

UBO-AKA AND NGEDEGWU

Musical Instruments of the Ibos

Thesis for the Degree of M. A.

MICHIGAN STATE UNIVERSITY

William Wilberforce Chukudinka Echezona

1962



~~L~~ ~~JAN 8 1975~~ 007

OCT 12 2002

~~2-811~~

~~9-079~~

~~F-203~~

~~85-11~~
116

K229

~~118 A 159~~

118 A 159

Copyright by
WILLIAM WILBERFORCE CHUKUDINKA ECHIZONA

1962

UBO-AKA AND NGEDEGU
Musical Instruments of the Ibos

By
William Wilberforce Chukudinka Echezona

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

(Musicology)

Department of Music

1962

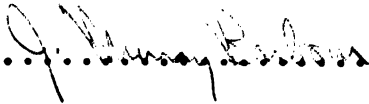
Approved.....

TABLE OF CONTENTS

	Page
LIST OF FIGURES.	5
LIST OF PLATES	6
ACKNOWLEDGMENT	7
INTRODUCTION	8
Section 1.	
The Ibos	14
Section 2.	
Ubo-aka:	30
Chapter	
I. HISTORICAL ACCOUNT	32
II. CONSTRUCTION	35
III. ACOUSTICS OF UBO-AKA	39
IV. TUNING	44
V. TECHNIQUE	48
VI. USE	51
Section 3.	
Ngedegwu:	54
Chapter	
I. HISTORICAL ACCOUNT	55
II. CONSTRUCTION AND TUNING	77
III. ACOUSTICS OF NGEDEGWU	86
IV. TECHNIQUE	89
V. USE	94

Section 4.

CONCLUSION	106
----------------------	-----

Section 5.

BIBLIOGRAPHY	110
------------------------	-----

LIST OF FIGURES

1.	Map of a section of Nigeria showing the Ibo country. . .	15
2.	Demonstration of transverse vibration of rods	40
3.	Notes of prongs of <u>ubo-aka</u> on the sound-board	44
4.	Notes of prongs of <u>ubo-aka</u> arranged scale-wise	44
5.	Type of music played on <u>ubo-aka</u>	49
6.	Hand sketch of <u>ngedegwu</u> slabs on two banana stems . . .	55
7.	Map of Africa in slave days	70
8.	Positions of oscillation when a flexible stick is shaken	85
9.	Fundamental vibration of a bar of xylophone	85
10.	Method of stringing slabs of <u>ngedegwu</u>	88
11.-		
14.	Examples of speaking & musical devices used by Ibos . .	90 91
15 -		
17a.	Examples of speech played by <u>ngedegwu</u> - (Pepper). . . .	99 100
18.	Range and scale of <u>ngedegwu</u> (Pepper)	100
19.	Wrong notation of <u>ngedegwu</u> (Pepper)	102
20.	Correction of Fig. 18	102
21.	Range and scale of <u>ngedegwu</u> as found at Amokwe	103
22.	A melody sung by Amokwe women	104
23.	Doubling and accompanying melody of Fig. 22 by <u>Ngedegwu</u>	105

LIST OF PLATES

1. Photograph of ubo-aka 31
2. Ubo-aka without resonator 34
3. An Ibo man playing ubo-aka 47
4. Ibo xylophone with orchestra 98

ACKNOWLEDGEMENTS

I am very grateful to the staff of the Physics Laboratory for allowing me to weigh ngedegwu slabs and to measure the pitches of both ngedegwu and ubo-aka with their Strobocomm,

Dr. George Axinn for lending me his ubo-aka for research purposes while I was waiting for my Ibo musical instruments to arrive from Nigeria,

The University of Nigeria for giving me a study leave in order to conduct this research; and finally,

The International Cooperation Administration for awarding me a fellowship to study at Michigan State University.

INTRODUCTION

Contact with the British Government, missionary and commercial bodies has revolutionised the political, economic, and religious life of the Ibos. The British brought unity and stability in government. Previously, the Ibos existed under very many family heads, autonomous in themselves, and having no single person who exercised authority over many families in the form of chiefs and kings. Occasionally, one family head appeared stronger than a few other family heads, and he was acknowledged as the head of all these families. Of all the peoples around Ibo country, no other group lived under such family heads. The Yorubas had their obas, and the Hausas had their emirs. For administrative purposes, the British grouped families together, and appointed chiefs and paramount chiefs to be at the heads of these larger entities.

Missionaries introduced Christianity. Previously, the Ibos worshipped different gods whom they think of as messengers of the great God 'Chi uku'.

It is in the field of education that I think that one of the greatest contributions was made. Before the advent of the British government and missionaries, the Ibos had no way or method of writing down their history, their figures, their impressions, in fact, anything, not even on clay or any form of papyrus. History was handed down from father to son, and by the time this has gone on for some time, the facts

were so distorted that they could not be called facts any more. With the coming of the British Government and missionaries, the Ibos learnt to read and write, letters became a common occurrence, post offices were established; it was no longer necessary to send somebody personally to somebody else many miles away over dangerous and rough footpaths. This was rather expensive and the person sent might be attacked on the way by highwaymen or wild animals. Moreover, primers and story books were written in Ibo language. Ibo history books were written both in Ibo and English.

Before the advent of western education, countable numbers were very limited. Beyond a certain figure, subsequent ones were designated 'uncountable'. With the reading and writing of English, it was found that those numbers previously considered beyond man's counting were actually easy to count, so the Ibos began to devise ways and means of extending their upper range of figures.

There has always been a great thirst for education. Children and young people were ready to leave their homes in quest for knowledge. They were ready to travel any distance up to ten miles and pay high fees in order to attend an elementary school. The author has travelled five miles every morning to go to an elementary school. Now, there is the free universal primary education, and although it is not compulsory, almost all young people go to school. For lack of adequate facility at home, those who could afford it went overseas to places of higher learning; those who could not

afford it study at home to qualify as University graduates; but thousands of others with modest means had to go without higher education. The need for expansion of university education was thus long felt. Therefore, with the establishment of the University of Nigeria at Nsukka in the heart of Ibo land, through the co-operation of the International Co-operation Administration, the British Inter-University Council, and the Eastern Nigeria government, a new chapter was opened in Ibo and Nigerian higher education.

Looking at the other side of the picture, both the British Government, the missionaries and the commercial bodies, without meaning to do so, did a lot of havoc to the art and music of the Ibos. Because the art was so strange and because a few were connected with the religious worship of the Ibos, all works of art were collectively labelled heathen and superstitious. Therefore, they were destroyed and of course, not considered fit for development. Of course, not all the works of art were connected with heathen worship.

The white man viewed the sound of the drum with suspicion and disturbing because he thinks it was all noise, the instruments crude and primitive, the singing strange and uncouth. Therefore, because the white man has turned his nose up on these things, they should be got rid of; so young people preferred penny whistles and cheap mouth organs to their indigenous instruments. The coming of the gramophone, dilapidated harmoniums, and other cheap instruments which were novelties but were not really being played well, coupled with

the fact that young people move early to big cities in order to attend schools and look for jobs, struck a heavy blow to the arts, musical instruments and music of the Ibos.

What is the future of Ibo music, whether instrumental or vocal? There seems but little doubt that almost all instruments except the drums are fast disappearing. Une, 'musical bow', is so scarce now that I had to search hard to see one and to find a player. Ubo-akwala, 'Ibo guitar', which was once a common sight in Ibo land, is dead. There is only one instrument left in the whole country. When the present owner and player dies, the instrument will go to pieces and become extinct. Ngelegwu, 'xylophone', is also becoming scarce and certainly, people who can make good ones are now either Christians, in which case, they must no longer make them, or they are dead. Oja, 'flute', is very scarce now. One can keep on enumerating the various instruments in order to show that unless something is done to revive interest in them, preserve the few remaining ones, and find out what can be found out and reduced into writing for future research, the future generations and the rest of the world would think that the Ibos never had any instrument of their own in the past, and perhaps nothing to contribute to the world, which certainly is not the case as we shall see when we study ngederwu. Ibo songs, chants, and choruses will fare better but they will lose their idioms and expressions. Already they are fast becoming Europeanized, so that very soon, what was previously known as an Ibo folk song would sound like a Hungarian folk song, because the Ibos are

ever so ready to cast away anything that would suggest that they are not as good as people in other lands.

These are the days when the gramophone and records are being imported in ever-increasing quantities and the modern and foreign form of concert is now coming largely into favour through gramophone records, the radio and television. With the inherent instinct for music, the young Ibo quickly master the latest ditty. They are also adept at making some sort of music from the instruments they are able to purchase. Many of the villages now boast of a band composed of fifes, cornets, and other instruments. Little, if any, attempt is being made to bring into service any of the Ibo tunes.

In writing this dissertation, therefore, it is a means to attempt to preserve and put on record some facts about the ngedegwu and ubo-aka. I do not pretend to have exhausted all the facts, but at least, this will form a basis for further research for at the moment, little or nothing of value has been written on them.

I will take this opportunity to express my sincere thanks and gratitude to my major professor, Dr. J. Murray Barbour, who always says that he knows very little about Ibo music, but who has encouraged me to get on with the research, even when once I felt that I should write my dissertation on another subject, since I could not find any material to lay my hands on about this subject, read and re-read my manuscripts with valuable suggestions and asked very searching questions which have helped me to express further certain facts which I had

taken for granted. I also thank other members of the faculty and students who have shown great interest in the instruments and thereby encouraged me to go on.

Section 1

THE IBOS

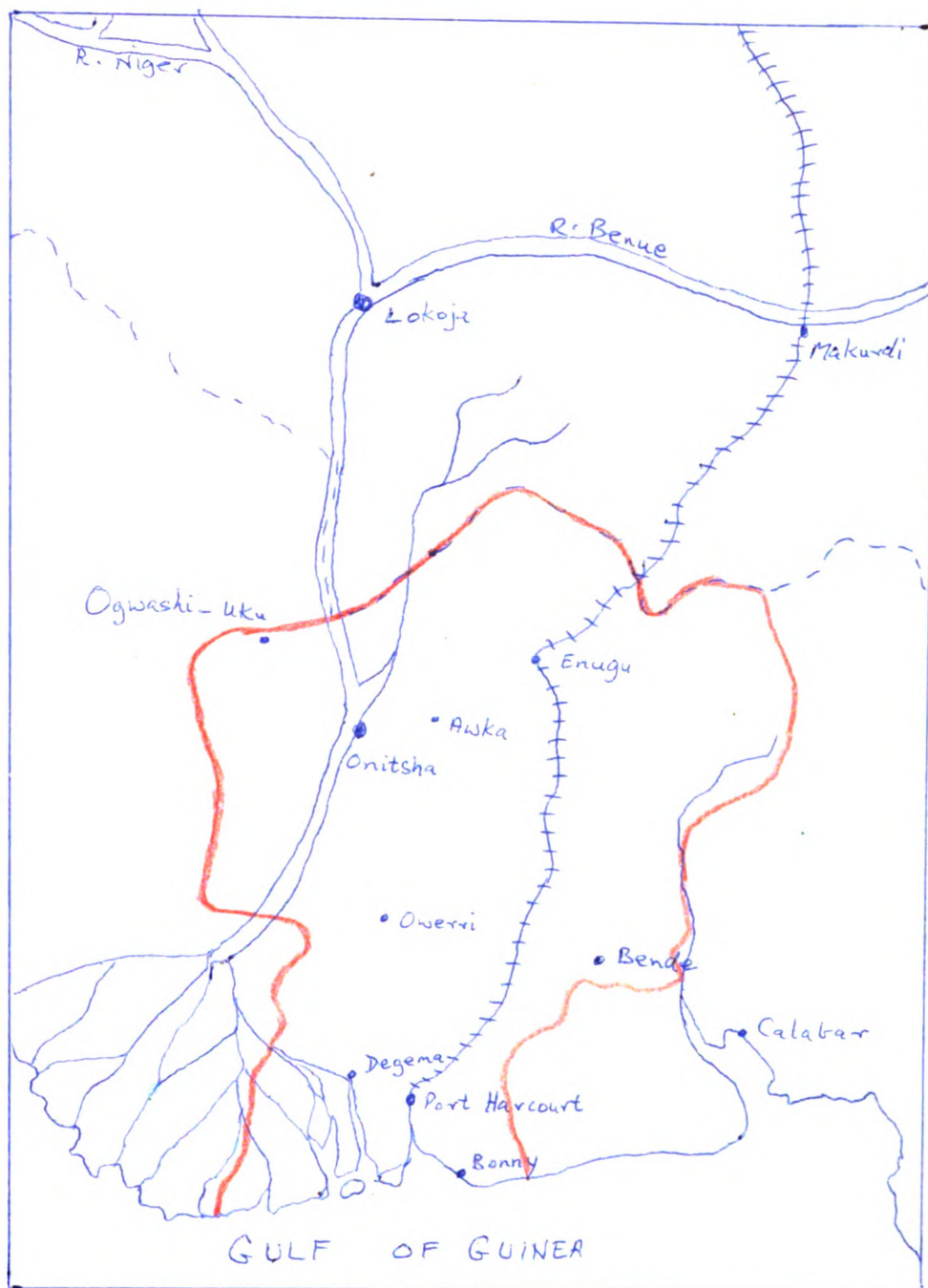


Fig. 1

Section of Nigeria showing Ibo country enclosed in ⌒.

The Ibos

The Ibo country is considered one of the largest nations in the whole of Africa. The population is estimated at about five million people who occupy the Southeastern portion of Nigeria. Recently they have travelled to neighbouring tribes like the Ibibios, Efiks, and Ijaws to live. Some have gone to live at as far a place as Jos, Kano, Benin and Lagos. They are very good traders. Their readiness to travel and tenacity of purpose, especially when seeking employment or education, have carried many of them far beyond their native environment. When abroad, they maintain close contact, cemented and sustained by a strong tribal bond of union. Whatever the conditions, the Ibo immigrants adapt themselves to meet them, and it is not long before they make their presence felt in the localities where they settle. It has been remarked that they make good colonists. This they do in a quiet, unobtrusive, but, nevertheless, effective manner. They build their own churches and schools, and support the teachers. Meantime, after catering for their immediate needs, they send the bulk of their gains to their homes to be used for building better houses in preparation for their return, and to assist in schemes for the general benefit of their own village communities. They are very generous in their gifts, as well as being astute in business affairs.

Before the British Government assumed control on January 1, 1900, very little was known about the Ibo people and still

less of their country.

Let us examine Horton's account and impressions of the Ibos as far back as 1868:

"Ibos (Hackbonus Blacks) - a people much addicted to war and preying on their neighbours, and are themselves lusty tall men. The women wear a profusion of beads. Most Delta languages are Ibo or Ibo descent. The Ibos are considered the most initiative and emulative in the whole of West Africa; place them where you will, find that they very easily adapt themselves to them. Stout-hearted, or, to use the more common phraseology, big-hearted, they always possess a desire of superiority, and make attempts to attain it, or excel in what is praise-worthy, without a desire of depressing others. To them we may well apply the language of Dryden - "a noble emulation beats the breasts."

Place an Ibo man in a comfortable position, and he will never rest satisfied until he sees others occupying the same or similar position. Of the emulation power, the Right Rev. Bishop Crowther scarcely a year after the establishment of the Church Missionary Station at Onitsha, in Isuama Egbo, thus wrote: 'From all I could gather by observation, the Ibos are very emulative. As in other things, so it will be in book learning. Other towns will not rest satisfied until they have also learned the mystery of reading and writing, by which their neighbours might surpass them and put them in the shade'.....The Egboes (Ibos) cannot be driven to an act; they are most stubborn and bull-headed; but with kindness they could be made to do anything, even to deny themselves of their comforts. They would not, as a rule, allow anyone to act the superior over them, nor sway their conscience, by coercion to the performance of any act, whether good or bad, when they have not the inclination to do so; hence there is not that unity among them that is to be found among other tribes; in fact, everyone likes to be his own master. As a rule, they like to see every African prosper. Among their own tribe, be they ever so rich, they feel no ill-will toward them. A poor man or woman of that tribe, if they meet with a rising young person of the same nationality, are ready to render him the utmost service in their power. They give him gratuitous advice and 'embrace him as their child'; but if he is arrogant and over-bearing, they regard him

with scorn and disdain him wherever he is met".¹

The first twenty years of the present century were palmy days for the anthropologists. Such opportunities for research work will never be forthcoming again, since there is scarcely a corner left untouched by foreign influence, and it would be difficult to find a group of people totally unacquainted with the white man. The generation that represented indigenous Ibo belief, with its ancient laws and customs, has almost died out. Chiefs of the old type are being rapidly replaced by their educated sons, some of them university graduates and ministers of the Christian religion. The younger generation is learning to read and write and to adopt European ideas and fashions in every detail of life, clothes, houses, and pastimes. As a matter of fact, most regions of Nigeria including the Eastern Region where the Ibos live, have free universal primary education. In many towns today will be found club and private tennis courts, football fields and many other indications of modern life. At the moment the balance of life has been, and is being seriously disturbed. The younger generation has shed old manners and customs freely, and somewhat hastily. They are ardently grasping at all things new and foreign. Not all, by any means, can discriminate between the wheat and the chaff. On the other hand, if treated with patience and sympathy, they will develop powers of discrimination whereby they will learn

¹J.B. Horton, "West African Countries and Peoples".
London: 1888 pp. 159, 163-5, 175, 182.

wisdom and become stabilized once more.

What I am leading to is the fact that native law and custom has been almost completely disrupted; indeed, as a leading Ibo man said recently, "There is no longer any fixed law and custom". Much is in the melting-pot; much has perished altogether. Considerable interest has been aroused, and much said and written of recent years, on the subject of conserving what is good in native custom, culture, and music. The plea is reasonable, and welcomed by every foreigner who has the well-being of the Ibos at heart. The weakness lies in the fact that it is a wish largely devoid of substantial support. There are a number of reasons for this of which a few may be quoted.

The real and vital cause of its weakness is that the Ibo man himself is the deciding factor. He believes that he knows best what he wants, and he is unwilling for the choice to be dictated by the foreigner, whom he eyes with suspicion. He asks to be left unfettered in his selection of customs in order to be free to choose those that suit his natural environment and temperament. The idealist who advocates that this or that custom should be conserved may as well save his breath for some more profitable effort. The Ibo will not retain anything which, in his opinion, savours of the 'bush' any more than the people of England will revive the antiquated customs and practices of their ancestors.

In the past, the missionary has decreed that all African music is pagan and heathen, and that the only good type of

music are Christian hymns; so, away with all indigenous music and musical instruments. The author has witnessed at least two occasions when heaps of beautifully carved musical instruments and works of art were burnt as a sign that a person was really converted. All music and musical instruments, of course, are not heathen. One fortunate thing is that Christianity in Ibo land having formerly destroyed, now takes a leading hand at preserving music and musical instruments. Indigenous Ibo music and instruments are often used at churches, and local people are encouraged to compose. There are now singing competitions at which choirs have to sing Ibo music to win the trophy.

In economic life, Ibo songs function as an aid to co-operative labor; canoe paddling songs for example, members of the co-operative work group are led to the field where they are to work by a flutist whose shrill notes they can easily follow, for the distance is often great and perhaps not known to some of them. They have drums, gongs and rattles, and use them to accompany the songs they sing. The songs themselves are in turn used to emphasize the work rhythm.

In religion, the function of music and musical instruments is well known.

A use is made of songs as a historical device, for instance, songs referring to battles. Songs were and are the prime carriers of history among the Ibos. In recounting the ritual associated with the giving of offerings to the souls of those who were transported into slavery, this function of song came

out with great clarity. I know a history teller at one point could not recall the sequence of important names in the series he was giving, under his breath, to the accompaniment of clicking finger-nails. He would then begin to sing, continuing his song for some moments. When he stopped, he had the names clearly in mind once more, and in explanation of his song stated that this was the Ibo method of remembering historical facts. So the role of the singers as the "keeper of records" is well known.

Music itself, of course, falls within the aesthetic aspect of culture, and its relationship to other aesthetic aspects such as folk-lore, dance, and drama, is too clear to require exploration here.

The Ibo is naturally gifted with a sense of rhythm. Whether his musical talents have evolved from that, or vice versa, I make no attempt to discuss. Like his religion and worship, his ideas of music do not coincide with those of the European, at least, they did not until the European reverted to type and produced some of the 'modern' music! The music, and the instruments wherewith it is made, must be ancient, for it is only recently that foreign influence has filtered into the country. With the exception of the drums, Ibo instruments are likely to disappear; they are being discarded all along the line in favor of the foreign article. This is, perhaps, no more than might be expected, seeing that they are about as crude as it is possible to find.

To the uninitiated, the main objective of the Ibo seems

to be to create noise rather than melody. But he can produce rhythm from his limited outfit, and for dancing exhibitions his music is suitable. Orchestral music begins in a similar manner to performances here, that is, with tuning in. Unless harmony is first established, the instrumentalists refuse to play. Once it is established, then each performer applies himself whole-heartedly to his task: hence the volume of sound. Sounds produced by striking predominate over other forms of music. There are a few wind and string instruments, one or two of which seem to be the prototypes of modern ones now developed almost beyond recognition. There are many types of percussion instruments and no brass. However, almost, all the instruments can be used in communicating.

Hornbostel divides instruments into four major classes - idiophones, membranophones, aerophones, and chordophones - with at least ten major subdivisions and many still smaller subdivisions; it is safe to say that African musical instruments are represented in every division. This enormous variety is far too frequently overlooked in favour of the traditional view of African music which emphasizes drums to the exclusion of other instruments.

"Two brief generalizations may be made here on the use of musical instruments in African culture. The first is simply that both instrumental soloists and groups of instrumentalists are found in Africa; the second is that accompanied song is perhaps more important in African music than solo instrumental performance. The second generalization is supported by the fact that almost all songs have words, whether or not those words are actually sung, so that when a song is played upon a musical instrument, words are automatically conceptualized, although

they may not be verbalized".¹

The Ibo loves his rhythms. He practices them from childhood. He beats counterpoint with them. His rhythm expressed in tones makes music and his rhythm expressed in gestures makes dance. I have sometimes wondered why most people prefer dance music and marches and I have come to the conclusion that these types of music appeal to them because they feel the rhythm which makes them want to mark the beats of the music with their feet, or hands, or with head bobbings. This love of the beat is strong in the African in general, and in the Ibo in particular, and upon this the Ibo builds his music. Popularity in America for jazz, rock 'n roll, and twist, is the result of the desire in people for strong rhythms, and shows that for all the American culture and civilization which are second to none, the people have something in them of the savage's feeling for movement. The African loves his drum. The white man does not understand the African's love for it. However, when he lives among them, he also learns to love it. He learns to appreciate that the Ibo had an original telegraph system in which he did not use Morse code, but sent his messages by means of drums that were heard many miles away. There is then, this special drum language which the natives perfectly understood. The Ibo is a master of rhythms. He plays most difficult and complicated rhythms almost impossible

¹ Hornbostel - African Negro Music. Africa (Jan. 1928) pp. 31 - 32.

for a trained musician to imitate. He does this with any type of instrument his hands can find.

No description of Ibo love of rhythms is complete without mention of drums. It is nearly true to say that wherever there is drumming there is dancing. It certainly is true to say that the drums have a social significance not possessed by any other instrument. A wedding, a palm-wine drink, - any rejoicing without the drums is unthinkable. They are the very foundation of a social occasion. The dancers dance to the drums: it is not the drums which play for them: the singers sing and clap to the drums and vice versa. In fact, the Ibo, unlike the European who treats his drums as an embellishment of music made by other instruments, regards his drumming as music per se. The drumming at a dance is the orchestra, and the varied rhythms and tones of the drums not only lead the dancers, they intoxicate them.

If a European dance were to be accompanied by drums alone, it needs little imagination to see how intensely boring and banal it would be. Not so with the Ibo, for Ibo drumming is by itself a separate art form. It is cramfull of good things, it never lacks surprises if a good drummer is present. It needs no other instruments to help it, or to sustain the interest. It is an art form, complete in itself.

From a distance, typical dance drumming sounds to the not-too-inquisitive listener as a dull repetitive tum-pi-ti, tum-pi-ti, etc. Were he to go close and observe carefully, he would find all sorts of interesting things going on.

The first point to grasp is that African drumming is essentially harmony - it is a harmony composed not of notes but of rhythms: and because it is harmony the drumming as a rule, needs at least two drums; three is a very usual number.

The second point to grasp is that Ibo drumming is composed of a number of different rhythms played simultaneously but with this one important feature, namely, that the main beats do not coincide. In this lies the secret of Ibo drumming.

Ever so much, people hear of the traditional talking drum. This is discussed elsewhere under Marimba. Almost any type of Ibo musical instrument is used in 'talking'. Here, I shall add only a few hints on why this is possible. Ibo language is tonal and the sound itself suggests a melodic flow of tones. This is developed rhythmically with clever use of repetitions and off-set phrases.

Let us take the word, ISI. Depending on how the syllables are raised, lowered, or accentuated, the meaning changes. Isi means 'head'. Isi means 'smell'. Isi means 'blindness'. Isi means 'you said'. Isi means 'if you say'. Isi means 'to measure'. Isi means 'to say'. Isi means 'six'. Isi means 'if you go from'. I have now given you nine different ways of using the word, isi. There are many more. Consider this sentence: "Ndi isi isi ahu bipuru isi ndi isi ha dotara n'agha." This means, "Those six headmen cut off the heads of the six blindmen captured in the battle." Staggering, isn't it? Here is one more, a play on the word, OKU. Oku means 'fire'. Oku means 'fishing'. Oku means 'inheritance'. Oku means

'earthenware vessel used in making soup'. Oku means 'pipe for smoking'. Oku means 'he planted': Oku has many more uses and meanings. Consider this sentence: "Nwam, nyem oku ka m'we se oku tupu m'gaba oku". This means, "Son, give me fire that I may smoke before I go a-fishing". Here is another sentence, "Otu madu nke nagabiga na akwa huru okuku nke n'eyi akwa, na nwa okoro nke na akwa akwa, na otu nwanyi nke na akwa akwa". Now, let us see how many Akwa are there. I can count at least six of them. The meaning is, "As a man was passing through a bridge, he saw a hen laying eggs, a lad crying, and a woman stitching." This is because, akwa means 'bridge', akwa means 'eggs', akwa means 'crying', akwa means 'cry', akwa means 'stitching', akwa means 'cloth'. The word can only mean these different things when proper accents on the syllables are applied.

Take my first three names for an example, William Wilberforce Chukudinka. You can say, William Wilberforce, using the same pitch all through, or you can accentuate any syllable you like; at worst, it may sound a little odd or strange but the meaning or intention is not in the least affected. You can let the accent fall in each case on the first and last syllables, it is perfectly all right, but you cannot do this with the other Ibo word, Chukudinka. In the first place, every Ibo name has a meaning, therefore, the tone pattern must be right for it to be intelligible. The actual rise and fall of the syllables in Chukudinka are — — — — — . Do it any other way, it is wrong. I can play it on the piano. It can

even be embellished for 'ku', Chukudinka, If I were to reverse the tones, the word becomes meaningless. In fact, if I were to pronounce it this way, — — — —, it would mean that God is very old, while the meaning intended is "God is most artistic."

It follows then that any word or sentence can practically be played on the piano or the fiddle, for that matter, or on a drum, or on most Ibo musical instruments, provided that the patterns are kept intact. As we have seen earlier, the pronunciation of one word may have three or four different meanings, but in conjunction with the rest of the words of a sentence, the actual meaning becomes clear. Even in English language, 'one, won, worn, warn', all seem to sound the same, but when each is used in a sentence, the meaning is unmistakable.

A well-known writer has said that wherever the African negro has gone he left traces in the music of that country. The Spanish Habañera, which people have danced by the name of tango, came from Africa, the African name is tangara, and was a vulgar dance said to be unfit for civilized people. The rhythm of the African dance and the tango are the same. Rhumba, which is also a Spanish dance, comes from Ibo, where it is known as Egwu mbe. The popular ragtime jazz was introduced into this country by negroes from Africa. In the beautiful spirituals, the song of the Negro, we see also the syncopated rhythms. The religious song is practically the only song the Negro has and he sings it at work, at play, at prayer,

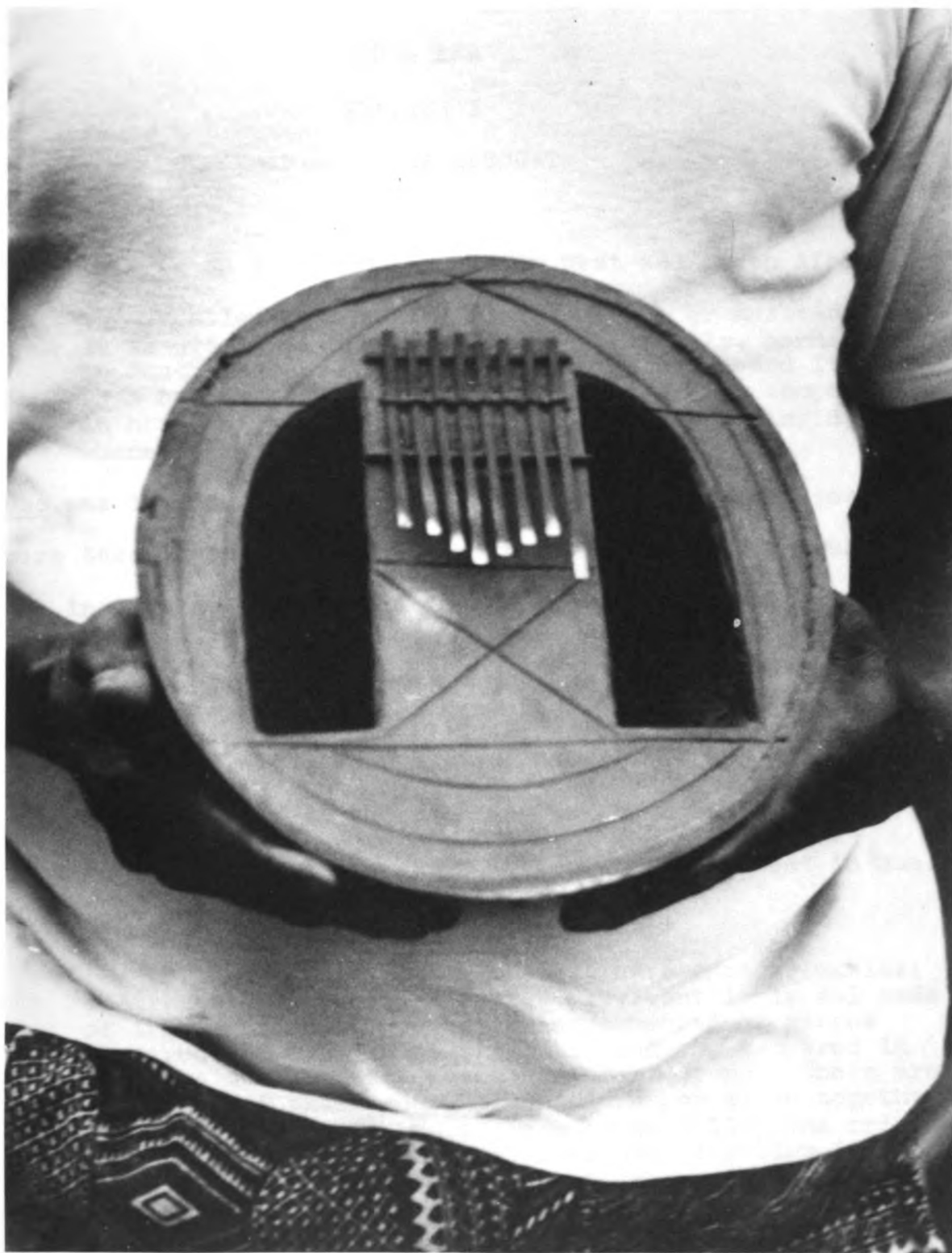
when he is sick, and his friends sing it after he is dead. To white American ears, the words are crude and homely, but always reveal a fervent religious nature as well as child-like faith. No doubt, you have heard, Nobody Knows the Trouble I See; Deen River; Swing Low, Sweet Chariot; Go Down Moses; Weeping Mary; and others. Such a wealth of feeling and beauty could not fail to leave its mark in the land where it was born. In the following pages, I shall discuss two popular Ibo musical instruments and show how the slave trade has helped to make at least one of them, a world-wide instrument.

Before we discuss the instruments in detail, it will be necessary to say a word or two about slavery. Before the well-known official slavery and slave trade that resulted in the transporting of slaves all the way from West Africa to the Americas, slavery had been going on by invaders from Arabia. They were responsible for taking the slaves to Egypt, India, China, Java, Mediterranean countries and the Far East. A writer once said that but for slavery, West Africa would be more over-populated than India. With the discovery of the Americas and with the growing of cotton and sugar-cane, over a million were sent to America and the West Indies, although only about a quarter managed to arrive at their destinations. Many Sierra Leoneans now in West Africa are the direct descendants of Ibo and Yoruba stocks who were rescued on their way to America. The first foreigner settled at Onitsha was a missionary, the son of Ibo parents, originally slaves, who, after rescue, were landed at Freetown. The suppression of

overseas traffic did not lead to prohibition in the interior, and slave dealing continued to exist until the operations became more and more restricted. Under the rigorous method now in force, together with mass education, it can be safely said that there is no more slavery in the Ibo country.

Section 2

UBO - AKA



Photograph of Ubo-aka.

UBO - AKA

CHAPTER I

HISTORICAL ACCOUNT

This is an instrument found in West and South Africa.

"Called by some the African piano or music-box. It is widely distributed, more plentifully, perhaps, in South and West.....David Livingstone heard it played by a native poet, who had joined his party, composing in honor of the white man,¹ and playing and singing whenever a halt was made."

Ubo was introduced to the Niger Delta by the Ibo slaves who were taken there awaiting shipment to America. They still call the instrument, ubo, despite the fact that they do not normally speak Ibo.

Ibo slaves have also taken ubo along with xylophone or marimba as far as to East Africa, but it has not caught on with other nations in the same way as the marimba. As far back as 1586, Dos Santos saw this type of instrument in use. This was an account of it:

"These Kaffirs (the Karanga) have another musical instrument, also called ambira,but it is all made of iron instead of gourds, being composed of narrow flat rods of iron about a palm in length, tempered in the fire so that each has a different sound. There are only nine of these rods, placed in a row close together, with the ends nailed to a piece of wood like the bridge of a violin, from which they hang over a hollow in the wood, which is shaped like a bowl, above which the other ends of the rods are suspended in the air. The Kaffirs play upon this instrument by striking the loose ends of the rods with their thumb nails, which they allow to grow long for that purpose, and they strike the keys as

¹ Beatrice Edgerly, From the Hunter's Bow. New York: G. Putnam & Sons.

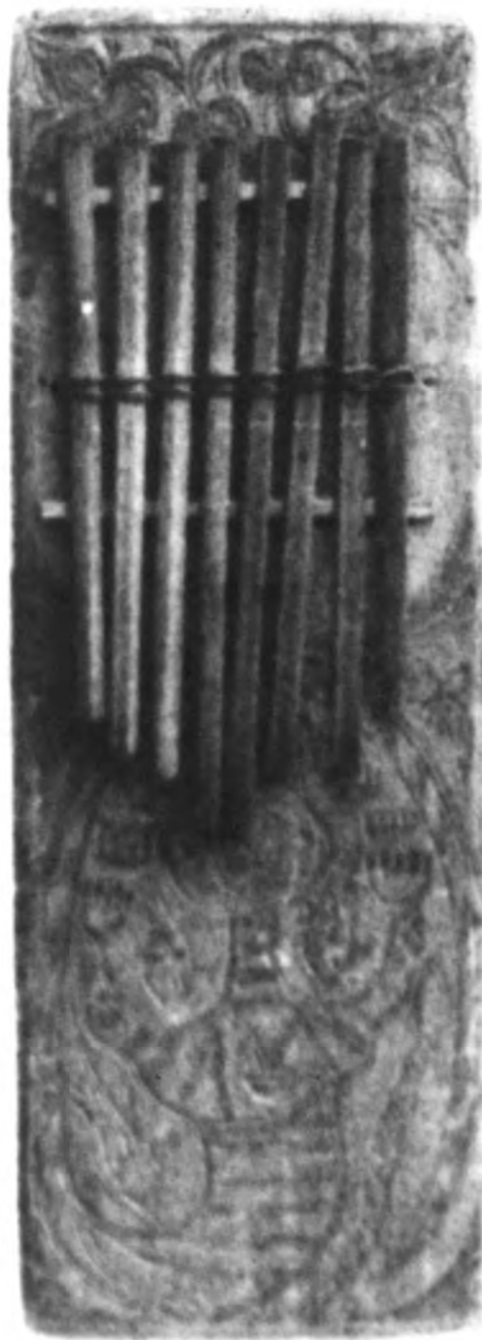
lightly as a good player strikes those of a harpsichord. Thus the iron rods being shaken and the blows resounding above the hollow of the bowl, after the fashion of a jew's harp, they produce altogether a sweet and gentle harmony of accordant sounds. This instrument is much more musical than that made of gourds, but it is not so loud, and is generally played in the king's palace, for it is very soft and makes but little noise."¹

Wangemann² describing this instrument, mbila, of Bavenda-land ascribes it to the Bakalanga (Karanga), living in Rhodesia, and giving it the Karanga name, thereby, stressing its northern origin, the path of the slaves being taken from West Africa to the East:

"He (Chief Pafuri) brought me the Bela (mbila) of the Bakalanga and played upon it. This (instrument) is quite differently constructed to that of the Bavenda. It consists of tuned metal tongues, which, reinforced by a bottle-shaped calabash resonator, produced quite a pleasant sound, like our glockenspiel with steel bars."

¹Theal, G.M., Records of South-Eastern Africa, Capetown, 1901, p. 201

²Wangemann, D., Ein zweites Reisejahr in Sud-Afrika, Berlin, 1886, p. 167



Ubo-aka without resonator.

CHAPTER II

CONSTRUCTION

Almost all Ibos call the instrument UBO-AKA. In okigwi and Aba areas it is called IKPA; in Isoko, which really is not Ibo, it is called AKPATA, and in English, some call it Kaffir piano, African piano or music-box. The ubo-aka is an instrument which cannot be compared with any foreign one. Of all the solo instruments, this is the commonest.

If the materials needed for making an ubo are ready, one can be made in three days. A dry calabash whose diameter is from eight inches upwards can be cut longitudinally or latitudinally into two with a small sharp pointed knife. The seeds and all the matter inside are removed and the inside kept scrupulously clean. The cut edge is smoothed with the same sharp knife and further smoothed with a kind of leaf called anwilinwa. This leaf behaves exactly like a smooth sand paper. Now, the outside of the selected part of the calabash is carved in an artistic design. Some people like to carve geometrical patterns, some carve people making music, and some carve beasts.

A soft white wood like okwe, ulu, ube, egbu, owuru is prepared in such a way that it would fit the top end of the cut calabash. On the lower end of the wood and at both sides of it, two openings shaped like new moons are made, one on each side so that the fingers of each hand can fit conveniently well into them. From about eight to fourteen different

lengths of pieces of flat metal or palm frond backs called ofolo are selected. Usually these pieces are of the same width. The ends on which the thumbs are to play are further flattened in the case of metal.

As the ubo is played with thumb nails, and as the music is rapid, it is essential that the little metal prongs which produce the sound should not only be in tune but also in line or in a sweeping curve so as not to trip up the thumbs as they move from one prong to another. The problem, then, for the maker is to adjust the prongs so that when they are in line they are also in tune. Further, he has to make them of such a thickness and springiness that they will not only give a sweet and even sound, each note having the same intensity, but their main harmonics should harmonize either with the note itself or with one of the other consonant notes.

In many cases, the prongs are arranged to form the letter V, having the longest strip of metal, one on the extreme left and the other on the extreme right; or the figure , having the longest piece of metal on the extreme right and the next in length right in the middle. The distance between one piece of metal and the other is roughly one-fifth of an inch. The positions of these pieces of metal are now marked on the wood and removed. The idea is to secure one end of the metal to the soft wood leaving the other free to vibrate. The ends that are not going to be free are arranged more or less in a line very near the end of the wood and the free ends stretching right across the soft wood following the grain of the

wood.

Near the end of the wood, where the free ends must be secured and in the space of one-fifth of an inch already provided for, holes of about one-tenth of an inch or a little less are bored by using a red hot steel needle of appropriate thickness and piercing the soft white wood. It is through these holes that later the pieces of metal are secured to the wood. The center opening is made in such a way that the tips of most of prongs stretch just beyond the edge of the center opening. The diameter of the center opening is again dependent on the size of the calabash. Some ubo-aka have no center opening. These are not so resonant.

The pieces of metal (prongs) are fixed in position by tying them with a piece of string through the holes. These strings are the types which are often found on a palm-wine tree - akwara. Two pieces of metal about one-tenth of an inch in diameter are put across on either side of the string and under the pieces of metal. This raises the playable part and gives it springiness.

At the moment, certain people use soap boxes instead of calabashes in making ubo. In such cases, only metal prongs ~~are~~ like umbrella and bicycle spokes are used, wire strings employed instead of akwara; in such a case, one very much misses the beautiful carvings usually found on the back of these calabashes. It must be remembered that when strips of metal or prongs are lashed to the sound box between the two fixed bridges, the loose ends are cut to different lengths

and separated wide enough to permit freedom in fingering.

CHAPTER III

ACOUSTICS OF UBO-AKA

We shall next try to do some acoustical observations on ubo. The calabash acts as the resonator. Where the prongs are assembled without the resonator, sound is present but it is not sweet and rich as it is the case with a resonator.

Let us now examine the prongs themselves. Each prong is fixed at one end and free at the other. In a sense, it behaves like an organ reed. One difference between the prong and the reed being that the vibrating metal of the reed is supple and just enough force of air is sufficient to set it vibrating. The prong, on the other hand, is not so supple as the vibrating part of the reed and no ordinary force of wind can set it vibrating. It needs to be twanged. So, the method of excitation in each case is different, and therefore, the quality of sound produced also different. The attack of sound by the reed is gentle, round and not accompanied with an audible noise; while that of the prong is always accompanied by noise depending on the force used in excitation, and the attack is not as gentle and round as that of the reed.

The fact that the prong is fixed at one end and free at the other and how it emits its sound, gives a clear demonstration of transverse vibration of rods, if we may call the prongs rods for a moment. This is sometimes described as a fixed-free condition. Where the prong is fixed to the wood obviously, is the node and the free end is the antinode. We have noticed

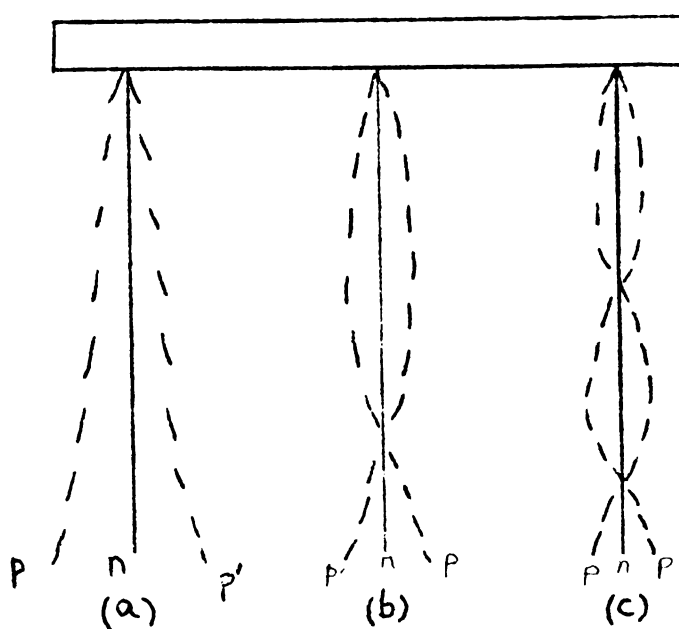


Figure 2.

Demonstration of transverse vibration of rods

Adapted from;

- (1) Sound in relation to music by
Clarence G. Hamilton,
Boston: Oliver Ditson Coy, 1952. p. 58
- (2) Musical Acoustics by
Culver, C. A.,
New York: McGraw-Hill Book Coy, Inc.,
1956. p. 238

when we were examining the construction of ubo that the prong has some thickness as well as length and breadth. We know that in instruments making use of reeds like the clarinet, the reed vibrates, but for the production of sound, the vibration is closely associated with resonant air body. This is not always the case, for the reed of a harmonium does not depend on resonant air body, and so is the case with the prong of the ubo. The resonator certainly improves the quality of the sound, but the sound does not depend on the resonator. Therefore, for the moment, we shall deal with the prong as an independent vibratile agent. The diagram on page 37 figure 2(a) shows when the prong is emitting the fundamental tone. Rayleigh has proved that:

"the fundamental frequency of a vibrating bar' of the type shown in the diagram is approximately expressed thus:

$$f \text{ equals } \frac{kt}{l^2}$$

where t is the thickness parallel to the direction of bending, l the length, and k a constant which in turn involves the coefficient of elasticity of the material of which the rod is made. The thickness at right angles to the direction of vibration is not a factor."¹

In the figure on page 37, the prong so located oscillates as a whole between the positions indicated by the dotted lines up and down between p o and p' o. With the advent of the second partial the fixed end must form a node, but the free

¹ Lord Rayleigh, Theory of Sound, vol. 1.

end, unrestricted in its motion, becomes the center of a ventral segment. The other node must therefore occur at a distance of a half segment, or one-third of the length of the vibrating portion of the prong, below the free end, the remainder of the prong forming a whole segment (fig. b).

Likewise, when the third partial arises, the prong forms two and one-half ventral segments, with the first node located at one-fifth of the length from the free end, while each of the entire segments occupies two of the remaining four-fifths (fig. c). Succeeding partials would continue to divide the prong according to the odd numbers 7, 9, 11, etc. .

These upper partials rise very rapidly in pitch, and are inharmonic in character. Thus the first upper partial has about $6\frac{1}{2}$ as many vibrations as the fundamental, while the next has $17\frac{1}{2}$ as many. It is easy to hear the high overtones which ring out as the prong is twanged, but which very quickly vanish, leaving the fundamental. Rayleigh has shown and experiments confirm that the relative vibrations per second of the first five upper partials are in the following relationships: 1, 6.25, 17.5, 34.4, 56.5, and 84.

Another observation is that when the prong is twanged, the duration of sound is amazingly long.

CHAPTER IV

TUNING

Now comes the tuning of the ubo. The lengths of the prongs produce variable pitches. The nearer the two horizontal pieces are brought towards the string used in tying the prongs, the higher the pitch; again, the further the prongs are moved, the deeper the pitch. The more each prong is moved towards the center opening, the more the vibrating part of prong is increased and therefore, the deeper the pitch and vice versa. The maker now tunes the instrument to follow the inflection of the human voice, that is, the human voice is tonally imitated. "Tuning is systematic, a performer frequently testing his instrument and adjusting it between tunes."¹ Looking at the arrangement of the prongs, it looks rather strange, but it is well adapted to the music played on the ubo.



Fig. 3.

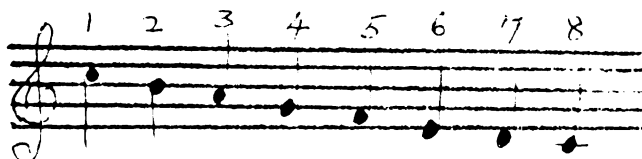


Fig. 4.

¹ Kirby, P. The Musical Instruments of the Native Races of South Africa. London: O.U.P. 1934

The first diagram shows the prongs arranged in the form  . When the instrument is properly tuned, the left thumb nail plays 1, and the right thumb plays 2, in other words, the left thumb nail playing all the odd numbered prongs and the right thumb nail playing all the even numbered prongs, the result is figure 2. Even when there are more prongs than eight, the scale is tuned and played as just described. It will be observed that the highest pitch is played with the left thumb nail and the corresponding prong is located at the extreme left, unlike the ngedegwu (xylophone) described earlier.

Ubo-aka that I brought from the Ibo country when I was coming was tuned by an old Ibo player who has not come in contact with European music. I took it to the Physics Laboratory in Michigan State University for an acoustical analysis. The result is astounding.

Note	Cents	Length in ins.
C'	1225	1.44
B	1100	1.5
A	928	1.57
G	695	1.7
F	490	1.8
E	398	1.86
D	205	1.95
C	15	2.1

The thickness of each prong is uniform at 1 millimeter.

The instrument used in determining the cents was a Stroboconn tuned at A equals 440.

With the exception of the lower C, the pitches correspond very closely to the previously stated law that the frequency

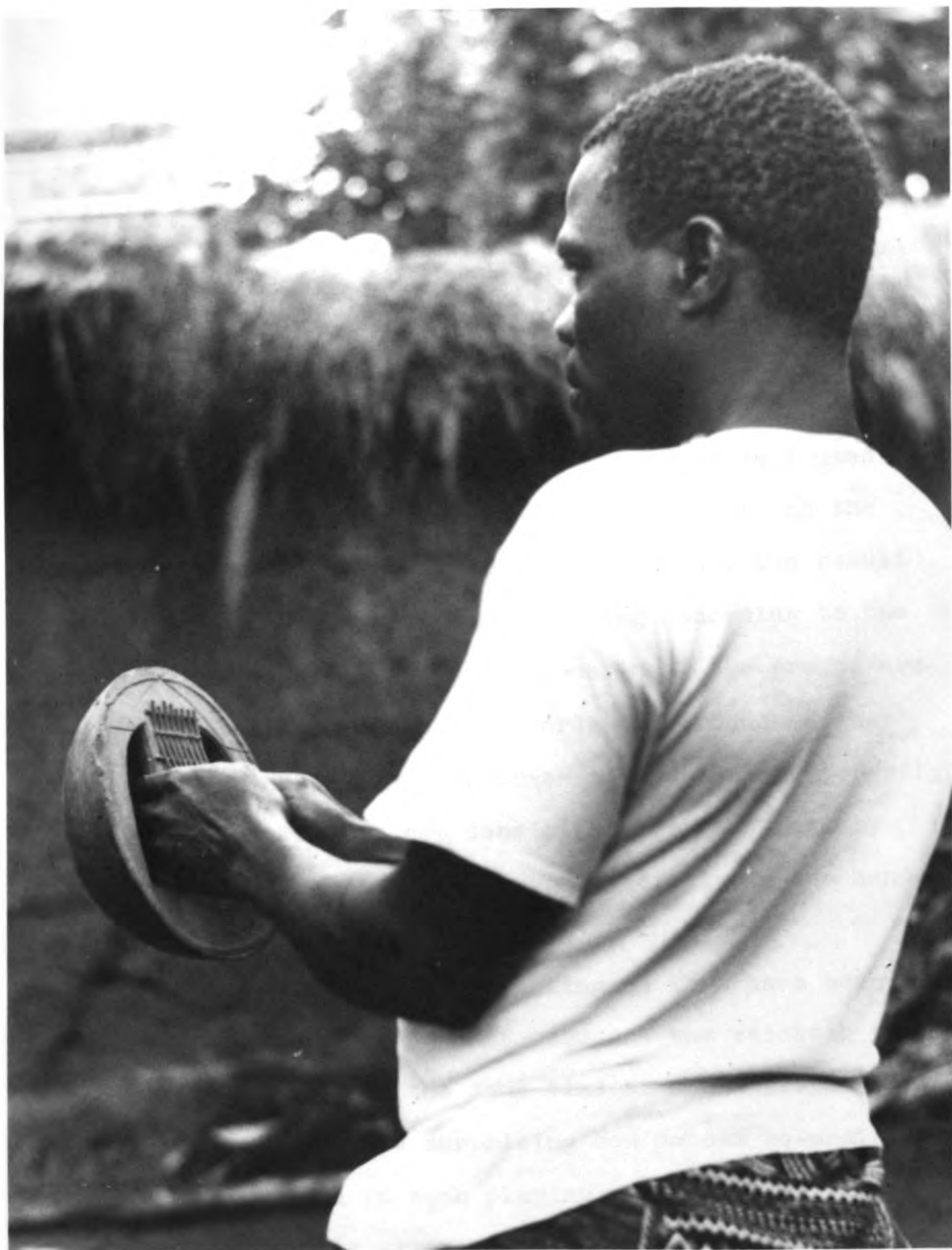
is inversely proportional to the square of the length.

Without knowing what the key on the instrument was, I asked the player why he chose that key and not anything higher or lower. He said that he could tune it up or down, but that at that moment the key most suitable for his voice was what he had tuned it to. I asked him how he knew the intervals between the prongs. He said that he did not know and asked me to watch him tune the ubo-aka again. He pushed the prongs in and out with his nail and played them to assure me that they were not in pitch. He sang a phrase of an Ibo song, tuning the prongs between the melodies he sang. Look again at the figures and remember that a cent represents the hundredth part of a semitone. Isn't that amazing?

In the Ibo country, especially in Owerri area, experts often play more than one ubo at the same time. The player selects three or four of them of varying sizes. He does not tune all prongs in all the instruments. He tunes about three or four prongs on each instrument to a short melody which he repeats very often as he does the tuning. This leaves many prongs on each instrument not tuned. The result is that he can play the melody of a tune on all these instruments, his hands crossing and recrossing to get the notes he wants. Because of the number of instruments used, the player gets a wide range of notes. Depending on the sound he wishes to obtain, the player pushes the prong forwards or backwards with the flat end of a nail. The largest of the set of ubo **is lucky** to have more notes in tune than the rest, for the

player's helper plays an ostinato bass as an accompaniment. This means that only two or three notes are out of tune in this instrument compared with the others that may have up to nine prongs out of tune.

Foreign visitors who collect instruments, after they have heard this performer play, may elect to pay a good price for one of them. The performer gladly sells the instrument. The collector goes away and asserts that the prongs on the particular instrument he had bought represent the scale which the performer used. I wish that a foreign collector to any country at all would look for a guide to help him do his collecting.



An Ibo man playing Ubo-aka.

CHAPTER V

TECHNIQUE

After the ubo has been tuned, some strung beads are tied loosely round the back of the calabash to produce an additional percussive effect while the player is playing, for he sometimes intentionally agitates the instrument. The instrument is held in both hands with the tailpiece pointing away from the musician, and the thumb nail used for manipulating the prongs. The nails press cleanly on the strips, and are then slipped sharply backwards, the result being a twanging sound, the notes varying according to the different lengths of the prongs. Sometimes, the prongs are stopped with the index fingers in order to produce higher pitches, which enables the performer to modulate temporarily to another key. This is not done often, for the quality of the sound produced is often poor especially in the hands of an amateur.

The performer often uses his fingers that have been passed in between the soft white wood and the calabash to beat out some rhythms at the same time as he is playing his melody. To me, I find it surprising how he can co-ordinate all his fingers and brain in both playing a melody distributed between the two thumbs of the two hands and at the same time, beat regular consistent rhythms, remembering that the melody must be translated to words by the hearers.

Experts in Owerri area play the ubo both with the right



Fig. 5.
Type of music played on ubo-aka.

thumb and striking the metals with smooth light stick held with the left hand. The resultant music is called oweni-pa. Oweni-pa is what the ubo seems to sing when it is played.

Very often, ubo playing is accompanied by knocking of an empty beer bottle with a piece of hard stick or with the end of a metal spoon. The ubo plays the melody while the knocking of beer bottle marks the rhythm. Ubo does not always play the melody or double the voice. Sometimes, it assumes the role of accompaniment. In this capacity, it plays an ostinato bass and marks the beats while the knocking of beer bottles marks the rhythms. When the voice stops, as an interlude, it improvises fresh melodies until the voice comes in again and it goes back to playing the ostinato bass.

CHAPTER VI

USE

Now that we have known all the technical points about ubo, let us see when it is used. The ubo is a representative of the harp family, and therefore, it is essentially a personal instrument for private pleasure. Apart from the night watchman who employs an ubo in order to ward off sleep, people who play it go about the town collecting current news; then in the evenings, when people come back from work and perhaps sit around enjoying their palm-wine, the players extemporise both the music and the words, telling the people such news as they have gathered. Secret news are revealed by the players as they play. There are no newspapers, so, it is well known that if people hear ubo music in the evenings, they drift near so as to hear the latest news and gossip. The music produced is sometimes danced to. At funerals or marriage ceremonies, experts are invited to perform. In certain Ibo areas in the past, when you see a young man continually playing an ubo, it is a sure sign that he is in love. Young men, nowadays, are gradually losing the art of playing ubo. As I mentioned earlier, an ubo is an intimate companion when one is on his own, the player plays and sings at the same time.

Using the same method explained earlier under the section of ngedegwu, ubo-aka is used in telling stories, the ubo either doubles the voice, or it tells the story on its own.

Here is a short story as told in Ibo with an ubo by itself:

The girl whose name was Lightning

Because the girl was light in complexion and had a very beautiful face, the parents gave her the name, Lightning. When she grew up, naturally, almost every man wished to marry her.

One day, there was a festival in the village which attracted young men from near and distant villages. As soon as this girl saw three young men, she fell for them immediately and declared that were it possible to marry three men at the same time, she would not hesitate to marry these three young men. Her friends tried to convince her not to think like that because the three young men were not human beings at all but fish. The young lady said that she would marry them be they lions or dogs.

The mother could not even dissuade her daughter, so she approached the strangers and told them in what state her daughter was. She also suggested to them that it would be ridiculous to have three men marrying one girl and that the best thing for them to do, as soon as they left the village, was to fight among themselves. Whoever survived would marry her daughter.

After the festivities, the three young men made for their home, but this girl ran after them and reminded them of what the mother told them; so, one fought the other, one of them was successful. This successful man fought the remainder and

one of them emerged a victor and instantly turned into a fish. The girl lived true to her words and lived as the wife of the fish.

This story obviously is for children, but this shows that children understand what these instruments say.

Section 3

NGEDEGWU

CHAPTER I

HISTORICAL ACCOUNT

I think that at the very beginning, it is necessary to explain the basic difference between a xylophone and a marimba. A xylophone is a percussive instrument in which graduated bars of wood are made to produce musical notes by striking the bars with a hard stick. The graduated bars of wood rest on two frames near the ends of the bars and are free to vibrate easily. The marimba is exactly like the xylophone but under each bar, there is a resonater that is tuned. This may be a gourd, a cedar box, or a metal tube.

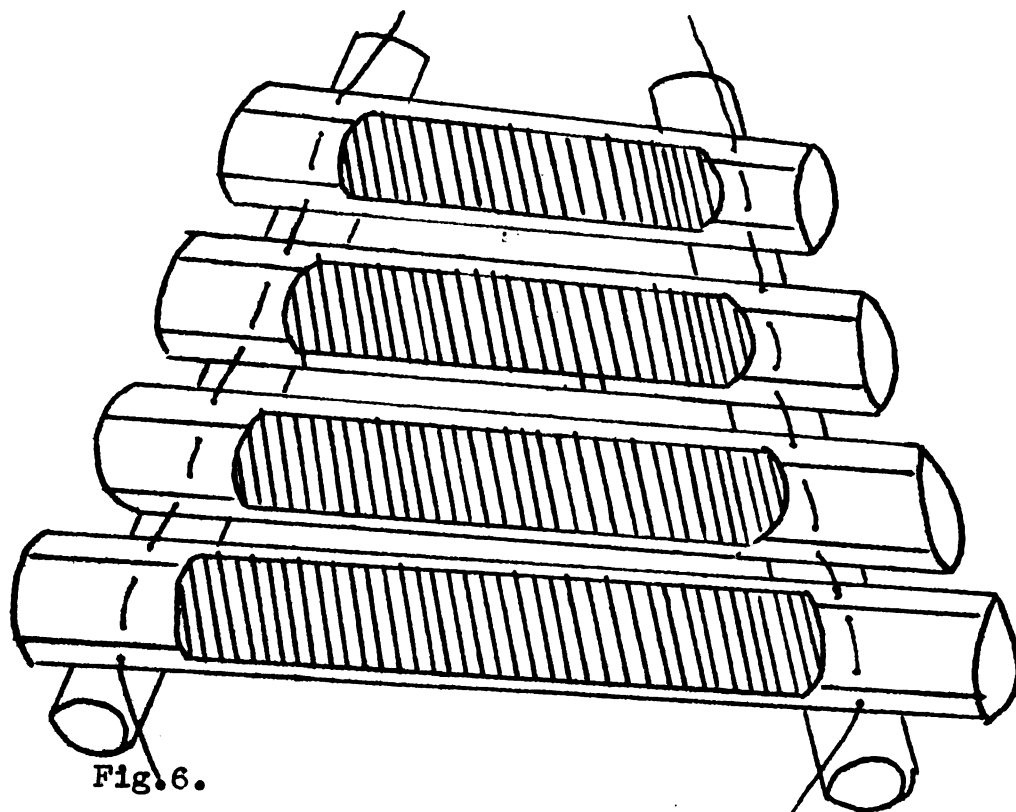


Fig.6.

Hand sketch of ngededwu slabs on two banana stems.

The xylophone belongs to a group of instruments classified under idiophones. This scientific name shows that the instruments sound (phon) by their own (Idio) nature without needing any type of special tension, like strings or drumheads. To this group belong lithophones (those instruments whose source of sound is stone); and xylophones (those instruments whose source of sound is wood). An example of lithophone is pien-chung of the Chinese; that of metallophone is the Chinese later model of ranat; and that of xylophone is ngedegwu of the Ibo. All these different instruments are really the same except that what is struck to produce musical note differs in each case.

The idiophone type of instrument has been in existence even in Biblical days. For example, in the Book of Job, references were made of ugab as a type of organ. This was nothing more than a fixed-tone stone instrument, an earlier form of ranat. Theologians fixed the date of this as 3500 B.C. This date is confirmed by the fact that near the pyramids of Gizeh built about 3700 B.C., specimens of the voarangi marimbas and the ranat which were in use by the Egyptians were discovered in the sculptures and Sarcophagi. All these instruments were made of solid stones.

A marimba made of slabs of solid stone and set with jewels was found in Greece. The estimated age of this is 2300 B.C. It had calibrated resonators and is similar to that allegedly used later by Pythagoras in his equations of musical pitch.

The Chinese were the first to make a coordination of a series of different tones. This instrument was called the pien-chung and was in use as far back as 2697 B.C. The twelve tongueless quadrate bells correspond to the pitch pipes of lus, which was an ancient instrument in which the octave is divided into twelve semitones, and the slabs were made of copper; but the atmospheric elements affected them so much that they were made of stone instead. The advantages of this change were not difficult to see. The slabs of stone produced beautiful tones since cold, heat, dampness and dryness did not affect them so much.

Again, the Chinese had pien-king made of stone and struck with wooden hammer. Pien-king had sixteen slabs that looked uniform in size and shape, but a close examination showed that each stone was different in size and thickness. When assembled, the arrangement was L-shaped.

In Northern Nigeria, there are standing musical stone gongs which served as bells to the Hausas in summoning them to meetings. Stones that produce musical sounds are found in certain parts of the United States. There is a place called 'Ringing Rocks' near Pottstown in Pennsylvania because when certain rocks there are struck even lightly, they produce pitches of regular frequencies. In Virginia, most stalactites and stalagmites in the 'Cathedral' of the Luray Caverns produce tones that sound like those of the xylophones when lightly struck with a mallet.

The ancient Chinese also had the ou evolved about 2000 B.C.

This instrument is still in use today. It is made of wood and appears like a tiger ready to pounce on its prey. This instrument is hollow, twenty small pointed pieces of metal arranged like the edge of a saw are arranged on the back of the wood, and played by striking these teeth with a plectrum or a small stick. This tigerlike looking instrument is mounted on a hollow wooden platform about three to four feet square, and serves as the sounding board for the musical instrument. At first, the ou had only six notes arranged to produce a pentatonic scale on either F or G, and as the time went on, there were as many as twenty-seven notes altogether, some notes duplicating and triplicating themselves. In the past, it was used for melody making only, but today, it is more of a percussive rhythmic instrument than a melodic one.

Still yet another ancient Chinese musical instrument is the fang-hiang. It has from sixteen to eighteen slabs of wood, all of equal lengths and breadth but differing in thickness and mounted on a carved wooden frame. There are two layers of them, call them manuals if you like, one above the other. It made its appearance about 500 B.C.

Around the same time, the Hindus, Siamese, and Chinese had a type of musical instrument called the ranat. There were types of it in Japan and it closely resembled the marimba and was tuned, as most other Chinese instruments were, in the pentatonic scale. It became so popular that in the reign of Confucious, the slabs of this type of marimba was increased from six to twenty-one slabs. The popularity of ranat spread

throughout Asia and other mediums were used in making them. Both the ou and the ranat were reputed to have their origins from Africa. First, ordinary wood was used in making the slabs; later, bamboo was used, later still, metal was used. In using the bamboo, two methods were open to them. They either sliced the bamboo into bars and cut them to various lengths or the bamboo was cut into various lengths without slicing them into bars, loosely secured on a wooden frame and struck to produce musical notes. With this method, each slab had its own resonator directly proportional to the length of the wood. The Smithsonian Institute in Washington, D.C. in 1876, was presented some Siamese bamboo marimbas by the king of Siam. The Institute proudly possesses a twenty-five-bar Burmese marimba which was used for festive occasions like marriages, harvesting and entertainment of Burmese kings. The Smithsonian Institute also possesses a Japanese sixteen-bar xylophone. These bars were made of hard redwood. Theodor de Bry of Frankfort, Germany, produced a drawing entitled, "Javanese Dancers" in which metal bars were used to produce musical notes and sugar cane stalks used as the frame.

About 200 B.C., the Hindus possessed a similar type of xylophone called voorang, and the Balinese had a model of an instrument whose frame was painstakingly carved like an enormous urn. It was called gangse Djongkok. There are types of this instrument in the Mediterranean basin.

The stone gongs and bells are believed to have migrated to countries around the Mediterranean in the same way that

wooden marimbas travelled around from Africa to India, China and Java. It is true that the wooden models of the keyboard marimba were appreciated and quickly copied and improved by the appreciating peoples of Java and Bali, who later reinfluenced the Chinese with the improved models. By improving on the wooden marimbas, people learnt from experience that marimbas made of metal slabs lasted longer, occupied less space and sounded better; from now on, improvements were based on the metal marimbas, while Indonesians have the credit of being the only race in the world to have used metal marimbas to a greater extent than any other.

A further improvement on the xylophone was around 900 A.D. when a bronze type of it was manufactured in Java. Two and a half centuries later, in 1157 A.D., a still further improvement in the manufacture of the xylophone was noticed in Java. This was called g'nder. Each bronze bar had a resonator under it in addition to having short legs. This was the true marimba. An evidence to show that by the fourteenth century, marimbas were used extensively in Java could be seen in a relief in the temple of Panataran where not only two were played at a time but an ensemble of up to six were played together, some performers having up to four mallets. Whether the performer struck the instrument with four sticks at a time is immaterial, but the inference is that he struck at least two slabs at once and thereby used harmonies of some sort.

EUROPE

An American marimba virtuoso, Clair Omar Musser, asserts that species of xylophones are natives of North-Europe. This is very doubtful, but if it is so, the Scandinavians and other Germanic peoples of Northern Europe did not take to the instrument as did those countries of the middle and Eastern Europeans. We know that in Europe, there was an instrument called 'strohfiedel'.

Grove¹ described the sound of early strohfiedel as 'sweet and bell-like but weak'. It consisted of 'a range of flat pieces of glass of no settled number tuned to scale, arranged on belts of straw, and struck with two small hammers, after the manner of the common glass harmonic toy',² and is described as 'a very ancient and widespread instrument, found principally among the Russians, Poles, and Tartars.'³ This shows that this cousin of the marimba may have developed in Western Asia. Carl Stumpf, talking on Siamese music, is of the same opinion and showed the amount of similarity between Siamese music and that of Europe.

At this juncture, it might be necessary for us to see what Georges Servieres has to say about the xylophone.⁴

¹George Grove. A Dictionary of Music and Musicians
(5th ed.) New York: 1954

²Ibid

³Ibid

⁴Servieres Georges, The origin of the Xylophone, tr. by
Camille Marcel Siquot, Baltimore, Maryland, 1953

"All those who, like me (Servieres), are of an age to have heard in 1875 the first production of the Danse Macabre by Camille Saint-Saens will remember the deep impression of surprise for the ear produced by the strange sound of the xylophone playing the rhythm of the 'skeleton waltz'. The artist (Guzikov), a Polish-Jewish type with a pale face and a long beard, drew out of these wooden sticks exotic melodies with a plaintive and tender accent. Before appearing in Paris he travelled and was heard in Moscow, Kiev, Odessa, Vienna, Leipzig, and Berlin."

"From the following account of Georges Servieres, obviously the instrument of Guzikov must have been improved from the original type, for "It was strong enough to bear the accompaniment of two violins and a cello. With a few sticks lying on straw and struck with other sticks, he does what is possible only on the most perfect instrument. How the small tone, produced more like a Tapegano fife than anything else, can be obtained from such material is a mystery to me."¹

"An important musician who heard Guzikov at Leipzig was Felix Mendelssohn and described him as "a real phenomenon, a 'killing' fellow (mordkerl), who is inferior to no player on earth in style and execution and delights me more on his odd instrument than many do on their pianos just because it is so thankless.....I have not enjoyed a concert so much for a long time."²

In the concert, Guzikov played his own pieces and arrangements of well-known works. The number which was mostly enjoyed by the audience was La Campanella by Paganini.

In Western Europe, the stromfiedel although has been in use privately, was not considered as a concert instrument, the same as we think of the violin for an example, because, it was felt that the compass was so small for any extended work, there being only twenty-five cylindrical bars as attributed to the xylophone by Martin Agricola in 1528. So, Guzikov deserves

¹Ibid

²Ibid

honorable mention for the way he popularized the xylophone. However, two important factors stood him in good stead: Firstly, he lived in an age when people were curious, when people asked questions and when people wanted to try out new ideas. Secondly, he had great technical skill in performing different musical instruments. The two constituents combine to make Guzikov's performance so successful. Certain musicologists felt that during the Baroque and the Rococo periods, xylophone was not made use of in serious music because there was no suitable music available for it, but the writer disagrees with this for he has heard, both in London and Paris, fascinating renditions of Bach on the marimba.

Interest in the xylophone greatly increased in the nineteenth century when J. Richardson brought out his home-make rock-harmonicon. Is it not surprising to hear that a stone marimba was made in England? It is true. It was made in 1841 by a quarryman. People supposed that J. Richardson was the maker. At the moment, it is housed in the Metropolitan Museum of Art in New York City. This particular marimba is very interesting because, it has close bearing on the tuning of the Ibo wooden marimbas. Twelve stones were collected from the Cumberland Hills in Wales. They were shaped and tuned. Over a period of some thirteen years, more stones were collected from the same area as before and a five and a half octave-instrument was assembled. The stone slabs ranged from six inches to four feet in length and never went out of tune. For tuning, variable lengths at

the ends of the slabs were cut off to vary the pitches; for the same reason, some slabs were scraped in the middle. The mallet used for playing it was covered with felt. The **lower** pitches sounded like deep bells, and generally speaking, the sound produced was like that of a harp. Mr. Richardson's sons acquired such a dexterity and skill in its performance that they produced fascinating effects when they played such pieces like the Harmonious Blacksmith of Handel, and overtures of Mozart. This was only the beginning of the many artistic performances on such an instrument, for very soon after the stone-harmonica made its appearance, an English performer appeared who played a xylophone whose range was five octaves. He was said to be a "prodigy who does wonderful things with little drum sticks on a machine of wooden keys - His rapidity was amazing, the sound of his instrument unequal."¹ However, some people were horrified to see the xylophone absorbed into the orchestra by Saint-Saens in his Danse Macabre. A much respected former editor of the London Musical Times - H.C. Lunn wrote, ".....We see no reason why many others (instruments) constructed to emit equally repulsive noises should not be included - Change is not always progress, and there is a danger of mistaking decay for development."

It was only in the sixteenth century that anything at all was written for the first time about marimbas in East Africa by a European, Father Joao dos Santos, although the Arabs

¹Ibid

had earlier mentioned it in their books about West Africa. In the fourteenth century A.D. in East Africa, the Bantus were noticed to develop the same types of marimba analagous to the models in Java. Strongly propounding the theory of Malayan and Bantu akinness of musical instruments is Curt Sachs, a German musicologist. He states that: (1)..... Many tools and implements of the Bantus are similar to the ones used by the Malays; (2) The Azandeh tribe of East Africa beat their 'xylophone' two bars at a time, as do their Malayan brethren to the East.¹

There is no doubt that the stage and characteristic features of development and advancement in civilization as found in Java and the Bantus of East Africa, the analysis of certain facts and of certain common dates, support the speculation that migration must have taken place. When Colin McPhee, an anthropologist, recently played to the Balinese, the music of indigenous peoples from Java, Siam and parts of Africa, "they listened intently and were quick to recognise affinities with their own music."² Since anthropologists are satisfied that there was no immigration from Java and Siam to Africa, but the other way round, it stands to reason that the immigrants took their instruments with them.

The Chinese and other Far Eastern countries have suitable stones from which they could make marimba types of instruments.

¹ Curt Sachs, History of Musical Instruments (1st ed., New York, 1940)

² Colin McPhee, "In this Far Island", Asia (Dec., 1944)

They also had metal, and so, they could experiment with metal. The Ibos have neither the type of stone suitable for making a xylophone. The type of stone they have are so different that it is not quarried as it is done in other countries of the world. Moreover, they had no metal, but they have plenty of different types of hard wood. They capitalized on this.

The equatorial and tropical forests of Africa are noted for their hard woods like the Iroko, mahogany, teak, and cedar. In the past, no timber of any type was exported; the Africans themselves hadn't much use for all the luxuriant trees. The trees just grew and flourished. It stands to reason that should there be any work that required doing with any material, the people first tried to find out which parts of the trees or leaves could be employed before resorting to other materials. At play, they discovered that they could produce rhythms by knocking together two pieces of sticks. From constant use, they discovered that the longer the slab of wood, the deeper the pitch; and if two slabs are equal in length and thickness, the wider the slab, the deeper the pitch. Very soon, a scale accepted by them was assembled and music was produced by striking these slabs with wooden mallets. This, then, in broad outline, was the birth of a marimba or a xylophone, which will be treated later in greater detail.

But it is interesting to note the absence of the marimba north of the Sahara. The reasons are not difficult to find. The first was that there was a scarcity of hard woods generally and especially, those suited to the making of a

marimba. The second and third are historical and cultural. The Sahara was a great barrier to communication. To cross the Sahara, a person must carry only a few of the barest necessities of life; often, most of the slaves that were being taken across the desert died of thirst, hunger, excessive heat, and wounds that resulted from the leather canes called Koboko in the hands of their masters. So, the marimba was only to be found in areas south of the Sahara and was generally known as the Kaffir Piano. One man who has made a serious study of African music, Professor P. R. Kirby of Witwatersand University, strongly believes that although the marimba is now seen all over the world in different stages of development, it is a native of Africa and the others are his offspring. Edgeley confirming his statement says,

"Then there is the Marimba, used both here and in Central America so many years ago that it is difficult to say where it originated. Africa, however, may be given preference in this respect."¹

K. C. Murray, who was the Director of Antiquities in Nigeria, the African Music Society's representative in Nigeria and has taken a keen interest in artistic and musical affairs in Nigeria for about thirty years, in discussing Music and Dancing in Nigeria, pinpoints the existence or presence of the xylophone to the Ibos in Eastern region of Nigeria. He said:

"Instrumental music itself is often used as a means of communication.....More tuneful to European ears

¹ K. C. Murray, Music and Dancing. From Journal of the African Music Society Newsletter, vol 1 No. 5, June 1952.

is the music of the Eastern Region, where the dancing is usually more varied and elaborate. The organization of a dance by the members of an age grade or a club represents quite an achievement upon which no information has been given in books or, it seems, has been collected by anthropologists.

"The variety of types of dance with their accompanying music is quite considerable, although there are of course underlying similarities of the kind that make West African dancing different from Indian. The differences exist in varying degree: there are the distinct characteristics of the dancing of the Ewe (Gold Coast and Dohomey) contrasted with those of the Yoruba and Ibo; and there are the tribal differences between, for instance, the dances of Ibo and Ibibio.....and the local differences that exist in any particular place between the dances themselves and in individual interpretations. There are also the differences of instruments: the xylophone and slit gong for instance are in the Eastern Region not in the West....."

The Ibos are generally regarded as the originators of the marimba or more correctly, the xylophone, but having originated it, they lost touch with its further developments elsewhere. For instance, the Ibos do not have any idea about the use of gourds to act as resonators. There was no necessity to carry the xylophone about, but the slaves on the march or on the move had to make portable xylophones which they could carry about. If the Ibos had any idea of the use of gourds, they would have made some of the finest xylophones.

One may ask, "Do the Ibos have gourds anyway?" The answer is, "Yes". Gourds are very plentiful, in fact, gourds are used for most household things. Small gourds are used for collecting palm-wine from palm trees; big gourds are used for storing palm-wine and distributing it for sale; gourds are used for bringing water from streams because they can hold a lot of water and are themselves very light in weight; gourds are used

in serving food and soup; women make use of particular types of gourds as spoons for stirring soup when it is cooking; the smaller variety is used as a spoon for drinking a kind of mush called Akamu; a type of gourd is used in native surgery when impure blood is extracted from the human body; gourds are artistically carved for storing trinkets like beads, gold and other valuables; for carrying merchandise to and from markets, large gourds serve as containers, the same way as enamel pans are used today; gourds are used in storing soap for toilet use; types of gourds are traditionally set apart for drinking palm-wine. Up till now, some very educated people refuse to drink palm-wine with a cup or tumbler; in making music, different sizes of a particular type of gourds are used as wind instruments, opi, producing round mellow sounds; gourds are woven into a basket with handles and pebbles put inside so that when agitated, they rattle. This type of instrument is called, oyo. There are many more uses of the gourd. So the Ibos definitely know about the gourd, but as they have never made use of it as a resonator for the slab of the xylophone, and as they had never seen the instrument utilizing the gourds, this goes to confirm that, having discovered how to make and use the instrument, the knowledge spread to other parts of the world by means of the slave trade, these other people developing on the discovery.

Let us see how slave trade was responsible for disseminating this knowledge. Probably, the people that suffered most on account of slave trade were the Ibos, Yorubas and the

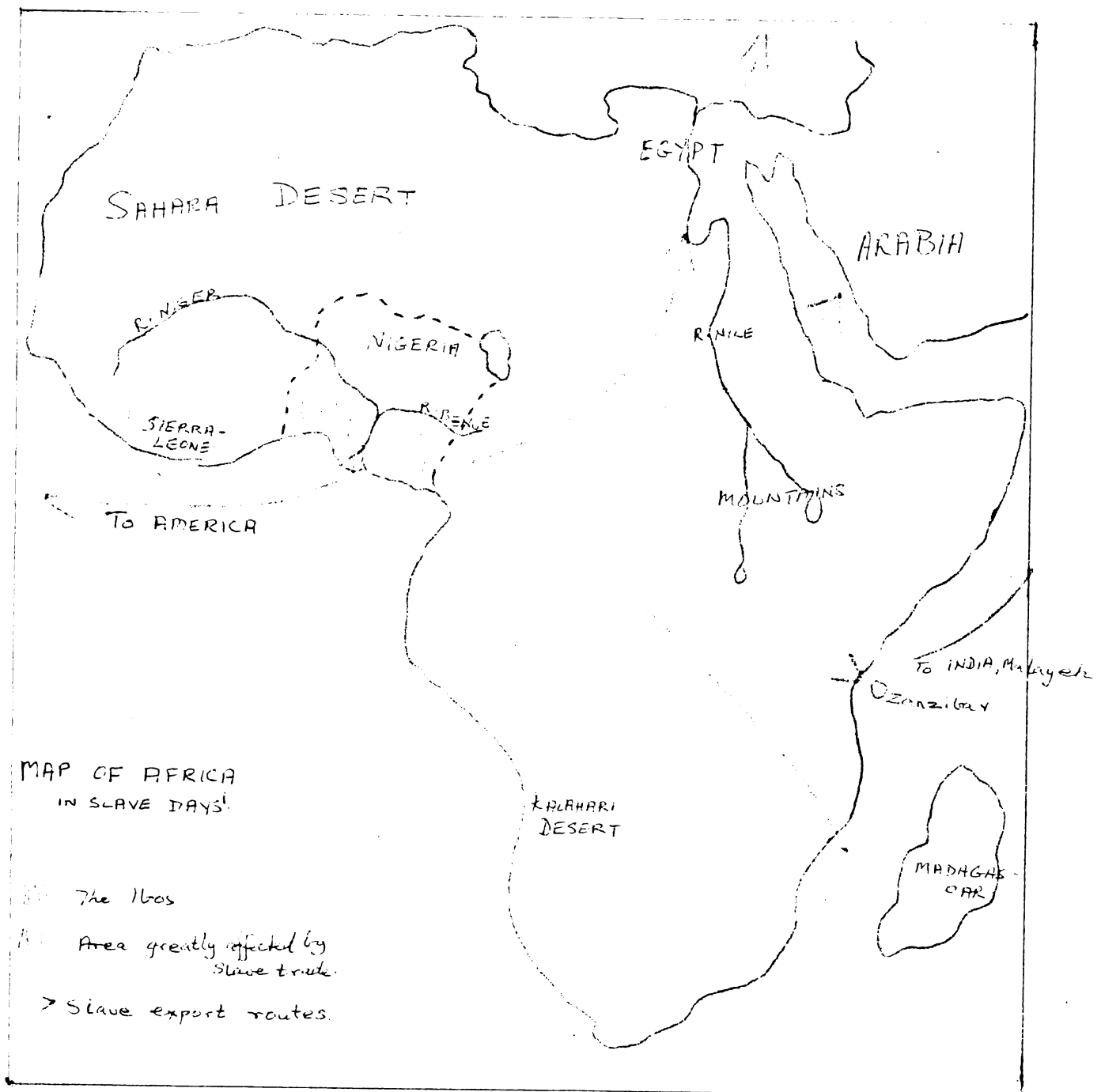


Fig. 7

"For many decades, Zanzibar was the eastern terminus of the slave route over which thousands of elephant tusks were carried each year by the blacks, both ivory and slaves being sold here."¹

¹ Carpenter, F. "Uganda to the Cape". New York: Doubleday, Page & Co., 1926.

Ghanaians. When these slaves were sold from hand to hand to the Portugese or Arabs and they find themselves in India or America, there was no hope for them ever to come back. Captain Adam's figure of 370,000 Ibo slaves sold in the Delta Markets over a period of 20 years - equal to about one quarter of the total export from all African ports - gives some idea of the scale of human wastage, and slave trade lasted for over four hundred years. Now, let us follow the plight of these slaves. The Arabs were the first to engage in slave trade. They carried the slaves off to all parts of Asia, west and southern Europe. This was several centuries B.C. The theatre of Dionysos at Athens about 465 B.C. was built with the help of Negro slaves. The Sumerians and Chaldeans of Old Testament fame made use of Negroes from areas south of the Sahara. The first Europeans to come to Nigeria were the Portuguese, who landed there in 1444 and started trading in pepper, palm oil and ivory. This lucrative trade also lured the British, French and the Dutch into similar ventures. Very soon, the Portuguese found that traffic in human slavery was more lucrative than other commodities. Other European nations followed suit and carried out large scale slave operations following the discovery of the Americas. This intensive slave trade continued for nearly three centuries, culminating in British monopolization in 1712. Those slaves taken to India, China and the far East were driven overland across Africa. Wherever these slaves had the opportunity to live together, for social entertainments, they played their drums and xylophones.

The discovery of the resonators in Central Africa, South Africa and East Africa was mainly by chance. The slaves, being constantly on the move, devised the method of constructing marimbas that are portable, and in whichever country he find himself, be it in South America, Mexico, China, Java, he made his favourite instrument which soon became popular among the peoples around him.

The earliest mention of a marimba in Africa is by Father Joao does Santos describing his visit to the Karanga in Eastern Ethiopia in 1586.¹

'Quiteve (the chief) makes use of another class of Kaffirs, great musicians and dancers, who have no other office than to sit in the last room of the king's palace, at the outer door, and round his dwelling, playing many different musical instruments, and singing to them a great variety of songs and discourses in praise of the King, in very high and sonorous voices. The best and most musical of their instruments is called the ambira, which greatly resembles our organs; it is composed of long gourds, some very wide and some very narrow, held together and arranged in order. The narrowest, which form the treble, are placed on the left, contrary to that of our organs, and after the treble come the other gourds with their different sounds of contralto, tenor, and bass, being eighteen gourds in all. Each gourd has a small opening at the side near the end, and at the bottom a small hole the size of a dollar, covered with a certain kind of spider's web, very fine, closely woven, and strong, which does not break. Upon all the mouth of these gourds, which are of the same size and placed in a row, keys of then wood are suspended by cords so that each key is held in the air above the hollow of its gourds, not reaching the edges of the mouth. The instrument being thus constructed, the Kaffirs play upon the keys with sticks after the fashion of drum-sticks, at the points of which are buttons made of sinews rolled into a light ball of the size of a nut, so that striking the notes

¹Theal, G.M., 'Records of South Eastern Africa', Capetown, 1901, vol. vii pp. 202-3.

with these two sticks, the blows resound in the mouths of the gourds, producing a sweet and rhythmical harmony, which can be heard as far as the sound of a good harpsichord. There are many of these instruments, and many musicians who play upon them very well.'

From the above account by Jao Dos Santos, the description fits the Ibo ngedegwu except in the following three points: the beaters have no balls of sinews and of rubber; they are plain. The 'slabs of wood of higher pitch are placed' to the right of the instrument. There are no gourds and spiders' web attached to the instrument. In other words, the Ibo instrument is a xylophone, not a marimba.

Kirby¹ comments on Father Joao's account as follows:

'This is an extraordinarily interesting description. Its date clearly shows that the instrument was developed entirely without European influence. It will be noted that performers upon it were specialists, and that its name ambira is the same as mbila, by which it is known to-day. Further, that the beaters had heads made of balls of sinews, not of rubber, which is invariably used at the present time. This remark about the beaters explains why one pair in my possession has heads of thin rubber threads wound into balls upon the sticks. The rubber has been taken direct from the tree and wound thus after the manner of the sinews of old.....Joao dos Santos' statement that the slabs of wood of higher pitch are placed to the left of the instrument does not hold nowadays; but his account is so wonderfully accurate that one hesitates in suggesting that he was mistaken in this solitary particular.'

In some parts of the continent of Africa, the instruments are constructed in such a way that a man carries the instrument, plays it as he goes along. LeCaille¹, on January 1, 1753, wrote:

¹

La Caille, "Journal historique du voyage fait au Cap de Bonne Esperance", Paris, 1763, p.192.

'I have seen an instrument played which is used by the Kaffirs. It is composed of twelve rectangular boards, each eighteen to twenty inches long, whose breadth goes on diminishing from the first, which is about six inches, to the last, which is hardly two and a half. These boards are assembled side by side on two triangles of wood, to which they are attached by means of leather thongs, so that the whole instrument forms a kind of table four feet long and twenty inches broad: under each board, there is a piece of calabash which is attached to it [sic] to increase the resonance. A man carries this instrument in front of him, almost in the same way that our women in Paris carry an inventaire [a flat basket suspended before the wearer]. He plays by striking thereon with two mallets of wood, of which the shape and size approximate to those of a plumber's soldering-iron. This instrument is tolerably sonorous, and with its twelve notes a great many tunes can be played upon it.'

Certainly, the Ibos do not carry this type of ngedegwu about, playing it at the same time. There is a diminutive type which has only two, or in rare cases, three bars on a light earthenware vessel, which will be described later. Professor Kirby of the University of Witwatersrand, Johannesburg, affirms that such xylophones as are carried about, are found in the Tshopi country on the east coast and Mashona from Southern Rhodesia.

The Ibo ngedegwu is not the only type of its kind on the continent of Africa without calabash resonators. Thunberg (1773)¹, in listing the musical instruments of the Hottentots, described this type of xylophone without the calabash resonators. But it is known that Hottentots never originally had such an instrument. The likelihood is that

¹ Thunberg, C.F., "Voyages de C.F. Thunberg", Paris, 1796, vol. i, p. 233

some Hottentots might either have acquired this instrument which had been brought into their country, or, that, after seeing it, they copied it, and this was, perhaps, what Thunberg saw.

Curt Sachs¹ divided the different types of marimbas and xylophones found in Africa into five, beginning from the simplest to the complex:

1. The leg xylophone: a few rough slabs of wood across a player's legs. Sometimes this type is played over a pit to give better resonance. In Madagascar, two women play a leg xylophone at right angles to one another, suspending logs on legs.
2. The log xylophone: bars are laid on two parallel logs.
3. The table xylophone: bars rest on a frame fastened down.
4. The bail (hoop-like) xylophone: frame suspended from the neck and held away from the body by semi-circular hoops. The frame is generally at waist level.
5. The trough xylophone: wooden slabs (keys) lie cross-wise on pins piercing the slabs at one end and lie between them on the other.

In each case the wooden bars were supported at two points:

¹Curt Sachs, History of Musical Instruments (1st Ed., New York: 1940).

the node of vibration. The range was from six to twenty slabs. The Ibos have only the log type of xylophones and they also have a pot xylophone not mentioned by Curt Sachs. This will be discussed later.

CHAPTER II

CONSTRUCTION AND TUNING

Ngedegwu is the name by which the instrument is known in Onitsha area; in Udi area, it is called igo and in Owerri area, it is called ngelenge. Materials required for making an ngedegwu are:

Ogwe joko abua - two long banana logs; the diameter of each should not be less than four inches.

Okwe wood or abosi wood - abosi wood is technically known as ptaeroxylon obliquum. This is found more in a big forest. It grows slowly and it is hard and tenacious. The diameter of an average stem is about five inches. Okwe wood is preferred to abosi wood. Okwe wood grows in a forest near the river. It grows to a great height, it is light in weight; when used for ngedegwu, the sound goes much farther than that of abosi wood; when dry, the harmattan, a north eastern dry wind, cannot crack the wood, which is not the case with abosi wood. It is from either of these two woods that slabs of the ngedegwu are made.

Udo - This is a strong cord of about $\frac{1}{2}$ " in diameter and about 13 feet in length. This is used for cording together all the slabs in a manner to be described later, and also for carrying the ngedegwu about.

Osisi - Four short pieces of sticks about nine inches long, one inch in diameter, and fairly heavy.

Tools needed are:

Anyike ukwu na anyike nta - big and small axes.

Akika - oyioyi - a chisel.

Obejili - a sharp matchet.

Anwilinwa leaves - these are used as sandpaper.

The man who makes nredegwu has to go to the bush to select the particular wood he wants. If he is to be paid a large sum of money, he selects okwe wood, if not, he selects abosi wood. He may go as far as twenty miles to get the wood he needs. He cuts the wood down with his big axe and cuts it into appropriate lengths, having in mind roughly how long the longest slab is going to be; then, he splits the pieces down the center. He now exposes them to the sun to dry partially, so that he can carry them from the bush. This may last about a week or two, depending on whether it is dry or rainy season. When he feels that they have dried enough, he goes back to the bush and takes them home, and allows them to dry well under the sun before he begins to work on them. The bass slab may be as long as three feet and about five inches wide. The thickness at the ends may be about one and a half inches and at the center about a quarter of an inch. These dimensions gradually decrease, the higher the pitch. If, in the making of a big slab, the maker accidentally makes it too short, he doesn't throw it away, but keeps it for a higher pitched slab.

As each slab is at least $1\frac{1}{2}$ " thick at each end, the iron

awl is made red-hot, a hole is pierced in such a way that it goes through mid-way the thickness from one side of the slab to the other across the width of the slab at points 5" from both ends. The holes should be large enough so that the cord can pass through them easily and afford each slab every opportunity of vibrating and jumping about freely.

Tuning is usually left until after the rough pieces of sticks - later to form the proper slabs- have been sunned, allowed to dry and lose weight; then each slab is dressed and tuned. Tuning is systematic. The maker often tests an ngedegwu between tunes by chipping off bits of wood of the slab, a little at a time. If too much wood has been chipped off, this slab is condemned and set aside for another ngedegwu where it may be used again; another slab is prepared. The Reverend Henri Philippe Junod¹ accurately described how an ngedegwu is tuned when he said that 'The slabs are tuned by cutting, exactly as those of the European xylophone are tuned, and by thinning the center of a bar on the underside to flatten it, and by thinning one end of the upper surface to sharpen it.' In fact, a large amount of wood is taken out in the middle and varying amounts of wood ~~thinned out from~~ the center towards the ends of the slab. In other words, the center is thinnest and the ends thickest.

¹Junod, H.P., 'The Mbila or Native Piano of the Tshopi Tribe', in 'Bantu Studies', Johannesburg, 1929, vol.iii, No. 3, pp. 275-85.

After the first round of tuning, the maker exposes the slabs to the sun again to make sure that the slabs are very dry. If the weather is not very good, he makes a fire of about 3 feet in diameter in the center of his compound. He stands the slabs round the fire, turning them every half hour for about eight hours a day for three or four days consecutively. He goes to all this trouble because he maintains that after tuning, if the slabs are not properly dried, they will go out of tune, and of course, performers will no more patronize him. It is important to note that the maker does not tune the slabs until the slabs are arranged on the two logs of ogwe ojoko (banana stems) already cut and dressed for the purpose. On these, slabs can jump and vibrate freely when beaten, without the logs vibrating in sympathy. When the maker is satisfied that the slabs are very dry, he assembles them again for fine tuning as described above, the bass slabs on the left and the treble slabs on the right. He tries as much as possible to get all the slabs to be smooth but he does not sacrifice smoothness of the slabs for their being in tune; therefore, a person should not be surprised to find that certain slabs are rough to the eye. To make the slabs smooth, the maker makes use of anwilinwa leaves to rub them smooth. These leaves behave in exactly the same way that sand-paper behaves. Each time the maker tunes ngeseemu, he selects a pitch like G^b , G , A^b , A above the middle C and which is convenient to his voice. By singing a tune ever so often, he soon assembles

a number of slabs which give an octave. The pitch he selects is not necessarily the key note of the scale, but merely a note within the scale. Having got a scale, he does not find it difficult to reproduce an octave higher or lower of a given note. It is important to note that the resultant scale is a diatonic scale. The Ibo ngedegwu maker has not yet learnt to make a chromatic scale as found on a piano. If the key is G on a particular instrument, he perpetually plays all his tunes on that instrument in that key; if it is a different key, he performs in that key and there is no question about modulations.

In tuning the ngedegwu and in performance, perhaps, it is necessary to mention that the slabs are assembled on the two banana logs, which are laid on the ground. The banana logs are not parallel, but taper towards the right in such a way that the shortest slabs can lie conveniently on them and still there are, at least, 3" projections on either side of the slabs.

When the maker is satisfied with his tuning, the next question is to cord the slabs together in order, so that their lengths diminish from left to right. It will be remembered that holes through which this cord will pass have already been made with the red-hot metal awl. The length of the cord depends on the number of slabs and their widths. The principle is to thread the ngedegwu if possible with a single unjoined cord, and to allow a sufficient length for carrying it. He allows a generous unbroken cord of about 13 feet. The maker cords the slab in such a way that there is about

1½" of chord from the end of each hole on either side of each slab, and a nut which he ties. The nut prevents two slabs from touching while the slabs are vibrating during performance. The maker begins cording from the smallest slab. He intentionally leaves about three feet of cord free from this end. After the cording and nutting of the longest slab, he allows the cord to run loosely along the longest slab. When he reaches the hole at this end, he makes a nut as usual and continues as before until the last short slab. When the last slab is corded, the other free end of the cord and this second loose end are tied together so that there is 1½" of cord from the end of the hole. One can see that there is a free loop of cord at this end. This loop is used in tying, hanging, or carrying the ngedegwu. When it is said that the ngedegwu is carried, this means that the slabs united by the cord are carried and the banana logs are left behind because other banana logs are easily procurable.

In Owerri area, cords are not used. Before the wooden slabs are tuned, the awl is used to make one hole each at either end of the slab, at a point, say, 5" from the end. When the Ngedegwu is finished, mid-riffs from the coconut leaves or bicycle spokes cut short to about 4" long, are used in pinning loosely the slabs to the banana logs. The disadvantage of this method is that on taking the ngedegwu somewhere else, the pins may drop on the way. But this is not serious, because other pins are easily procurable.

In a whole district, one maker is normally acknowledged as the best maker. His fame soon goes beyond the district and performers all vie among themselves to get an instrument made by this maker. As the maker normally copies his work, he tunes all the instruments that he has made to the same key. Thus, in an ensemble, there is no difficulty in performance but should there be a rival maker who probably makes his instruments in a different key, performers in an ensemble decide among themselves to use the set made by one maker at a time, making sure that ill feelings are not created. This situation does not often happen.

Performers are very particular about the interval between one note and another. It is the maker who can satisfy the great demands of the performers that is always acclaimed the best ngedegwu maker. As the makers have no instruments for testing the proper vibrations of a slab, there is no doubt that once in a while, an interval may be more or less out of tune. Usually, it should not be so out of tune to be noticed by the general public. Only a few trained ears of expert performers may notice it and this difference is lost during performance when many complex and complicated things are going on together. However, a slab which has gone out of tune is promptly corrected by the player. One very good point about ngedegwu is that if a suitable material has been used in making it and if the slabs are allowed to dry well before the final tuning, it very rarely goes out of tune. There are

examples of some ngedegwu that are up to eighty years old and they are still in tune.

Normally, the ngedegwu is assembled and played in the open space in a compound under a shade of trees. That it is played in the open space is to let people from near and far hear the music, and to afford room for the large number of spectators to sit or stand in comfort. It also allows room for dancers to dance to the music, and to let air circulate freely on them while dancing. That it is played under the shade of trees is for the sake of the performers. The slabs do not crack under the sun if the makers have selected the proper wood, sunned, and dried the slabs well in the usual manner. Performers in the Ibo country do not use sticks that have been rubberised, unlike those described by Kirby from South Africa. They perform with short sticks as described above.

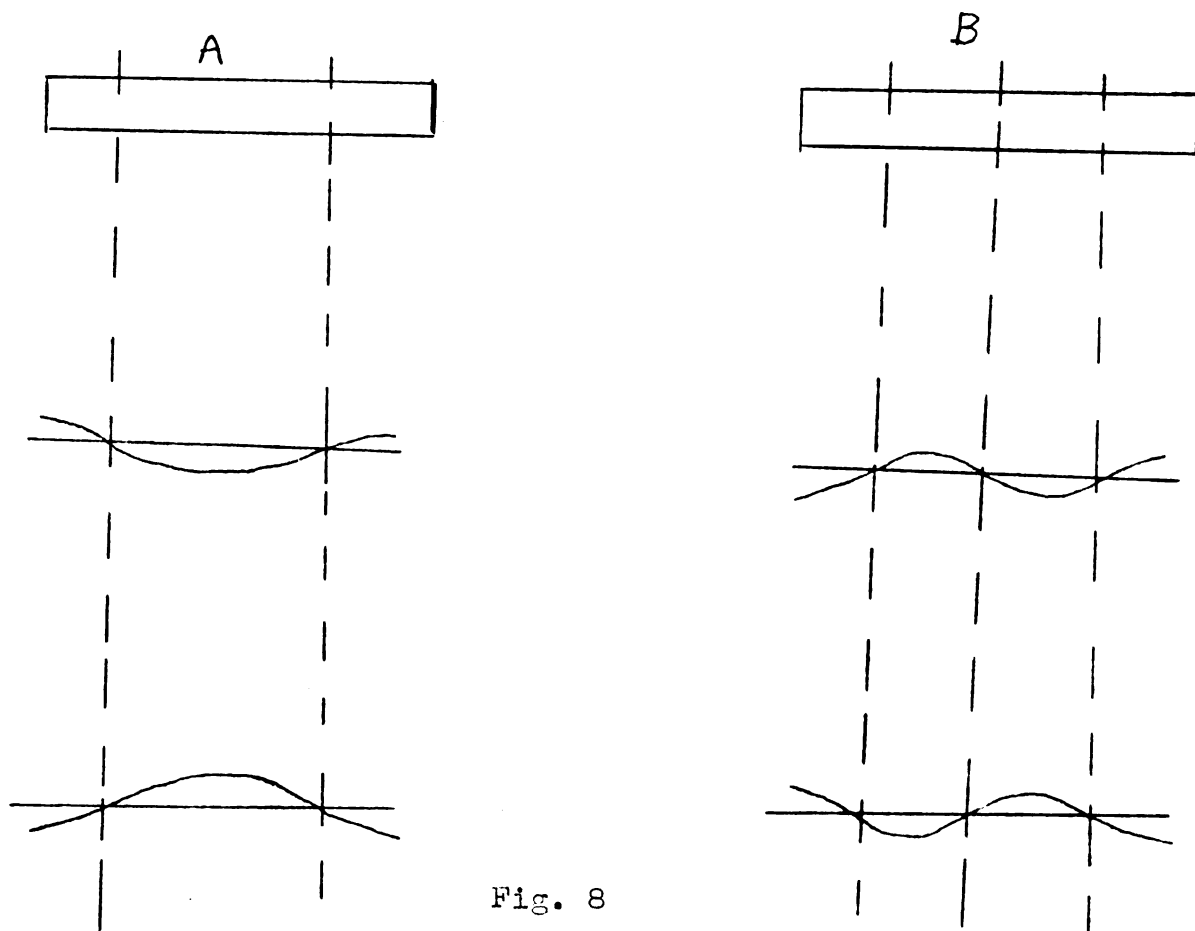


Fig. 8

Positions of oscillation when a flexible stick is shaken.

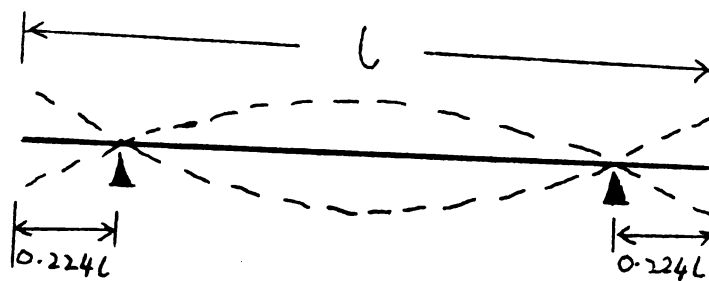


Fig. 9

Fundamental vibration of a bar of xylophone.

CHAPTER III

ACOUSTICS OF NGEDLEWU

It is generally accepted that primary motions of a bar with both ends free and in the center are seen by holding a six-foot flexible stick about a foot from each end. When the stick is shaken it oscillates between the positions shown in A in Fig.8 , the points at which it is held forming nodes. Held nearer the ends, it vibrates as under B, with three nodes. As its fundamental, which occurs when the two nodes alone are present, a free bar gives out a tone $6\frac{1}{2}$ times as acute as the fundamental of a similar rod fixed at one end, or a tone corresponding to the first upper partial of the latter. The same thing happens with the bars of a xylophone or marimba. The succeeding partials rise rapidly in pitch, bearing about the same relations to their fundamental as those in connection with bars fixed at one end.

When such a bar is vibrating at its fundamental, it has two nodes, each of which is $0.2241L$ from each end, where L represents the length of the bar, (See Fig. 9). When a slab rests on two logs of banana stems and struck in the middle or at one end of the slab, the slab produces its fundamental note, and this fundamental note varies inversely as the square of the length. Frequency is like that of the tuning fork in which the end $\sim \frac{h}{l^2}$ where h is the thickness and l is the length.

The frequency of the harmonics of such a slab varies as $(2n - 1)^2$ where n is the number of nodes. Since the smallest number of nodes is 2, the relative frequency of upper partials would bear the relations given by the numbers 9, 25, 49, 81.

Now let us examine an ngedegwu made by a reputable Ibo maker.

I brought ngedegwu from Nigeria and made the following measurements:

Note	Cents	Lengths in ins.	End thickness in ins.	Width in ins.	Middle Thickness in ins.	Weight in ozs.
D#	2736	22.5	1.9	4	1.9	28
C#	2540	23.2	1.8	4	1.8	29
B	2345	23.7	2.4	4	1.0	26
A	2090	25.2	1.6	4	.8	27
G#	1975	27.2	2.1	4.1	1.5	34
F#	1800	28.4	2.0	4.2	.7	40.5
E	1620	29.3	2.2	5.0	.9	44
D#	1495	29.5	2.1	4.5	.9	39
C#	1305	30.6	2.5	4.5	.4	39
B	1090	31.7	2.5	4.5	.6	37
A	865	31.3	2.7	4.8	.7	35
G#	835	33.0	2.7	5.0	.6	40
F#	590	33.5	2.4	4.3	1.0	39

Stroboconn A equals 440.

Each slab is semicircular, therefore, 'thickness' means the thickest part.

In the vibration of a bar free at both ends, frequency varies directly as the thickness and inversely as the square of the length. It appears as if the frequency of ngedegwu does vary inversely as the square of the length. However, it is very difficult to determine whether the frequency varies directly as the thickness since most of the slabs have been hollowed out so that the thickness varies from 2.7" at the end to .4"

in the middle. Moreover, the two sides of each slab are not always equal; the ends of the slabs are not cut square; the body of each slab is not smooth and regular.

Each of the banana logs was 6' 9" long, 6" in diameter. The slabs were threaded together in such a way that it was not necessary to tie knots in between two slabs so that they do not touch as in the diagram:

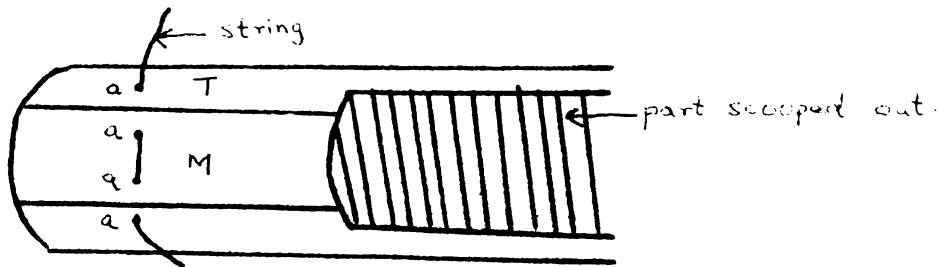


Fig. 10

4 holes (a) were drilled in such a way that a straight hole drilled from each side T $6\frac{1}{4}$ " from either end appeared on top of the slab M . It is through these holes that a string is threaded as shown on the diagram. The overall length of the string used was 9', the thickness of the string was 8".

Workmanship was fairly smooth.

CHAPTER IV

TECHNIQUE

In performance, there are two performers when only one ngedegwu is used. The two performers squat on the ground on the same side of the ngedegwu. The principal performer is on the right. He has two sticks for performing. He plays on most of the slabs except the four or five left for his descant man. Wangemann¹ described the performance of this instrument at Tshewasse (Sibasa, N.Transvaal) in 1884:

'.....Two men were playing at the same time. He who played the higher sound had two beaters, while he who played the lower sounds had three, two beaters for the bass sounds being held in his left hand, by means of which he struck different tones at the same time. The music was quite artistic. The left hand of the descant-player (Diskantisten) or the left hand of the bass player produced the quite simple though clearly recognisable melody E D C B while the remaining tones, always five at the same time, added partly the harmony and partly variations moving around the melody in quick figures and new patterns.'

It is the descant man who begins the performance by playing the ostinato bass, thereby establishing the time and rhythm before the principal performer begins. The melody of the principal performer, played with both hands, contrasts in absolute details with the melody and rhythm of the descant man. He employs all the techniques possible in his melodies. The principle of crossing the main beats as found in the performance of drums, is also true in ngedegwu music. In

¹Wangemann, D., Ein Zweites Reisejahr in Sud-Afrika, Berlin, 1886, p. 151.

some melodies, though the main rhythms are different, the main beats of these two players coincide in some, the rhythms are diametrically opposed to each other; some melodies are intricate variations on the ostinato. Rhythms and meters give the melodies their characteristic basic elements.

In an ensemble, there is always one nrededegwu that marks the main beat. This is done by the descant man with the stick in his left hand. All the melodies are improvised; therefore, there are no questions about bar lines, but certain prolonged notes, or notes approached by leaps, become more important than others and therefore assume the role of strong beats where they are. This is unconsciously done, but the rhythmic pattern which follows the tonal language of the people, the melody of whom the performer has in mind, gives rise to these non-accentual rhythms. Compare the following from 'Obodo Donuo'.¹

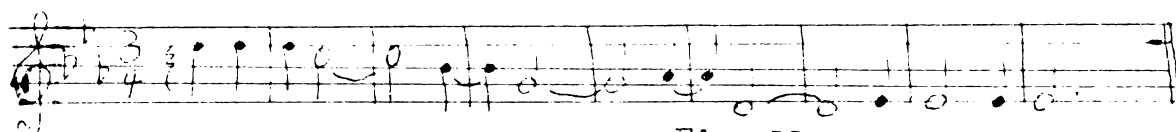


Fig. 11

Again, in conjunction with the nrededegwu that marks the regular accent, another phase of the language of the Ibos which players of nrededegwu employs is evident. These are shifted accents. This means that those notes that normally should not be accented are accented. Compare the following from

¹Echezona, W.W.C., Unpublished manuscript of Ibo folk songs.

'Obodo Donuo' by Echezona:¹

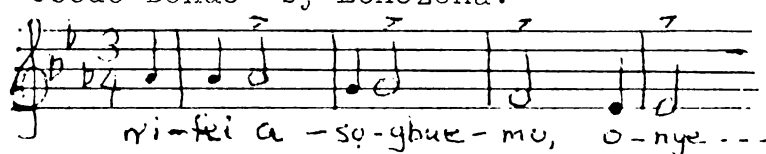


Fig. 12

To this section also belongs shifting the accents in such a way that a different time altogether is implied; again, this example comes from 'Obodo Donuo' by Echezona:

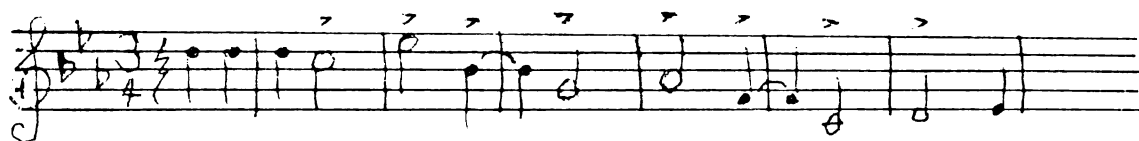


Fig. 13

This could easily be:

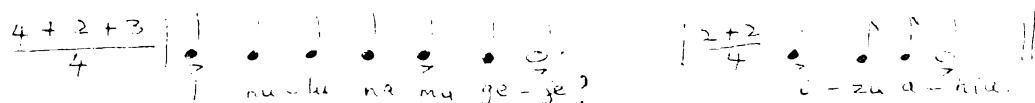


Fig. 14

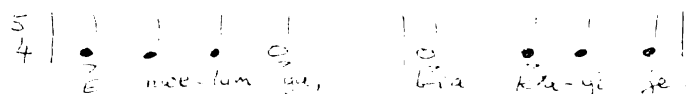
Another way in which the Ibo speaks has given rise to another technique used by the ngedegwu player. These are what we may call asymmetric divisions. One can normally have ⁸ 8 in a bar, which means that the principal accent is on the first note and a very slight one on the 5th. But in certain Ibo melodies, the number of notes and accents may not follow that accepted pattern. One may have it thus expressed: $\frac{3 \text{ plus } 2 \text{ plus } 2 \text{ plus } 3}{8}$, which means that in a bar, if it were to be written down, there is an accent on the first note, 4th

¹ Echezona, W.W.C., Unpublished manuscript of Ibo folk songs.

note, 6th note and 8th note. Of course, without the preceding music, it will be difficult to figure out that the music is in $\frac{8}{4}$ time. It is this kind of division more than anything else that baffles most foreigners who wish to take the Ibo folk songs down on paper, and they end up by saying that they cannot understand it. It is only when a person knows the language very well that he can fully appreciate this type of division and be able to write it down. Compare the following:



This leads us to asymmetric meters. Certain meters like $\frac{5}{4}$ can be broken down into $\frac{3 \text{ plus } 2}{4}$ or $\frac{2 \text{ plus } 3}{4}$ e.g.



Changing meters are often met with when people are excited. Sometimes, meters and measure-lengths change so often that collectors are flabbergasted. A melody may contain such meters in quick succession: $\frac{3}{2}, \frac{3}{4}, \frac{2}{4}, \frac{3}{4}, \frac{3}{2}$ etc. This type of expression is much used by modern composers like Owen Reed in his 'La Fiesta Mexicana' - a Mexican folksong symphony for concert band. Stravinsky uses this in his 'Rite of Spring', Bartok in his 'Piano Pieces for Children' Vol. II no. XXX, and Copland in his 'El Salon Mexico'.

The nnedegwu players, in an ensemble, use all these techniques, each performer using the one that he thinks will express best what he wishes to express. In an ensemble such

as I found at Diobu, there is no descant man; each performer had his own ngedegwu, and there were varying sizes. There were about eight playing at the same time. Somebody started playing his instrument, the left hand marking the main beats, and the right hand playing a simple rhythm. This man is soon joined by another performer on his instrument, beginning with his left hand and later, with his right hand. One by one, each performer joins, each improvising something different from the other players and yet, when listened to as a whole, the music is a contrapuntal conglomeration of rhythmic and melodic patterns, one frequently hearing duple against triple measure, triple against quadruple, and triple against quintuple. The fact is that the performers do not realize the difficulty of their performance, they take it as a matter of course; but, believe me, I appreciate the difficulty.

In some parts of Ibo country like Ikwere in the Niger Delta, and Nsukka, an ngedegwu is made primarily to be played together and at the same time with other ngedegwu. Solo performance is not common. In other parts like Owerri and Agbudu Udi, an ngedegwu is played solo, and it is a rarity to find more than one ngedegwu played at the same time. In both cases the ngedegwu is accompanied with abia (different types of drums), oyo (a type of rattle), and Oja (piccolo type of instrument).

CHAPTER V

USE

An ngedegwu is played at festivals like Ana-Udi, Okwuluma Agbudu, at the funeral of one who belongs to the performing group (otu), when visitors like ministers of state visit a town, or at a wrestling match; for example, at Ikwere, where a team of about eight ngedegwu play together at matches. The best player at Udi now is thirty-five-year-old Madukew Oyanta. Each village has Ndi Akwa, persons who play this instrument from childhood. Normally, people who make this instrument are different from the performers, but performers often have to replace defective slats without consulting the makers because it might be expensive.

At Nsukka, it is a taboo for women to see the men-folk play ngedegwu, for it is played only at rituals. They can hear the music all right. To make sure that women do not see the performance, a storied mud hut is built. Performers play on the top floor with doors shut, windows and doors of the lower floor are also shut, and it is illegal for women to go into any of the floors or to see any of the instruments. Violation of any of these taboos carries heavy penalty resulting in death, I am told.

Ngedegwu is used in telling stories. When this is so, it is unaccompanied by any other type of instrument like Abia, oyo, or oja mentioned earlier. It is only the descant man who

plays his ostinato and affirms by it that what the principal performer is saying is true, (ife o nekwu melu eme). This is understandable because sounds from other instruments make the necessary speech sounds from ngedegwu obscure and unintelligible. As I mentioned earlier, Ibo language is tonal. Every sentence can be played on the piano. The speech rhythms and meters explained earlier are expressed by the ngedegwu, including the non-accentual rhythms, shifted accents, asymmetric divisions, asymmetric meters, and changing meters. It takes an expert to tell a story that is easily understood by people, and when he does, people smile when they should, express horror at appropriate places, and nod their approval, which show that they are following the story.

Here is a story that has been told with an ngedegwu and was perfectly understood by listeners:

"There was a powerful king who had, not ~~seven~~ wives or twelve wives, but hundreds of wives; and the calamity of it is that he had no children. One day, he ordered all his men to collect palm-nuts. After pressing out the oil before him, he called one of his servants to inspect it. As they were looking into one of the pots, the oil seemed so fresh and beautiful that the king said, 'Good wonder! all these years have I longed for a child, but you have willed otherwise. Would that you could turn this lovely oil into a child for me!'

He turned away to examine the oil in the other pots. When he looked again, the pot with the lovely oil had vanished; in its place stood a beautiful girl, shining with health. he

took her home and called her, Odiuche, which means, 'What is in my mind'. He performed the naming ceremony, telling all present that he had at last achieved what he had wished for so long.

After the ceremony, he told the servants never to lose sight of the girl, and never to send her out into the sun, if the girl wanted anything which was outside, someone had to get it for her. She was allowed to go out only in the early morning or late in the evening; if the servants allowed her to be in the sun and anything happened to her, he would deal very severely with them.

One day, all the servants left Odiuche unattended. She became hungry and asked that something be given her to eat. Nobody paid any attention to her, so she went into a pot, stood by to watch them cook. Then one leg began to melt and soon, the other leg began to flow downwards into a pool of oil, covering the whole of the kitchen floor. In the market, a bird began to sing:

'The oil in the king's house has all melted, all melted;
The oil in the king's house has all melted, all melted;
He who brings his container will get his own, get his own;
He who brings his container will get his own, get his own.'

Some of the king's men who were there heard this song of the bird but were afraid to tell the king, because this king was a very wicked man and they did not want him to kill them.

The bird flew down and sang again on a market stall and still the king did not hear it. It flew nearer and nearer singing this song, and the king still did not hear it. At

last, it perched on the shoulder of the monarch and sang louder. As soon as the king heard the word, 'oil', he ran home as fast as his feet could carry him, but on his arrival, Odiuche was half melted. From the waist up, she was still in the shape of a woman, but there was nothing beneath that. The king was very angry. He called all his servants together and killed them, then he went into the kitchen and set fire to it himself. There was no sense in living when all that he valued most on earth was gone."

It is unfortunate that this art of telling stories with the ngedegwu is fast dying away as the older people are dying out too. The number of experts who can play the ngedegwu is very few now and young men are losing the art of interpreting what the ngedegwu says because they drift early into the townships where such instruments are regarded by their fellow countrymen as strange, and therefore, they lose contact with this type of instrument.

M. Pepper¹, in his short account of ngedegwu which he saw at Owerri, agreed that the instrument is used in talking. He notated the sound of ngedegwu and put down the words sung by women as the words fall and rise with the notes of ngedegwu. Here are some of the sentences and notes that represent them. I have made slight alterations on some notes to express fully the meanings:

¹ Pepper M. "Sur Un Xylophone Ibo". African Music Society Newsletter Vol. 1, No. 5, June 1952, p. 55.



Ibo xylophone (ngedegwu) with orchestra.

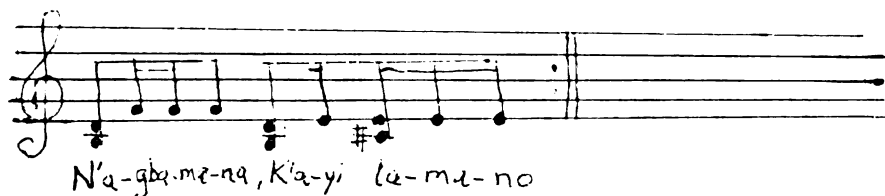


Fig. 15.

Ana agbamana, ka anye lemano.

This means, "Well danced, let's go home".

The next example is:

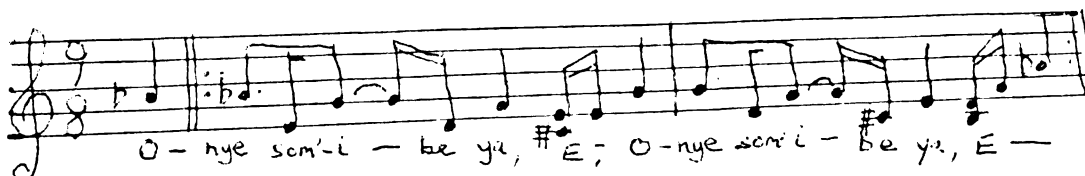


Fig. 16.

Onye soma ibe ya.

This means, "Dance to the steps of your predecessor."

Here is another:

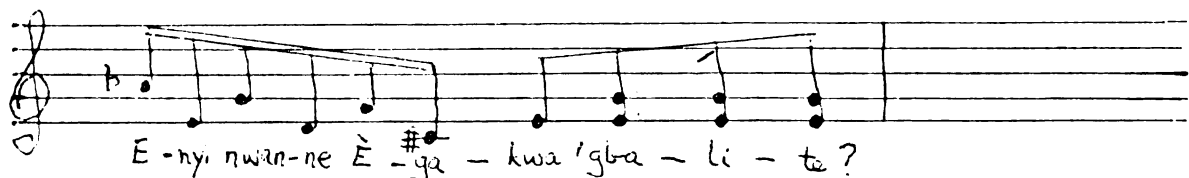


Fig. 17.

Enyi nwanne e ga kam agbalite?

The meaning is, "My brother's friend, can you dance better than I?"

Here is another:

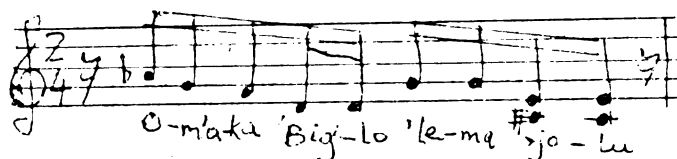


Fig. 17 a.

Omoaka 'big'lo 'lema 'jolu.

It means, 'Children of Abigolo, imitate 'Jolu.'

Let me first congratulate M. Pepper for his interest and for being the first to write something down about the Ibo xylophone. I am greatly impressed with his effort. I am an Ibo man and happen to be born in this part of Ibo country, so I appreciate fully what he has done. I shall, however, make a few observations on his account:

First of all, the following is the range and the scale which M. Pepper said that he found in use in this part of the Ibo land:

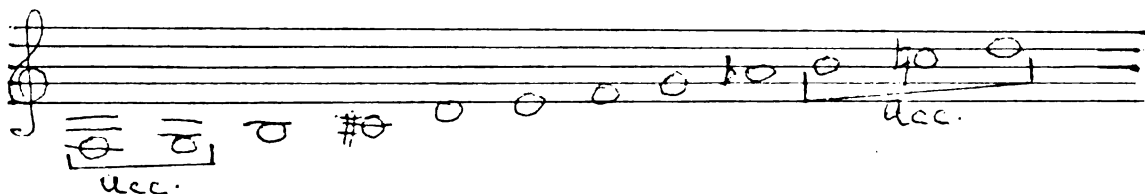


Fig. 18.

This is a synthetic scale that is quite foreign to the Ibos generally. I am of the opinion that M. Pepper ran into an instrument of poor workmanship probably by an inexperienced maker; or that he was in a hurry to put down something and therefore, used an instrument made by a professional but the

slabs of which have not quite dried. Many foreign collectors get into such predicaments with the result that they carry away improperly tuned instruments. As I indicated earlier, after ngedegwu is tuned for the first time while the slabs of wood have not quite dried, the slabs are allowed to dry properly in the shade and later, in the sun, before fine tuning is made. All this period of drying takes weeks. After the fine tuning is made, ngedegwu can keep indefinitely without the slabs changing their pitches. Professional recordings from different parts of the Ibo country and specimens of the actual instruments establish the fact that the scale is that of a diatonic scale, but that the melodies performed may be in different modes.

Looking again at Fig. 18 , it will be seen that he has two accompanists, one at either end of the instrument. It is very unusual to find such a situation where there are accompanists at both ends. Generally, there is only one accompanist playing his ostinato bass, using the lowest three or four notes; or a separate instrument is procured specially for the accompanist. In the latter case, the slabs are only about four in number. The accompanist may even be given a full-sized instrument in tune with the other instrument, on which he plays the few notes of his ostinato. I presume that he did not understand his informant in this respect.

Pepper's attempt at translating melodies played on ngedegwu goes to confirm what I had written earlier, that ngedegwu is used in talking and telling stories. I had already

dealt with this. One can easily see that M. Pepper does not really understand the language because the rising and falling pitches of the music played by ngedegwu do not often correspond with the sentences broken up into syllables and placed under the pitches that are supposed to represent them. See, for example, Fig. 19.

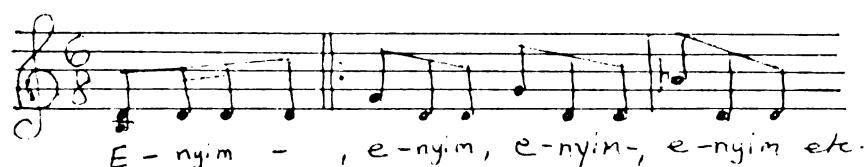


Fig. 19.

The words written in are 'Enyim, enyim, enyim' etc. This means, 'my friend, my friend, my friend' etc.

But, with M. Pepper's inflection, the first 'enyim' means 'my elephant'; the remaining inflections of 'enyim' mean nothing in Ibo. In order for 'enyim' to mean 'my friend' in Ibo, there should be three notes at a time, but the third note should rise a tone, as shown in Fig.20.

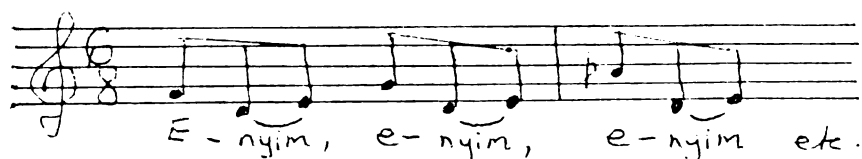


Fig.20.

Apart from these few observations, I think that M. Pepper did a good job.

The range of the particular ngedegwu that I studied at Amokew in Udi District of Enugu Province, is as follows:

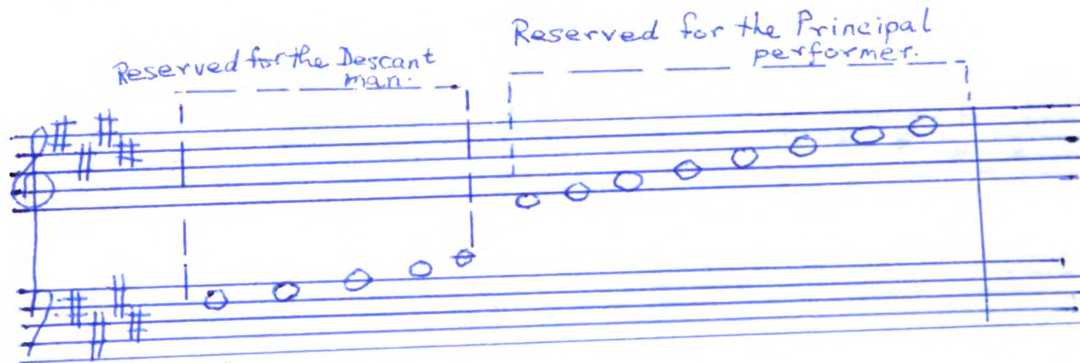


Fig. 21.

Women sing the words to the melody in figure 22 .

The words are:

Gbalaga be nna mu,
 Ada, gbalari ya.
 Ada, gbalaga be nna mu,
 Ada gbalar' onye Kalabari.
 Ada ka ya na di ya gbara akwukwo,
 Ada gbala be ha.
 Ada ka ya na di ya luru di,
 Ada gbalar' onye Kalabari.

The explanation of this song is that a certain girl called Ada was married to a Kalabari man. This man was nice before they were married, but after marriage, he started to ill-treat Ada. The first part of the song is where Ada was brooding in her mind and asking herself why she should not go back to her father's house. The second part of the song shows that she has carried out her decision of returning home.

The principal performer of ngedegwu doubles the melody sung by the women. This is notated as the top voice in treble.

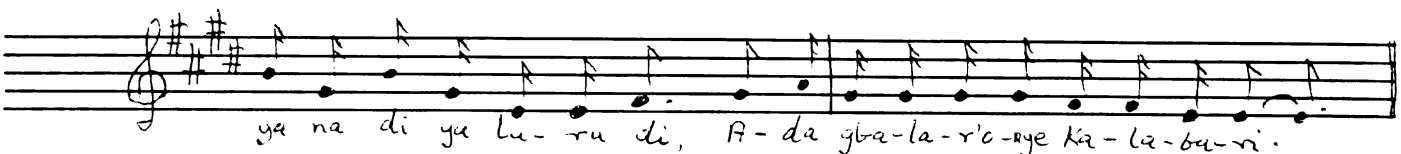
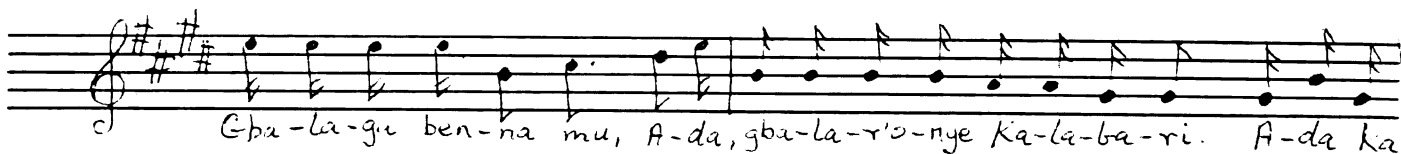
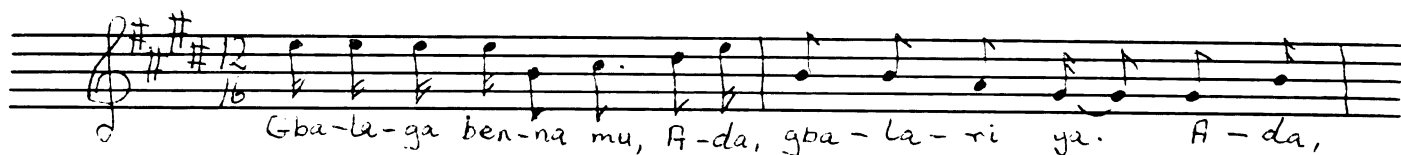


Fig. 22. A melody sung by Amokwe women.

Andante

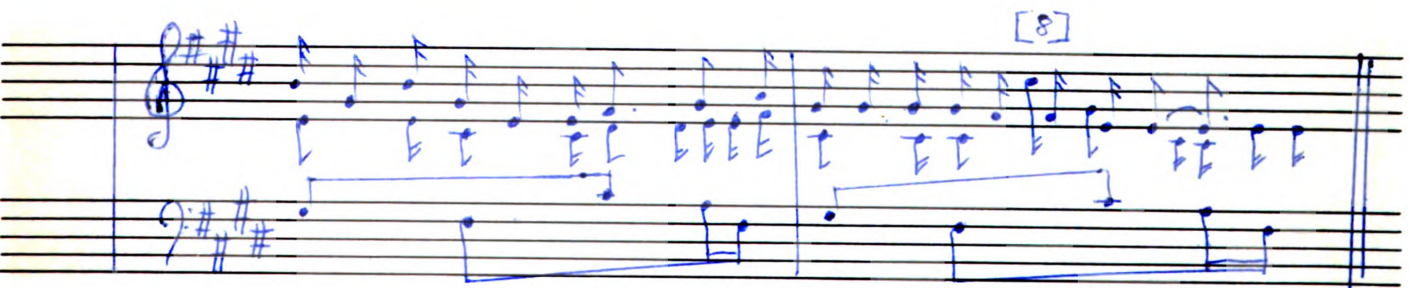
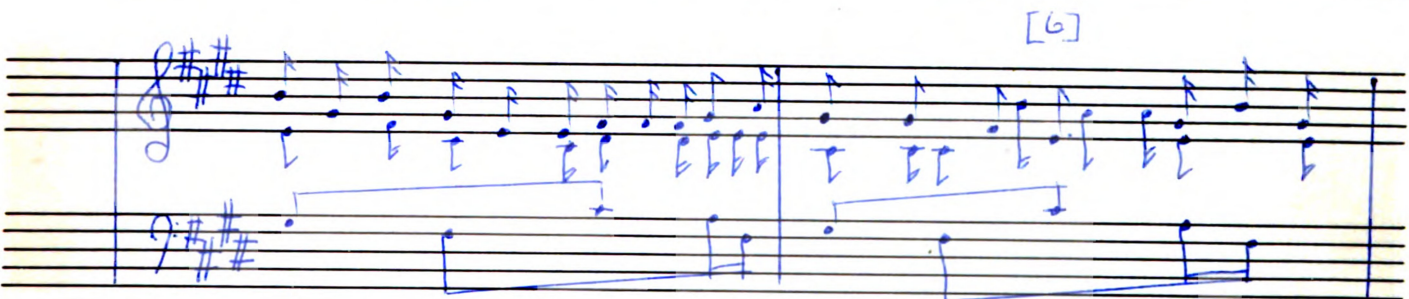


Fig. 23.

Doubling and accompanying melody of Fig.22 by ngedegwu.

Section 4

CONCLUSION

CONCLUSION

There seems to be a finer tuning in ubo-aka than in ngedegwu although both instruments are collected from the same area. This is easily explained, for ubo-aka is a much smaller instrument than ngedegwu; therefore, the former is easier to handle and its metal prongs are small and can be pushed in or out by any player quite easily. This means that if a player is not satisfied with the tuning of the maker, it is easy for him to tune it himself.

On the other hand, ngedegwu is very much larger. The method of tuning is by cutting and scraping the slabs of wood as we have seen. This does not allow for very fine tuning. Again, to appreciate the sound of ngedegwu, it is best listened to from a distance. This is an impediment to the maker. He does his best to obtain roughly the pitches he wants. Once he is satisfied, nothing more can be done by another performer.

One other observation is that after the first octave has been tuned, the subsequent higher notes are slightly sharper. This is evident in both instruments when the ubo-aka has more than eight prongs.

I must state that at the moment, there is a vastly increased amount of singing, and a much wider range and use of instruments than was the case in the colonial days. The musical instinct is being developed under new conditions and, in due time, some good exponents of singing and playing will

be forthcoming. It is just as well that some description of the instruments and the singing customs of the Ibos should be placed on record before they are entirely overwhelmed by the inrush of new conceptions of music.

The changes are inevitable, but they produce a feeling of some regret. The old type of music is always considered crude and noisy, but it is definitely vital and soul-stirring. It penetrates deeply, and stirs the pulses of the Ibo in a way which no modern instrument will or can do. On occasions, it has almost a sinister power which casts a spell over an assembly which must be felt, since no words will adequately describe the sensations. Passions are aroused, abnormal strength is instilled, men and women acting as they never would under ordinary conditions. The effect of some of these instrumental music on the Ibo can be compared with that of the bagpipes on the typical Scotsman, but in an even more pronounced fashion. In the case of the Ibo, the result goes beyond a mere quickening of the pulses; the end is often an outburst of passionate abandonment.

Finally, I am appealing to any person who may read this dissertation to contribute in the research into Ibo music and musical instruments. You can do this in one or more different ways. You can go out yourself and conduct research if you are willing, strong, healthy, have a strong musical background, a catholic taste in music, and an open mind. You can give grants to qualified people to go out and conduct research. I will add to this that grants should be given to

qualified Ibos, because they understand the language, which we have seen to be tonal, and because of color, for they will not appear strange to the other Ibos, who will therefore admit them to rituals and give them information more readily.

Another way that you can help is by donating equipment to the researchers. This would include good recording equipment, tapes, Strobocoenn, frequency analyser, and such instruments.

Another way is to offer scholarships to the Ibos so that they may understand both European and Ibo music before sending them out to conduct research. But this training will take a very long time, and as I said before, unless something is done now, what we probably will get will be Europeanised Ibo music and that is not what we want.

BIBLIOGRAPHY

- Basden, G. T. Minor Ibos, 1938. London: Seeley, Service & Co Ltd.
- Caille, La. Journal historique du voyage fait au Cap de Bonne Espérance, 1763. Paris.
- Carpenter M. Uganda to the Cape, 1926. New York: Doubleday, Page & Co.
- Culver, C. A. Musical Acoustics, 1953. New York: McGraw-Hill Book Coy, Inc.
- Echezona, W. W. C. Unpublished Manuscripts of Ibo Folk Songs.
- Edgerley, Beatrice. From the Hunter's Bow, 1942. New York: G. Putnam's Sons.
- Grove, Sir George. A Dictionary of Music and Musicians, 1954, 5th edition. New York.
- Hamilton, C. G. Sound in relation to Music, 1932. Boston: Oliver Ditson Coy.
- Herzog, George. "Canon on West African Xylophone Melodies", from Journal of the American Musicological Society Vol. II, No. 3, Fall, 1949.
- Hornbostel, E. M. von. "African Negro Music", Rep. from Africa, Vol. 1, No. I. London, C.U.I.
- Horton, J. B. West African countries and peoples, 1868. London.
- Jones, A. M. African Music, 1933:Johannesburg: African Music Society.
- Junod, H. P. "The Mbila or Native Piano of the Tshoni Tribe", from Bantu Studies, Vol. III, No. 3, 1929. Johannesburg.
- Kirby, F. The Musical Instruments of the Native Races of South Africa, 1934. London: C.U.I., Humphrey Milford.
- Meihee, Colin. "In this Far Island". Asia. Dec. 1944.
- Pepper, H. "Sur un Xylophone Ibo" from African Music Society Newsletter, vol. 1, No. 5. June 1952

- Peters, Gordon. Treatise on Percussion, dissertation -
(unpublished)
- Rayleigh, J. W. S. Theory of Sound, 1877. London:
Macmillan & Co.
- Sachs, Curt. History of Musical Instruments, 1st ed., 1940.
New York: W. W. Norton & Company, Inc.
- Servieres, Georges. The Origin of the Kyalophone, 1953.
Translated by Camille Marcel Signot. Maryland:
Baltimore.
- Theal, G. M. Records of South Eastern Africa, 1901.
Capetown.
- Tracey, Hugh. Chopi Musicians, 1948. London: O.U.P.
- Thunberg, C. P. Voyages de C. P. Thunberg, Vol. 1, 1796.
Paris.
- Wangemann, D. Ein Zweites Reisejahr in Sud-Afrika, 1886.
Berlin.

ROOM USE ONLY

~~JAN 26 1966~~ ROOM USE ONLY

~~JAN 26 1966~~

~~JAN 26 1966~~

~~JAN 26 1966~~

~~JAN 26 1966~~

~~JAN 26 1966~~

~~JAN 26 1966~~

MICHIGAN STATE UNIV. LIBRARIES



31293103526590