

ILLUSTRATIONS OF THE IPA

Basaá

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Basaá [bàsǎ:] is spoken by 282,000 people in the forest area located in the South, Centre and Littoral regions of Cameroon (based on 1982 Ethnologue record; Lewis 2009). Basaá is a narrow Bantu language in the Niger-Congo language family, and it is classified as A43 (Guthrie 1967–71, A43a in Maho 2009). The ISO code of Basaá is *bas* (Lewis 2009).

Early records of the Basaá language appear at the beginning of the 20th century (Rosenhuber 1908, Schürle 1912, Scholaster 1914). Recent studies on Basaá phonology include topics such as vowel raising (Schmidt 1996, Mutaka & Bitjaa Kody 2000), characteristics of consonants (Schmidt 1994, Buckley 1997, Solé 2009: 224) and tone (Bôt Ba Njock 1964, Teil-Dautrey 1992, Makasso 2012). For a comprehensive overview of Basaá phonology, see Bôt Ba Njock (1962) and Hyman (2003). The Basaá language has also contributed to studies of historical phonology (Janssens 1982, 1986; Teil-Dautrey 1991). Other literature on Basaá includes dictionaries (Schürle 1912, Lemb & de Gastines 1973) as well as morphological studies (Bôt Ba Njock 1970, Voorhoeve 1980, Dimmendaal 1988, Bitjaa Kody 1990, Hyman 2000). However, a phonetic description of Basaá represents a gap in this literature, which this Illustration aims to fill.

Examples in this paper come from two sources: Hyman (2003), and the first author, who is a native speaker of the Basaá language. The accompanying recordings for this article are of a male Basaá native speaker in his thirties, recorded on a Marantz PMD661 Field Recorder using a head-worn microphone (Shure WH-30 XLR).

Consonants

The phonetic chart of Basaá consonants shows that the voiceless plosives do not have voiced counterparts, except for the labialized velar. Among the voiceless fricatives, all but /s/ and

	Bilabial	Alveolar	Post alveolar	Palatal	Velar	Labialized velar	Uvular	Glottal
Plosive	p	t			k	k ^w g ^w		
Affricate			tʃ dʒ					
Implosive	ɓ							
Prenasalized	^m b	ⁿ d	ⁿ dʒ		^ŋ g			
Nasal	m	n		ɲ	ŋ	ŋ ^w		
Tap		ɾ	r					
Fricative	ɸ β	s			x y		χ	h ɦ
Approximant	w			j				
Lateral approximant		l						

/χ/ have voiced counterparts. Prenasalized stops and nasals occur at all places of articulation, as do fricatives. The velar nasal /ŋ/ appears as an initial as a prefix before vowel-initial roots, as in [ŋ-àñè] ‘CL1-chief’. Words exemplifying each of the consonants will be found in the ‘Phonotactics’ section below.

Plosives and fricatives in Basaá are in complementary distribution. Voiceless stops /p t k¹/ occur only word-initially. In intervocalic position, the stops undergo lenition to /β r γ/, and before non-sonorants or in pre-pausal position the lenited sounds /ϕ r̥ χ/ are voiceless. The voiced fricatives /β γ/ and the voiced tap /r/ can appear word-initially only when they begin a grammatical morpheme (a prefix) such as [βi-tá^mb] ‘CL8-shoe’. In the pre-pausal position only, /s/ and /h/ are in free variation, as in [móm-óh] ~ [móm-ós] ‘to console’.

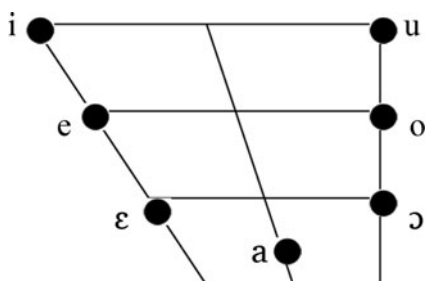
Basaá also has taps, approximants and palato-alveolar affricates. The voiced alveolar plosive /d/ only occurs as part of a prenasalized stop /ⁿd/, and so do other voiced plosives. Other Basaá sources (Lemb & de Gastines 1973) employ an orthographic <d> in the position of the tap /r/. Loanwords such as ‘dollar’, however, are produced by Basaá speakers as [dólà], with a /d/. The voiceless tap /r̥/ is an uncommon sound, but appears in pre-pausal position.

The implosive /b/ occurs in the initial position of a morpheme as in the words [bàs] ‘salt (CL9)’, [b̄:ŋgɛ́] ‘children (CL2)’ and [b̄òròl] ‘to start’. The implosive can also occur word-internally when it is morpheme-initial, as in [kàr-bà] ‘to pride oneself’, when preceded by a sonorant. After a vowel, the implosive is realized as a fricative /β/. The following illustrate:

kàr-bà ‘to pride oneself’
tèŋ-bà ‘to attach oneself’
hèl-bà ‘to turn oneself’

hó-βâ ‘to cover oneself’
há-βâ ‘to put (clothes) on oneself’
hì:βâ ‘to avoid oneself (from a dangerous situation)’

Vowels



Basaá has seven phonetic vowels /i e ɛ u o ɔ a/, and each vowel may be short or long. All short vowels can be followed by a sonorant or an obstruent in monosyllabic words. Long vowels, however, cannot be followed by any consonant in a syllable. The contrast in the phonological quantity in Basaá is based on differences in vowel length without additional qualitative differences.

¹ We agree with a reviewer’s point that voiceless plosives /p t k/ in the syllable-final position have widespread variation in Basaá. In the absence of a systematic study, we leave an exact description of this variation to future research.

Short vowels and long vowels

sí	‘earth (CL9)’	sì:	‘to ache’
jé	‘(they) are’	jé:	‘his’
sé	‘to grind’	sé:	‘to collect palm wine’
sú	‘face (CL9)’	sù:	‘to tease’
só	‘antelope (CL9)’	sò:	‘to enjoy (food)’
sò	‘to wash’	sò:	‘to be permeable’
sá	‘to dry up (a river)’	sá:	‘to spread (something)’

Vowels followed by a sonorant

lìm	‘to be silent’	píl	‘debt (CL9)’
lém	‘beast (CL7)’	bén	‘to bend’
lém	‘habbit (CL7)’	kèj	‘iron (CL7)’
búm	‘inheritance (CL7)’	kúr	‘a blow (CL7)’
hóm	‘to hang around’	hól	‘to sharpen’
móm	‘to calm down’	hór	‘to annoy’
bám	‘to shout’	ɕáj	‘to disappear’

Vowels followed by an obstruent

níɸ	‘to steal’	jíχ	‘widow/-er (CL7)’
béɸ	‘to beat’	héχ	‘to block’
kéɸ	‘to tattoo’	lés ~ léh	‘to miss’
húɸ	‘to be short of’	búχ	‘word (CL7)’
póɸ	‘to be clean’	lós ~ lóh	‘courage (CL7)’
pòɸ	‘to gain weight’	hóχ	‘to swim’
kàɸ	‘to share’	bàs ~ bàh	‘salt (CL9)’

Vowel raising

Basaá has two major vowel processes: vowel syncope and vowel raising. The vowel raising occurs when a verbal extension such as an applicative is added to a verb stem. Low vowels in the stem become mid vowels, and mid vowels become high vowels. High vowels do not undergo any changes. For a phonological analysis of this vowel raising, see Schmidt (1996) and Mutaka & Bitjaa Kody (2000).

	VERB	APPLICATIVE	MEANING OF APPLICATIVE FORMS
<i>Front vowels</i>			
/a/ to /e/	sál	sél-êl	‘to work with’
/ɛ/ to /e/	péɸ	péβ-êl	‘to blow with’
/e/ to /i/	héχ	híγ-ìl	‘to block for’
/i/ (no change)	mìl	mìl-ìl	‘to swallow with’
<i>Back vowels</i>			
/ɔ/ to /o/	pór	pór-òl	‘to talk for/to’
/o/ to /u/	hól	húl-ùl	‘to sharpen with’
/u/ (no change)	tùχ	tùy-ùl	‘to play with’

Tone

Basaá has two register tones: high and low, and two contour tones: rising and falling. Minimal pairs with register tones over two syllables (HL or LH sequences) can also be found. Each row in the following table represents a minimal tonal contrast in Basaá.

H TONE	L TONE	HL TONE	LH TONE
jáχ ‘to annoy’	jàχ ‘also’		
ḅáj ‘to tolerate’	ḅàj ‘to make’		
ḅó: ‘to move out’	ḅò: ‘(smell) bad’	tû: ‘shoulder (cl7)’	ḅò: ‘nine’
	tû: ‘to be unable to cut’		jǎ: ‘snake (cl9)’
	jǎ: ‘to copulate’	ḅáŋgà ‘drug (cl7)’	ḅàŋgá ‘great’

Basaá also has a grammatical downstep process triggered by an L tone between H tones. The present tense is marked with a nasal H and a floating L tone: the H tone in the verb [ḅḅé] ‘to eat’ is downstepped in the present tense [à n¹ḅḅé] ‘she eats’.

Syllable structure

The syllable template of Basaá is (C)V(C) or (C)V: . Onsets are not required in Basaá and codas are not prohibited. Syllables cannot have coda consonants when the nucleus is a long vowel.

CV	V	CVC
sú ‘face (CL9)’	ú ‘night (CL9)’	kóϕ ‘chicken (CL9)’
pà ‘machete (CL7)’	é ‘to clear bush’	pùḅ ‘forest, bush (CL9)’
ḅḅè ‘to eat’	ḅ ‘to grow (plant)’	lém ‘to become extinguished’
lò ‘to come’	ó ‘ear (CL9)’	ḅòl ‘rot’
CV:	V:	VC
pé: ‘viper (CL9)’	é: ‘tree (CL7)’	ḅ ^m b ‘caterpillar (CL7)’
kḅ: ‘skin (CL9)’	ḅ: ‘to hate’	ḅm ‘to send’
hè: ‘to cost’	ó: ‘to make’	áŋ ‘to count, read’
lò: ‘to pass’	è: ‘to cry’	ḅχ ‘to curse’

Syllabic nasals

Basaá has syllabic nasals that are homorganic with the place of articulation of the following consonant. The syllabic nasals occur as class prefixes in nouns or as tense morphemes in verbs. In terms of tone, syllabic nasals are assigned an L tone. When a noun begins with a palato-alveolar sound, the syllabic nasal is realized with /n/. A vowel-initial noun has a syllabic nasal prefix that is a velar nasal /ŋ/.

INITIAL SEGMENT	SYLLABIC NASALS AS CLASS PREFIXES			
bilabial	m̄-pék ‘CL3-bag’	m̄-ḅḅḅ ‘CL3-creator’		
alveolar	ḅ-tómbá ‘CL3-goat’	ḅ-sáj ‘CL1-father’		
	ḅ-lóŋ ‘CL3-road’			
palato-alveolar	ḅ-tḅḅḅ ‘CL3-mortar’	ḅ-ḅḅḅ ‘CL1-fighter’		
velar	ḅ-kḅḅ ‘CL3-land’	ḅ-kwê ‘CL3-basket’		
vowel	ḅ-ḅ ‘CL3-head’	ḅ-ànè ‘CL1-chief’		

INITIAL SEGMENT	SYLLABIC NASALS AS TENSE MORPHEMES		
bilabial	m̄:ŋgé à m̄- ¹ póḅḅásá:	‘the child speaks Basaá’	
	m̄:ŋgé à m̄-ḅí: ŋwá:	‘the child takes a wife’	
alveolar	m̄:ŋgé à ḅ-sómb mákàlà	‘the child has bought doughnuts’	
palato-alveolar	m̄:ŋgé à n̄- ¹ ḅḅé mákàlà	‘the child eats doughnuts’	
	m̄:ŋgé à ḅ-tḅḅ	‘the child has died’	

velar	mà:ngé à ñ- ^l kè í bòm	‘the child is going to market’
	mà:ngé à ñ-kór	‘the child has dried up a lot’
	ngándàk	
	mà:ngé à ñ-jó	‘the child has drunken’
	mà:ngé à ñ-jí: sù	‘the child has smiled’
vowel	mà:ngé à ñ-áŋ kâ:ɾ	‘the child has read a book’

Phonotactics

Basaá consonants demonstrate unusual phonotactics with respect to their occurrence within a prosodic stem (a combination of a root and suffixes, but not including prefixes).² Most consonants in the chart can appear in stem-initial position. Voiceless fricatives / ϕ ɾ χ /, however, cannot be the first consonant in a stem. The set of consonants allowed in a prosodic word substantially decreases in positions located further away from the left edge of the prosodic stem. The first position of a prosodic stem (C_1) allows the largest contrast, but subsequent positions (C_2 , C_3 , C_4) only allow a limited set of consonants. When a Basaá word has four consonants, the maximum number in a prosodic stem, the last consonant is one of /n ɣ χ h/; if the fourth consonant is stem-final, then it can only be / χ /. A prosodic stem can have maximally four consonants (Hyman 2003). The following word list below is based on this phonotactic restriction in Basaá. High tone is marked with an acute accent and low tone is marked with a grave accent. The tilde (~) means free variation. When a noun does not have an overt noun class prefix, the noun class is indicated in parentheses. The bolded C_n indicates the position of the consonants illustrated in each list.

C_1 V... ³			
páŋ	‘to pick’	túm	‘size (CL9)’
bén	‘to bend’	sò:	‘be permeable’
βi-tám ^b	‘CL8-shoe’	nó	‘to rain’
^m bú	‘grey hair (CL10)’	ⁿ dí	‘but’
móm	‘to calm down’	lá	‘to lick’
wǎ:	‘arm (CL3)’	rì-nǎ:	‘CL13(PL)-finger’
ɸjó	‘to make palm oil’	ɸò	‘to bury’
jà:	‘sister-in-law (CL1)’	ⁿ ɸjé:	‘who’
hól	‘to sharpen’	kò:	‘foot (CL9)’
jí	‘knowledge (CL7)’	yá-lò	‘fut.-come’
k ^w ò	‘to fall down’	g ^w é:	‘his’
ⁿ gá:	‘gun (CL9)’	ŋ ^w á:	‘spouse (CL1)’

² Prosodic stem in this paper is different from the term ‘macro stem’, which is a morphological unit that refers to a part of verbal complexes that encompasses an object marker (optional), the verb root, verbal suffixes and the final vowel (Downing 2006).

³ To our knowledge, there is no official and widely accepted writing system for the Basaá language, except a transliteration system used in the Bible based on French or English writing systems. The writing systems, however, are not uniform and they differ from one another depending on the version of the Bible whether it is translated for the Catholic church or for the Protestant church. Some recent work by linguists (such as Hyman 2003) and the Language Committee prefer a transcription system based on General Alphabet for Cameroonian Languages (AGLC) devised by the late Prof. Maurice Tadadjeu. While the orthography in Lemb & de Gastines’s (1973) dictionary is commonly regarded as the standard for writing Basaá, it does not have an official status. The state-of-the-art is that there is no consensus about the writing system of Basaá. Thus, we decided not to provide spellings of Basaá words in this paper. It is our hope that the current work can inform future work on the development of an official writing system of Basaá.

C_1VC_2V

kòβá	‘past (CL9)’	tòrè	‘to wake up’
tí ^m bá	‘to destroy’	kùjè	‘to switch on’
βòmá	‘meeting (CL7)’	sèyà	‘equal (in age) (CL7)’
βìná	‘basket (CL7)’	βòŋá	‘brain (CL1)’
^m bò ⁿ dó	‘coconut (CL9)’	βá ^g gà	‘drug (CL9)’
kùlé	‘spice (CL7)’	sùhà	‘to put down something’

 $C_1VC_2(-C_3)V$

kéϕ	‘to tattoo’	^g gò ⁿ d	‘daughter (CL7)’
kéβ-nà	‘to tattoo each other’	píl	‘debt (CL9)’
só ^m b	‘to buy’	hóŋ	‘to annoy’
βúm	‘inheritance (CL7)’	kèj	‘iron (CL7)’
lés	‘to miss’	héχ	‘to block’
kùn	‘to choose’	héγ-nà	‘to block each other’
ɖzáŋ	‘to disappear’	léh	‘to miss’
ⁿ dé ^g	‘to hang’	kòfi-nà	‘to receive’
mùŋ	‘man (CL1)’		

 $C_1VC_2C_3V\dots$

táyβè	‘to pass’	βòm ⁿ dà	‘to pull’
kèysè	‘exam (CL7)’	sèhlà	‘to tremble’
kóysè	‘to punish’	pàγrà	‘business (CL7)’
βám-nà	‘to shout at’	sályá	‘Work!’

 $C_1VC_2VC_3^4$

nóγ-òϕ	‘to bathe’	pór-òs ~ pór-òh	‘to talk to’
likóŋ	‘thinness (CL5)’	nùγùŋ	‘to destroy’
só ^m b-òχ	‘Buy!’	móm-òs ~ móm-òh	‘to console’

 $C_1VC_2C_3VC_4V$

tìŋ-lènè	‘to detach with’
tìŋ-láyá	‘Detach!’
tìŋ-làhà	‘to make someone detach’
sèβlènè	‘to call at’
èmlènè	‘to dream about’
áŋlànà	‘to tell each other’

 $C_1VC_2C_3VC_4$

kèβlàχ	‘to give food’
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Transcribed passage

^mbèβí nì hànǵá:
wind and sun
The Wind and the Sun

⁴ Greenberg (1951: 818) reports that the imperative suffix *-ak* in Basa [sic] undergoes nasal harmony; the imperative of /tam-ak/ is [tam-aŋ] ‘Wish!’. If present, this form would violate the phonotactics of Basaá. Our speaker, however, confirmed that there is no such imperative form in Basaá.

^mbɛ̀βí mábɛ́rǎ nì hàŋgá: ǂá ↓ǂá pɛ̀h^mbà
 wind upside with sun AGR be discuss
 The North Wind and the Sun were arguing

kél já[↓]rǎ íŋũ: lìjǐ nɕǎ à ǂ^wɛ̀: ǂgùj ìlò: núnú
 day one for know who AGR have strength pass this.one
 one day about which of them was stronger

há[↓]ǂén ñkɛ̀n mùŋ à βí[↓]tíhî á ǂâx à hé:βǎ kóri^mbɛ̀ŋ
 then stranger man AGR arrive he be he wearing coat rain
 when a traveler came along wrapped up in an overcoat

ǂá nóylá lé í ŋwɛ̀ŋ à m[↓]ǂòŋ ñkɛ̀n mùr lé á hé[↓]ǂá
 they arrange that the one AGR make stranger man that he take.off
 They agreed that the one who could make the traveler take off

kóri^mǂǎ jɛ̀: ǂén à ǂ^wɛ̀: ǂgùj ìlò: núnú
 coat his the.one AGR have strength pass this.one
 his coat, would be considered stronger than the other one.

wɛ̀: ^mbɛ̀βí ì βíhòŋ ní ǂgùj lí[↓]ǂím ì ǂéǎ
 Then wind AGR blow with strength quantity it be.able
 Then the wind blew as hard as he could

ⁿdí kǐ: jò ì ǂé: ì hòŋòx jàx mùr à sũrɣè kóri^mǂǎ jɛ̀:
 but as him it be AGR blowing also man AGR closing coat his
 but the harder he blew the tighter the traveler wrapped his coat around him

ì ǂól lé tɛ̀: ^mbɛ̀βí ì βítò^mb ì wá: hòŋ
 till that till wind AGR be.tired it stop blow
 and at last the wind gave up trying

hàŋgá: hó hí ǂó[↓]ró: ǂáj ↓ní ǂgùj
 sun it AGR start shine with strength
 Then the sun began to shine hot

ì ǂól lé tɛ̀: ñkɛ̀n mùŋ à hé[↓]ǂá kóri^mǂǎ jɛ̀:
 till that till stranger man AGR take.off coat his
 and right away the traveler took his coat off

há[↓]ǂén ^mbɛ̀βí mábɛ́rǎ ì βí!né:βé lé hàŋgá: hí níléǎ jò ǂgùj
 then wind upside AGR accept that sun AGR pass it strength
 And so the North Wind had to admit that the Sun was stronger than he was

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