis is required.

	Root	Stem	gloss
a.	gɔm	góm-lé	‘rot’
b.	din	dín-dé	‘cover’
c.	dam	dám-dé	‘speak’
d.	waj	wàŋ-dé	‘pass by’

Table 2.10: Consonant Clusters in Nominalized Verbs

### 2.2.8.2. geminate CC Clusters

There are a few native words with geminate consonants. An exhaustive list is given in 2.11.

	Root	Stem	gloss
a.	pall	pálláà	‘woven cloth’
b.	koll	kóll-ú	‘cough’
c.	saj	sàmmá	‘quickly’
d.	annε	ànné	‘how’

Table 2.11: geminate Consonants

### 2.2.8.3. Medial Triple-Consonant Clusters

Triple clusters cited in Heath’s Najamba grammar involving a non-nasal sonorant plus a nasal and a homorganic voiced stop emerge with reduced vowels in Kindigué.

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## 2.3. Vowel Inventory

The surface vowel inventory is shown in the chart in 2.1.

a	105 nouns	40 verbs
ɑ	97 nouns	43 verbs
e	28 nouns	9 verbs
ɛ	34 nouns	47 verbs
o	23 nouns	13 verbs
ɔ	26 nouns	28 verbs
i	65 nouns	40 verbs
ɪ	10 nouns	55 verbs
u	18 nouns	25 verbs
ʊ	23 nouns	27 verbs

Table 2.12: Vowel Frequencies in the Lexicon

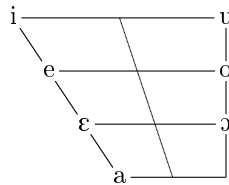


Figure 2.1: Chart of Surface Vowels

As shown in Chapter X, there are an additional three underlying vowels. The high vowels /i u/ and the low vowel /a/ have underlying [-ATR] and [+ATR] counterparts, /ɪ ʊ/ and >a respectively. The number of instances of each vowel are listed in 2.12.

Discussed in detail in ? Kindigué displays phonological patterns consistent with an underlying ten vowel system. The graph in 2.2, plotting the F1 and F2 values of 84 verb stems listed in shows the overlap of root high vowels and low which trigger [-ATR] spreading and those which trigger [+ATR]. Compare the respective areas with the mid vowels, in which a clear distinction is made for  $\pm[ATR]$ .

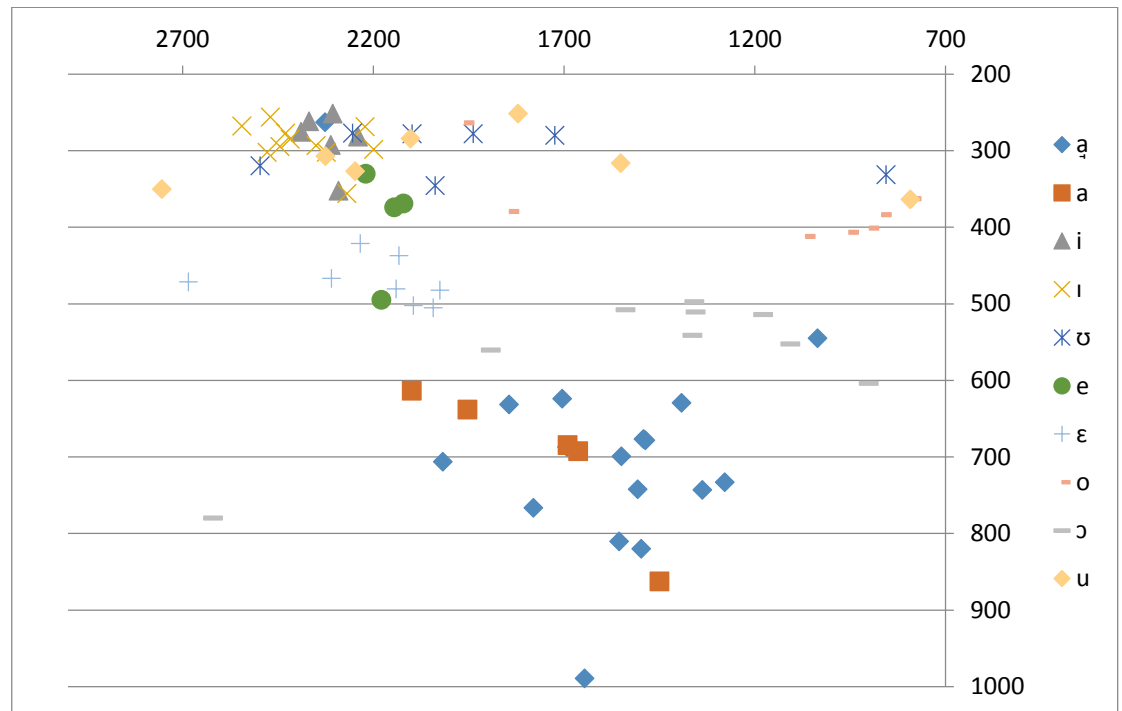
### 2.3.1. Length Contrast in Oral Vowels

Vowel length is contrastive in Kindigué. Examples of minimal pairs which differ solely on the basis of vowel length are shown in 2.13.

### 2.3.2. Nasal Vowels

There appear to be no non-loan words with nasalized vowels in the language. Instead, nasal codas are permitted, with examples shown in 2.14.

Figure 2.2: Vowel Space Based on 84 Verbs



	Root	Stem	gloss
a.	b <sup>+</sup> ar	bár-í-lè	‘help’
b.	baar	báár-í-lè	‘increase’
c.	gor	gór-í-lè	‘wear(hat)’
d.	gɔɔr	góór-í-lè	‘hold out arm’
e.	ul	úl-èè	‘lay out clothing’
f.	uul	úúl-èè	‘spit’

Table 2.13: Contrastive Vowel Length

ROOT	CITATION	PERFECTIVE	GLOSS
gom	góm	gòm-î	‘remove’
t <sup>+</sup> a>an	táán	táán-î	‘step on’
tun	tún	tún-î	‘place, put’
in	ín	ín--î	‘go’

Table 2.14: Nasal Final Verb Roots

### 2.3.3. Initial Vowels

Kindigué has no ban on onsetless syllables, that is, words may be consonant or vowel initial. A list of vowel initial words is given in 2.15. As shown, each of the acceptable surface vowels may begin a word.

	Root	Stem	gloss
a.	end	ènd-éè	‘child’
b.	ɛm	ém-é	‘milk’
c.	ol	ól-dò	‘house’
d.	ɔb	ób-áà	‘branch (tree sp)’
e.	in	ín	‘go’
f.	ul	úl	‘lay out clothing’
g.	>ar>am	árám	‘suck’

Table 2.15: Vowel Initial Words

Initial long vowels are less common. The sole examples found in the native lexicon were [ààl-é] ‘rain’, [íín-è] ‘goat’, [óór-ò] ‘rice’, and [èéb-è] ‘uncastrated goat’.

### 2.3.4. Stem-Medial Vowels

Most roots consist of only one syllable. Possible exceptions are listed in 2.16. It should be noted that derivational suffixes such as the mediopassive [-yɛ], reversion [-le], and transitive [-rɛ] are often frozen into verb stems, and since all of the following examples have root-final [il] sequences, a frozen suffix is a likely possibility for such stems even if they no longer can be analyzed into smaller components.

	Root	Stem	gloss
a.	nembil	némbíl	‘beg’
b.	tumbil	túmbil-é	‘hyena’
c.	tabil	tábil-é	‘caress’
d.	ambil	ámbil-é	‘ax’
e.	dundol	dúndóló	‘round’

Table 2.16: Medial Vowels in Stems

The vowel reduction witnessed in other Dogon languages (Najamba, Tommo So) whereas a short high medial vowel is either reduced to *i* or [i] or [u] affected by neighboring segments, has not been recorded in Kindigué.

### 2.3.5. Stem-Final Vowels

All nouns, verbs, and adjectives can be analyzed into components of root and suffix, whereas a root is in most cases on syllable and the suffix is a single vowel. The underlying value of the suffix vowel is affected by vowel harmony processes that will be discussed below in 2.4.1.

---

## 2.4. Segmental Phonological Processes

Discuss phonological processes. Include as many subsections as you need.

### 2.4.1. Vowel Harmony

In Kindigué, there is but one type of vowel harmony; [ATR]. All root vowels are underlyingly specified for the feature [ $\pm$ ATR]. Root vowels spread their underlying specification onto suffixes which are underlyingly underspecified for the feature [ $\pm$ ATR]. The perfective represents a clear example of this process.

---

## 2.5. Cliticization

Cliticization is present among verbs in the past tense whereas the past tense marker is a clitic which follows the perfective stem. Clitics do not conform to vowel harmony processes in the language. The noun class two marker is another example of a clitic.

Another clitic found in the language is the definite marker on nouns. The definite clitic has two allomorphs [=ye] 1 and [=je] 2.

- (1) kín-á =yè túmbíl-é mà áb-ì sùg-é-nd-è dè.  
bone-SG DEF hyena-SG with agree-PFV descend-FV-INCHOA-PFV EMPH  
'Hyena threw down the bones.' [rabbit and hyena 116.1]
- (2) ènd-é kíí =jè gínd-à díy-á-nd-á dínd-é dé,  
child-SG head DEF big-NCL grow-FV-INCHOA-PFV big-NCL EMPH  
'as the head gets bigger,' [kolobi sen.12]

Although further investigation is necessary, it appears that the [je] allomorph follows vowel-final roots and the [ye] allomorph consonant-final roots. If this is the case, the definite clitic would provide further evidence for the abstract root analysis presented in above.

## 2.6. Tone

Whereas complex tonal analyses have been presented for various Dogon languages, I believe that the pitch contours which occur in the language are better represented as an accent system rather than a tonal one. The reason for this is due to the fact that each stem must have at least one high tone, and the majority of stems have high-low pitch contours. Further, nearly all verb stems in the language are subject to depressor consonant effects. Examples are shown in 2.17.

	Root	Stem	gloss
a.	bay	bày-èè	'know'
b.	pag	pág-èè	'tie'
c.	dag	dàg-èè	'beat'
d.	tag	tág-èè	'(god) create'
e.	gan	gàn-îî	'hide'
f.	kab	káb-èè	'incise'

Table 2.17: Verb Stem Pitch Contours in the Perfective Aspect

The verb roots with initial stops show clearly the effects of depressor consonants: voiced consonants (a, c, e) are followed by a low tone on the initial syllable, but those with voiceless initial consonants (b, d, f) are followed by a high tone. Further, no stem has an all low-tone contour; this would be predicted by a pitch accent system in which a high tone was obligatory somewhere in the stem. In stems with initial high tones, the pitch break is at the morpheme boundary, and in those with initial low tones, the high tone presents itself in the only location possible to form a <HL> contour, on the penultimate vowel.

In stems with clitics, such as the past tense, the obligatory high tone surfaces either on the final vowel of the verb stem (a–d, f), or on the penultimate vowel of the past tense clitic (e). Examples are shown in 2.18.

The epenthesis patterns are discussed above briefly and further below in

	Root	Stem	gloss
a.	bay	bày-í=bèè	‘know’
b.	pag	pág-í=bèè	‘tie’
c.	dag	dàg-í=bèè	‘beat’
d.	tag	tág-é=bèè	‘(god) create’
e.	gan	gàn=bèè	‘hide’
f.	kab	káb-í=bèè	‘incise’

Table 2.18: Verb Stem Pitch Contours in the Past Tense

## 2.7. Tonal Changes

The majority of pitch changes that affect a stem are caused by grammatical markers and word-initial consonants. One example of a process of tone-lowering, even in a phrasal environment, is found among inalienable possessed nouns, shown in 3.

- (3) *hiyà kégá jóm-é tégín-é júb-è-ŋ tág-úú pùr-ùù mà gón-j-è*  
 OK now rabbit-SG small-NCL pull-PFV-CONT ostrich-SG butt-SG to remove-PRS-PRF  
 ‘Ok, now rabbit pulled a little out of ostrich’s butt,’ [rabbit and hyena. 130–131]



## APPENDIX A

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### Kindigué Villages

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The table below lists the known Kindigué-speaking villages. Coordinates are in degrees, minutes, and thousandths of minutes; those in parentheses are roughly estimated from maps. Kindige speaking villages Kolobi Koira-Beiri indom beye those that hear kolobidom Koira-Beiri's talk poiyooma name of the language sigirebo alphabet

Official Name	Kindigué Pronunciation
Kol	kol ma
Taal	taal ma
Songoli	sonol ma
Ibissa	ija ma
Numbori	numbol ma
Sikore	sogele ma
Barawal	barawal ma
Soki	soki ma
Kindibil	kindibil ma
Semali	semal ma
Some	some ma
Dempari	dembal ma
Borko	bolo ma
Tintan (ancient site of the King of the area)	tintan ma
Umey	umei ma
Menti	mendo ma
Dogani	dogan ma
Tule	tule ma
Sira Dogani	bul ma
Puti	puro ma
Taabi	tabu ma
Tondifere	todipele
Tondifere Ena	todipele ena
Tondifere Soki	todipele soo
Tondifere Koranka	todipele kole
Koira Sanna	koledu ma
Ambaka	ambaka ma
Yomboli	yombol ma
this ends the naybo greetings	neɛbom kalooje

## APPENDIX B

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### Inflectional Category Paradigms

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In the interest of keeping dozens of lengthy, full-page tables out of the main text of the grammar, all of the inflectional paradigms have been consolidated into this appendix and appendix ???. For all of the paradigms in this section, the number of syllables is indicated by the number of  $\sigma$ 's (e.g. bisyllabic is  $\sigma\sigma$ ). Also, trisyllabic and quadrisyllabic verbs have been combined because there is no difference between their conjugational paradigms.

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#### B.1. Nominal Classes

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#### B.2. Verbal Affixes

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The following tables illustrate the paradigms for all persons for the inflectional categories.

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#### B.3. Imperative Second Person Paradigms

The imperative is the simplest stem. It is formed with the present suffix and the person/number suffix.

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## B.4. Imperfective Paradigms

The imperfective is formed with the verb root, the present suffix [-A], the imperfective suffix [-ndʒ-], the person suffix, and the number suffix as shown in B.4. Even if a pronounced pronominal subject is present in the clause, the verb is obligatorily marked for person. There are no tonal or segmental changes in a clause with an object versus one without an object.

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## B.5. Present Paradigms

The present tense is formed with the root, the tense suffix [-b-], and the person and number suffixes, as noted in B.4. Examples are shown in B.7.

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## B.6. Future Paradigms

The future is formed with the root, the suffix [-m-], [-b-], and the number and person suffixes, as noted in B.4. Examples are shown in B.8.

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## B.7. Present Perfective Positive Paradigm

The table below shows a verbal paradigm for the present perfective positive. Refer to SECTION REFERENCE HERE for notes on its formation and use. The perfective is the simplest past tense stem. It is the root suffixed with the person and number suffixes.

### B.7.1. Past Perfective Positive Paradigm

The table below shows a verbal paradigm for the past perfective positive. Refer to SECTION REFERENCE HERE for notes on its formation and use. The past is formed with the perfective stem. The perfective stem is followed by the past tense clitic which is suffixed with the person and number morphemes.

### B.7.2. Imperfective Negative Paradigm

The table below shows a verbal paradigm for the past perfective positive. Refer to SECTION REFERENCE HERE for notes on its formation and use. Similar to the differentiation of the future and past stems, the negative imperfective and negative perfective are differentiated by the insertion of a nasal before the negative suffix /l/ in the former and not the latter.

**B.7.3. Perfective Negative Paradigm**

The table below shows a verbal paradigm for the perfective negative. Refer to SECTION REFERENCE HERE for notes on its formation and use.

Singular	Plural	gloss
-ye	-∅	
páà	páá-yè	clay bowl for cream
nàà	náá-yè	foot, leg
múyá	múyá-yé	Adams apple
débi	débi-yé	roof
dégi	dégi-yè	truth
diléé	dòléé-yè	spacious area
bàndí	bàndì-yé	back
bàngàl	bàngál-yè	marriage
ínjè	ínjé-yè	water
ààlè nyúmbé	ààlè nyúmbé-yé	drizzle, very light rain
bíigì	bíigó-yé	shroud
dáánè	dááné-yè	field cultivated by women
bárádà	bárádá-yè	tea kettle
kárábí	kárábí-yé	bit
pàràní	pàràní-yé	wheat-flour fritters
([+ATR])		
kéŋ	kéŋ-yé	place
ágèŋ	ágèŋ-yè	chin, branch
ààlín	ààlín-yé	stream, small river
ájàn	ájàn-yè	sky
ébán	ébán-yé	market
èjín	èjín-yè	hearth
bógìn	bógín-yè	barking
búgín	búgín-yè	hut
déjàn	déjàn-yé	day
nàà dígìn	nàà dígín-yè	ankle
gwàán	gwàán-yè	country, land
bándén	bándén-yé, bándéé	courtyard
kúndéŋ	kúndéŋ-yé	shack
kìmbín	kìmbìn-yé	cave (hole or horizontal fracture in cliff), tellem houses
búgú-m	bug-i, bugum-ye	red windstorm
kéndóngól	kéndóngól-yé	film that forms on surface of milk
-n	-ye	
táà-ŋ	táá-yè	arrow
ásá ñálà-ŋ	ásá ñálá-yè	hail, hailstones
gándá-n	gándá-yé	place
-n	-∅	
bèé-ŋ	bèé/bèe-ye	beard
téé-ŋ	téé	wood, firewood
sée-ŋ	sée	grain
sí-ŋ	sí	rope
sí-ŋ	sí	fat
sibà-n	sibà	bundle of millet grain spikes
dígì-n	dígí/dígíléé	joint
émbà-ŋ	émbà	sorghum
bínjá-ŋ	bínjá	stem, stalk
kíná-ŋ	kíná	bone
dùbàndè-ŋ	dùbàndè	bunk
màdèmbá-ŋ	màdèmbá	corn

Table B.1: Class One: Vowel Final Roots (convex objects, mass nouns)

Root	Singular	Plural	Gloss
root-r/l	-oo	-ee	
bel	bèl-óó	bèl-éé	grass
dogel	dìṅél-òò	dìṅél-èè	rag used as cushion for load on head
gol	gól-óó	gól-éé	ditch, channel
gol	gìl-óó	gòl-éé	sickle
gor	gór-óó	gór-éé	hat
gombor	gómbór-óó	gómbór-éé	mountain, cliff
root	-ɔɔ	-ɛɛ	
ɔn	ón-óó	ón-éé	open bare land
bɔr	bòr-óó	bór-èè	plain, flat lowland
bɔŋ	bóŋ-òò	bóŋ-èè	navel
beber	bèbèr-óó	bèbèr-éé	side of body
root	-aa	-ɛɛ	
da	dày	dày-éé	well
ban	bàn-áá	bàn-éé	wilderness
dan	dán-àà	dán-èè	head
daar	dáár-áá	dáár-éé	gumarabic(resin from certain trees)
tɪ	tìy-áà	tìy-èè	honeycomb
kmj	kínj-áà	kínj-èè	nose
surug	taɲasurug-aa	taɲasurug-ɛɛ	lock
cɛnd	cènd-áà	cènd-èè	heart
root-nd	-ii	-uu	
bon	bìn-úù	bìn-îî	tomtom (general word)
bil	bíl-úú, bìl-ó-n	bíl-íí	stairway
sol	bàmbàlà sól-ùù	bàmbàlà sól-èè	cream of millet with curdled milk
sɛ	sè-w(u)	sɛ-ɛ	story
buur	búúr-ú	búúr-í	bread
bab	bàmb-ú	bàmb-í	mountain
yab	yàmb-ú	yàmb-í	bedding
yɛb	yembiy-u	yembiy-i	fan
dɛd	dènd-ú	dènd-í, dèndi-ye	basket (small)
bánák	bánánk-ù	bánánk-wí	cassava
kad	kànd-ú	kànd-é	watermelon, melon
bid	bìnd-ú	bìnd-é	belly
root	-o-n	-e	
goor	goor-o-ŋ	goor-ee	cola nut
bool	bóól-ò-n	bóól-èè	thread (any kind)
belend	bélénd-ó-n	bélénd-éé	hot coal, ember
in	ín-ì-n	ín-éé	metal
daal	dáál-ó-n	dáál-éé	cotton-spinning stick
dag	dág-ì-n	dág-éé	medication, remedy
cɛr	cér-ó-n	cér-éé	wilderness
cɛcɛj	cécéj-ò-ŋ	cécéj-èè	gizzard
kɔl	ájí kól-ò-n	ájí kól-èè	star, lotus flower
bɔmb	bómb-ó-ŋ	bómb-éé	head cold
bum	bùmb-ó-ŋ	bùmb-éé	track (of snake or crocodile, or wounded animal)
ambir	ambir-ɔ-ŋ	ambir-ɛɛ	shavings from carving wood

Table B.2: Class Two: Liquid Final Roots (concave objects)

Root	Singular	Plural	Gloss
root	-∅	=mbo	
no	nòó	nì-mbó	person
aŋ	áŋ	áŋ-bì	beeswax
baa	bàá	bàà-mbó	father
taa	tàá	tàà-mbó	leopard
dii	dìí	dìí-mbì	thorn
ɛle	é lé	é lé-mbó	duck
koro	kóró	kóró-mbì	chicken
bimb	bìmbí	bìmbi-mbo	file (tool)
ganda	gàndá	gàndà-mbó	snail
ganda	gándá	gándá-mbó	loincloth for men
gaŋa	gáŋà	gáŋà-mbì	cat
goje	gójé	gójé-mbì	girlfriend
duge	dúgέ	dúgέ-mbì	customary rite (animist)
kobii	kìbî	kòbî-mbò	apiary
embii	èmbî	èmbî-mbò	tweezer(s)
pendu	pèndú	pèndù-mbó	calabash cover
bende	béndè	béndé-mbò	old-fashioned loincloth for girls
amb	àmbàrá àmbí	àmbàrá àmbì-mbó	ax (type 3)
paraŋga	pàráŋgá	pàràŋgà-mbó	donkey
bambala	bámبالá	bámبالá-mbì	Bambara
gulumbaa	gùlumbáà	gùlumbáà-mbó	pigeon (domestic)
ambasaara	ambasaara	àmbàsààrà-mbó	European (white)

Table B.3: Class Three: Humans



PRONOMINALS		
	SINGULAR	PLURAL
1	mì	íí
2	ó	wé
3	mó	bé
NUMBER		
	SINGULAR	PLURAL
1	-m	-ì
2	-ò	-è
3	-è	-ò
TENSE		
	ROOT	TENSE
PRS		-A
FUT		-A
PST		-b-EE
ASPECT		
	ROOT	ASPECT
IMPF		-A-nd <sub>3</sub>
PRF		-EE
NEGATION		
	ROOT	NEGATION
IMPF		-n-l
PRF		-l

Table B.4: Inflectional Affixes in Kindigué

$\sigma$ [+ATR]	in	‘go’
	SINGULAR	PLURAL
1	ín	ín-ó-jí
2		ín-ó-n
$\sigma$ [-ATR]	sém	‘slaughter’
	SINGULAR	PLURAL
1	sém-á	sém-á-jí
2		sém-á-n

Table B.5: Imperative Paradigms

$\sigma$ [+ATR]	dʒoŋ	‘heal’
	SINGULAR	PLURAL
1	dʒóŋ-ó-ndʒó-m̩	dʒóŋ-ó-ndʒ-ó-j-ì
2	dʒóŋ-ó-ndʒó-ò	dʒóŋ-o-ndʒ-è
3	dʒóŋ-ó-ndʒ-ò	dʒóŋ-ó-ndʒ-é-è
$\sigma$ [+ATR]	nembil	‘beg’
	SINGULAR	PLURAL
1	némbíl-ó-ndʒ-ó-m̩	némbíl-ó-ndʒ-ó-j-ì
2	némbil-ó-ndʒ-ó-ò	némbíl-ó-ndʒ-è
3	némbíl-ó-ndʒ-ò	némbíl-ó-ndʒ-é-è
$\sigma$ [+ATR]	noy	‘sleep’
	SINGULAR	PLURAL
1	nój-ó-ndʒ-ó-m̩	nój-ó-ndʒ-ó-jì
2	nój-ó-ndʒ-ó-ò	nó-j-óndʒ-è
3	nój-ó-ndʒ-ò	nój-óndʒ-é-è
$\sigma$ [-ATR]	dɔŋ	‘abandon’
	SINGULAR	PLURAL
1	dóg-á-ndʒ-ó-m̩	dóg-á-ndʒ-ó-j-ì
2	dóg-á-ndʒ-ó-ò	dóg-á-ndʒ-è
3	dóg-á-ndʒ-ò	dóg-á-ndʒ-é-è
$\sigma$ [-ATR]	sem	‘slaughter’
	SINGULAR	PLURAL
1	sém-á-ndʒ-ó-m̩	sém-á-ndʒ-ó-j-ì
2	sém-á-ndʒ-ó-ò	sém-á-ndʒ-è
3	sém-á-ndʒ-ò	sém-á-ndʒ-é-è

Table B.6: Imperfective Paradigms

$\sigma$ [+ATR]	in	‘go’
	SINGULAR	PLURAL
1	ín-ó-b-í-m̩	ín-ó-b-ó-jì
2	ín-ó-b-í-w̩	ín-ó-b-ó-ò
3	ín-ó-b-ó	ín-ó-b-ó-ŋ
$\sigma$ [-ATR]	sem	‘slaughter’
	SINGULAR	PLURAL
1	sém-á-b-í-m̩	sém-á-b-ó-jì
2	sém-á-b-í-w̩	sém-á-b-ó-ò
3	sém-á-b-ó	sém-á-b-ó-ŋ

Table B.7: Present Paradigms

$\sigma$ [+ATR]	in	‘go’
	SINGULAR	PLURAL
1	ín-ó-m-b-ó-m̀	ín-ó-m-b-ó-jì
2	ín-ó-m-b-í-ẁ	ín-ó-m-b-è
3	ín-ó-m-b-ì-ŋ̀	ín-ó-m-b-ó-ŋ̀
$\sigma$ [+ATR]	noy	‘sleep’
	SINGULAR	PLURAL
1	nój-ó-m-b-ó-m̀	nój-ó-m-b-ó-jì
2	nój-ó-m-b-í-ẁ	nój-ó-m-b-è
3	nój-ó-m-b-ì-ŋ̀	nój-ó-m-b-ó-ŋ̀
$\sigma$ [+ATR]	dʒon	‘heal’
	SINGULAR	PLURAL
1	dʒóŋ-ó-m-b-ó-m̀	dʒóŋ-ó-m-b-ó-jì
2	dʒóŋ-ó-m-b-í-ẁ	dʒóŋ-ó-m-b-è
3	dʒóŋ-ó-m-b-ì-ŋ̀	dʒóŋ-ó-m-b-ó-ŋ̀
$\sigma$ [+ATR]	nembil	‘beg’
	SINGULAR	PLURAL
1	némbil-ó-m-b-ó-m̀	némbil-ó-m-b-ó-jì
2	némbil-ó-m-b-í-ẁ	némbil-ó-m-b-è
3	némbil-ó-m-b-ì-ŋ̀	némbil-ó-m-b-ó-ŋ̀
$\sigma$ [−ATR]	dɔg	‘abandon’
	SINGULAR	PLURAL
1	dóg-á-m-b-ó-m̀	dóg-á-m-b-ó-jì
2	dóg-á-m-b-í-ẁ	dóg-á-m-b-è
3	dóg-á-m-b-ì-ŋ̀	dóg-á-m-b-ó-ŋ̀

Table B.8: Present Paradigms

$\sigma$ [+ATR]	dʒon	‘heal’
	SINGULAR	PLURAL
1	dʒóŋ-é-ṁ	dʒóŋ-ó-ḵì
2	dʒóŋ-ò	dʒóŋ-è
3	dʒóŋ-é-è	dʒóŋ-ó-ò
$\sigma$ [+ATR]	noy	‘sleep’
	SINGULAR	PLURAL
1	nóʒ-é-ṁ	noj-ó-ḵì
2	nóʒ-ò	nóʒ-è
3	nóʒ-í-ḵì	nóʒ-ú-ù
$\sigma\sigma$ [+ATR]	nembil	‘beg’
	SINGULAR	PLURAL
1	némbíł-é-ṁ	némbíł-ó-ḵì
2	némbíł-ò	némbíł-è
3	némbíł-é-è	némbíł-ó-ò
$\sigma\sigma$ [-ATR]	sem	‘slaughter’
	SINGULAR	PLURAL
1	sém-é-ṁ	sém-é-ḵì
2	sém-ò	sém-è
3	sèm-è-è	sém-ó-ò
$\sigma\sigma$ [-ATR]	sem	‘abandon’
	SINGULAR	PLURAL
1	dóʒ-é-ṁ	dóʒ-é-ḵì
2	dóʒ-ò	dóʒ-è
3	dóʒ-é-è	dóʒ-ó-ò

Table B.9: The paradigm of the present perfective positive for each class of verbs

$\sigma$ [+ATR]	in	‘go’
	SINGULAR	PLURAL
1	ín=b-é-ṁ	ín=b-ò
2	ín=b-ò	ín=b-è
3	ín=b-é-è	ín=b-ó-ḵì
$\sigma$ [-ATR]	sem	‘slaughter’
	SINGULAR	PLURAL
1	sém-é=b-ε-ṁ	sém-é=b-é-è
2	sém-ó=b-ò	sém-é=b-è
3	sém-é=b-é-è	sém-ó=b-ó-ḵì

Table B.10: The paradigm of the past perfective positive for each class of verbs

$\sigma$ [+ATR]	doy	‘sleep’
	SINGULAR	PLURAL
1	nój-ò-nd-ù-m	nój-ò-nd-í-ì
2	nój-ò-nd-ù	nój-ò-nd-è
3	nój-ò-nd-í	nój-ò-nd-íj-á
$\sigma$ [+ATR]	dʒoŋ	‘heal’
	SINGULAR	PLURAL
1	dʒóŋ-ò-nd-ù-m	dʒóŋ-ò-nd-í-ì
2	dʒóŋ-ò-nd-ù	dʒóŋ-ò-nd-è
3	dʒóŋ-ò-nd-í	dʒóŋ-ò-nd-íj-á
$\sigma$ [+ATR]	nembil	‘beg’
	SINGULAR	PLURAL
1	némbíl-ò-nd-ù-m	némbíl-ò-nd-í-ì
2	némbíl-ò-nd-ù	némbíl-ò-nd-è
3	némbíl-ò-nd-í	némbíl-ò-nd-íj-á
$\sigma$ [−ATR]	sɛm	‘slaughter’
	SINGULAR	PLURAL
1	sém-á-nd-ú-m	sém-á-nd-í-ì
2	sém-á-nd-ù	sém-á-nd-è
3	sém-á-nd-í	sém-á-nd-íj-á
$\sigma$ [−ATR]	dɔg	‘abandon’
	SINGULAR	PLURAL
1	dóg-á-nd-ú-m	dóg-á-nd-í-ì
2	dóg-á-nd-ù	dóg-á-nd-è
3	dóg-á-nd-í	dóg-á-nd-íj-á

Table B.11: The paradigm of the imperfective negative for each class of verbs

$\sigma$ [+ATR]	doy	‘sleep’
	SINGULAR	PLURAL
1	nój-ò-l-ù-m	nój-ò-l-ì
2	nój-ò-l-ù	nój-ò-l-è
3	nój-ò-l	nój-ò-nd-í
$\sigma$ [+ATR]	dʒoŋ	‘heal’
	SINGULAR	PLURAL
1	dʒóŋ-ò-l-ù-m	dʒóŋ-ò-l-ì
2	dʒóŋ-ò-l-ù	dʒóŋ-ò-l-è
3	dʒóŋ-ò-l	dʒóŋ-ó-nd-í
$\sigma$ [+ATR]	nembil	‘beg’
	SINGULAR	PLURAL
1	némbíl-ò-l-ù-m	némbíl-ò-l-ì
2	némbíl-ò-l-ù	némbíl-ò-l-è
3	némbíl-ò-l	némbíl-ò-nd-í
$\sigma$ [−ATR]	sɛm	‘slaughter’
	SINGULAR	PLURAL
1	sém-à-l-ù-m	sém-à-l-ì
2	sém-á-l-ù	sém-à-l-è
3	sém-à-l	sém-á-ànd-í
$\sigma$ [−ATR]	dɔg	‘abandon’
	SINGULAR	PLURAL
1	dóg-à-l-ù-m	dóg-à-l-ì
2	dóg-à-l-ù	dóg-à-l-è
3	dóg-à-l	dóg-á-ànd-í

Table B.12: The paradigm of the perfective negative for each class of verbs

Root	Singular	Plural	Gloss	Time	F1	F2
anj	ándʒ-èè	ándʒ-òò	cook (for tea or water)	3.32386	989.09349	1646.15978
bar	bár-èè	bár-òò	add help	5.83997	676.64311	1491.81124
ba	bàj-éé	bàj-óó	know (a fact)	9.541616	629.13545	1391.83001
dag	dág-éé	dág-ìì	lock hit with a stick	10.6584	678.16753	1486.962
nal	nàl-éé	nàl-óó	birth	12.51661	544.76309	1035.43583
san	sán-íí	sán-úú	pray	13.73569	699.00999	1549.60474
kan	kàn-ìì	kàn-ùù	do make	17.79984	732.81317	1278.73831
dam	dàm-íí	dàm-úú	say	19.78338	623.8552	1704.53571
daan	dààn-ìì	dààn-ùù	grill, roast (meat) over a fire	21.24524	631.25687	1843.95745
ayam	àyàm-ìì	àyàm-ùù	pester, annoy, bother (sb)	23.19326	766.23899	1780.41286
wajìì	wàŋ-íí	wàŋ-úú	pass by (as in I am going to pass by your house)	26.21859	743.01871	1337.10416
pag	pàg-èè	pàg-òò	tie	27.6301	810.41996	1555.37218
sar	sàr-èè	sàr-òò	ask	32.31564	706.18813	2017.56759
tar	tàr-èè	tàr-òò	look at	34.20215	742.21485	1506.60548
ambil	àm̀bil-èè	àm̀bil-òò	carve	2.235689	819.84757	1497.85246
wal	wàl-éé	wàl-óó	carry water	43.87548	687.19258	1692.54706
mal	màl-èè	màl-òò	tighten	38.80676	262.85301	2326.12046
dʒaŋ	dʒàŋ-èè	dʒàŋ-òò	study	30.11268	613.49086	2099.52626
ambil	àm̀bil-èè	àm̀bil-òò	reduce	0.494251	862.47805	1449.865
tag	tàg-èè	n/a	(God) create (sth)	52.93602	684.33678	1690.26058
tabil	tàbil-èè	tàbil-òò	caress	51.04919	692.51699	1663.08581
jali	jàlì-éé	jàlì-óó	stroll	60.55806	638.03568	1953.10698
bi	bìy-èè	bìy-òò	lay down	36.04754	261.36256	2368.80857
dìb	dìb-éé	dìb-óó	lose	53.94095	275.28682	2389.143
in	ìn-ìì	ìn-ùù	go	59.36103	281.53553	2240.00999
ib	ìb-èè	ìb-òò	take	61.64852	292.49372	2311.40317
dindʒ	dìndʒ-éé	dìndʒ-óó	drop	8.009368	251.66751	2306.69383
nembil	nèm̀bil-èè	nèm̀bil-òò	beg	79.10509	352.33273	2290.83989
jali	jàlìj-éé	jàlìj-óó	stroll	60.71233	356.00468	2269.07155
dindʒ	dìndʒ-éé	dìndʒ-óó	dice	7.152804	268.56155	2221.93023

dmd	dìnd-èè	dìnd-òò	search	57.9209	298.2272	2199.13283
dm	dìn-èè	dìn-òò	find	55.08208	267.79684	2544.57788
bir	bìr-éé	bìr-óó	kick	38.47121	294.49318	2445.11723
il	ìl-èè	ìl-òò	ascend	63.54852	284.7329	2417.75406
bimb	bìmb-éé	bìmb-óó	scrub lightly	69.04161	276.92376	2429.89563
ti	tíj-èè	tíj-òò	weave (a blanket) send	79.96728	293.18313	2349.60899
di	dìj-èè	dìj-òò	bathe	13.29293	255.97554	2469.77735
nɪŋg	nìŋg-èè	nìŋg-òò	shut	40.788	301.98591	2477.94002
kɔzi	kòzìj-èè	kòzìj-òò	scratch	37.05444	301.9869	2322.7221
dub	dùb-éé	dùb-óó	forge	13.67857	277.96559	1938.33714
gub	gùb-èè	gùb-òò	hook, hang up	73.97319	331.29215	856.193858
dum	dùm-éé	dùm-óó	get, obtain	71.18965	319.72439	2496.73292
zug	dzùg-èè	dzùg-òò	recognize	5.647396	280.07	1723.9
dumb	dùmb-èè	dùmb-òò	castrate	25.58832	277.99574	2098.24052
jumb	jùmb-èè	jumb-ɔɔ	pull (sth)	30.42978	276.86757	2254.54047
ul	ùl-éé	ùl-óó	bury	54.71694	345.51753	2037.81416
bedz	bèdz-èè	bèdz-òò	bury	76.67747	330.22741	2220.21504
nembil	nèmbìl-èè	nèmbìl-òò	beg	78.2255	373.91331	2145.59984
pegil	pégìl-éé	pégìl-óó	curse someone to stay where they are	11.0232	494.8639	2178.84091
peb	péb-éé	péb-óó	whistle	5.774926	369.11357	2121.11818
du	dw-èè	dw-òò	insult	19.01957	437.04262	2132.34114
bel	bèl-èè	bèl-òò	knock off (fruit)	81.91168	505.33584	2042.58816
dɛnj	dénz-éé	dénz-óó	hit	84.24393	480.63851	2139.95384
sɛm	sèm-èè	sèm-òò	cut throat of (animal), slaughter	84.97154	502.33443	2094.88134
kej	kèdz-èè	kèdz-òò	cut	87.16299	421.08994	2234.33838
tɛŋ	tèŋ-èè	tèŋ-òò	set down	89.23932	482.00989	2024.94877
nɛg	nèg-èè	nèg-òò	taste	37.92813	471.44119	2684.55719
pɛz	pèz-èè	pèz-òò	squeeze	45.74952	466.80148	2309.88298
gom	gòm-ìì	gòm-ùù	take out remove	93.12221	362.49504	789.088698



ʒog	ʒóg-èè	ʒóg-òò	have	95.35904	398.53039	683.21506
no	nojee/nòj-ìì	nòj-ùù	sleep	96.67023	263.74487	1960.93059
ko	kój-éé	kój-óó	split (wood), sew	31.18963	411.84864	1066.41019
por	pòr-èè	pòr-òò	escape	49.41003	406.60855	953.58133
tog	tóg-èè	tóg-òò	gather	0.985220	338.487817	836.442602
doŋg	dòŋg-íí	dòŋg-úú	touch	3.841399	379.4916	1843.56083
kog	kóg-éé	kóg-óó	brush away	8.660299	383.63749	866.436773
pog	póg-éé	póg-óó	dump out	15.60359	400.99559	899.647771
ɖv	ɖw-èè	ɖw-òò	insult	18.27813	513.83123	1177.87953
ɖɔg	ɖòg-éé	ɖòg-óó	abandon	100.0916	603.99391	901.282858
ɖɔn	ɖòn-éé	ɖòn-óó	buy, purchase	103.5768	507.66649	1538.64105
ɟɔŋ	ɟɔ̀ŋ-èè	ɟɔ̀ŋ-òò	heal	101.5607	541.2776	1363.66555
mɔg	mòg-éé	mòg-óó	wash	105.8762	779.78251	2620.09104
ɟɔg	ɟòg-èè	ɟòg-òò	fall	4.990947	552.56532	1106.60313
ɟɔmb	ɟòmb-èè	ɟòmb-òò	peck	27.08832	510.73771	1355.30623
kɔzi	kòzìj-èè	kòzìj-òò	scratch	36.81957	560.41784	1891.95327
yɔb	jòb-éé	jòb-óó	run	22.38499	497.16835	1358.41739
sug	sùg-èè	sùg-òò	descend	110.4173	350.28626	2754.28725
tun	tùn-ìì	tùn-ùù	place	110.9379	316.34212	1551.49192
ul	úl-éé	úl-óó	spit	55.914	306.90012	2325.76241
kub	kúb-éé	kúb-óó	chew	9.229387	363.33034	792.410071
dug	dùg-éé	dùg-óó	put the necklace on the neck and bless it by spitting	19.41272	283.95567	2102.09143
muu	mùùj-éé	mùùj-óó	sprain	24.10215	326.6125	2247.74856
nugul	nùgùl-èè	nùgùl-òò	ransack	2.824793	251.56472	1820.20645

Table B.13: Complete Phonetic and Phonological Neutralization of High and Low Vowels



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To Do

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