INDIGENOUS KNOWLEDGE OF NIGERIA FOLK MUSIC
AND THE TECHNOLOGY OF VALENG MUSICAL
INSTRUMENT: THE NEXUS

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Abstract
The Nigerian musical scene is one endowed with profound indigenous knowledge that is rich in style, diverse in presentation and coloured in instrumental resource. To this end, numerous ethnic groups found in Nigeria present an inexhaustible edifying musical culture that is both functional in content and elegant in outlook, it is in the light of this that this paper discusses the intricate technological skill enshrined in the construction of valeng; a reed musical instrument of the Mwaghavul people of Plateau State, Nigeria. The paper presents a step by step procedure in the construction and performance of the instrument, an exercise that unveiled one of Nigeria’s society endowed with creative skills of indigenous technology.

Indigenous knowledge may appear to be a term synonymous with the third world and developing nations harnessing the technological attributes found in their domains and using same to enhance their developmental processes. Every nation of the world has cultural practices indigenous to it be it Western, oriental or African, developed, developing or underdeveloped, from which it draws materials necessary for its survival. The ability to recognize and utilize these resources is what is termed indigenous knowledge.

Currently, the term indigenous knowledge plays a lot of role in academic discourse as a result of the need of society to go local and discover things around them that can help improve their lives. Indigenous knowledge encourages the harnessing and utilization of every material around one’s environment as capable of sustaining numerous needs without much dependence on external source. According to Olisaek (2011), knowledge based on cultural practices of a local community can be used in solving certain problems of that community and beyond (p.308). Continuing in that vein, he states that:

*Indigenous knowledge is therefore a knowledge an indigenous or local community cumulates over a period of time or generation of living in a particular environment which she uses in solving her problems. This knowledge includes beliefs that enable that community achieve stable livelihood in their environment (pp 308-310).*
Indigenous knowledge practices have been in existence over the years in every society and nation of the world. It is usually transmitted orally and by apprenticeship from generation to generation and has been a major knowledge system that has been sustaining values of the practicing communities.

Over the years, indigenous knowledge has guided indigenous people on how to sustainably utilize their natural resources using a variety of innovations to deal with environmental conservation and natural disaster management. The main strength of traditional practice for sustainable development is that they are evolved in close contact with specific cultural and environmental conditions and moreover certain traditional techniques and technology have proved to be sustainable in the sense that they have given good results over a long period.

Indigenous knowledge practices are found in every aspect of the life of every community the world over including health, environmental management, music, agriculture, technology, arts and science, ethics, mannerism and moral values etc. the revelation of the importance and usefulness of indigenous knowledge came when scholars and researchers felt that there is much to learn from traditional system which way of life were very effective in maintaining and sustaining the indigenous institution prior to the scientific and technological invasion of humanity. Canvassing a voice for indigenous knowledge of folk music in line with the discourse above, Fayemi (1997) states that; however, fantastic a music, they have to be familiar and the majority of the audience has to be able to identify with the text on the basis of his own personal experiences or that of someone they know (pp, 123 – 130).

Traditional folk music in Nigeria particularly in line with the thought of indigenous knowledge derives its materials from indigenous sources that reflect the norms, values and beliefs of that community which permits the non professional community at large to participate in the performance of it. Its practice is therefore structured around communal domain that are meant to contribute to the survival of the society. The oral tradition which traditional folk music consists of is a system that draws on a body of experiences that regulate the living pattern of the traditional society. As Nzewi (1985) puts it: no society or system that overlooks its inherent values, norms, tradition or technology has identified in the committee of nations.

Indigenous knowledge is part of cultural expression when one sees cultural definition as the integrated pattern of human knowledge, belief and behaviour that depends upon man’s capacity for learning and transmitting knowledge to succeeding generations. The scope of culture extends to customary beliefs, social norms and materials, religion and social growth. Barhards (2005), while commenting on the relevance of indigenous knowledge of oral tradition said that of modern society has come to realize and recognize that core values, beliefs and practices associated with
indigenous knowledge have survived because they are valid and have adaptive integrity that is for today’s generation as it was for generations past (p.7).

The practice of folk music in most Nigerian societies today is related to historical records, economic dynamism, technological and socio-cultural transformation that has taken place over a long period. Since the African man perceives art as a means of expression and not a mentally conceived dogma, traditional folk music therefore offers him a platform to perform these artistry and technological attribute required as a result of long years of usage. Folk music in Nigeria therefore reflects the activities of the people such as skill, technology and products, wise sayings, dance, music and other forms of arts that are popular, common, familiar or associated with them.

**Traditional Musical Instruments as Part of The Folk Music Practice and Technology**

Musical instruments that are found in Africa represent the most complex development of the technology of that culture. Musical instruments in Africa and in Nigeria in particular touch on the technical skills and thought of every ethnic group. As a matter of fact, there is a great deal of music for solo instruments and there are instrumental ensemble groups consisting of related instruments or several instruments of the same type. Musical instruments found in Nigerian traditional environment and institutions are constructed based on the resources or materials available in their domain. The maker must have knowledge of the materials to be used and the instrument must be able to serve musical and non-musical purposes. It must be shaped and decorated in accordance with the traditional patterns that are acceptable by members of that community. This informs the assertion of Adesokan (1998) when he explains that the distribution, construction, turning and playing technique of musical instruments in Africa are largely influenced by the natural resources as well as historical factors. The place of creative endowment or indigenous technology and skill common to a group account also for their instrumental resource.

**Folk Music Practice and Instrumental Technology: The Nexus**

Nketa (1979) actually advocates that for the study of a musical culture to be complete and meaningful, it must include the study of the musical instruments incorporated in its performance. He suggested three approaches to the study of traditional musical instruments which include (1) historical perspective which will be in terms of origin, (2) social use and function as well as the belief value associated with them, (3) musical instruments which can also be studied as a material object in terms of their technology, design and craftsmanship, material construction and musical function. This paper is therefore designed to address the material object of a chosen musical instrument with the aim to focus on the technology, design, craftsmanship and material construction of ‘Valeng’ a read musical instrument of the Aerophone family. The purpose is to discuss and bring to light the indigenous knowledge of the oral tradition manifested in the indigenous technology of the Mwaghavul people of Plateau State of Nigeria, revealed in the construction of the ‘Valeng’.
As can be observed, African indigenous technology does not exist in vacuum nor does it amount to some half-hazard idea of artefacts. But there exist certain structural elements that exist in the design, assemblage and construction, of their musical instruments. As Idolor (2002), states:

Structurally, the cultural elements of an instruments and how the tones within the music instruments are manipulated. The compositional techniques such as statement of theme and their development, with sequences, repetition, tonal shifts, dynamic shading, and e.t.c. are all considered in the constructions of the instrument.

Where is the African Technology in Construction of ‘Valeng’

The real application of indigenous knowledge plays significant role in shaping the musical thoughts of contemporary music technologist of the oral tradition. This is because Akinseinde (2000) actually graded technology into low level and high level technology. In other words the further the advances of technology, the wider the knowledge to be acquired and invariably the latitude of inventions that follow. If we agree that technology is the study of science applied to practical or the technical skill and achievements of a particular time in history, then lessons can be learnt from the oral technology effected in ‘valeng’ construction. This study is therefore designed to highlight the basic procedure applied in the construction of the ‘valeng’ musical instrument of the Mwaghavul people of Plateau state, Nigeria. The aim is to apply and subject the procedures to the technological requirement found in the term of definitional outline given to technology and science. The motive being to assess whether the design and construction procedure of ‘valeng’ applied itself to any of the technological standard or not and proffer areas of improvement if need be.

For the record, instrumental resource studies indicate a classification of the available instruments in use, their Orgonology, iconography, repairs and renovation, mass production, tuning system, internationalization etc (Adeleke 2000). And in advanced technology, the interest of technologist is to focus on the acoustic, sound equipment, music tradition, instrumental computer music and the world of technology at large and how it relates to music. All these came about as a result of societal quest of some sort to modernise or improve upon orthodox method of production in any field of study, in order to achieve a better production, through the use of electronic means, modern scientific discovering and computer operation. It therefore, implies that a foundation has already been laid somewhere in the past for these modern technical approaches to succeed. The whole essence of science is discovery. That is to discover something that was covered before either by age, ignorance, negligence or by limitation of some sort. The indigenous knowledge of technology therefore provides the take off point for most technological advancement being experienced today.
Subjecting the Construction of Valeng to Technological Definitions

According to Arnulf Grubler in Theo Herbst and Andrew Tracey (2005), technology implies systematic treatment of a subject, it means the science and systematic treatment of practical arts which is the systematic means to a particular end that employs both technical artefacts and social information (know-how).

Accordingly, technology refers specifically to manufactured objects that both enhance humans to perform task they could not perform. Technology results into production of an object or instrument that will enable or enhance the ability of the society to the performance of task ordinarily he would have been limited. Production is dependent on a process of invention, design and manufacture. Africa boasts of a range of indigenous analogue technology systems that include those of music instrument construction and maintenance. A musical instrument that has been personally constructed maintains an intimate relation with its maker. Construction of an instrument demands first-hand knowledge of the musical culture within which the instrument has come to existence and will have to function.

Moreover, Theo Herbst and Andrew Tracey (2005), assert that materials available for instrument making in pre-colonial Africa were many but all fell in the category of natural products that could be found within reasonable distance of the maker’s home. For example, wood chosen with care and empirical knowledge for the particular quality required is of course the primary material of most instruments whether for resonance as in xylophone key, transmission of sound for amplification, strength or size.

Instrument makers possess a refined insight into which material for instance is suitable for which instrument type, and which are not, for example, gourds and calabashes serve widely as resonators on bow and xylophones as the body of instruments such as rattles and fiddles and for blown instruments. Bamboo and cane are used in the construction of flutes and reed pipes, antelope horns and tusks in the case of horns. It is on this basis that the procedural steps of constructing ‘valeng’ a reed musical instrument is presented below:

Construction Procedure of Valeng

The application of technology in the construction of ‘valeng’ is most appropriate when one considers the intricate procedure that is employed to arrive at accurate and satisfactory level of standard set as bench mark by the community, the owner of the art.

Procedure

As observed earlier, ‘valeng’ derived its natural materials from the matured guinea corn stork ready for harvest. Valeng is also a product of religious rite expressed around social festival perceived around the guinea corn.
Gathering of Materials and Tools
The material used for the construction of valeng is a fully grown and matured guinea corn stock ready for harvest. If the corn-stock is very dry, it would be soaked in water. This is to avoid cracking or breaking when cutting it to the required size before construction starts.

Tools Used
i. Knife (chuk)
ii. Hack saw
iii. Stick (kam ugung)
iv. Rope (teng) or rubber band

Step I: Drawing Procedure
In any work of this nature, it is important to sketch out the outline. It is the sketch that the maker will religiously follow as the pattern for construction.

Step II: Cutting the Guinea Corn Stock to Required Length
The dried wet corn stock is cut to sizes as required by the maker. The valeng is played using hocket technique. This requires that valeng instrument varies in sizes. There are 20 inches valeng called No 1, the 22 inches valeng called No 2, the 27 inches valeng called No 3, the 29 inches valeng called No 4 and the 33 inches valeng called No 5, the length determines the pitch.

Fig 1a. Diagram of various sizes of valeng

Step III: Creating a hole
A stick called ‘kam ngung’ which comes in various sizes is used to bore hole in the middle of the corn stock that has been cut to size. Various sizes of the ‘kam ngung’ are used to bore the hole until a clean hole is obtained inside the guinea corn stock. Care must be taken when applying the ‘kam ngung’ so as to avoid breaking the corn stock.
Step IV: Making the Mouth Piece

The length of guinea corn stock needed for the construction of the mouth piece is 20 centimetres. The construction of the mouth piece is usually situated by the notched portion of the corn stock as seen in the diagram. The notched portion is marked out from the right side of the corn stock running 20 centimetre long to the left hand side.

Step V: The Reed

The reed forms part of the mouth piece. After the length of the mouth piece is cut off from the notched portion of the corn stock, the reed which is also made from the bark of the corn stock is inserted into the notched portion of the mouth piece. The reed is made from the bark of the corn stock having been smoothened into shape and size using a knife.
Step VI: Assemblage of the Instrument

The mouth piece containing the reed is then pushed slightly into the main body of the corn stock already cut into various sizes of 20 inches, 22 inches, 27 inches, 29 inches and 33 inches. Care must be taken to avoid breaking the corn stock, hence it is advised to soak the corn stock in water. When the mouth piece is successfully inserted into the main body of the corn stock, it is then covered with rag or rubber stripes by rapping the rag or rubber stripes gently but tightly beginning from the mouth piece end to the other end of the instrument.

Playing Techniques

The valeng is a single reed instrument of the Aeroplane family. Conversely, air is blown into the instrument via the mouth piece. As the air rushes through the hollow column of the instrument, the reed is set to vibration which produces a nasal sound like that of the oboe. The valeng has no finger hole. The player stops the air blown into it by
covering the end of the instrument with his left palm. The sound can be varied by sulking in air from the instrument and by partial opening of the instrument at the end with the left hand, a process known as cupping. The sound can also be varied by using the right hand thumb to press the nupture. This techniques help moderate or regulate the vibration of the reed thus producing various pitches. The valeng is a beautiful instrument that can be appreciated when performed by a skilful player. The five sets of the valeng form an ensemble. The performance of veleng is done in hocket techniques. That is one set depends on the other for a meaningful melody to be attained. The hocket technique is presented in rhythmic and melodies texture depending on the context of rendition.

**Derivation**

Successful technological advances and products are results of man is ingenuity and creative endowment. Consequently, both art and technology are seen as gift or talent that God gave men in order to advance the course of man and to better his living standard. These gifts or talents are then documented by men who are privileged with these ‘talents’ and ‘gifts’ for the enlightenment of others. As observed in this study, there were sequential order or procedure laid down which must be followed when constructing the valeng, and any violation of the procedure could result to faulty outcome at the end of the construction which is in line with the standard and procedural principles of science and technology where Grubler in Theo Herbst and Andrew Tracey state that ‘technology’ as a Greek word is the science and systematic application of practical arts.

The construction of valeng also conforms with the definition of technology given by the Oxford Advanced Learners Dictionary as the application of science to a practical task in industry or the technical skill and achievement of a particular time in history. This is because the procedural sequence of constructing the valeng instrument conforms with the systematic treatment of practical art and the ‘valeng’ musical instrument is recorded as a display of a technical skill and achievement of the Mwaghavul people in history. The only limitation of this indigenous technology is that first, its invention cannot be traced to any person in particular but taken as a communal property which is one of the characteristics of the oral tradition.

Moreover, the technology lacks basic documentation of its invention, until this study revealed this all important product as one that has followed all procedural sequence and standard of defining technology. This is one of the weaknesses of the oral tradition that submits itself to oral transmission of its values, knowledge and skills. By this study some of these lapses are being addressed.

Finally, the means of mass production is not available because the community in question has not been able to project this technology beyond its domain. But be that as it may, it is hoped that the current trend in contemporary society that is emphasizing
the revival of indigenous knowledge and practice around the globe, will in no time bring out the technology of the construction of ‘valeng’ to international arena

Conclusion

Drawing from the discourse of this study one can now appreciate the validation of Liman (2005), on African indigenous knowledge and technology when he states that:

*The level of materials production and technological advancement in any social formation has direct bearing on cultural and spiritual progress. The totality of cultural process is however materially determined. In specific terms, non material culture including spiritual development is inevitably decided by conditions of production and materials progress of that cultural environment.*

Echoing a similar view Adedeji (2011), states that:

*Looking into the indigenous knowledge of African music itself, one immediately finds it’s apodictic features of oralness, repetition, improvisation, extemporization, spontaneity, creation and re-creation, percussiveness, sacredness, boisterousness, integration, with other arts, audience participation and its unlimited world of sounds.*

That is to say that African musical practice cannot be discussed exclusively outside its instrumental resources. This is because African musical practice is made complete by its instrumental resources and application.

Suggestions

In the light of the above the paper suggests the revival of African indigenous knowledge and technology as part of the curriculum package of tertiary institutions in Nigeria, while preservation method and archive should be developed and adopted to protect the decay and extinction of African indigenous knowledge and technology.

Moreover, African technologists should redirect their focus and efforts in packaging, documenting, updating and improving on local technologies around them and those domiciled within their environment for posterity. Finally, the paper suggests that government should promote cultural heritage and museum for indigenous technology to attract scientists and technologists. This probably will place our local technologies into instructional light thereby attracting platform for mass production of the local artefact part of which will reveal the indigenous knowledge of our oral technology to the larger society.
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References


