

THE SYSTEM OF THE MBIRA

by

ANDREW TRACEY

This is a re-edited and updated version of the paper presented at the 7th Symposium on Ethnomusicology (Venda University) in 1988, published by ILAM in "Papers presented at the 7th and 8th Symposiums in Ethnomusicology" (1989). It is reproduced here because of the worldwide interest which has developed in mbira and its system in recent decades.

Going up by road to Zimbabwe, I always start to get a thrill of excitement when I get up into the Soutpansberg and look down towards the Limpopo. Not only does the country start to look like Zimbabwe, with the baobab trees, and the Venda language which sounds half Shona, but this is the start of MBIRA COUNTRY. It is the southern boundary of an enormous stretch of Africa from here to the Zambezi and beyond, covering parts of at least seven countries—northern South Africa, eastern Zimbabwe, central and southern Mozambique, southern Malawi, parts of Botswana, Namibia, Angola and possibly further. In short it could be described as the Zambezi basin. Here is where exists a system of music with its own rules, uniquely African, extraordinarily consistent, wonderfully expressive. The system appears in song and in many instruments, but the key is the mbira.¹

I discovered mbira through my father, Hugh Tracey. It was his favourite instrument. He first heard a *njari* mbira in about 1921 when he arrived as a boy among the Shona/Karanga at Willand Farm, Gutu, near the modern Masvingo. Subsequently he heard and recorded hundreds of players. His first research between 1929 and 1932 resulted in a ground-breaking report for the Carnegie Foundation which was never published at the time² although parts of it appeared much later in *African Music* (1965, 1969).³ He worked for a time on a notation for *mbira*, but never managed to play it successfully himself. His recordings, his telling of *ngano* folktales and his stories about mbira players he had known led me naturally to gravitate towards mbira when I started to work in Zimbabwe in 1959, but it was only when I met Jege Tapera that year in Bulawayo that I realised I should learn to play his *karimba* mbira if I wanted to know anything about it.⁴

¹ The word mbira is used throughout this article in the generic sense, thus only particular types of mbira, such as *matepe*, *mbira huru*, etc are italicized.

² Jowett, the director of education in the then Salisbury, was believed to have secretly suppressed the report due to the comments HT made in it on the disastrous effect the missionaries were having on African culture, which was plainly to be seen in the neighbourhood of any mission station. (The education of the time was largely in the hands of missionaries.) The experience soured HT's attitude towards missions, the source of his disillusionment with religion.

³ The exhibition catalogue, *For Future Generations-Hugh Tracey and the International Library of African Music* (2010: 22–61) includes the original manuscript of his chapter on wind instruments from that report as an example of the scientific rigour of his work.

⁴ See A. Tracey 1961.

It was a good decision, which changed the whole way in which I studied African music thereafter. The mbira is an absorbing instrument. Rather like the guitar, it can be a good friend. One of its appealing aspects is that, even more than the guitar, it can give you back more than you put into it. Here is Dumi Maraire on the point; it reflects my experience perfectly.⁵

When a mbira player plays his instrument, he is not playing it for the world. He is not trying to please people, nor is he performing. What he is doing is conversing with a friend. He teaches his friend what to do, and his friend teaches him what to do.... To me a mbira is a lively instrument. It amazes me when I hear all these different things in my way of playing. This is not because I am playing different patterns without knowing what I am doing, but because, as I give the mbira more, I get more from it....So, in simple terms, I can say that the mbira is always in front, giving the materials to the player, and the player follows behind, emphasizing these while at the same time asking for more. What more can one say of such an instrument but that it is a friend indeed? (Maraire 1971)

This is purely from the musical angle, but there is much more to it. When you pick up mbira, you feel you are picking up the history of a part of Africa, a complete way of making music, a whole social system of music and religion and history. To have mbira with me in Zimbabwe or Mozambique has been better than a passport, it has made friends everywhere, and given me an insight into a deeper side of African life than would have been possible without it. This aspect of mbira has been well covered by Paul Berliner (1978) for the *mbira huru* (also known as *mbira dza vadzimu, nhare*), one of the many types of mbira played in 'mbira country'.

The complexity of mbira, both its music and the instrument itself, is a challenge which I enjoy facing. From early on I had the inkling that there must be some sort of system behind this complexity, and yet no one could tell me anything about it, least of all the players themselves. If there was a system, to them it was sublime and rules were unconscious.

Mbiras of mbira country

Standing on the Soutpansberg among the Venda, you are in a land where the Valemba play the big *mbila dza madeza* (mbira of resonator gourds) with its 23 or more broad keys. From here northwards, to name the members of the mbira family:

TIMBILA, Tsonga/**Hlengwe**—SE Zim Lowveld, Shangana-**Tsonga**—NE South Africa, S. Mozambique. Short sequences. Not ritual. 3 fingers.

NJARI, **Shona**/Karanga, /Njanja, /Hera, /Zezuru, /western Korekore, **Sena**/Chikunda, Nyungwe, /Tonga—Mashonaland, middle Zambezi. 4 fingers. Introduced to Zim by the Njanja in 18th century. Ritual.

MBIRA DZA VANDAU, **Ndau**—E Zim down to the sea in Moz. Like *timbila*, uses short sequences. Not ritual. 3 fingers.

⁵ Maraire was a Shona *karimba* mbira (he called it *nyunganyunga*) and marimba player who taught for many years on the west coast of the US and was the moving spirit behind the popularity of Shona music in the USA and more widely.

MBIRA HURU (*mbira dza vadzimu, nhare*), Shona/**Zezuru**, central Mashonaland. 3 fingers. Ritual. Formerly played by /Karanga—S. Zim and Manyika, —E. Zim/Moz border (*madhebbhe*).

HERA (*madhebbhe, matepe*), Shona/**Korekore**, /**Budya**, Sena/**Tonga**, /**Nyungwe**—NE Zim down to the Zambezi in Moz. 4 fingers. Ritual.

NJARI HURU, rare, probably long extinct, probably Chikunda, Tavara—NE Zim/Moz border. 4 fingers.

NYONGANYONGA, Sena/**Barwe**, /Gorongozvi, /**Mang'anja**, /Sena—middle, lower Zambezi into S Malawi. 4 fingers, L index very active.

KARIMBA, Shona, Sena, Mang'anja, Cewa, Ngoni, Nsenga, etc, scattered through most of mbira country, pronounced *KALIMBA* further north into Malawi and Zambia. 2 or 3 fingers. Larger versions with 20+ keys may be used in ritual.

MANA EMBUDZI, Sena/**Tonga**, /**Nyungwe**—middle Zambezi. 3, sometimes 4 fingers.

For details of the note arrays characteristic of each of these, see my 1972 article, in which I propose that this lamellophone family all descend from a common ancestor, the *kalimba*. Some common features of the family are:

- The instruments are relatively large, usually having 20 or more keys.
- Practically all have heptatonic scales. The few which are not are hexatonic, i.e. all *mbira dza Vandau*, *timbila* and some *karimba*. I have a strong feeling that the heptatonic mbiras as played today have a hexatonic ancestor not very far back down the line.⁶
- They are all played with the two thumbs and one or two index fingers.
- They are resonated inside a large calabash, sometimes a large tin can, with *hozhwa* snail shell or bottle top rattles loosely attached.
- Most types have a V-shaped note array with the longest notes in the centre. *Mbira dza Vandau*, *mana embudzi* and *timbila* have their low notes on the left rising to high on the right.
- Most types have some notes duplicated on the left and right side.
- Many have playing sections/ranks of notes of at least seven consecutive notes of the scale, i.e. one of each pitch of the scale.
- Nearly all have some irregularity in the arrangement of notes in the scale, i.e. gaps or notes out of order. This is one of the important clues that enable them to be related to each other and thus theoretically to a common ancestor, the 8-note *kalimba*.⁷
- A recognisable 'sound' to the music, which I describe as sharing the harmonic system which is the focus of this article.
- The instruments are treated with respect by the people, as they play spirit music and in many places are an important part of ritual involving possession, viz the names *mbira dza vadzimu* and *matepe dza mhondoro*, both of which mean "of the

⁶ See A. Tracey 1961

ancestral spirits". Most of the song repertoire is ancient, and said to belong to the *vadzimu*, some of whom have their favourite songs which are played for them. Another group of songs, particularly on *njari*, is associated with *mashavi* spirits or souls, a class of non-ancestral, animal or talent spirits. *Karimba* is usually secular, not played for spirits, *mbira dza Vandau* and *timbila* are always secular. Details of physical construction are not described here.⁷

Focusing on mbira as we are, be aware that the system is not limited to mbira but is or can potentially be used on many other instruments in mbira country, including:

VALIMBA⁸ xylophone (and other names), Sena, Sena/Mang'anja, /Barwe—middle Zambezi, Moz, S. Malawi.

MARIMBA xylophone, the Western-tuned sets of instruments developed at the now defunct Kwanongoma College of African Music, from 1960 onwards and widely used in education and churches in Zimbabwe, South Africa, Botswana and other countries in Africa and the world, particularly USA, where Dumi Maraire introduced it around 1970.⁹

NYANGA panpipes, Sena/**Nyungwe**, Tete region—Moz.¹⁰

NGOROROMBE, Shona/**Zezuru**—Murewa, Zim.¹¹ and at least three other local Zimbabwean traditions: Sena/**Tonga** at Mukota; Shona/**Korekore** at Marymount, Darwin, both probably extinct; Shona/**Karanga** at Masvingo, long extinct.¹²

CHIPENDANI mouth bow, **Shona**—Mashonaland, Zim, and many neighbouring peoples.¹³

WESTERN INSTRUMENTS of all kinds, where the mbira system, when pressed into the idiosyncratic Western scale, comes out as an exercise in Western modal harmony, and the chords take on the meanings of Western functional harmony. Few modern players seem to be concerned by this; Western instruments dominate in modern Africa. Only the older will remember the more equi-spaced, subtle, regional sound of original Shona instrumental tunings, ambiguous yet precisely tuned.¹⁴ Unaccompanied singing tends to revert to natural harmonic intervals such as 4ths, 5ths.

⁷ See for instance H. Tracey 1969

⁸ See A. Tracey 1991.

⁹ See www.dandemutande.org for much more information.

¹⁰ See Andrew Tracey 1971, 1992, Malamusi 1992.

¹¹ See Gumboreshumba 2004.

¹² For panpipe recordings at ILAM, search online, www.ru.ac.za/ilam.

¹³ See Jones 1992.

¹⁴ Many examples are found on ILAM's *Sound of Africa* Series recordings searchable from ILAM's website www.ru.ac.za/ilam; for Shona tunings in Herz see the *Sound of Africa* Series catalogue (1973) available in print from ILAM.

Early mbira

Vadzimu may be disembodied ancestral spirits, but they were once real live people, from very recent ones such as one's late parents, and also famous men and women of old who are remembered in ritual. Religion and history are close, very much a matter of powerful rulers and their mediums, and the spirits they have become.¹⁵

Although the evidence is scanty I believe that the two big spiritual mbiras, *mbira huru* and *matepe/hera*, and their 'long' chord cycles of 48 pulses discussed below, have primarily been associated with the two big centralised kingdoms of the Shona and their supporting religion: *mbira huru* with the 13th to 15th century Zimbabwe kingdom, and then *matepe/hera* with the Munhumutapa kingdom in the 15th and 16th centuries.¹⁶ These two mbiras and their still-living repertoire probably developed in the two kingdoms, likely starting from an original level of mbira music, also still extant, that is simpler, often hexatonic, with 'short' cycles (24, 18, 12 etc), shorter chord sequences, and not used in ritual. This accords with the way that long- and short-sequence songs are used in the present day.

If all later observers had written as perceptively as the Portuguese missionary Dos Santos did in 1586, history would be better served:

[The Africans on the east coast have] a musical instrument, also called a mbira... it is all made of iron... being composed of narrow flat rods or 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 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 [i.e. the xylophone], 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 (Dos Santos in Theal 1901).

There are very few old instruments in private possession or that have survived theft from African museums. It is fortunate that the Shona *nhaka* inheritance practice encourages the preservation of old musical instruments, as these are not buried in the grave along with their owner, but handed on as treasured heirlooms together with other items such as *gano* (axe) and *bakatwa* (sword). On the contrary in southern Malawi, also part of mbira country where *nyonganyonga/malimba/sansi* is played, musical instruments are interred with the dead. Together with the disappearance of craftsmen who can make traditional instruments this helps to account for their moribund and forgotten state in this region.

Archaeology gives little conclusive evidence beyond a few rusted mbira parts which are hard to identify or date, but could come from *mbira huru*, owing to its heavy

¹⁵ Bourdillon 1976.

¹⁶ Jack 1968.

metal parts, bridge, bar and keys. Other mbira types have lighter metalwork. The first credible modern evidence comes from the German explorer Carl Mauch,¹⁷ who in 1872 very near the Great Zimbabwe ruins attempted to transcribe three tunes for the now extinct *mbira dze midzimu*, the Karanga version of *mbira huru*. The rhythmic motifs in his transcriptions look something like modern ones, and it is clear that he was listening to the same sort of *mbira huru* music we know today. Unfortunately I cannot consistently piece together any of his songs. He apparently detested the *magure/huro* yodelling sound of mbira singing, saying that it reminded him of nothing more than a donkey's braying. But he liked the mbira sound, comparing it with the German zither with which he was familiar. His accurate diagram of the note array of a *mbira dze midzimu* is almost identical to that of the modern *mbira huru*.

An interesting difference in the diagram is that it shows three keys made to be played by the left index, which no longer appear on the modern instrument. The success of *mbira huru* in recent decades, however, has led to a spate of inventive mbira designs; some include these ancient keys and other innovations, re-inventions and re-tunings. The most significant re-tuning is one known as *gandanga*, where the note-order array is retained but the notes are tuned nearer to a Western major scale, with its globalised row of tones and semitones.

Oral history from musicians is a valuable source, on which much more research could be done. Personalities, players, mediums and their contributions are often remembered. All the songs known as "old" have many *miridziro* (ways of playing), are not based on particular song words and are probably hundreds of years old. The oldest one I have heard of with a credible clue would be "*Bangidza ra Mutota*", a *mbira huru* song referring to Mutota, the ruler of the Zimbabwe kingdom in the 15th century. The same title is also found, as "*Bangiza*", on the *mbira dza madeza* of the Venda, who split from the Shona between 300 and 500 years ago. Another ancient *mbira huru* song with an identifiable name is "*Mutamba*" (orange tree), associated with the culture hero Chaminuka, who has manifested himself through a succession of mediums for several hundred years. His mediums were for long the Mujuru family at Dambatsoko, near Rusape.¹⁸

The rough geographic centre of the mbira country and its harmonic system is NE Zimbabwe. With an ear attuned to the feeling of the mbira system, when you go out far enough in any direction from the centre, the sound will tell you immediately when you are nearing the fringes of mbira country. In most directions it is quite well defined. The 'pure' system, if I can call it that, starts to develop impurities on the fringes under the influence of neighbouring musics, and further away eventually breaks down completely. Northwards into Zambia the mbiras (*kankobebe*, *kalimba*, *ndimba*, *ndandi* and many other names) are related to those of the Shona and they are likewise heptatonic, but the dilution of the system is evident when you hear parallel chord movement, typically in fourths, which is strictly avoided by the Shona.

¹⁷ Mauch, in Bernhard 1969.

¹⁸ See A. Tracey and G. Zantzinger's 1975 mbira films.

Going eastwards into the Zambezi valley and the Sena language, the system remains strong, with much variation that stays inside, or close to, the system. Into Malawi, pentatonic scales start to appear. South and Southeast towards central and southern Mozambique, mbira scales are hexatonic and are tuned with intervals of widely variable sizes, unlike the somewhat uniform intervals preferred at the centre, where there is a tendency towards equi-spacing and intervals of between 200 and 300 cents. (A notable exception in southern Mozambique is of course the *timbila* xylophone tunings of the Chopi and Tswa which can be precisely equi-heptatonic.¹⁹)

Visiting the Venda to the South, for someone who knows Shona music, is like taking a step back in history to an earlier level of Shona music. Their *mbila dza madeza* played by the Valemba who live among the Venda includes at least three of the old 48-pulse songs, but variations of the short sequences are much more in evidence, and can show the influence of the pentatonic parallelism of their Sotho neighbours. To the West the transition is abrupt with little compromise with the Ndebele (hexa/penta), Tswana (penta) or San (tetra).

One should perhaps add another ‘direction’, which would be the interaction of Shona with Western, South African, Congolese etc music. Without going into detail, I find it significant that modern Shona musicians, while adopting many Western styles and conventions in church, school and popular music, frequently preserve the harmonic determinism of the mbira system in whole or in part.²⁰ This has done much to build a genuine Zimbabwean sound into their present-day music.

The system

The fact that there exists a sound, a technique, a practice or system which musicians recognise and whose geographic borders can be traced throws the ‘pure’ central area into focus. Clearly this piece of Africa does share a definable music system. The languages of the region belong to two families, Shona and Sena, but the music system unites them even more closely than language. It deserves the name ‘system’ because musicians here have an independent, consistent set of organising principles which explains the existing harmonic structure of their music and is also used to generate new music. Unlike many or most African musics, the system is not based on language but on Shona and Sena musical preferences regarding harmonic sound and movement.

The first mbira I learned was Jege Tapera’s 15-key *karimba*.²¹ After learning barely one or two songs I started to notice that the chords he played consisted of two notes (and/or their octaves). He only used four different chords, and they always came in the same order. I decided to call the long central low note, his tone centre, ‘G’, mainly because this would fit the range of his *karimba* nicely onto one treble five-line stave. Later I found that the G pitch worked well to unify the notation of the other mbiras of

¹⁹ See H. Tracey 1948, 1970.

²⁰ Well-known personalities in the field are Thomas Mapfumo and Oliver Mtukudzi.

²¹ See A. Tracey 1961.

Other Shona *karimba* players played the same way. Then I found that a great many other Shona songs, traditional and pop, also in Ndaou and Venda, even if unaccompanied by *karimba*, were based on the same sequence. I was onto something! Here is a favourite 5-voice Karanga song which shows the same sequence, from a 1932 Hugh Tracey recording.

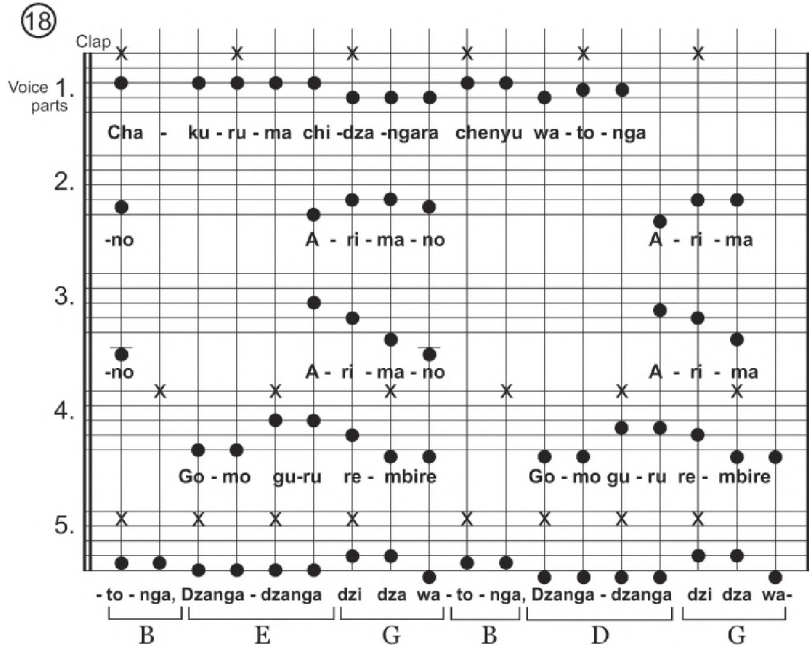


Figure 2. “Dzi dza Watonga” (ILAM shellac record: TP3731), Karanga communal threshing song, Masvingo. Written in G. [DVD track 1].

Now, having started to discuss chord sequences in G because that is how I started writing the notation of *karimba*, I am going to change the key for theoretical discussion to a uniform C, which will help with comparability of sequences which are played on different types of mbira and in different keys on each.

The common variant of the above *karimba* or ‘short’ sequence, especially in the south (Karanga, Ndaou, Venda) differs by one chord only. Both sequences are much used in popular songs, e.g. “Chemutengure”: G B D G C E
 which I will now write as C E G C F A

Figure 4. “Gwindingwindi”, Karanga fighting song sung by Chief Chibi and men, Chibi, c.1932. Written in C.

One can hear the oscillation of these three notes also in African urban music built on the three common chords I, IV and V. In key C, urban musicians tend to favour G/C in I, A/D (as against F/C) in IV, G/D in V, drawing from their experience in the tradition.

Gerhard Kubik (1988) produced an interesting theory on the origin of the Shona chords, inspired by his research on Khoisan musics in Angola. I expect the theory to remain completely unproven, but I describe what I see as the essence of his argument here partly because of its audacity and, well, it could possibly even be right! He says that the Shona chords could have come from an ancient Khoi/Shona cross-fertilisation.

Historians say that the first main contact between Bantu and Khoisan in this region was in c.300/400 AD, and must have continued for many centuries. 20th century Angolan Khoi used three different bow tunings on their two types of bow, the *n/ka* or *sungu* braced mouth bow, and the *n/kau* braced gourd bow, which is similar to the better-known Zulu *umakhweyana*, Tsonga *chitende*, Zambian *kalumbu* or Brazilian *berimbau*. The brace, or noose, can be slid up or down to tune the two open-note fundamentals to an interval of c. 200, 300 or 400 cents, i.e. about a whole tone, a minor third, or a major third (or much further apart in the case of the last two).

The interval of around 400 cents or a little less appears in many instrumental tunings in central Africa, especially noticeable between the bottom two notes of many types of mbira, and also on xylophones and bows. While Khoisan music and many others in central and southern Africa alternate between the two tonalities you get from a bow that has two fundamentals, the Shona music system seems to use the kind of movement you would get from combining **all three** of these intervals. You merely have to propose that the player of bow no.2 tune his lower note to the **upper** note of bow no.1, with a similar relationship between bows 3 and 2. Kubik does not go so far as to imagine that three bow players would actually have done this and played in trio, but indicates that when a musician is thoroughly familiar with the kind of tonalities given by bows tuned in these three ways, it is not too much to suggest that he might be able to integrate them into one system.

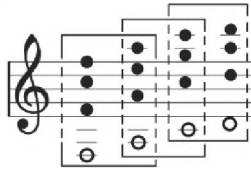


Figure 5. Illustration based on Kubik 1988: 60.

A combination of the three standard Angolan Khoisan bow tunings would give the exact chords of the Shona ‘short’ sequence: *f, a, c, d* as in Kubik’s diagram above, or transposed to the key I am using in this article: C,E,G,E. It would also give the hexatonic scale used in the older level of Shona music, starting on the 5th note: G A B C D E, the same range as the six consecutive notes of the low rank of *kalimba*, the oldest member of the mbira family (in *karimba* notation: *d e f g a b*).

The credibility of a Khoisan admixture is supported by the extensive Shona use of typical features of Khoisan (and Pygmy) music, the yodel, the individualistic polyphonic vocalising and the use of vocables like *iye iye*, *woye*, *ha handere*, *ndende ha* and so on. The idea may seem strange to the modern Shona, as Kubik remarks, but something has to explain why the harmonic world is so different in this large part of Africa, roughly from the Zambezi to the Limpopo rivers, from anything else to the north or south.

The musical history of the Eastern Cape, South Africa, may be useful for comparison. Here the interaction of Khoisan with Xhosa in more recent times has been documented, for example by Dave Dargie in his book *Xhosa Music* (1988). The Khoi and San were probably extinct in the region by the beginning of the 20th century, but they have had a lasting effect on Xhosa bow-playing, on the harmonic system, the individualistic polyphonic singing, the tense shaking dance style, and of course on the Xhosa language. In both cases we have a strong hint at the fundamental importance in all southern African musical styles of the musical bow where the harmonics are naturally determined, but the choice of interval between the two or more root fundamentals is entirely human.

To return to mbira, having learned to play *karimba* it was soon obvious to me that the music played on the big ritual Shona mbiras must be built on similar principles. Some sections of songs even used the same short sequence I knew from the *karimba*, but that was only one half of a longer cycle. New chords were added in the other half. The big mbiras I looked at mostly were *mbira huru*, *matepe* and *njari*. Now it appeared that these mbiras use six of the seven diads potentially available in the heptatonic scale, arranged in a 48-pulse sequence phrased rhythmically in four quarters of 12 pulses: The ‘C standard sequence’ written in C: C E G C E A C F A D F A

The reason for the name “the C standard sequence” will be explained below. This is the sequence, as I heard it, for instance of “*Nyamaropa*” (*mbira huru*), “*Nheura*” (*njari*) and “*Msengu*” (*matepe*). There is no B chord in this sequence, but that does not mean it cannot be played, because it appears in other songs on all three mbiras. Here is an example of the sequence as played on *matepe* by Saini Madera at Mukota:

Figure 6 shows the musical notation for "Msengu" on mbira. The notation is organized into two systems. The first system consists of three staves: the top staff (Right hand, R) has notes grouped under chords C, E, G, C, E, A; the middle staff (Left hand, L) has notes grouped under chords C, F, A, D, F, A; and the bottom staff (8th octave, 8v.) has notes grouped under chords C, F, A, D, F, A. The second system, labeled "Simbi", shows two staves of vocal melody with the lyrics: "-nde (ha), ha - he -nde - re - ha - nde (ha), ha - he -nde - re - ha -".

Figure 6. "Msengu" played by Saini Madera, *matepe*, (Sound of Africa Series No: TR-212-B1)²⁷ with one of many possible matching vocable lines, sung by Simbi. 'C Standard sequence', in *matepe* C. The lower stave in this mbira notation has the left hand part one octave below the right stave, so the note names are the same in each (unlike conventional piano staves which are one octave and a sixth apart). [DVD track 3].

Other songs of this sequence are "Nyamaropa" (in *mbira huru* G), and all its offshoots of many names, "Nhemamusasa" (in *mbira huru* C), "Kari muchipfuwa" (in *matepe* G), etc. as I write these.²⁸

The existence of a standardised theoretical 'mbira sequence' such as this could lead (and has led) to all sorts of imaginative technical analysis.²⁹ As a player, and one who is not given to flights of morphological and mathematical fancy, I would just like to point out some immediately noticeable aspects of it, for instance:

- The second half F A D F A C is like a mirror image of the C E G C E A of the first half, a fourth higher, the two parts in reverse order. The C chord common to both halves acts as a pivot between the halves.

[C] E G C E A [C] F A D F A [C]

²⁷ See A. Tracey 1970

²⁸ To demonstrate a concordance of *mbira* tuning patterns and written staff pitches for the whole *mbira* country is beyond the scope of this article. Here I am looking at the sound, not fingering patterns.

²⁹ See Brenner 1997 and Scherzinger 2001.

- Each half in itself is hexatonic; the first half has no note ‘f’, and the second half has no ‘b’. I see this as a clue to the hexatonic ancestry of the sequence as well as of the mbira family.
- There are only **two** types of chord movement: to the chord a third higher, e.g. C to E, or a fourth higher, e.g. C to F (See Figure 10).
- Important alike for Shona players and for listeners not trained in the technicalities of mbira, the sequence can be heard as ‘starting’ at almost any point, an ambiguity...

Whatever its origin in the mists of Shona—or Khoisan—history, Shona inventiveness has gone on to make maximum use of this basic sequence, with many permutations. The ‘C standard sequence’, as I called it rather unimaginatively, is the most popular, in its many forms; it is the basis for the ‘great’, or one of the ‘great’ songs in most parts of mbira country, often the one taught to beginners. It is played for a greater number of spirits and has more variants for different players to play together than other songs; it is regarded as the great old song of the local or family or chiefly spirits, the one the spirits will most like to hear played at the *bira* ceremony.

The sequence above is not the only ‘long’ sequence used. There are others hidden in the kaleidophonic sound of mbira songs. Some seem to have segments in common, or consist of bits of other sequences re-arranged. Here are examples of two popular ones, the E and the A standards:

Figure 7. “Chakwi”, played by Gwanzura Gwenzi, *mbira huru*,³⁰ at Nyandoro. E Standard in C.

According to how Gwanzura started and phrased “Chakwi” on *mbira huru*, the sequence is an E standard sequence in *mbira huru* C: C E A C F A D F B D F A. Other songs with this sequence are “Nyamaropa ya kare” (Mujuru family, *mbira huru*), “Shumba” (*mbira huru*) and “Sambatero” (*nyonganyonga*).

³⁰ See Andrew Tracey *How to play the mbira dza vadzimu* (1970).

Figure 8. “*Marume ashora mambo*”, played by Saini Madera, *matepe*. A standard sequence in *matepe C*. [DVD track 4].

A Standard sequence: C E A C F A C E G B E G: after the C sequence (e.g. “*Nyamaropa*” etc), this is the second most-played sequence on all mbiras. A reason for its popularity is that it is very adaptable to Western styles in popular and church music. By de-emphasising or omitting some chords and strengthening others it morphs or slips easily into one of the staple chord sequences of worldwide pop music, I – IV – I – V. Examples can be found in the repertoire of many popular Shona singers.

C e a c F a C e g b e G

The first quarter of the Shona condenses to C major, the second to F major, the third C major and the whole fourth quarter to a dominant G7th blending the ‘b+f’ chord, the ‘b’ of the ‘e’ chord, and the ‘g+d’ of the last chord together. Shona preferences often creep characteristically into their versions of world pop music sequences. In this one, for instance, you may hear the bass player playing an ‘e’ in the G chord, contrary to ‘correct’ global practice but absolutely in line with Shona musicality.

After some time, and a lot of playing, I discovered—Eureka!—that these harmonic sequences are all really **one and the same sequence!** They are differentiated by starting, or being heard to start, at different points in the one overall, universal Shona sequence. Rather in the same way that it is not possible to recognise by ear, but only on paper, a piece of music played retrograde, some reasons why it is not always easy to recognise the one universal sequence as such in each of its performances are:

1. Similar sequences, or songs, can in principle be played in different keys on mbira or xylophone, and sound very different because—Shona tuning is not 100% equi-spaced, although it tends that way, thus modality is present to a degree, and secondly—transposition on instruments with limited range means that you have to change the inversions of chords and melody, or even exchange the parts of the two hands.

2. The Shona sequences, which are of course cyclical, have different *gestalts* when started at different points. How does a cyclical song start in the mind? One's perception may be influenced by the duration allotted to each chord, the rhythmic alignment and the entry points of other parts (clap, dance, drum, voice etc), and by the point at which a player actually starts to play a song. One constant in the majority of *mbira* songs is their metrical division into four quarters, each of 12 pulses. Harmonically, the quarters are often marked by the slight extra duration of their first chord.
3. Particular songs have not only chord sequences but characteristic rhythm patterns. So, as one of many examples, for people inside the system, "*Nyamaropa*" (48 pulses) and "*Baya wa baya*" (32 pulses), which share the same C sequence, but cannot not be confused. Rhythmic configurations can be subtly different.

Musicians largely do not identify or correlate songs according to their sequence. Nevertheless, the one Shona theoretical sequence may apply perfectly, or nearly so, to perhaps 75% of Shona/Sena *mbira* music and, allowing for songs with a few 'unorthodox' movements in them, to nearly 100%. People are not aware of this, of course. They play what sounds right, or what matches an unconscious sense of form, numbers, pattern etc. Musico-psychological analysis is for the future; I merely say that this logical, self-enclosed cycle exists and satisfies on several levels.

Some players admit that, apart from the traditional crediting of inspiration to the ancestors in dreams, the idea for a new song can come from making a mistake. If it sounds good, keep it in. Mistakes, however, are often caused by one's fingers moving to a chord that would be correct in another song. That chord movement will almost always be one that is still permissible inside the *mbira* system.

If non-Shona players are permitted to have an opinion on the Shona sound, some *mbira dza Vandau* players I have met think all Shona *mbira* songs sound the same! The comment is funny, and could also be jealous: the Ndaub *mbira* in the bush of SE Zimbabwe is little played these days, while *mbira huru* in Harare, the capital, flourishes as never before. Their opinion is quite correct, however, in that Shona *mbiras* do share the one system I am describing.

The theoretical Shona sequence

The sound of a Shona chord sequence embodies a most interesting rule, hinted at above. If one examines the rise and fall of every step around the cycle, it is apparent that there are only two permissible movements allowed: to the chord a 3rd or a 4th higher. A 'C' chord, for instance, may *only* move to an E or an F chord. By 'higher' I mean to a higher chord name, as an E chord is 'higher' than a C chord, even if the notes themselves may move downward.

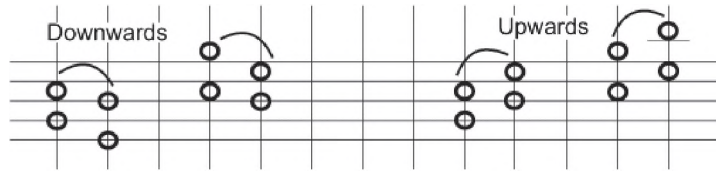


Figure 9. Some possible Shona C to E chord movements.

So our sequence can be written as a series of numbers:

3 3 4 3 4 3 4 3 4 3 3 3

On the face of it you might consider this a numbingly restrictive limitation on chord movement, except for the way it works out in practice—as a generative source for endless inspiration for thousands of musicians today and in the past.

Now we have the above row of figures we can see more clearly how the three common sequences, the C, A and E/F standard, are related, and in fact drawn from the one paradigm. Drawing it in a circle, with the figures showing the progression from chord to chord, the three common sequences are obtained by starting at the three marked spots, 1, 2/2 and 3 (see Figure 10).

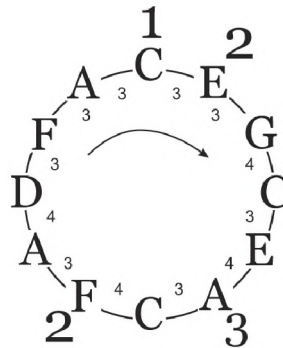


Figure 10. The sequence of the mbira system.

The common sequences should have names so that they can be referred to and discussed. The obvious solution would be something in use among the mbira fraternity, such as the name of a well-known song that is played using a certain sequence. This could and does work if we are talking of only one mbira type, but there are at least six which play the 'long' sequence. They all use different names for songs which may use the same sequence or fingering pattern. The diagram shows how I have chosen to name the sequences. Starting with the widespread sequence used in "*Nyamaropa*" on *mbira huru*, and writing it in C at the top, you can see how the other sequences take their name from the chord where they start in the resulting cycle. We could simply use 1 2 3, but I prefer a name with a more musical reference or image. So I refer to the

standard sequences as 'C', 'E/F' and 'A'. The E/F can be heard as starting on the E or F positions, and be named accordingly. I refer to a song's sequence on a particular mbira, for example, as 'A standard in D', 'C standard in F', etc, which tells you what the sequence is, and on what keys to start playing on a particular mbira.

What is indisputable is the numerical cycle. What is not indisputable is the starting points I happen to have chosen in the cycle. Indeed there do exist songs where other starting points could or should be chosen, and every player could also put forward his own perception, possibly based on where one's teacher used to start playing. Nevertheless, I believe that these three starting points represent typical, if not universal, ways of hearing the sequences. The ear, moreover, is free to perceive as it will. It can happen any time that one hears a song as, say, an F standard, and the next time it has somehow become a C standard! Repeated listening to a song and the way the supporting parts come in usually help to find one's way into it, as does hearing a recording of yourself playing. Does this apparent instability matter? Not at all, except for ethnomusicologists who want to pin everything down! Mbira music is essentially cyclical and multi-formal by its nature, and this applies to all aspects, rhythm, entry points of parts, and the harmony which we are discussing. Banning Eyre (2015) makes a similar point.

To compare sequences with each other, they have to be shown in the same key. Here are the three common sequences written from a starting chord of C.

C standard	CEG	CEA	CFA	DFA
E standard	CEA	CFA	DFB	DFA
F standard	CEA	CEG	BDG	BEG
A standard	CEA	CFA	CEG	BEG

Starting points and rhythmic structure aside, there is no question that each sequence gives the listener a different way of hearing and responding to the harmonic/melodic movement of the cycle. In the four sequences above let us look at the pattern of movement of just the *first chord* of each quarter.

C standard	C C C D	or	down-down-down-up
E standard	C C D D		down-down-up-up
F standard	C C B B		up-up-down-down
A standard	C C C B		up-up-up-down

Four simple alternating patterns. But wait! They are all moving by step, one note up, one note down. Isn't that what has already been described as typical of southern African chord movement? But here we have four step-moving patterns inside one overall sequence. In any one song you get one of these patterns from the first chord in each quarter, the next from the second chord, and the third or fourth from the third chord. This I take as a powerful intensifier of the type of step chord movement enjoyed by southern Africans, that the Shona have discovered, and it all happens at the same time in one piece of music.

These step-patterns are an essential first-aid in perceiving the shape of any piece in the complex, fast-moving mbira, xylophone and panpipe music in mbira country. Once you have perceived the (usually) four rhythmic quarters, you listen to the way the chords

move at the beginning of each: it will more than likely be one of the above. As a singer you can now respond to what we can call these ‘inherent patterns’ (Kubik 1962) and sing in the several vocal styles of mbira country. Figure 11 below shows the *matepe* song “*Siti musikana adadeka*” as played by Saini Madera and Saini Murira with three lines in the challenging interlocking Sena/Tonga style as sung by Murira himself, Simbi and Timoti.

Far from being limited by this approach to chord movement, it is a most generative and versatile system. Not only are there at least four starting points, each giving a sequence with its own character, but songs are playable in all seven keys of all the instruments of mbira country, each having the potentials and limitations of its own keyboard layout.

By no means all the potential sequences in the system are used on all the instruments. The *matepe/hera* probably uses more than most. The choice of a tone centre or mode in the mbira system may depend on the player, on the tuning of the instrument, on other factors such as the notes available within the range of each finger. Most songs, particularly the ancient ones, are always played in the same keyboard position on the big mbiras, “*Nyamaropa*” for instance is always in *mbira huru* G, “*Aroyiwa mwana*” in *matepe* A and so on. A note used as a tone centre should preferably have a reasonably tuned fifth to go with it. On Western instruments such as guitar and piano, and the ‘Zimbabwe marimba’ which is not tuned quasi-equispaced as in the tradition, the B mode cannot be comfortably used because of its tritone fifth. Solo guitar players in fact do not seem to choose modes much more adventurous than the C, G or F mode.

The advent of Western tuning, as I said earlier, with its idiosyncratic order of intervals, one of them half the size of the other, gives new Shona music on Western

The musical score for "Siti musikana adadeka" (Version 1, Madera) is presented in two main parts. The first part consists of two systems of three staves each. The top staff of each system is labeled 'R' and contains a sequence of notes with circled 'x' marks above them. The middle staff is labeled 'L' and the bottom staff is labeled 'sv.'. The second part is a vocal line labeled 'Simbi' with two staves of music and lyrics underneath. The lyrics are: "-ya au - mai de - kau ku - ya, au - mai de - kau ku-".

Figure 11a. “*Siti musikana adadeka*” (Version 1, Madera)

Figure 11b. "Siti musikana adadeka" (Version 2, Murira)

Figure 11b. "Siti musikana adadeka" (Version 2, Murira)

Figure 11. "Siti musikana adadeka" (*Sound of Africa Series* TR091-11) [DVD track 5], played together by Saini Madera and Saini Murira, 2 *matepes*, at Mukota. C standard in *matepe* A, the 4th quarter replaced by 'B F A', i.e., written in C: c e g c e a c f a b f a.

instruments the opportunity to use the variety of Western modal flavours. But with this comes a new functional "tendency" of chords, the urge to move on, as the dominant 7th 'wants' to move to the tonic. The Shona chord system does not, or did not, work in this way, as I demonstrate here. The modes in older Shona tunings, though not as sharply defined, also have their subtle distinctions, depending on local tradition, on players' tuning preferences or their personal degree of feeling for imperfection. The tuning of a piece of music can identify, to a musician's ear, where it came from. Some musicians have 'perfect pitch'; this must be the case with many *matepe/hera* players, as the tuning of this *mbira* is consistent within a small range across the *matepe* region as well as across time, from the earliest recordings in 1930 to the present day. Today's *mbira huru* by contrast does not have a fixed pitch level; it varies widely, which must be due to the few players and resulting break in continuity in the decades up to the 1940s, before its revival after World War II.³¹

³¹ See Erica Azim's website list of mbiras for sale with their many named tunings: www.mbiras.org

The existence of a harmonically-based system of the mbira in Africa should be of great interest in itself, in comparison with modern African musical preferences, and for Afro-American music studies, where the blues sequence is another highly generative harmonic system. It demonstrates a unique method of getting harmonically “from here to there”, and offers an almost endless potential for Shona composers. In fact the special tinge, the appeal, of modern Shona popular, church and school music³² comes in large part from the principles of the system which fortunately persist even when composers are working in Western harmony.

References

- Berliner, Paul
 1978 *The Soul of Mbira*. Berkeley: University of California Press.
- Blacking, John
 1959 “Problems of pitch, pattern and harmony in the ocarina music of the Venda.” *African Music* 2(2): 15–23.
- Bourdillon, Michael
 1976 *The Shona Peoples*. Gweru: Mambo Press.
- Brenner, Klaus-Peter
 1997 *Chipendani and Mbira. Musical Instruments, Implicit Mathematics and the Evolution of the Harmonic Progressions in the Music of the Shona of Zimbabwe*. Abhandlungen der Akademie der Wissenschaften in Göttingen, Philologisch-Historische Klasse, third series, vol. 221. With 2 audio CDs. Göttingen: Vandenhoeck & Ruprecht.
- Dargie, David
 1988 *Xhosa Music*. Cape Town: David Philip.
- Dos Santos, Fr. João in G.M.Theal
 1901 *Records of South-Eastern Africa*. Cape Town 1901, Vol. vii, 202–3.
- Eyre, Banning
 2015 *Lion Songs Thomas Mapfumo and the music that made Zimbabwe*. Durham, SC: Duke University Press.
- Gumboreshumba, Laina
 2004 “The ‘Mfudzimu Uripo’ ngororombe panpipe group: Murewa, Zimbabwe.” In *Papers of the 18th Symposium in Ethnomusicology*, Grahamstown: International Library of African Music, 45–50.
- Jack, Elspeth
 1968 *Africa, an Early History*. London: Harrap.
- Jones, A. M
 1959 *Studies in African Music*. London: Oxford University Press.

³² Heptatonic *kora* and guitar music of Mali and Guinea has a Zimbabwean tinge, as it often uses a favourite ‘Shona technique’ of moving to the chord a third higher.

- Jones, Clare
1992 *Making Music: Musical Instruments of Zimbabwe Past and Present*. Harare: Academic Books.
- Kubik, Gerhard
1962 "The phenomenon of inherent rhythms in East and Central African instrumental music." *African Music* 3(1): 33–42.
1988 "Nsenga/Shona harmonic patterns and the San heritage in southern Africa." *Ethnomusicology* 32(2): 39–76.
- Malamusi, Moya
1992 "Thunga la ngororombe." *African Music* 7(2): 85–107.
- Mauch, Carl
1969 *The Journals of Carl Mauch 1869–1872*. F. O. Bernhard, trans. National Archives of Rhodesia.
- Rycroft, David
1968 "Friction chordophones in southeastern Africa." *Journal of the International Folk Music Council* 1(20): 20.
- Scherzinger, Martin
2001 "Negotiating the Music Theory/African-Music Nexus: A Political Critique of Ethnomusicological Anti-Formalism and a Strategic Analysis of the Harmonic Patterning of the Shona Mbira Song Nyamarop." *Perspectives of New Music* 39(1): 5–119.
- Tracey, Andrew
1961 "The mbira music of Jege A Tapera." *African Music* 2(4): 44–63.
1970a *How to Play the Mbira (DzaVadzimu)*. Roodepoort: International Library of African Music.
1970b "The matepe mbira music of Rhodesia." *African Music* 4(4): 37–61.
1971 "The nyanga panpipe dance." *African Music* 5(1): 73–89.
1972 "The original African mbira?" *African Music* 5(2): 85–104.
1991 "Kambazithe Makolekole and his valimba group: a glimpse of the technique of the Sena xylophone." *African Music* 7(1): 82–104.
1992 "Some dance steps for the nyanga panpipe dance." *African Music* 7(2): 108–18.
2011 "Chopi timbila music." *African Music* 9(1): 7–30.
- Tracey, Hugh
1932 Carnegie report, "The native music of Southern Rhodesia (1932)", instrument images and 'Flutes and pipes' [scans from original manuscript], in *For future generations: Hugh Tracey and the International Library of African Music*, D. Thram, ed. Grahamstown: International Library of African Music, 2010, 22–61.
1948 *Chopi musicians: their music, poetry and instruments*, London: Oxford University Press, repr. 1970.
1965 "Musical appreciation among the Shona." *African Music* 3(4): 20–34.

- 1969 "The mbira class of instruments in Rhodesia (1932)." *African Music* 4(3): 78–95.
- 1973 *Catalogue The Sound of Africa Series*, Volumes 1 and 2. Roodepoort: International Library of African Music.

Filmography

Tracey, Andrew and Gei Zantzinger

- 1975 *Mbira: Technique of Mbira dzavadzimu*. Zimbabwe.
- 1975 *Mbira: Mbira dzavadzimu, Religion at the Family Level*. Zimbabwe.
- 1975 *Mbira: Mbira dzavadzimu, Urban and Rural Ceremonies*, Zimbabwe.
- 1975 *Mbira: Mbira dzavadzimu, Dambatsoko, an Old Cult Centre*. Zimbabwe.
- 1975 *Mbira: Njari, Karanga Songs in Christian Ceremonies*. Zimbabwe.
- 1975 *Mbira: Matepe dzamhondoro, a Musical Healing Party*. Zimbabwe.

Discography

Maraire, Dumisani

- 1971 "The African mbira: music of the Shona people of Rhodesia." Liner notes, Nonesuch, H-72043.

Tracey, Hugh

- 1940 "Dzidza waTonga." ILAM shellac record: TP3731 [DVD track 1].
- 1951 "Samandoza-iwe." *Sound of Africa Series* number: TR176-A2 [DVD track 2].
- 1958 "Marume ashora mambo." *Sound of Africa Series* number: TR91-B4 [DVD track 4].
- 1958 "Siti musikana adadeka." *Sound of Africa Series* number: TR091-11 [DVD track 5].
- 1965 "Msengu." *Sound of Africa Series* number: TR212-B1 [DVD track 3].