



The Metric Matrix: Simultaneous Multidimensionality in African Music

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Abstract

In many kinds of African music, performers set up dynamic steady states. A cleverly arranged pattern of sound that cycles repeatedly within a fixed span of time provides an opportunity for a culturally attuned listener to hear a rich set of highly rhythmicized melodies. Composers fix multideterminant components into their musical designs; performers bring this multi-faceted time-space condition into being; and listeners actively participate in hearing the multivalent potential of a familiar item of repertory. Music like this presents to the mind's musical ear multiple simultaneous views that are constantly in a condition of non-resolving metamorphosis. My argument is that when musicians compose and improvise, they intentionally design their musical choices in order to enable and maintain the music's open-ended quality. They are not mindlessly pulling phrases out of a hat, so to speak. On the contrary, the musical syntax that is activated during performance purposely tries to achieve the aesthetic goal of keeping the music in a constant state of becoming.

African instrumental ensemble music for dance may be understood as a counterpoint among separate phrases (Thompson's "apart playing"). Analysis that is sensitive to the nature of this musical style considers the linear design of each phrase, the setting of the

phrases within an implicit temporal framework, and the network of connections between phrases. Alternatively, the ensemble's music may be heard as a well-blended whole whose melodies arise from carefully arranged interlocking phrases (Nzewi's "ensemble thematic cluster" or ETC). The temporal frame of the ETC is a recurring time span whose internal structure--the metric matrix--has impact upon the perception and expressiveness of sounded music. Each moment within the metric matrix has an inherent rhythmic valence that varies along a continuum from stability to motility (the stability-motility axis). Illustrating the interaction of principals of action and structure, a stabile moment in a phrase may be set on a motile moment of the ETC. Using the concepts of metric matrix and simultaneous multidimensionality, the paper will explore the nature of musical polysemy in Africa.

Sounded music happens in the context of an unsounded temporal structure, the "metric matrix." Beats, which contain sets of pulses, are the factors within the matrix most present to consciousness. Each beat has unique character; for example, beats in a four-element set tend to be graded 1-3-4-2 in terms of their inherent quality of being at rest (stable) or in motion (motile). Two important types of metric matrix operate in most idioms of African dance music: ternary and quaternary. Time spans typically are either duple or quadruple.

The term "time feel" signifies the importance of beats to musical perception and inner feeling. Serving as a creative resource for composition and improvisation, three-in-the-time-of-two (3:2) pervades music with beats of ternary structure. Ternary beats imply

their binary/quaternary counterparts; 3:2 is an inseparable twinning of two complementary feelings of musical time. There is a figure-ground hierarchy, however: the "two feel" is the foundation in terms of which the "three feel" gains its effect. Tones that coincide with an implicit beat acquire the special quality of "onbeatness." Since there are many beat streams in the implicit temporal matrix, the rhythm of a sounded phrase is subject to cognitive re-orientation depending on the flow of beats on which perception is grounded.

Simultaneous multidimensionality names a condition in which music is coherent from perspectives at the same time. In performance, the composite whole circles around its music axis, enabling a creative listener to contemplate the polyphony as always in a state of becoming. The perceptual conditions that enable this plural mind-body cognitive condition are particularly likely to arise in music whose phrases are structured within a 3:2 (three-in-the-time-of-two) temporal framework. Devices of simultaneous multidimensionality include: (1) dualism of tempo, (2) polyphonic perception, (3) equivocal phrase shape, (4) musical recycling, (5) meter as a matrix, and (6) polysemous phrases. Repetition is a crucial enabling condition by which the recurring multipart texture achieves a sculptural persistence. Because of the cyclic nature of musical time, any element not only points forward towards what comes next but also responds to what has come before. Although music typically is regarded as being temporally ephemeral, this model insufficiently theorizes African polyphonic dance drumming.

Biography:

David Locke is a professor in the Music Department, Tufts University. His area of specialization is African traditional music and dance with emphasis on mediation of oral traditions into staff notation. He has authored three books on Africa's musical heritage and the chapter on music-cultures of Africa in the widely used text *Worlds of Music* (editions 3 through 5). Locke received the Ph.D. in ethnomusicology from Wesleyan University in 1978 under the direction of David McAllester. He conducted doctoral dissertation fieldwork in Ghana from 1975-1977 under the supervision of Prof. J.H.K. Nketia. At Tufts University he has developed a comprehensive curriculum on African performing arts, including academic courses on cultural history and musical analysis and performance courses on drumming, singing, and dancing. Locke directs graduate study in ethnomusicology. He helped found the Tufts-in-Ghana Program, which includes an exchange of students and faculty between Tufts and the University of Ghana. In 1979 he founded the Agbekor Society, a community-based study group devoted to African music and dance. Current projects include a website containing comprehensive documentation of Dagomba dance-drumming repertory as taught by Alhaji Abubakari Lunna (<http://dagomba.uit.tufts.edu>) and an in-depth study of songs and drum language compositions for Agbadza, an Ewe piece, in collaboration with Professor Gideon Alorwoye (University of North Texas).