THE STRUCTURE OF KIGANDA XYLOPHONE MUSIC

by

GERHARD KUBIK

Introduction

The contents of this article are based on a practical study of Kiganda xylophone music and on information obtained from my African teacher, Mr. Evaristo Muyinda. I have to thank the Uganda Museum, Kampala, for introducing me to this famous musician who has devoted all his life to the cultivation of indigenous musical art in Buganda and who has been a member of the traditional band at the Kabaka's palace for sixteen years. Mr. Evaristo Muyinda, playing all the Kiganda instruments with virtuosity, took the trouble to teach me the xylophone music of his native country during the four months that I stayed there. I cannot start an article on Kiganda xylophone music without thanking Mr. Muyinda for all the help given to me and for the considerable amount of patience he showed, particularly when I was facing a lot of difficulties at the very beginning. I remember with pleasure the day when I finally found out the main principles in the xylophone compositions, and thus our co-operation progressed more and more to the satisfaction of my teacher.

I had much occasion for practice in a small village some twenty miles from Kampala, called Salama. This village is the creation of the Uganda Foundation for the Blind and gives a home to almost sixty blind musicians from all over Uganda. Many of them are pupils of Mr. Muyinda, who teaches xylophone there once a week. In the blind musicians—some of them being beginners like me—I found wonderful partners for practice. The Superintendent of the Foundation, Mr. Billy Jackson, made it possible for me to practice on the twenty two key xylophone at Salama as often as I wished. I spent many hours every day in these four months practising either on the *akadinda* at Salama, or on the twelve key xylophone (*amadinda*) at the Uganda Museum in Kampala. Thus it was possible to get some manual skill in a short time.

After three months I was already capable enough for Mr. Muyinda to ask me one day to play with the band at a public concert. I agreed, since I thought that this would be an important opportunity to show the people of Uganda the appreciation of their indigenous music by a European, who came to the country for no other reason than to learn the Kiganda xylophone, merely to hear it not being sufficient for him. I knew that the fact of my playing in an African band would make a deep impression on the Africans, who had been trained by irresponsible Europeans to regard their native music as being primitive and inferior, and that it would confuse their minds positively.

People came that evening in crowds to see the miracle: a *mzungu* (European) playing the Kiganda xylophone. They were brought near me by a guide, one after the other, in order to "have a look, if it is really true that he can play". It was a charming and promising show, and my friends and fellow musicians earned a lot of money! We gave three more concerts at different places in Uganda and the saga went round. The news was divulged also by the Uganda Broadcasting Service and by notes in newspapers. The prestige of Mr. Muyinda's band has risen immensely since and with it the prestige of Uganda folk music in general. It things could have continued for one or two years, I am quite sure we would have achieved a basic change in public opinion. People would have started broadly not to believe certain Europeans (and Africans depending mentally on them) that Uganda folk music and African music generally are of low or little value.

Types of the Kiganda xylophone

There are two main types of xylophone in Buganda, the most important of the kingdoms north of Lake Victoria in Uganda. One instrument with twelve keys is called *amadinda*, another with twenty two keys is called *Akadinda*. "*Dinda*" means "xylophone key" and the word probably arose from the sound which the keys give when

they are struck. The prefix "*ama*", as I was told by my teacher, means "big" and "*aka*" means "small". This is rather strange, for the keys of the *amadinda* on which I learned were smaller than those of the *akadinda* and also the twenty two key instrument was naturally longer than that with only twelve keys.

Both xylophones on which we played the music analysed here were constructed by my teacher. The *amadinda* being situated at the Uganda Museum is entirely traditional, with banana stems as the base. (The attendants at the Museum play it regularly for visitors.) The *akadinda* situated at Salama with the blind musicians is a sort of improved construction of Mr. Muyinda. To facilitate transport it has a fixed wooden frame instead of the interchangeable banana stems.

Besides these two types of xylophones, there is another one occasionally used in Buganda, an *akadinda* with only seventeen keys.

THE CONSTRUCTION OF THE XYLOPHONES

The base consists of two fresh banana stems. A series of small holes is bored into the soft stems; in the case of the *amadinda*, thirteen, at equal distances into each. After that thin sticks of about 35 cm. are put into the holes. Then the keys are placed between. These are prepared from the wood of the *lusambya* tree (in the Luganda language) and have to be carefully tuned. Each key has two tiny holes almost at its end, through which a cord is passed and attached to the nearest stick. The keys are still rather loose and it often happened while we were playing that we had to push them back into their right position, or this had to be done by a servant.

Besides this there is another problem which my teacher was aware of. The traditional xylophone with the banana stems as the base is not very mobile; it always has to be taken to bits for transport and rebuilt again at the place of performance. Since in recent times Buganda's xylophone music is being played more and more on special concert occasions in different parts of the country, quick transport of the instrument has become a necessity. Mr. Muyinda has tried to construct a suitable wooden frame for the Kiganda xylophone, but the result was not entirely satisfactory to him; he had to learn that the moisture and softness of the fresh banana stems are essential for giving the instrument's beautiful sound, delighting even European visitors occasionally. If Mr. Muyinda should one day be able to make a concert tour to Europe the band would have plenty of trouble, since the fresh banana stems have to be replaced every month after having dried out. And where to get new ones?

THE SCALE

The scale of the Kiganda xylophone is different from the European scale. Since there are pitches falling just between certain notes of the European scale, it is not advisable for the reader to "try" the xylophone scores given in this article on a piano or any other European instrument. In the transcriptions I have used Western staff notation, but the notes have another meaning and indicate African pitches. (For example the notes A and E indicate pitches approximately a quartertone smaller than those symbolised by the two letters in Western music. Cf. Figs. 2 and 3.)

I had the chance of making a tape-recording of the scales of the two instruments on which I learned. After returning to Europe we measured the pitches by three different methods using an oscillograph at the Phonogrammarchiv der Akademie der Wissenchaften, Vienna. But the results of our investigation were not as exhaustive as to allow definite conclusions on the exact character of the scales. The "sound" of each xylophone key is extremely complex and rich in overtones. (Cf. Fig. 1) Quite a number of notes can be found out by measuring for instance the vibrations of our Fig. 1, and it is a matter of taste which vibration one considers as the dominating or basic one. The vibration numbers were in most cases not reliable enough to be able to write them down here.

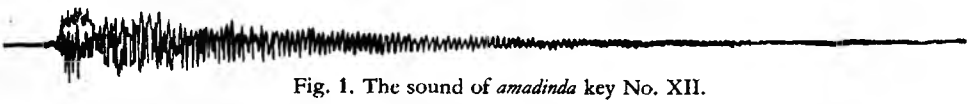


Fig. 1. The sound of *amadinda* key No. XII.

I find it more valuable in this case to give a description of the scales as they sound to a human observer who has spent quite a lot of time playing these instruments, and who also knows the function that the pitches have in the whole xylophone music. (This last point is a sort of key to the Kiganda tone-system and is of greater importance than one is at first inclined to think.) The Kiganda xylophone scales have a central note, a tonal basis, which is soon perceived by a musician who tries his hand for the first time at one of the instruments. I wish to call this tonal basis a C, although it is actually nearer to an F♯. The pitch of this basic note is absolutely the same on both types of xylophone, the *amadinda* and the *akadinda*. The scale of the *amadinda* at the Uganda Museum, Kampala, which I give here in a transposition from F♯ a flattened fifth down to C, is approximately this:

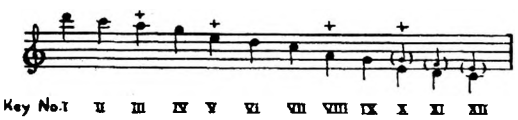


Fig. 2.

The scales of both the *amadinda* and the *akadinda* are pentatonic (cf. Fig. 3). The notes symbolised by C, D and G correspond in their intervals nearly to those in the European natural (not tempered) heptatonic scale. It has to be admitted however that there are occasionally microtonal divergencies, but they do not seem to occur systematically. Considering the fact that there are quite a number of physical influences on the wood in the course of the years during which the xylophone is played and including also the possibility of a small inaccuracy in the difficult task of tuning, I cannot help pointing out the possibility of a chance factor. But it is another thing with the notes A and E! They are tuned on purpose about a quartertone towards F and B♭. (This is what the mark + indicates.) The reason for such a tuning seems to be an intention to push out of the tone system the possibility of any interval of a major or minor third. The effect is indeed thus, that if somebody plays from key I to III, II to IV, III to V *and also* from V to VII or X to XII it always sounds something like a fourth. But harmonically no use is made of this invention, since the only accord allowed in Kiganda xylophone music is the octave.

There is another strange phenomenon with the sound of the *amadinda* and *akadinda* keys, and this even has an effect on the rhythmic structure of the music. As we pointed out above, the sound of each note is very complex. The three greatest notes (keys X, XI and XII) *often* sound a third smaller to the ear of a listener. I have put these notes which can be heard instead of the basic ones in brackets above them. (Cf. Fig 2). When I was playing the *amadinda* in Kampala the three keys always sounded to my ears as C, D and E+. But listening to the tape-recording of the scale now, most people, including myself, seem to hear instead of these pitches, E, F and G. I have tested a number of persons: when the scale was played upwards the majority heard E, F, G; when it was played downwards most of them heard the basic notes C, D and E. (This is musically and psychologically very interesting.)

The musicians—as far as I could find out—consider the notes as C, D and E. They have a term for octave: *myanjo*. The two musicians called *Omunazi* and *Omwawuzi* play in *myanjo* (visually, the spacing apart of the two sticks by five keys, in the two hands of each musician) over the whole range of both xylophones, completely disregarding this thirds effect. Striking for example keys VI and XI together, this interval

was still called *myanjo* (octave). And the most interesting thing is the number of listeners who had heard the thirds before and then said, "This is an octave now!"

With the twenty two key xylophone at Salama, the *akadinda*, things are even more complicated. There are a good number of notes which you can hear from the largest keys, and in the scale given below I have included them in brackets. It depends to a certain degree on your mood which of the possible pitches you hear in the foreground. But since it is true that I have never seen any Muganda musician playing on keys XXI and XXII, we should not worry too much about their sound. The very end in the other direction is not used for playing either and I have to admit that it still surprises me how the musicians proved its uselessness to me. Coming home one day I noticed that the musicians had "cut off" four keys in the meantime, to make it easier to fit the xylophone between other things in a lorry. This happened towards the end of my Uganda stay and since then the *akadinda* at Salama has had (unnaturally) only eighteen keys.

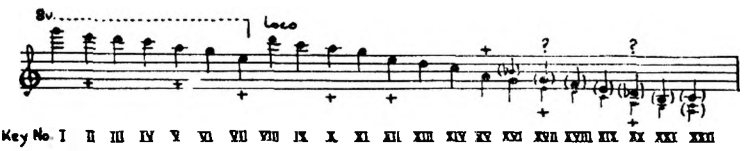


Fig. 3. The *akadinda* scale.

The thirds phenomenon is stronger on this instrument at Salama than on the *amadinda* at Kampala, and the thirds *can* be recognised by an attentive listener, when the musicians are playing in *myanjo*. But the effect is rather a sort of embellishment of the sound than a harmony.

INTERVALS

The musicians at the Kiganda xylophone play their tunes regardless of these sound complications which I have tried to describe above, although the overtones of certain notes are surely welcome as an embellishment of the sound and even—since they occur at a definite time-point—as an additional rhythm pattern emerging by chance! As for the rest, the musicians only use four melodic intervals: the second (progression to the neighbouring key), the fourth (progression to the second key from the starting point), the fifth (progression to the third key) and the minor seventh (progression to the fourth key). These melodic intervals are always *approximate*. Since the notes A and E are about a quartertone smaller than the European note symbols suggest, the human ear has to "correct" quite considerably to hear for example always as a fourth a two key progression from any starting point in any direction. Harmonically there is only one interval in use, the octave. (The octave sounds from the Kiganda xylophone when the musician strikes two keys simultaneously at five keys distance.) As a *melodic* progression the octave is not allowed in Kiganda xylophone music. On the other hand it is not allowed to play other intervals besides octaves simultaneously—the octave being indeed the only one *harmony* which occurs.

LEARNING TO PLAY AN AMADINDA TUNE.

Music played on the twelve key *amadinda* is balanced in itself and does not require accompaniment by any other instruments. It is performed by three players. The one who starts a tune and who sits at the xylophone with the larger keys on his right is called *Omunazi*. Opposite him, striking the other ends of the keys, sits the *Omwawuzi*. Each of these two players has the whole range of the xylophone except the two smallest keys at the top at his disposal. On the right of the *Omwawuzi* sits the *Omukonezi*, whose part is melodically limited to the notes of the top two keys. None of the three musicians

is allowed to exceed his limited range. (Each musician plays with two wooden sticks about 35 cm. long and 2 cm. thick).

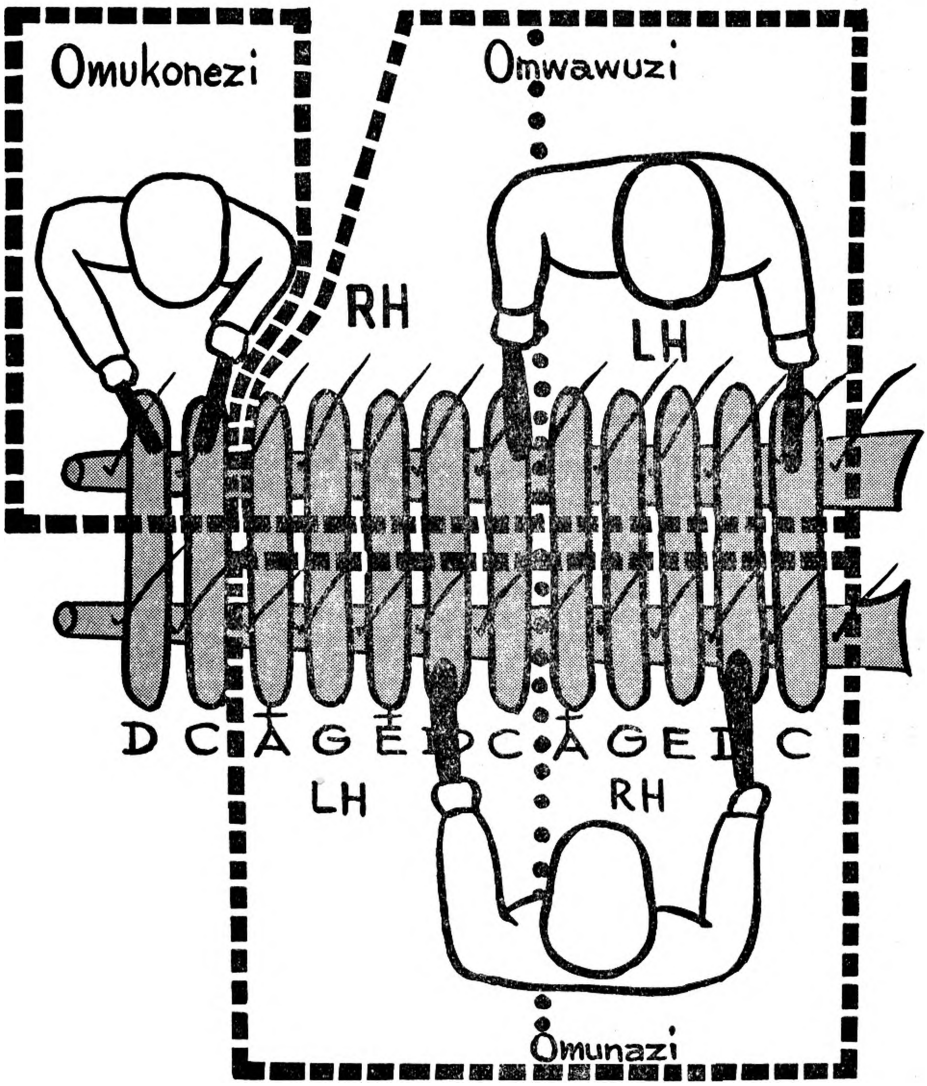


Fig. 4. The sphere of the three *amadinda* musicians and of each of their hands.

The music performed by the three musicians is composed and has been handed down by their forefathers. It was very interesting for me to learn that no improvisation is allowed. The only variation the players are allowed to make is to give dynamic emphasis to certain notes or note groups, but nobody would ever try to add or to omit any note or to change the rhythm. Each musician has to repeat this pattern again and again—this is indeed remarkable, since on the tape-recordings there seems to be

a steady variation! This was particularly surprising to me when I had been sitting in by myself and later on was to discover that on the tape everything sounded curiously different from what we had played. This point will be explained later in this article.

The *Omunazi* starts with the first part of the composition which is called *Okunaga*. This is an isorhythmic pattern, consisting of a series of notes of equal lengths which is repeated over and over. It is the basis of an *amadinda* composition and is played by the *Omunazi's* right and left hand in parallel octaves (*myanjo*), moving over the keyboard at a steady distance of five keys. I had better demonstrate the construction of an *amadinda* piece by an example, the shortest composition I learned to play, "*Olutalo Olwe Nsinsi*" (The Battle of Nsinsi).

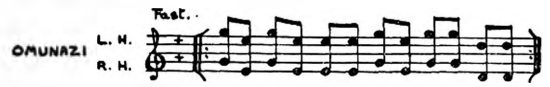


Fig. 5. The *okunaga* part of "*Olutalo Olwe Nsinsi*". + at the beginning marks the notes to be raised a quartertone.

This *okunaga* part consists of twelve notes. The number of notes in the *okunaga* part always shows the period of the composition, its formal length. No other part can exceed that length. But it is certainly not always restricted to twelve units. Often we can find a twenty four unit form as for example in "*Atalabanga mudu agenda Bulega*" (No. 5) and "*Nandikuwade Enyanja e Kalide*" (No. 6). The eighteen unit form is even more important. (Cf. the scores of "*Sematimba ne Kikwabanga*" (No. 2), "*Omusango kwa Balere*" (No. 4) and other tunes.) In one example the tune is constructed on thirty five units of the two basic parts, "*Agenda nomulungi Azawa*" (not reproduced here). I first thought a mistake might have happened when I learned this tune, as I expected thirty six notes, but Mr. Muyinda insisted on it being thirty five. Instead of an indication of meter, which would be to a certain extent a mere projection of European musical imagination, I have preferred to put at the beginning of each score the number of units (basic beats) on which the tune is constructed.

After the *Omunazi* has started with the *Okunaga* part, the *Omwawuzi* "falls in" at a certain point, which is determined in each composition. His part is called *okwawula* and is also played in parallel octaves. It is in many senses a counterpart; like the *okunaga* it is an isorhythmic series of notes.

The *okwawula* part can be a chain of different notes of the same character as the *okunaga*. Sometimes however it is a very short ostinato pattern. In our example "*Olutalo Olwe Nsinsi*" it is a three note pattern which has to be four times repeated to fill out the twelve unit pattern of the *okunaga*.

The essential thing about the combination of both parts is that they have to fall between themselves, to interlock like the fingers of a folded hand. To add the *okwawula* part is the first difficulty the pupil has to overcome. *Amadinda* music is usually very fast. The *Omunazi* starts with his pattern at a considerable speed and now the *Omwawuzi* has to make his pattern fall just into the empty time between the notes of the *okunaga*. (Fig. 6.)

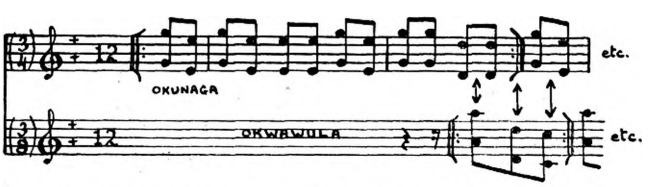


Fig. 6. How the *okunaga* and *okwawula* parts interlock.

When I started learning to play *okwawula* I made a mistake of great consequence. As the *okwawula* part falls exactly between the beats of the *okunaga*, the temptation is great to feel it syncopated. Indeed, from the point of view of the *Omunazi* the *okwawula is* syncopated. But an *Omwawuzi* who shares this view will never be able to fall in with his part. Whenever I started with the *okwawula* part of "*Olutalo Olwe Nsinsi*", I still felt the beat of the *okunaga* part as being the basic one and "strong". My own notes which ought to be put between I therefore automatically felt to be "light" and "syncopated". Playing a tune very slowly it was possible for me, with some concentration, to fill in my pattern and to keep on with my syncopation. But at a normal speed, which seemed to me as a beginner a terrific one, I always missed the short moment to add my "syncopated pattern". Until I found out that it was necessary to ignore the basic beat of the *Omunazi* and to create a second pulse for myself only. Until I found that the *Omwawuzi* has to "switch" in a split second and to abandon the pulse of the *Omunazi*. At the moment he pushes his first note into the counterpart he has to feel his notes as "heavy" ones and those of the *Omunazi* as "syncopated". This technique needs a lot of training until the pupil succeeds. In the view of the *Omunazi*, the two interlocking parts look like this: (Fig. 7)

Fig. 7. *Omunazi's* view.

But in the view of the *Omwawuzi* the combination has to look like this, from the moment he starts: (Fig. 8)

Fig. 8. *Omwawuzi's* view.

This principle of combining the two parts is not restricted to the xylophone alone, but is also found in music for the *ennanga* (Kiganda harp) and for *amakondere* (horns).

If we consider the melodic structure of the *okunaga* and *okwawula* parts of "*Olutalo Olwe Nsinsi*" and other compositions (see the scores), we see that the melodic scope in both parts is limited. Each hand of the two musicians only moves within a small register of five keys. The melodies never exceed the range of a Kiganda seventh (from C to A+). It is striking that most *okunaga* and *okwawula* parts end on C or D. (But the *okunaga* parts of "*Omusango kwa Balere*" (No. 4) and "*Nagenda kasana ngabulaba*" (No. 3) both end on G.)

If we record the two parts *okunaga* and *okwawula* of "*Olutalo Olwe Nsinsi*" or any other *amadinda* or *akadinda* tune on a tape and listen to it afterwards, we are extremely surprised. We discover that it sounds much more complicated on the tape and rather different from what we played a few minutes earlier. We hear quite a number of rhythm patterns which we are sure that nobody played, and we also hear quite definitely variations. This confusing phenomenon is very essential for Kiganda music and seems to exist also in a number of other places in Africa. We very often hear in our recordings of African music rhythms and melodies which no musician has played. Certainly they exist and it the *intention* of the composer that we hear them. I should call them now "subjective" or "inherent" rhythms. Returning to our *amadinda* tune and analysing the melodic and rhythmic structure of both parts, it is not so difficult to find an explanation in part for this phenomenon. The ear of a listener of course cannot find out which note in one of the two parts was played by which musician, because they both play on the same keys. It integrates the two parts *okunaga* and *okwawula* and *con-*

structs out of them *new rhythm patterns* which have never been played, which run through the mind of a listener but cannot be found in the movements of the musicians' hands.

There is a psycho-acoustical fact which African composers, particularly of instrumental music (xylophone, *likembe* etc.), are delighted to take advantage of: that the human mind is inclined to join together form objects of similar or equal qualities and establish a "gestalt". In music the listener associates notes of equal colour or loudness and of equal or similar magnitude. If, further, notes of similar qualities are arranged in a definite rhythm of occurrence, then association is enormously stimulated. This is what many African composers are after by passion.

Listening to our *amadinda* tune "*Olutalo Olwe Nsinsi*", one subconsciously associates the smaller notes such as A and G of both parts. To make this visible, we should do the experiment and write them together. (Fig. 9)

Fig. 9.

We see a very distinctive rhythm which definitely cannot be here just by chance. We are in fact on the track of an important composing principle of *amadinda* music. A tune will be interesting only if the *okunaga* and *okwawula* melodies are constructed in such a way that "inherent" or "subjective" rhythms occur and obtrude upon the listener. One is naturally inclined to hear a melodic-rhythmic line out of the "peaks" of the melodies at first, but besides the rhythm of our Fig. 9, there are quite a number of other "lines" existing in every *amadinda* tune which the listener may perceive from time to time. The important thing is to clarify how such inherent rhythms come into the composition, and by what means the composer is achieving this effect. A very important "line" seems to be also the rhythm which all C's and D's collected out of the two interlocking parts yield. We shall hear more about it, when coming to speak of *okukonera*.

Usually one or two of these inherent rhythmic lines are in the foreground and the others are not so obtrusive. This depends on a number of other influences, which may favour the one or the other. If for example on a certain *amadinda* all E's and D's are a little bit louder (by chance), no doubt there will be a great temptation for the listener's ears to associate them into a line and not the D's and the C's as usually happens. Strangely enough, this combination also yields a definite and interesting rhythm as we can see in Fig. 10. (The secret of all this will be revealed when we are analysing *muko!*)

Fig. 10.

What a listener hears depends also on the direction of attention. One must not think however that a *pure* conflict of definite inherent rhythmic lines is perceived. The matter is much more complicated. The different loudness and colour of some sounds on the keys may also have a destructive or better a confusing influence on the "lines". Besides this the musicians occasionally phrase or combine a number of notes of their own parts into groups, or just emphasise the pattern suddenly at certain points. These accents are of course not played by previous arrangement. They combine *by chance* into a further rhythmic pattern. A good deal of what a listener "produces" when hearing an *amadinda* tune is indeed subject to chance, but the compositions seem to be so "perfect" that they are beautiful from almost any possible point of view. We shall see why this is so.

An *amadinda* tune is a sort of picture-puzzle and it would be quite impossible to reproduce in a score all that *could* be heard. My scores here attempt to reflect exactly what is *played* and thus give musicians a chance to learn Kiganda xylophone music by carefully practising them.

It is also remarkable to see how the same tune played on another *amadinda* sounds largely different. The loudness and colour of each key changes to a certain degree from instrument to instrument, and so other associations of notes are stimulated.

After the *Omwawuzi* has added the *Okwawula* part, the last musician called *Omukonezi* starts with *okukonera*. This part, played on the top two keys of the *amadinda*, is rather difficult and there is hardly a handful of expert players existing. How is the *okukonera* part constructed? In a few words, the *Omukonezi* repeats on the top two keys all C's and D's of both the *okunaga* and the *okwawula* parts, at the moment when they occur. (The other notes, E, G and A, cannot be repeated an octave higher since the smallest key is a D.) One can interpret the technique of the *Omukonezi* as an incomplete repetition of the two basic parts in a higher *myanjo*. But we must not forget that this incompleteness is the intention of the composer, otherwise it would have been easy to construct a larger xylophone. Remember, when speaking about the "subjective" or "inherent" rhythms, I spoke of a rhythmic line consisting of all C's and D's. The notes C and D are at the bottom of the two basic voices and thus more in the background to the listener's mind, which naturally is attracted firstly by the melodic peaks. The *Omukonezi helps* the listener to hear this lowest of the inherent rhythms, so that the rhythmic conflict of all lines is then perfect.

The *Okukonera* part is often a very complicated rhythm. (See the scores.) The difficulty is certainly not only to play it, but to start it at the right moment. The *okukonera* rhythms of most of the transcriptions look very elaborate. They are an important part of the whole composition. It is possible that the composer of an *amadinda* tune starts with composing an interesting *okukonera* rhythm and after that adds the other voices. But investigation here is very difficult. The *amadinda* compositions are old, and my teacher, Mr. Muyinda, did not reveal this secret to me. There is a hope, however, of finding out through further investigation.

The *okukonera* of "*Olutalo Olwe Nsinsi*" is not so difficult, compared with that of other *amadinda* compositions in the scores. For playing, the main difficulty is to get the start, because its main accents again cross those of the other two parts. Let us learn from an example how the *okukonera* part is derived from the two greatest notes of the other two parts.

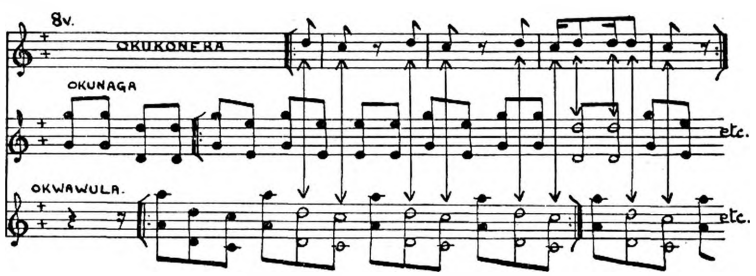


Fig. 11. "*Olutalo Olwe Nsinsi*".

THE MIKO

Every *amadinda* tune can be played in *five* transpositions (because the tone system is *penta*tonic). The Baganda musicians are very fond of playing a tune in different *miko* (sing. *muko*), as the transpositions are called in the Luganda language. It is not satisfactory to translate the word *muko* by "transposition". The five *miko* of every

amadinda tune are of a more definite character than the Western word transposition vaguely suggests.

If we want to transpose one of the two basic melodies (*okunaga* or *okwawula*) we come into difficulties with the limits of the spheres of each musician and of each of his hands. Take the *okwawula* part of "*Olutalo Olwe Nsinsi*" for instance, and transpose it one step higher. So that the top note does not reach out of the sphere of your right hand and into that of the *Omukonezi* you have to put it an octave lower (Fig. 12) (Note that the sphere of each hand of both *Omunazi* and *Omwawuzi* is just five definite keys. Ct. Fig. 4)

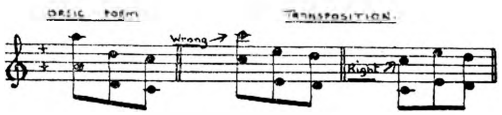


Fig. 12. Basic form and transposition of the *okwawula* part of "*Olutalo Olwe Nsinsi*".

The remaining three *miko* of this *okwawula* part have therefore to look like this:

Fig. 13. *Miko* III to V of "*Olutalo Olwe Nsinsi*", in the *okwawula* part.

But we shall undertand that transposition of the two basic parts has consequences on the *okukonera* part as well. Another pattern is now lying on the keys denoted as C and D. The *Omukonezi* has to repeat this pattern on the *amakonezi*, the top two keys. Thus each *muko* has its own definite *okukonera* voice. If we turn now to look at the scores of the five *miko* of "*Olutalo Olwe Nsinsi*" (see scores) we are perhaps surprised to find that the *okukonera* part is a definite and elaborate rhythm in all five cases. Such a fact cannot emerge just by chance. We therefore come to the conclusion that a composer who wants to invent a new *amadinda* tune has to be specially careful that the *okukonera* parts of *all* five *miko* of his tune have a definite gestalt and show an interesting rhythm. It is also essential to know this: when five tolerable *okukonera* voices are composed, the whole composition is practically ready, since there is no succession of notes in an *amadinda* tune which is not represented (in a transposition) by the *okukonera* voice of one of its five *miko*. The reader will immediately understand this if he goes carefully through the examples. It is still a matter of investigation, however, to find out the *way* in which this old music was composed. What we can do in this article is only to clarify its structure and to give information to those who wish to play the Kiganda xylophone.

We can now also reveal the secret of the subjective or inherent rhythms I have dealt with above. The inherent rhythmic lines are basically nothing but the *okukonera* parts of the five *miko!* Compare the *okukonera* voices of *miko* Nos. 3 and 5 with the rhythmic lines in Figs. 9 and 10. Two of them are always the same pattern! In other words in every interpretation of an *amadinda* tune the other *okukonera* parts of the remaining four *miko* appear disguised again and obtrude on the ears of the listener in transpositions. That is one reason why the *amadinda* tunes are so colourful and exciting. It is true however, that the shape of the five *okukonera* parts is subject to other influences of a kind which we have described, and that they are not always heard completely and often in altered forms.

LEARNING TO PLAY AN *Akadinda* TUNE

Music for the twenty two key xylophone of the Baganda, the *akadinda*, is very different from *amadinda* music. The *akadinda* is part of an orchestra and the compositions played on it are never performed alone. The *Kiganda orchestra* as I saw it at Salama consisted of the following instruments:

1. *Akadinda*.
2. *Enderre* (bamboo flute).
3. *Endigidi* (one stringed fiddle).
4. *Ensasi* or *Ensege* (two different types of rattle).
5. Four drums:
   a. *Embutu* (hand played; complicated basic rhythms).
   b. *Empunyi* (hand played; used only for giving a steady beat).
   c. *Engalabi* (hand played; long drum, held between the legs; difficult to play; a sort of master drum, with much improvisation).
   d. *Nankasa* (played with sticks; relatively small; "attracting" the listeners and setting the dancers on fire; much improvisation also).

The *akadinda* is played by six performers, three sitting on each side. The three with the big keys on their right are called *Abanazi* (sing. *omunazi*). The three opposite the *Abanazi* are called *Abawuzi* (sing. *Omwawuzi*). Each of these musicians has a limited range for himself. As can be seen from the scores the melodies of the *Abanazi* never exceed the range of five keys. The melodies of the *Abawuzi*, however, sometimes reach the range of an octave—in other words the sphere of an *Omwawuzi* on the *akadinda* may slightly overlap that of his neighbour, since the three musicians play at the distance of an octave.

Each of the *Abawuzi* has two sticks in his hands of the same kind as for *amadinda*. But an *Omunazi* has only *one*, in his right hand. The left hand is not used for playing. The sphere of an *Omwawuzi* on the *akadinda* is much more limited than his sphere on the *amadinda*; there is no tune where the melodies for both hands have a larger range than an octave (six useable keys). And the sphere for an *Omunazi* is just half of that on the *amadinda* as he plays only with his right hand.

The music performed by the six musicians is composed; improvisations are not allowed on the *akadinda*.

The three *Abanazi* start gradually (one after the other without any special rule for who should be first). Their part is also called *okunaga*, but the *okunaga* melodies for *akadinda* are played a little more slowly than those for *amadinda*. The *okunaga* is played in parallel octaves, the right hands of the *Abanazi* moving over the keyboard at a steady five key distance. Most *okunaga* parts for *akadinda* are, formally, in a twelve note pattern.

It is possible for any one of the three *Abawuzi* to start with his counterpart, when the musician sitting opposite him has found his beat. This counterpart of the *Abawuzi* is called *okwawula*, but the *okwawula* for *akadinda* is different from that for *amadinda*. The *Abawuzi* have to "fill in" their *okwawula* at a certain point in the *okunaga* voices, but their part divides the basic *okunaga* not by two, as on the *amadinda*, but by *three*. Two notes have to be pressed into the empty space be-

Public performance of the Kiganda Orchestra from Salama

tween the *okunaga* beats. This is why an *okunaga* for *akadinda* is played a little slower than one would play it on the *amadinda*. However, the speed is still enormous, considering that to fill in two notes is much more difficult.

An *Omunazi* sitting at the *akadinda* has certainly also to "switch" in the split second when he wants to push his first two notes between the basic beats. He has to abandon the obtrusive pulse of the *Abanazi* and create an individual one for himself, feeling that the notes of his *right hand* are *heavy* and *on the beat*. He has to feel his beat on all the crochets, which he plays with his right hand. In the following illustration, Fig. 14, I wish to show by an example the task of each musician of the *akadinda*.

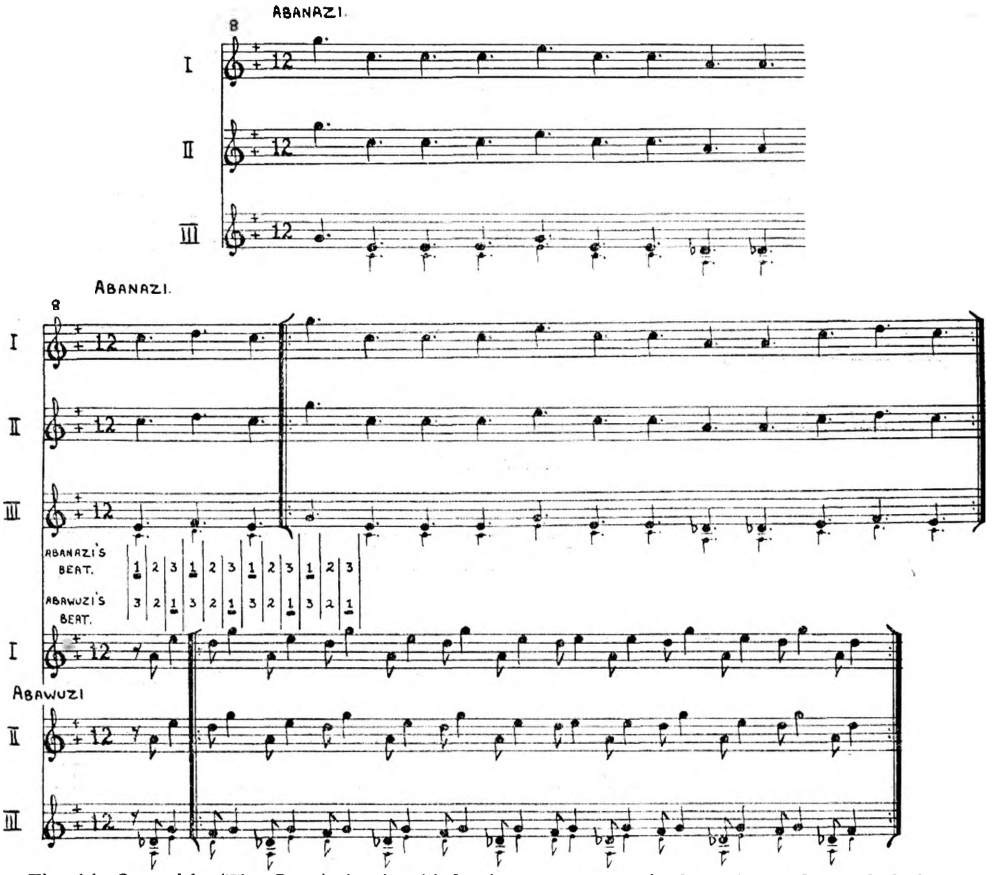


Fig. 14. *Omusalaba* (The Cross) As the thirds phenomenon on the large keys of the *akadinda* is very strong, I have notated the thirds-tones in *okunaga* and *okwawula* III, when they occur. The basic notes are then put smaller under that.

The phenomenon of inherent rhythms also exists in *akadinda* music, and there must be a number of rules for composition of *akadinda* tunes which have to be discovered through further investigation. To find an explanation for their inherent rhythms is however much more difficult than with *amadinda* tunes. There is no *okukonera* part, and also, as far as I could understand, the *akadinda* tunes are not played in different *miko*.

The most useful way of solving the remaining problems I have pointed out would be to find a living composer of Kiganda xylophone music. I cannot definitely say whether there is really any such person existing in Buganda these days.

A NOTE ON THE SCORES

The fifteen compositions for Kiganda xylophone (seven for *amadinda* and eight for *akadinda*) at the end of this article were written down after I had played them many times with the indigenous musicians. My learning of each part was carefully controlled and critically observed by my teacher, Mr. Evaristo Muyinda. The difficult *okukonera* part I always played in unison with him, before I tried it in ensemble.

To make reading of the scores easier, I have dropped all octave duplications of the *okunaga* and *okwawula* voices. But I wish to remind the reader here: in the *amadinda* scores I have written down the lowest octave, in the *akadinda* scores the middle voice. The *okukonera* part is always transposed an octave lower. The repeat marks mean: repeated many times, until the musicians lose interest or get tired. The number at the beginning of a score indicates the form. It was striking to me that most *akadinda* tunes I learned were 12 units long; *amadinda* tunes were usually 18, 24 or 12 units. The letter "l" or "r" above each *okukonera* note indicates by which hand the particular note is to be struck.

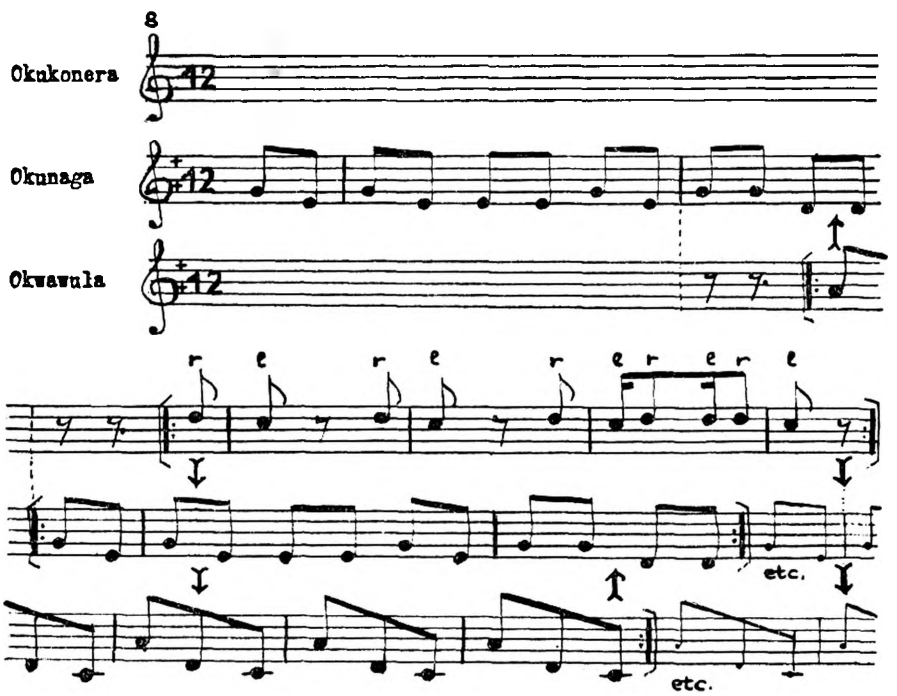
Except for "*Olutalo Olwe Nsinsi*" bar lines are mostly useless for Kiganda xylophone compositions. Not only that, but misleading! (For the parts of "*Olutalo Olwe Nsinsi*" I have used individual bar lines.) The numbers 1, 2, 3 in the *akadinda* scores are simply to remind the reader where each musician has to feel *his* beat. Always on 1!

The thirds phenomenon has been disregarded in the transcriptions; it would complicate the scores too much. The two crosses you find at the beginning of each stave should help the reader to remember that all E's and A's sound about a quarter tone higher than our note symbols suggest.

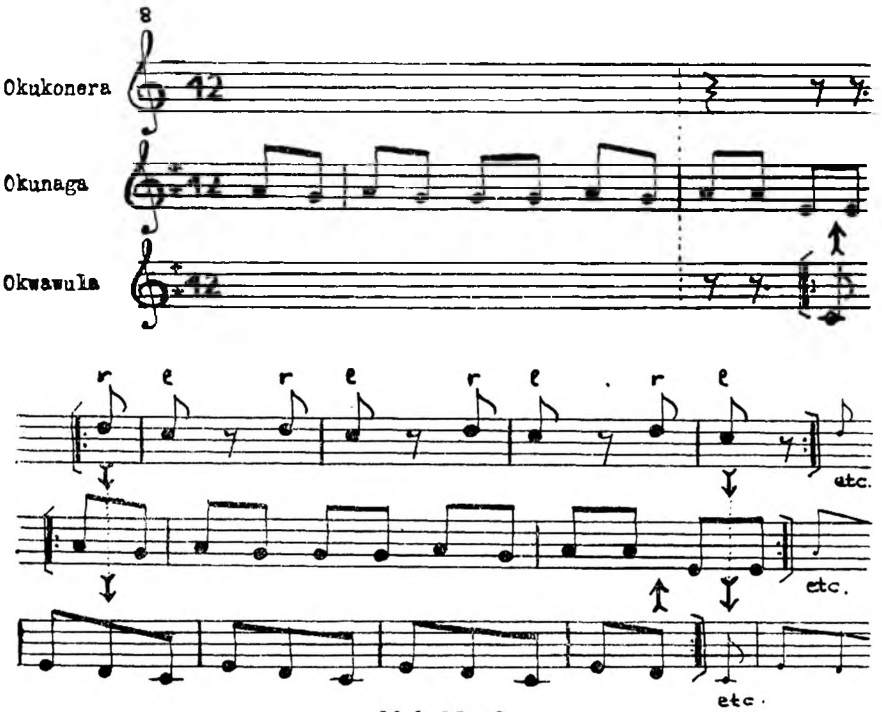
AMADINDA SCORES

1. "*Olutalo Olwe Nsinsi*" in its five different *miko*.

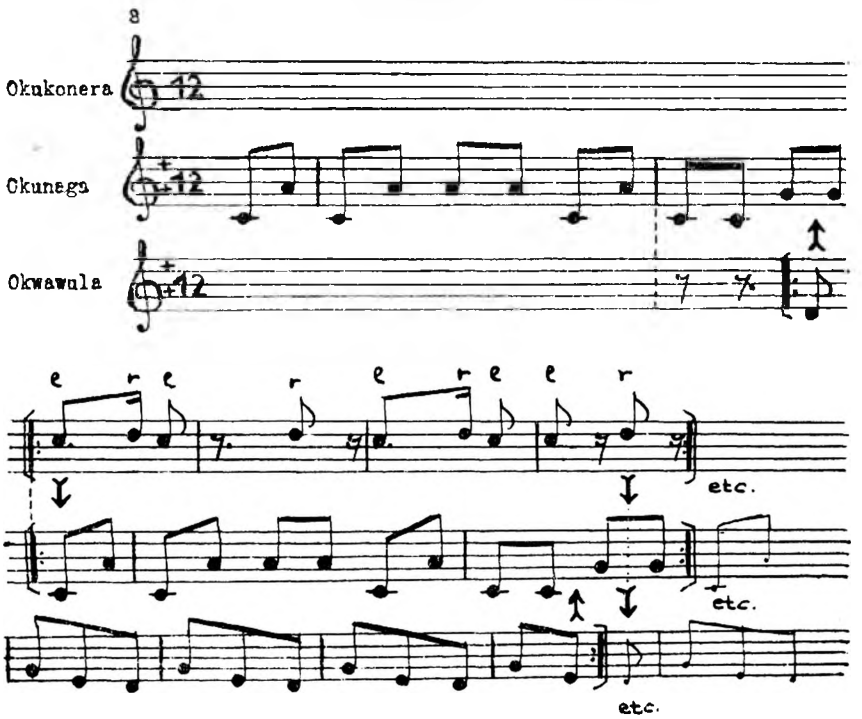
Muko No. 1.



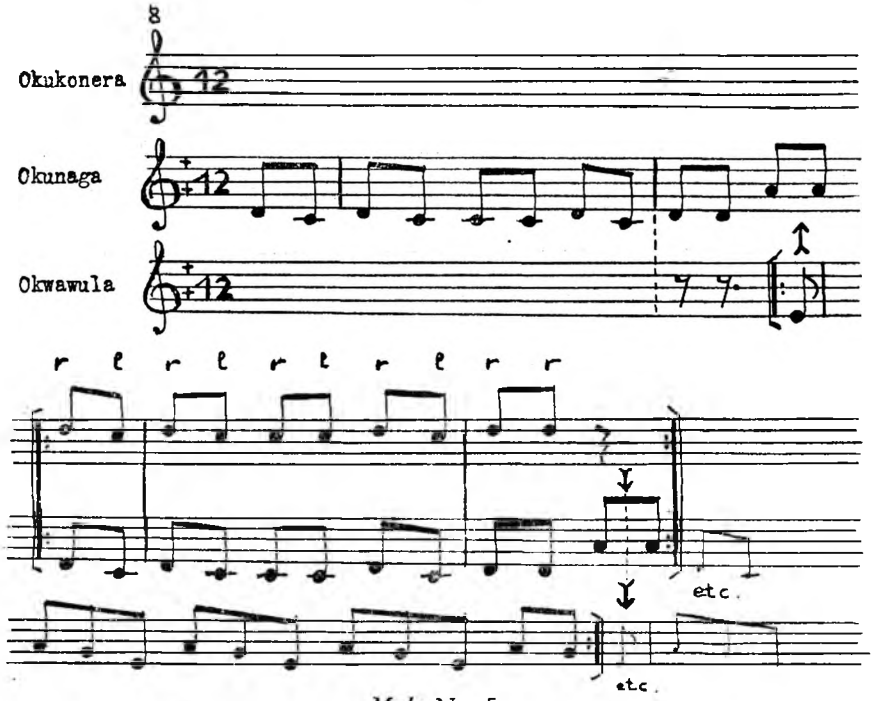
Muko No. 2.



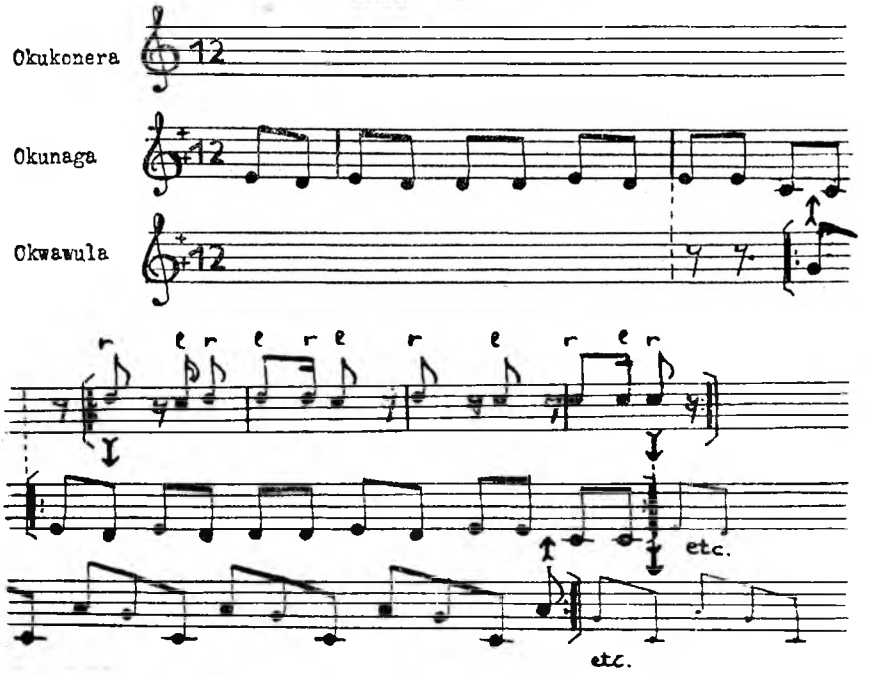
Muko No. 3.



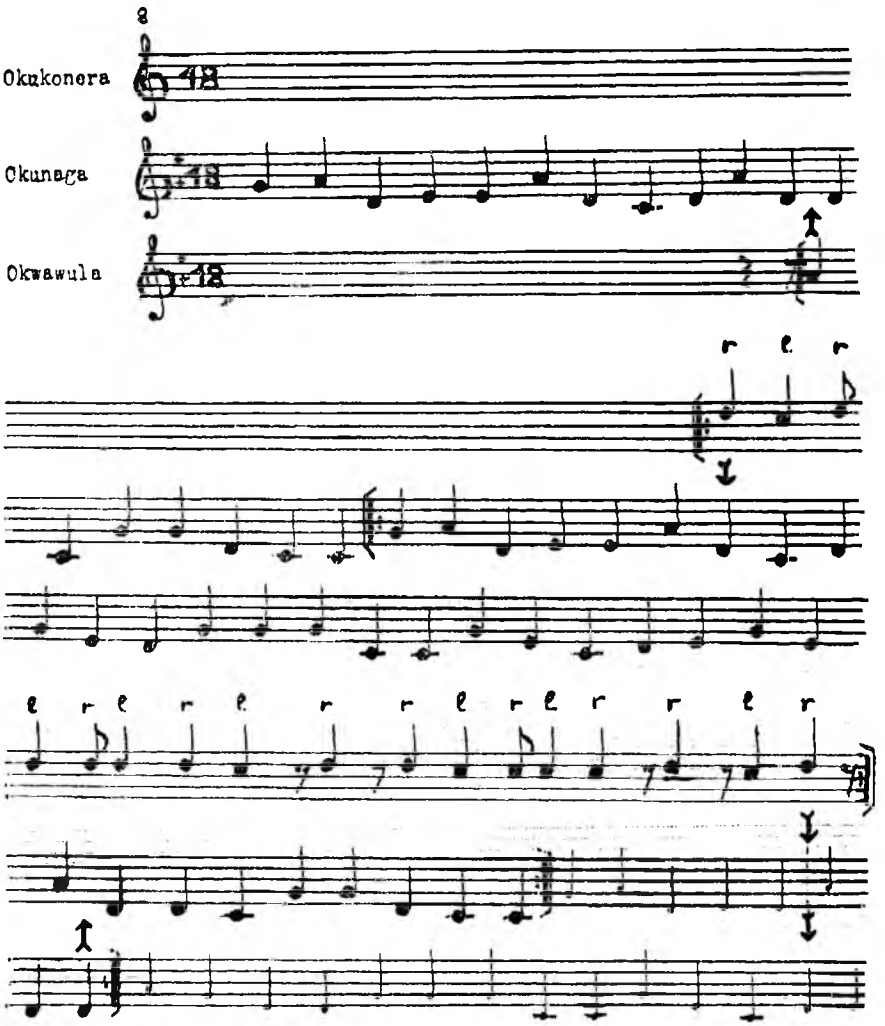
Muko No. 4.



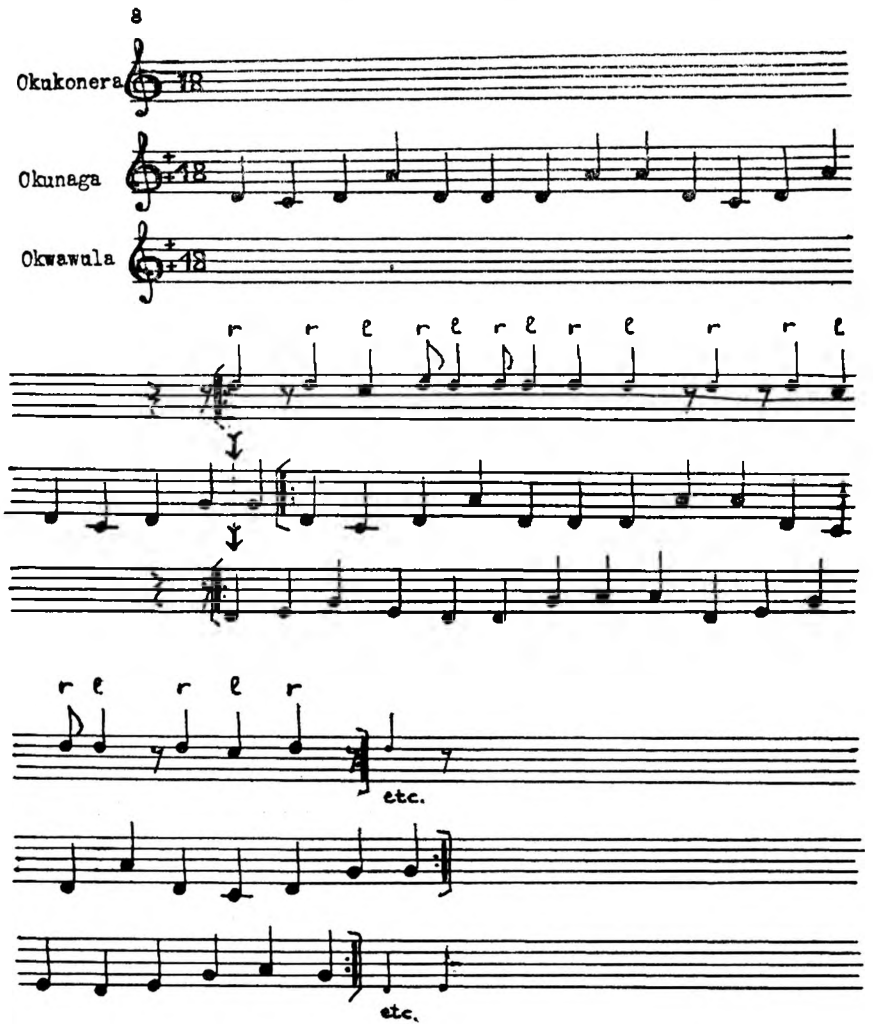
Muko No. 5.



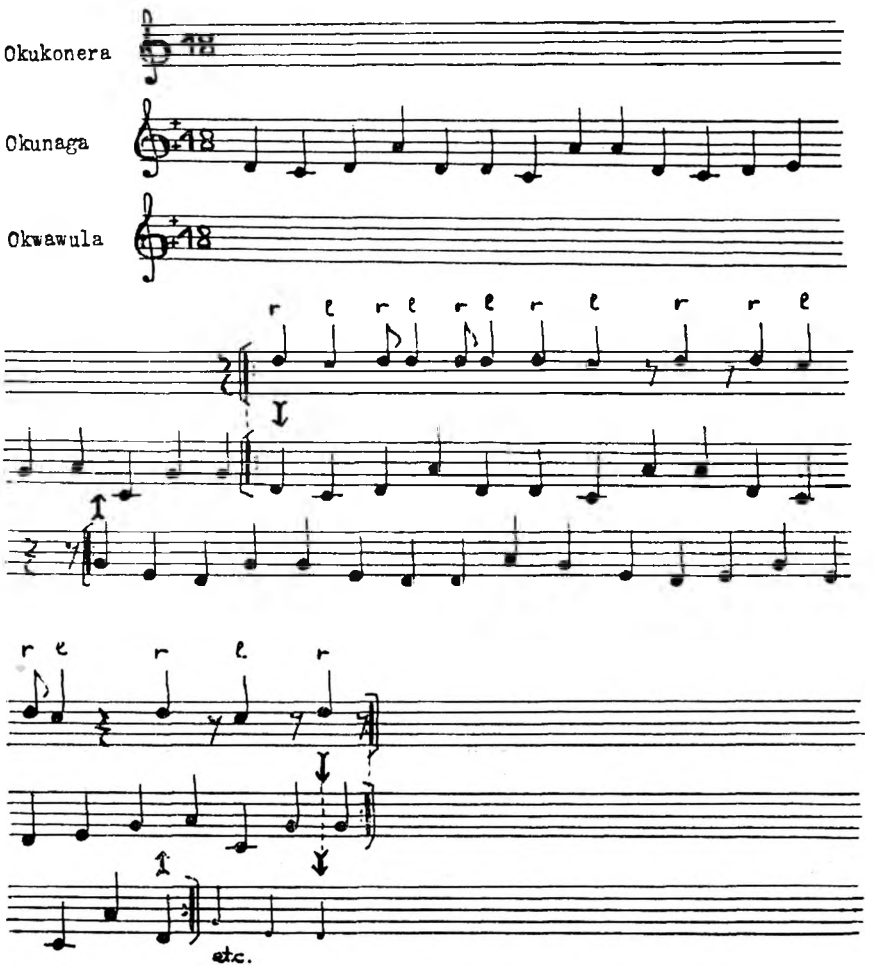
2. "*Sematimba ne Kikwabanga*" (Sematimba and Kikwabanga).



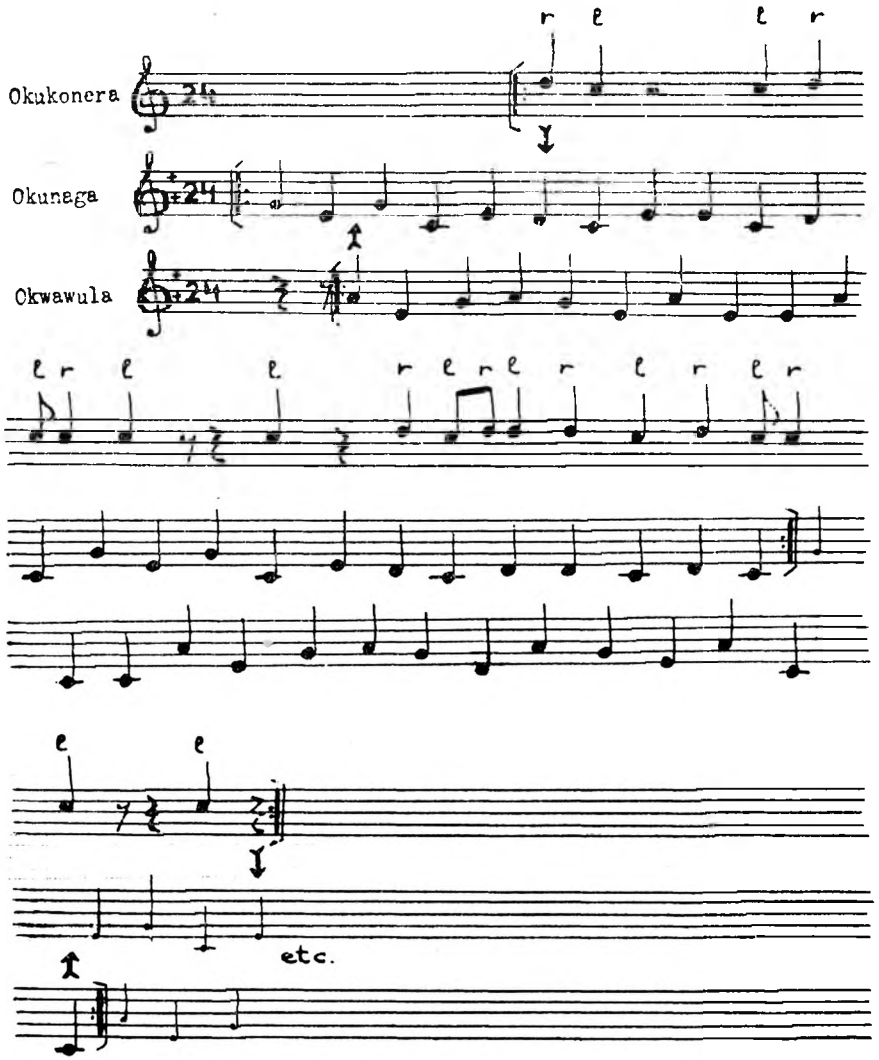
3. "*Nagenda kasana ngabulaba*" (I left when it was already daylight)



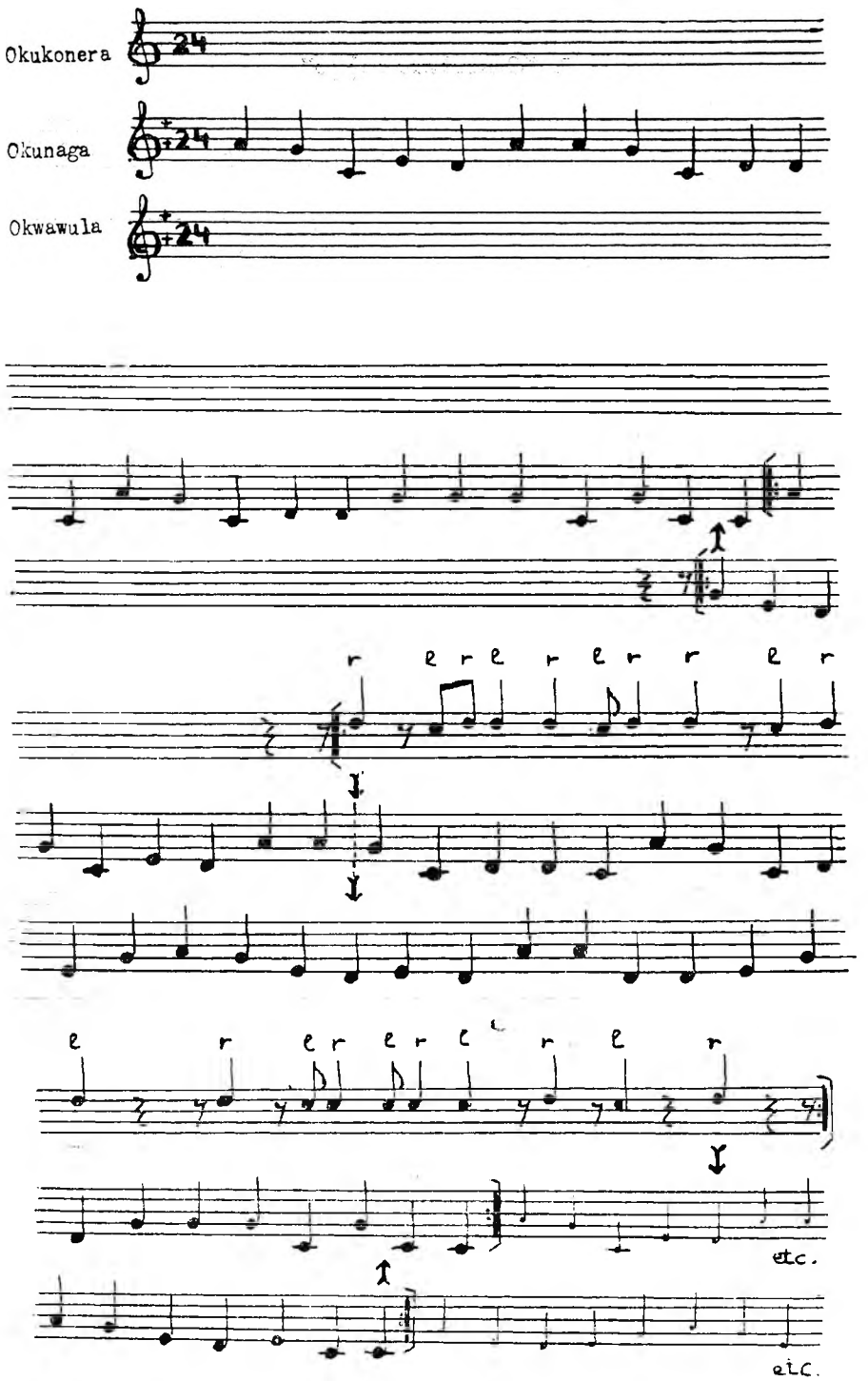
4. "*Omusango kwa Balere*" (The case of the pipers).



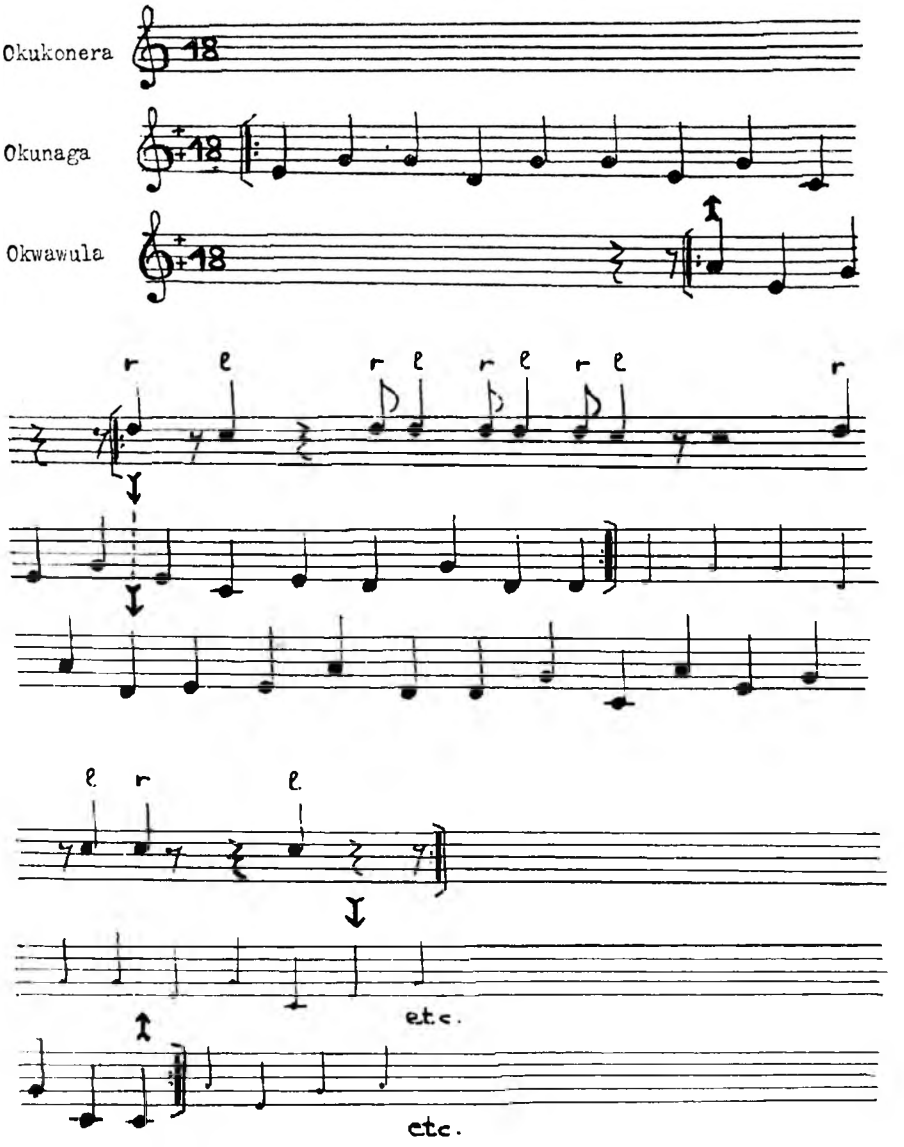
5 "*Atalabanga mudu agenda Bulega*".



6. "*Nandikuwade Enyanja e Kalidè*".

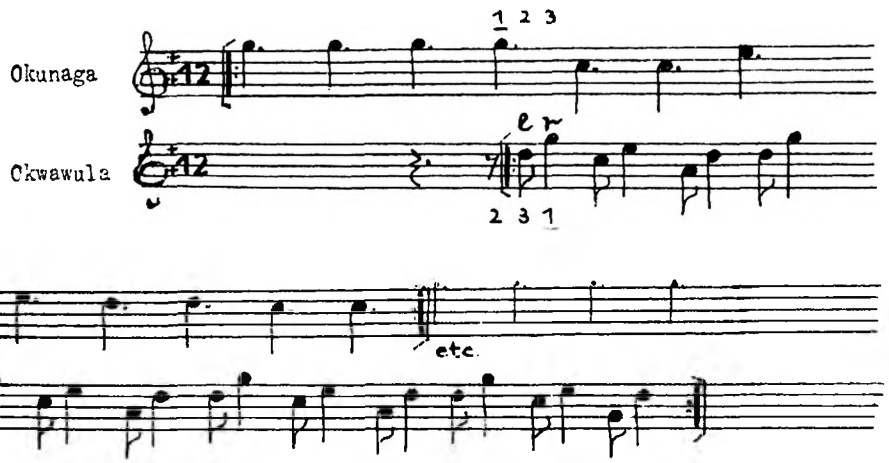


7. *"Omuwabutwa wakyejo"*

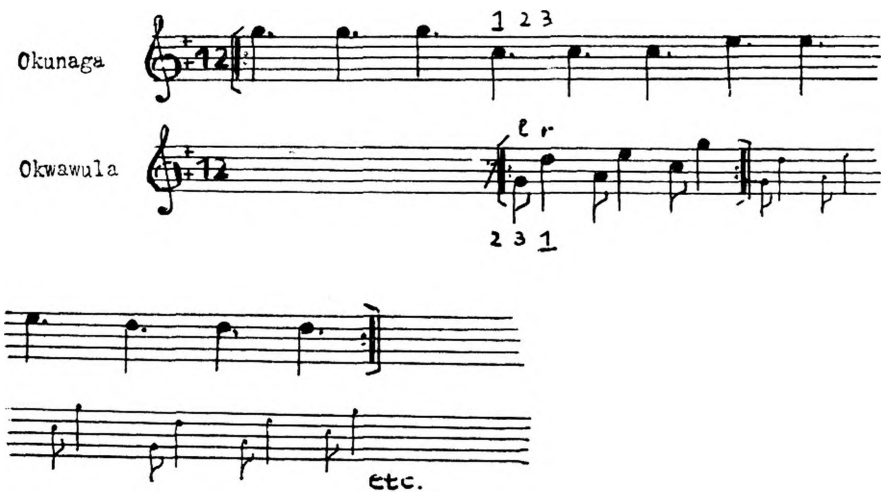


AKADINDA SCORES

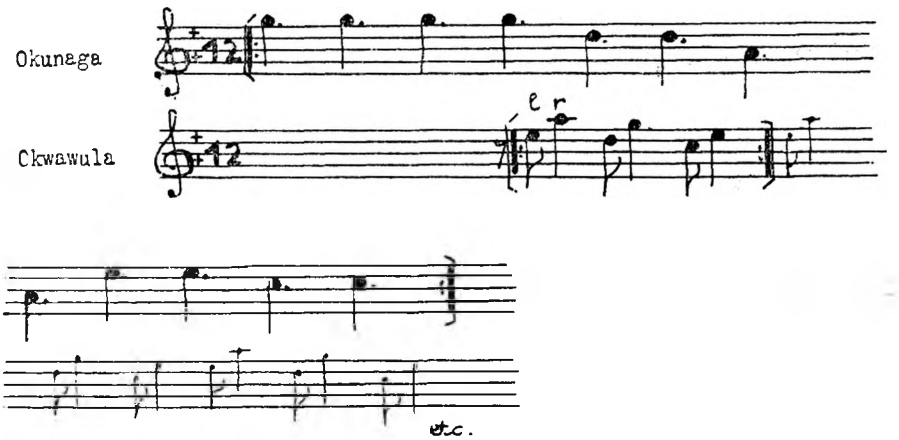
8. "*Abe Mbuga Basengeja*" (People at the Chief's residence are filtering).



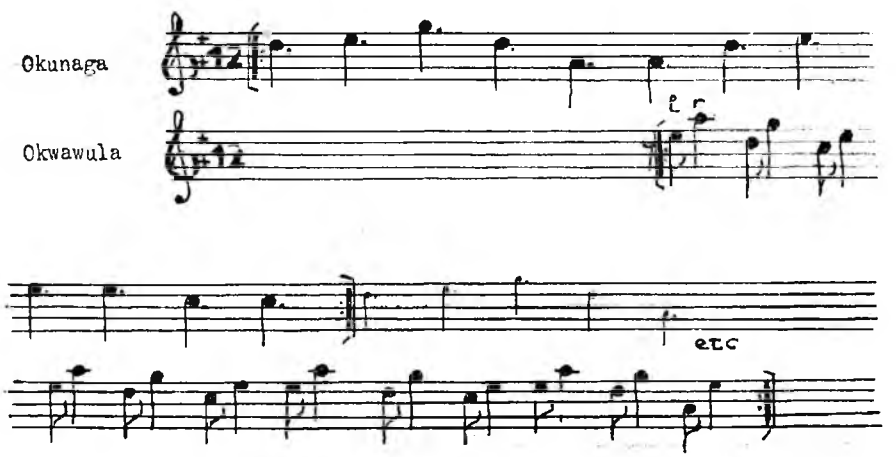
9. "*Bijabisamba Endege*" (Those coming with Endege).



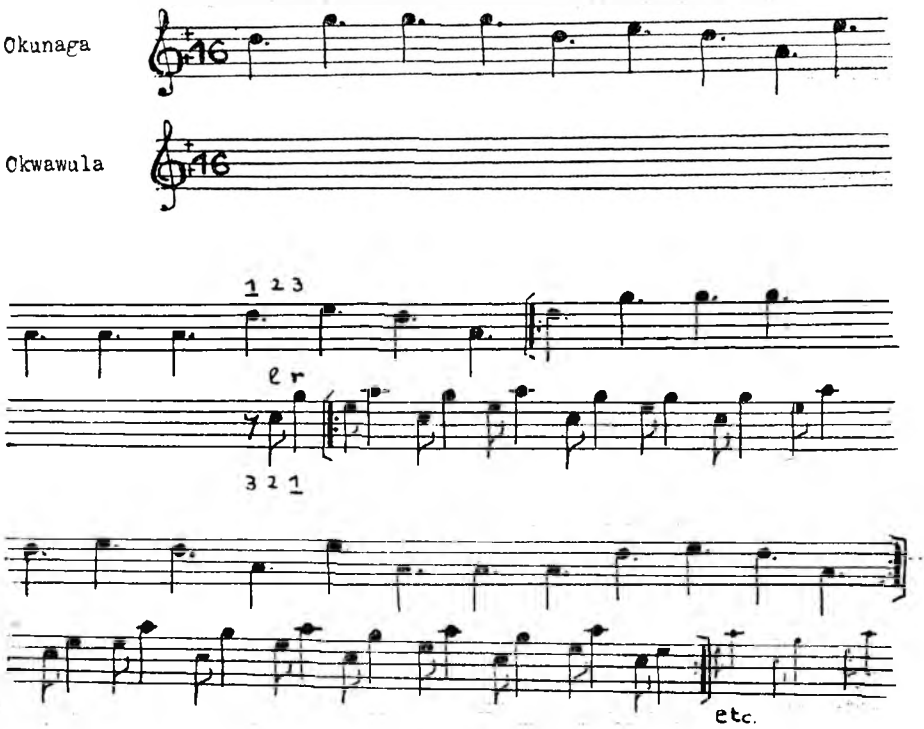
10. "*Kisawo kyamuwabutwa kiwedemu emwanyi*" (The bag of a poison giver has no coffee beans in it).



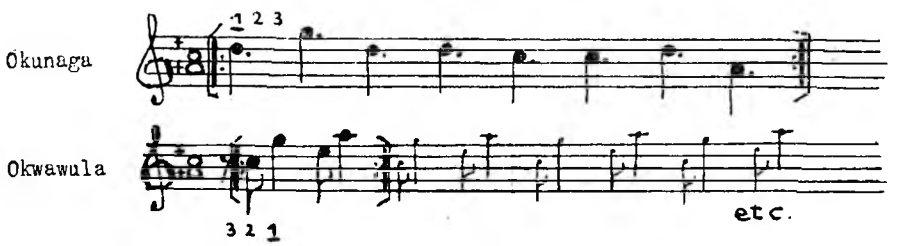
11. "*Omusango kwa Balere*" (The case of the pipers).



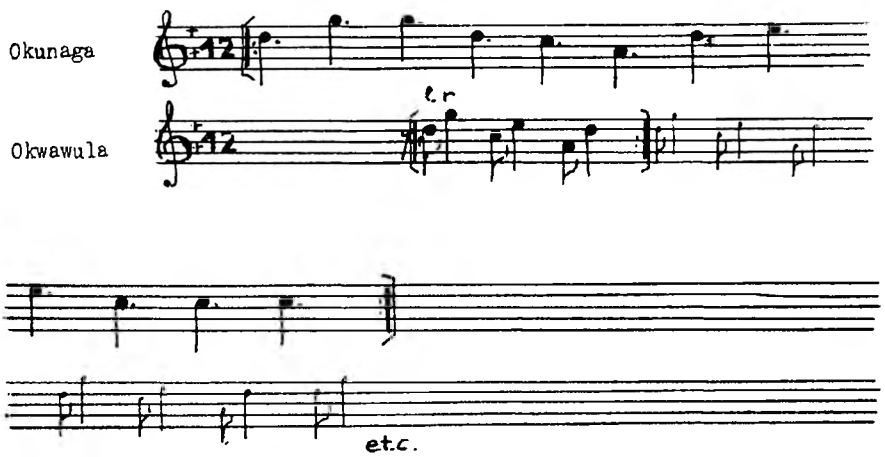
12. "*Singa namera byoya singa mbuse*" (If I had wings I could fly).



13. "*Nzige busige sirusejera*" (Grown-up locusts are not young ones).



14. "*Bogerera mwogerera*" (He speaks through other people).



15. "*Omugenyi agenda kyandanda*" (The stranger is departing).