

AFRICAN MUSICAL STRUCTURES AND COGNITION

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Africa, the seedbed of the dawn of humanity, is a continent four times the size of the United States, where more than 1000 languages are spoken by approximately 800 million people (over 13% of the world's population).¹ Through centuries of Western Christian missionary activity, European colonialism, and later, urbanization, and the importation of Western media and educational curricular content, indigenous African musical arts and value systems have been increasingly marginalized to the point that many languages and cultural traditions are on the verge of extinction.² Fortunately, since the achievement of independence of many African countries in the 1950s and 1960s, African scholars, governments, and educators have made significant strides in recording, transcribing, documenting, and preserving a great deal of Africa's rich cultural heritage.³ In this paper, I will summarize one of such efforts, Gerhard Kubik's description of Africa's musical structures and cognition⁴.

Pre-colonial African musical theoretical systems, notation, and songs are generally articulated and transmitted orally or by indirect elicitation through behaviors to the point where speech sounds and musical sounds are deeply symbolically linked. The composer (inventor of a song) trains others in the group to perform specific parts, and to varying degrees, there is always freedom for spontaneous and individual invention by participants during performances. It is only in recent times that the need for written notation has emerged with changes in social settings and the development of Western ethnomusicological study. In many African cultures instrumental

¹ Steven Cornelius, "Week 1 - Africa: A Continent of Great Diversity." Boston University Online. <http://vista.bu.edu/webct/urw/lc5116011.tp0/cobaltMainFrame.dowebct> (accessed January 19, 2011).

² Eric A. Akrofi, "Major Problems Confronting Scholars and Educators of the Musical Arts in Sub-Saharan Africa," <http://www.maydaygroup.org/php/ecolumns/comparativemusiced-reports/africa-akrofi.php> (accessed January 19, 2011).

³ Ibid.

⁴ Gerhard Kubik, "Africa," In Grove Music Online, Oxford Music Online, <http://www.oxfordmusiconline.com.ezproxy.bu.edu/subscriber/article/grove/music/00268> (accessed January 19, 2011).

melodies 'speak' and African musical terminology rarely conforms to European notions of music.

Among the many languages and societies of Africa, the classification of musical instruments varies considerably. In general however (although often there are no generic terms) instruments are categorized as either blown or struck. Further distinctions are recognized in some societies where instruments are categorized as either, shaken, plucked or bowed, blown, struck on a hard surface with a beater, or struck on a membrane with a hand or beater. Naming and designations of instruments themselves may be based on a variety of sources including tradition or even the name of the village where the instrument was originally bought.

Describing music in terms of time is a rarity among the languages of Africa although most music that is accompanied by dance, work, or clapping is based on an "orientation screen that can be described in English as a time concept."⁵ Sub-Saharan African musical timing is conceived on three distinct levels. The first is the underlying elementary pulsation. Firmly ingrained, it is the smallest regular unit of time and even if it is not objectified, serves as a "non-sonic grid in the mind of the performers."⁶ The second level, the reference beat (often expressed as a hand-clap), is formed by compounds of elementary pulsations, which again, are so ingrained that what a European musician might consider 'beat one' needs no special emphasis or even to be counted. The cycle is the final level of subjective timing. It is created by integrating the elementary pulsations, the beat, and the basic theme of the musical piece, and "combines a large regular number of elementary pulses...to form repeating units."⁷ Time-line patterns (as first

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

termed by Nketia in the 1950s⁸) are percussive rhythmic patterns that can then be played over cycles, which consist of irregular asymmetrical structures ranging from eight to twenty-four elementary pulsations. The time-line pattern serves as the structural core of the musical piece, furnishing rhythmic possibilities for the musicians and dancers to utilize. Such patterns are often passed along and learned through vocal mnemonics either as syllables or as verbal patterns.

Most parts of Africa today have imported the European tonal system by way of factory-manufactured instruments and Western-oriented schooling and religion, however this was not always the case. Pre-colonial African cultures derived a great variety of independent tonal systems from such sources as natural harmonic series from consonant and vowel formants of human speech, harmonics produced by musical instrumental, or speech-tone contrasts in tone languages. Tonal systems throughout Africa include tetratonic, pentatonic, and hexatonic scale systems, and some regions developed instrumental equidistant tempered tunings as well. The practice of overtone or throat singing (known more popularly among Mongolian and Tibetan musicians) is also employed by the Gogo and Xhosa of Central and South Africa respectively. Musicians who tune their instruments by ear do not achieve precise intonation accuracy, and in fact some musicians deliberately tune their instruments in *friction octaves* (octaves tuned sharp or flat) to reduce the fusion effect of parallel melodic lines played in octaves.

Singing in unison and octaves is prevalent throughout much of Africa. The Arab-Islamic influence on the northern regions served to further reinforce unison singing (along with microtonal ornamentation), and the use of centralized reference tones and drones is additionally indicative of Africa's Eastern influence as well. Making use of call-and-response both vocally and instrumentally, African multi-part harmonic forms may generally be classified as

⁸ *ibid.*

heterophonic (simultaneous variation of a single melodic line), homophonic (identical rhythm and text but different pitches), or polyphonic. Polyphonic multi-part singing may at times involve an interweaving quality comprised of two or more singers combining material of varying lengths and starting points that is different in both rhythm and text. A polyphonic compositional technique that creates the auditory illusion now known as the *inherent pattern effect* (involving the boundaries to which the human ear can process complex melodic patterns) has also been observed in the music of some African cultures. Other illusory patterns may be evoked through various kinds of oscillating timbre qualities as the result of specific instrumental designs. These involve the attachment of snail shells, bells, or beads that produce sympathetic vibrations along with the fundamental sound production of the instrument.

The task of encapsulating the musical structures and cognitions of a continent as vast as Africa with its many languages, cultures, and a heritage dating back to the very origins of humanity can be a daunting endeavor indeed. Although the musical traditions of Africa may perhaps seem upon first glance to be primitive and tribal⁹, they exhibit a depth and complexity that stands side-by-side with the greatest musics of the world. Clearly, Kubik's article can only brush the surface of African music, but in his efforts, he has succeeded in supplying the essential material from which the interested reader may take the next step towards exploring the many cultures and musical traditions Africa has to offer.

⁹ African News Service, "Africa: If It's Africa, It Must be a Tribe," AllAfrica.com. <http://allafrica.com/stories/200101080391.html> (accessed January 19, 2011).

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