TOWARDS A NOTATION AND TABLATURE FOR THE KORA

and its application to other instruments

by

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It is apparent, when looking over the recent publications on African music, that we are entering a very important and long overdue stage in the development of our study — that of devising and using notation systems specifically for, and appropriate to, the musics being studied. The new transcriptions show a consistency with the music being transcribed, both in conception and format, and encourage one to think that the researcher and the musician are moving closer in their perception of the music. The reader, too, can be reasonably assured of learning the music in its proper framework if that framework is represented in the transcription.

Certainly the most significant of these new transcriptions is the drum notation tablature of Hewitt Pantaleoni. Just as the first exposition of it by Moses Serwadda and Pantaleoni (1968, p. 47) was hailed by Gerhard Kubik as a "pioneer work" (1969, p. 23), so must the latest application of the system to Ewe drumming by S. Kobla Ladzekpo and Pantaleoni (1970, p. 6) be hailed as a true milestone in the field. The vertical format and graphic symbols inspired from Labanotation are extremely clear and readable.

The details and application of another drum notation, devised by Philip Harland and developed at the UCLA Institute of Ethnomusicology over the past eight or nine years, are now explained in an article by James Koetting (1970, p. 115). It is called the Time Unit Box System (TUBS) and is based on the same principles as the Pantaleoni system. The format is horizontal, but it could also be written vertically if desired. The principal difference is that the pulse marker is a box (a space on graph paper, for example) instead of a line, and the symbols are placed in the boxes. I find that counting spaces is easier than counting lines, so that this method makes both the passage of empty pulses and the symbols themselves easier to read. The line method does have one advantage in that certain lines can be darkened to represent a given part, making it possible to read it as a "duet" with parts in other columns.

The recent transcriptions of Matepe mbira music by Andrew Tracey (1970, p. 37) are another worthwhile attempt at adapting a transcription to the characteristics of the music to be transcribed, and the cipher notation of Amadinda xylophone music by Gerhard Kubik (*ibid.*) shows the, by now, widely recognised advantages of that method.

The purpose of this article is to discuss the possibilities of notation for the *kora*, the twenty-one string harp lute of the Mandingo[1] people of West Africa. Since the instrument lends itself well to staff notation, and since this method is appropriate for certain applications, it will be discussed first. But of primary interest is the application of the basic principles common to all of the transcriptions mentioned above, namely (1) the use of an "elementary pulse" (Kubik, *ibid.* p. 24) or "fastest pulse" (Koetting, *ibid.* p. 127) serving as a foundation on which (2) a set of symbols or ciphers is placed, in (3) a format that relates directly to the playing technique of the instrument, thus making it, to a greater or lesser extent, a tablature as well. Finally, the possibilities of using a system such as this for other instruments that share with the kora a clearly defined division of action between the right and left hands will be explored. This would include instruments

[1] Also spelled Mandinka, Maninka, Malinké. The etymology of the word is *mandé* or *mandin*, referring to the culture area as a whole, plus *nko*, meaning a person from that culture. Ed. note: The special character N is represented as nearly as possible by the italic, or by a roman character if the whole word is italic, as in *mandi*n above.

such as the raft zither of Dahomey and Nigeria, on which the lowest pitches are in the centre, becoming higher towards each edge, the *valiha* tube zither of Madagascar, and, of course, all mbiras.

THE INSTRUMENT, THE MUSICIAN, TUNINGS AND PLAYING TECHNIQUE

The kora is the largest and most sophisticated member of the family of West African instruments known as harp lutes, which bear a resemblance to lutes in certain aspects of their construction, but are strictly harps in playing style and technique. The kora is played by the professional musicians of the Mandingo people of The Gambia, Senegal, Guinea, Mali and Portuguese Guinea. Since many of the musicians travel widely, one may encounter them in areas surrounding these as well, but the greatest concentration is in The Gambia and in the Casamance region of Senegal, near the area where the instrument is said to have originated, the old Empire of Kabu.

The profession is hereditary, being transmitted within the families of Sissoko (Suso), Jebate, Kuyate, Kanute, Saho, Mbai and Darame, to name the most common. A member of the profession is known in Mandinka as a *jali* or *jeli* (pl. *jalolu*), and referred to in the literature by the term *griot* (most probably a gallicized version of the Wolof: *gewel*). The jali families represent a caste of traditionally low social standing, a position shared in varying degrees with other artisans (the jali being the "artisan of speech"). However, the services of the jali — mainly entertainment in the form of vocal and instrumental music, recitation of genealogies, praising clans or lineages, and also counseling the leaders on important issues, both public and private — afford him a great degree of respect and admiration among the populace.

A boy begins to learn an instrument under his father, uncle, or a recognised master at an early age. Often this means as soon as he can hold a small instrument, or nowadays it may mean after he has had some schooling. Singing is learned in the course of apprenticeship, but without specific instruction. Girls learn singing from their mother or aunt, and this training often continues under their husband. (A woman is usually quite a bit younger than her husband, so he is likely to have had more experience than she at the time of marriage.)

In general the songs commemorate historic events in the distant and recent past of the Mandingo. They are dedicated to specific people whose deeds and claims to greatness they extol. In addition, praise for the lineage of the person, proverbs, wisdom of a religious or secular nature, and salutes to personal or famous patrons of music may be included in any song as the musician extemporises his text[2].

The kora is the instrument par excellence of the Mandingo jali. There are some who play the plucked lute *kontino*, but this is more commonly heard among the Bambara, Wolof and Fula neighbours of the Mandingo. The *balafon*, or more properly *balo*, a fixed-key, gourd-resonated xylophone, is also quite common, but again the Mandingo recognise the Yalunka and Susu as the masters of this instrument. Early accounts of the kora (Bailly, 1900, p. 180; Berenger-Feraud, 1882, p. 271; Noirot, 1884, p. 336) indicate a variety in the number of strings found on the instrument, from 6, 8, 10, 12, 15, 16, 18, 19, 20 to 21, but some of these instruments were doubtless not koras per se, since there are smaller instruments of similar construction played by Mandingo hunter's musicians and other groups in the area. The earliest reference to the kora by Mungo Park (1799, p. 249) describes it as having 18 strings, and 21 strings have been noted since 1882 by Berenger-Feraud (*ibid.*). The latter number is standard today, with the exception of isolated innovators who are experimenting with additional strings[3].

The tuning of the kora is heptatonic, and three or four basic tunings (Mandinka:

[2] The style of this vocal-instrumental art will be the subject of the author's forthcoming PhD dissertation.
[3] For a further discussion of the history of the kora, see Roderic C. Knight, 1968, pp. 14—31.

kumbenolu, sing. *kumbeno*) are recognised by most kora players. The older musicians explain that originally there was only one kora tuning, known variously as *Dumo*, *Kumbemba* (Great tuning), *Balabeno* (Balafon tuning), *Tomoraba*, *Silakoi* (Clear road), or *Silaba* (Big road). It is most commonly referred to as Silaba today. Other tunings have been adapted to the kora from other instruments, mainly the plucked lute, kontino. They are *Tomora* (also known as *Tomora miseno* to distinguish it from the Tomoraba designation above), *Hardino*, and *Sauta*. There is a regional bias in the use of these tunings, representing the appropriateness of one tuning or another for songs from different areas of the Mande culture. This is expressed in terms of language, so that Silaba is the true "Mandinka language" of the kora, appropriate for melodies which originated in the kora, and for songs sung in the Western Mandinka dialect. The other tunings are "Tilibo (Eastern) language", and are appropriate for music originating in areas to the East (in the local sense) and songs sung in more easterly Mandinka dialects, such as those of Guinea, and Bambara in Mali.

Silaba, or "Main Road", is used literally to designate the most often used tuning; more tunes can be played in Silaba than in any other tuning. However, in recent years, its identity as a separate tuning is being lost because of its close resemblance to Hardino. Many tunes for which Silaba is appropriate can be played in Hardino instead, though the reverse is not as readily true. Thus by tuning Hardino, an even larger number of tunes can be played without retuning. Among the Gambian musicians who follow primarily the Tilibo repertoire, and among some of the younger musicians as well, it is Hardino which is, for them, the Silaba or Main Road tuning. For these musicians there are three tunings: Hardino, Tomora and Sauta.

Since it is not the purpose of this paper to discuss the differences between the tunings in great detail, and since more study of them needs to be done, Stroboconn readings will not be given. Instead, the diagram below, based on aural analysis and preliminary Stroboconn readings, will serve to roughly characterize the tunings as they compare with the tempered major scale.

Tomora	*Silaba*	*Tempered Major Scale*	*Hardino*	*Sauta*
3 and **7** lower (at least 100 cents from Major)	**3** and **7** lower (ca. 20 to 50 cents)		**3** and **7** higher (ca. 20 to 50 cents)	**3** and **7** as in Hardino
2 and **6** as in Silaba	**2** and **6** higher (ca. 20 to 50 cents)	← →		**4** raised half step (bearing a resemblance to intervals of the Lydian mode)
(bearing a resemblance to intervals of the Dorian mode)				

Certain verbalization about these tunings by the musicians may point the way to a greater understanding of their origin and interrelationships. The origin of Silaba is hinted at in the designation Balabeno, meaning the tuning to match that of the balafon. Though this is not a commonly used name for the tuning, it does reflect a fact of performance practice. No more can be said about it at this time. A relationship between Silaba and Tomora is suggested by the names Tomoraba and Tomora miseno (Big and Little Tomora), terms used mainly in the Western region of The Gambia. As the diagram shows, they do appear to be kindred tunings. Quite a number of pieces may be played in either, though one or the other is usually preferred. The exchangeability of Silaba and Hardino is harder to explain, unless it is that both are close to the major scale, and *it* turns out to be the all-levelling factor. Sauta is recognised as a tuning which grows out of

Hardino. It is the same in all respects except that the fourth degree is raised a semitone. Of all the tunings, Sauta is used for the smallest number of pieces.

Finally, it need hardly be said that within the basic framework of the three or four tunings recognised by the musicians, a considerable amount of individual freedom is possible. It is not uncommon, when three or four kora players join, to hear comments of dissatisfaction amongst them over the tuning of the group as a whole. Clearly, the whole question of tuning needs a further study of its own.

The criteria for classification of the kora as a harp lute in the Sachs-Hornbostel system (1961, p. 23) are (1) the lute-type body with a neck, (2) the presence of a bridge as on a

Fig 1 The kora in playing position, showing the placement of the fingers and the notched bridge.

lute and (3) the alignment of the strings in relation to the body, which is at once lute-like and harp-like. Studying the picture of the kora will show that the plane formed by any pair of strings (one on the right, one on the left) lies approximately parallel to the sound board (the flat surface of the skin), thus fitting the definition of a lute. But more obviously, the notches along either side of the bridge align the strings into two planes, both of which in themselves stand perpendicular to the skin, thus meeting the definition of a harp. In playing technique it is a harp, since there is no stopping of the strings against the neck. Perhaps a more fitting classificatory name for the instrument, in line with arched harp, angle harp and pillar harp, would be "bridge harp".

However it is classified, the division of strings into two distinct planes, accessible to only one hand each, is an important factor in determining the playing style of the instrument. The player holds the instrument by the hand grips on either side of the strings with his third, fourth and fifth fingers. The thumbs and forefingers pluck the strings, the thumbs confined mostly to the lower strings and the fingers producing the melodic element in the upper register. The following diagram shows the manner in which

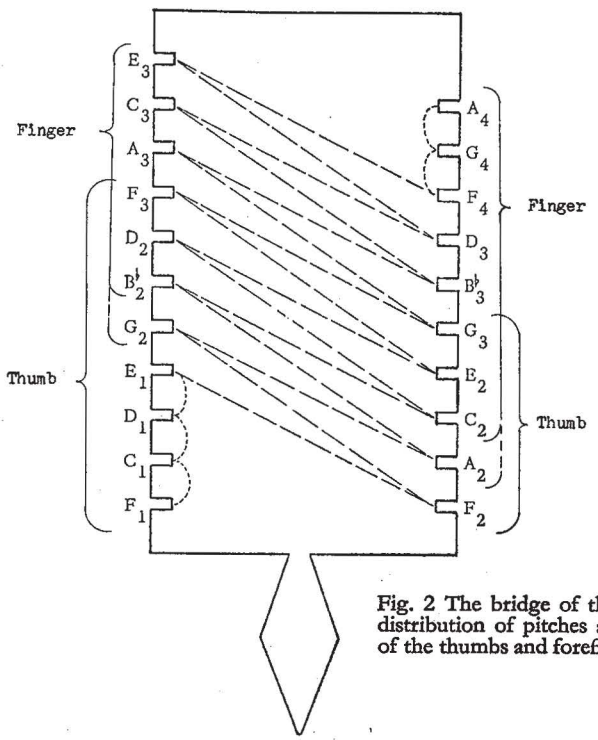


Fig. 2 The bridge of the kora, showing distribution of pitches and playing areas of the thumbs and forefingers.

the ascending pitches are distributed equally on either side of the bridge. The selection of F as the fundamental pitch will be discussed further. The subscripts bear reference to the instrument itself and not to any other method of octave designation. The dotted lines traces the pattern of ascending pitches. The limits of the playing areas of the thumbs and forefingers are shown by brackets.

A little study of this diagram will show that it allows stepwise melodic motion to be played very quickly and smoothly by plucking alternately with the right and left fingers.

By adding the thumb of the opposite hand, octave doubling is achieved. Fifths are produced by a pinching motion between thumb and forefinger of the same hand, and can be played in sequence when both hands are used. By brushing across more than one string at a time, a triad may be produced, and various other combinations can produce other harmonic sounds. The result is a very rich and varied harmonic texture from which a melody emerges, usually in the upper register, but in the lower as well on occasion. The harmonies, in comparison with those of the West, are summarized informally by one of my colleagues: "So near, yet so far."

STAFF NOTATION AND THE QUESTION OF STANDARD PITCH

In view of this melodic-harmonic texture and the resemblance which the various tunings bear to some of the modes for which the Western staff was originally designed, it seems not ill-advised to use staff notation for certain purposes in transcribing kora music. For example, where the purpose is to give the reader a general impression of the sound of the instrument, or of the melodic line extracted from the overall texture, staff notation does this very well. If the purpose is to show the playing technique while learning or teaching the instrument, a tablature such as will be discussed further is preferable. Since the style of the music is dependent in large part on the playing technique, analytical work with the music is best served by a tablature plus a single staff on which the melody can be extracted from the texture. While it is true that this staff line could be written in ciphers, the staff more graphically shows the melody just as a tablature more graphically shows the technique.

The first problem faced in using the staff is the choice of a pitch level for the transcription. In furthering a long-established convention for the notation of folk music in Europe and elsewhere, the pitch usually chosen is C. The reason usually given is that there is no standard pitch level recognised by the musicians, even for instruments of the same type from the same area, therefore why not use the simplest one available in Western notation? The question at issue here is not only the choice of a pitch for notation, but our concept of standard pitch level itself. Admittedly, a search for one specific pitch that is agreed upon as standard by a large number of musicians in a given musical culture in Africa would be a futile search in most cases. Even among the Mandingo where music is a profession and one might expect a greater degree of standardization, the musicians generally work independently, and will assure the researcher that there is no standard pitch for tuning an instrument such as the kora. However, a close investigation reveals that, although there is indeed a great variety, there is also a well-defined *area* of pitch into which a surprisingly large number of instruments from widely spread locations fall. Several factors contribute to this phenomenon, such as the generally accepted size limits for the kora, the ideal tension of the strings for good resonance, the desire to play together with other kora players when the occasion arises, and the growth, in the past decade, of national ensembles in which several instruments participate. These factors have produced what may be termed a "standard pitch area" for the kora.

This assertion was established through a random sample test of instruments primarily from The Gambia where they are most plentiful, but including others from Senegal, Guinea and Mali as well. The results showed that out of 89 instruments, 67, or 77 per cent, were tuned to a fundamental between E♭ (77,782 hz) and G (97,999 hz), with the remainder tuned usually higher, between G♯ and C. The chart below summarizes these findings. (The pitch names are not meant to imply that the instruments were tuned exactly to them, but to the general area thereby pinpointed.)

This convergence around a fairly narrowly defined pitch area is reflected further in ensembles combining more than one kind of instrument. If a balafon is included in the group the other instruments must tune to it, since it has fixed pitches. It is theoretically possible to play a tune at any pitch level on the balafon, but without a single exception,

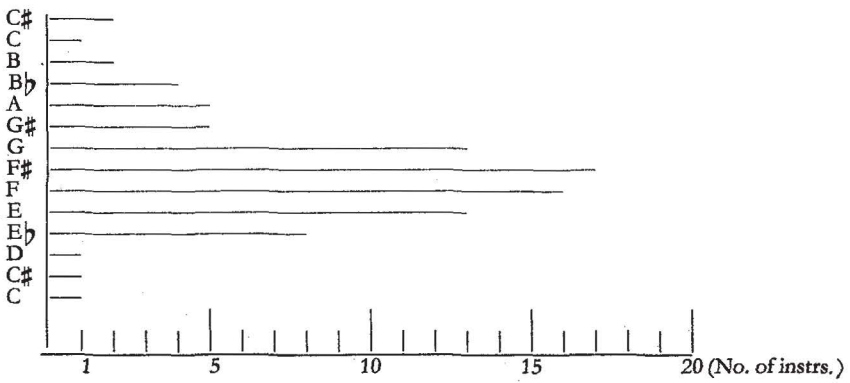


Fig. 3 Summary of fundamental pitches on 89 koras tested. 77 per cent fall within the area of E♭-G, thus defining a "standard pitch area" for the instrument.

eight ensembles used in the random sample from The Gambia, Senegal, Guinea and Mali played on a fundamental in the standard pitch area: one on E, two on F, four on F♯, and one on G. Further evidence for the existence of this standard area lies in statements by many kora players of my acquaintance, recognising this or that kora as tuned "very high" or "very low" when its fundamental lay outside this general area of pitch.

We need search no further for a standard pitch for the staff notation of kora music (and perhaps other Mandinka music as well). The pitch F in the centre of the area is a clear choice. It affords an easy notation, and represents the music more closely than the conventional choice of C. Furthermore, precedents for its use have already been set. Mamadou Kouyaté, himself a kora player, in devising a notation for the Ecole des Arts in Dakar, selected the same pitch for his fundamental, doubtless because his kora happened to be tuned to that pitch. He claims that the pitch does not represent a standard but was chosen merely for the purposes of notation[4]. The foregoing study has shown the choice to be a felicitous one. In the French solfège system where each pitch name and any alteration of it are assigned a fixed syllable, the kora scale is thus expressed as fa, sol, la, si (= ti), do, re, mi, fa, corresponding to F, G, A, B♭, C, D, E, F. This system is in use at the Ecole des Arts, and a manuscript of exercises for the kora used by a school of traditional music in Guinea also employs the Kouyaté method.

Similarly, in making my first kora transcriptions in 1966, I found the pitch of my instrument, F, to be quite suitable for my purposes at the time. Later, having seen the Kouyaté method on the manuscript from Guinea and having made a limited random sample which produced the same results as the more extensive one above, I decided upon F as the fundamental pitch for transcriptions in my thesis on the kora (Knight, p. 44). With this body of material existing and the clear convergence of pitch in the area of E♭ -G, there seems little reason to propose any other standard pitch for notation than F.

At this pitch, the range of the kora fits well onto the staff. If space is a consideration, the entire range may be placed on the treble staff, shown an octave higher than sounding (*ibid.* p. 54). A certain amount of clarity is sacrificed by this method however, and it necessitates the use of a number of ledger lines. Two treble clef staves, the upper sounding as written, the lower sounding an octave lower, accommodate the range of the instrument better, and allow for an approximate separation of the function of the thumbs and fore-fingers to be shown. There are two reasons for not choosing the bass clef for the lower

[4] Mamadou Kouyaté personal communication, 1970.

part. One is that the second octave of the instrument, in which there is much activity, is better centered on the treble clef 8va basso than on the bass clef. The second reason is looking forward, perhaps somewhat fancifully, to the possibility of devising special clefs to represent the different tunings, and certainly only one per tuning is necessary. Though it is possible to represent the tunings by flats or sharps or variations thereof in a "tuning" signature, once the actual pitches are understood, it would be preferable to divorce the Western clefs and signatures from the staff altogether and replace them with something as shown below, maintaining the pitch names (or preferably numbers, F being 1 in the case of the kora) of the treble clef:

Fig. 4

Maintaining the treble clef for the moment, and assuming the tuning to be Silaba, Fig. 5 shows a basic ostinato in these two formats. (The word for ostinato in Mandinka is *kumbeno*, synonymous with the word for tuning.) This kumbe*n*o is for *Kelefaba*, supposedly the original kora tune, composed in honour of Kelefa Sane, a nineteenth century warrior in The Gambia.

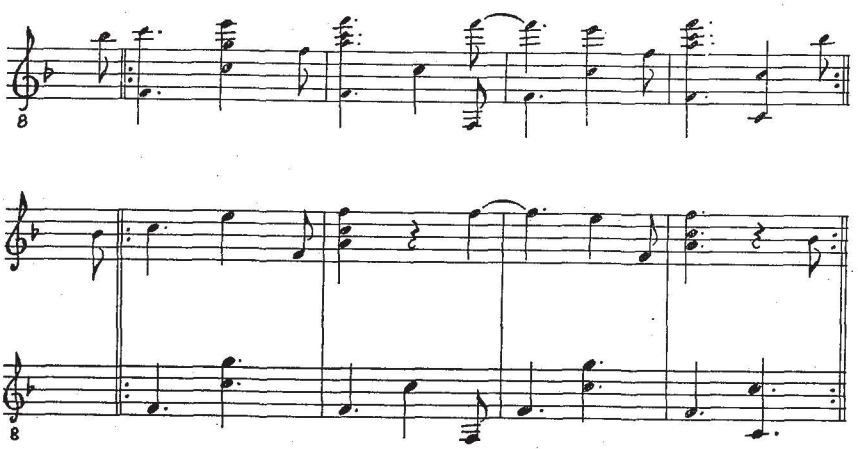


Fig. 5 The *kumbeno* (basic ostinato) for *Kelefaba*, in one- and two-stave notation.

THE TABLATURE

The playing technique of the kora cannot be shown effectively or completely by either of these formats, or by other possible solutions using the staff, such as writing stems up for the left hand, down for the right, or placing the right hand notes on one staff and the left hand notes on another, below or above. These methods only cause incredible confusion where clarity and simplicity are desired. The answer is a tablature that by-passes staff notation in favour of a format designed specifically for the instrument. Since the interaction and co-ordination of right and left are at the heart of kora technique, a format which shows this graphically, namely a vertical one, is the most efficient.

The tablature proposed here employs four columns: two for the right, two for the left.

In these columns are placed numbers from one to seven, representing the seven, or fewer, tones within each octave of all kora tunings, in ascending order. This poses no problem in Mandinka music, since the scale is conceived and tuned in ascending order. Furthermore, in most kora ostinatos there is a heavy emphasis on pitches one and five, recognized by the kora players as very important, and thus corresponding to our use of pitch one to represent the tonic, or most important tone, in Western music. Fig. 6 shows the proper location of pitch numbers on the tablature columns. Note that the lowest octave contains only four pitches, all on the left. Similarly the three pitches in the highest or fourth octave are all on the right. The pitches within the second and third octaves are equally distributed on either side of the bridge in two interlocking series of ascending thirds. Thus the two central columns of the tablature encompass the same two octaves, but there can be no ambiguity since only half of the pitches of each octave are present on either side, the complement being found on the other side.

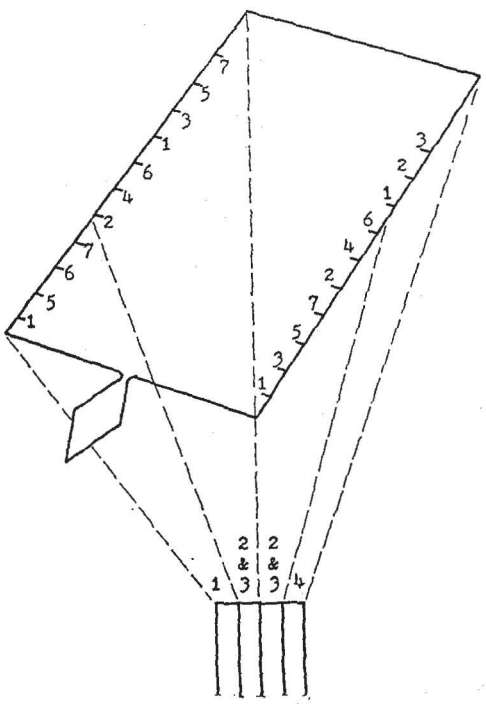


Fig. 6 Application of four-column tablature to the strings of the kora.

It is a simple matter to learn that numbers 1, 3, 5, and 7 on the right refer to the second octave, and that numbers 2, 4, and 6 refer to the third, while the reverse applies for the left column. When two or more strings are plucked simultaneously in the 2nd-3rd octave range on either side of the bridge, a simple rule keeps the notation clear: the lowest pitch is placed to the left in the column. While this tablature does not show whether the string is plucked by thumb or forefinger, the limits are fairly well defined by practical considerations, as shown in Fig. 2. The choice, in overlapping areas, is determined again by practical considerations, depending on the context of the motion. It is possible to divide the two central columns of the tablature into four, one for the thumb and forefinger of each hand, but this becomes very unwieldy and confusing, defeating the purpose of the tablature. An occasional asterisk in confusing places will usually suffice, or ideally, the use of different colours for thumb and forefinger.

One choice that must be made in formulating a vertical notation is should it read up or down? To maintain consistency with the examples of Labanotation and the Pantaleoni method, it should read up. However, in dealing with numbers, I feel that reading down is more natural (who ever heard of reading *up* a column of numbers?), and ample precedents for this have been set in Oriental notations.

The rhythmic element of the tablature is handled in the same manner as the TUBS drum notation and the cipher notation for Amadinda xylophone music mentioned earlier. A fastest pulse is established by listening to the rhythmic density of the music. With this as a reference, the point in time at which each string is plucked is then notated, with empty pulses marked by a dot in any column (one dot is sufficient to represent all four

columns). The duration of pitches is not shown, except where a string is damped. This is indicated by placing a dot immediately to the right of the number. In certain variations on an ostinato, the prevailing fastest pulse may be exceeded momentarily. It does not seem necessary to increase the fastest pulse for the entire ostinato to accommodate these brief moments. Rather, a vertical line spanning the space taken by the two numbers will indicate that they divide the single "fastest" pulse equally (see Fig. 8 for an illustration of this).

With the prevailing fastest pulse established it is generally not necessary to show any subdivisions within a phrase or ostinato which might suggest downbeats or measures. However, kora music typically has a basic part played by the thumbs in the low register which may be regarded as metrically significant. It is the starting point in the learning process, and the foundation for the complete ostinato. Polyrhythmic or polymetric elements added in more complex playing may be referred to this part. Thus it is deemed justifiable, as an aid to clarity, to indicate the organization of this part by placing horizontal lines through the columns, dividing the complete ostinato into smaller units, or viewed another way, grouping the fastest pulse into recognizable units. In a majority of the standard ostinatos of Mandinka music, a grouping of three is appropriate, but the grouping must be determined for each *kumbeno* on the basis of its particular characteristics.

With these considerations in mind, let us look at the kumbe*n*o for *Kelefaba* as it appears in the tablature:

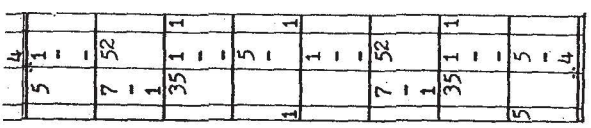


Fig. 7 *Kelefaba*, in tablature.

A tablature, by definition, is not intended to show how music sounds, but how it is played. This tablature, since it employs pitch numbers, does give some idea of the sound as well, but it is difficult to follow melodic movement since it shifts rapidly back and forth across the centre line. For this reason it may often be desirable to add a horizontal line of ciphers or a staff notation alongside the tablature, extracting the melody from the overall texture. This additional line could also be used to clarify an occasional melodic ornament (Mandinka: *birimintino*) that exceeded the prevailing fastest pulse used for the tablature, such as contained in this passage:

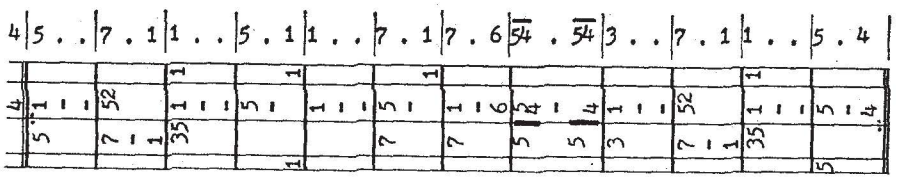


Fig. 8 *Kelefaba* in tablature, with melody line appended.

The following transcription illustrates the use of a staff line appended to the tablature to isolate the melodic details of *birimintino* in four statements of the Kelefaba *kumbeno*. (Notes in parentheses would appear on the lower staff if a two-stave notation were used.)

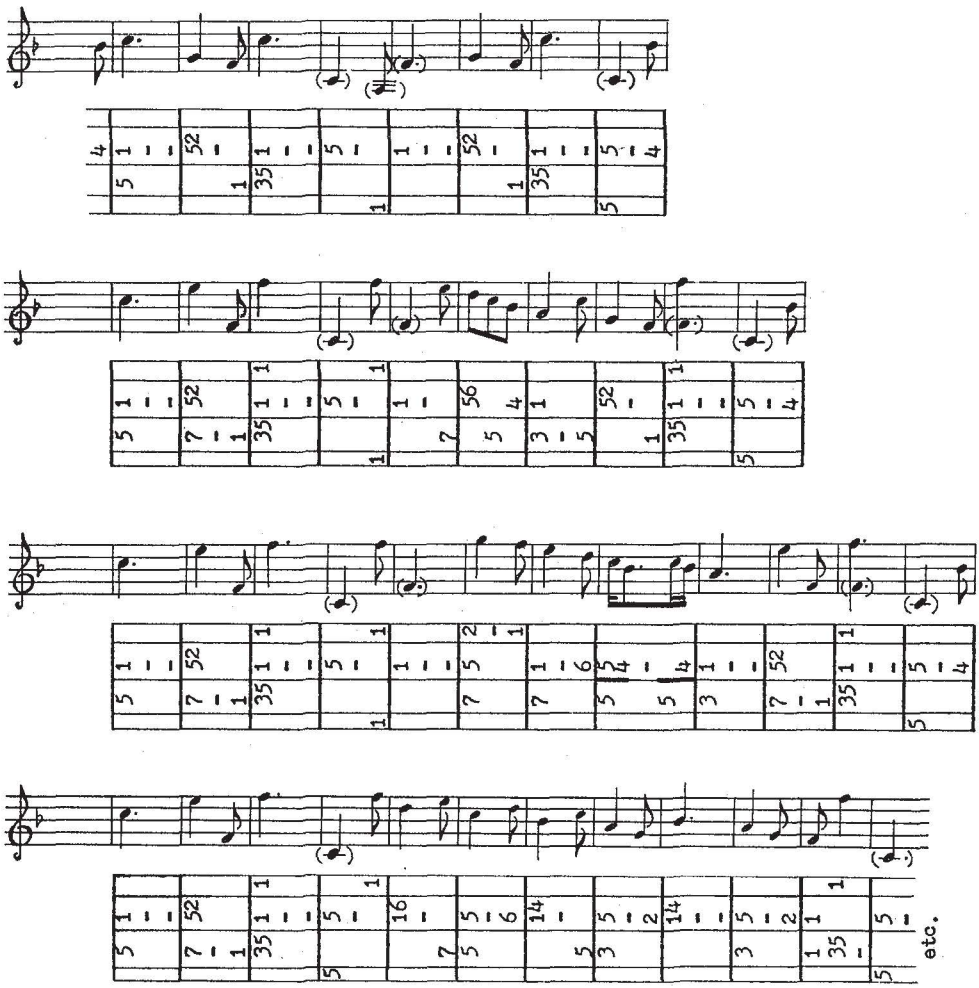


Fig. 9 *Kelefaba* in tablature, with melody extracted on staff.

If a vocal line is to be included in the notation, this can also be written on a horizontal staff alongside the tablature. This is shown in Fig. 10, a brief passage from *Kura*, one of the songs for Sunjata Keita, the first emperor of the Empire of Mali which flourished during the 13th and 14th centuries. The song is also known in different regions as Toronjo*n*, *Mande Kora*, or *Buluba*. In this ostinato the triple grouping of pulses does not apply. The complete ostinato contains twenty pulses, and is formally divided into two equal halves. A rhythmic tapping on the instrument by a second person (shown by an "x" aligned with the pulse) breaks the ostinato into smaller units. Tapping of this sort, in a variety of rhythms, is commonly added to any ostinato. Its exact function in relation to the ostinato is not fully understood at this time, but in this instance it appears as a reasonable basis for the subdivision of the ostinato into four groups of five pulses each:

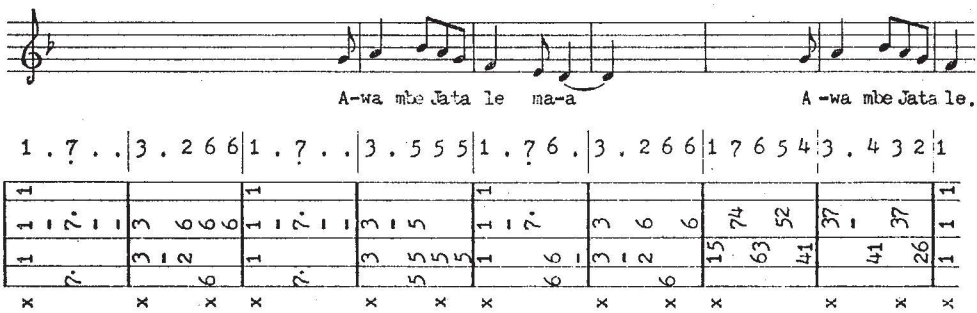


Fig. 10 *Kura*, in tablature, with melody in ciphers, vocal line on staff.

FURTHER APPLICATIONS OF THE TABLATURE

It is apparent from the preceding discussion and transcriptions that this tablature, when applied to the kora, cannot be used, as can the drum tablature, as a notation as well without the addition of a separate melody line. But it serves its purpose in being a clear record of how the music is played. In its application to other instruments, depending on their characteristics, the tablature can prove to serve this dual purpose very effectively.

As an example, let us take the Matepe mbira music of Rhodesia discussed by Andrew Tracey in the previous issue of this journal, upon which he has invited comments. The vertical notation may be applied to this music very effectively. The general rule is to limit each column to an octave, thus eliminating any duplication of numbers or the necessity of subscripts in a column. For the instrument used in Tracey's transcriptions this octave limitation neatly coincides, with two exceptions, to the realms of the thumbs and forefingers, making the system even more appropriate for this particular instrument.

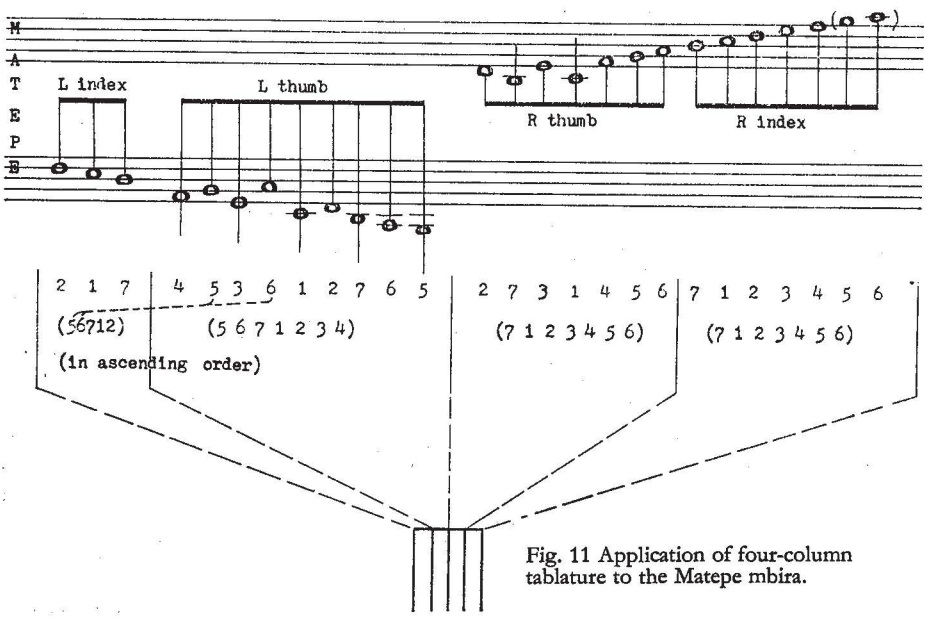
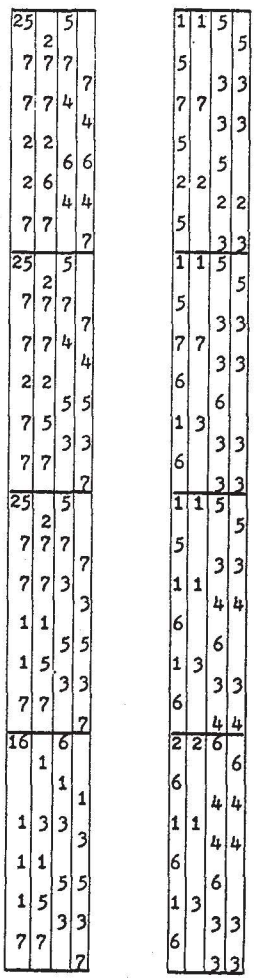


Fig. 11 Application of four-column tablature to the Matepe mbira.

The left thumb plays nine different pitches, meaning that the highest two must be shown in the "finger" column, but this is a minor deviation and should not cause much difficulty. Using Tracey's "starting point" on C as pitch one, (Tracey p. 42—3) and maintaining this numbering thereafter as the only identification of the reeds, regardless of any change that might be felt as a shift of "tonic", the vertical notation is applied to the instrument as shown in Fig. 11. (Letters, or a different placement of the numbers could be used with equal success. The important point is that the system chosen be maintained throughout).

Once the distribution of pitches on the columns have been established for any given instrument, the transcription process is the same as that described for the kora. It may be noted here that the actual writing of the vertical format may best be achieved through a rough intermediary draft, horizontal or vertical, but once done, the vertical format is definitely easier to read.



Let us examine two of Tracey's transcriptions now, "Msengu" 1 and "Kari Muchipfuwa" 1 (*ibid* p. 52 and 55) as they appear in the vertical notation.

Note that because of the nature of the instrument and the style of the music, it is easy to "hear" this transcription as well as to see how it is played. One might raise the question why it would not be possible to simply turn Tracey's notation on end and reverse the pitch sequence of the left hand notes so that the lowest were at the centre, mirroring the right hand. This is a possibility which would maintain a slightly more graphic quality, but it lacks the compactness and readability of the four columns of ciphers here proposed. It will be interesting to apply this method to other mbiras to see how widely applicable it is. I predict a very wide application.

Finally, to show yet another application, a glance at the *valiha* tunings provided with the disc "Valiha Madagascar" (Duvelle and Razakandraina) will convince anyone that here is a notation for this instrument as well. It could be applied as follows: (see over).

It is hoped that this exploratory essay in the application of vertical notation/tablature will encourage others to try it on the same or other suitable instruments. A notation system for any aurally transmitted art will doubtless change that art to a degree, but it need not be a detrimental change. Used as an aid in the learning process and dropped thereafter when the performer is proficient, it can only be beneficial.

Fig. 12 "Kari Muchipfuwa" 1 (left), "Msengu" 1 (right).

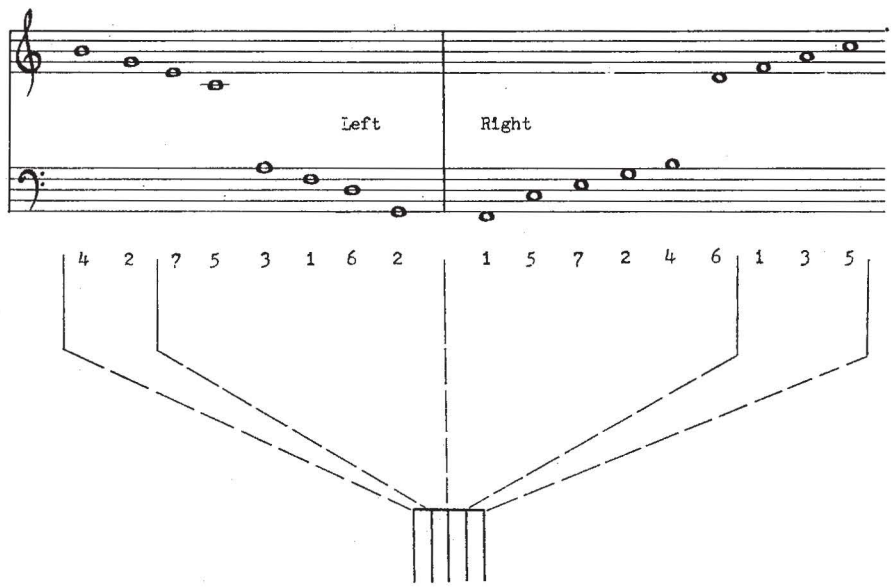


Fig.13 Application of four-column notation to a valiha tuning from the Mandritsara region of Madagascar,"Valiha Madagascar", OCR 18, side B, band 3. The numbers in this case are arbitrary, and for purposes of illustration only.