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Sound Equipment Fabrication and Values in Nigerian Theatre Staging Experiences

Apeh, Columba
Department Of Theatre and Media Studies, University of Calabar, Nigeria
Email: apehcolumba1976@gmail.com

ABSTRACT

The main points of this paper is to discover ways of fabricating sound and sound effects equipment for theatrical productions in Nigeria have become of essence since most educational theatres cannot afford western sound and sound effects equipment. Even when available, they are old fashioned, compared to the computerized nature of sound and sound effect in the 21st century Europe and American theatres. It is agreed that the British Broadcasting Corporation (BBC) catalogue offers a wide range of sound and sound effects which are actually most frequently in demand, but in terms of timing (i.e. duration), the availability and thirdly, since theatre is part of the people's culture, then it will be a prudent idea for the sound and sound effects selected for a production in Nigeria should be relevant to our contemporary environment and culture of the people where the play is produced. This study utilises library, field work as well as textual review to facilitate authentic actualisation of data gathered. The investigation concludes that Nigerian Technical Directors should discover ways of fabricating sound and sound effects equipment that would suit and enhance their theatre performances in the 21st century's black theatre enclave.

INTRODUCTION

In the 17th century, a French philosopher and mathematician, Pierre Gassendi, in reviving the atomic theory, attributed the propagation of sound to the emission and transfer of a stream of very small, invisible particles, which, after moving through air, are able somehow to effect the air. When a sound source is excited in a closed room, Rayleigh the resultant sound intensity at any point depends not solely on the sound waves reaching that point directly from the source but also on the arrival there of sound that has been deflected

from the walls and other surfaces of the room. Actually, sound is always absorbed to a certain extent by any surface and this keeps the intensity from building up indefinitely. But, if the source stops inaudible. Sound waves, in the words of Rayleigh,

> ...are particular kinds of mechanical activity consisting of vibration in a gas, liquid or solid medium. If an animal possessing an auditory mechanism comes in suitable contact with a medium vibrating at a frequency and intensity within its range of aural (hearing) sensitivity, it may hear the sound (78).

The nature of sound wave and explains sound as a travelling wave, a disturbance that moves from one point to another. Mechanical waves are travelling waves that propagate through a material as, for example, this happens when a metal rod is tapped at one end with a hammer. An initial disturbance at a particular place in material will cause a force to be exerted on adjacent parts. Sound waves are alternate compressions and rarer actions of whatever method through which they are travelling and the waves are longitudinal. The enjoyment of recorded sound and music depends on a series of mechanical, electric and optimal inventions. Although sound has been recorded and reproduced for more than a hundred years, techniques have been revolutionised in the 1980s, producing much greater fidelity, convenience and reliability.

According to Kantokwitz and Sorkin, the air around us is a collection of billions of air molecules, constantly moving and exerting pressure on neighbouring air molecules and on the molecules of other substances in their paths. When there is a sound or other disturbance in the air, there is a temporary increase and decrease in the density of these molecules and hence an increase and decrease in air pressure around the disturbance. The air molecules in the region of the disturbance pass on these effects to their neighbours and the pressure change move's outward through the air as a sound wave (63). A sonorous melody pouring forth from a radio may be very pleasant to one family in a dwelling, but it is a nuisance to those neighbours who are trying to rest or sleep; it is unwanted, it is noise. In the opinion of Harris:

> Sound is an alteration in pressure, stress, particle displacement or shear, etc. (a) in an elative medium, or (b) sound is an auditory sensation evoked by the alterations described above. In case of possible confusion, the term "sound sensation" for concept (c) not all sound waves evoke an auditory sensation. The medium in which the sound exists if often indicated by an appropriate adjective (1).

When an automobile horn is blown, a physical disturbance called sound is created in the air. Someone standing nearby may report that he has heard the sound of the horn. Young has defined sound in two ways;

> ...as the physical disturbance in this case in the air and as the sensation in the ear of the listener. According to the first definition, sound exists even if there is no one present to perceive the physical disturbance. Moreover, the disturbance called sound can travel through any elastic medium, such as water or steel (23).

Sound wave is a mechanism for transmitting energy between two points in space, which does not require the physical translocation of material. Wave propagation allows us to communicate with each other very rapidly using, for short distances, sound waves that travel at a speed of about 330 m/s in air and for long distances, electromagnetic waves that travel at 300,000,000 m/s [Nisbett 54].

The sound waves are created by the vibration of some object the diaphragm of a loudspeaker or the vocal cords of the larynx that causes the air molecules immediately adjacent to move in rhythm with these vibrations. Johnson has described sound as a wave disturbance that evokes the sensation of hearing. Sound waves, according to him, in air and in Liquids are longitudinal compression waves [Reynertson 76]. More generally, physicists tend to extend the definition of "sound" to include any mechanical wave in a wide frequency range extending from a fraction of a hertz to many megahertz. Sound vibrations with frequencies less than about 20Hz, the lower limit of human hearing, are called infrasonic; vibrations with frequencies above about 20,000 Hz, the upper limit of human hearing, are called ultrasonic's (33).

Sound equipment fabrication and values in Nigerian theatre staging experiences

The human voice is the primary source of sound in play productions. It is the pivot around which all sounds and effects revolve in the theatre. In most cases the initiation of an on-or-off stage sound effect arises from what an actor says or does. The vocal manipulation or disposition of an actor springs out of his characterization, motivations, and stage energy or stage presence, all of which are his response to the success of the production. All sounds including human voice produces pitch, volume, duration, quality, and articulation to as their basic characteristic. The successive utterance of vocal sounds by actor's produces rate, rhythm accent, pause, pronunciation, inflection and key (Reynertson 37).

Good vocal planning and orchestration can be used to create advantage in mob scenes, especially in the variation of pitch and volume levels, because the human voice has the same features as any other sounds. This strategy was

effectively used in the mob scenes of *Fovnte Ovejuna* directed by Peace Anita at the Little PlayHouse of the University of Uyo, 1998. A wedding scene, where the actors were expected to mix discussions, quarrelling and at one corner fighting, but all at the same time. It takes a good and careful vocal patterning, and delivery to heighten the dramatic effectiveness of such a theatrical production. The scene was a natural scene since it was on a field; the playwright described how peaceful the setting was even talking about the songs of the birds. To achieve the beautiful songs of the birds, a particular actor's voice was trained to simulate the sound. The play has many sound and sound effects such as gunshots, telephone, doorbells, music and songs. Since the department had no equipment to realize the sound engineer's dreams, there was this need to fabricate sound effects equipment and the xylophone was used to simulate the sound to telephone, doorbells and the sound of gunshots. The local flute facilitated scene eight (the garden) to simulate classical music and other musical scenes in the production of ***The Squeeze***, written and directed by Chris Nwamuo, a 2002 University of Calabar convocation showcase presented as a command performance by the Department of Theatre Arts. The play was staged on the 21st and 22nd of November, 2002 at the Chinwe Achebe Theatre (CAT). ***The Squeeze*** is a disturbing play, an austere lament on the consequences of economic and social deprivations in Nigeria's fledgling democracy. It presents a philosophical thesis on the untold hardship created by graduate unemployment, corruption and early retirement in a country where the rich get richer and the poor only write proposal. It is a play about ironies with a strong and poetic language. It travels from farcical settings through suspenseful atmospheric locales to ritualistic alters of wailing and lament. On the area of sound and effects, the play requires lot creativity on the part of the sound designer Apeh Columba, because of the sound recommendations made by the playwright, and director. Obviously, the sound equipment on the control room is not functioning due to many reasons beyond control. The play required many sound and effects like; theme music, mood music, sound of frogs crying, hooting of owls, sound of crickets, factory noises and sound effects to mount tensions. The possibility of achieving this was very vague, since the sound technician could not lay hands on BBC sound cues, and facilitated by the mishaps in the control room. The first productions night was a nightmare as concerning sound, but the second performance night took a new dimension as the soundman got some of the sound recorded from natural locations. The major bone of contention was the factory sound that the sound technician gathered children, some with hammers, bicycle wheels, galvanised tanks, zinc, nylon bags, plank and a generating plant. After the count of five, they started using what each was carrying and the soundman recorded the noise with a tape recorder and later taken to the music studio for amplification as factory noise. The audiences were actually convinced that it is a true factory on stage aided by the actors, action and costumes worn by the performers.

A wooden chair was used to simulate the sound of a moving canoe during the 29th May (1999) presidential swearing-in production in Abuja international conference centre, titled *Jagumolu* written and directed by Ojo Bakare. The sound of slap was achieved by technical crew back stage by a clap. Using a bamboo and striking it hard on a flat back stage simulated the sound of gunshots. This sound and effects suggested atmosphere of feelings, especially in romantic or crisis scenes when emotions mount, these aid to hook the spectators on, and also reinforce the thematic concept of the performance.

The production of the *successor*, a play written and directed by Bassey Effiong involved a lot of gunshots and thunder sounds. The production was staged in 1992, 1994 at Abuja Art Council, and at the University of Calabar, 1995. A thunder sheet was fabricated to simulate the sound of thunder, while rattles and shatters simulated the sound of rain creating theatrical aesthetics in the production and establishing communicative values of sound like weather condition, any time of the day, year, and locate of action. As the funs of production continue sticks were used to simulate slaps, while talking drums were used to simulate fighting scenes, blows and punches. Other local instruments such as the idiophone, chordophones, membranophones and aerophones were used to simulate many sound and effects in the production, since these local instruments are of the Nigerian culture and best interprets the fantasy or chimerical scenes of a typical Nigerian ritual play. The dances in the production were given a different and fascinating perspective by the local musical instruments which with the understanding of the performer constantly energies him and clearly created points of emphasis on the performance. The elephant tusks played a major role in announcing the animal of the king into the palace.

Another production where sound and effects equipment were fabricated is the play production of *Then She Said It*, written by Tess Onwume, directed by Chris Nwamuo and shown at the University of Calabar, Port-Harcourt and Delta State, 2001. The play involves so many sound and effects such as songs of birds, gunshots, telephones, doorbells, television news, explosive sound and protesting noise. The sound of gunshots and explosive was simulated by cabats and knockouts while telephone and doorbells were realize by table bells. At the end of every scene, the local equipment served as an interlude. Also, this is to reproduce physical happenings in the play. In the production of *Muntu*, written and directed by Joe De Graft in 1988. In the scene where the second waterman teaches the third son how to fire a riffle, the waterman made the Onomatopoeic sound 'bang'. This sound actually frightened Muntu's children out of their wits. Using a plank on a metal galvanized tank simulated the second Christopher Malowe's Dr. Fautus, directed by Dr. Ini Ebong at the Little PlayHouse, University of Uyo (1997), the scenes of witches was always accompanied by brass and strings instruments to produce the communicative values of metaphysical realm in the production. Also, an extraordinary clapping of hands, footsteps, ringing of church bells mixed up

with shouts and in most cases, stone was used on zinc to portray an abstract sound any time in the production that the ghost appears to Dr. Fautus.

In the production of *Otunba* (1999) written and directed by Prince Adesanya at the Ogun State Council for Arts and Culture, the audience witnessed a tremendous use of sound and effects. For example, the third scene (a ritual scene) dry grasses were rubbed together before the mouth of the microphone. Two gas cylinders were used to simulate the sound of crickets to depict mid-night in scene four of the play. Apart from the above effects, the local talking drum and metal gong served as background music to the production. To break the camel's back, rumbling of thunder was skilfully simulated by the drummer with his fingers running through the surface of the talking drum and supported by a small metal on a zinc, while the wooden gong serve as a strong communicative medium between the world of the living and the non-living realms. In the sixth scene where Otunba is expected to communed with the gods (Ogun) rattles, shakers and the Timpani or kettle drum played a major role in simulating an abstract sound that frightened the audience, because after Otunba had finished pouring libation, to show the respond of Ogun, stones were used on chimes at intervals produced *Otunba's* deserved theatrical effects.

Another production in this regard is that of *Aginju*, an unpublished play written and directed by Apeh, Columba at Ogun State Council for Arts and Culture and the Ogun State Polytechnic, Ojeri, 1999. The play has many (ritual) chimerical scenes. During these ritual scenes source of sound was only from empty bottles, nails, sticks and chimes to give that extraordinary sound unknown by mankind. In scene twelve, the king praise singer sang and played music to the pleasure of the king by connecting a string to an old tin of peak milk, this is facilitated by a long stick. The entrance of Kabiyisi was simulated by blowing an elephant tusk while the messenger with the aid of a metal gong was delivering his information and messages which serve as a strong communication medium in most Nigerian societies and the baba-lawo [ritualist] supported his incantations with the use of this same metal gong at the shrine of the gods.

The play *Death and the King's Horseman*, written by Wole Soyinka and directed by Ikechukwu Mandu (1992) University of Jos, is another play with such sound effects. In an effort to achieve the unorganized sound of a market scene, Chimes alongside church bells combined with the actor's voice to simulate the sound of a busy market. Also, in the production of Ola Rotimi's *Kunrumi*, directed by Michael Obi (1993) University of Jos, cabats and knockouts were used to achieve the sound of explosives, while using metals to simulate the sound of fighting and clashing of machetes which facilitated the plot of the production. Elechi Amadi's *Isiburu*, directed by Nwosu Canice (2000), at the University of Calabar Chinua Achebe Arts Theatre, many sound and effects equipment were fabricated, especially in the wrestling scene, a kettle drum was used to simulate slaps and blows, while an old empty tin of milk was filled with stones used in creating an abstract sound in

the last ritual scene. Before the last scene, when Isiburu set a trap in his shrine, a calabash was used in producing a sound that added a slice of life to the fantasy scene well suited the chimerical ritual scene of the production.

Other sound and effects equipment available for theatre productions in Nigeria

Certain sounds and effects can be successfully simulated in front of a microphone with the added advantage that extraneous noise can be eliminated completely. The followings are some useful suggestions about sound and effects equipment fabrication.

Metal gong: The metal gong falls into the family of idiophones. It symbolizes an authority, and a strong communication medium in Nigerian culture and theatrical productions. In almost all Nigerian societies it is regarded a medium through which local people send and receive information and messages.

Sticks and bones: The sticks and bones play a major role as far as sound and effects are concerned in a Nigerian theatrical production. The sticks and bones can be used separately to simulate sound and effects for theatrical production or can be used to play instruments like the gong, xylophone, glockenspiel, kettledrums, cymbals and marimba, to mention just a few.

Dried peas: Dried peas are allowed to roll back and forth over a fine-meshed wire sieve directly above the microphone. With this the sound of rain can be simulated.

Wooden boards: To simulate the sound of wind can be successfully achieved by pulling a length of silk across two or three wooden boards. The strength of the wood can be reduced or increased by varying the amount of drag.

Old recording tapes: To simulate wind in trees requires a collection of old recording tapes, placed in front of a microphone.

Brushes: To achieve the sound of waves, take two brushes and move them in opposite direction across a long sheet of metal.

Plastic bucket: The plastic bucket can be used to simulate the sound of water lapping by agitating the surface of some water in a plastic bucket and record the sound of the water lapping against the sides.

Cellophane: Crush cellophane paper in front of the microphone. This will simulate the sound of fire. Also, a matchbox being crushed will add another dimension.

Bottle: The sound of a ship's siren can be achieved by blowing across the neck of a bottle half filled with water. Sound of flutes can equally be achieved with the bottle.

Wooden blocks and sand paper: Two wooden blocks covered with sandpaper (glass paper) and rub them together will simulate the sound of comic steam train.

Coconut shell: Using two halves of a coconut shell can use coconut shell to simulate the sound of Hoofbeats. You either strike them together or drum them upon a plaster wall.
Bamboo cane and card flutter: When a small piece of card flutter against an electric fan will give a sound of birds wings for a small bird. For a large bird, two pieces of bamboo cane can be rhythmically swished in front of a microphone will serve the purpose.
Table, ruler, cane and leather chair: To simulate the sound of a gunshot it is wise to strike a table or a leather chair seat with a ruler or cane.
Cup: Speak into a small plastic or earthenware cup will give you a telephone voice.
Canvas trough: Another method of simulating rain apart the use of dried peas is the canvas trough by pouring in water from the tap and with a drain.
Cannon ball: To simulate a thunder run, a long triangular box is constructed with one or two ridges on it. When the cannon ball is allowed to roll from one end to another will go a long way in improvising a thunder run.
Stiff paper: To simulate sound of heavy rain, ships of leather lifted and allowed fall by revolving drum will achieve the sound of heavy rain.
Gravel or sand: To achieve the sound of gravel of sand it is good to record with a microphone at the venue where gravel or sand is being poured by the vehicle or motor or use 25mm square frame on ply wood base.
Galvanized tank: A galvanized tank can be used to simulate the sound of bomb by throwing into the tank explosives like knock outs when necessary.
Wood batten and galvanized iron: A thunder sheet machine can be constructed with a long triangular galvanized iron, not tin tied to a wooden batten and shaking or beating at intervals with the use of a long stick.
Ropes/pieces of timber: To improvise the sound of clatter, tie a rope up and make holes the pieces of timber, fix them on the rope and allow or release the rope and pieces of timber crash to the floor.
Sheet of glass: A square shape wooden box with padding inside. Then a sheet of glass is placed on top and with a hammer strike on it will achieve the sound of glass crash.
Bell box and transformer: A bell box with a transformer provides a variety of door and telephone rings.
Coconut halves: Coconut halves and appropriate surface produce hoof beats.
Chimes: Chimes and other objects produce chime sounds when hit with a drumstick.

CONCLUSION

Sound and effects are as old as the theatre itself. From the drums of savage visual to the sound track of a modern movie, these auditory elements have lent powerful reinforcement to the creation of atmosphere. Like the passion

play of mons in 1501 we find items for two large sheets of bronze and two big copper tubs that were used to make thunder. An extreme was reached in the case of melodrama, for as the name itself implies this form of drama threw great stress on music as an atmospheric element, particularly love or conflict scenes, but the music eventually became so over used that Antoine and Stanislavski abolished it. Some authorities argue that sound and sound effects are an unnecessary embellishment that it arouses the emotions at the expenses of the intellect and it lowers the legitimate theatre to the level of movies, television and radio. But few others assents that sound facilitates not only the audiences, but also the performer.

Since most educational theatres in Nigeria cannot afford the new expensive computerised sound and effect equipment as compared to the western theatre houses. It is wise to return to our own local sound and effects equipment by learning to fabricate them, than to continue depending on foreign equipment that we will never meet up with or act as an alternative to our kind of sound and effects. They should be recorded and stored using local fabricated equipment as to enable technical directors uses them when necessary. Producing professionals must be a serious task. Students are scared off from specialising in theatre technology, because of these shortcomings. Something should be done now to change this growing impression that theatre technology is a difficult area of the theatre as exaggerated by students of the Nigerian educational theatres. This researcher thinks it could be better and easier for theatre technology students to be equipped with materials to learn and practice with because this is the pivot of 21st century play productions.

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