Arching over the Atlantic: Exploring Links between Brazilian and Angolan Musical Bows

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Abstract. Combining historical, organological, ethnographic, and musical analysis, this article explores the relationship between three musical bows—the Angolan *hungu* and *mbulumbumba* and the Brazilian *berimbau*—in the context of the South Atlantic African diaspora. Our intervention crisscrosses scholarly debates about the survival and adaptation of African musical bows in Brazil and capoeiristas' discourses about the Angolan origins of capoeira and the berimbau. We argue for a direct connection between the hungu and berimbau, calling into question any such link to the mbulumbumba, one first posited by Gerhard Kubik in the 1970s and reasserted by subsequent scholars.

Resumo. Esse artigo explora a relação entre três arcos musicais (o hungu e o mbulumbumba de Angola e o berimbau do Brasil) numa análise que combina enfoques histórico, organólogico, etnográfico e musical no contexto da diáspora do Atlântico Sul. Nossa intervenção engaja debates acadêmicos a respeito da sobrevivência e da adaptação dos arcos musicais no Brasil, e os discursos de capoeiristas sobre as origens angolanas da capoeira e do berimbau. Nós sustentamos uma conexão direta entre o hungu e o berimbau, questionando um vínculo direto com o mbulumbumba, como foi defendido por Gerhard Kubik nos anos de 1970 e reafirmado por estudiosos subsequentes.

Note: This article refers to video and audio clips that can be found on the Society for Ethnomusicology's website, following the pathway Publications > Journal Ethnomusicology > Multimedia Appendices. As of 2021, the URLs for the SEM website and the multimedia appendices are www.ethnomusicology.org and http://www.ethnomusicology.org/page/Pub_JournalMA, respectively.

The video and audio clips are also available here: https://www.press.uillinois.edu/journals/ethno/media/a_social_psychological_perspective/

Today the *berimbau* musical bow is heard worldwide due to its association with the combat game of capoeira, where it is the central instrument in the musical ensemble. It is also an instrument in its own right, having been championed by internationally acclaimed musicians such as Naná Vasconcelos. Documentation shows that enslaved Africans and creoles have cultivated capoeira and played musical bows in various contexts in Brazilian port cities since the early nineteenth century.[1] Yet evidence suggests that the berimbau's association with capoeira is quite recent. The introduction of the musical bow into Bahian capoeira (the matrix of today's capoeira) dates just to the late nineteenth or early twentieth century (Assunção 2005:66, 107).[2] This integration encouraged the berimbau's modernization and ultimately guaranteed its survival.[3]

Since both capoeira and the berimbau are specifically associated with Central African origins, two questions arise: How do capoeira and the berimbau relate to earlier African combat games and instruments? Do these African ancestors relate to each other? Although these questions recall the hotly disputed arena of African origins (i.e., the 1940s Herskovits/Frazier "retentions" versus "assimilation" controversy and subsequent discussions by scholars such as Mintz and Price [1992] and Cohen and Toninato [2010]), we will instead examine the complex interactions of traditions considered African extensions.[4] While only a few contemporary African combat games have been identified that suggest links to capoeira, a relatively great number of musical bows are played today in African countries with Bantu populations. Furthermore, African-derived musical bows existed or still exist in other Western Hemisphere locales (e.g., Cuba and Central America), as well as in islands and borderlands of the Indian Ocean (e.g., Réunion and India).

Establishing transatlantic connections between musical bows may seem simple due to their healthy distribution. Henry Balfour (1899:38–52), for instance, posited that all musical bows found in the Americas originated in Africa. Based on samples he observed at the British Museum, he proposed that the "Bahian bow" is similar to certain South African bows (40). In his study of "African cultural extensions overseas," Gerhard Kubik advanced the hypothesis that "organological traits of several related braced gourd-bows from Angola and southern Zaire were probably merged in Brazil to form the *berimbau de barriga*" (1979:33). Furthermore, Kubik asserted that the southwestern Angolan *mbulumbumba* was organologically identical to the berimbau and that "Afro-Brazilians understood the music" of the mbulumbumba "immediately," identifying the patterns in Angolan field recordings with specific capoeira *toques* (codified rhythmic-melodic patterns played by the berimbaus in capoeira) (30).[5]

This article continues the discussion initiated by Kubik in the 1970s and further developed by Kazadi Wa Mukuna ([1979] 2000), Richard Graham (1991), Tiago de Oliveira Pinto (1994), and Peter Fryer (2000) by reexamining

the relationship of the Brazilian berimbau with two Angolan musical bows: the *hungu* from Luanda and the mbulumbumba from the country's southwest. These three bows are relevant for the study of transatlantic diaspora exchanges, as many authors (Kubik 1979, 1987; Mukuna [1979] 2000; Pinto 1991) claim that these Angolan bows are the berimbau's most likely ancestors, and many bow players themselves firmly believe in these genealogies. In light of existing and new evidence, however, we will posit different conclusions in two manners. First, revisiting the existing historical evidence of Angolan and Brazilian musical bows, we find that both their organology and their social context suggest that the hungu "family" of instruments is more closely related to the berimbau than previously reported (Kubik 1987; Pinto 1991; Beyer 2004), whereas the existence of the mbulumbumba "family" in Brazil is insufficiently documented. Second, we draw on experiences and perspectives of expert Brazilian berimbau players of the capoeira tradition who have interacted with live and recorded Angolan bow music. Their insights are relevant to this discussion due to their intimate knowledge of musical bows and a prominent emic discourse connecting both capoeira and the berimbau to Angolan predecessors. Because this discourse is often linked to the larger conversation of African diasporic ancestry and identity, many berimbau players are keen to learn about and establish connections with Angolan bows and bow musicians. This is the case with Mestre Cobra Mansa (Cinézio Feliciano Peçanha), who visited Angola four times between 2006 and 2015, searching for the African roots of capoeira and the berimbau as a participant in the Angolan Roots of Capoeira (ARC) project. His perspectives are integral here.

This article is an extension of ARC in its data and methods. Led by Matthias Röhrig Assunção, ARC aimed to explore the Angolan roots of capoeira and to furnish connections between practitioners across the Atlantic. The research team (a historian [Assunção], an ethnomusicologist [Christine Dettmann], and a capoeira mestre or master [Cobra Mansa]) included in their methods face-to-face encounters with practitioners of combat games and players of musical bows in southwestern Angola. Their insights guided the narrative of the documentary film *Body Games* (2014) and became a source of ethnographic data for this article. Cobra Mansa's reflections on those encounters guide much of our analysis. In this way, we relativize the division between practitioners and scholars, a problematic distinction both for him (in addition to being a capoeira mestre, Cobra Mansa has recently completed a doctorate degree in education) and for us as authors (we are all long-term capoeira students and berimbau players in addition to being a historian, an ethnomusicologist, and a trained percussionist). We also mirror and expand the ARC project's multisited approach by including the perspectives of other Brazilian berimbau players who were exposed to Angolan bow recordings. To this end, we put into dialogue the

perspectives of our own interlocutors from Minas Gerais with those of players from Rio de Janeiro, São Paulo, and Bahia who had been previously interviewed by others (Kubik and Pinto). Our ethnographic approach thus subscribes to the ARC's larger emphasis on collaboration and human connection as discussed by Dettmann (2013) while simultaneously paying attention to the ways in which music mediates these encounters.

In exploring the emic perspective, we combine interviews, organology, musical transcriptions of field recordings, analysis of musical structure, and descriptions of timbre, tempo, texture, melody, and the mechanics of sound production that combine to shape musicians' perceptions of similarity and difference. Simultaneously, we study the musicians' behaviors and experiences while listening to or playing music together, as well as their reflections and the narratives relaying their reactions and interpretations. Our analysis demonstrates the stylistic differences and similarities of separate traditions, questioning simple genealogies by exposing the aesthetic background with which berimbau players engage Angolan bow traditions. In appendix 1 we offer our complete transcription of a historic mbulumbumba recording that has been the subject of continued ethnomusicological interest since the 1970s. This recording and transcription provide us with a base for the study of stylistic features of mbulumbumba music and for testing how Brazilian berimbau players perceive it. It is clear that Angolan and Brazilian bows have evolved in different directions since the time of the transatlantic slave trade and even since the time the first recordings of Angolan bows appeared in the 1960s. Thus our goal is not to validate our historical analysis with this emic perspective but to assess how consistent practitioners' claims of genealogy are, what historical and organological links seem plausible, and how practitioners recognize these links visually, aurally, and through their musical interaction with each other. Our collaborative approach combines historical, ethnomusicological, and emic perspectives contributing more broadly to African diasporic studies in the South Atlantic and specifically to the study of musical bows.

Berimbau, Hungu, and Mbulumbumba: Organology and Playing Techniques

Between the berimbau, hungu, and mbulumbumba, the former two are the most similar in construction and playing technique, prompting one ethnographer to call them "twin brothers" (Redinha [1972] 1988:106). The dimensions of their wooden staff, approximately one inch in diameter and fifty-five to sixty-three inches in length, are nearly identical.[6] Both of their staff's extremes are braced by a steel wire, and a gourd resonator is typically positioned one palm length from the bottom of the staff. This standard measure divides the wire into two

unequal segments. Depending on the length of both the bow and the musician's palm, the resulting ratio falls somewhere between 6:1 and 9:1.[7] To fine-tune these two instruments, practitioners further adjust the gourd position and wire tension to find a desired resonance, timbre, and sometimes pitch.[8] Players hold the bow vertically in one hand and with the other hand hit the longer side of the wire with a thin stick some twelve to sixteen inches in length. The hand holding the bow also secures a device (a coin [*dobrão*] or flat stone [*pedra*] held between the thumb and index finger for the berimbau; a broken bottleneck [*gargalo*] positioned on the end of the thumb for the hungu) that presses the wire to produce a raised pitch. The interval between the open and raised pitches, depending on the bow length and gourd position, is between a semitone and a whole tone. Players of both instruments move the gourd toward and away from their stomach to produce a characteristic vibrato or "wah-wah" effect. Notable differences between the instruments include a hungu player's use of their index finger to stop the vibration of the string and a berimbau player's *caxixi* (small wicker basket rattle), which, held in the hand that strikes the wire, adds a rattling sound to accented strokes and may also be played as an independent sound.

The mbulumbumba, by contrast, features several organological and technical differences. The smaller and lighter cousin, it measures between 36 and 48 inches in length and just 0.8 inch in diameter. The mbulumbumba uses plant fiber rather than steel wire, creating a substantial timbral difference compared to the hungu and berimbau. Raised tones are achieved by pinching the string with the thumb and index finger instead of using an external implement. The holding hand's grip is similar to that used for the berimbau and hungu, yet the lighter mbulumbumba is held horizontally across the chest rather than vertically.

Figure 1. Mestre Cobra Mansa playing berimbau (ARC project).

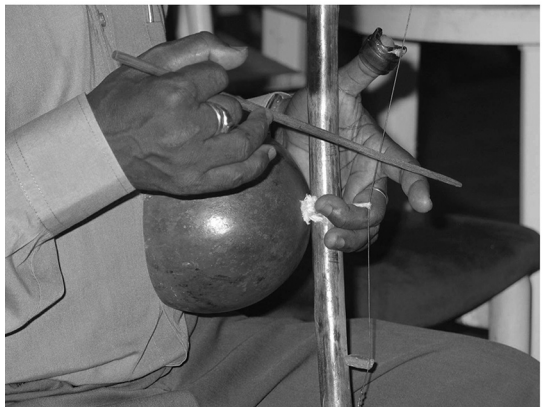


Figure 2. Kituxi playing hungu (ARC project).

Kubik dismissed this horizontal position as being less significant. We disagree, as it requires the playing hand to rotate the forearm from underneath the instrument upward in the opposite direction of that used for berimbau and hungu playing. Any experienced bow musician will report difficulty in switching the direction of the stroke without significant muscular retraining.[9] These organological and technical differences demonstrate that the mbulumbumba is quite distinct from the berimbau and hungu.

Figure 3. Mbulumbumba in Balthazar João Tchatoka's and Tchitula Pahula's hands (ARC project).

Kubik's Cross-Cultural Experiment

Prior to his explorations of Angolan extensions in Brazil, Kubik (1975/76) carried out research in southwestern Angola in the 1960s, documenting various types of bows, such as the mbulumbumba, *sagaya*, and *ohonji* (or *ekhondji*). In 1965 he stopped in a village in southwestern Angola's Huila Province and recorded several musicians, among them an eighteen-year-old Handa musician, José Emanuel Virasanda, singing with his mbulumbumba. Virasanda performed "several pieces in a row without pause" (104) and named this impromptu medley "Chirumba chetu." Kubik remarked that the opening theme possessed a "pronounced rumba motional structure" and wondered whether this was an "old element in mbulumbumba playing" or if the word "Chirumba" was etymologically related to the Congolese rumba genre (104).[10] Virasanda's recording features a series of bow patterns played at different tempi and in different meters. Appendix 1 presents our full transcription of "Chirumba chetu," and table 1 highlights its analytical segmentation into three major sections and nine different subsections with the bow patterns characterizing each.

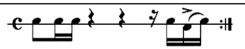
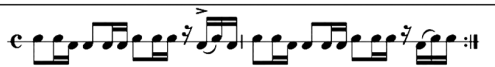
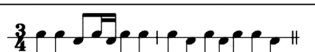
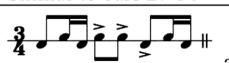
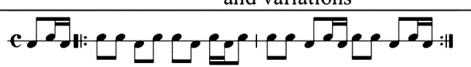
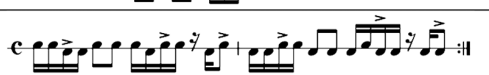
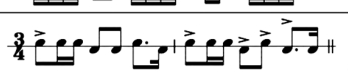
A decade later Kubik visited Brazil and saw capoeiristas playing the berimbau. He connected the berimbau to the Angolan musical bows he had recorded and proposed that the Brazilian bow was a syncretic result of multiple Angolan bows that arrived to Brazil (Kubik 1979:33). Moreover, he singled out the mbulumbumba as the bow possessing the closest resemblance to the berimbau in its construction, playing technique, and even musical material (30). To test his perceived connection, he created an experiment in which he played his recording of "Chiruma chetu" for capoeiristas in Salvador, São Paulo, and Rio de Janeiro. Kubik reported that his informants instantly understood Virasanda's mbulumbumba music as being related to capoeira berimbau toques, and he concluded that capoeira toques were rooted in mbulumbumba music (30).

Kubik's imprecise understanding of slavery's historical patterns partly accounts for his conclusions: "In the 17th and 18th centuries, south-western Angola was an important recruitment area for the deportation of slave workers to the New World, mainly to Brazil and Cuba. . . . Along with the deportation of a substantial number of people also went the knowledge of musical instruments. . . . One example is the mbulumbumba" (1975/76:98–99). Yet the number of southwestern Angolans sent to Brazil was limited compared to those from the north, a fact reflected in the virtual absence of mbulumbumba-like bows in colonial and imperial Brazil.

Historical Evidence

We now offer historical evidence challenging Kubik's assumptions that the berimbau is an amalgam of influences from multiple African bows and that

Table 1. Formal analysis of Virasanda's "Chirumba Chetu" (recorded by Kubik, 1965). Bar numbers refer to appendix 1.

	Section	Subs.	Bars (*)	Voice	Tempo [bpm]	Predominant patterns
0:00-0:08	Intro			"cilumba…"	67	
0:08-0:28	1	A	2-8	Altern. with bow	72	
0:28-0:34		B	9-10	"zzz…"	72	
0:34-0:41		A	11-12	Altern. with bow	72	Similar to bars 2-8
0:41-0:54		B	13-16	"zzz…"	72	Similar to bars 9-10
0:54-1:13		A	17-22	Altern. with bow	72	Similar to bars 2-8
1:13-1:23		B	23-26	"zzz…"	72	Similar to bars 9-10
1:26-1:50	2	C	27-36	Altern. with bow "zzz…", "ah…"	104	
1:50-2:01		D	37-45	"zzz…"	146	 and variations
2:01-2:47		C	46-65	"zzz…"	104	Similar to bars 27-36
2:47-2:52		E	66	"momu pan…"	Free	No bow
2:52-2:58		C	67-69	"ah…"	104	Similar to bars 27-36
2:58-3:12		F	70-80	"zzz…"	140	 and variations
3:13-3:29		G	81-90	"zzz…"	124 - 132	
3:29-4:06	3	H	91-102	"zzz…"	78	
4:06-4:16		I	103-109	"zzz…"	140	 and variations

the berimbau is rhythmically and organologically rooted in the mbulumbumba. Instead, we propose that the hungu is the berimbau's closest ancestor.

Today musical bows exist throughout Africa and its diaspora wherever Bantu or Bantu-derived populations reside. In the Americas, most Bantus came from West Central Africa (i.e., present-day Gabon, Angola, and the two Congos). This region accounted for 5.7 million enslaved Africans shipped to the Americas (i.e., over 45 percent of the total number). Brazil received approximately 156,000 from Mozambique, 357,000 from Congo, and a staggering 3,422,000 from Angola (Luanda, Benguela, and other ports).[11] As 87 percent of the enslaved Bantu population in Brazil was shipped from Portuguese colonial ports in Angola, our focus is on Angolan bows.

The many names, shapes, and sizes of bows documented in the territory that constitutes Angola today can be confusing. We have adopted Portuguese ethnographer José Redinha's ([1972] 1988) approach in which bows are organized by "types" according to organological traits and playing techniques. He categorized similar bows, which go by different—although often related—names, according to the ethnic groups who play them, into "families." The two gourd-resonated bow families particularly relevant for our discussion are the hungu and mbulumbumba.[12]

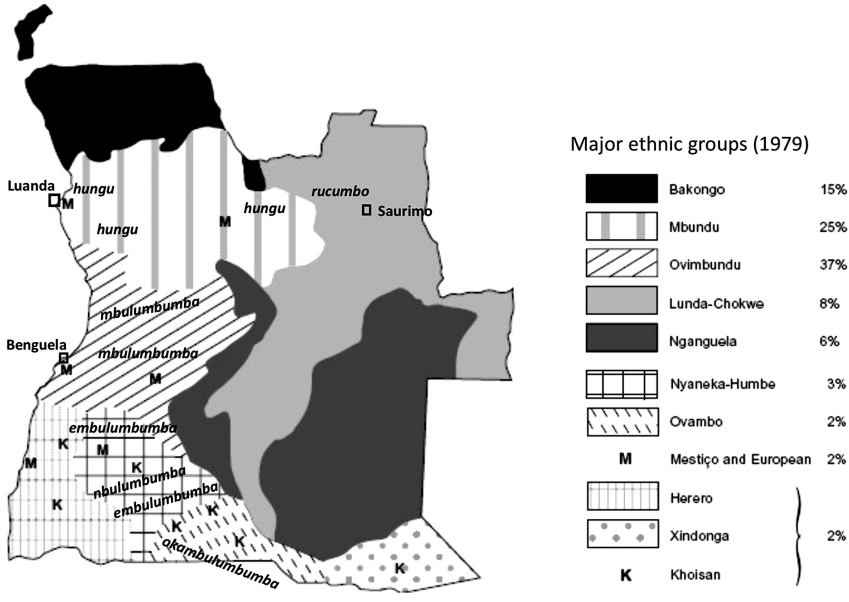


Figure 4. Geographical distribution of ethnic groups and gourd-based bows in Angola (Library of Congress, www.Ikuska.com; information on bows provided by the authors).

Hungu

The first known descriptions of Angolan musical bows appear by the mid-nineteenth century in the writings of European travelers (Batalha 1889; Capelo and Ivens 1881; Carvalho 1890; Monteiro 1875; Soyaux 1879; Tams 1845). These writers did not have an intimate knowledge of local customs and often stayed only briefly in the places they described. Yet their descriptions suggest that the hungu family was widespread in northern Angola, the region from which the vast majority of Bantus embarked for Brazil. The earliest of these reports is from Portuguese traveler Joachim Monteiro: "A musical instrument sometimes seen is made by stretching a thin string to a bent bow, about three feet long, passed through half a gourd, the open end of which rests against the performer's bare stomach. The string is struck with a thin slip of cane or palm-leaf stem held in the right hand, and a finger of the left, which holds the instrument, is laid occasionally on the string, and in this way, with occasional gentle blows of the open gourd against the stomach, very pleasing sounds and modulations are obtained" (1875, 2:139–40).[13]

Although Monteiro did not name this bow, his description is similar to those of other travelers across northern Angola. Portuguese journalist Ladislau Batalha (1889:57), for instance, described a bow called *humbo* or *hungi* in Luanda like the instrument described by Monteiro. Herman Soyaux's description of the *n-küngu* bow, also in Luanda, additionally confirms that the bow was held vertically while being played: "The player holds the n-küngu upright in his left arm" (1879, 2:176–77). Henrique Dias de Carvalho described the *rucumbo* in the Lunda empire (present-day northeastern Angola, northwestern Zambia, and southern DR Congo), confirming its upright position: "A small gourd is affixed to the lower part of the bow" (1890:370). These and other reports reveal that across northern Angola the same bow family was known by different names (n-küngu, humbo, hungi, rucumbo, etc.). Today this bow type is uniformly known by our Angolan interlocutors as hungu. The regional distribution of this bow family observed today was noticed by Carvalho in 1890: "This instrument is very well-known in our province of Angola" (370). ("Angola" then referred to the much smaller territory in today's northern Angola then controlled by the Portuguese.) As Graham (1991:6) highlighted, twentieth-century ethnography suggests this bow family also existed in neighboring Congo.

Despite this apparent wide distribution of the hungu family, we have very few clues as to their nineteenth-century social context. Various early writers include instrument drawings but little to no descriptions of their use (Capelo and Ivens 1881, 1:266; Carvalho 1890:370). Yet Batalha described a shop owned by the only white man in Calumbo, near Luanda: "In the middle of the floor some extended mats can be seen where one or two black women, squatting or lying down, smoke their pipes while a negro boy plays his hungu, a sort of

one-string guitar for which the naked body of the player serves as the resonating chamber!" (1890:18). Batalha's report is mirrored by Carvalho in the Lunda region: "They play [the rucumbo] when walking around or when lying in their huts" (1890:370).

Later sources suggest that the hungu was associated with recreational social gatherings and dance. Oscar Ribas (1994:124) defines hungu as both the instrument itself and the dance performed to its sound. The hungu fulfilled this recreational purpose well into the 1960s in urban Luanda, although during Angolan Independence (1975) it was discriminated against as a "primitive" instrument (Moorman 2008:66, 221n49).

The dissemination of the hungu family over the vast West Central Africa territory (northern Angola, southern DR Congo, and northwestern Zambia) is the result of centuries of migrations and cultural interactions, resulting in similar instruments being used by groups that are today distant from each other. (For the slave trade within West Central Africa and its impact on local societies, see Miller 1988, 2002; Heywood 2009; and Candido 2013.) The hungu family's nineteenth-century ubiquity in this territory is key to its transatlantic slave trade connection to the berimbau.

Mbulumbumba

The mbulumbumba family is found among the Ovimbundu in central Angola and the Nyaneka-Nkhumbi and other populations in southwestern Angola (see figure 4). Names include *embulumbumba* (Nkhumbi and Handa), *nbulumbumba* (Mwila), and *okambulumbumbwa* (Kwanyama) (Redinha 1988:106; Andrade n.d. [ca. 2005]). The term *mbulumbumba* is the common root of its various denominations, recognized across ethnic groups and found in the literature (Andrade n.d. [2005]:50; Kubik 1979:30).

British American ethnologist Wilfrid Hambly (1934:225) provided one of the mbulumbumba's earliest descriptions in his Ovimbundu ethnography based on his fieldwork conducted in 1929–30. The mbulumbumba seems to have been primarily associated with recreational use in social gatherings, sometimes accompanied by instruments like the *puita* friction-drum.[14] Yet according to some Mwila and Nkhumbi musicians we interviewed in the 2010s, the mbulumbumba occasionally functions to establish links with ancestral spirits, asserting that they had incorporated the spirit of a close ancestor who had played the instrument and wanted them to play.

Kubik has written: "The presence of the hungu in Luanda . . . seems to have its origin in the diffusion of the [mbulumbumba] gourd-resonated bow from the southern province Huila through Benguela until Luanda" (1987:183). While the mbulumbumba presence among the Ovimbundu probably resulted

from secular trade links between Angola's southwest and central highlands, the mbulumbumba as the archetype of the hungu is not convincing. As discussed, the organology and playing techniques of the two instruments are quite different. Why would these characteristics change so radically in a relatively short time period, between the hypothetical introduction of the mbulumbumba in the Luanda region (toward the end of the eighteenth century, according to Kubik) and Monteiro's first report of the hungu in 1875? Furthermore, this genealogy is difficult to verify. Historical records are best for the Mbundu and Bakongo peoples in northern Angola because the Portuguese conquered their territories first. The Benguela region excepted, Portuguese control would only subsume the southwest in the late nineteenth century after the slave trade had stopped. Hence previous sources concerning the cultures of the Benguela hinterland are limited.

In sum, the earliest historical records of the hungu are from the late nineteenth century, while mbulumbumba documentation is not known prior to the early twentieth century. These records offer only a glimpse of each instrument's construction and social function—the drawings do not tell us how musical bows were played, and descriptions are often superficial. We have found no evidence of a historical connection between the two types of bows.

Berimbau

By contrast, the body of historical evidence regarding African musical bows in Brazil is strong. Reports hail from areas in Brazil with sizable populations of enslaved Africans such as Maranhão, Pernambuco, Bahia, Rio de Janeiro, and Minas Gerais. Since the 1810s Europeans such as Joaquim Guillobel, Henry Chamberlain, Jean-Baptiste Debret, Ferdinand Denis, and Thomas Ender provided both images (i.e., watercolors and lithographs) and textual descriptions of the instruments, their social context, and sometimes their cultural meaning. This historical record allows us to make further deductions building on the work of scholars such as Waldeloir Rego, Kay Schaffer, Fryer, and Graham.

Bow Types and Instrument Names

Given the predominance of Kimbundu speakers in the transatlantic slave trade to Brazil, it is not surprising that the great majority of bows reported belonged to the hungu/rucumbo family.[15] Names provide clues about these instruments' specific African origins. For example, in Brazil's northeastern *sertão* (outback region), the *urucungo* of the enslaved character Cassanje hearkens to the Kimbundu-speaking kingdom west of Luanda, as *urucungo* is likely adapted from the Angolan *rucumbo*, another name in the hungu family (Castelo Branco [1878] 2012).

Rego (1968:74) lists fourteen names allegedly used in Brazil for musical bows. Two are variants of berimbau (*berimbau de barriga*, *marimbau*), and six are clearly Kimbundu terms: *oricongo*, *urucungo*, *orucungo*, *oricungo*, *rucungo*, *rucumbo*. This latter cluster suggests that the hungu family was key to the berimbau's development. The terms *macungo*, *matungo*, and *gunga*—the latter still common today for a low-pitched berimbau—may also be related to this family. The only names unlike the others are *gobo* and *bucumbumba*, the latter suggesting a link to mbulumbumba. However, it remains unclear where bucumbumba appears in Brazilian primary sources. In his research, Rego relied on Luciano Gallet (1934:61) and Oneyda Alvarenga (1960:312), yet these authors did not reference their primary sources, nor did Arthur Ramos (1954:144). Direct assessment of Brazilian primary sources finds neither descriptions nor references to the mbulumbumba. One possible explanation for the instances in Gallet and Alvarenga is the work of Fernando Ortiz, which described a *burumbumba* bow in early twentieth-century Cuba and was widely read by mid-twentieth-century Brazilian intellectuals (Rego 1968:74–75).

Perhaps inspired by Rego's list, Richard Graham (1991:6) used Joaquim Guillobel's image (see figure 5), portraying a slightly forward oblique bow hold, to assert that the instrument was a mbulumbumba. Yet leaning forward while playing is common for both hungu and berimbau. In capoeira performance, for example, leaning the instrument forward specifically cues players to return to the foot of the instrument.

Figure 5. "Walking Salesman" by Joaquim Guillobel (1814) (public domain).

In light of our analysis of the historical record, we disagree with Graham's assertion that "of the many Kongo/Angolan musical bows present in colonial Brazil, the two most important contributors to the development of the berimbau were the hungu and the mbulumbumba" (1991:2). If the mbulumbumba had such importance, why does not one single nineteenth-century source mention or depict it? The evidence instead suggests that the hungu family provided the key input for what has today become the berimbau. We now turn our attention to insights from contemporary bow players.

Emic Approach: Berimbau Players' Reflections on Closeness and Distance

Our thesis positing a direct connection between the berimbau and the hungu and questioning such a link with the mbulumbumba challenges not only Kubik and subsequent scholars but also—perhaps more importantly—capoeira practitioners, particularly those of the traditionalist capoeira angola style. Many believe that the berimbau is equally related to all Angolan bows. Those who know about the existence of the mbulumbumba often assert an immediate connection based on similarities of shape, timbre, and the music played by both bows. This section discusses responses of Brazilian berimbau players to hungu and mbulumbumba music, focusing on how capoeira aesthetics and narratives influence players' perceptions.

Our analysis has two parts. The first studies berimbau players' reactions to a historic mbulumbumba recording, discussing how and why some capoeiristas embrace sameness during the listening experience. The second recounts in-person interactions between a Brazilian capoeira mestre and various Angolan bow players that result in the mestre's change of perception. The ensuing discussion considers their experiences and reflections, as well as close analysis of the musical material at play.

Revisiting Kubik's Cross-Cultural Experiment

Kubik's work in Angola and Brazil has stimulated subsequent scholarly researchers. His 1975 cross-cultural experiment in Brazil, utilizing his 1965 recording of Virasanda's mbulumbumba to gather Brazilian bow musicians' reactions, has become a well-known gauge through which cross-cultural understanding has been analyzed, yet his findings are controversial. For example, Brazilian ethnomusicologist Tiago de Oliveira Pinto (1994) played the same recording for other Brazilian berimbau players in 1984 and found that they reacted very differently from Kubik's informants. Pinto's interlocutors were unable to recognize Virasanda's rhythms as directly related to capoeira toques.

Intrigued by these inconsistent results, we re-created the experiment yet again with three respected capoeiristas from the Brazilian state of Minas Gerais gathered at the event Filosofia Natural no Cerrado in February 2016: Mestre Índio (Carlos Roberto Gallo) from the Capoeira Angola Dobrada Association (ACAD) and two of his senior students, Contramestres Alexandre Wasong and Alcione Oliveira.[16] While Índio and Alexandre are musicians by virtue of their life in capoeira, Alcione is, by contrast, a skilled folk musician, performing in numerous contexts beyond capoeira. As do many capoeira angola practitioners, these three believe that the berimbau has a direct relationship with Angolan musical bows and thus enthusiastically participated in the experiment. Their only previous contact with mbulumbumba music came from the documentary *Body Games* (2014), in which a solo bow musician plays while vocalizing melodies and percussive sounds.

Before exploring their responses to "Chirumba chetu," it is important to remember that the piece is structured as a medley of various bow patterns played at different tempi and in different meters (see table 1 and appendix 1). Virasanda vocalized in two distinct manners: sung lyrics in Luhanda (the language of the Handa people) and rasping vocables. When singing lyrics, he stops playing the mbulumbumba, creating a call-and-response between the lines of his verses and the bow (e.g., mm. 2–8 in appendix 1). His rasping vocables, by contrast, are sung simultaneously with the bow and seem to accompany the bow sound itself, the voice functioning as the rattling/noise element found in many other Sub-Saharan African instruments (e.g., mm. 13–16 in appendix 1).

After a first listening our three interlocutors related their initial impressions:

> The music has a first moment and a second moment that changes. . . . The first moment reminded me of a *Cavalaria* [toque], . . . an older, basic style of Cavalaria. . . . The second moment reminded me of a *Jogo de Dentro* [toque], . . . a base of Jogo de Dentro, . . . and the music would depart from and return to that base. (Mestre Índio)

> It is really close to what we play here. I didn't think about any capoeira rhythm but rather a four-beat rhythm [Alcione sings pattern B, table 1] in constant repetition and really consistent, without variation, a fixed pattern. But not in the beginning. In the beginning he was playing around a little, but later he stayed [on one pattern], . . . a rhythm that for us is really organic. (Contramestra Alcione)

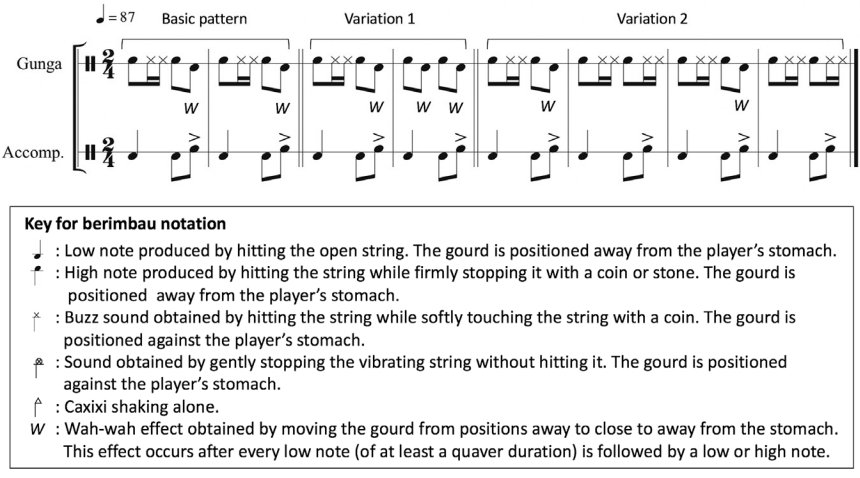
> What came to me was her [*sic*] tremendous joy. The playfulness of her voice, accompanying her percussion [*sic*]. (Contramestre Alexandre)

Mestre Índio, whose musical understanding is almost entirely influenced by capoeira aesthetics and Afrocentric narratives, claimed to hear figures that reminded him of two capoeira berimbau toques. The first section of "Chirumba chetu" reminded him of Cavalaria, while the second section brought to mind the toque Jogo de Dentro.

Cavalaria is a storied capoeira toque. Literally referring to the arrival of the cavalry (i.e., police mounted on horseback), capoeira lore suggests it was played as a warning to capoeiristas of potentially brutal confrontation with the authorities. Capoeira continued to be outlawed in the era immediately following the abolition of slavery (1888), so this story dates to the late nineteenth or early twentieth century, likely at the same time the berimbau came into the capoeira tradition.[17] For capoeiristas, this toque has strong historical connotations, symbolizing resistance and survival since the postabolition period.

Índio's association with a toque that has a distant past in capoeira discourse is reinforced by his assertion that it reminded him of an "older [version of] Cavalaria." Unfortunately, there is no audio or written register of Cavalaria as it was ostensibly played at the beginning of the twentieth century in Bahia. The earliest available documentation of it comes from a fieldwork recording of Mestre Bimba in 1941 made by US American linguist Lorenzo Dow Turner and two commercial recordings by Mestres Bimba (1962) and Traíra (1963). The latter is particularly relevant, since Mestre Índio and his group openly take musical inspiration from Traíra's recording.[18] In fact, when Índio learned that "Chirumba chetu" was recorded in 1965, only two years after the release of Traíra's seminal album, he felt reassured in his conviction to connect the two.

Regarding rhythmic content, the two mbulumbumba patterns featured in the first section of "Chirumba chetu" (table 1, A and B) are hardly evocative of Traíra's Cavalaria. In subsection A, for instance, Virasanda makes recurrent two-beat pauses in the bow pattern while singing. These are absent in Traíra's



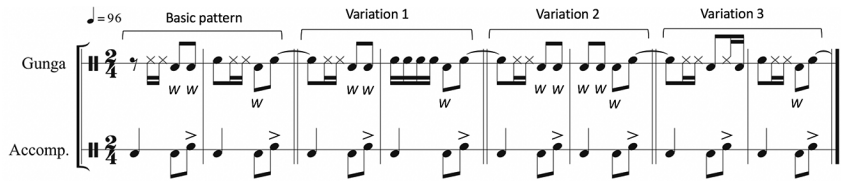
Music example 1. Mestre Traíra's (1963) recording of toque Cavalaria and berimbau notation key.

recording. Cavalaria's basic pattern is characterized by a sequence of high-low-high eighth notes (played on the *gunga*, the deepest and most prominently heard berimbau in the recording) every two beats (see mm. 1–2 in music example 1) and often extended in variations (see mm. 3–4 in music example 1).[19] However, appendix 1 reveals that this figure is not played by Virasanda. The two patterns also differ in degree of syncopation: while subsection B of "Chirumba Chetu" syncopates every other beat, Cavalaria articulates every beat, producing a strong on-the-beat feel. Moreover, Bimba's earliest recordings of Cavalaria (1941 and 1962), also differ from Virasanda's patterns by featuring sequences of high and low eighth notes with a clear on-the-beat feel. Hence, when prompted to identify the exact section of Virasanda's recording that reminded him of Cavalaria, Índio was unable to locate it. Instead, he asked to hear the final track of Traíra's recording, "Sequence of Rhythms," and proceeded to listen attentively to its ten toques. When we reached the ninth toque, *Gêge*, Índio smiled and began to play an imaginary berimbau along with the recording. Greg Downey has written, "A capoeira adept, who must necessarily be a musician, accustomed to feeling the instrument [the berimbau] meshing with his or her own body both physically and sonically, feels the instrument present in the sound it produces" (2002:496). Índio's instinctive acts of moving his hands as if playing along, first with Traíra's Gêge and then with subsection B of "Chirumba Chetu," were thus signs of embodied musical understanding, of the pleasure and reassurance of discovering similarities between capoeira toques and Virasanda's recording.

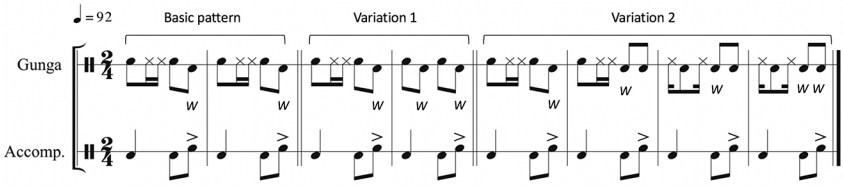
Gêge is marked by the 3+3+2 rhythm, which also underlies subsection B (see accented notes, table 1, B).[20] This rhythmic cell is ubiquitous in Black Atlantic music, naturally appearing in a variety of Brazilian musical genres (baião, coco) and some capoeira berimbau variations too. However, despite the absence of the 3+3+2 rhythm in Traíra's Cavalaria, Índio insisted that he could still *feel* the relationship.[21] Here, Índio's association seems based on desire, emotion, and timbre rather than on rhythmic content. (It is logical that the sound quality of other gourd-resonated bows, regardless of the music they play, is evocative for capoeiristas.) In order to validate his claim of a rhythmic association between capoeira and "Chirumba chetu," he had to refer elsewhere on his favorite capoeira album.

Índio next pointed to Jogo de Dentro, a toque used to accompany playful and lively capoeira games where players move close both to each other and to the ground. Jogo de Dentro lacks any historical associations like those of Cavalaria, so rhythmic content and timbre are the likely triggers of Índio's association. Music examples 2a and 2b are transcriptions of this toque recorded by Traíra and ACAD (Índio's own group) respectively.

Índio specifically linked Jogo de Dentro to pattern C of "Chirumba chetu," the predominant pattern of section 2. The latter lasts four beats (eight if a minor difference at the end of each bar is considered), is in $\frac{4}{4}$ meter, and prominently



Music example 2a. Jogo de Dentro recorded by Traíra (1963).



Music example 2b. Jogo de Dentro recorded by ACAD (2007). Notice that this toque is nearly identical to Traíra's Cavalaria shown in Example 1.

features a galloping rhythmic figure ♩♩♩ (see table 1, C). In section 2 this pattern alternates with contrasting subsections in $\frac{3}{4}$ meter (table 1, D and F) and with an unmetered vocal passage (table 1, E). This alternation creates the recurrence Índio noted: "a base of Jogo de Dentro, . . . and the music would depart from and return to that base." Although rhythmically speaking pattern C shares little with Jogo de Dentro (both, with Traíra's and ACAD's version), Índio pointed out an important stylistic feature of berimbau toques: the use of variations that give a sense of departure and return to a pattern, a feature shared by most groove-based musics in Africa, its diaspora, and beyond. Clearly Índio approached the listening experience of "Chirumba chetu" with an ideology of sameness, emphasizing what is shared and suggesting relationships that are difficult to verify musically.

Índio's responses seem to align with those of Kubik's interlocutors in Salvador, São Paulo, and Rio de Janeiro who said that "the first pattern played by Virasanda [A or B in table 1] was called São Bento Grande in capoeira, and the second rhythm, which he introduces without stopping his play [most likely C in table 1], was called Cavalaria" (Kubik 1979:30). When Pinto (1994:475–76) replicated the experiment with various capoeira players in Bahia in 1984, one informant, Mestre Vavá, related the recording to three well-known berimbau toques: Angola, Iúna, and São Bento Grande. Unfortunately, Pinto does not specify what sections of the recording Vavá reacted to. Yet their conversation provides insight into Vavá's reaction to Virasanda's treatment of tempo.

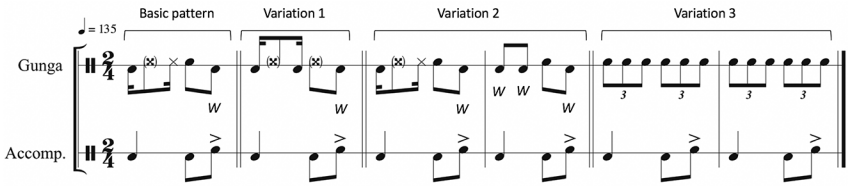
P[into]: In your opinion this [mbulumbumba] toque is amarrado [slow] or solto [fast]?

V[avá]: For us, it is the Angola amarrado toque, and it calls for a slow game. [. . .]

For us, this [other toque] is a São Bento Grande
P: How come?
V: Because it is for faster games. But the other [previous] one . . . is not.
P: But as a rhythm, is it São Bento Grande?
V: No, not as a rhythm. I do not know exactly what this rhythm is in itself. (Pinto 1994:475–77)

Vavá associated São Bento Grande with fast tempi and Angola with slower paces.[22] In capoeira performances, berimbau toques control the pace of play and are associated with specific tempo ranges (see Diaz 2017:56). Although tempo may change within each of these toques and in transitions between toques, those changes are always implemented gradually. Sudden radical changes of pattern, meter, and tempo (e.g., the jump from 72 to 104 BPM between sections 1 and 2 of "Chirumba chetu") are rare and undesired in capoeira. Vavá's references to Angola and São Bento Grande in describing his experience of slow and fast mbulumbumba rhythms, however, do not necessarily reveal a desire to connect the two bow traditions. Like Índio, he used the language he knew best to talk about music. Vavá accurately acknowledged rhythmic differences (confirmed by comparing his São Bento Grande [music example 3] and "Chirumba chetu" [appendix 1]), concluding that "each place [i.e., Brazil and Angola] has its own way [of playing the bow]" (Pinto 1994:477).

In contrast to Índio's and Vavá's, Alcione's musical background allowed for different insights.[23] Singling out one of Virasanda's patterns (table 1, B), "a quaternary rhythm . . . without variation," she offered a bridge to her experience playing folkloric styles such as maracatu, also in $\frac{4}{4}$ meter. However, she did not articulate a specific connection to capoeira music because she noticed clear stylistic differences between the two bow traditions: texture and instrumentation. In capoeira angola, ACAD's style, the ensemble comprises two *pandeiros* (tambourines), one *atabaque* (deep conga-like drum), one *agogô* (double-mouthed bell), one *reco-reco* (scraper), and three berimbaus of different tunings.[24] The former five provide an ostinato in $\frac{2}{4}$ meter, while the berimbaus play rhythmic ostinati and frequently overlapping variations.[25] This ensemble accompanies responsorial songs. The sound and steady pulse of the large number of participants involved in a capoeira angola performance (eight instrumentalists and up to dozens of



Music example 3. São Bento Grande as recorded by Mestre Vavá (1988).

singers) stand in stark contrast to the nimble solo mbulumbumba, which is free from ensemble obligations.

In sum, when capoeira mestres mention berimbau toques to describe their listening experience of "Chirumba Chetu," they are not necessarily referring to rhythmic similarities but to parameters and procedures such as timbre, tempo, or alternation between ostinato and variations. Even when they identify short rhythmic cells shared by Virasanda's recording and berimbau toques (e.g., 3+3+2), this is not necessarily surprising or remarkable, as combinatorics limits the possible two-pitch patterns in a simple meter grid. That they insist on asserting musical connections even when they are hardly verifiable reflects a desire to affirm the historical link between Angolan musical bows and the berimbau, which sustains the mestres' narrative of capoeira's African origins.

Mestre Cobra Mansa's Firsthand Accounts of Angola

Through the ARC project, Mestre Cobra Mansa traveled four times to Angola (2006, 2010, 2011, 2015), where he interacted with bow players in the Luanda, Bengo, Huila, and Cunene Provinces. A respected Brazilian capoeira angola mestre, he had dreamed most of his life about visiting Angola to trace the origins of capoeira and the berimbau.[26] The ARC project realized his dream. Playing with Angolan musicians allowed him to share his berimbau music and to test the compatibility of various bow traditions. Just as it is with Mestres Índio and Vavá, Mestre Cobra Mansa's principal musical language is capoeira, and he summarizes his experience of cross-cultural musical exchange through the lens of capoeira aesthetics. Beyond his life-long experience as a capoeirista, Cobra Mansa's perspectives are importantly enriched by his experience playing berimbau with diverse musicians during global teaching tours, his interaction with capoeira scholars, his familiarity with scholarly literature on musical bows, and his own postgraduate studies in education.[27] This section examines the mestre's reactions and reflections, adding depth to our ethnographic analysis. It is one thing to offer abstract connections in response to a recording; it is very different to face the challenges and complexities of a cross-cultural musical interaction as an outsider.

Meeting a Mbulumbumba Player in Humpata

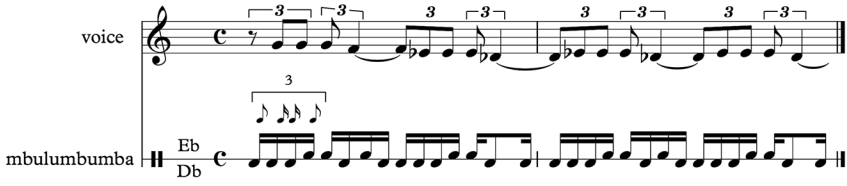
In 2010 Cobra Mansa visited Humpata (Huila Province), where he met mbulumbumba player Balthazar João Tchakota. Balthazar played his bow to accompany his own songs and was sometimes joined by others either clapping or playing the puita friction drum. His music is contemplative, for personal entertainment, and the style resembles that of Virasanda (with sudden changes of tempo and meter). This southwestern Angola rural mbulumbumba style is relatively

unknown elsewhere in Angola. Balthazar demonstrated various mbulumbumba rhythms while the visitor eagerly joined him on berimbau. However, the musical conversation was not as fluid as perhaps they expected. Cobra Mansa focused intensely on Balthazar's playing, trying to understand and match his pattern. Although the master did eventually find an approximate match, he played in a tentative manner, remaining in the background while displaying visible signs of confusion (e.g., frowning, quickly switching between intently watching Balthazar's hands and looking away with eyes closed, as shown in figure 6 and video example 1). The relevant mbulumbumba pattern is shown in music example 4.

Balthazar's pattern is relatively easy to identify but not necessarily easy for an outsider like Cobra Mansa to play. As shown in music example 4, the first three beats each contain four notes, but they are played with a certain swing feel (the bracket above beat 1 in music example 4 approximates actual durations).[28]

Swing is a critical stylistic element for musical understanding. Case in point: in analyzing an encounter between two professional percussionists in Germany, one Brazilian and the other Senegalese, musicologist Christiane Gerischer found that despite their eagerness to play together, their vast international cross-cultural experience, and the fact that they were playing similar rhythms,

Figure 6. Mestre Cobra Mansa (berimbau) and Balthazar (mbulumbumba) in Humpata, southwestern Angola (2010) (ARC project).



Music example 4. Song and mbulumbumba pattern by Balthazar (2010).

the two drummers struggled to communicate musically because "their rhythmic grooves, especially in terms of microrhythmic nuances, seemed incompatible: they seemed to be speaking different rhythmic dialects" (2006:99). Similarly, Cobra Mansa was able to identify Balthazar's pattern at a syntactical level (i.e., at the level of eighth or sixteenth notes) but was unable to grasp his expressive timing. While Cobra Mansa is intimately familiar with Bahian swing feels, they were not helpful in parsing Balthazar's southwestern Angolan musical dialect.[29]

Cobra Mansa offered another explanation of his difficulties connecting with Angolan bow players:

> Despite clear similarities between the hungu and the berimbau, during my research alongside hungu performers I had difficulty trying to accompany their rhythms when we played together. In capoeira *rodas*, the berimbaus maintain a rhythmic base, and singing is adapted to this rhythm. It is theoretically possible to play berimbau in capoeira without knowing the song being sung. Between the three berimbaus, the two lower instruments (*gunga* and *médio*) play together to generate a certain freedom for the *viola* (the highest-pitched berimbau), which, charged with improvising over the toques, varies freely in certain moments. By contrast, the hungu and the mbulumbumba follow the music being sung. In their case, it is important to know the song in order to accompany on these musical bows. (Cobra Mansa, online communication, 2016)

Cobra Mansa attributed his difficulties playing with Balthazar to his unfamiliarity with Balthazar's song. To begin with, the meaning of Balthazar's song was obscure to Cobra Mansa, as he did not speak Olunyaneka. He also noticed that the Angolans spoke more substantially about the song text than about the bow itself. Before the two played together, the mestre heard Balthazar alternating unaccompanied verses with bow patterns and changing tempo and meter at every song's beginning (just as in "Chirumba chetu"). For Cobra Mansa, the song was novel and unpredictable. This suggested to him that the bow's role was secondary to the song. During his preparation for the trip he had read this very idea from Kubik: "Virasanda mostly alternated playing and singing such that the musical bow was, as it were, commenting" (1975/76:104). Weighing these factors, the mestre concluded that the main difference between Angolan bows and the capoeira berimbau was that in Angola the bow adapts to the song, while in the capoeira the song adapts to the bow.

The mestre also related challenges with technical differences between bows: "One of my greatest difficulties in trying to accompany the patterns of the hungu and the mbulumbumba was a technical detail: both instruments use the pointer finger to press the string to produce a raised pitch. This timbre was totally unknown to my ears. Although we create pitches on the berimbau with the *dobrão*, these sounds are really different from those obtained using the finger" (Cobra Mansa, online communication, 2016). Cobra Mansa noticed that Angolan bow musicians stop the string differently from the berimbau by direct

finger contact on the string. Capoeiristas may use either a stone or a coin to raise pitches, and they can tell the difference between the two by listening to a few notes. Individuals often prefer one or the other. In this case, the timbral contrast created an aural distraction for Cobra Mansa that prevented his musical flow. Likewise, textural contrast may have confused the mestre. As mentioned, capoeira angola adepts are used to hearing fuller berimbau textures with rhythms that may interlock or form homophony. This collective bow format is a Brazilian invention without a known equivalent in Angola except in the places where capoeira has been recently imported.[30] With their metal wires, each tuned at a different pitch, the three berimbaus create a dense metallic sound that contrasts sharply with the solo mbulumbumba's string, which is made out of plant fiber, but less so with the hungu, which has also been made using metal wire since at least the mid-nineteenth century (Tams 1845:110).

Tuning was another possible source of strangeness for Cobra Mansa. Balthazar, like every Angolan bow musician he met, sang in tune with the bow pitches, a long-standing tradition, as Virasanda's recording attests. Virasanda's song melody, confined to five stepwise pitches (E3, F♯3, G3, A3, and B3), includes his bow's open and raised pitches (G3 and A3) and clearly tonicizes the open note G3 (see appendix 1). Balthazar's melody relates to his bow notes differently: it contains four pitches (D♭3, E♭3, F3, and G3), including his bow notes (D♭3 and E♭3) and their respective fifth partials in the overtone series, which are clearly heard because of the way Balthazar moves the gourd toward and away from his chest, maximizing the instrument's resonating potential (see music example 4; watch video example 1).[31] Cobra Mansa's berimbau was first tuned approximately to A♭3 and B♭3, notes that both musicians understood were clashing with Balthazar's bow and song. Cobra Mansa made a series of tentative experiments. First, he tuned to a G3, a note clearly in Balthazar's melody. Then he returned to A♭3, and finally, he shifted lower, arriving at C♭2 and D♭3. There he remained, because he understood that his raised note matched the open tone of the mbulumbumba, a tuning aesthetic common among some capoeiristas when trying to harmonize adjacent instruments in the multibow ensemble (watch video example 1).

Finally, Cobra Mansa's comments about nomenclature provide insight into Angolan perceptions of the berimbau: "One of the things that caught my attention throughout southern Angola was that when I would bring my berimbau to perform in various villages with different ethnicities people would continue to call my instrument 'mbulumbumba,' regardless of the fact that its construction and manner of playing were totally different. Similarly, in and around Luanda, everyone believed that my berimbau was a hungu, and a great majority did not perceive the small differences between these instruments" (Cobra Mansa, online communication, 2016).

Angolan bow players took the berimbau for an instrument belonging to the same family as their musical bows, mirroring the perspective of capoeiristas like

Cobra Mansa, who use to view all Angolan bows as relatives of the berimbau. Because of the two bows' physical similarities, the berimbau was sometimes mistaken as a hungu. And for some, this perception held even when Cobra Mansa explained his berimbau's Brazilian origin. This perceived familiarity created the expectation that the bows could be interchangeable. For instance, in the absence of their own instrument, some Angolans borrowed Cobra Mansa's berimbau to play the way they would play a hungu or a mbulumbumba. (This worked better for hungu players; the berimbau was too heavy for mbulumbumba players to hold horizontally.)

In sum, Cobra Mansa's encounter with Balthazar and other players evidences a contradiction. On the one hand, players identified both bows as related to each other, with many Angolans calling the berimbau "mbulumbumba" and even trying to play their rhythms on it using their own techniques. They felt a strong emotional connection, creating expectations that this connection could translate into fluid musical dialogue. On the other hand, Cobra Mansa had great difficulties accompanying Balthazar's mbulumbumba rhythms. These experiences led to a reassessment of the capoeirista's belief of a direct relationship between the berimbau and the mbulumbumba, concluding that the latter seems an unlikely predecessor of the berimbau.

Meeting Hungu Players in Luanda

In 2006 Cobra Mansa met in Luanda with hungu player Miguel Francisco Santos Rodolfo (a.k.a. Kituxi) and his group Kituxi e Seus Acompanhantes. With vast international experience as a performing musician and now retired, Kituxi has for over four decades been the most famous Angolan bow musician. Kituxi

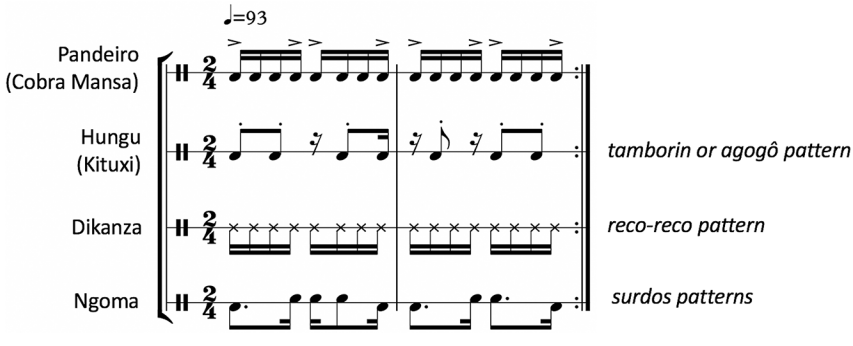
Figure 7. Kituxi e seus acompanhantes (Luanda, 2006) (ARC project).

adapts traditional hungu rhythms and techniques to play popular genres such as *rebita* and *semba* with his group. This practice of playing hungu in an ensemble is an urban phenomenon that contrasts with the localized solo hungu tradition in rural areas of Luanda and the Kimbundu-speaking interior.

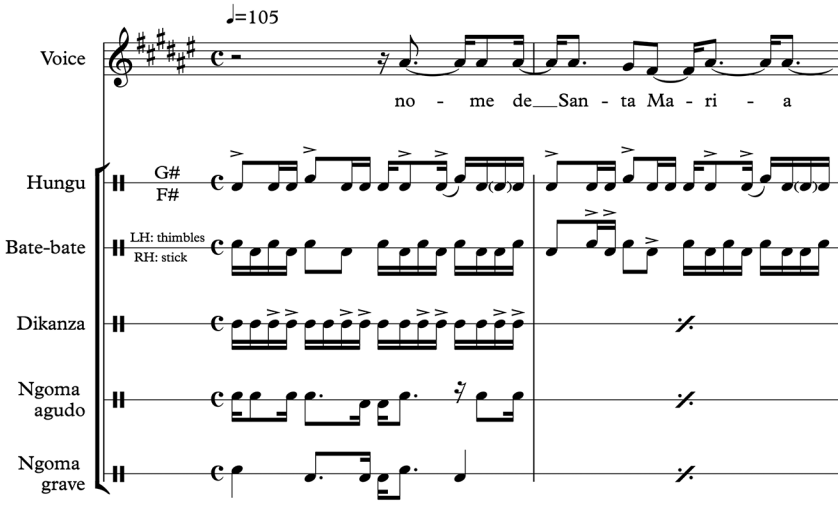
Unlike Balthazar, Kituxi was familiar with the berimbau through visits to Brazil, as well as a collaboration with the late Naná Vasconcelos in 2004.[32] Likewise, Kituxi and his group demonstrated familiarity with Brazilian samba. When Cobra Mansa played samba on the pandeiro, the musicians responded with rhythms typically heard in Carnival ensembles (see music example 5; listen to audio example 1). Kituxi even recognized the song Cobra Mansa intoned, "Canto das três raças," and knew the name of the Brazilian performer who made it famous, Clara Nunes. This reflects the impact of recorded Brazilian popular music in Angola's major urban centers such as Luanda, where Kituxi and his musicians reside.

During their encounter, Kituxi and his group performed selections from their repertoire with the hungu, *dikanza* (a scraper), *bate-bate* (a length of bamboo struck with a stick in one hand and fingertips with thimbles on the other), two *ngomas* (small barrel-shaped hand drums), and voice (solo and choir). "Santa Maria" features the group's typical polyrhythmic approach (see music example 6; watch video example 2).

During the four-minute piece, Cobra Mansa tried to adapt capoeira toques to join the group. Familiar with the toques that Kubik's and Pinto's informants related to Virasanda's recording, Cobra Mansa quickly settled on São Bento Grande. He later claimed that this toque is more versatile than other berimbau toques because "it has more space between notes, allowing room for improvisations." Moreover, this toque makes an excellent choice to accompany "Santa Maria" because its low and raised notes align perfectly with Kituxi's hungu



Music example 5. Samba groove played by Cobra Mansa and Kituxi e seus Acompanhantes (Luanda, 2006).

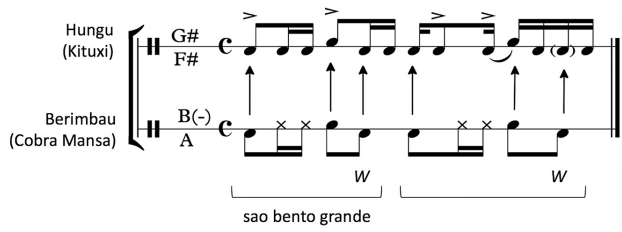


Music example 6. "Santa Maria," Kituxi e Seus Acompanhantes (Luanda, 2006).

pattern (see music example 7). It is quite possible that Cobra Mansa could hear this relationship intuitively.

Many factors account for the relative success of Cobra Mansa's interaction with Kituxi in comparison to his experience with Balthazar. He explained that he adapted better to Kituxi's group because "it has more rhythm" than Balthazar's playing. "More rhythm" likely means both the group's consistent beat and its thicker texture of overlapping rhythms. In this case, as part of an ensemble, the hungu plays in more predictable ways, maintaining both stable tempo and meter. In this regard the genre itself is similar to capoeira. Although the berimbau repertoire of toques does not contain Kituxi's pattern verbatim, Cobra Mansa matched its melodic and rhythmic contour with São Bento Grande.

Interestingly, Cobra Mansa reported that it was still difficult for him to adapt to the hungu and the rest of the ensemble. When asked, the mestre offered the



Music example 7. Hungu and berimbau in "Santa Maria" (Luanda, 2006).

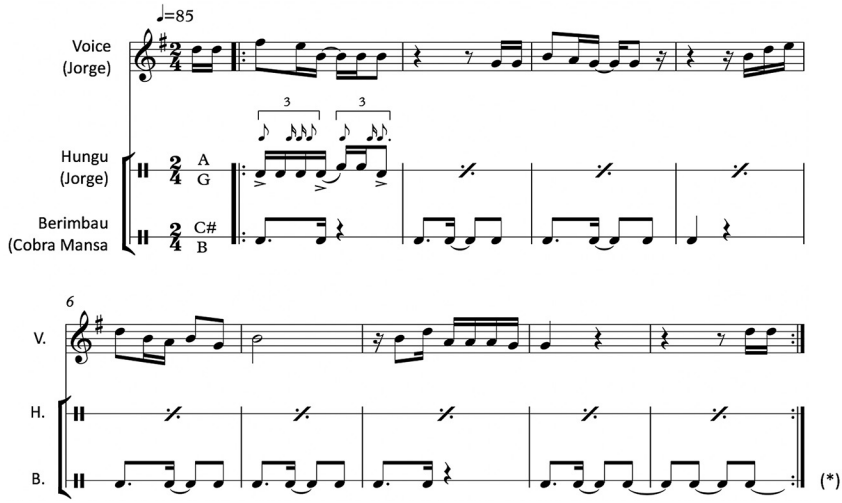
same explanations for his failure to play with Balthazar: differences in playing technique and that knowledge of the song is crucial because the bow is secondary to the song. Although he did not mention it, tuning remained an issue. Like Virasanda and Balthazar, Kituxi sings in tune with one of his bow's notes. All the songs he sang during his encounter with Cobra Mansa tonicized the hungu's low tone, F♯. As shown in music example 7, the open note of Cobra Mansa's berimbau was A, a note clashing with the melody's A♯ (the third of the tonic major triad). Demonstrating acute musical sensibility, Cobra Mansa played softly during the vocals and louder during the instrumental interludes to minimize the clash. Summarizing both this interaction and his time with Balthazar, Cobra Mansa stated, "It is easier to accompany an Angolan bow when there is no song."

Visiting Luanda in 2015 for the launch of the *Body Games* documentary, Cobra Mansa had yet another interaction with a hungu player. As part of this event, hosted by the Portuguese Cultural Center in Luanda, Cobra Mansa presided over a capoeira performance involving local capoeiristas. In advance of this presentation, Cobra Mansa invited hungu player Jorge Henrique Mulumba to play with him. Jorge is Kituxi's nephew and is following in his uncle's footsteps as the new hungu player and lead singer of Kituxi e Seus Acompanhantes. He frequently attends local capoeira performances in Luanda, occasionally playing his hungu there. He has even learned how to play the berimbau using a dobrão. These experiences have given him greater familiarity with the way the berimbau is played in capoeira than any other hungu or mbulumbumba player Cobra Mansa met.

Jorge sang the piece "Dingongenu dya mona" ("Son's Lament" in Kimbundu), which Cobra Mansa had played with Kituxi's group nine years prior. Jorge accompanied this song with a two-beat pattern in $\frac{2}{4}$ meter played with a specific swing feel (the brackets above m. 1 in music example 8 indicate approximate actual durations). More importantly, his accentual pattern outlines the 3+3+2 rhythm discussed in the Virasanda example. Cobra Mansa quickly identified this rhythm and played it in the low note of his berimbau only with minor variations, as shown in music example 8 and video example 3.

———

This was the most harmonious musical interaction Cobra Mansa had in Angola. Recognizing a familiar pattern played at a moderate and stable tempo helped the mestre play in a relaxed and playful manner, even in conjunction with song, a factor that had previously complicated Cobra Mansa's perception. Coincidentally, his berimbau tuning contributed to make this encounter more harmonious. The berimbau's low note (B) was a major third above the hungu's low note (G), working well with Jorge's G major tonality. As shown in music example 8, Cobra Mansa remained playing B, likely intuiting that his raised pitch (C♯) would clash with the song melody.



Music example 8. "Dingongenu dya mona" performed by Jorge Mulumba and Cobra Mansa (Luanda, 2015). Berimbau with wah-wah effect throughout.

Cobra Mansa and Jorge met midway between musical worlds. Jorge was at home doing what he does best: performing the hungu and singing a song from the repertoire he plays professionally in his uncle's group. Cobra Mansa, charged with the task of adapting, was able to identify a rhythm in Jorge's pattern that is present not only in capoeira but also across the diaspora and beyond. The novelty factor he faced in previous interactions was tempered, as his past experiences provided familiarity, specifically that of playing "Dingongenu dya mona" with Kituxi nine years earlier. And not least, their encounter took place as preparation for a capoeira performance, the space where Cobra Mansa thrives, in the presence of other capoeiristas who admire him.[33]

Cobra Mansa's contrasting experiences with hungu and mbulumbumba players prompted him to reassess his belief (shared by many fellow capoeiristas and various scholars) that regardless of shape, size, and playing technique, the berimbau is equally related to various Angolan musical bows. We do not believe, nor do we have evidence to prove, that Cobra Mansa felt more at home with hungu players than with mbulumbumba players because of hungu rhythmic survivals in Brazil. Instead, we attribute his success to remarkable organological similarities between the berimbau and the hungu; to the fact that his hungu counterparts in Luanda were familiar with capoeira, the berimbau, and samba; and to the fact that they play the hungu in an ensemble instead of solo, as do the mbulumbumba players he met. Through these experiences Cobra Mansa arrived at the same conclusion we reached via our historical analysis: the hungu is a more plausible predecessor of the berimbau than the mbulumbumba.

Concluding Remarks

In the opening of the *Body Games* documentary, Mestre Cobra Mansa states: "In this search for the roots of capoeira, it becomes a central concern to have an African ancestor. So then you start to look in Africa [for] what you do not have in Brazil. I do not know for sure if my ancestors came from this place [Angola], but I know that I feel a huge connection to Angola. I had an imagined Angola, an Angola of the capoeira mestres, one of fantasies, of myths. When we arrived in Benguela, we found a real Angola."

Through recordings of mbulumbumba music and face-to-face contact with Angolan bow players, the capoeiristas herein experienced the sounds of a *real* Angola, which in many cases conflicted with their imaginary. This gap between myth and reality was particularly acute when they listened to, saw, and played along with the mbulumbumba. However, to validate their belief in an African ancestry, some practitioners heard relationships between the berimbau toques and Angolan bows despite clear differences in style and content.

The berimbau is an icon of Afro-Brazilian culture and has acted as a catalyst for the adaptation of various African heritages in Brazil that coalesced in capoeira. Because of its undeniable African ancestry, the berimbau has also been used as a paradigm for narratives of this process of adaptation and creolization. Kubik, Graham, Fryer, and others have proposed that the berimbau is a synthesis of different bows from West Central Africa. However, most historical evidence of African-derived bows in Brazil connects the berimbau exclusively to the hungu and not to the mbulumbumba. We thus challenge the hypothesis that the berimbau is a synthesis of African bows and argue for a direct relationship with the hungu family of predecessors in northern Angola, questioning the idea that creolization always means indistinguishable fusion. It can also mean selective input.

Indisputable links between the hungu and the berimbau include size, grip, playing technique, bow nomenclature, and the environments where both developed. The hungu and the berimbau both evolved within an urban cultural crucible (the hungu in Luanda, a cosmopolitan center for at least three centuries, and the berimbau in Brazilian urban settings, as most records show), which is significant because urban environments present musicians with more opportunities to interact with musicians from disparate traditions and to adapt the instrument accordingly. For example, that both instruments would become part of larger ensembles is an expression of this collective engagement. The resulting louder musical environment makes the adaptation of wire to replace plant fiber a logical choice to achieve more volume. These changes never occurred to mbulumbumba players, as their repertoire, to this day, remains a rural, solo bow tradition that is occasionally accompanied by clapping or a friction drum.

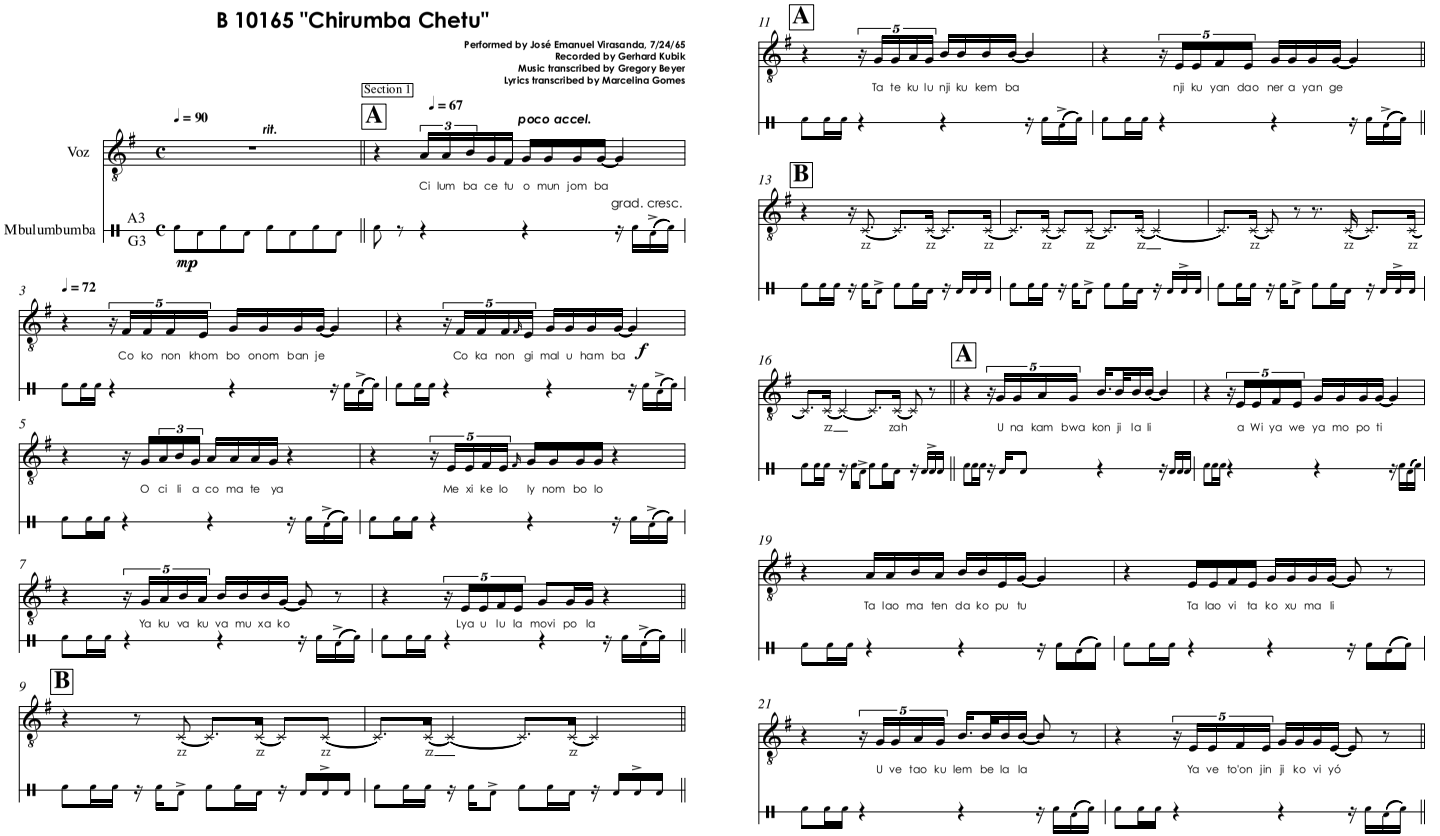
The berimbau and Angolan bows differ in their relationship to song. Mestre Cobra Mansa's experiences in Angola led him to point out that Angolan bows are subordinated to the songs they accompany, a logic opposite to that of capoeira musical aesthetics. Regarding tuning, Angolan bow musicians use the open and raised pitches of their bows, as well as the natural overtone series those pitches produce, to guide the song's melody. While many capoeira recordings since the 1940s demonstrate singers' adherence to berimbau tuning, in a roda, this alignment is rarely followed due to many factors (e.g., the necessity to accommodate singers with different vocal ranges or a sudden broken string that demand substitution for a differently tuned bow). For this and other reasons, many capoeiristas conceptualize the berimbau as a percussive rather than melodic instrument. As a result, various capoeiristas herein discussed found it challenging to comprehend the bow/voice relationship in Angolan bow music.

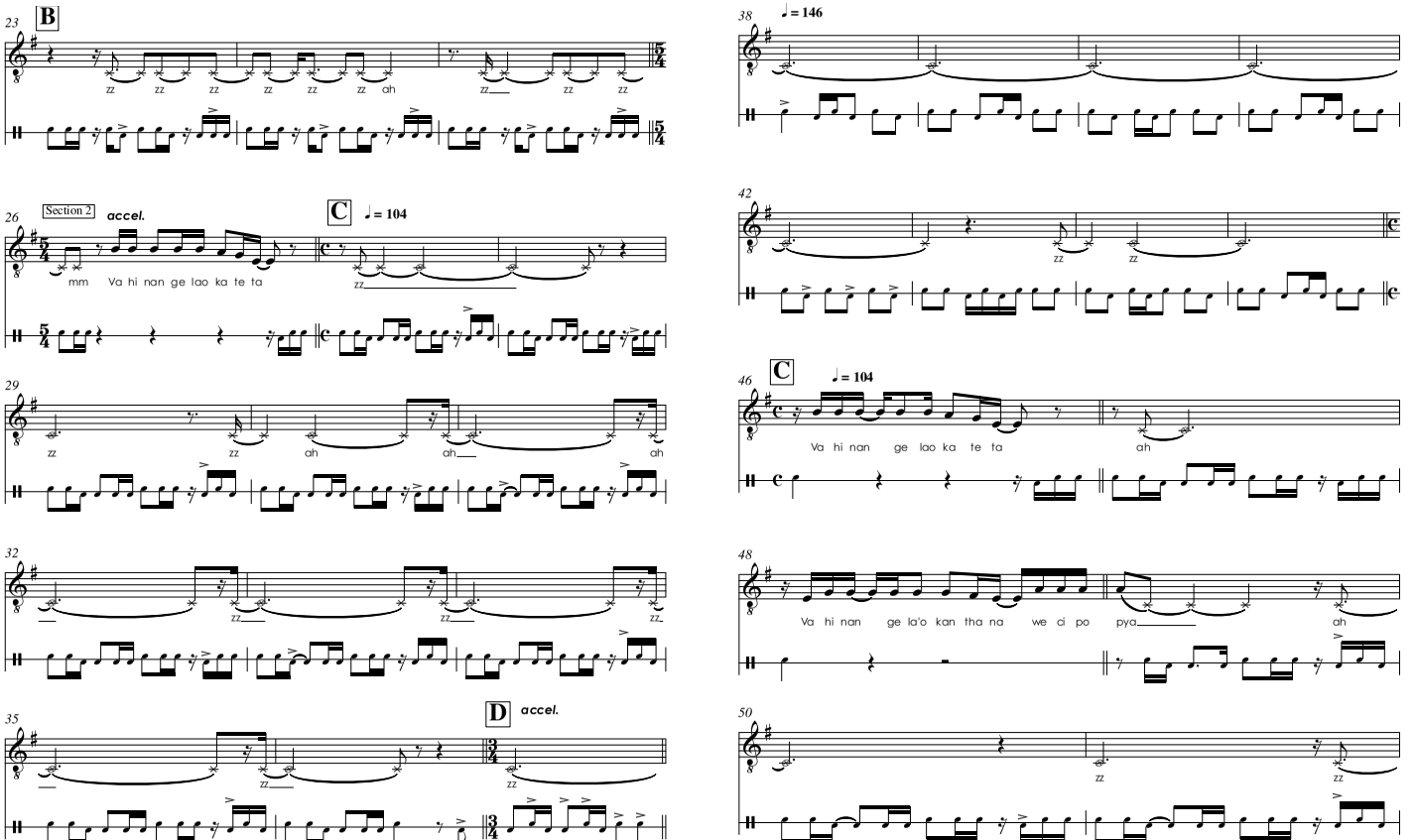
Finally, it is paradoxical that while capoeira angola considers itself to be the capoeira style closest to its African roots, *capoeira regional*, with its single berimbau, much more closely aligns with these Angolan bow traditions. Yet many capoeira angola practitioners consider regional to be "whitened" (i.e., stripped of its Africanness). The capoeira angola ensemble includes a family of three berimbaus of relative different sizes and tunings in which the lowest voice leads. This ensemble, codified in Bahia around the 1950s, is, according to some practitioners, modeled after the Candomblé drumming ensemble, in which three drums of different sizes play interlocking patterns led by the largest drum. In their urge to Africanize their art, capoeira angola practitioners reproduced a well-known African diasporic aesthetic of playing three instruments of the same family together.[34] Yet in doing so, they ironically departed from Angolan bow musical aesthetics. Thus, the history of the Brazilian berimbau reflects important adaptations of an African bow to new contexts. Its link to capoeira provided an opportunity for multiple African influences to synthesize in a manner that to this day has not occurred in Angola. These ongoing innovations make the berimbau a truly Afro-Brazilian instrument.

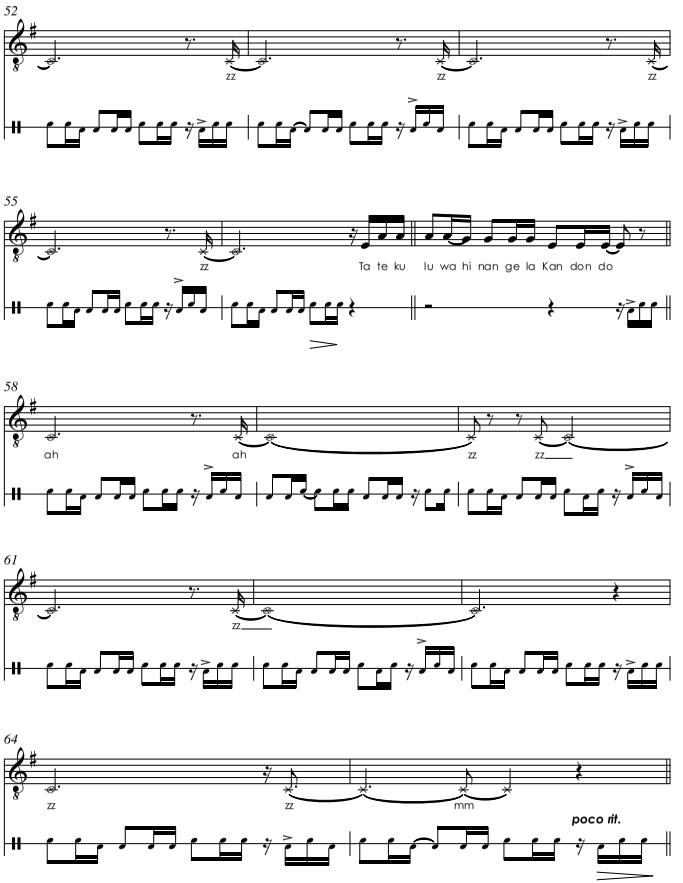
Acknowledgments

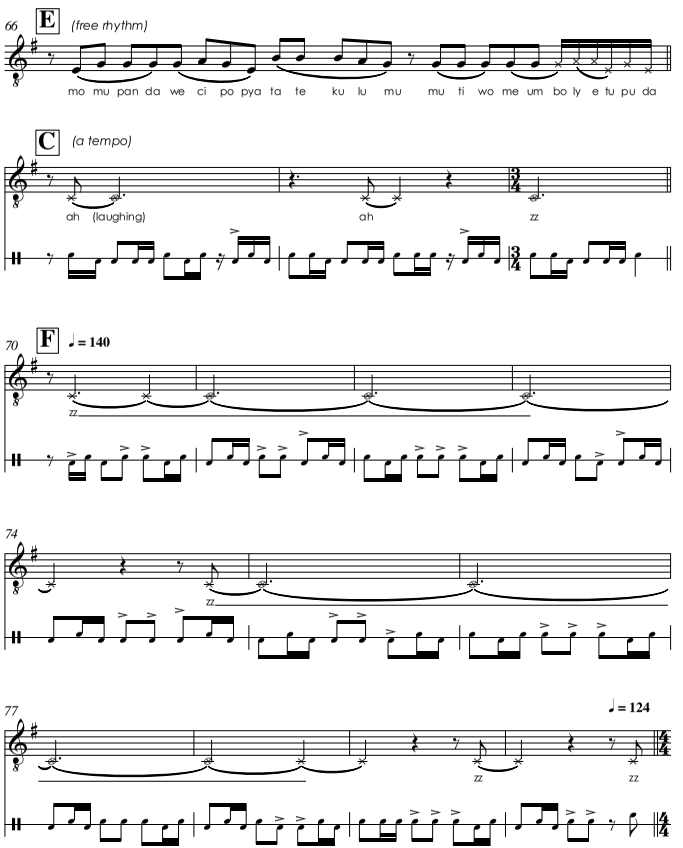
The authors thank Mestre Cobra Mansa for his essential collaboration and initial discussions during research for this article; Christine Dettmann, research assistant of the Angolan Roots of Capoeira project, funded by the United Kingdom's Arts and Humanities Research Board (2010–13) and the University of Essex (2006, 2015); Amanda Villepastour, who provided detailed comments on an earlier draft; Salvio Fernandes de Melo for providing an important reference; and the Brazilian and Angolan musicians who shared with us their music and their reflections.

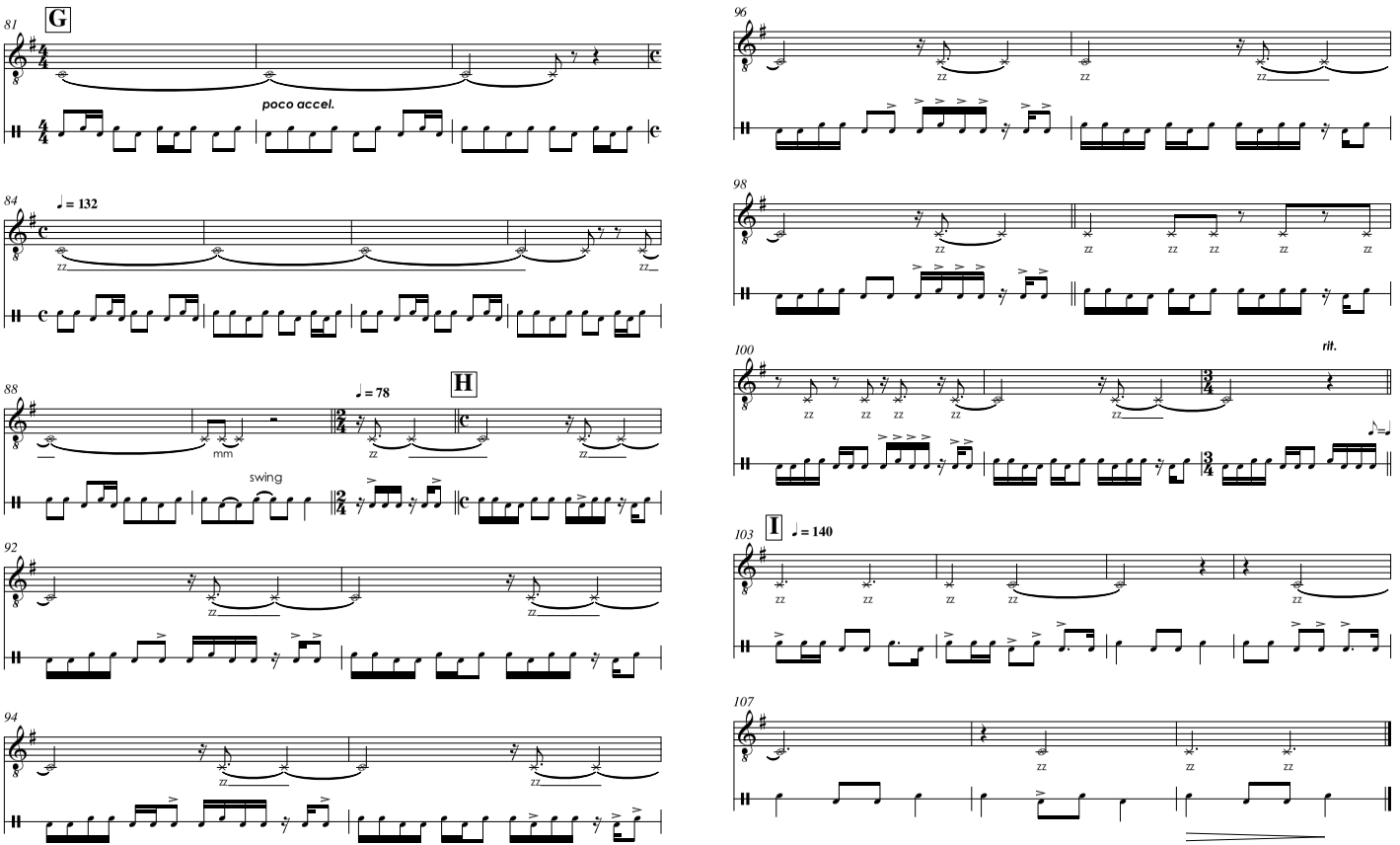
Appendix 1. Transcription of "Chirumba chetu" (Recorded by Gerhard Kubik, Southwestern Angola, 1965)











Notes

1. During the times of slavery, Creole (*crioulo* in Portuguese) referred to black people born in Brazil, as opposed to Africans.

2. Manuel Querino ([1916] 1955) provides the earliest evidence of the berimbau in Bahian capoeira.

3. Many other African-derived instruments reported in Brazil such as the *marimba*, *quissanje*, and *pluriarch* have disappeared.

4. The term "cultural extensions" was coined by Gerhard Kubik (1979) to challenge the "excessive stability" assumed by the term "survivals" in the process of cultural exchange and adaptation that Africans underwent in the Americas.

5. "Toque" has broad meanings for capoeira practitioners beyond "rhythm" or "pattern." For instance, it may suggest a way of playing the physical game or a specific tempo range.

6. Berimbaus today appear to have grown in length from berimbaus of the 1970s. Kay Shaffer (1977:29) wrote that the well-known capoeirista and berimbau luthier Mestre Waldemar produced a "special" berimbau called seven palms with a reported length of forty-six to forty-seven inches.

7. According to several capoeira masters, the standard position of the gourd along the staff is one palm's length from the bottom of the instrument. On a Waldemar "sete palmas" model, then, this would create a tuning ratio of 6:1. Today's longer instruments account for larger ratios of 7:1, 8:1, or 9:1.

8. In various African bows such as the Mozambican xitende, different intervals between two sides of a braced gourd bow are produced by shifting the gourd position up or down the length of the bow. By contrast, berimbau and hungu are rarely played on the short side of the wire, and the gourd is always positioned near one end of the staff.

9. All mbulumbumba players we saw in Huila and Cunene Provinces used the same horizontal hold. Mukuna ([1979] 2000:164) reproduces a photograph from Kubik's research in 1965 showing a Handa mbulumbumba player holding the bow diagonally (in an angle of approximately forty-five degrees), and the gourd is placed at the middle of the bow, suggesting that the Handa mbulumbumba presented some significant differences from those of other Bantu populations.

10. We have since learned that Virasanda was not referencing rumba. Angolan ethnologist Marcelina Gomes, a former Kubik student, clarified that the word is actually *chilumba*, a poetic reference to the mbulumbumba itself, used only in song and never in common speech. See Beyer (2004:102–8) for a detailed musical and textual analysis of "Chirumba chetu."

11. Figures taken from Eltis and Richardson (2010) and the related site www.slavevoyages.org.

12. There are other types of musical bows played in Angola, including the mouth bow (*ekhondji*), and friction bows such as the *kewyakweya* (Redinha [1972] 1988:54). Since their organological structure is quite different from the berimbau, they are not included in this discussion.

13. This and all other Portuguese, French, and German translations are ours.

14. We observed this among Mwila players in Huila Province.

15. There are various nineteenth-century references to African mouth bows in Brazil, reflecting the smaller but significant stream of slaves traded through Benguela in the south. The use of mouth bows in Brazil dramatically decreased during the twentieth century, probably because their low volume could not compete with Brazil's noisy urban soundscapes.

16. The Capoeira Angola Dobrada Association (ACAD) is a capoeira angola group founded and codirected by Mestres Rogério and Índio in 1992 in Germany. The group has branches in Germany, Italy, and Brazil. Both contramestres became mestres in September 2017.

17. Shaffer (1977: 33) suggests that the berimbau and capoeira "saved" one another from certain extinction.

18. Índio attributes ACAD's musical approach to his cofounder, Mestre Rogério Soares Peixoto. Rogério points to the Traíra recording as the reason for his initial attraction to capoeira (personal communication, October 2015, Belo Horizonte). Traíra's album was among the first commercially available capoeira recordings in Brazil and has inspired generations of capoeira angola practitioners.

19. The transcriptions of all musical examples are ours. The notational system and most symbols are adapted from Shaffer (1977). All notes obtained by hitting the string (i.e., the first three in

the key chart) are accompanied by a rattling sound because the hand holding the beater also holds the caxixi.

20. The numbers 3+3+2 are the interonset durations. Since contemporary capoeiristas do not consistently label this rhythm or treat it as a toque (*Gêge* is rarely played nowadays), we refer to it here as 3+3+2.

21. Sections A and B of "Chirumba Chetu" also differ from contemporary versions of Cavalaria. Most recordings of Cavalaria by capoeira angola groups (particularly since an influential recording by Grupo de Capoeira Angola Pelourinho in 1996) are in $\frac{6}{8}$ meter, making it distinct from other capoeira toques and from "Chirumba chetu." Mestre Bimba's (1941) Cavalaria, the earliest recorded version of this toque, also differs from Virasanda's recording for articulating every beat.

22. In 1998 Mestres Vavá and Macaco recorded the album *Berimbau e capoeira—BA* (Instituto Nacional de Folklore). Vavá demonstrated São Bento Grande at 135 BPM and two versions of Angola at 84 and 94 BPM, respectively.

23. Mestra Alcione is widely respected in Belo Horizonte's maracatu community, playing in many groups and directing her own ensemble, Couro Encantado.

24. Another well-known capoeira ensemble is that of the capoeira regional style, formed by one single berimbau and two pandeiros.

25. Berimbau voicings often imply that while one berimbau plays a low tone, another one plays the high one, and vice versa.

26. In 1965 Luso-Angolan painter and ethnographer Albano Neves e Sousa visited the Bahian capoeira community and shared the notion of a historical link between capoeira and the southwestern Angolan body game *n'golo* (Assunção and Peçanha 2008). The idea was espoused by Mestre Pastinha and folklorist Câmara Cascudo and more recently championed by Mestre Moraes, Cobra Mansa's teacher and founder of the influential Pelourinho Capoeira Angola Group.

27. In 2019 Cobra Mansa completed a PhD in education at the Federal University of Bahia (UFBA).

28. In music example 4, the distance between the open and raised notes of the mbulumbumba is slightly smaller than a tone, and so is the distance between the pitches $E_{\flat}$ and $D_{\flat}$, as well as F and G in the voice.

29. See Gerischer (2006) for a detailed study of swing feels in Afro-Bahian music.

30. Although scholars have documented multiple bows being played simultaneously in southern Africa, these instances seem to be recent and disconnected from the multibow capoeira ensemble. Olaf Axelsson (1981) reported that the *umrhube*, a mouth bow from the Xhosa people, is at times performed simultaneously with the *uhadi* gourd-resonated bow. Similarly, Thomas Johnston (1970:86–87) reports that the Mozambican Tsonga sometimes play their *xizambi* mouth bow in duos. However, there is no evidence suggesting that any of these bow traditions influenced capoeiristas' decision to join various berimbaus in the capoeira ensemble. All early bow records in Brazil portray them played alone.

31. The relationship between singing and bow overtones has been documented in Angola and other African regions (Johnston 1970; Rycroft 1975/76). It was also demonstrated in this journal's "Symposium on Transcription and Analysis" (England et al. 1964), in which four scholars transcribed a recorded Hukwe (Bushman from West Central Africa) song accompanied by a musical bow.

32. The "berimbau-ungu" project in 2004 took Kituxi, Naná Vasconcelos, and Victor Gama on a tour of South Africa, Angola, and Mozambique to perform their musical bows together in concert. Roger Lucey's concurrent film, *Guardians of the Bow* (2004), documented their time together.

33. Each time Mestre Cobra Mansa visited Luanda he gave capoeira workshops and participated in rodas. Therefore, many capoeiristas who attended the film launch knew him and had interacted with him musically.

34. In addition to all forms of Candomblé, many other African diasporic genres feature an ensemble of three instruments of the same kind: the three *batá* drums of Cuban Santería, the three conga drums of Cuban *rumba*, the three *panderetas* of Puerto Rican *plena*, and the three drums of Uruguayan *candombe* are some examples.

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