The *kalumbu* or musical bow is probably found more often than any other indigenous instrument in Zambia.

I have been able to make a careful study of several of these instruments and there are many points of interest both in the tuning and general layout of the music.

Two of my players used a large bow which they said was peculiar to the Ila people. This consists of a stick about five feet long from the *mulishabulumbu* tree. Nowadays wire is usually used for the string. Formerly it was the sinew of an animal. One of my informants suggested that it was almost certainly the kudu. The calabash resonator is from some kind of pumpkin which they call *kankuli*. The small stick used in playing is a hard grass called *kampumpwe* which is also used for thatching.

The instrument can be tuned by moving the calabash, which is attached to a piece of wire acting as bridge, up or down the stick.

The approximate tuning is a minor third between the open notes with the stopped note a semitone above the lower note and a tone below the upper note.

The following are two tunings:

<table>
<thead>
<tr>
<th></th>
<th>HIGH</th>
<th>LOW</th>
<th>STOPPED</th>
<th>v.p.s.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>132</td>
<td>112</td>
<td>120</td>
<td>v.p.s.</td>
</tr>
<tr>
<td>(b)</td>
<td>120</td>
<td>100</td>
<td>105</td>
<td>v.p.s.</td>
</tr>
</tbody>
</table>

**INTERVALS. In tempered semitones.**

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High to low</td>
<td>2.84</td>
<td>3.15</td>
</tr>
<tr>
<td>High to stopped</td>
<td>1.65</td>
<td>2.31</td>
</tr>
<tr>
<td>Low to stopped</td>
<td>1.19</td>
<td>0.84</td>
</tr>
</tbody>
</table>

There appears to be a fair variation in tuning within a certain framework. The players seem to adapt themselves to different tunings without worrying for example, the performer. I mention later who although he had a different tuning, played his music on this *kalumbu* quite happily. I have not, however, enough evidence on this point as yet to be definite about this.

From about ten different examples of the music which I have studied, the following general pattern emerges:

(a) **TUNING DEVICE**

This is a short passage which the player uses to check his tuning. It is usually present in some form, but it varies from a very short figure to a passage which is longer and of more rhythmic interest. If the player already knows that his instrument is in tune, he may dispense with it altogether.

(b) **THE INTRODUCTION**

This is an instrumental passage, long or short, according to the mood and inventiveness of the player. It may vary in detail each time he plays it. In some cases it is then used, either in part or as a whole, to provide a ground bass for the song. This will be discussed fully in the examples which follow.
(c) THE SONG

This may be sung by one or more voices accompanied by the instrument. The voice
may be in unison or in harmony with the instrument.

(d) THE INTERLUDE

The interlude comes between verses of the song and is usually on the same pattern
each time it appears. Where there is only one verse, the interlude may come between
the repetitions. Sometimes there are no interludes. At other times there is an interlude
of a few notes between phrases or verses and a longer interlude somewhere in the
middle of the piece.

(e) THE CODA

This serves to "round off" the whole, and like the introduction, is rather more free
than when the voice and instrument perform together.

My first examples of the music are from Nawa Chapupa, a Lenje musician. I begin
with a straightforward example, a Lenje song with only one line of words:

"Bantalasha waba nsoni moye."

The player used no tuning device because he said that he already knew that his
instrument was in tune. When pressed, however, he produced the following:

Example I.

\[
\begin{array}{c}
\text{\textbackslash \textbackslash}
\end{array}
\]

This does not represent the exact pitch. It is written thus to avoid accidentals as far
as possible.

His piece begins with a short, simple introduction which is used as a ground bass
when the voices enter.

Example II.

\[
\begin{array}{c}
\text{\textbackslash \textbackslash}
\end{array}
\]

There are two voices which sing slightly different strands of melody which combine
to make occasional harmony in fourths. One voice duplicates the instrument, here.
Here are the two voice parts, written on one stave:

**Example III.**

![Voice Example](image)

Here is the song and instrumental part combined:

**Example IV.**

![Song and Instrumental Example](image)

*Note (a)* The overlapping at * where one voice is cut short so that the first note of the repeated melody coincides with the final note of its first statement.

(b) There are no interludes and the single verse is repeated *ad lib.*

The conclusion consists of two statements of the ground bass followed by a freer passage.

**Example V.**

![Ground Bass Example](image)

This extremely simple piece shows both variety and continuity in its construction. Continuity is maintained by the constant repetition of the ground bass and variety is shown in the movement of the voice parts.

My second Lenje piece, again, has only one line of words:

"**Mwanakashi kusumina walibana kukomena.**"

It resembles the first one in that it has a ground bass taken from the introduction and there are no interludes, but it differs in several ways.

The introduction falls into two sections, the first is free in style while the second is regular and in a more rapid tempo in preparation for the song. It is a section of this, which I have marked with a square bracket, that is used as the bass for the song.
Again the voices have two strands of melody, but there is more harmony here (consisting of fourths, fifths and octaves) because voice and instrument in the main go their separate ways. This is of course counterpoint rather than harmony since it is a combination of independent melodies. Perhaps I should make it quite clear that each voice sings both strands of melody, but that one begins with phrase 1. and the other begins with phrase 2. Hence the harmony.

Example VI.

Another player, Tonga by tribe, using the same bow, gave a performance which showed far more freedom in the introduction. I do not quote this, however, as I lost touch with the player and I am not satisfied that I have written down the rhythm accurately from the tape.

The song is of interest because it is made up of sentences each consisting of three, two-bar phrases followed by a two-bar interlude.
I quote the first sixteen bars:

Example VII.

There is no ground bass in this example and little harmony. On the whole, the voice has the same melody as the *kalumbu*, but there is a little harmony consisting of fourths and fifths in bar nine.

My final example seems to me of exceptional interest, partly due to the construction of the music and partly because of the tuning which was a great surprise to me.

The bow is a much smaller instrument, played by Samuel Shimoomba who is Ila by tribe. In spite of the difference in size and tuning, he insisted that it is still an Ila bow, but I am practically certain that both the tuning and the bow are Tonga.

The tuning is as follows:

<table>
<thead>
<tr>
<th>(a) Low note</th>
<th>(b) High note</th>
<th>(c) Stopped note</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>182</td>
<td>110</td>
</tr>
</tbody>
</table>

This gives the intervals:

- a to b: 9.86 tempered semitones
- a to c: 1.14 tempered semitones
- b to c: 8.72 tempered semitones

The distance between the open notes therefore is approximately a minor seventh. From the low note to the stopped note is a semitone and from the stopped note to the high note is a major sixth. At one point the string broke and after re-tuning with a new one, the player used a major seventh between the open notes! Here is a comparison between the first and second *kalumbus*. The open notes are given first.
N.B. Not exact pitch.
The player started with an introduction showing considerable flexibility of rhythm.
The quavers are of the same value throughout.

Example IX.

When the voice enters, the introduction is used in its entirety with one trifling alteration as a ground bass for two phrases of the song. I was fascinated when I discovered this point which seems to me extremely interesting. Incidentally, the charm of the melody line here is greatly enhanced by the freedom of the rhythm.

Example X.
We have a musical sentence consisting of four phrases of three bars each.

The ground bass (marked with a square bracket) is six bars in length and takes in two phrases of the song. Harmonies are at the fifth and octave. After a repeat of phrase (a) the music passes into a sharply contrasted section in various simple times.

Example XII.

Phrase b₂ and c₂ follow and then there is a return to d. After this the phrases follow each other in this order — ba/bc/d/bc/d/b/. So far as I can see there is no particular pattern as far as the song is concerned. Questioned about it, the player said that there was no fixed order. It seems that he sang as the spirit moved him.

A fairly long interlude follows. I quote eight bars only to show how the freedom of rhythm is maintained:

Example XIII.

A reference to phrase d is included in the interlude and it may also be noted that the early part is often suggestive of the introduction.

Curiously enough since I regard this as one of the most interesting pieces of kalumbu music I have come across, there is no coda. The player finishes abruptly with a flourish of 3 notes on A. Perhaps he had exhausted himself with the inventiveness of the early part!

When questioned about a tuning device, Mr. Shimoomba obligingly put his instrument out of tune and showed how he tuned it by repeating this short figure in sequence, each time he moved his calabash till he reached the correct tuning.
Example XIV.

The overall pattern reveals some evidence of design although it is, on the whole, free.

\[
\begin{array}{cccc}
  a & b & c & b_2 \\
  \text{Interlude} & c_2 & d & b \\
  a & b & c & b \\
  a_2 & d & b_2 & c_2 & d & b \\
  a & b & c & b \\
  c_2 & d & b \\
  c & d & b \\
\end{array}
\]

This short article gives only a few of the points of interest in the construction of kalumbu music. Further research will, I am sure, produce many fascinating discoveries.