



The Kundung (Xylophone) of The Berom People and The Classification of Indigenous African Musical Instruments

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ABSTRACT

African colonialism severely stunted the advancement of Afro-indigenous science, technology, politics, and economics, deeming it antiquated and giving colonial culture priority. The colonial overlords severely scorned and rejected Africa's ancient traditions in favour of their civilization. African arts and culture have also been marginalized, especially in the area of music technology, as most African melodic and harmonic musical instruments are viewed as incapacitated instruments that can be used for contemporary music accompaniment. The Berom tribe in Plateau State is familiar with the native xylophone known as Kundung(Xylophone) which has the limitation of playing five-note and its harmony is mostly in parallels. The musical instrument (Kundung) has frequently had important roles in entertainment, social and spiritual gatherings. In terms of its use, preservation, construction, and identity as a priceless cultural monument, there are rising fears that the Kundung is quickly losing its pride of place in most Berom communities. Thus, the building of the Kundung using indigenous materials, technology, and abilities is the main topic of this article. It also discusses how the instrument may be considered one of the most cutting-edge techno-musical instruments from Africa while still maintaining its originality. Techniques, phases and procedures, materials, and tools used in the instrument's construction are all taken into consideration. Therefore, the connectivity between the components of the Kundung and how they function is established using a combination of scientific, historical, and descriptive study methodologies. As a result, the methods used by the locals to produce the instrument's scale and syrupy sound prove clever. The researcher realist that the musical instrument is turned by the maker based on assumption as the music but yet maintains the same intervallic measurement that to show one ability is memorizing a particular key. Also, the instrument is strictly constructed from the materials found in that environment as well as uses waste material from cows such as the horn which served as resonators to the musical instrument.

Keywords: *Kundung, xylophone, Technology, Colonialism, decolonization.*

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INTRODUCTION

Africa as a nation, through its information ministries and national development agencies, has been making efforts toward the rebranding initiative with the single purpose of actively attempting to create a distinctive and competitive identity for its nation as well as positioning the country both domestically and abroad as a favourable location for trade, tourism, and investment. The African nation has been promoting nationalism among its populace and urging them to view their country favourably despite the numerous defeats that have caused many Africans to lose all trust in it. Due to Africa's failed leadership system, the continent is working to foster positive nationalism, which will consciously awaken the mindset that people in a nation, especially Africans, have when they care about their identity and the actions that people in a nation take when trying to achieve or sustain self-determination[1]. Thus, the entire concept is to persuade Africans to value home production equal to that of imported items. It is undeniably true that the development of ideas with African roots has the potential to contribute to the decolonization of the African intellectual landscape. This will call for the adherence to and advancement of afro-indigenous technology, thereby portraying that the originality, flexibility, and adaptability of African creativity can be found in its music. Africans used to unwind at home by singing or playing musical instruments in the past after a long day of farming and hunting. In order to build a melodic, harmonic, or rhythmic musical instrument, one must have a high level of mental coordination. In every society, the materials they discover in their environment are used to creatively construct the instruments they use to perform the music. It goes without saying that each musical instrument's construction calls for a variety of inventive and creative methods in order to produce the desired tone and timbre. Africa is blessed with a variety of musical traditions and instruments, each of which has its own special qualities, purposes, textures, and tones. The indigenous creative achievement of sound created locally by native technology in local instruments is a phenomenon that merits academic consideration but is not given the attention it needs since it is labeled as ancient[2]. Nzewi [3] laments that:

It is well known that global knowledge ideologies and dissemination agenda contrive and designate Africa as ignorant or underprivileged, consumer-Other. Modern Africa also often presents itself as the ignorant consumer, whereas traditional Africa is a bastion of intellectual civilization unequally underpinned by human consciousness that the world would benefit much to reckon with (p.2).

The aforementioned comment on African creativity should not be used as a yardstick because not all local inventions, whether in the fields of the arts, sciences, or technology—with an emphasis on the manufacture of musical instruments in African societies—are amateurish and of low quality, as Western scholars have mistakenly tended to suggest. Africa may include the earliest technical records in the whole globe, including the oldest stone tools ever made by humans and the tools made by the African ancestors[4]. One of the first elements of African performance art and culture that has endured several foreign influences is music, even if it has undergone acculturation, enculturation, fusions, and other types of alterations. New musical forms and genres have emerged as a result of these western musical trends being assimilated into African traditional musical practices. This has also led to a shift in how people in Africa and around the world view musical production, appreciation, and even the making of musical instruments.

The Berom People of Nigeria's Plateau State are the subject of the research where the instrument (Kundung) was discovered. The Berom (also written Birom at times) is the biggest indigenous ethnic group in Plateau State, Nigeria. Majorly of which reside in about four local government areas of the State— namely, Jos North, Jos South, BarkinLadi (Gwol), and Riyom—all contain Berom and some handful of them in some local government areas of Plateau State such as Jos –east, Bassa, Bokkos, Mangu local government areas all in Plateau State Nigeria, and a number of them in Sanga Local government area of Kaduna State. The Berom people speak the Berom language, which is a member of the diverse Niger-Congo language family (Berom People, n.d).

The Berom people have different kinds of musical instruments that are environmentally bound, the musical instruments are in different classes with each playing a significant role and classified accordingly. A good number of African music scholars have devoted time and resources to studying and improving the technology of music. They include Sam. Kenneth Iheanyi Chukwu, Kwabena Nketia, Wilberforce Echezona, J.N Lo-bamijoko, and Mosunmola Omibiyi Sam Akpabot, Richard Okafor, MekiNzewi, T. C. Nwachukwu, Festus Olisaeke, Tobi Kemeweringha, etc. These scholars have made remarkable progress in re-classifying African musical instruments that may have been previously arbitrary and incorrectly classified by Western anthropologists and musicologists, resulting in the conventional four groupings and classification of African instruments by Curt Sachs and Erich von Hornbostel in MIMO [5], which can be summarized as follows:

- I. **Membranophones** (Drums): Cylindrical, semi-cylindrical, barrel, hourglass, pressure, goblet, kettle, clay-pot, Djembe
- II. **Chordophones** (Stringed instruments): Harps (koras), musical bows, fiddles, lyres, zithers, lutes
- III. **Aerophones** (Wind instruments): Flutes: bamboo, millet reed, animal horn tips, gourds trumpets: wood, gourd, metal tubes pipes; single, double reed, panpipes, horns: tusks and animal horns
- IV. **Idiophones** (Resonant solids): Mbira, xylophone, and lamellophone rattles and shaker: gourds, woven, wooden, stick, bells: ankle, cluster, double, single, pod, tubular, clappers.

The above classification of African musical instruments is a good step, but it does not perfectly represent the true African musical instrument classification because it was not done by Africans themselves, leaving out some important significance attached by Africans when classifying their musical instruments. Musical instruments are more than just a piece of material to Africans; they also have spiritual significance. The research seeks to view the minds of some African scholars that have made a remarkable attempt at the classification of their instruments that forms the true state of how African musical instruments should be grouped. Also, the goal of the study is to revive the ancient technological progress of African forebears' expertise in the area of making musical instruments that are fun to play. The study's findings are supported by earlier investigations and data that were essential since modern culture has not utilized traditional musical instruments like the Kundung as expected. The Retrieval Research Strategy (RRS) is built on the results of the research [6].

Background Information about the Kundung Xylophone

Africans embraced the Xylophone as a result of its royal significance since it had been created and was well-known in Southeast Asia by the 14th century. When keys are placed over the entryway to fend off evil, it is occasionally utilized for magic. Due to its audibility, the xylophone is employed in ensemble performances. The African slaves who supported its existence in other areas of the world, particularly Latin America, gave it the name marimba. In the year 1500, the xylophone reached Europe. Later, in the 19th century, it reached Poland and Russia[7].

The xylophone was given the name Kundung by the Berom people of North-central Nigeria. The name comes from the sound made when two xylophone slabs are played in minor thirds. Similar to how the Igbo people of Nigeria called

certain of their instruments based on their dexterity in playing the song, the names of the majority of Berom musical instruments imitate the sound that they generate. For example, the xylophone is referred to as 'the talkative' by Ekwurekwu and Chukwu [8]. As Blench [9] explains, the instrument is a product of acculturation.

The Beromkúndun̄ was introduced in the 1930s by migrant Bagirmi people from Chad, spreading outwards from Gyel and Du. It has 10-20 wooden keys resonated with cow horns and is supported around the player's neck with a large fiber loop...It can sometimes be played by two players and is usually seen in beer-drinking parlours (p.4).

The cultural tie that existed between the Berom people and the Chadian miners at a time of musical resemblance made adoption of the musical instrument acceptable in Berom Land. In actuality, Chadians who moved to Jos, Nigeria for tin mining after WWII imported the musical instrument (Kundung), but it was not structured the way it is now since the structure design has undergone major development and change. The calabash and stamping tubes that were initially used as the Xylophone's resonators by the Chadians who brought it to Berom Land were not particularly environmentally friendly, likely as a result of the cold, humid weather and the ease with which it could be broken when it fell. Kundung was seen in the beer-drinking establishment; when it is played, its melodic sound draws customers and accelerates the sales of the brew; as a result, there are often fights when people get drunk, which makes the instrument a target and the calabash resonators are easily broken. The absence of the musical instrument after it has been broken lowers sales of the product while also making the players of the instrument unemployed. Cowhorns, which are more robust than stamping tubes and are resistant to the elements, were developed into the horn resonator by Dalyop Zongo in 1955 to effectively handle the problem.



Figure (Fig) 1. The first Kundung Xylophone, Constructed in Berom Land (constructed by Rev. Dalyop Zongo in 1955)

Dalyop Zongo was the first Berom man to have improved the construction and outlook of the instrument by using animal horns instead of the calabash and stamping tubes earlier used by the Chadians. Zongo's initiative did not only proffer a solution but also improved the timbre of the xylophone, which gave the Berom Kundung a timbre that became more melodious and audible than the Chadian xylophone and the western xylophone [10]. Nketia [11] identified three major types of xylophones found in Africa, with the exclusion of the Horn xylophone because it was not as common as the other xylophones. As mentioned, with the introduction of the Kundung Xylophone, it can be said that Africans have four (4) types of xylophone. These xylophones include:

- i. Pit or Box Xylophone
- ii. The Key laid on Banana Xylophone
- iii. Gourd resonator Xylophone and the Horn (*Kundung*) Xylophone

The people from the North-Eastern region of Nigeria, especially Adamawa, Taraba, and Borno, Maiduguri, have xylophones as their traditional instruments too, but the slaps are not sequentially arranged to cover as many octaves as the Berom Kundung.



Fig. 2.Xylophone from Adamawa Nigeria

Kundung (Xylophone) of the Berom people of Nigeria

The Yom Shi (lute), Yom-koh (raft zither), Juu She (one-tone bamboo flute), and Nzing (local trumpet similar to the Hausa Algeta) are just a few of the musical instruments used by the Berom people, some of which are on the verge of

extinction, have already gone extinct, or have been replaced by contemporary Western instruments [12]. The alarming tendency of replacing African musical instruments with their Western counterparts and how this development adversely impacts indigenous musical technology must therefore be investigated by African musical technologists and researchers. It is in the light of this that promoting the technology of the Kundung of the Berom people becomes pertinent and timely. The Berom Kundung is a musical instrument that consists of a series of wooden bars or slabs and horn resonators of varying lengths, sizes, and shapes. With the aid of mallets, the bars are played by striking them to produce sound. The instrument is a tuned idiophone that generates its sound from the vibration of its body. It is also a melo-rhythmic instrument that possesses both melodic and percussive abilities. The instrument builds on a pentatonic scale of non-equidistance five-tone scale with no semitone in-between. The instrument can be played by two or one person, as a solo or harmonic instrument. When played by two people, the person playing the deep tones (notes) plays the chief melody while the one playing the lower section (which is the higher tones) improvises the melody. The turning of the Kundung xylophone is in line with the intonation and pitch realization of the Berom people, which is why it easily gained access and wide acceptance into the Berom culture and musical traditions when the musical instrument was brought in by the Chadians. The instrument is tuned in a pentatonic scale without a half step, known as the anhemitonic pentatonic, as described by Nketia [11;13].

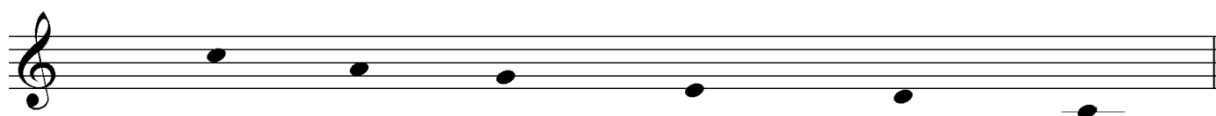


Fig.3. Scale of a Kundung

The Construction of Kundung and How It Works

The people of Africa realized the therapeutic nature and function of music long before the advent and inauguration of colonialism. They used all the local materials found around them to construct musical instruments for their amusement and the pacification of their revered deities. According to Otagburuagu and Omenma [14], “man is naturally a rational creature and a toolmaker.” For effective adaptation to his environment, man fashioned out tools and other materials to cope with the exigencies of nature” (p.30).

The basic implements and materials required for the construction of the Kundung are:

1. **Saw:** Used in the cutting off the xylophone frame as well as the mallets
2. **Knife:** Smoothing of the surface of the slabs, lap rest (bow), and the mallet
3. **Water:** To soak the fresh horn for some days to decay before detaching the horn from the animals’ skull
4. **Chisel:** Used to boreholes on the frame that can hold the resonators
5. **Ax:** Cutting of fresh cane that will bend, when it is dry will be used as the lap rest, and also useful in reducing the thickness of horns for audibility
6. **Nails:** Used in tacking of the horns and the bow to the frame
7. **Plier:** Tacking of the horns to the bowed holds on the frame
8. **Hammer:** Hitting nails to the frame
9. **File and sandpaper:** smoothing of the resonators, and the wooding materials
10. **Broken bottles:** Reducing the thickness of the horn
11. **Razorblade:** cutting of the elastic tube that will make a knot on the mallets

There are three steps involved in the making of Kundung. The steps are:

Gathering of Materials/ Coupling of the Musical instrument

The materials are:

- i. **Mai-dubia:** A strong seasoned wood for the construction of the slabs
- ii. **Plank formed:** For the construction frame that will sustain the slabs and the resonator
- iii. **Cow-Horns:** With the aid of the chisel and knife the thickness is reduced to enable audibility
- iv. **Bowed Stick:** To be attached to the plank frame to suspend the instrument on the labs while playing.
- v. **Belt:** Aid in the suspension of the instrument to avoid falling
- vi. **Frets Made of Stick:** Used as frets that will aid in suspending the bars to avoid contact with the frame
- vii. **Twine:** Help in the holding of the notes
- viii. **Spider-Shield:** placed at the tips of the resonators it serves as the vibrator
- ix. **Coal-Tare Mixed with Ash:** placed around the tips of the resonators to hold the vibrators, also placed behind the notes at the edges improved the timbre of the instrument.
- x. **Elastic Rubber:** for making a knot around the mallets for playing the instrument
- xi. **Copper Wire and Nails:** used in trussing and clipping of the frets, horns, and the bow stick to the plank (frame).

- a. Cutting/construction of woods into slap, frame, bow, and mallet
- b. Pilling of Horns to reduce the thickness for maximum vibration
- c. Coupling of frets, horns, slaps, bow to the frame and
- d. Fixing of spider shield at the tips of the xylophone to enable produce a buzzy sound.

(See diagramme on the basic steps for the production of the Kundung xylophone below).

Sound Achievement in Kundung Musical Instrument

This section of the article looks into the xylophone's mechanisms that are responsible for the production of sound in the instrument. The length and thickness of the bar and the resonators, as well as their combined thickness, are the only factors that affect their pitch. Due to differences in pitch and tone between Kundung made by various manufacturers, it is challenging to play them together. This is because the bar must be turned alongside the resonator to accomplish precise turning, which requires the builder to utilize his own imaginative sound when creating the instrument. In this light, Nketia [11] reiterates, "Whoever wishes to play the xylophone should obtain it from the same maker" (p. 117). Similarly, the length and slenderness of the slab affect the pitch of the notes; the longer and slender they are, the lower the sound. Without the aid of a pitch pipe or sound meter, the Kundung cannot be turned to the necessary pitch. Before creation, the instrument's creator must have stewed the sound in his imagination. The builder just requires a single note to begin turning; as a result, they end up having lengthy notes at the bottom portion of the instrument, with different thicknesses of bars and resonators, rather than relying on the length of the bar to direct the turning.

With no knowledge of modern tuning dictators, tuning fucks, or keyboards to direct the instrument designers, the slabs and the horn are tuned simultaneously. The rotation of the bars and slabs is accomplished by the constructing device. The slab is initially cut to the needed length next to the horn, and then the builder smashes the slab repeatedly against his head to hear what sound it will make before adjusting the slab's thickness or length with a knife or saw until it produces the right sound.

The builder then tunes the resonator using the sound from the slab. A mallet is used to gently strike the resonator; it may also be blown or smacked on the head. By attaching another horn to extend the length of the horn, the length may be changed. To do this, the leaks are sealed using copper wire, glue, and coal tar.

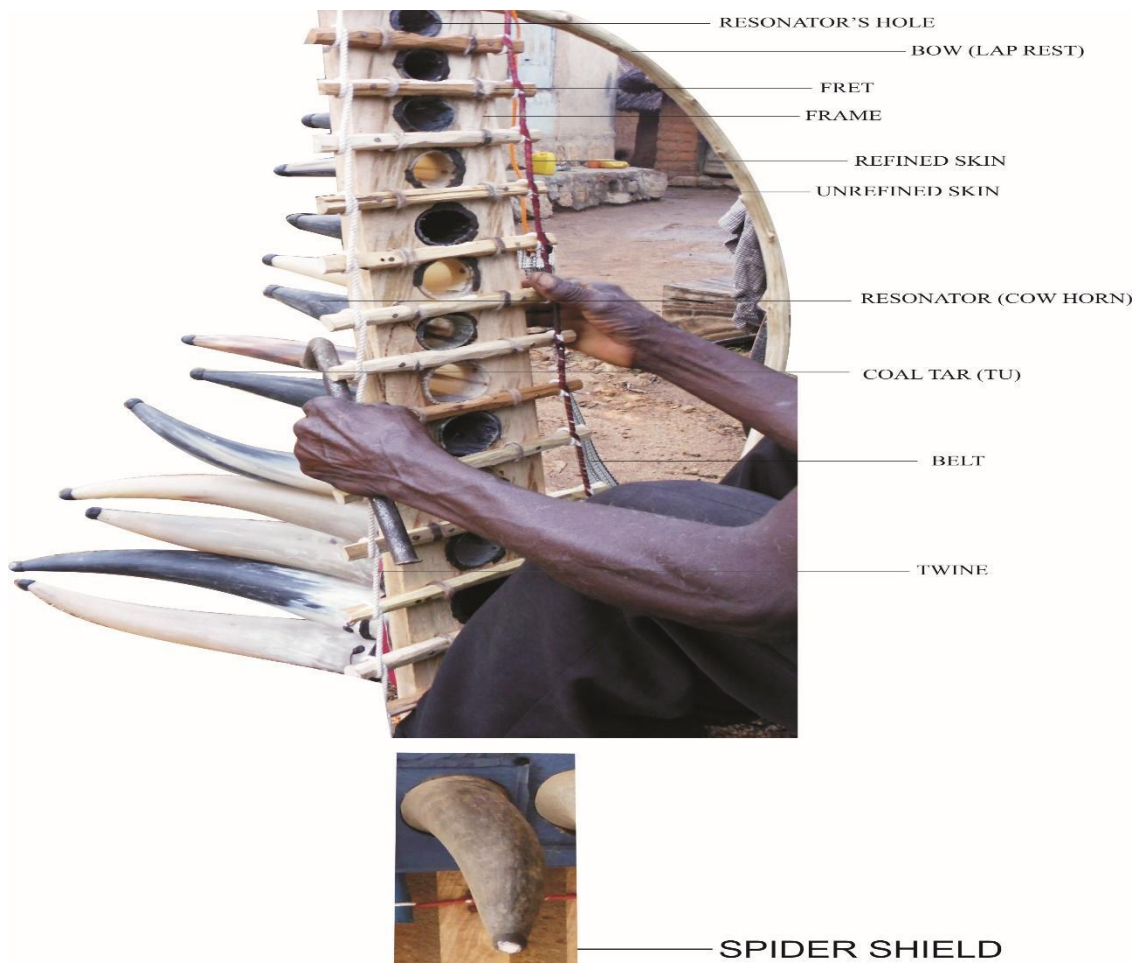


Fig. 4. Xylophone and its Components



Fig. 5. Front view of the Kundung Xylophone



Fig. 6. Back view of the instrument



Fig. 7. Horns (Resonators) of different sizes

Tones Recognition in Kundungin Comparison with the Notes of the Piano

The Kundung, is comparable to the piano in that the musical instrument has five tones, that come in equidistant and non-equidistant varieties. The distance between two notes in music is only made up of notes that are separated by a major second and a minor third. As seen in the scales below, the pentatonic scale, a non-equal distant form, always exists in two major configurations. These pentatonic scales lacking a semitone are referred to as anharmonic pentatonic scales. The Kundung Xylophone's scale is somewhat similar to the following sound found in the scales below, albeit it is not identical to the European standard pitch of "A" below the middle C, which is equal to 440 Hz or 432 Hz. Take into account the following from the instrument's two distinct manufacturers.

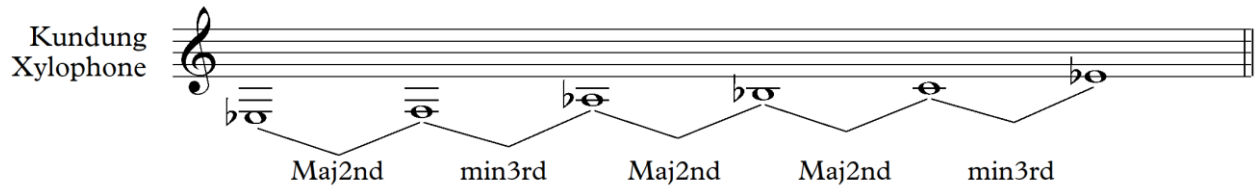


Fig. 8. (Scale from a Kundung Xylophone Constructed by Da DalyopZuu from Gyel)

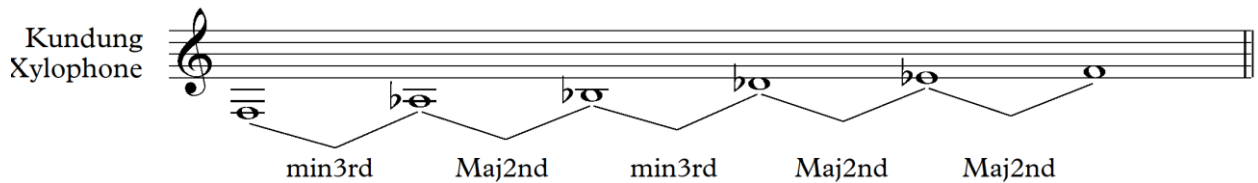


Fig. 9. Scale from a Kundung Xylophone Constructed by Da Dalyop Mwadvwang from Fwil Vom)

One will immediately notice the parallels in time of keeping the same distance when comparing the tonal accomplishments of the two distinct instrument manufacturers. The instrument's designers rely on their innate traditional idiom, an instinct that directs the theme in the tone of accomplishment, even though they do not use a metre nor a turning fuck to indicate the real pitch. They both retain an interval of a supposedly major second (2nd) and minor third (3rd) correspondingly. A brief overview of the Berom history, musical style, and some frequently used scales among the Berom people and other African tribes with comparable musical tones in their musical practice followed. This alone makes the Berom people's musical style so distinctive and deserving of imitation. However, if this is successful, it will be musical suicide for some tribes, especially those in Africa and Asia, whose scalic pattern is profoundly impacted by their language idioms. Some researchers have attempted various efforts to integrate the scalic pattern into the widely known 440hz tuning system. Any attempt to modify the traditional tuning system to match that of the Europeans will be regarded as musical enslavement and will undermine numerous historical facts about the Berom people and culture. The Kundung, for instance, adheres to the Berom tuning pattern that differs significantly from what is heard in Europe. According to some academics, the Kundung musical instrument would have preserved its excellence if methods for introducing additional tones had been used in an effort to develop it and bring it up to modern standards. That would have resulted in the instruments losing their uniqueness. According to Onyekwelu [15], an indigenous technologist's key focus in any community is to build instruments that are compatible with the people's tonal language. The acceptance of a musical instrument or instruments often depends on the culture of the user (s). This is so that any instrument made by a certain group of people will mirror the tonal structure of their language.

With the above assertion, the introduction of foreign instruments that were not originally part of that dialectical tone should be strongly discouraged scale-wise because it will cause discordance and alter the original tones that are culturally guided by the linguistic idioms of the people. But, the acceptable alteration can be done when it comes to the improvement of materials and advances in technological know-how that can improve the instrument.

The naming of Berom Musical Instrument based the cultural Ideologies.

The involvement of Africans in the groupings of its instruments further exposes a hidden treasure of the technological know-how of Africans, even though some of the views of African instrumental groupings are still debatable and contestable. Most importantly, the researchers solely concurred with the cognitive principle in the formulation of African folk terminologies for the naming of musical instruments, which is often in line with the linguistic principle as most African languages are tonal. Because of the variations in pitch discrepancy in sound, the Berom language has many meanings, as one word may mean different things depending on the rise and fall of the tone. For example, the word *yomin* the Berom language could mean three different things: *yom* on the 'o' could mean suffering/hardship, *yom* within the 'o' mean guitar, and finally, *yom* without a high or low tone mark means dressing. The Berom language, which is purely tonal, names its musical instruments based on the sound they produce. For example, the drum is called Nbin. The name of the instrument literally depicts the sound the instrument produces when played. Other instruments such as the lute when the strings are plucked *riyom*, *riyom*, *ryom*. Its name is Riyom as a result. Another illustration is the so-called durum horn, which is fashioned from an antelope's tusk. Its durum-like sound when blown is the source of the musical instrument's name. Not all musical instruments have names derived from the sounds they make; others have names derived from the materials used to make them. For instance, the local harp, which frequently utilizes metallic strings, is known as RiyomBigeberen (metallic materials), combining the sound of the instrument with the name of the substance it was made from [16]. Chukwu [8], identifies five distinguished principles in the classification of African musical instruments. His classification includes the following:

- i. Traditional instruments are identified by their manner of play (*Mannerphones*)
- ii. Traditional musical instruments are identified by the materials from which they are made (*Materialphones*)
- iii. Traditional musical instruments, identified according to their onomatopoeic derivations (*Onomatopiaphones*)
- iv. Traditional musical instruments known for their utilitarian associations (*Utiliphones*), and
- v. Traditional musical instruments identified by their abstract appellation – (*Abstractophones*) (p.89).

Although Chukwu's research area was Imo State, its beneficial effects may be seen in the names given to musical instruments by the Berom people of Plateau State, Nigeria. The Berom people have a rich cultural heritage, which gives rise to distinctive traditional musical instruments. These instruments are often recognized by their sound or the material from which they are made. As a result, they might be classified as Chukwu's Onomatopiaphones. For instance, the Juu is a single-note panpipe that is played with a hocket and is created by merging groups of different pitches. The tone color that the instrument generates when blown gave rise to its name. The Nbin, a membrane drum that can also be recognized by the way it sounds when played, is another excellent example.

Following Victor Mahillon's establishment of a systematic method of instrumental categorization in 1880, while serving as the curator of the Brussels Conservatory's instrumental collection, Curt Sach and Erich von Hornbustel reversed the system of instrumental cataloguing in 1933. So, xylophones were categorized as belonging to the idiophone family. The xylophone, which belongs to the percussion division and was recently included in the groups, was designated as an idiophone[17].

Findings

It is generally recommended that individuals who want to perform African instruments made by locals who do not use meters when measuring the pitch of the musical instruments in an ensemble purchase all of the instruments from the same maker; otherwise, the musical tones will vary. Each instrument creator takes initiative to produce the desired sound. As in the Western world which already has a standard perimeter for tone measurement, in Africa, no parameter has yet been agreed upon. Since the musical instrument was built entirely from locally obtained materials, it is ecologically responsible. For instance, slaughtered cows that were used for meat are utilized to harvest the horns. The horns are utilized to make a musical instrument rather than being thrown away and potentially polluting the environment. Due to the ability of the musical instrument to function as a melodic, harmonic, and rhythmic musical instrument, the Kundung is a versatile instrument. Even though one person can also play the musical instrument, it is being performed by two persons in this instance. To further explain, the instrument was only the result of acculturation brought to Jos by the miners who arrived from the Chad Republic after the Second World War. The instrument was later adopted by the Berom people, although at that time it employed a calabash as a resonator and produced less-refined sound than is possible today. Reverend DalyopZongo, who at the time had mastered the instrument and could play it even better than the Chadians who brought it, was the one who came up with the idea for the current resonators utilized in the Kundung. The rotation of the musical instrument keeps a major 2nd and minor 3rd implied distance from the piano. The musical notes found in the instrument are closely related to the black notes found on the piano but not in any way the same.

CONCLUSION

Studies on traditional African musical instruments are mostly in their infancy. The fact is that traditional African musical instruments need to be improved in many ways, and this calls for urgent scholarly attention. Unfortunately, significant stakeholders including legislators, guardians of cultural heritage, music researchers, practitioners, and entrepreneurs lack interest and support in this sector, which has impeded the meaningful growth and development of local music technology. It is important to emphasize that Africans should be proud of their great scientific and technological legacy because they may employ native musical instruments to foster significant economic, commercial, and cultural growth. This type of study is anticipated to considerably develop local African musical technology on a global scale. Therefore, it is here highly appreciated and encouraged to construct and make native musical instruments like the Berom Kundung Xylophone using local materials, resources, talents, and ideas. Scholars must conduct more comparative research to determine the variances in pitch and distinct tones present in the Kundungmusical instruments.

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