NEW REALITY IN MATERIAL SELECTION FOR YORÙBÁ TRADITIONAL DRUM MAKING

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Abstract

The paper recognised that the traditional Yorùbá drum instrumental technology process relies on precise material selection, that is, specific tone wood and animal skin as well as strict construction practices. Contrarily, the modern method for making musical instruments from new alternative materials like steel and plywood is gaining traction with modern instrument makers and traditional musicians. The paper gathered data on the markers of change and continuity in the materials used to construct Yorùbá traditional drums using literary sources and ethnographic research methods. Obviously, over time, the new materials, which are readily available in the market are promoting indigenous musical instruments enhanced designs and outstanding originality. The paper concludes by envisioning a synergistic collaboration of ideas among musicologists, musical instrument technologists, acousticians, and material scientists. This will spark discussions about a new strategy for African instrument technology development and stimulate trials using easily available moldable alternative materials.

Keywords: Musical instrument technology, Yorùbá drum Technology, new material selection, technological innovation

Introduction

The significant alteration and extinction of some musical instruments have begun to generate academic discussion.Vidal (2012) noted that fami-fami and the tiyako fife, are Yorùbá instruments of the 18th century known to have existed but have become extinct and could no longer be traced for documentation and possible continuity. Similarly, Faniyi, (2017; 2023) in her study on the changing characteristics of Yoruba bembe drum, evaluate the relationship between the drum and technical advancements, as they reflect the social dynamics of the urban Yoruba society. Regardless of generalizations, it is vital to assess the impact of cultural change on the technological orientation of traditional drums, particularly in the areas of material selection and acoustic concerns. Expectedly, as the number of drum producers on the market today is progressively increasing, their efforts to incorporate advances into musical instrument designs are only now gaining traction. This is because materials and construction techniques have advanced to the point that, among other things, a change in instrument form, shape, size, number of sets, and tuning system is imminent.

While the traditional status of Nigerian musical instruments cannot be compared to the steady and significant progress that musical instruments in other areas of the world are experiencing, it is worth noting, that research endeavors on musical instrument materials of first-world countries that have been in the forefront of this field of study motivated this paper. The paper, however, does not think that indigenous Nigerian technological ingenuity in material selection and instrument construction should be condemned; rather, it is intended to facilitate a more pragmatic approach to reproducing local Nigerian instruments that would reflect the continuity of Nigerian musical traditions in technological principles and performance concept and context. It is also intended to remark on the inevitable acceptance of new available materials as a current reality which bridges the gap between old and new technologies as a significant step toward innovation.

Contextualizing the issues

In contextualizing the issues raised in this paper, the paper will seek to address; the current state of the materials used to create new Yoruba drums; the contextual concerns about Yoruba drums and materials; propose the creation of a synergy through a multidisciplinary collaboration of expertise in instrument technology, acoustics, music research, performance, and

material science. Nevertheless, significant issues that should be contextualized in this discourse include continuity as a critical factor in the survival of traditional drums and other indices of change requiring engagement in this paper, such as the pursuit of new design and lightweight instruments as a matter of customer preference.

To begin with, as Vidal (2007) rightly pointed out, it is crucial to emphasize that continuity is a prominent musical attribute in traditional civilizations. Although the position in contemporary times is different when referring to the Yoruba due to the threat to the continuity of specialist traditional instrument technology. The children of traditional musicians and instrument manufacturers are less eager to carry on the family legacy. As a result, the long-standing devotion to stringent process. Thus, the long-standing adherence to strict procedure meant to gain proficiency in traditional music practices such as instrument fabrication is gradually becoming transient and evidences of this now been noticed among the Yorùbá as some instruments have gone completely extinct (Vidal,2012)[2].

Second is the quest for new designs and lightweight instruments. It is observed that preference for new materials in drums construction now make some musical instruments wear a new look having adopted new construction materials. This impact of change is a response to contemporary social and performance dynamics and have popularised the use of traditional musical instruments which now appear differently in terms of size and weight to suit performance. This is quite noticeable among itinerant musician basically on the grounds of health and aesthetics.

Third, is the proliferation of musical instrument making business. This is linked to new musical instrument makers and drummers are springing up among the younger generations who have no relationship with the lineage of traditional musicians and as such lack adequate understanding in terms of practice. In addition, it is also observed that while the new musical instrument makers are experimenting with traditional musical instruments made with modern materials and tools, the new musicians are creating and adopting innovative playing techniques and styles contrary to the conventional traditional rhythmic styles. Anchoring on the third point, the paper further affirm a strong need for a system borne out of synergy that will

enhance technical know-how that would integrate processes of indigenous and new technology in instrumental technology of Nigerian musical instruments for global acceptance.

Conceptual Framework

Significantly, the adoption of a suitable framework for the theory and practice of musical instrument construction is imperative. Based on this perspective, empirical evidences backed by observational learning and imitation behaviour takes priority in this paper, as a means towards achieving an enriching experience in the art of musical instrument making. Empirical theory is a theory of knowledge, which asserts that knowledge arises from experience. Notable philosophers commonly associated with the empiricist theory, include Aristotle, Thomas Hobbes, John Locke, George Berkeley, John Stuart Mill, Felix Guatarri, David Hume, Gilles Deleuze, and Francis Bacon to mention a few. Among other variables empirical evidence connotes the know-how, skills and expertise. It takes priority in this paper following its proposal for a synergy of core and allied disciplines such as, musical arts, engineering, and science in a first-hand experience in the experiment of materials in instrumental technology. As (Adeyeye, 2010) noted, an African instrument maker relies on his experience of indigenous technology in the art of instrument making which he acquires from his elders in the profession". The application of empirical theory to this discourse anticipates that indigenous technology process requires practical understanding of musical instruments as sound objects made from different materials among others such as logs, animal horn, earthenware, gourd, bamboo. This theory would, to a significant extent, expose both the instrument technologist and the material scientist to the material selection aspect in instrument technology. The goal is to learn how traditional instrument builders employ available materials resources and technically modify them to generate the required acoustic sound associated with such instruments. In addition, to identify the measurement and conversion of resonant materials as a basis in the reproduction process.

In essence, there is a chain process of technical manipulation of readily available materials resources in the art of instrument creation when empirical theory is applied to instrument technology. Empirical estimating emphasizes scientific principles of real-world application based on pertinent facts,

particularly those found in experiments, in this process. In other words, imitation and observation are the driving forces behind the empirical method to learning instrument technology skills. As a result, it will emphasize even more how important it is to adopt a traditional method in the present in order to make comparisons

Traditional norms in material selection for drum making

Instrument technology has traditionally been a specialized technological phenomenon in which musical instrument making principles are not compromised and indigenous technological techniques in musical instrument manufacture are predetermined. As a result, the design, material selection, and construction of indigenous drums have not been known to be random. Evidently, the local craftsmanship of the woodcarver and instrument builder depends on the materials, abilities, and application of knowledge in the design and building of musical instruments such that accurate and desired outcomes are created. The Yoruba culture states that if a very high level of technical ability is demonstrated as expected, it is typically accepted that a woodcarver and instrument maker is professional.

Nzewi (2005:6) makes the implication that it is necessary to critically examine the acoustic principles, the know-how, and the position of indigenous instruments within a particular area. Since there was no randomness in the selection of materials, the design, and the building of indigenous instruments in Africa, the scientific study of these instruments needs analysis of important criteria ranging from their design, materials, and construction. In addition to the fact that specialized wood and animal skin have traditionally been the materials of choice for many distinct musical instruments. (Chukwu, 2011:186), observed that the design and construction of any drum type in Africa depends entirely on the geographical location of a people or culture. There is an abundance of musical instruments in Nigeria. These musical instruments are as diverse as the societies that create them. They reflect the idiosyncrasies of the culture in which they exist, particularly the people's location, language, and social behavior. For example, the Yoruba's large position in Nigeria's forest belt region, where several species of trees abound, has been a vital role in the diverse array.

Arguing this from a wider perspective, Akpabot (1998:17) observed that, the occupation of a society reflects on materials used for making instruments and the type of musical instruments and music produced. According to him, herdsmen use horns of animals to make horns while forest dwellers, surrounded by wood, produce flutes and log xylophones. Strings instrument are most prominent in savanna area and people in riverine areas, like forest dwellers producers xylophone. Akpabot, (1998) in his classification further stressed materials used for traditional musical instruments to include, -gourd, wood, clay, leather, animal skin, horse hair, bamboo, metal and reed. Articulating this fact, -he added further however that societies with a strong tradition of fine art bring this to bear in making their musical instruments but the function of the instruments remain unchanged. Reflecting on the foregoings, Nketia (1970), from the perspective of distribution of African musical instruments observed that the distribution of all these varieties is by no means uniform as some societies do not possess drums at all and others have only recently acquired them." (Nketia, 1970:9). The majority of the drums discovered in Nigeria, according to (Akpabot, 1986:19), can be classified under one of five categories: wooden drum, pot drum, calabash drum, hourglass drum, or tom-tom drum. In particular, the distinctive artistic traditions of the Yoruba people in wood carving and pottery support the existence of items that are thought to be appropriate candidates for drums, such as wood logs, animal horns, earthenware, calabashes, and clay or water pots. (See the plate below).

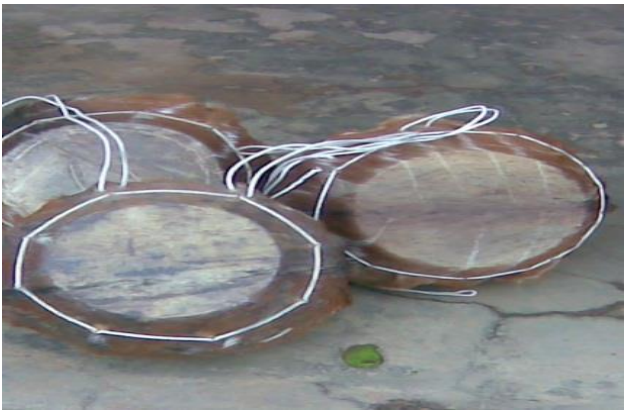


Plate 1: Ukoko drum of the Ekiti people, an example of a pot drum

Given their acoustic characteristics and the musical applications to which they are put in various cultures, it is clear from the aforementioned review of instrumental resources that the total number of musical instruments in Nigeria is quite extensive and diverse. According to (Nketia, 1970), neither the tuning nor the quality of the chosen sounds appears consistent. Even when comparing the sounds of a single musical kind, one encounters distinct sounds. These variances are frequently the result of the selection of various materials or, more specifically, of design and construction, and occasionally changes in the performance approaches that are used.

Yoruba Philosophy on Material Selection for Drum making

Essentially, the Yoruba value precision in material selection, adherence to a structured training system, hereditary membership, mandatory membership, and the recognition of myths and taboos in manufacturing of the drums (Adeyeye, 2009). When examining the phenomenon of drum production technology among the Yorùbá, Omibiyi-Obidike (1986) observed that the design, material selection, and construction of Yorùbá indigenous drums are not random. This means that Yorùbá traditional drum production technology is founded on formal traditional instruction that recognizes the relevance of acoustic principles in material selection, measurement, and design of various types of musical instruments as prescribed by cultural limits. this is so as acoustic precision, a determinant in indigenous ethnic groups' acceptance of musical instruments, is based on agreement with the tonal structure of the people's language. The Yorùbá, for example, are widely recognized for their awareness of the drum's acoustical notion in connection to tone. This is strongly represented in their customary homage to the dùndùn drum as *'òkú ewúrẹ́ tífohùn bí ènìyàn',* which translates as a dead goat still sounding like humans. This remark accurately describes the goat skin used for the membrane covering of the Yorùbá talking drums.

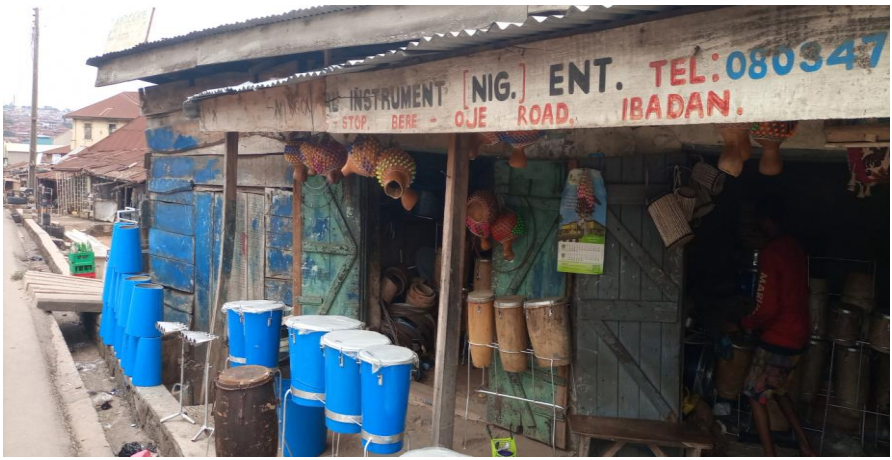
Sowande (1970) noted that among the Yoruba people of Southwest Nigeria, the "very first phase in the creation of a drum is the ceremony which placates the spirit inhabiting the tree that is to be cut down for the wood from which the drum frame will then be later carved." He added that the tree must have grown near the village and be accustomed to hearing human voices, according to the Yoruba. Until then, its wood won't "speak well" as a drum frame. However, a tree in the forest that is not accustomed to hearing

people's voices won't be suitable because its wood will be used as a “dump” for other materials.

Implications of alternate materials on Yoruba traditional drum-making industry

African traditional instruments have generally developed slowly, which has led to a protracted period of dominance for western instruments. It has been determined harmful to think that Africans have not advanced their instruments to the point where there is a substitute for animal skin, bone, wood, and other conventional materials. This has significantly contributed to the technological setback that Africa is currently experiencing because of the gradual neglect of her musical instruments in favor of those of the West. Despite the fact that music and cultural trends have changed over many generations, many indigenous musical instruments on the African continent are still unstandardized and of no significance to the rest of the world. However, there is a little exception in the case of the *bẹ̀mbẹ́* because its choice of acoustical properties, physical look, and performance has been influenced by the Western snare drum, tom-tom, and bass drum. These drums resemble the *bẹ̀mbẹ́* and have evolved to the point where the materials used are well preferred by military bands, schools, brigade bands, churches, and mosques. As a result, they are target groups that have begun to profit from the new musical instrument makers' mass production push. It is important to note that new instrument producers are currently experimenting with many sorts of musical instruments, particularly drums. Adesanya Adeyeye underscores this by pointing out that, given the competitive nature of the music market, starting a large-scale production of *bẹ̀mbẹ́* employing standardized design and coupling procedures depends on the instrument maker's financial resources and commitment.

Basically, from all indications, this paper considers that material sourcing and the improvement on traditional musical instrument requires an understanding of the sociology of the people, in relation to the role and technical details of the musical instruments. As Sòtúnsà, (2005) has observed, the prevalent contemporary practice has revealed a contrary tradition where drum making has now become a significant economic activity as traditional musical instrument makers now adopt the use of alternate materials for local drums. (See photo below)



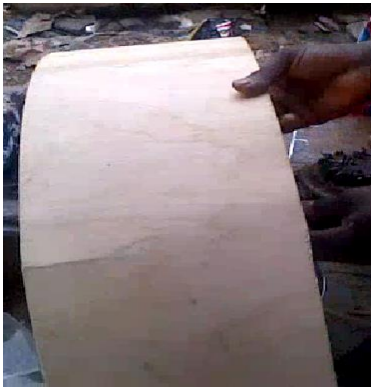
A musical instrument making workshop located in Oje Area of Ibadan notable for producing of traditional Yoruba cylindrical and conical drums with steel material.

Indeed, evidences of new versions of indigenous Yoruba master drums have shown that emerging wood carvers and instrument makers only needed to examine closely the design of older versions of drums to make their replications in improved versions. According to Mr. Sunday Àyánretí, a wood carver and drum maker in Ìlòrá noted that the drums in recent times are made by relying absolutely on intuitive creative skills to meet preferred performance standards. It is therefore apt to clamour for a concerted efforts which will give distinct recognition to the roles of the stakeholders. For example, the role of traditional Yoruba musical instrument makers in the sustenance of continuity of traditional Yoruba drum technology techniques such as the making, maintenance and repairs of drums is paramount in order to perpetuate the cultural parameters. In line with this understanding, the prerogative of stakeholders regarding the future of traditional instrument is clear. The music scholar should engage traditional instrument maker in an attempt to preserve written records of traditional musical instrument technology processes for use as references, especially because many senior practitioners have died without leaving behind any documentation. By this, African traditional musicians who work professionally would no longer be unaware of the habit of documenting their inventive arts. This assumption

would have far-reaching effects, especially on the modern method of traditional Yoruba drum manufacture.

Although, evidences have shown that the conservatism of traditional musicians and instrument makers have contributed greatly to the insufficient record of the technology of traditional musical instruments in Nigeria. One could argue that conservatism is generally associated with instrument makers, but in Europe and other parts of the world, written records of the art of musical instrument making and the products of musical instrument makers, many of whom had lasted for several centuries, existed, transcending their particular time and place. Among them are Johann Haas (1649–1723), a trumpet builder in Nürnberg (now Germany), and Andrea Amati (16th century), a violin maker from Cremona, Italy. Material scientists prioritize existing and new materials physical and chemical properties of existing and new materials while deciding on stronger, lighter-resistant materials for drum construction. Other narratives on the differences in the construction environment and the processes utilized to determine outcomes are part of the concerns of music scholars in an attempt to obtain ethnographic data.

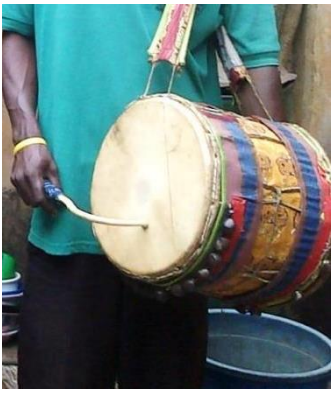
Drum shells and animal skin for drum heads are gradually being replaced in Nigeria, particularly in the southwest, by plywood, steel, and other low-quality woods, as well as velum, a synthetic fiber for dumheads. (See Plate below.)

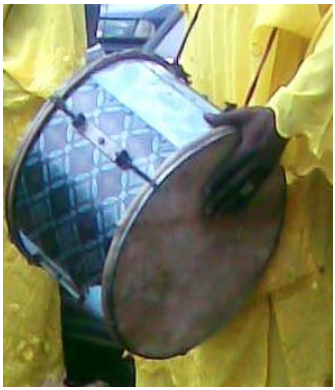


A wooden shell carved from omo tree log **A Sheet of Plywood**

The hybrid instrument, which emerges from combining new readily available alternate materials and existing material resources, has gained wide acceptance in the musical performance arena and improved commercial value. For instance, while affirming the factors which necessitated innovative design of the *bẹ̀mbẹ́*, a double-headed cylindrical drum from the membranophonic musical instrument family, oral data according to Alhaji Adigun, a *bẹ̀mbẹ́* drummer in Ibadan explains that, the idea of refining the *bẹ̀mbẹ́* began in Ibadan in the late 1980s and early 1990s when *bẹ̀mbẹ́* drummers prefer to have the *bẹ̀mbẹ́* drum appear refined because its crude nature as well as the heavy weight of the shell was no longer pleasing to them. As a result, plywood was adopted as a construction material in place of hard wood. Alhaji Adigun recalled that *bẹ̀mbẹ́* musicians of the time period under review believed that the old form of the *bẹ̀mbẹ́* had a lot of weight and that, due to the itinerant nature of their performances, they frequently felt intense pain that was typically followed by body massage. This is so as the components of the traditional bẹ̀mbẹ́ drum which include is a dense wooden cylindrical frame and animal membrane (awo) with different measurements for different parts of the drum, such as the drumhead, tension, and snare. The skin, shell, loop made of cane and rag, and leather strings for looping the two drum heads for tuning are the fundamental materials for the bẹ̀mbẹ́ drum, while the inventive modern bẹ̀mbẹ́ components include plywood and animal skin (awo). To improve on

the traditional bẹ̀mbẹ́, the instrument maker identified the plywood as ideal. Plywood is a versatile material, which is easily molded into a cylindrical shape. (See photo below).





Traditional dense wooden frame and modern lightweight plywood frame *bẹ̀mbẹ́* drum

The primary outcome of this paper is that, in the modern world, economic development and material choice are intertwined in the production of musical instruments. Involving stakeholders such as music scholars, acousticians, material scientists, musicians, and musical instrument technologists in the experimental discourse on readily available and moldable materials for more robust participation in the production of alternative traditional Yoruba drums, as a way to boost the drum's market capacity, is thus a step in the right direction. Involving stakeholders such as music scholars, acousticians, material scientists, musicians, and musical instrument technologists in the experimental discourse on readily available and moldable materials for more robust participation in the production of alternative traditional Yoruba drums, as a way to boost the drum's market capacity, is thus a step in the right direction. It is worth noting that the current indiscriminate influx of persons entering the drum-making sector has become a fact. Describing the trend Ayanlola Omolade, an instrument maker observed that the activities of drummers and marketers now demonstrate their extensive knowledge of the musical instrument manufacturing enterprise, including procurement of materials, drum making and sales.

Conclusion

The research conclude despite the resilience of traditional drums for many years due to their aesthetic, practical, and cultural significances in the various cultural landscapes. It did note, however, that traditional folk materials are among the topics that continue to fascinate African research scholars, particularly those whose work examines and documents drum traditions as well as their technological innovation and performance practice. It also noted that because change has increasingly become the bane of indigenous technological tradition in modern times. From these scholarly initiatives the paper suggests a synergistic combination of musicologists, music technologists, material scientists and acousticians to consider deliberate creation of a systematic method that will deepen and enrich the world's understanding of African musical instrument technology's distinctiveness and development.

Recommendations

Clearly, the gradual acceptance of newer resources and technologies, associated with traditional musical instrument technology, particularly the drums, confirms the significant influence of western cultural values despite established resilient factors associated with Africa indigenous traditions. As a result, the paper suggests that new materials and ideas be subjected to rigorous scientific assessment to ensure that the position on indigenous instrumental technology is not completely lost. It is also advised that updated instruments meet both the recognized performance standards linked with the Yorùbá and the mandates of current technology. Experimentation and understanding of new materials for drum making is thus advocated for music researchers in collaboration with acousticians, instrument technologists, material scientists/analyst engineers and other associated fields.

In view of the foregoing, and as a far-reaching approach to better improve the construction of Yoruba drums in terms of aesthetics, performance quality and market value. The paper aligns with the already existing mass production initiative of the drum makers and seeks for more academic patronage on their activities. The paper recommends that in order to mass produce the traditional Yoruba drums, skilled artisans would be needed, along with the availability of all necessary modern materials and tools and a conducive

construction workshop, where internal dimension measurements and outline drawings could be interpreted and drum parts could be coupled without difficulty. The much-needed standardization and mass production that academics have clamoured for will be sparked by experimental attempts in which locally obtained materials become relevant as they are now available instrument makers.

References

Adeyeye, A. (1999). Technology of sekere among the Yorùbá. An unpublished Thesis. Institute of African Studies, University of Ibadan.

Akpabot, S. E. (1986). *Foundations of Nigerian Traditional Music*. Ibadan. Spectrum Book Ltd.

_____ (1998). *Forms, Function and Style in African Music*. Lagos/Ibadan. Macmillan Nigerian Publishers Ltd.

Blacking, J. (1995). *Music, Culture and Experience: Selected papers of John Blacking.* Edited by Reginald Bryon. Chicago: University of Chicago Press.

Euba. A. (1990). *Yorùbá Drumming: The Dùndún Tradition*. Altendorf: D Grabner.

Faniyi, K.O. (2012). Form and transformation process in bẹ̀mbẹ́ drum construction among the Yorùbá. *JANIM: Journal of Association of Nigeria Musicologists.* 1. 263-271.

_____ (2017). Dynamics of instrumental technology and performance of *bẹ̀mbẹ́* music in Ibadan, Southwestern Nigeria. An unpublished Thesis. Institute of African Studies, University of Ibadan.

Fletcher, N. (1999). Research school of physical sciences and engineering, Australia National University, *Canberra* 0200. 27 (1). (Assessed on July 31, 2015).

Laoye, I. (1959). Yorùbá drums. *Odu*. VII. 10-11.

Nzewi, M. (2005). African musical arts creativity and performance: the science of the Sound. *Nigerian Music Review*. 6. 1-7.

Okafor, R. C. (2005). *Music in Nigerian Society*. Enugu: New Generation Books.

Omibiyi, M.A. (1986). Musical instruments as art objects. In *The Nigeria Field*, No. 51.

Omojola, B. (1983). Kiriboto music in Ọ̀yọ́ town. An unpublished M.A. thesis, Institute of African Studies, University of Ibadan.

_____ (2012). *Yorùbá Music in the Twentieth Century. Identity, Agency and Performance Practice*. University of University Press.

Onyekwelu, J. (2011). Contemporary technological principles and applications in the construction of *oja* (Igbo Wooden Flute). *JANIM: Journal of the Association of Nigerian Musicologists*. 5. 118-129.

Samuel, K.M. (2009). The art of female dùndún drumming in Southwestern Nigeria. An unpublished Thesis. Institute of African Studies. University of Ibadan.

Sotunsa, M.E. (2009). *Yorùbá Drum Poetry.* London: Stillwaters studio.

Sowande, F. (I970). The role of music in traditional African society. *African music*. Paris: UNESCO.

Vidal, O. (2012). *Essays on Yorùbá Musicology*. (Ed.), 'F. Adedeji. Ile-Ife: Obafemi Awolowo University Press.