

The Evolution of Traditional Rhythms in Redefining the West African Country of Guinea

Janice Haworth, Karamoko Camara, Marie-Therèse Dramou, Kokoly Haba, Daniel Léno, Augustin Mara, Adama Noël Oulari, Silafa Tolno, Noël Zoumanigui

Abstract—The traditional rhythms of the West African country of Guinea have played a centuries-long role in defining the different people groups that make up the country. Throughout their history, before and since colonization by the French, the different ethnicities have used their traditional music as a distinct part of their historical identities. That is starting to change. Guinea is an impoverished nation created in the early twentieth-century with little regard for the history and cultures of the people who were included. The traditional rhythms of the different people groups and their heritages have remained. Fifteen individual traditional Guinean rhythms were chosen to represent popular rhythms from the four geographical regions of Guinea. Each rhythm was traced back to its native village and video recorded on-site by as many different local performing groups as could be located. The cyclical patterns rhythms were transcribed via a circular, spatial design and then copied into a box notation system where sounds happening at the same time could be studied. These rhythms were analyzed for their consistency-over-performance in a Fundamental Rhythm Pattern analysis so rhythms could be compared for how they are changing through different performances. The analysis showed that the traditional rhythm performances of the Middle and Forest Guinea regions were the most cohesive and showed the least evidence of change between performances. The role of music in each of these regions is both limited and focused. The Coastal and High Guinea regions have much in common historically through their ethnic history and modern-day trade connections, but the rhythm performances seem to be less consistent and demonstrate more changes in how they are performed today. In each of these regions the role and usage of music is much freer and wide-spread. In spite of advances being made as a country, different ethnic groups still frequently only respond and participate (dance and sing) to the music of their native ethnicity. There is some evidence that this self-imposed musical barrier is beginning to change and evolve, partially through the development of better roads, more access to electricity and technology, the nationwide Ebola health crisis, and a growing self-identification as a unified nation.

Keywords—Cultural identity, Guinea, traditional rhythms, West Africa.

I. INTRODUCTION

THE traditional rhythms of the West African country of Guinea have played a centuries-long role in defining the different people groups that make up the country. Throughout their history, before and since colonization by the French, the different ethnicities have used their traditional music as a distinct part of their historical identities. This, in spite of its more than 100-year old geographical compilation negotiated by the French, British, and Portuguese in the early twentieth-

Janice Haworth is with the Bemidji State University, United States (e-mail: jhaworth@bemidjistate.edu).

century. Rather than unifying the country, the traditional rhythms appear to remind the people of where they come from rather than who they are now.

While in Guinea on a two-year Fulbright Scholarship, the opportunity arose to teach at the Fine Arts Institute of Guinea (*Institut Supérieur des Arts de Guinée*) in the village of Dubréka. This school offers classes and degrees in music, cinema, theater, dance, and painting. The Institute was started in 2004 and has relied heavily on expatriate professors from Ivory Coast, Russia, North Korea, Cuba, and the United States to teach specialized courses. The Institute offers a five-year degree that includes four years of classes and then a year of research and a thesis. Highly successful students finishing the program were often invited to continue as graduate students / teaching assistants. My assignment was to take the group of eight music graduate students and prepare them to be the first Guinean music educators and researchers. This study was designed to send this group of graduate students into rural Guinean villages to specifically collect video recordings and stories of the traditional rhythms of Guinea.

II. GUINEAN TRADITIONAL RHYTHMS

The term, 'rhythm' in this culture could easily be exchanged for our use of the word, 'piece' [of music]. 'Music,' on the other hand, was used to refer to one specific instrument's part of the overall 'rhythm.' This is an important distinction because a Guinean rhythm can be a compilation of twelve or more different instruments each playing different parts in a highly complex rhythmic structure. These Guinean rhythms, while being so complex, are also extremely flexible in allowing each performer room to personalize their performance as well as add improvisational solo parts to the work. This personalization means that there are frequently distinct differences between performances of the same rhythm [1], [2].

Guinea is a country in West Africa that has not been well known or widely studied by western musicians and researchers. Colonized by France from 1898 to 1958, and then victimized by many corrupt governmental decisions and practices, Guinea celebrated their first democratic elections in 2010. The country is geographically divided into four regions: coastal, mountains, plains, and forest areas. The regions each have different names: the coastal region is called Bas Côte, the mountain region is called Middle or Futa Jalon, the plains region is called High or Haut, and the forest region is called Guinea Forestière. Each of these areas comes from different historical and cultural histories, seen as well in the different

traditions of music that are heard in each region [3]. Following a basically caste-based culture [4], most Guinean musicians come from the plains region of High Guinea and the majority of the recordings and traveling djembé teachers from Guinea are descendants of the towns and villages of High Guinea. The result is that they tend to perform and record only the music of High Guinea. The traditional musics of Coastal, Middle, and Forest Guinea have been represented to the world at a dramatically lower rate than those of High Guinea.

The pieces collected were chosen to focus on the rhythms commonly known and performed prior to 1958. In 1958 the Guinean people voted to expel the French from the country believing that they would “prefer freedom in poverty to opulence in slavery” [5]. The new self-proclaimed President of Guinea, Ahmed Sékou Touré, (1922-1984), wanted to encourage the development of a non-European, more African identity to the world and chose to build up the Guinean national image through the encouragement of musicians, dancers, and painters from the country. Several national performing and touring ensembles were created and many new rhythms and songs were composed to reflect this New Guinean identity [4]. With lyrics of strength and power for the new country, many of the new songs used traditional melodies -- reset for western and electric instruments [6]. The pieces collected focused on the traditional rhythms of pre-1958 to highlight the music of the earlier generations and the different historical people groups.

Guinea is a diverse country in both its geographical and ethnic divisions. This diversity can also be seen in their different traditional music. Each of the four regions – Coastal, Middle, High, and Forest – has a long heritage of traditional music that is rich, complex, and distinctly different from the other regions around them. Modern music played on the radio often incorporates the fundamental rhythms of one region or another. It seems everyone, except me, the visiting professor from the U.S. to the Fine Arts Institute of Guinea, is instantly able to recognize the regional heritage even in the more modern music. This led to the question, “What makes the regional rhythms different from each other?” A project was set up to allow us to examine and analyze sample rhythms of the largest population group from each region and then compare the rhythmic structures between the regions.

Within the four geographical regions of Guinea, there are at least 48 different ethnicities. We limited this study by selecting the largest people group of each of the four regions, and selecting five popular rhythms from each of the groups. Online data from <joshuaproject.com> identified the largest population group from the Coastal region as Susu, from the Middle region as Peulh, from High Guinea as Maninka, and from Forest Guinea as Kpèlè. Multiple interviews with (Guinean traditional) orchestra directors, cultural leaders, representatives from the national radio service, and professional musicians gave us a variety of recommended rhythms from which to choose. Not all of the advice was good and we had to adjust the rhythm list several times to reflect music that truly existed and musical performances that we could access. In the end, the Coastal (Susu) rhythms selected

included: *Yankadi*, *Manè*, *Yòkhui*, and *Macrou*. The Middle (Peulh) rhythm selected was *Toupousésé*. The High (Maninka) rhythms included *Dundunbé*, *Söli*, *Kassa*, *Sökö* and *Mamaya*. The Forest region (Kpèlè) rhythms were *Manakawélé*, *Yibah*, *Konlioulowélé*, *Manidoulou* and *Koyawélé*.

III. FIELD WORK

Once the rhythms were selected, the Guinean student researchers were divided into groups by region and they interviewed multiple musicians and arts supporters to find as much information as possible about each rhythm. In particular we wanted to know where each rhythm originated (by village) and the story behind each one.

Initial funding was provided from the Fine Arts Institute of Guinea to send the first three groups out into the villages. Groups of two to four African graduate students from the Institute visited Forécariah, Kindia, and Dubréka for the Susu rhythms, and Labé, Mamou, and Dalaba for the Peulh music. Each group was provided with a small laptop, one or two digital video cameras, a digital audio recorder, and a supply of batteries. Trips lasted from overnight to six days depending on where they were going and how complex it was to use the national taxi system. Their task was to introduce themselves as representatives of a project sponsored by the Fine Arts Institute, get permission from the village leaders to meet with and record the local musicians, and to find musicians willing to share with them their local music. Each group was to return with recordings of the specific rhythms played by the traditional musicians of that region.

The trip results were mixed, but certainly a positive, growing experience in learning how to gain the most from the traditional musicians. In several cases, the researchers were initially received in a hostile fashion because the local musicians did not want anyone “stealing” their music and ‘giving it to white people.’ (This was generally meant either Russian or French and was loosely interpreted as anyone rich enough to have a computer or video camera.) Unfortunately the Guinean colonization by France and subsequent national difficulties left outsiders in a bad position. The researchers for this project were all African, Guinean, and black, but their interest gave the impression of an outside direction. After much discussion the researchers were generally successful in assuring the musicians that this was a project designed to benefit Guinea and to help preserve their own culture.

Once traditional music groups were found the musicians were interviewed about the rhythms and then their performances were video and audiotaped. Rather than simply record the rhythm one time in the original village, the researchers were generally able to record the same rhythms from multiple villages in the same region. This was the start of our triangulation of data in determining the rhythmic structures of each region and rhythm.

When the researchers returned, their videos were collected, labeled for village, rhythm, and the name of the performing group, and filed by rhythm and by village. From the Coastal region (Susu people), *Yòkhui* was recorded six times (Conakry, three from Kindia, two from Forecariah), *Yankadi*

was recorded five times (Conakry, twice from Kindia, twice from Forecariah), *Macrou* was recorded four times (Conakry, twice from Forecariah, once from Kindia), and *Manè* was recorded five times (Conakry, twice from Forecariah, twice from Kindia).

From the Middle region, *Toupousésé* was recorded four times (Conakry, Labé, Dalaba, and Mamou – only once per village or town). Several other “unknown” rhythms were also recorded and labeled as “Unknown #1 Bambetto,” “Unknown #2 Bambetto,” “Unknown #3 Bambetto,” “Unknown Labé,” and “Unknown Dalaba.” (The recordings were later played for a professional djembé master and he recognized three as Maninka rhythms from High Guinea being played with Peulh (Middle Guinea) instruments and stylings and two that appeared to be simply improvisational playing.)

Further funding was found to send research groups to the Forest (N'Zérékoré) and High (Kankan, Siguiri and Karoussa) Guinea regions. From the Forest region (Kpèlè people), *Manakawélé*, *Yibah*, *Konlioulowélé*, *Koyawélé*, and *Manidoulou* were recorded once each. *Manakawélé* and *Yibah* came from a Kpèlè wedding in Coyah (Coastal) that we were invited to; the other three rhythms came from a wedding in the town of N'Zérékoré (Forest). Two of the examples were extremely short. Unlike the other recordings where the performances were staged for the researchers, the Kpèlè examples came from real wedding festivities to which we were invited.

One of the difficulties was that we could not find musicians simply playing in the Forest region. Music there was often used for ceremonial or religious (Christian) purposes. (In contrast, the other regions of Guinea are largely Muslim and use no music in their worship.)

From the High region, *Sökö* was recorded three times (Conakry, Kankan, and Siguiri), *Dundunbé* was recorded twice (Conakry and Kankan), *Kassa* was recorded three times (Conakry, Kankan, and Siguiri), *Mamaya* was recorded three times (Conakry, Kankan, and Siguiri), and *Soli* was recorded three times (Conakry, Kankan, and Siguiri). The researchers tried to record *Dundunbé* in Siguiri but discovered that the musicians had played *Dundunbah* instead.

The village of Karoussa is an active musical center in the High Guinea region but when the researchers arrived, they found that one of the village leaders had recently passed away and the village was under a rule of 40-days-of-silence.

Although they did not get any musical recordings, the group was able to interview some of the musicians in the village.

Two unrecognized assumptions almost derailed the project at this point: the assumption that it would be relatively easy to watch the digital video recordings and transcribe the musical rhythms, and the assumption that high quality, ‘accurate’ renditions of the rhythms would be found. Neither was true.

IV. ANALYSIS

An earlier project with Guinean traditional music resulted in the creation of a circular, repeating notation system called SikLik [7] (Fig. 1). That notation system was chosen for this project as well. The advantages included the fact that it was extremely easy to teach and to use, it did not require any formal musical training in notation, it was very musical, and it showed structural patterns in and across the musical rhythms in ways that were not easily seen in traditional western musical notation or in the TUBS (Time Unit Box System) [8], notation frequently used with non-pitched percussion music. (Fig. 2) Another advantage of the SikLik system was that the rhythms could be physically manipulated using any circle and spatially-placed manipulatives. In our case we were using a board with 2 large concentric circles on each side (one side of the board divided in 8 beats; the other side divided in 6 beats) and each beat divided into a background of three on one circle and four on the other. Soda caps and water bottle lids were used to indicate the timing of the hits and specify the type of hit (Fig. 3).

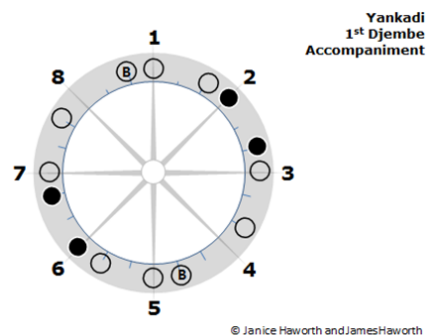


Fig. 1 Yankadi, 1st djembé accompaniment, SikLik notation

	1		2		3		4		5		6		7		8	
D	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Fig. 2 Yankadi, 1st djembé accompaniment, TUBS notation

The traditional djembé hits – tone, slap, and bass (referred to in Guinea as *fermé*, *ouvert*, *bass*) – were represented as: tone (*fermé*) – bottle cap in “closed” (down) position, slap (*ouvert*) – bottle cap in “open” (up) position, and bass – cap from water bottle. The flexibility this created allowed the listener to focus on one beat at a time and the performer to easily read and play by reading the patterns the bottle caps formed.

Using separate circles to represent each instrument playing in the Rhythm, researchers carefully watched the videos to isolate the players, the sounds, and to determine the rhythm parts each was playing. This was difficult. In some instances the groups played the individual parts separately and then played them together. In other instances the players switched to improvisational solos each time they felt the camera facing them. Thanks to some help from some professional drummers

we were able to finally isolate the rhythms that were being played.

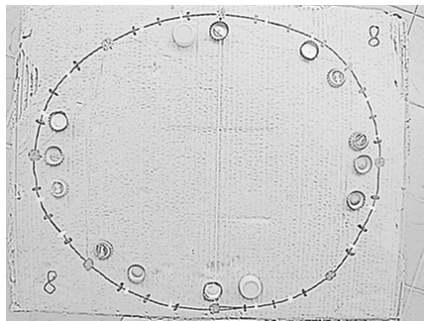


Fig. 3 SikLik board with bottle caps to indicate Yankadi 1st djembé accompaniment

The quality of the video camera handling had a great impact in how easy it was to transcribe the rhythms we were hearing. Although each had been trained in using a digital SLR camera, the Flip video camera, the Zoom H2 digital audio recorder, a laptop computer and Microsoft Word, these were still very new technologies for this country and none of the student researchers had extensive experiences on the equipment on which we were depending.

The second unrecognized assumption was that we would find musicians who played the music well and accurately – especially since these were rhythms who originated from these particular villages. To my surprise, we did not. Guinean music is extremely flexible and there are any number of options and variations and choices in instrumentation that could be applied. The problems we were finding, however, were bigger. Most of the musical groups we heard appeared to have only one or two players who could play their part solidly and the rest who seemed to have very little training and appeared to not be able to play their parts independently.

While we were looking for authentic performances of these traditional rhythms, we could have chosen to use only the best commercially-recognized artists and groups but we chose instead to go to the field and try to find the original music. Our “control group” was a djembé master named Moussa Sylla who was extremely well trained in all the percussion instruments and the rhythms from around the country. Based on his music and the written notation and recordings of other major percussionists from Guinea, we had a base idea of what each rhythm was to sound like and how the parts were generally (with flexibility) represented. We were able to recognize when parts were not played well but we were still hopeful that the overall performance of the musical group in those cases would be sufficient to represent the basis of each rhythm.

V.FUNDAMENTAL RHYTHM PATTERN

In searching for the “fundamental rhythmic structure” of each rhythm, we chose to focus on the sounds that people would first hear from miles away. We determined that the sounds that would carry the furthest would be the sounds that

were the loudest so we decided to simply count the number of instruments hitting at any particular time. In order to see this visually, we borrowed the TUBS notation system and quickly transferred the SikLik notation into the box system. Since we were only interested in the amount of sound, all hits were represented simply as “X’s.” After each rhythm was notated in TUBS, the “X’s” were counted vertically and the numbers notated to reflect the number of instruments hitting at each moment. After we had a line of numbers, the smallest numbers were eliminated leaving only the remaining “X’s” in a rhythm pattern which reflected the moments in the pattern when the most instruments were playing. This resulting pattern was called the Fundamental Rhythm Pattern (FRP).

A certain amount of professional discretion had to be used in decided how many of the smallest numbers were eliminated. In most cases, the two largest numbers were left and all the smaller were eliminated. In a few cases selecting only the two largest numbers left nothing but a straight beat pattern so another number or two was added to add enough information for a rhythm pattern to emerge. The pattern that remained was labeled the ‘fundamental rhythm pattern’ for that particular rhythm/performance. The term “*rhythm de mère*” (‘Mother rhythm’) was used at the Institute to reflect that same fundamental role after the reduction analysis.

Since, with the exception of the Forest region recordings, we had multiple recordings of each rhythm, it was interesting to compare the Fundamental Rhythm Patterns (FRP) that we collected. In some cases a comparison of different versions of the same rhythm showed results that were exactly the same. For example, we recorded the rhythm, *Toupousésé* (from Middle Guinea), in three different villages and found the analyses to be exactly the same. In other cases the results varied from ‘quite similar’ to ‘not even recognizable.’ Fig. 4 shows the results of four recordings of the rhythm *Macrou* reflecting distinct dissimilarities between the FRPs.

	1			2			3			4		
Con	x			x	x		x		x	x		x
For	x			x	x		x					
For	x			x	x				x	x		
Kin	x	x		x			x		x	x		

Fig. 4 The FRPs from four different recordings of Macrou in TUBS notation

In analyzing the videos and recordings, we decided to separate the instruments even in situations where one player played several at the same time. Some of the drums are played with one hand/stick while the other hand plays a complementary pattern on the cloche or cowbell. The decision to separate instruments in the analysis was to try and isolate the rhythms played by the cowbells. Many references about African music refer to the “timeline” (generally played by a metallic bell) which is used in place of a straight beat pattern [1], [9], [10]. According to these resources, all members of the group play off of the timeline so keep their place. At this point we have not found this to be true in Guinean music.

VI. OBSERVATIONS

At this point some surprising observations can be made:

1. Not all Guinean musicians play the rhythms well. As part of our interest in preserving and encouraging this traditional culture, there are implications for encouraging the solid training of future musicians. The first Guinean President, Ahmed Sekou Touré, chose to solidify the New Guinean post-colonization identity by encouraging and giving honors to the national arts [6]. Unfortunately, those days of support for these artistic groups are long gone but the country needs to be reminded that their arts are important and that there are musical standards to be met.
2. The metric structure of Guinean music is very consistent. Most of the rhythms that we found were divided into a meter of four. (Only one rhythm example in this study was found to be in a meter of three – *Toupousésé* as performed in Conakry.) This was surprising to me from my western perspective. In spite of this basic metric structure, many of the different rhythm parts do not sound like they are following the same beat as the other parts. It is not possible to understand a single rhythm pattern in isolation without some kind of beat or timeline orientation. By specifically adding the beat as a reference in our notation we were able to notate the patterns in a way that they all made sense within the meter and/or timeline.
3. The Peulh people of Middle Guinea use only one rhythm pattern – *Toupousésé*. We heard conflicting stories about the rhythms of the Peulh people. In the end we found that they have many songs but they are all sung to one rhythmic accompaniment. The cultural background of the Peulh people is Arabic and most of the people are heavily involved in commerce [11]. Many Peulhs told us that they did enjoy music but really had no time for it. Their music is not rhythmically deep or complex. In fact, when several musicians play together, they often are all playing exactly the same rhythm patterns. The Peulh musicians have gourd-based two-hand shakers (the *Laladé*) and a pastoral flute (bamboo with holes cut) along with one or more small djembés. We did find examples of “unknown” rhythms but, upon analysis, discovered that either they were Maninka rhythms played in a Peulh style or they were improvisational.
4. The musics of the Susu (Basse Côte) and Maninka (High) are similar. Since the two cultures share part of a common heritage from the ancient Mali Empire, it is not surprising that their musics and choice of instruments are similar [5], [11], [12]. Both groups tend to focus on the Djembé, Kenkedi, Sangban, and Dundun percussion instruments for public group performances. The Maninké also use the kora (a multi-stringed gourd instrument played with the thumbs) and the ballafon (a gourd-based xylophone hit with mallets) [13]. The Susu have other instruments for more private musical usage. The Susu and the Maninka also share the distinction of having music that is more performance oriented. Their musical performances share a similar overall structure that can be described as follows:
 - a. *Break* (the “call” – generally different for each rhythm)
 - b. *Accompaniment* (a personalized introduction created by each djembé master for his own group)
 - c. *Break* (to announce the start of the rhythm)
 - d. The Rhythm:
 - i) Dundun / Bell (bass)
 - ii) Sangban / Bell (tenor)
 - iii) One or two Kenkedis / Bell (alto)
 - iv) Three or four Djembés (1st, 2nd, 3rd accompaniment and soloist)
 - v) *Break* (to announce the start of the end)
 - vi) *Rechauffment* (a three- to four-measure slow roll to warn the group that the end is coming)
 - vii) Break
 - viii) Accompaniment (same or different from beginning)
 - ix) *Break* or Ending
 5. The musics of the Kpèlè (Forest) and Peulh (Middle) are very different from each other and from the regions surrounding them. First, each group uses distinctive instruments that are found only in their ethnic region. The Kpèlè enjoy the sound of the Toulous horn – a cow horn played antiphonally along with a cowbell used in the traditional timeline fashion. Their music also features women sitting flat on the ground beating on upside down metal bowls in harmony and solo patterns. The Peulh use the fat-shaker sound of the *laladé* and the melody of the pastoral flute as central instruments in their music. Second, there was a distinction in the role of the music. From the examples that we were able to see, Kpèlè music is designed to accompany solo dancers who jump in, dance for 30-45 seconds, and then jump out – leaving a tip for the musicians. Peulh musicians often add swaying dance movements but they are done by the instrumentalists themselves. In addition, each group had a cultural tendency to protect their heritage from outsiders. Historically each group has been segregated by those around them and there does not appear to have ever been much national or international interest in their music. Lastly, at least in the case of the Peulh, their priorities lie elsewhere. This is a commercial-oriented culture and most of the shopkeepers and merchants of the country come from this region.
 6. The different ethnic people groups only danced to their own music. As part of the project, concerts were arranged at each of the national universities in each region. In each case, people came from everywhere when they started to hear the drums playing. Though interested in getting people to jump in and dance, it took a while to realize that the audiences – students from all over the country at each university – would only dance when they heard the music of their own region. When different students were asked why they did that. Their answers, usually accompanied with a shrug, conveyed that their tribal heritage was more valuable and important than being a Guinean.
 7. In spite of these divisions, we are starting to hear overlaps in the musical styles and rhythms. This is heard frequently in the tradi-modern music played on the radio, but we also

heard this in the Maninka rhythms that we had labeled as “unknowns” from the Middle/Peulh region. While this is perhaps good for the country, it is less positive for preserving the traditional musics of each of these separate regions.

VII. CONCLUSION

From a musicological perspective and in the interest of saving and preserving the traditional musical rhythms, there is clearly further research to be done. The problems we faced with inaccurate or very loose renditions of rhythms would be tempered by adding more video examples of more groups playing from each of the villages. In addition, rather than trying to cover the entire country, a similar study of one region or of the music of one village, or of even only multiple recordings of one rhythm would be enlightening in continuing to try to notate and preserve the rhythm traditions.

From a cultural standpoint, the people of Guinea are incredibly divided by geography, language, customs, poor roads, caste expectations, resources, musical instruments, and the role of music in each of their lives. The ‘billboard promises’ made by the different candidates running for political offices in this “new” Guinean era have all tried to have citizens view themselves as one people group under the Guinean flag. The 100 years of nationalized unity, accompanied by this new decade of democratic politics, is potentially starting to develop a country with an international identity. As people begin to travel among the regions, and as different musical styles continue to overlap and mix, the goal of one Guinea may be supported by a new conglomerate style of Guinean music – this time from the people themselves.

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REFERENCES

- [1] W. Anku, “Circles and time: A theory of structural organization of rhythm in African music,” *Music Theory Online: The Online Journal of the Society for Music Theory*, vol. 6, no. 1, January, 2000.
- [2] V. K. Agawu, “The rhythmic structure of West African music,” *The Journal of Musicology*, vol. 5, no. 3, Summer, 1987, pp. 400-418.
- [3] R. M. Stone, *Music in West Africa*. New York: Oxford University Press, 2005.
- [4] M. S. Camara, T. O’Toole, J. E. Baker, *Historical Dictionary of Guinea*

- (5th ed). Lanham: The Scarecrow Press, Inc., 2014, p. 74.
- [5] R. Hallett, *Africa Since 1875*. Ann Arbor: The University of Michigan Press, 1974, p. 379.
- [6] G. Counsel, “Popular music and politics in Sékou Touré’s Guinea,” *Australasian Review of African Studies*, vol. 26, no. 1, 2004, pp. 26-42.
- [7] J. Haworth, “Creation of a visual rhythm catalog for the traditional rhythms of Guinea” unpublished.
- [8] J. T. Koetting, “Analysis and notation of West African drum ensemble music,” *Selected Reports in Ethnomusicology*, vol. 1, no. 3, pp. 115-146, 1970.
- [9] S. Arom, *African Polyphony & Polyrhythm: Musical Structure and Methodology*. Cambridge: Cambridge University Press, 1991.
- [10] G. Kubik, *Theory of African Music, Vol. 2*. Chicago: The University of Chicago Press, 2010.
- [11] R. Hallett, *Africa to 1875: A Modern History*, Ann Arbor: The University of Michigan Press, 1970, pp. 146-150, 177-180.
- [12] D. Kobrenski, *Djoliba Crossing: Journeys into West African Music and Culture*, New Hampshire: Artemisia Books, 2011, pp. 52-55.
- [13] R. Knight, “Mandinka drumming,” *African Arts*, vol. 7, no. 4, Summer, 1974, pp. 24-35.