Bemba

Silke Hamann
University of Amsterdam, The Netherlands
silke.hamann@uva.nl

Nancy C. Kula
University of Essex, UK
nckula@essex.ac.uk

Bemba (also called Cibemba or Icibemba; ISO 639-3 code *bem*) is a Niger-Congo language belonging to the Central Narrow Bantu branch (Zone M in Guthrie's 1948, 1967–71 classification). Bemba is spoken in Zambia (mainly in the Northern, Luapula and Copperbelt provinces) and the Southern Democratic Republic of Congo by approximately 3.3 million speakers (Lewis, Simons & Fennig 2013). Our data are based on Bemba spoken in Zambia.

There are a number of dialects of Bemba but no systematic study has been conducted to ascertain precisely how many there are or evaluate how systematic the differences are in those studies that focus on the languages of Zambia (Kashoki 1978, Ohannessian & Kashoki 1978, Chanda 1996, Kula 2006a). A number of studies on Bemba grammar that discuss parts of the phonology and phonetics of Bemba have been conducted (see e.g. Schoeffer 1907, van Sambeek 1948, Hoch 1955, Givón 1972, Mann 1977, Kula 2002, Kasonde 2009) although there is no comprehensive study on phonetics. Speakers can be monolingual but are mostly multilingual, speaking English and/or another Bantu language in addition to Bemba.

The transcriptions of the wordlists and of the short text are based on recordings of a female Bemba native speaker (aged 39 years) from Ndola (Copperbelt province).

Consonants

Bemba consonants are illustrated with the words below, which include verbal imperatives and nouns. High tone is marked with acute accent, low tone with grave accent, and the superscript exclamation mark ˡ indicates downstep (see 'Tone' section below).

Journal of the International Phonetic Association (2015) 45/1
doi:10.1017/S0025100314000371

		Bilabial	Labial-dental	Alveolar	Palato-alveolar	Palatal	Velar	Labial-velar
Obstruents	Plosive	p		t			k	
	Fricative	(β)	f	s	ʃ			
	Affricate				t͡ʃ			
Prenasalized obstruents	Plosive	mp mb		nt nd			ŋk ŋg	
	Fricative		mf	ns	nʃ			
	Affricate				nt͡ʃ nd͡ʒ			
Sonorants	Nasal	m		n		ɲ	ŋ	
	Approximant	(β)				j		w
	Lateral			l				

PLAIN			PRENASALIZED		
p	pùlá	'go through'	mp	tú:ˈmpá	'be stupid'
t	tú:ˈlá	'make an offering'	nt	tè:ntá	'shake'
k	kù:lá	'build'	ŋk	tù:ŋká	'push'
f	fú:ˈlá	'undress'	mf	í:mfúlà	'rain'
s	sú:ˈlá	'ignore'	ns	ì:nsálá	'hunger'
ʃ	ʃù:lá	'uproot'	nʃ	á:ˈnʃá	'be difficult'
t͡ʃ	t͡ʃú:ˈlá	'suffer'	nt͡ʃ	í:nt͡ʃítò	'work'
β	βú:ˈlá	'take'	mb	lé:ˈmbá	'write'
l	lù:lá	'praise/honour'	nd	sè:ndá	'take'
w	ùkúwá	'to fall'	ŋg	lè:ŋgá	'draw'
j	àjá	'these'	nd͡ʒ	í:nd͡ʒìlí	'warthog'
m	ùmúmáná	'river'			
n	ìnùmá	'back'			
ɲ	ɲù:nsá	'pull/stretch'			
ŋ	íŋòmá	'drum'			

Bemba voiceless plosives are plain unaspirated, apart from the coronal stop if followed by a high front vowel /i iː/, which is released with aspiration. The palato-alveolar /ʃ/ is realized as alveolo-palatal [ɕ] before a high front vowel /i iː/, as in /ʃìːntá/ [ɕìˑntá] 'rest/lean against'.

Like most Bantu languages, Bemba has a series of homorganic prenasalized obstruents. These nasal–obstruent sequences are treated here as complex segments, since Bemba is a language with a strict CV syllable structure (where glides belong to the syllable nucleus), although phonological arguments can also be made for treating them as sequences of segments (see e.g. Kula 1999). Hubbard (1995) discusses phonetic and phonological evidence for an analysis of prenasalized obstruents as complex segments in Bantu languages, although this remains a contentious issue.

As complex segments, prenasalized obstruents cannot occur in initial position lexically but may be morphologically derived in this position, with the nasal being a separate morpheme. The examples in (1) below show the derivation of the voiced prenasalized obstruents, which is triggered by a following consonant in the case of [nd] and [mb] (a process of hardening), see (1a), or caused by a following vowel in the case of [ŋg] and [nd͡ʒ], see (1b). Examples use the first person singular marker /n-/. (In the recordings, each example word is followed by the word *lyonse* 'always/all the time' to produce a possible phrase.)

(1)	a.	/n+l/	→	[nd]	/n-lima/	[ndìmà]	'I cultivate'
		/n+β/	→	[mb]	/n-βila/	[mbìlà]	'I sew'
	b.	/n/+{i, e}	→	[nd͡ʒ]	/n-isula/	[nd͡ʒìsùlà]	'I open'
		/n/+{o, u, a}	→	[ŋg]	/n-ubula/	[ŋgùbùlà]	'I peel'
	c.	/n/+/w/	→	[ŋg]	/n-wamja/	[ŋgwàmjà]	'I clean'
		/n/+/j/	→	[nd͡ʒ]	/n-ja/	[nd͡ʒ(j)à]	'I go'

The examples in (1c) illustrate that the glides behave like their homorganic vowels with respect to prenasalized obstruents.

/β/ has traditionally been described as a voiced bilabial fricative, in which case it is the only voiced plain obstruent in the consonantal system. However, given the distribution of the data in (1a), for example, /β/ can be treated as an approximant, thereby unifying [mb] with [nd] as both being derived from sonorant hardening. A phonetic study on

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

the exact realization of Bemba /β/ is necessary to substantiate this hypothesis. For this reason we present /β/ in two positions in the consonant table above, pending further investigation.

Occurrence restrictions

/f/ is very infrequent and does not occur in the sequences [fe] and [fa]. A diachronic process of spirantization of the labials /p b/ triggered by causative and agentive suffixes is a source of some /f/ sounds (see Hyman 1994, Kula 2000). The sequence [wu] does not occur at all but this cannot be treated as a restriction on labial sequences since [pw] and [βw] sequences do occur. /ŋ/ cannot occur word-initially and must always be preceded by a vowel. Monomorphemic sequences of /si/ and /ki/ do not occur as they have diachronically palatalized to /ʃi/ and /t͡ʃi/, respectively. [ki] occurs across morpheme boundaries (see Hyman 1992 for discussion), unlike /si/, which undergoes a synchronic process of palatalization to [ɕi]. The diachronic process of spirantization mentioned above is also a source of /ʃi/ sequences in cases where stem-final /l t k s/ undergo spirantization to /ʃ/, and /nd ng/ spirantize to /nʃ/ (see references cited above for discussion).

A voiced prenasalized obstruent may not be followed by another voiced prenasalized obstruent in the adjacent syllable. In such cases, the first instance is reduced to a nasal, as in (2) below. This process is referred to as MEINHOF'S LAW or GANDA LAW in the Bantu literature (see e.g. Schadeberg 1987, Kula 2006b).

(2)	a.	/ɪŋgò:mbè/	[ìŋò:mbé]	*[ìŋgò:mbé]	'cow, cattle'
	b.	/m-βó:mb-è/	[mó:mbè]	*[mbó:mbè]	'I should work'
	c.	/n-lá:nd-è/	[ná:ndè]	*[ndá:ndè]	'I should speak'

The form in (2a) is a nominal where the initial voiced nasal–obstruent is simplified to a nasal owing to the following identically-voiced sequence. Following the strengthening process seen in examples (1a) above, we expect the forms in (2b–c) to surface with strengthened root-initial consonants but they do not as a result of Meinhof's law.

Word-internal prenasalized obstruents are always preceded by a long vowel, but see the discussion in the following section.

Vowels

Bemba has the vowels /i e a o u/ and /i: e: a: o: u:/. There are no diphthongs. The following words illustrating the vowels are all in the imperative.

SHORT VOWELS			LONG VOWELS		
i	lìlá	'cry!'	i :	lí:là	'enjoy!'
e	pèlá	'grind!'	e:	pé:là	'give!'
a	làlá	'crack/break!'	a:	lá:là	'sleep!'
o	βòlá	'be rotten!'	o:	βò:lá	'hit/knock!'
u	tú'lá	'make hole!'	u:	tú:'lá	'make offer!'

LONG VOWELS BEFORE PRENASALIZED CONSONANTS

i:	ʃì:ntá	'rest/lean against!'
e:	sè:ndá	'take!'
a:	sà:ndá	'multiply!'
o:	sò:ntá	'point!'
u:	sù:ntá	'limp!'

For 10 tokens of each short and long vowel with low tone, the F1 and F2 frequencies were measured at vowel midpoint (see Figure 1, right panel). These measurements were performed with PRAAT (Boersma & Weenink 2013).

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

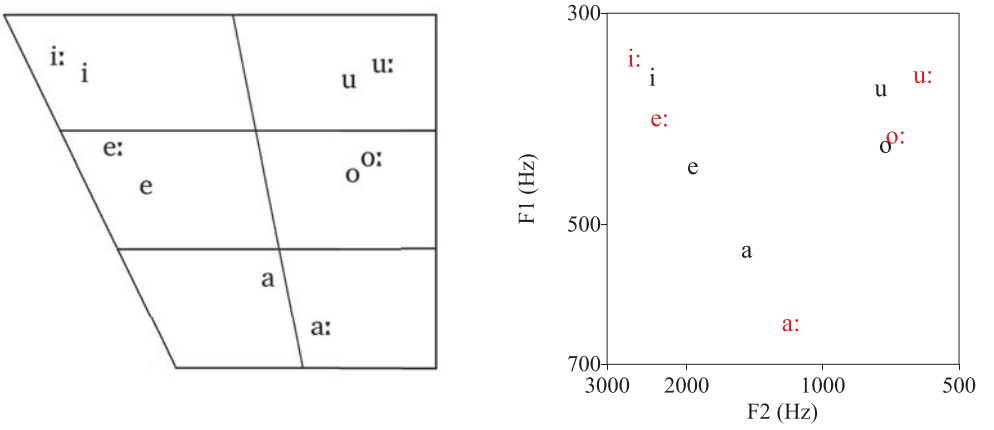

Figure 1 (Colour online) Vowel diagram (left panel) and plot of F1 versus F2 for average values of ten tokens for each vowel (all with Low tone) spoken by one female speaker (right panel).

The short vowels seem to be rather lax in comparison to the long vowels, as shown by the plot of the average values for one speaker in Figure 1 (right panel; the only exception being the short /o/). This promotes a representation of the short vowels with the lax symbols /ɪ ɛ a ɔ ʊ/, though we refrain from using the lax symbols pending further acoustic and articulatory measurements.

Long vowels do not occur in word-final position. Word-internally before prenasalized obstruents, the contrast in vowel length is neutralized. Although the vowels in this position are traditionally described as long in Bantu languages (e.g. Clements 1986), they are closer in duration to short vowels in the present Bemba data: An acoustic study of the duration of the first vowels in 72 bisyllabic words showed that short vowels have an average duration of 122 ms, long vowels of 245 ms, and vowels before prenasalized obstruents of 164 ms (see the illustration with the words /pèlá/ 'grind', /péːlà/ 'give' and /léːᵎmbá/ 'write' in Figure 2).

The relatively short duration of the vowels preceding the prenasalized obstruents together with the relatively long duration of the prenasalized obstruents have been used in the literature to support an analysis of prenasalized obstruents as consonant clusters (see e.g. Herbert 1986, Maddieson 1993). In this case the nasal is regarded as being in the coda position of the first syllable and therefore not allowing a preceding long vowel. Pending a more detailed phonetic study of Bemba we leave this to future research.

Assimilation processes

Vowel hiatus of two short vowels exists in some lexical items but is otherwise resolved in many verbal forms by vowel fusion resulting in glide formation in particular contexts, as the table below, based on Kashoki (1968: 25), demonstrates. Vowel fusion may sometimes be dependent on speech rate and prosodic boundaries.

	V_2				
V_1	i	e	a	o	u
i	i ː	jeː	jaː	joː	juː
e	eː	eː	jaː	joː	joː
a	eː	eː	aː	oː	oː
o	weː	weː	waː	oː	oː
u	wiː	weː	waː	oː	uː

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

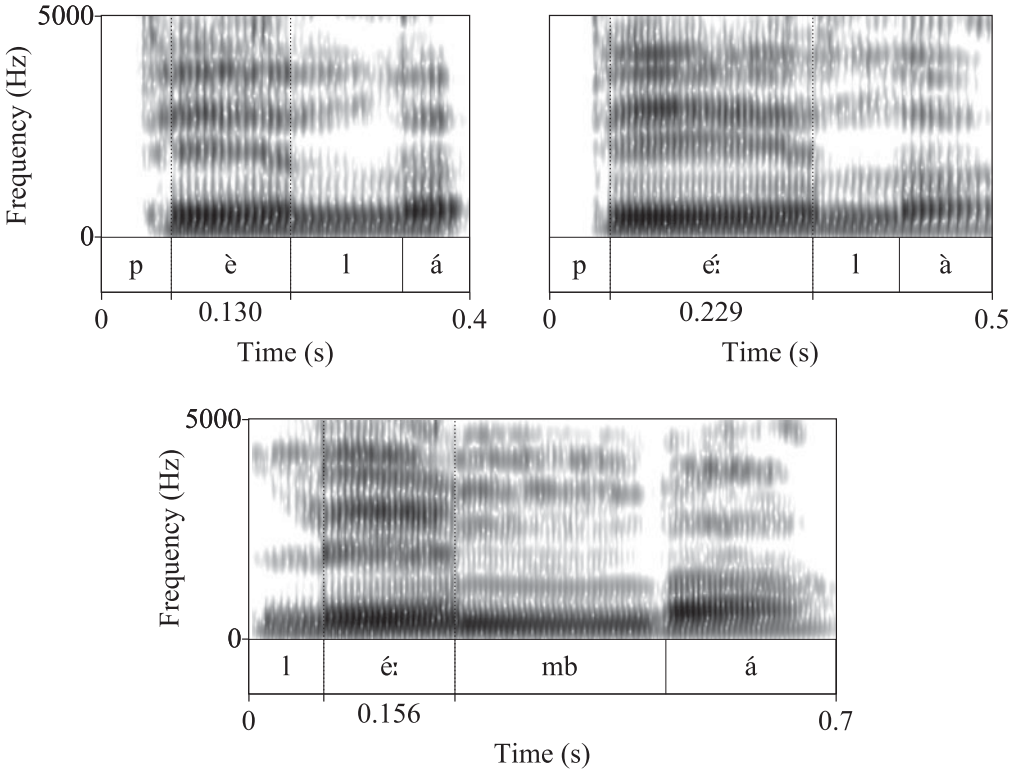

Figure 2 Differences in vowel duration between short and long vowels (top panels) and vowels in the position before prenasalized obstruents (bottom panel).

Two examples of hiatus resolution are given in (3a) below, and for a full illustration the reader is referred to Kashoki (1978) and Kula (2002, 2013). Hiatus contexts involving a long vowel followed by a short vowel are not resolved (see the example in (3b)).[1] There is no appropriate context to test whether this is also the case for a short vowel followed by a long one.

(3) a. /à-lá-ìβ-à/ → [àlêːβà]
3SG-HAB-steal-FV 's/he steals'
/ìt͡ʃíkópó ìt͡ʃì/ → [ìt͡ɕíkópwêːt͡ɕì]
7tin 7DEM 'this tin'

b. /à-làː-ìs-à/ → [àlàːìsà] *[àlèːsà]
3SG-FUT-steal- FV 's/he will come'

Bemba has a process of vowel harmony that lowers high vowels in suffixes when they are preceded by a mid vowel in the root. The high front vowel /i/ in a suffix is harmonized by either /e(ː)/ or /o(ː)/ in the root (see the examples in the second column of (4)), but /u/ in a suffix is only harmonized by /o(ː)/ in the root, not by /e(ː)/ (see the third column).

(4)

VERB ROOT		+APPLICATIVE *-IL* -		+SEPARATIVE *-ULUL-*	
pèt-	'fold'	pèt-èl-à	'fold for *x*'	pèt-ùlùl-à	'unfold'
lòːŋg-	'pack'	lòːŋg-èl-à	'pack for *x*'	lòːŋg-òlòl-à	'unpack'
kák-	'tie'	kák-íl-á	'tie for *x*'	kák-úlúl-á	'untie'

[1] Abbreviations used in the glosses in (3): DEM = demonstrative, HAB = habitual, FUT = future, FV = final vowel (usually an aspectually neutral vowel), 3SG = third person singular subject; numbers on nominals refer to noun classes.

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

The vowel harmony process is therefore asymmetric for high back vowels with only back mid vowels acting as triggers while front mid vowels fail to trigger lowering.

Tone

Bemba is a tone language with two level tones, high /ˊ/ and low /ˋ/. The mora is the tone-bearing unit. The attested syllables are CV̀, CV̀ː, CV́, CV̀ː and CV́V̀. Verbs are lexically specified as either high or low toned. Tones within a verb are of two types, (i) lexical tone on roots and various affixes (e.g. /lúk-/ 'vomit' vs. /lùk-/ 'weave'); and (ii) melodic or grammatical tone which is morpho-syntactically assigned by various Tense-Aspect-Mood markers. Nouns are also lexically specified for tone. Tone, particularly in verbs, is subject to various tonal processes including bounded and unbounded spreading. A sequence of lexical highs is disallowed and resolved by a downstep that produces the second high at a lower pitch. Tonal spreading rules in Bemba are subject to dialectal variation, details of which are beyond the scope of the current description, but see Bickmore & Kula (2013) for discussion of this issue as well as for a detailed tonal analysis. See also Guthrie (1945), Sharman & Meeussen (1955) and Sharman (1956) for earlier studies on Bemba tone.

In vowel coalescence, a sequence of a high followed by a low tone results in a long vowel with a falling tone, see the examples in (3a) above. Sequences of low and high tone can result in a long vowel with a high tone, a low tone, or a low tone with a high tone on the vowel in the following syllable (tone shift). An example of the latter can be seen in the second intonation phrase of sentence 7 below, where /àtì íjò/ is realized as [àtʰìːjó].

Transcription of recorded passage

The passage recorded and transcribed is a version of 'The North Wind and the Sun' story. In the orthographic rendition of the passage, tone and vowel length is not marked, in line with the orthographic convention for Bemba. The broad transcription gives the tone as it occurs after tone rule application and therefore forms may be different from their lexical tone. The narrow transcription shows the actual phonetic output.

Broad transcription

1. kà:ŋkù:ŋgwé nà àkásùβà | βálé:ùmàná pá mùlá:ndú wà kwíʃíβà ù:lìpó nàmàkà jàkùt͡ʃímfjá ùmúβìjé | éljò kwà:ìʃílé ùmúlè:ndó | ùwà fwé:lé ìkò:tì ljà:mpépò | íljà tìkámá ‖
2. βá:lìsúmíníʃánjá átì | ùwì:ŋgá lè:ŋgà ùmú:ntù ùkú'fú:lá ìkò:tí nì:nʃì éùlìpó nàmàkà ‖
3. kà:nʃì kà:ŋkù:ŋgwé | épákù pù:tà nàmàkà jàkwé jónsè ‖
4. nò:mbà t͡ʃìljá àpú:tíʃá | éljò nàò ùmú:ntù àkwá:píʃá ìkò:tì ljàkwé | àwé mpàká kà:ŋkù:ŋgwé àsúká àléká ‖
5. éljò nò:mbà àkásùβà nàkó kàtà:mpà ùkú'sáníká | nòkúkáβá ìt͡ʃínè t͡ʃínè ‖
6. àwé ùmúlè:ndó | βwá:ŋgù βwá:ŋgù á'fú:lá ìkó:tí kùt͡ʃípùkí ‖
7. àwé kà:nʃì kà:ŋkù:ŋgwé | épákú'súmíná àtì íjò t͡ʃínè t͡ʃínè | àkásùβà kàlímút͡ʃí:mfjà àmàkà ‖

Narrow transcription

[ˉ] stands for mid, [ˆ] for falling and [ˇ] for rising tone.

1. kà·ŋkù·ŋgwé nà:kásùβă | βálēːùmàná pámùlá·ndú (w)à kwíçíβà úːlìpó nâmàkà jàkʲu̯t͡ɕímfjôːmúbìjé | éljò kwāːìçìljôːmúlè·ndó | ùwâ fwéːléːkòːtʰì ljâ·mpépò | íljà tʰìkámá ‖
2. βáːlìsúmúníʃánjáːtʰì | ùwîˑŋgá lēˑŋgòːmúˑntùːkúfūːlêːkòːtʰí nìˑnçéːùlìpō nàmàkà ‖
3. kâˑnçì kàˑŋkùˑŋgwé | ēpákúpúːtà nàmàkà jàkwé jóːnsè ‖

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

4. nô·mbà t͡ɕìljá àpú:tʰíʃâ | éljò nàò:mú·ntù ákwá:píʃê:kò:tʰì ljàkwé | àwé mpàká kà·ŋkù·ŋgwé àsúká àléká ‖
5. éljò nò·mbà:kásùβà nàkó ká:tá·mpǒ:kúsānīkā | nô̰kúkáβē:t͡ɕínè t͡ɕínè ‖
6. âwô:múlè·ndó | βwá·ŋgù βwá·ŋgû áfū:lê:kó:tʰí kùt͡ɕípùkí ‖
7. âwé kà·nɕì kà·ŋkù·ŋgwé | épákúsūmīnā:tʰìjô t͡ɕínè t͡ɕínè | âkásùβà kàlímút͡ɕí·mfjà:màkà ‖

Orthographic version

1. Kankungwe na kasuba baleumana pa mulandu wa kwishiba ulipo namaka yakucimfya umubiye, elyo kwaishile umulendo uwa fwele ikoti lyampepo ilya tikama.
2. Balisuminishanya ati uwinga lenga umuntu ukufula ikoti ninshi eulipo namaka.
3. Kanshi kankungwe epaku puta namaka yakwe yonse.
4. Nomba cilya aputisha elyo nao umuntu akwapisha ikoti lyakwe, awe mpaka kankungwe asuka aleka.
5. Elyo nomba akasuba nako katampa ukusanika nokukaba icine cine.
6. Awe umulendo bwangu bwangu afula ikoti kucipuki.
7. Awe kanshi kankungwe epakusumina ati iyo cine cine akasuba kalimucimfya amaka.

English translation

The wind and the sun were arguing about which of the two was stronger. Then there came a traveller wearing a thick coat for the cold. They agreed that whoever of the two would be able to make the traveller take off his coat would be considered the stronger of the two. So then the wind blew with all its might. The stronger the wind blew, the more tightly the traveller held his coat, until the wind grew tired and stopped blowing. Then the sun shone strongly, making it become very hot. Suddenly the traveller took of his coat from the heat. And so the wind agreed that the sun was truly the stronger of the two.

Acknowledgements

We would like to thank Ewa Jaworska and two anonymous reviewers for their valuable input. Remaining errors are ours.

References

Bickmore, Lee & Nancy C. Kula. 2013. Ternary spreading and the OCP in Copperbelt Bemba. *Studies in African Linguistics* 42.2, 101–132.

Boersma, Paul & David Weenink. 2013. PRAAT: Doing phonetics by computer. Version 5.3.53. http://www.praat.org/ (retrieved 9 July 2013).

Chanda, Vincent M. 1996. Les langues en Zambie. In Jean-Pascal Daloz & John D. Chileshe (eds.), *La Zambie contemporaine*, 301–316. Paris, Karthala & Nairobi: IFRA.

Clements, George N. 1986. Compensatory lengthening and consonant gemination in LuGanda. In Leo Wetzels & Engin Sezer (eds.), *Studies in compensatory lengthening*, 37–77. Dordrecht: Foris.

Givón, Talmy. 1972. Studies in ChiBemba and Bantu grammar. *Studies in African Linguistics*. Supplement 3.

Guthrie, Malcolm. 1945. *The tonal structure of Bemba*. Ph.D. thesis, SOAS, University of London.

Guthrie, Malcolm. 1948. *The classification of Bantu languages*. London: Oxford University Press.

Guthrie, Malcolm. 1967–71. *Comparative Bantu*, 4 vols. Farnborough: Gregg.

Herbert, Robert K. 1986. *Language universals and markedness theory and natural phonetic processes* (Trends in Linguistics, Studies and Monographs 25). Berlin: Mouton de Gruyter.

Hoch, E. Rev. 1955. *A Bemba grammar with exercises*. Chinsali: Ilondola Language Centre.

Hubbard, Kathlene. 1995. 'Prenasalised consonants' and syllable timing: Evidence from Runyambo and Luganda. *Phonology* 12, 235–256.

Hyman, Larry M. 1992. Velar palatalization in Cibemba: A non-duplication problem. *Linguistique Africaine* 8, 55–71.

https://doi.org/10.1017/S0025100314000371 Published online by Cambridge University Press

Hyman, Larry M. 1994. Cyclic phonology and morphology in Bemba. In Jennifer Cole & Charles Kisseberth (eds.), *Perspectives in phonology*, 81–112. Stanford, CA: CSLI Publications.
Kashoki, Mubanga E. 1968. *A phonemic analysis of Bemba*. Manchester: Manchester University Press.
Kashoki, Mubanga E. 1978. The language situation in Zambia. In Ohannessian & Kashoki (eds.), 9–46.
Kasonde, Makasa A. R. 2009. *Phonologie et morphologie de la langue Bemba*. Munich: LINCOM.
Kula, Nancy C. 1999. On the representation of NC clusters in Bemba. In Renée van Bezooijen & René Kager (eds.), *Linguistics in The Netherlands 1999*, 171–183. Amsterdam: John Benjamin.
Kula, Nancy C. 2000. The phonology/morphology interface: Consonant mutations in Bemba. In Helen de Hoop & Ton van der Wouden (eds.), *Linguistics in The Netherlands 2000*, 171–184. Amsterdam: John Benjamin.
Kula, Nancy C. 2002. *The phonology of verbal derivation in Bemba*. Ph.D. dissertation, Leiden University. [Utrecht: LOT]
Kula, Nancy C. 2006a. Zambia language situation. In Keith Brown (ed.), *Encyclopaedia of language and linguistics*, vol. 13, 744–745. Oxford: Elsevier.
Kula, Nancy C. 2006b. Licensing saturation: Co-occurrence restrictions in structure. *Linguistic Analysis* 32.3–4, 366–406.
Kula, Nancy C. 2013. On retaining vowel colour in derived roots: Blocked imbrication in Bemba. In Karsten Legere (ed.), *Bantu languages and linguistics: Papers in memory of Dr Rugatiri D. K. Mekacha*, special issue of *Bayreuth African Studies* 91, 69–91.
Lewis, M. Paul, Gary F. Simons & Charles D. Fening (eds.). 2013. *Ethnologue: Languages of the world*, 17th edn. Dallas, TX: SIL International. http://www.ethonologue.com.
Maddieson, Ian. 1993. Splitting the mora. *UCLA Working Papers in Phonetics* 83, 9–18.
Mann, Michael. 1977. An outline of IciBemba grammar. In Mubanga E. Kashoki (ed.), *Language in Zambia: Grammatical sketches*. Lusaka: Institute for African Studies. [Reprinted Lusaka, Bookworld Publishers, 1999.]
Ohannessian, Sirarpi & Mubanga E. Kashoki (eds.). 1978. *Language in Zambia*. London: International African Institute.
Schadeberg, Thilo C. 1987. Silbenanlautgesetze im Bantu. *Afrika und Übersee* 70, 1–17.
Schoeffer, Rev. Fr. 1907. *A grammar of the Bemba language as spoken in North East Rhodesia*. Oxford: Oxford University Press.
Sharman, John C. & Achille E. Meeussen. 1955. The representation of structural tones, with special reference to the tonal behavior of the verb in Bemba, Northern Rhodesia. *Africa: Journal of the International African Institute* 25(4), 393–404.
Sharman, John C. 1956. The tabulation of tenses in a Bantu language (Bemba: Northern Rhodesia). *Africa* 26, 29–46.
van Sambeek, J. 1948. *A Bemba grammar*. Reprint 1972. London: Longmans, Green and Co.