

ELEMENTS OF EWE MUSIC IN THE MUSIC OF STEVE REICH

by

DANIEL MARK TONES

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M.Mus., The University of Toronto, 2002

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ABSTRACT

This study examines contextual and structural similarities between Ewe music and the music of Steve Reich. It suggests that researching and performing Ewe music leads to a deeper understanding of rhythm and time in Reich's music, and contributes to accurate, informed performances of his compositions. In broader terms it proposes that practical understanding of the ways in which some non-Western cultures perceive rhythmic structure and temporal organization assists in confronting similar concepts in twentieth and twenty-first century contemporary Western art music.

Incorporated in this study are the research of historians, ethnomusicologists, and performers, and the first-hand testimony of those involved in the creation and performance of Reich's music. This study also draws upon this author's performing and pedagogical experience to illustrate problems encountered when learning and performing some of Reich's works, and to suggest ways of overcoming them.

Issues presented are applicable especially to scholars and performers who wish to gain detailed understanding of Reich's music through cross-cultural analysis, and to music educators who embrace non-Western musicianship as a means of developing practical skills that can be applied to the performance of Western art music.

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GLOSSARY

Agbadza	A style of Ewe social/recreational dance-drumming.
Agbekor	An Ewe style of dance-drumming depicting the preparations for or the results of warfare.
Atoke	A West African single bell used often to articulate a time line or other repetitive rhythm.
Atsimevu (Atsimewu)	A tall, open-bottomed, high-pitched master drum. It is used in various styles of Ewe dance-drumming, and represents the father of the drum family.
Axatse (Ahatse)	A West African gourd rattle.
Bass tone	A sound created by striking a drum with the hand at or near the centre of the head, producing the lowest possible frequency.
Bell pattern	Another term for the time line. The term "bell pattern" implies that the time line is performed on an atoke, gankogui, or other West African bell.
Bi-musicality	A musical fluency in more than one musical tradition. It implies theoretical and analytical comprehension as well as the ability to perform competently.
Boba (Gboba)	A large, deep, low-pitched master drum belonging to the Ewe family of drums.
Clave	A percussion instrument fashioned out of short segments of hardwood and used in pairs. In Cuban music, clave also refers to one of several distinct time lines.
Closed tone	A sound produced by striking a drum either with the hand or a stick in which the head of the drum is muffled or dampened.
Cross-rhythm	According to Nketia, a cross-rhythm is a type of "interplay that arises where rhythms based on different schemes of pulse structure are juxtaposed" (1974, 134).
Ewe	A people with common social, cultural, and linguistic ties that inhabit parts of Benin, Togo, and southeastern Ghana.

Gahu	A social/recreational dance-drumming style that originated in Benin and later migrated to Nigeria. In the mid-twentieth century it became popular in Ghana and is now associated primarily with the Ewe. (Ladzekpo, <i>Online Syllabus</i>)
Gankogui	A West African double bell used often to articulate a time line or other repetitive rhythm.
Kaganu (Kagan)	A high-pitched, open-bottomed membranophone used primarily in Ewe dance-drumming music. In Gahu, for example, kaganu represents the child, or younger brother, of the drum family.
Kidi	A closed-bottomed membranophone used primarily in Ewe dance-drumming music. In Gahu, kidi represents the mother of the drum family.
Kotekan	Interlocking, syncopated rhythms usually performed at fast tempi by pairs of instruments in the Balinese gamelan.
Kpanlogo	A style of social/recreational dance-drumming that originated among urban youth in Accra, Ghana in the late 1950s.
Lead drummer	In the Ewe context, someone who has a command of various technical and musical aspects of dance-drumming genres, but is not necessarily familiar with the broader socio-cultural parameters of music-making.
Master drum	An instrument that governs the progression of events comprising a dance-drumming performance. In some instances the term Lead Drum is also used to denote this instrument.
Master drummer	Locke suggests that a master drummer is a musician who demonstrates "excellence in performance ... knowledge of traditional ways of living and a commitment to the community." (1998, 12) In the Ewe context, this musician is an authority on the technical and musical aspects of numerous dance-drumming genres, is fluent in local or regional dialects and cultural traditions, and maintains an intimate knowledge of the music's historical antecedents.
Musical multilingualism	Similar to bi-musicality, musical multilingualism is a fluency in Western and non-Western music, yet suggests basic musical competency in more than one non-Western music.

Open tone	A sound produced by striking a drum, either with the hand or with a stick, on the head close to the rim. This term implies that the sound produced will be allowed to ring freely.
Periodicity	For the purposes of this study, a specific type of cyclical repetition that features regularly recurring rhythmic events.
Phasing	A performance process unique to Reich's music. Phasing features two performers initially playing a pattern in rhythmic unison. One designated performer then speeds up temporarily, causing an audible aural shift between patterns, then realigns with a further point in relation to the original pattern.
Polymeter	The concurrent appearance of more than one meter in a musical composition.
Polyrhythm	"The simultaneous use of two or more contrasting rhythms in a musical texture." (Agawu 2003, 79-80) It is also described by Locke as, "an interwoven fabric of sound created by many distinct and contrasting phrases played simultaneously" (1998, 7).
Pulsation (Pulse)	"The isochronous [repeated at regular intervals], neutral, constant, intrinsic reference unit which determines tempo" in many examples of African music. (Arom 1991, 202)
Sogo	A closed-bottomed membranophone used primarily in Ewe dance-drumming music. In Gahu, sogo represents the older brother of the drum family.
Standard pattern	A term created by A. M. Jones for a particular time line which he found to be widespread across sub-Saharan Africa.



Time line	A regularly recurring rhythmic pattern that governs temporal organization and acts as a point of reference for performers in a musical ensemble.
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1 INTRODUCTION

1.1 What issues will this study address?

Since the early 1960s American composer Steve Reich has pioneered developments in Western art music. Among the many innovations for which his music is widely known, the ways in which he incorporates principles governing rhythmic structure and temporal organization from specific non-Western contexts are perhaps the most significant. By espousing this approach his compositions challenge long established practices pertaining to the treatment of analogous concepts in Western art music leading up to the mid-twentieth century.

Throughout a repertory including works for tape loops, instrumental soloist, chamber ensemble, and large ensemble, Reich's trademarks have been the pervasive use of repetition and the articulation of clearly audible processes. However, numerous other rhythmic structures function within his music and affect his compositions at a fundamental level. In pieces written since 1971, corresponding to his return from a five-week period of study in Ghana, evidence suggests that marked changes in compositional techniques and the resulting innovative rhythmic and textural characteristics they produced are due to the influence of *Ewe* music.¹ It is the purpose of this study to illustrate features of rhythmic structure and temporal organization in some of the music of Steve Reich, and more specifically, to trace the origins of these structures in Ewe

¹ The Ewe are a people with common social, cultural, and linguistic ties that inhabit parts of Benin, Togo, and southeastern Ghana.

music. In addition this study proposes that a practical knowledge of Ewe music is invaluable when learning and performing the music of Steve Reich.

1.2 Why are these issues important?

These issues are important to scholars and performers who wish to gain a more detailed understanding of the rhythmic and temporal components functioning within some of Reich's works, thereby granting more insightful, accurate, and informed performances of his compositions. They are also significant to music theorists, musicologists, and music educators because of their larger implications concerning the relationship between some traditional non-Western musics and contemporary Western art music. This study suggests that researching and performing Ewe music leads to a deeper understanding of rhythm and time in Reich's repertory. In broader terms it proposes that a practical understanding of the ways in which some non-Western cultures perceive rhythmic structure and temporal organization assists in confronting similar concepts in twentieth and twenty-first century contemporary Western art music.

1.3 How will this study unfold?

This study is presented in four chapters. Following the Introduction, the second chapter presents essential background information for those unfamiliar with Ewe music. It provides an overview of the contributions of numerous ethnomusicologists, and more importantly, establishes a consistent language with which to discuss various elements including the multi-dimensional nature of artistic presentation, music's socio-cultural function, the instrumental composition of percussion ensembles and roles performed by each instrument or instrumental group, and principles governing temporal organization and rhythmic structure.

The third chapter discusses how various Ewe musical elements are manifested in some of Reich's works. It follows the sequential progression of topics presented in the previous chapter to make direct comparisons, and incorporates musical examples from selected works to exemplify these connections. This chapter also draws upon this author's performing and pedagogical experience to illustrate problems encountered when learning and performing some of Reich's works, and to suggest ways of overcoming them.

The final chapter summarizes connections established in the previous chapters, and proposes that knowledge of Ewe music assists in preparing and performing Reich's music. In a broader sense it suggests that the study of various non-Western musics, both through performance and research, leads to a greater understanding of contemporary Western art music. Along these lines this chapter expands upon Hood's concept of bi-

musicality and Nuss's related notion of musical multilingualism in order to make connections to the field of contemporary percussion performance practice.²

1.4 What is already known about these issues?

This study incorporates the findings of numerous historians, ethnomusicologists, and performers, and relies on first-hand testimony of those involved in the creation and performance of Reich's music. The following summarizes the contributions of Western and non-Western scholars in these fields.

While historical accounts of African music by European explorers and missionaries date back several hundred years, the first detailed, authoritative descriptions emerged in the early twentieth century. In 1928, Hornbostel was the first to document West African music from an ethnomusicological perspective and compare it to Western art music. Subsequent contributions by Jones (1949, 1953, 1954, 1959), Merriam (1959, 1962), and Waterman (1948, 1967) furthered research into this field, and included comparisons of West African music to Western urban popular music. Research continued with the contributions of numerous scholars, among them Chernoff (1979, 1991), Locke (1982, 1998, 2002), and Arom (1989, 1991), and in the second half of the twentieth century incorporated a singular, indigenous perspective through the work of Nketia (1963, 1974), Agawu (1987, 2003), Anku (1997, 2000), wa Makuna (1997), Labi (2003), and others.³

² See: Hood, Mantle. "The Challenge of 'Bi-Musicality'" *Ethnomusicology* 4.2 (May 1960): 55-59; Titon, Jeff Todd. "Bi-Musicality as Metaphor" *The Journal of American Folklore* 108.429 (Summer 1995): 287-297; and Nuss, Steven. "'Yes I Wrote It, But I Didn't Mean It:' Hearing the Unintended in Niimi Tokuhide's 'Ohju' (1998)" *Perspectives of New Music* 37.2 (Summer 1999): 51-115.

³ Subsequent reference to the contributions of these scholars includes the works listed here.

Concerning Reich's music, the composer's own writings (1974, 2002) acknowledge the role of Ewe musical structures in his compositions. However, others, including Schwarz (1980-81, 1981-82), Duckworth (1995), Smith and Smith (1995), Potter (2000), and Agawu (2003) either discuss Reich's work based on secondary sources, or interview the composer directly and provide their own criticism. With respect to the depth of understanding Reich acquired while studying among the Ewe in Ghana and the degree to which his compositions authentically portray Ewe music, the most contentious contributions to critical thought and analysis appear in a protracted and often-heated dialogue between Bernard and Nuss.

My research aims to contribute focused, comparative analysis of rhythmic structure and temporal organization between some of Reich's compositions and Ewe music. It will demonstrate that, while substantive, earlier contributions to this subject are not entirely comprehensive in scope. For example, some describe the general connection between Reich's music and a broadly defined African music. These contributions are superficial because they do not focus on the specific musical characteristics of a particular West African cultural group, such as the Ewe (with whose members Reich studied during his trip to Ghana in 1970). They neglect to analyze rhythmic structure and temporal organization in both contexts, and thus cannot provide accurate, concise comparisons.

In addition while numerous scholars have interviewed the composer, no one has consulted the long-standing members of his ensemble to address their views on Reich's

incorporation of Ewe structures, thus formulating an often-overlooked, yet extremely valuable, performer's perspective.

1.5 Methodology and preparation

Presenting these issues effectively requires the combined perspectives of a performing musician and ethnomusicologist, and it is through this bipartite approach that my research strives to make a contribution.

As a professional percussionist I contribute practical knowledge of Western percussion, specific non-Western musics, and contemporary performance practices. As a result of my extensive experience with several music traditions, I recognize that understanding rhythmic structure and temporal organization in various genres can contribute to presenting articulate, well-informed performances.

My academic studies in percussion add a distinct perspective to this study. As a graduate student I had the opportunity to prepare and to perform Reich's music under the guidance of Dr. Russell Hartenberger (the original percussionist in Reich's ensemble, and therefore, a vital, living contributor to contemporary performance practice). Until that time I had not realized the amount of information pertaining specifically to the performance of Reich's music that remained unpublished, unsubstantiated, and largely unknown to the greater music community. From Hartenberger I learned practical skills pertaining to the performance of Reich's music and was exposed to a broad range of performance-oriented details of which many other percussionists are not aware. These include selecting appropriate mallets and instruments for particular compositions,

navigating through the various stages of phasing effectively, overcoming the contentious nature of Reich's notation and thus realizing the true intentions of the composer, and developing the psychological mind-set needed to master Reich's music.

Through Hartenberger I also came into contact with other long-standing members of Reich's ensemble including Bob Becker and Gary Kvistad.⁴ By consulting with some of these performers, through observing rehearsals of several works under the composer's supervision, and from my own experience performing Reich's music, my research articulates a performer's perspective – a vantage point that has been neglected in the published work of many scholars.

Also strengthening this study is my experience in performance-based ethnomusicology. In particular, through my association with Kwasi Frederick Dunyo – an Ewe master drummer – I have studied and performed dance-drumming music from throughout Ghana, and have come to better understand the perception of time in the Ewe context. For example, while performing a single dance-drumming selection over an extended period, I came to recognize the amount of space that surrounds each note and each beat, even within an extremely dense, polyrhythmic texture. Subtle nuances of time-keeping emerged as I recognized a tendency to miscalculate minute proportions of time. In such an environment time can seem to stand still, even though one is surrounded by continuous, repetitive activity. From embracing the intricate balance between silence and sound in Ewe music one learns to solidify one's sense of time.

⁴ Becker and Hartenberger are also authorities on non-Western percussion music. Hartenberger holds a PhD in World Music and Becker pursued doctoral studies in this same field. In addition, they have performed several genres extensively throughout their professional careers. Considering their perspectives on the incorporation of Ewe musical structures into Reich's music is extremely valuable. Pursuant to this objective I travelled to Toronto in May 2004 in order to consult with them.

Understanding Reich's intentions are of paramount importance to this study. In order to present definitively the composer's views I consulted with him in October 2005 during his tenure as a Distinguished Visitor in Composition at the University of Toronto. His comments concerning the impact non-Western musics have had on his general artistic development, the influence of Ewe music, in particular, on his compositions, and the types of musicians who are best able to perform his works have greatly affected this study.

Apart from interviewing the composer during my last visit to Toronto, I attended a public lecture he delivered, and saw two concerts of his works featuring "Piano Phase" (1967), "Drumming" (1971), "Clapping Music" (1972), "Music for Pieces of Wood" (1973), "New York Counterpoint" (1985), "Electric Counterpoint" (1987), "Nagoya Marimbas" (1994), and the Canadian premiere of his most recent composition, "You Are (Variations)" (2004). Attending these events has contributed depth to my understanding of Reich's music.

2 TEMPORAL ORGANIZATION AND RHYTHMIC STRUCTURE IN EWE MUSIC

Early twentieth-century Western scholars, performers, and music enthusiasts were introduced to African music through the work of musicologists such as Hornbostel, Jones, Merriam, and Waterman. Their groundbreaking research and analyses described socio-cultural aspects of music-making, classified and catalogued instrumental resources, and provided a broad overview of the melodic, harmonic, and rhythmic parameters that shape the musical traditions of various African cultural groups. Through articles, monographs, field recordings, and transcriptions they outlined systems of musical organization and helped to consolidate description of a set of musical characteristics upon which many modern ethnomusicologists continue to rely.

Their work has not been viewed without controversy, however. Jones, in particular, has been criticized for his sweeping generalizations, while almost all early researchers in this field have come under scrutiny for the particular perspectives that shaped their findings.⁵ Bridging the twentieth and twenty-first centuries, ethnomusicologists including Nketia, Chernoff, Locke, wa Makuna, Labi, Arom, Anku, and Agawu have provided more focused, detailed analyses of African music and have attempted to deconstruct this ethnocentric perspective.

⁵ Arom's *African Polyphony and Polyrhythm* (1991) and Agawu's *Representing African Music* (2003) provide comprehensive description, analysis, and critique of past contributions to African music by numerous scholars. Among many issues, Arom's work highlights terminological discrepancies and inaccuracies while Agawu's is particularly critical of the generalizations that have been applied to a broadly defined "African" music.

Within the tremendous body of knowledge we have accumulated, discrepancies and variations exist, and we are still struggling to establish a standard descriptive terminology. This study will draw primarily from Locke, Arom, and Agawu to produce a consistent language with which to discuss temporal organization and rhythmic structure in Ewe music.

The chart on the following page (Table 1) illustrates some of the terminology that has been used to describe characteristics of African music over the past sixty years. Even a brief glance reveals that the application of terms used to describe similar or analogous concepts is inconsistent. Especially noticeable is the variety of usages for "pulse." This term has been used both to refer to an element that demarcates meter (Arom, Chernoff), and to denote smaller subdivisions as well (Jones, Locke).

Table 1 Overview of terminology used to describe temporal organization and rhythmic structure in African music

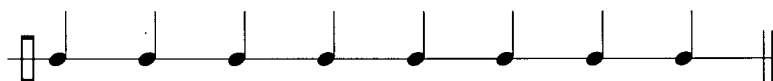
	Tones (2007)	Agawu (2003)	Anku (1997)	Arom (1991), (1989)
Terms	time line	time line, topos, bell pattern	time line, time span, structural referent	period
	pulse	gross pulse, main beat	<i>no mention</i>	pulse, pulsation
	(subdivided pulse - smallest relevant unit)	<i>no mention</i>	pulse	operational values (binary and ternary)
	excludes "polymeter"	<i>refutes "polymeter"</i>	<i>no mention</i>	<i>refutes "polymeter"</i>
	polyrhythm	polyrhythm	multirhythm	polyrhythmics
	cross-rhythm	<i>refutes "cross rhythm"</i>	<i>no mention</i>	contrametricity
	Chernoff (1991), (1979)	Locke (1987), (1982)	Nketia (1974), (1962)	Jones (1959), (1954), (1949)
	bell pattern	bell pattern, time referent, basic musical period, time span, bell cycle	time line	bell pattern
	main pulse, pulse, emergent pulse	beat	pulse, basic pulse	main beat
	<i>no mention</i>	pulse	pulse, density referent	pulse
	<i>refutes "polymeter" (1991), includes polymeter (1979)</i>	polymeter (fundamental meter, counter meter)	<i>no mention</i>	"clash of rhythms" (no specific mention of "polyrhythm" or "polymeter")
	polyrhythm	polyrhythm	multilinear rhythmic structures, polyrhythm	
	cross-rhythm, counter rhythm	cross-rhythm	hemiola (linear), cross-rhythm (vertical)	beat-crossing, cross-rhythm, rhythm-crossing

Characteristics of Ewe music presented in this study, including socio-cultural context, descriptions of instruments and their functions within the Ewe percussion ensemble, and particularities of temporal organization, such as periodicity, the use of time lines, and metrical ambiguity, are by no means exhaustive. However, an examination of these features will grant us a basis for comparison from which to identify similar structures in the music of Steve Reich. In addition the ensuing discussion will also clarify the relationship of these features to corresponding structures in contemporary Western art music, thereby demonstrating that certain aspects of Reich's repertory are decidedly West African.

Musical examples will be incorporated as visual aids when describing characteristics of Ewe rhythmic structure and temporal organization. A brief explanation of the notational system employed in this chapter will clarify the meaning of these examples depending on the feature to which they are attached.

Time signatures are avoided throughout because they imply a system of metrical organization inconsistent with how Ewe music is perceived by Ewe performers. In addition, a one-line staff is generally used, and when discussing accentual matrices and meter, for example, notes placed directly on it do not imply a particular tone (Figure 1).

Figure 1 **General representation of a musical example**

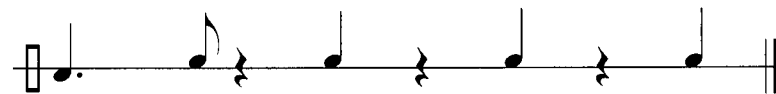


However, when used to describe the *time line* as performed by the *gankogui* (West African double bell) one tone, and alternatively two tones, may be used.⁶ In the former case the notes are centered on the staff (Figure 2) and do not imply a pitch designation, and in the latter case notes are found both below and above the staff to designate low and high sounds respectively (Figure 3).

Figure 2 Notes centered on the staff do not imply a pitch designation



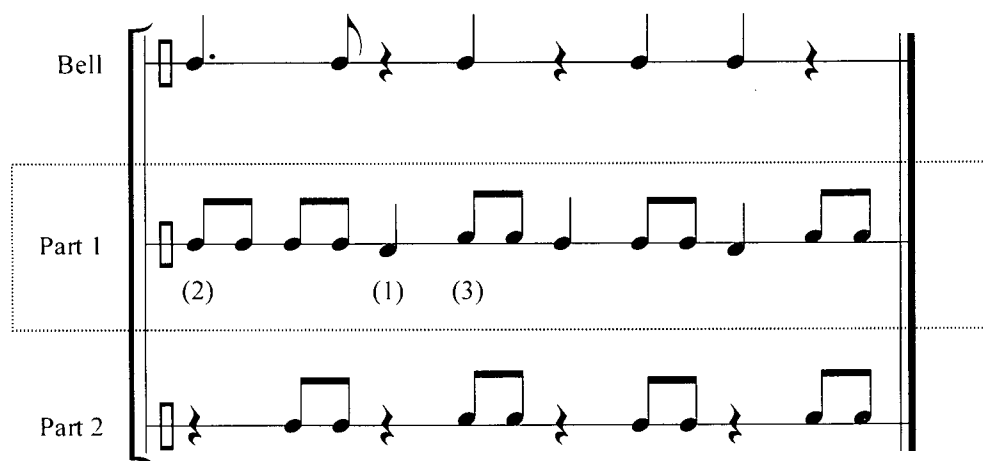
Figure 3 Notes appearing below and above the staff imply low and high sounds



In certain instances the staff system is expanded to include the applicable number of instruments, and notes assigned to an individual part may imply a variety of tones. In Figure 4 the pattern for Part 1 specifies three different tones: (1) The note appearing below the staff refers to a bass tone (a sound created by striking the drum at or near the centre of the head, and which produces the low frequency), (2) the note directly on the staff refers to an open tone (a sound created by striking the drum near the rim, and in which the head is allowed to ring freely), and (3) the note appearing above the staff refers to a closed tone (a sound in which the head of the drum is muffled or dampened).

⁶ The time line is a regularly recurring rhythmic pattern that governs temporal organization, and acts as a point of reference for performers in an Ewe dance-drumming ensemble.

Figure 4 **Representation of three different drum tones**



2.1 The function of Ewe music: A contextual background

Essential to this study is an understanding of the context in which Ewe music is made. This will help to situate Ewe music within a larger expressive cultural environment, and will assist in comprehending the particular contextual features that have influenced Reich's music.

Many ethnomusicologists have framed a comprehensive picture of music-making in West African societies; however, in this case we must also rely on impressions of the Ewe context as seen through Reich's eyes. This study presents comparative analyses of Reich's music and Ewe music; therefore, incorporating Reich's observations of Ewe music-making, gleaned through first-hand experience, reduces speculative conclusions, and produces accurate comparisons.

From Reich's *Writings on Music* and through an interview conducted by this author in 2005, we are made aware of the circumstances surrounding the composer's exposure to and study of Ewe music. In 1970, Reich took lessons from Alfred Ladzekpo, an Ewe master drummer who was teaching at Columbia University. (Reich 2005) Later in the same year, he travelled to Accra, Ghana and took daily lessons with Gideon Alorworye, another Ewe master drummer, at the Institute of African Studies at the University of Ghana. (Reich 2002, 55)

In recounting his experiences with Ewe music, Reich demonstrates an understanding of key contextual features such as the function of music in Ewe society (Reich 2005), the inseparability of music and dance, the importance of choreography to

the overall artistic presentation, and the communal nature of music-making. (Reich 2002, 56-63 and 72) The following paragraphs investigate these features in greater detail, and build upon Reich's observations by drawing upon the written contributions of various ethnomusicologists.

In a traditional Ewe context (a rural setting in which activities are focused on the community at large, and in which artistic practices are transmitted orally from generation to generation), music is but one part of a multi-faceted presentation. It is a "synthesis of several media, including vocal and instrumental music, dance, visual display through costume, and drama." (Locke 1998, 5)

Music in a traditional Ewe context cannot be separated into art music, concert music, and popular music. Therefore, it performs a distinctly different socio-cultural function from its counterparts in the urban Western world. "In traditional African societies, music-making is generally organized as a social event" (Nketia 1974, 21) and "is a practice in which everyone, although to a different degree, participates." (Arom 1991, 12) In the West, on the other hand, art music and concert music are to be appreciated by the listener largely without his active participation.

Even when considering the Ewe context there are exceptions to these standards. Rural communities contain music specialists and private music-making groups. Consequently the allocation of responsibility during communal music endeavors often follows an established hierarchy, and is sometimes restricted altogether to specific performance groups. Depending on the type of social function, religious ceremony, or

specific rite to which it pertains, music-making may also be limited to a particular age or gender. However, it occurs most often as a public performance, taking place:

when members of a group or a community come together for the enjoyment of leisure, for recreational activities, or for the performance of a rite, ceremony, festival, or any kind of collective activity, such as building bridges, clearing paths, going on a search party, or putting out fires – activities that, in industrialized societies, might be assigned to specialized agencies.

(Nketia 1974, 21)

Instrumental and vocal components are inseparable, fundamental elements used in the construction of a performance, but it is the dance movements that serve as the performance's defining characteristics. Arom suggests,

Melody is only conceived as clothed in the words that it conveys; it then becomes 'song'. As for rhythm, it is simply thought of as the *stimulus* for the bodily movement to which it gives rise, and, for the most part, is then given the same name as the choreography that it sustains [Arom's emphasis].⁷

(1991, 10)

This is to say that *Gahu*, for example, refers principally to a specific dance, and secondly to its supporting vocal and instrumental accompaniment.⁸

In the following description and analysis of Ewe music, I focus on specific drumming traditions and isolate these examples as "absolute music." This creates an artificial separation by not encompassing the greater cultural context in which Ewe music

⁷ While developed from fieldwork conducted over several years in the Central African Republic, Arom's findings can be applied to most traditional sub-Saharan musics, including that of the Ewe. Arom proposes this expanded scope in *African Polyphony and Polyrhythm* (45) and in the Abstract of "Time Structure in the Music of Central Africa: Periodicity, Meter, Rhythm, and Polyrhythmics." *Leonardo* 22.1 (1989): 91-99.

⁸ *Gahu* is a social/recreational dance-drumming style that originated in Benin and later migrated to Nigeria. In the mid-twentieth century it became popular in Ghana and is now associated primarily with the Ewe. (Ladzekpo, *Online Syllabus*) See also: Locke, David. *Drum Gahu*. Tempe, Arizona: White Cliffs Media, Inc., 1998.

is made, but it is a useful approach when examining parallels between systems of temporal organization in Ewe drumming and similar systems operating within the music of Steve Reich.

2.2 Instrumental composition of the Ewe percussion ensemble

The nature of communal participation prevents the establishment of a standard number of instruments in the Ewe percussion ensemble. Furthermore, due to differences in regional dialects, discrepancies in musicologists' terminology, and the various pedagogical and performance-based methods with which West African music has been transmitted to North American audiences, even a standard set of instruments and spellings of their names have eluded us. However, a brief overview of the basic types and functions of instruments within the Ewe percussion ensemble will provide valuable insight into a percussion ensemble's general composition, and will illustrate basic relationships between the instruments themselves.

Reich traveled to Ghana in the summer of 1970 to study drumming, and in particular, to become acquainted with Ewe music. In his *Writings on Music* (2002) he shows familiarity with Gahu and *Agbadza*, an Ewe social dance, either through written description or musical transcription, and in a personal interview with the composer (2005) he acknowledged the influence of *Agbekor*, an Ewe war dance, on his music.⁹ In light of this we can use these three examples as starting points from which to discuss the make-up of the percussion ensemble.

⁹ For a detailed description of Agbekor, see: Locke, David. "Agbekor: Music and Dance of the Ewe People." *Worlds of Music*. Ed. Jeff Todd Titon. 4th edition. Belmont, California: Schirmer/Thomson Learning, 2002. 94-113.

To the Ewe, the percussion ensemble is an “interactive feedback network in which instruments ‘talk’ to each other,” (Locke 1998, 7) and instruments are separated into groups based on the function they perform. Idiophones such as the *gankogui* (double bell) and *atoke* (single bell) act as timekeepers and exert a regulating force upon the music. In addition gourd rattles such as the *axatse* often outline the pattern played by the bell, but ornament it in such a way that the two parts are distinctly different, yet complementary. Due to their essential, cohesive role in governing the flow of time, rhythmic patterns performed by these instruments are usually static and unchanging.

Membranophones are generally divided into two groups: (1) Supporting Drums, containing both static parts and dynamic parts – the latter being variations on signature patterns and specific responses to cues or calls, and (2) the Master or Lead Drum¹⁰ – an instrument that governs the progression of events comprising the entire performance, improvises rhythmic phrases based on the piece’s signature patterns, introduces calls that signify particular responses from the supporting drums, and simultaneously cues variations in the performance’s dance component.

Locke’s description of Gahu illustrates these instrumental divisions within a specific context. He divides the percussion ensemble into three groups, clarifies the interactive relationship they perform, and demonstrates that instruments are not always separated based on organology, but rather on the basis of their function.

¹⁰ Locke provides a distinction between a master drummer and a lead drummer. He suggests that a master drummer is a musician who demonstrates “excellence in performance ... knowledge of traditional ways of living and a commitment to the community.” (1998, 12) This musician is an authority on the technical and musical aspects of numerous dance-drumming genres, is fluent in local or regional dialects and cultural traditions, and maintains an intimate knowledge of the music’s historical antecedents. Conversely, a lead drummer is someone who has a command of various technical and musical aspects, but may not be well versed in the broader socio-cultural parameters of music-making.

The first group contains the gankogui, atoke, axatse, and *kaganu*,¹¹ and is collectively referred to by Locke as “The Time” because of the essential role it performs. The last instrument mentioned, *kaganu*, is a membranophone, yet it contributes to “implicitly establishing the music’s meter,” (1998, 11) and is considered primarily to have a time keeping role.

The second group is comprised of two supporting drums: *sogo*, and *kidi*.¹² Locke states, “because *sogo* and *kidi* also respond to the musical calls of the *boba* (master or lead drum) [they are labeled] ‘The Response.’ ” (Ibid., 11)

The final category includes only the master drum as is referred to as “The Call” to emphasize its interactive quality (Ibid., 11). In regional forms of Gahu this can be one drum, the *boba* (also *gboba*), or two drums, both the *boba* and the *atsimevu*.¹³ In this instance these drums are played by one player, and are never heard simultaneously. When playing either of these the master drummer in Gahu “leads the ensemble, setting the tempo, improvising on traditional phrases and providing choreographic signals.” (Ibid., 11)

¹¹ *kaganu* (also “*kagan*”) is a high-pitched, open-bottomed membranophone.

¹² *sogo* and *kidi* are close-bottomed supporting drums that fall within “the middle of Gahu’s spectrum of relative pitches.” (Locke 1998, 12)

¹³ *atsimevu* (also “*atsimewu*”) is a tall, open-bottomed, and high-pitched lead drum. It was imported into Gahu in the late 1950s from the *Kinka* style – a highly choreographed set of dance-drumming variations (Ibid., 8) that reflect a more liberal lifestyle “common among the younger generation in contemporary societies.” (Ladzekpo, *Online Syllabus*)

2.3 General characteristics regarding the organization of time

2.3.1 Repetition

Repetition pervades Ewe music. It provides a foundation upon which the music is built and creates a structural framework that encapsulates many other intricate aspects of rhythmic and temporal organization. When discussing its role in popular and traditional forms of African music Agawu states, “there is a power to repetition that suggests not mindlessness or a false sense of security ... but a fascination with grounded musical adventures. Repetition, in short, is the lifeblood of music.” (2003, 145)

Various types of repetition are active in Ewe music. Among them are thematic and motivic repetition (as in the case of a recurring identifiable pattern such as a time line, or the repetition of a smaller rhythmic unit such as an individual, constituent drum pattern within the percussion ensemble) and antiphonal or responsorial repetition (such as the call-and-response formats governing interaction among vocal soloists and choirs, or a master drummer and the supporting drums). In general, repetition, and the subsequent variation that accompanies it, provides the building blocks upon which “a process of maximal elaboration is constructed,” (Arom 1991, 17) demonstrating that endless musical possibilities can be presented from very limited resources.

2.3.2 Circular time

Each of these types of repetition serves a specific structural purpose, yet also contributes to a larger aesthetic aim. For example “the continuous repetition of the bell pattern creates cycles of time” and demonstrates that Ewe music “has a circular or spiral, not linear, rhythmic character.”¹⁴ (Locke 1998, 217-18) In addition, Chernoff notes, “a drummer uses repetition to reveal the *depth* of the musical structure” [Chernoff’s emphasis]. (1979, 112) In this instance one employs repetition to illustrate how Ewe music can be complex and multifaceted, not limited or restricted by its recurring elements.

¹⁴ For a further description of circular time in African music see: Anku, Willie. “Circles and Time: A Theory of Structural Organization of Rhythm in African Music.” *Music Theory Online* 6.1.

2.4 Specific principles governing the organization of time

Within the past century numerous scholars have listed the salient features of African music in general, and Ewe rhythmic organization in particular. However, Arom's *African Polyphony and Polyrhythm* gives perhaps the most comprehensive, detailed description of the principles governing rhythmic structure and temporal organization. He provides the following list and explains that most musics feature these four characteristics:

- (1) A strictly periodic structure (isoperiodicity) is set up by the repetition of identical or similar musical material, i.e., with or without variations
- (2) The isochronous pulsation is the basic structural element of the period. Whether the figures it contains are binary or ternary, or a combination of these, the period is defined by the *invariant* number of pulsations which constitutes its temporal framework [Arom's emphasis]
- (3) There are no regular accentual matrices. The pulsations or beats on which the period is based all have the same status. There is thus no intermediate level (measure, "strong" beats) between the pulsation and the period
- (4) The pulsation is not necessarily materialised.

(1991, 211)

Arom's first principle illustrates that periodicity affects Ewe music at the most fundamental level. It is a governing principle behind rhythmic structure and temporal organization. Periodicity in Ewe music features a specific type of repetition that can be described as a regularly recurring cycle of rhythmic events. It repeats without variation in tempo (speeding up or slowing down), but may contain variations in dynamics and accentuation.

A strictly periodic structure, also referred to as a "period," and not to be confused with the Western formal grouping of the same name, is also considered "isoperiodic"

because it recurs at evenly spaced intervals in time. Arom also refers to the period as a “temporal loop,” and as a structure that “provides a temporal framework for rhythmic events.” (Arom 1989, 91) In addition, “the periodic structure is dependent on an extremely strict division of time into segments of equal duration, each segment possessing its own internal organisation within the framework of the piece to which it belongs.” (Arom 1991, 18) The segments of equal duration are the pulsations to which Arom refers in his second principle.

Pulsations, then, are the underlying units within a period. Regardless if the period’s internal organization features binary or ternary groups (groups of two or three attacks, or a combination of attacks and silences), the frequency of pulsation remains the same. Arom expands upon this when stating,

by *pulsation* we mean the isochronous, neutral, constant, intrinsic reference unit which determines tempo. To take this definition piece by piece:

- isochronous*, i.e., repeated at regular intervals
- neutral* insofar as there is no difference between one pulsation and another; the idea of an arrangement of beats at a higher level is excluded
- constant* in being the only *invariable* element in the course of the piece
- intrinsic*, i.e., inherent in the music itself and specific to each piece: this makes it always a relevant factor
- a *reference unit*, i.e., establishing a unit of time
- determining tempo* by setting the internal flow of the music it underlies [all emphases are Arom’s].

(Arom 1991, 202)

Arom continues:

Pulsations are an uninterrupted sequence of reference points with respect to which rhythmic flow is organised. All the durations in a piece, *whether they appear as sounds or silences*, are defined in relationship to the pulsation. In terms of the temporal organisation of a polyphonic

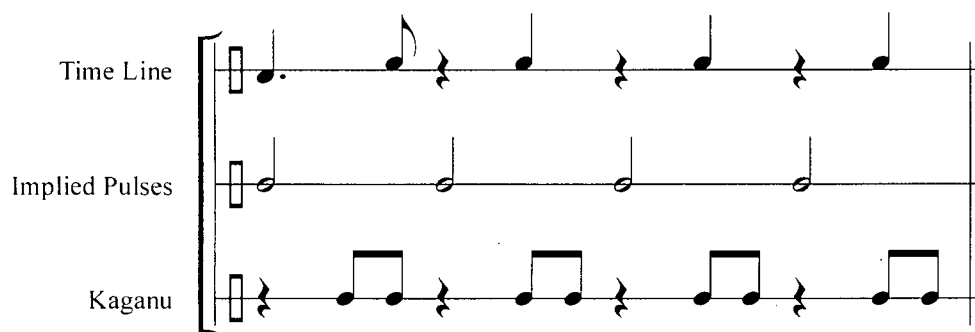
ensemble, the pulsation is also the common denominator for all the parts [Arom's emphasis].

(Ibid.)

The lack of regular accentual matrices is one of Ewe music's most striking features. According to Arom every attack and every pulse receives equal emphasis, and the resulting absence of strong and weak beats negates the need to establish an intermediate level of metrical organization, such as that of the measure in Western music.

Finally, Arom's fourth principle simply states that the pulsation may not be explicitly stated, i.e., performed within a piece by a member of the instrumental ensemble, but it is always implied. Figure 5 shows the part performed by kaganu in Gahu, and illustrates how the implied pulses, as determined by the music's choreography, are not necessarily articulated.

Figure 5 Implied pulses are not necessarily articulated within the percussion ensemble



2.4.1 Periodicity and the time line

The hierarchy of instruments within the Ewe percussion ensemble presents a tiered system of periods expressing various levels of importance from that of the bell through to the various supporting drums. It is essential to note that periods exist not only in the bell's pattern, but in all of the supporting percussion patterns as well. The master drum is generally excluded from this formula as its function varies within any given style, often requiring the master drummer to perform improvised rhythms and selected calls overtop of a heterogeneous mix of percussion patterns.

In the Ewe percussion ensemble's hierarchy of periods the bell's pattern is considered the most important. It unifies the individual percussion parts and acts as a point of reference for drummers, dancers, and singers. (Locke 1982, 217) Agawu adds, "as is well known, many West and Central African dances feature a prominently articulated, recurring rhythmic pattern that serves as an identifying feature or signature of the particular dance/drumming." (2003, 73) This pattern has been referred to by numerous musicologists as the "Time Line," "Time Referent," "Bell Pattern," and "Macro-Period;" however, for the purposes of our discussion we will employ the term "time line" to refer to the pattern executed by the bell.

Nketia describes the time line as "a constant point of reference by which the phrase structure of a song as well as the linear metrical organisation of phrases are guided." (1963, 78) In his discussion of the Gahu style of Ghana's Ewe group, Locke expands this view to include all aspects of a piece's performance when he states the time line, or "regular and recurrent pattern played on the bell provides the time referent by

which members of the performing group reckon the alignment of their rhythm patterns, song melodies, and dance movements.” (1982, 217) He continues by suggesting, “not only is the basic musical period established by the bell pattern but its distinctive rhythmic shape influences all aspects of the music and dance.” (Ibid.)

Figures 6 through 9 are time lines found throughout West Africa. The first two are featured prominently in Ghanaian music.

Figure 6 The time line of Gahu

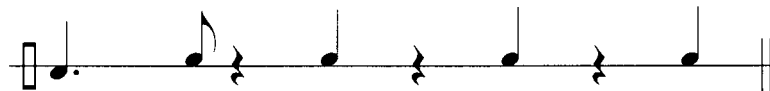


Figure 7 The time line of Kpanlogo¹⁵



Figure 8 The Babenzele time line



Figure 8 is a time line used by the Babenzele of the Central African Republic, the Mende of Sierra Leone, (Stone 2005, 82) and in some music of the Yoruba of Nigeria.¹⁶ (Agawu 2003, 75)

¹⁵ Kpanlogo is a type of recreational dance-drumming that originated among urban youth in Accra, Ghana, in the late 1950s.

¹⁶ One may recognize that Figures 8 and 9 are variations of one another (i.e., they use an identical succession of durations, but each features a different starting point). However, many musics are based on each of these patterns and are structured to reflect varying orientations to their respective starting points. Therefore, they are characterized as separate time lines.

Figure 9 The “standard pattern”

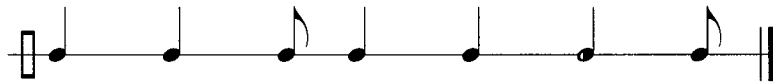


Figure 9 is a time line found throughout sub-Saharan Africa. In Ghana it appears in Agbekor, Agbadza, and Adzida; (Ibid.) however, as far back as 1959, A. M. Jones’s research into various styles of West African music revealed that this time line was widespread, being used in music of the “Ewe of Ghana, the Mahi of Dahomey, and the Yoruba of Nigeria.” (Jones 1959, 82) Due to the prevalence of this time line, Jones termed it the “Standard Pattern.” (Ibid., 53)

Other scholars and performers including Chernoff (1979), Locke (1982), Stone (1985), Temperley (2000), and Agawu (2003) have adopted this term and have provided evidence supporting this time line’s prominence throughout West Africa. For example, Chernoff notes, “it would be difficult to find an African musical tradition that did not contain this rhythm” for it “frequently supports many pieces in many traditions’ repertoires.” (Chernoff 1991, 1096)

The function of the time line can be described in terms of primary and secondary relationships:

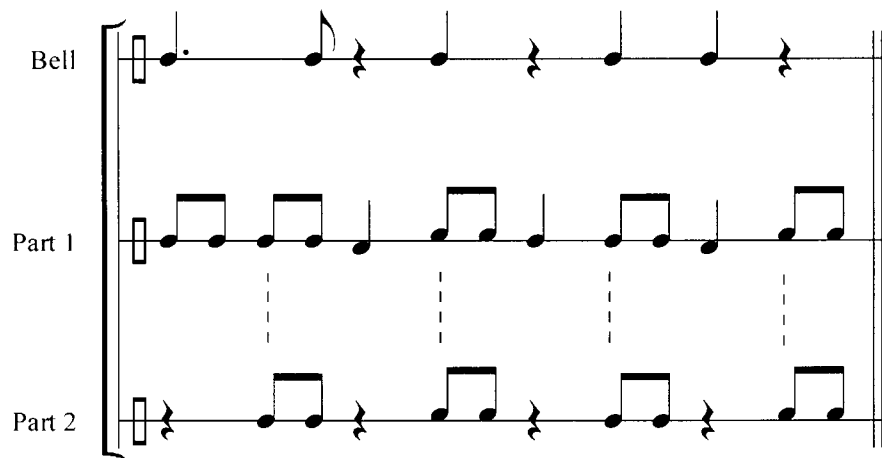
Primary relationships are those that depend directly on the time line ... each performer perceives the time line in integration with his assigned pattern as a way to facilitate the cue entry process. Since there are not external concepts of timing gestures, such as those of the conductor in the Western orchestra, this built-in device is a crucial one. Secondary relationships, on the other hand, refer to instances when the performer establishes multiple integration with the patterns other than the time line.

(Anku 1997, 217)

In other words, as the Ewe percussion ensemble does not feature a conductor, another instrument must assume a cohesive, regulating role. While the master drummer is responsible for overseeing all the artistic elements of a performance, including individual aspects of singing, drumming, and dancing, he cannot devote himself solely to establishing time within the drum ensemble. Therefore, the bell player is given the role equivalent to that of the Western conductor, and it is to him that performers direct their primary relationships with respect to timekeeping.

The secondary relationships to which Anku refers are those that occur among players in the ensemble, apart from observing the position of the bell. For example, upon examining Figure 10, a version of Kpanlogo shown to this author by Ewe master drummer Frederick Kwasi Dunyo, one notices corresponding attacks and tones in four locations between the Parts 1 and 2.

Figure 10 **Secondary relationships in an Ewe percussion ensemble**



Players performing these parts may wish to relate their entries to one another, in addition to the bell pattern, thereby expressing a secondary relationship.

2.4.2 Metrical ambiguity

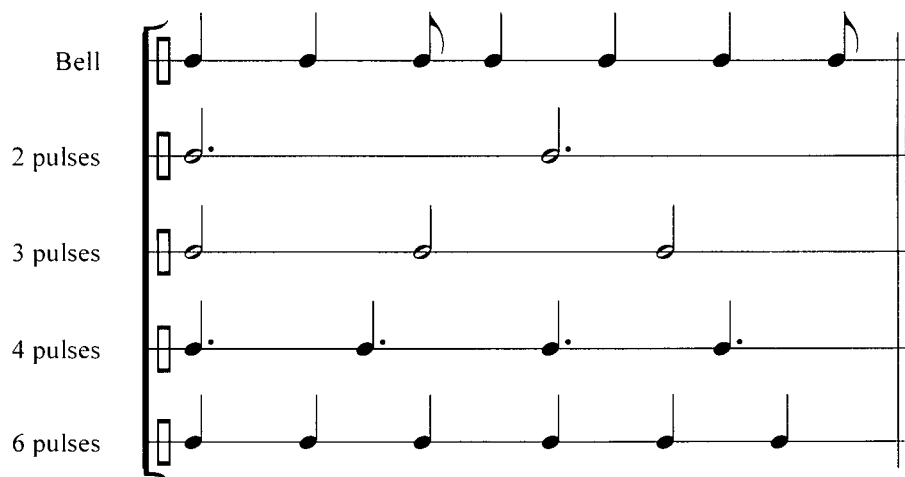
A number of elements function to decentralize meter in Ewe music. In particular, metrical ambiguity is generated by three distinct features: (1) the general repetitive nature of most dance-drumming music, (2) the variety of ways in which the time line, by itself, can be perceived, and (3) the use of polyrhythm (including cross-rhythm, a sub-set of polyrhythm). The preceding discussion has dealt sufficiently with repetition; therefore, the following analysis will deal with only the latter two items.

Chernoff (1991) and Agawu (2003) point out that, in an authentic Ewe performance context, the dance steps underpinning the music largely determine meter.¹⁷ However, when considered here as “absolute music,” and extending to some examples of Reich’s music as we shall see later, I propose that meter is much more ambiguous. In such cases meter is not guided by choreography and one must rely on either the time line or the accompanying percussion parts in order to establish a frame of reference.

When considering a time line in isolation a number of metrical possibilities are presented (Figure 11).

¹⁷ Meter can be described as a “regular patterning of rhythmic events,” (Kaufmann 1980, 407), or “the way beats ... are ordered within a larger framework of reference.” (Arom 1991, 185)

Figure 11 A time line in isolation produces numerous metrical possibilities



One recognizes that there are at least four different ways to perceive meter in relation to the time line. Without a point of orientation provided by the choreography, each of the four possibilities presented is accurate. Because of this, “we find a dynamic principle of aural illusion functioning in southern [Ewe] dance drumming wherein a pattern may be heard differently depending on the metric vantage point of the listener.” (Locke 1982, 223)

2.4.3 Polyrhythm

The pervasive use of polyrhythm is one of the most striking features of Ewe music, and of Ewe percussion ensembles in particular. Numerous musicologists and performers have discussed this feature in detail, and each has contributed unique insight into how polyrhythm is employed in the various musics that inform his research. Polyrhythm “is not, of course, unheard of in European music;” however, “what perhaps distinguishes the African usages is the degree of repetition of the constituent patterns, the foregrounding of repetition as a *modus operandi*.” (Agawu 2003, 81)

Agawu defines polyrhythm as “the simultaneous use of two or more contrasting rhythms in a musical texture,” (Ibid., 79-80) and Chernoff describes this characteristic in relationship to some forms of Western music:

African music has a well-known rhythmic priority, and the use of rhythm in African music reflects several characteristics. The basis of these characteristics is polyrhythm. Western music tends to rely on a single metric pulse unified on the downbeat: rhythmic movement is generally straightforward and is often articulated as an attribute of melody. African music tends towards multiple rhythmic lines defined with reference to one another.

(1991, 1096)

In addition, Arom argues that density contributes to polyrhythmic complexity:

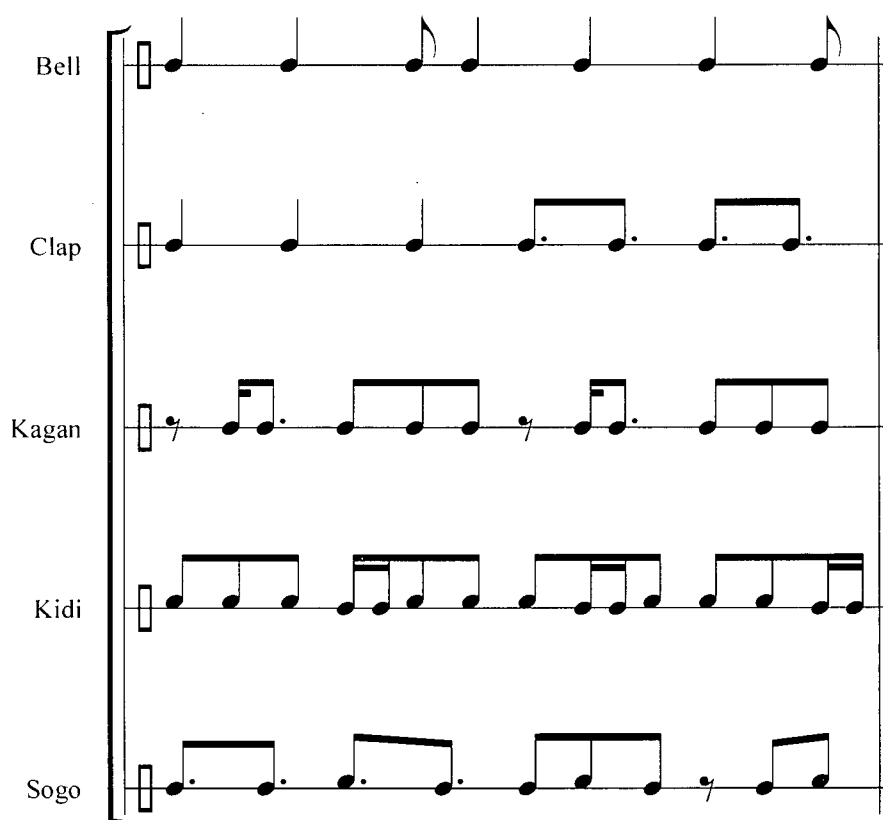
The degree of complexity of a polyrhythmic piece is not a function of the number of parts alone. It can depend equally, if not more, on the internal organization of each one. Thus the more ambiguity ... there is in the rhythmic content of the superposed figures, the more complex the resulting polyrhythmics will be.

(1989, 97)

In other words, durational values and the proximity of these values to one another within each constituent pattern play a large role in determining the complexity of polyrhythmic music. Since most Ewe music features several individual rhythmic lines operating simultaneously, the resulting texture features a high degree of complexity.

Figure 12 illustrates how polyrhythm and polyrhythmic density are manifested in a typical Ewe context. One notices that each instrument performs a contrasting rhythm – a contrast that is heightened not only by the combination of varying durations, but also by the alternation between different tones within each pattern. These characteristics demonstrate that, “even without variation, a simple rhythm can be potentially disorienting, and African music exploits this ambiguity of perspective.” (Chernoff 1991, 1096)

Figure 12 **Polyrhythm and polyrhythmic density in a typical Ewe context**



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Many aural effects of a polyrhythmic texture have been observed. Locke perhaps best summarizes these in his description of Gahu: “Gahu is polyrhythmic music, an interwoven fabric of sound created by many distinct and contrasting phrases played simultaneously.” (1998, 7) Chernoff and Arom describe aural results noting, “the coherence of the conflicting rhythms is thus based upon a kind of tension which gives the music its dynamic power,” (Chernoff 1979, 53) and “the result is a permanent state of tension deriving from the antagonism among the different rhythms.” (Arom 1989, 95)

2.4.4 Cross-Rhythm

Cross-rhythm is a definitive feature of Ewe music that contributes to metrical ambiguity. It is a specific occurrence within a polyrhythmic texture and is described as a type of “interplay that arises where rhythms based on different schemes of pulse structure are juxtaposed.” (Nketia 1974, 134) More specifically, particular durational values within one or more parts function to obscure the time line’s pulse.

Nketia notes, “the simplest type of cross rhythm is that based on the ratio of two against three, or their multiples – that is, *vertical* interplay of duple and triple rhythms [Nketia’s emphasis].” (Ibid., 135) However, “cross-rhythms can be constructed with a variety of durational values,” (Locke 1982, 233) with other common ratios including 3:4, for example.

Figure 13 shows a vertical cross-rhythm relationship between two different patterns occurring within the same period. Part 1 is based upon a ternary division, and Part 2 is based upon a binary division. When heard simultaneously, these rhythms express the ratio of 2:3. Between these patterns there are two points when they coincide, or can be heard to begin together. This divides the larger period into two smaller units (Figure 14).

Figure 13 Vertical cross-rhythm relationship between two patterns

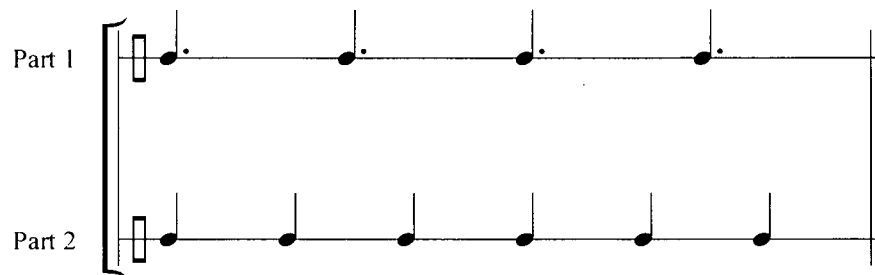
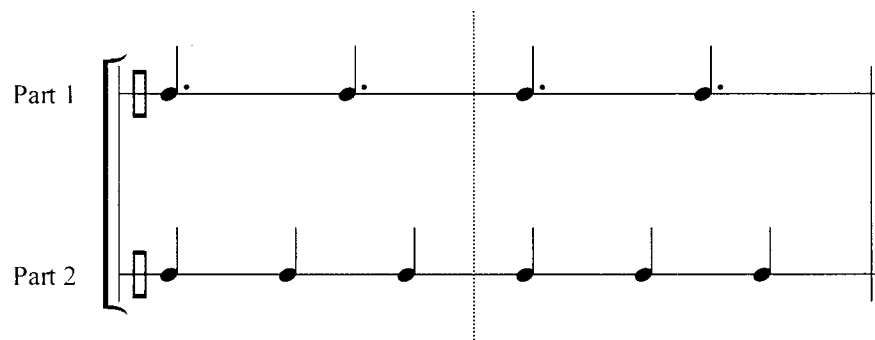


Figure 14 Coincidence of cross-rhythms divides the period into two smaller units



Locke confirms this characteristic, noting in numerous styles of Ewe music, “the musical period of a cross-rhythm may be shorter than the time span of the bell pattern, making it possible for several cycles of cross-rhythm to be embedded within one measure.” (1982, 233)

Locke suggests three other characteristics of cross-rhythmic relationships as they appear in Ewe music: (1) “A cross-rhythm can be both vertical, that is, between two simultaneous rhythm patterns, or *horizontal* [my emphasis], that is, between successive motives in one rhythm pattern,” (2) “simultaneous cross-rhythms of different ratio and/or duration may occur among the rhythmic lines of several instruments within the drum

ensemble,” (Ibid.) and (3) “within any cross-rhythm there is one moment when the beats occur together and there are other moments when the beats occur before or after one another in distinctive ways.” (Ibid., 235)

Consider the musical example used previously to discuss polyrhythm. It is adapted from an example of Agbadza provided by David Locke in “Principles of Offbeat Timing and Cross-Rhythm in southern Eve Dance Drumming,” (1982) and clearly shows the implications of these characteristics (Figure 15).

Figure 15 Characteristic applications of cross-rhythm



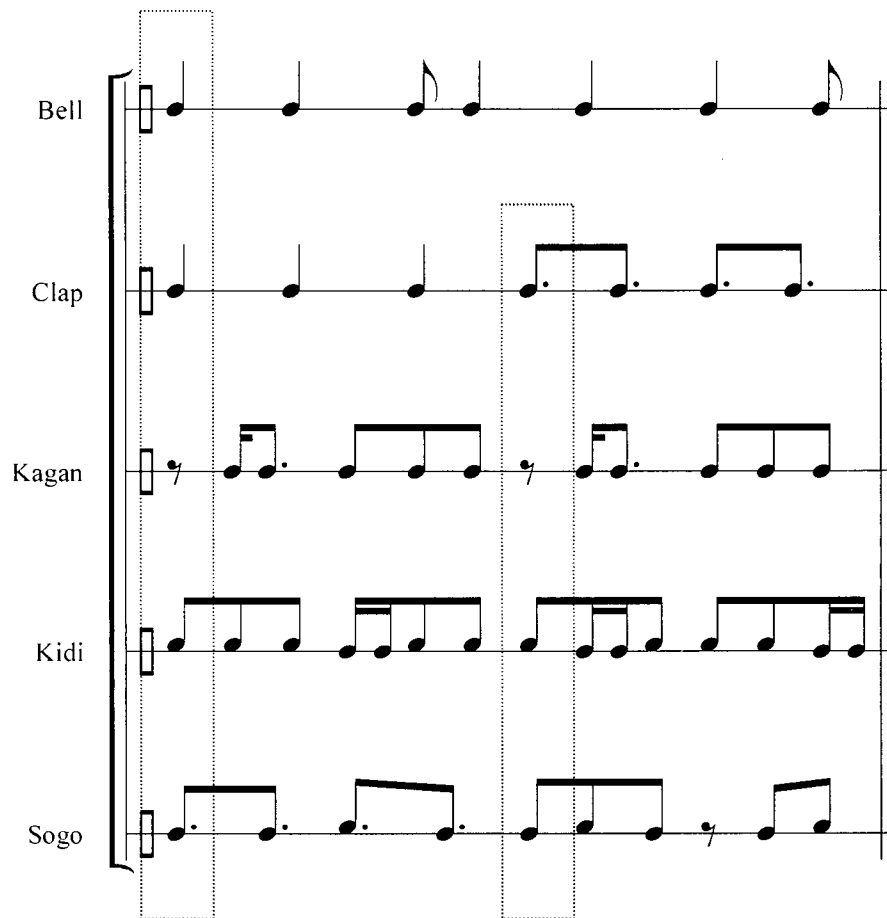
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Cross-rhythms emphasizing the vertical dimension are most noticeable in the parts for Clap, Kagan, Kidi, and Sogo. Related to Locke's second characteristic, cross-rhythms of different duration exist vertically between several parts. For example, those between the Clap and Sogo successively exemplify 3:4 and 4:6.

Cross-rhythms emphasizing the horizontal dimension are found within the individual parts for Clap and Sogo. The Clap part juxtaposes two groups of distinct durations (the first group is comprised of three quarter notes, and the second is comprised of four dotted eighth-notes), and the Sogo outlines two groups with different ratios (the first is comprised of four dotted eighth-notes while the second group is comprised of six eighth-notes).

One also notices that some vertical cross-rhythms coincide at specific points - at times simultaneously with each other and with the time line - thereby exemplifying Locke's third characteristic (Figure 16). This point is often implied, rather than heard, as in the part for Kagan. The beginning of its pattern remains unsounded in two instances.

Figure 16 **Coincidence of vertical cross-rhythms**



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The survey of characteristics presented above contains some of the most salient features of Ewe music. An overview of contextual features, such as the role of music in society, the instrumental composition of the percussion ensemble, and a summary of basic principles involved in the organization of time have provided an introduction to temporal organization and rhythmic structure in the Ewe context.

While this list is by no means exhaustive, it gives us a basis from which to compare analogous structures in the music of Steve Reich. The chapter that follows deals with corresponding features in some examples within Reich's repertory, and will demonstrate how, in certain instances, these two specific contexts employ temporal organization and rhythmic structure similarly.

3 TEMPORAL ORGANIZATION AND RHYTHMIC STRUCTURE IN THE MUSIC OF STEVE REICH

Reich's trip to Ghana was a definitive point in his career. Spurred by a variety of experiences with drumming and non-Western music in the years preceding it, it reaffirmed his "natural inclination towards percussion." (Reich 2002, 67) As a drummer in his teens, he was drawn to jazz: to the music of Miles Davis and John Coltrane, and to the playing of Kenny Clarke in particular. Additionally, while a student at Cornell in the 1950s he had heard recordings of West African and Balinese music in classes taught by William Austin, and before traveling to Ghana he consulted with Ewe master drummer, Alfred Ladzekpo, who was teaching at Columbia University. (Reich 2002, 161 and Reich 2005) Furthermore, to several interviewers, including Nyman (1971), Schwarz (1980-81, 1981-82), and Strickland (1991), he has mentioned the impact A.M. Jones's book, *Studies in African Music*, had upon his development as a composer. Upon first examining it in 1963, Reich recalls, "his transcriptions made an enormous impression on me at the time ... particularly the superimposition without coinciding downbeats of regular repeating patterns of varied lengths in what he notated as 12/8." Through the recordings he had heard, Reich admits that, as to "how it was put together I'd had no idea. So [Jones's book] was a very potent piece of information." (Reich 2005)

Reich's exposure to serial techniques while a student of Luciano Berio at Mills College and his compositions for tape loops in the early 1960s predate works demonstrating connections to Ewe musical structures. However, the experiences mentioned above reveal that he felt a strong tie to pulse, rhythm, and West African percussion beginning in the 1950s. In other words his compositional output until the

mid-1960s may have reflected his formal education and then-current trends, whereas his artistic ambitions may have lain elsewhere. Reich explains,

When I was a student in the late 1950s and the early 1960s, you've got to remember that ... the Western musical world, the academic musical world in particular was *consumed* with Boulez, Stockhausen, and Berio in Europe and John Cage, etc. in America, and everything else was considered an *absolute and total irrelevance*. So I was in the kind of extreme minority of people who really could admire musicians like that, but had no use for that music [Reich's emphases].

(Reich 2005)

That Reich began to draw upon non-Western music in his compositions written after his trip to Ghana is not at all revolutionary. The history of Western art music is full of examples of other composers doing just that. In the Classical and early Romantic Periods composers infused exotic elements into their works by borrowing sounds, colours, and textures from foreign cultures. For example, Mozart's "Die Entführung aus dem Serail" (1782), Haydn's "Symphony no. 100 'Military' " (1793-94), and the finale of Beethoven's "Symphony no. 9" (1822-24) incorporate Janissary percussion influences. Works of the late nineteenth century, including Bizet's "Carmen Suite no. 1 and no. 2" (1875), and Rimsky-Korsakov's "Capriccio Espagnol" (1887) and "Scheherezade" (1888) depict various middle-Eastern, Spanish, and Gypsy influences. In the twentieth century, Debussy's "Iberia" (1908), "Ma Mere L'Oye" (1911), and Ravel's "Rhapsodie Espagnole" (1907-08) feature images of Spain and the Far East, while Copland's "Three Latin American Sketches" (1959) and Bernstein's "Symphonic Dances from West Side Story" (1961) draw upon the expressive cultural traditions of Latin America.

What is revolutionary about Reich's approach is his reliance on Ewe rhythmic structures and systems of temporal organization. Not convinced simply to borrow "exotic" sounds, Reich sought to model structural aspects of his music after similar principles in Ewe music. He writes,

The least interesting form of influence, to my mind, is that of imitating the *sound* [Reich's emphasis] of some non-Western music (sitars in the rock band), or in using one's own instruments to sound like non-Western ones (singing 'Indian style' melodies over electronic drones). This method is the simplest and most superficial way of dealing with non-Western music, since the general sound of these musics can be absorbed in a few minutes of listening without further study. Imitating the sound of non-Western music leads to 'exotic music' – what used to be called 'Chinoiserie.'

Alternatively, one can create a music with [one's] own sound that is constructed in the light of one's knowledge of non-Western *structures* [Reich's emphasis]. ... One can study the rhythmic structure of non-Western music and let that study lead one where it will, while continuing to use the instruments, scales, and any other sound one has grown up with. This brings about the interesting situation of the non-Western influence being there in the thinking, but not in the sound. This is a more genuine and interesting form of influence, because while listening one is not necessarily aware of the some non-Western music being imitated. Instead of imitation, the influence of non-Western musical structures on the thinking of a Western composer is likely to produce something genuinely new.

(Reich 2002, 70-1)

Reich began to assimilate characteristics of Ewe music into his compositions much in the way that Bartók's compositional language fused elements of Hungarian folk songs into a distinctly personal style. (Morgan 1991, 106) The pieces Reich wrote immediately upon returning from Ghana exhibit isolated features of Ewe music, and again like Bartók, after several years his compositional language integrated structural principles flawlessly and effortlessly. For example, when discussing "Sextet," a composition completed in 1986, Reich recalls, "at that point I wasn't thinking about

African music at all. African music was inside of me.” (2005) Ultimately, his style became so convincing that Russell Hartenberger, the original percussionist in Reich’s ensemble and the recipient of a PhD in World Music from Wesleyan University, characterized his music as “another non-Western music, or partial Western music.” (Hartenberger 2004)

The ways in which Ewe music is structured have clearly affected Reich’s compositional thinking, yet he is quick to point out that his visit to Ghana in 1970 was only a confirmation of the approaches to composition he had already taken and the path he was about to pursue. (Reich 2002, 67) However, there is marked shift in his compositional style beginning with “Drumming” in 1971, and striking connections in his subsequent pieces begin to appear.

He has described the experience of going to Ghana as a “pat on the back” (Reich 2005) and a “big green light” (Duckworth 1995, 305) – the latter for encouraging him to follow his artistic convictions into a new phase of his career – but Reich’s trip served a purpose greater than “to learn African structures by playing them, and to experience drumming as a serious music.” (Schwarz 1981-82, 230) Through an analysis of general characteristics, such as repetition and instrumentation, and specific features of temporal organization and rhythmic structure in some of Reich’s music, we will come to a greater understanding of how Ewe music has impacted his work. In addition, by drawing upon specific practical performing and pedagogical experiences of this author, ways of overcoming problems encountered when learning and performing some of Reich’s works will be illustrated.

3.1 Contextual features, instrumentation, and general characteristics regarding the organization of time

3.1.1 Repetition and Constant Pulse

Reich's repertory features some very consistent characteristics. In particular, the structural use of repetition and a constant pulse are traits of Reich's works from the mid-1960s through to the present day. Schwarz writes, "Reich considers a clear rhythmic pulse to be one of the prime elemental forces shared by all world music – whether African, Indonesian, Indian, jazz, or Western Baroque – and he feels it is an essential element of his musical style." (Schwarz 1980-81, 378)

These same characteristics are found throughout Ewe music, but in Reich's case it is unclear whether they originated in his pieces for tape loops, such as "It's Gonna Rain" (1965), "Come Out" (1966), and "Melodica" (1966), or were grounded in his exposure to African and African-American music. Whatever the case, the structural use of repetition and a constant pulse in Reich's music express a close connection to Ewe music, and had unexpected, far-reaching effects throughout the artistic community. These features inadvertently encouraged interdisciplinary collaboration, specifically through the addition of choreography to several of Reich's compositions, thereby establishing parallels to the multi-faceted nature of Ewe artistic performance.

3.1.2 Choreography

Since 1973, Laura Dean, Anna Teresa De Keersmaeker, and Jiri Kylian have created original choreography to compliment some of Reich's works. Repetition and a constant pulse provide a solid foundation upon which to construct a related choreography, and this is apparent in the number of Reich's compositions that have been choreographed. Dean's "Walking Dance" (1973) is based on the structure of "Clapping Music" (Dean 1975, 22), and she commissioned "Sextet" (1984-86) specifically as a dance-oriented composition. (Reich 2002, 131) De Keersmaeker's "Fase: Four Movements on the Music of Steve Reich," first performed in its entirety in 1982, is based on "Piano Phase," "Come Out," "Violin Phase," and "Clapping Music" (Kerkhoven 1986, 100-02), her "Drumming" (1998) is based on the Reich work of the same name, and "Rain" (2001) is based on "Music for 18 Musicians." Lastly, Kylian's "Falling Angels" (1989) was written to Reich's "Drumming – Part I."

Aside from its influence in modern dance, Reich's music has affected audiences in the popular realm as well. "Reich Remixed," released by Nonesuch Records in 1999, is a collection of ten Reich compositions remixed by DJs from across the globe. Classified as "Electronica" (Davis 1999, 119) and "Hip-hop" (Alper 2000, 4) it is marketed towards those interested in the night-club dance scene, and succeeds in escaping the long association with Western art music with which Reich's music has been identified thus far.

With the exception of “Sextet” Reich may not have originally intended his works to be choreographed, but their use by modern dance choreographers and popular DJs provides evidence that repetition and pulse are inescapably linked to dance. Furthermore, the inclusion of a choreographed component demonstrates a relationship to Ewe music.

3.1.3 Circular time

Similar to Ewe music, the concept of time in Reich’s music can be described as circular. This feature is achieved through extended repetition containing easily recognizable, memorable rhythms. Steve Schick, a percussion soloist, describes Reich’s “Drumming” as containing “tightly cycling periodic patterns” (Schick 2006, 240), and in reference to Jones’s transcriptions of Ewe music, Reich recounts, “[they looked] like a bunch of tape loops spinning around, all landing in different places.” (Smith 1995, 217) Words such as “cycling” and “spinning” portray a circular image, and draw comparisons to the “circular or spiral, not linear, rhythmic character” of Ewe music. (Locke 1998, 217-18)

3.1.4 Instrumentation: The move to percussion

The first noticeable change in Reich's compositional approach following his trip to Ghana occurred with regard to instrumentation. One observes that Reich's instrumental music (pieces not electronic-based or intended for tape loops) composed until 1970 features non-percussion instruments played using percussive techniques. "Piano Phase" (1967), "Violin Phase" (1967), "Four Organs" (1970), and "Phase Patterns" (1970) can be characterized as such because of their rhythmic, repetitive nature and, in some cases, the way in which articulate, punctuated groups of notes unfold into longer strains over time. However, none of these pieces features percussion instruments exclusively or even prominently.

Reich says that his trip to Ghana "confirmed [his] intuition that acoustic instruments could be used to produce music that was genuinely richer in sound than that produced by electronic instruments," (Reich 2002, 67) and this is evident in the compositions he created after returning to America. Beginning with "Drumming" (1971), Reich's output relies heavily on the instrumental resources of the percussion family, including bongos, marimba, glockenspiel, and vibraphone, among others, and thereby places a clear focus on acoustic instruments in general, and percussion instruments in particular.

"Drumming" represents a strong connection to Ewe musical structures for other reasons as well. Its use of repetition, employment of a constant pulse, reliance on live performance in an ensemble format with strictly controlled improvisation, and its adherence to polyrhythmic textures in which patterns seem to have non-coinciding

downbeats are akin to the way music is structured in the Ewe context. While some of these elements may have been featured in Reich's compositions prior to his trip to Ghana, when combined in this single composition they establish indisputable parallels with Ewe rhythmic structures and systems of temporal organization.

Within Reich's repertory there are isolated examples of instruments functioning in the same manner as those within the Ewe percussion ensemble. For instance, the vibraphone player in "Music for 18 Musicians" assumes a role similar to the master drummer, cueing specific entrances and signaling formal changes (Figure 17). Other members of the ensemble respond accordingly, thereby performing a supporting or responding function. In this particular example, noticeable changes in the parts performed by the clarinets, voices, violin, and cello are heard after the vibraphone cue. The marimbas and pianos, however, remain unchanged.

Figure 17 The vibraphone player in “Music for 18 Musicians” functions as a master drummer

The musical score is for "Music for 18 Musicians" by Steve Reich. It features a variety of instruments and voices. The vibraphone part is marked with a "cuc" (cucurru) sound effect and a "mf" (mezzo-forte) dynamic. The piano parts are marked with a "mf" dynamic. The voices are marked with a "mf" dynamic and have lyrics "doo" and "ee". The score is divided into two systems, (1-115) and (12-48). The first system (1-115) includes a repeat sign and a "cuc" mark. The second system (12-48) includes a "last repeat" mark and a "repeat until cuc" mark. The vibraphone player's role is to function as a master drummer, providing a rhythmic foundation for the other instruments and voices.

Clarinets 1,2 (1-115) repeat until cuc cuc begins (12-48) last repeat div. repeat until cuc

Vibraphone cuc mf Ped. Lv.

Marimba 1

Marimba 2

Marimba 3

Piano 1

Piano 2

Piano 3

Voices 1,2 mf doo doo doo doo doo doo doo doo doo

Voice 3 ee ee ee ee ee

Violin mf

Violoncello mf

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3.1.5 Communal participation

Communal participation is a fundamental component of several Reich compositions. As mentioned previously, this is one of the contextual features associated with Ewe music that Reich observed while studying and performing Ewe music in Ghana in 1970. One observes the role of communal participation in "Music for 18 Musicians" because of the "interactive feedback network" (Locke 1998, 7) that is established among members of the ensemble during call-and-response passages; however, it is also apparent in other instances.

Steve Schick notes that "Drumming" assigns responsibility to each member of the ensemble in order to ensure a successful performance, thereby aligning the performance of this piece with the aims of Ewe communal music-making. For example, when discussing Reich's "utterly ingenious dual model for musical coexistence within a discontinuous cultural environment" in relation to his adoption of Ewe structures in "Drumming," he mentions the "unique rapport" established "among no fewer than twelve musicians ... as they rehearse and perform the piece." (Schick 2006, 234)

Equally telling is Schick's description of his experiences first learning and performing "Drumming." Schick is one of the world's foremost percussion soloists, having performed to critical acclaim in Europe and North America, and having premiered works such as David Lang's "Anvil Chorus," Xenakis's "Rebonds," and Ferneyhough's "The Bone Alphabet," (Ibid., 238) yet, at first, he was unable to execute the much simpler technical requirements of "Drumming." He admits, "I had just come off a performance

of 'Bone Alphabet,' arguably the most difficult work in the entire solo percussion repertoire, and now I was routinely being defeated by eighth and quarter notes." (Ibid., 239)

Schick continues,

Years of playing complex music had prepared me for certain kinds of technical difficulties and a certain quality of joy in performance. I thought I had seen everything, but 'Drumming' opened the doors to a completely new set of problems and experiences for me. On a technical level, none of the rhythmic patterns was difficult to learn, but holding a rhythm in a loop of repetition, sometimes for many minutes, while other players phased against it *was* difficult.¹⁸... That much repetition left me without a constant stream of varied problems to solve. And without a rapidly changing and highly differentiated set of problems, I literally did not know what to *think* as I played 'Drumming' [Schick's emphases].

(Ibid., 238)

Schick was eventually able to understand this composition by accepting that, similar to Ewe music, the "first goal was to assure the rightness of the community – if everybody sounds good together then that means that you are playing your part well" and by moving his "focus away from [the] personal task to the communal task." (Ibid., 239)

Therefore, Schick suggests,

Beyond pointing to a model of cultural coexistence, 'Drumming' also demonstrates a new way of musical interaction within a chamber ensemble. ... In fact nowhere else in the entire chamber music repertoire for percussion is there an example of such a mutually dependent and communally reinforced musical structure. Stewardship of the piece is a group concern, progressing as one player after another completes his or her specific task(s).

(Ibid., 241)

¹⁸ Phasing is a performance process unique to Reich's music. It features two performers initially playing a pattern in rhythmic unison. One designated performer then speeds up temporarily, causing an audible aural shift between patterns, then realigns with a further point in relation to the original pattern.

My own experience learning “Drumming – Part I,” under the guidance of Russell Hartenberger, corroborates Schick’s impressions. With the exception of phasing, and even that process can be mastered, “Drumming” does not present any rhythmic challenges that a novice to contemporary Western percussion could not overcome. The difficulties of the piece lie in maintaining focus within a highly repetitive environment, and learning to trust the intuition and leadership of others in order to achieve a successful performance.

3.2 Specific principles governing the organization of time

With “Drumming” Reich’s preference for instrumentation changed. He established a live ensemble to perform communal-based music, and elements such as repetition and a constant pulse remained as the backbone of his methods. Ensuing works, such as “Clapping Music” (1972), “Music for Pieces of Wood” (1973), and “Sextet” (1984-86) maintain these characteristics, but feature a change in source materials, exhibit new polyrhythmic procedures, and demonstrate new, innovative ways of connecting to Ewe musical structures. A brief overview of rhythmic structure and temporal organization in each of these pieces will reveal this cross-cultural connection.

3.2.1 Periodicity and the time line

Many of Reich’s compositions, including “Clapping Music,” “Music for Pieces of Wood,” and “Sextet,” are based upon the principle of periodicity, because they contain repetitive, recurring patterns that govern the progression of time. Each period, or “temporal loop,” that “provides a temporal framework for rhythmic events” (Arom 1989, 91) also contributes to a dense, intricate polyrhythmic texture and functions similarly to Ewe music.

One particular type of period, the time line, is featured throughout numerous compositions. It provides a governing role with regard to temporal organization and, more importantly, acts as a point of reference for other instruments in the ensemble. Most of Reich’s chamber music is to be performed without a conductor, and the polyrhythmic

nature of his music necessitates the inclusion of a cohesive structural figure. The time line within Reich's music provides this function.

“Clapping Music” contains an original time line that governs the piece from start to finish (Figure 18). It is the first of Reich’s pieces to exhibit this structural feature, but due to its appearance in subsequent works, this time line has been referred to as Reich’s “signature pattern.” (Hartenberger 2004)

In “Clapping Music” the signature pattern is executed by the first performer, and functions as a point of reference for the second performer throughout the duration of the work. The primary relationship (in Anku’s terms) created between the first and second parts allows the latter to perform a dynamic, changing pattern while constantly maintaining a connection to the time line.

Figure 18 **Reich's signature pattern**

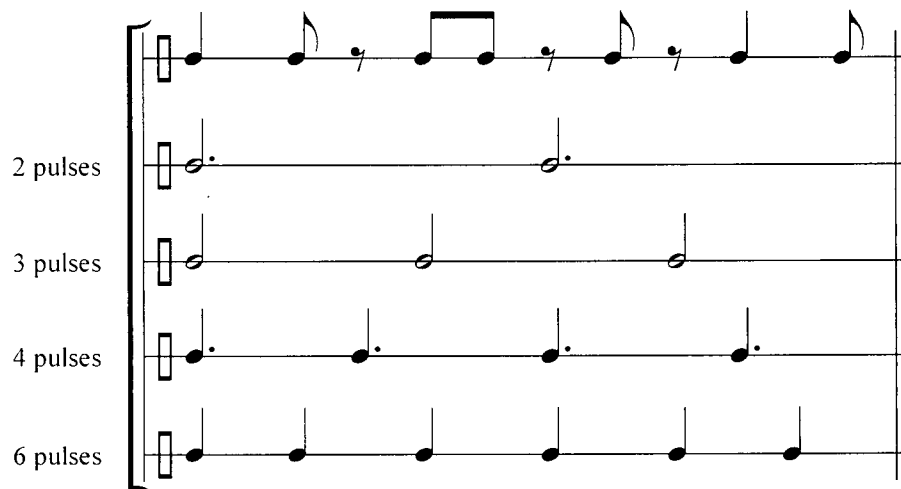


Not only does this pattern function identically to an Ewe time line, it is actually derived directly from a particular one – the Agbekor time line (Figure 19), also identified as the “standard pattern.” It appears here as a notational variation from Figure 9 in Chapter 1, and is reintroduced in this manner to more closely compare it to the pattern introduced by Reich.

3.2.2 Metrical ambiguity

Additionally, Reich recognized the Agbekor time line's metrical ambiguity and the many perceptual possibilities accompanying it (Figure 21), and sought to create his own "signature" pattern that could embody similar characteristics. (Hartenberger 2004)

Figure 21 Metrical ambiguity of the Agbekor time line



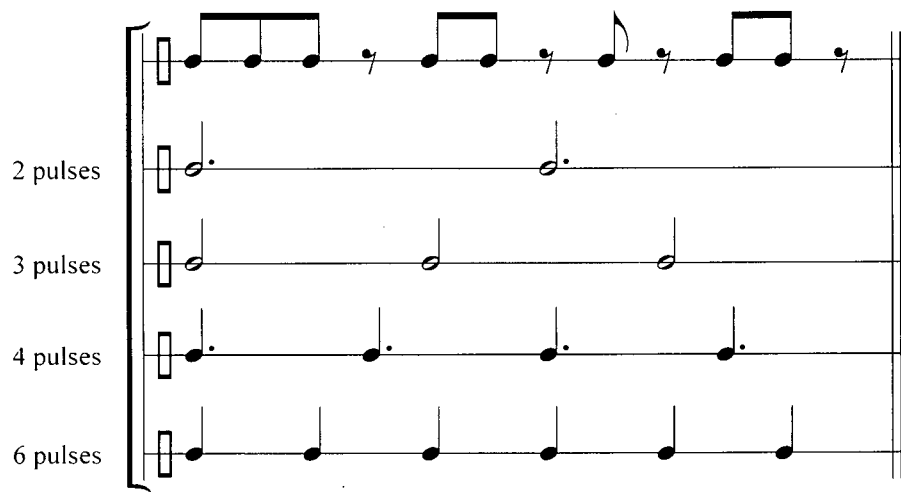
Reich articulates an understanding of metrical ambiguity well:

If you're gonna write repetitive music, intuitively I understood that if it was rhythmically flat-footed or obvious, people were going to get bored. That's just good, common musical sense. So you have to have something whereby, where the beginning is and where the end of the pattern is, is kind of ambiguous. When it begins to get repeated you begin to hear it in different ways. And you've got to build that into the music. That's got to be a compositional choice.

(2005)

Figure 22 shows how Reich's signature pattern can be perceived in a number of ways, and demonstrates that these two time lines are equally ambiguous.

Figure 22 **Metrical ambiguity of Reich's signature pattern**



When first becoming acquainted with Reich's music the metrical ambiguity of his signature pattern can be disorienting. Therefore, in a composition such as "Clapping Music," for instance, choosing a succession of pulses to guide each part can be helpful.

Figure 23 shows that each repeated section is governed by a time line (Clap 1). The static, recurring nature of this part establishes a point of reference for Clap 2; however a pre-determined succession of pulses is particularly useful for the latter performer in order to navigate successfully through each continuously changing section.

Figure 23 The first three of twelve sections in “Clapping Music”



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Considering that Figure 22 provided four metrical conceptions for Reich’s “signature” pattern, how does one choose which meter will work best? Knowledge of Ewe music is extremely helpful, and in this situation provides the single most effective tool when learning Reich’s music. Recognizing that Agbekor is characterized by a succession of four pulses (as determined by the placement of the dancers’ feet), and understanding the direct relationship between this pattern and Reich’s pattern, I choose to think of each of Clap 2’s patterns in reference to this particular metrical grouping.

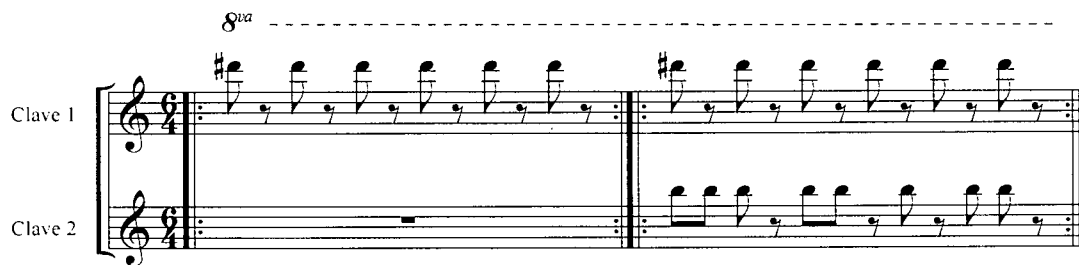
Although first appearing in “Clapping Music,” Reich’s signature pattern is a cohesive force in many other works, including “Music for Pieces of Wood” (1973), “Music for 18 Musicians” (1976), “Sextet” (1984-86), “Nagoya Marimbas” (1994), and “You Are (Variations)” (2004).

Some compositions, such as “Music for Pieces of Wood,” employ more than one time line. In this instance Clave 1 articulates various groups of pulses, suggesting meter, while Clave 2 executes each of the piece’s three time lines. This example is taken from

the opening section of “Music for Pieces of Wood” and features Reich’s signature pattern.

From Figure 24 it is clear that the composer wishes both the performer and the listener to conceive of the time line as a succession of six pulses.

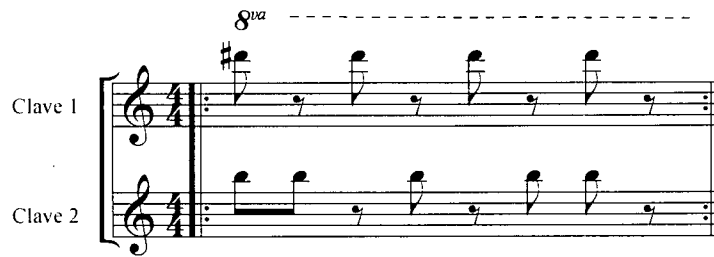
Figure 24 The time line in the first section of “Music for Pieces of Wood” is characterized by a succession of six pulses



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In Figure 25, taken from the second section of this composition, the time line performed by Clave 2 is placed in reference to a meter containing four pulses.

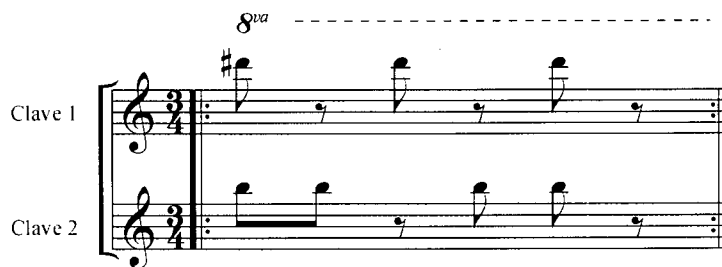
Figure 25 The time line in the second section of “Music for Pieces of Wood”



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The time line of the composition’s third section is based on a succession of three pulses, but it is also metrically ambiguous (Figure 26). While the stated time signature is 3/4, the two pairs of eighth-notes performed by Clave 2 create a duple division, producing a vertical cross-rhythm relationship, and suggesting an alternate impression to the listener.

Figure 26 The time line in the third section of “Music for Pieces of Wood”



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Having performed “Music for Pieces of Wood” on a number of occasions, I believe that conceiving of each of Clave 2’s patterns as a time line leads to a unified, successful presentation. From a performer’s perspective this approach is extremely valuable because it immediately provides an understandable structure that can be communicated concisely and effectively to others.

The following example (Figure 27) equates Anku’s description of the function of the time line in Ewe music to the process of gradually substituting beats for rests in each section of “Music for Pieces of Wood.” As individual patterns are constructed in this fashion, one is reminded how the time line can guide performers through this process:

As the relationships during the piece unfold in intensity and complexity, there is often a need to make frequent reference to the time line for confirmation of entries. This is especially important at changes in pattern orientation and with the introduction of complex staggered rhythms.

(Anku 1997, 217-18)

Figure 27 The time line functions as a point of reference in “Music for Pieces of Wood”

Clave 1

Clave 2

Clave 3

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There are corresponding pedagogical applications for this as well. The success of this approach was confirmed by students of mine at Simon Fraser University’s School for the Contemporary Arts as they prepared this composition for their Contemporary Music Performance class. Conceiving of the three patterns of Clave 2 as time lines against which other rhythms develop provided a solid point of reference for the performers, and assisted them in maneuvering through the composition. Considering that the School for the Contemporary Arts does not offer a degree in Music Performance, and most students have very little performance experience, the ease with which they comprehended and performed this piece also validates this conception.

3.2.3 Polyrhythm

Reich's music is undoubtedly polyrhythmic. The interplay of multiple rhythmic parts in compositions discussed thus far suggests that this is the best descriptor. However, Reich also characterizes his compositional procedures as "contrapuntal" and being "based on canon," (Reich 1988, 272-3), aligning his work with centuries-old practices in Western art music.

There are four identifiable features that separate Reich's use of polyrhythm from its Western historical predecessors: (1) the amount of repetition associated with the presentation and development of polyrhythm, (2) the high level of complexity regarding the internal organization of rhythms used in polyrhythmic construction, (3) the use of various West-African time lines or Ewe-derived patterns such as Reich's "signature" pattern as preferred source materials, and (4) the employment of both vertical and horizontal cross-rhythms as a method of increasing metrical ambiguity. When combined, these features exemplify a strong connection to Ewe music, demonstrating that Reich's music is indebted to sources outside of the Western art music tradition.

The structural use of repetition is a central feature of Reich's compositions, but this is also characteristic of many musics throughout the world. However, the amount of repetition the composer routinely employs in association with polyrhythmic textures demonstrates a close connection to Ewe music in particular. In his analysis of West African music versus its counterparts in the Western art music tradition, Agawu corroborates this connection: "what perhaps distinguishes the African usages [of

polyrhythm] is the degree of repetition of the constituent patterns, the foregrounding of repetition as a *modus operandi*.” (2003, 81)

The high level of polyrhythmic complexity achieved by many of Reich’s compositions is due to the number of individual parts that comprise the overall texture – with at least two parts appearing always to have different starting points, and to the metrical ambiguity of each part. For example, when Reich’s signature pattern is combined in stratified layers with staggered points of entry, polyrhythmic complexity is heightened.

Recalling Arom’s views concerning polyrhythm in various African contexts, one is reminded again of cross-cultural similarities in polyrhythmic construction:

The degree of complexity of a polyrhythmic piece is not a function of the number of parts alone. It can depend equally, if not more, on the internal organization of each one. Thus the more ambiguity ... there is in the rhythmic content of the superposed figures, the more complex the resulting polyrhythmics will be.

(1989, 97)

The use of an Ewe-derived pattern in Reich’s music, and the metrical ambiguity with which it is associated, has been discussed above; however, in reexamining “Clapping Music” and “Music for Pieces of Wood,” we will observe how Reich’s signature pattern creates polyrhythm involving at least two distinct parts.

“Clapping Music” presents one of the composer’s simplest polyrhythmic textures. Apart from the opening measure in which the two parts appear in rhythmic unison, the subsequent twelve contrasting sections present twelve different polyrhythms executed

without metrical accent. (Reich, “Directions for Performance” contained in “Clapping Music”) Figure 28 shows the first two of these twelve polyrhythms.

Figure 28 The first two examples of polyrhythm in “Clapping Music”



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In subsequent compositions Reich expands further his use of polyrhythm, often introducing more than two distinct rhythms at once. Figure 29 and 30, taken respectively from measures 44 and 59 in “Music for Pieces of Wood,” exemplify how polyrhythm is created by the juxtaposition of at least three distinct parts.

Figure 29 **Measure 44 in “Music for Pieces of Wood”**

8va -----

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Figure 30 **Measure 59 in “Music for Pieces of Wood”**

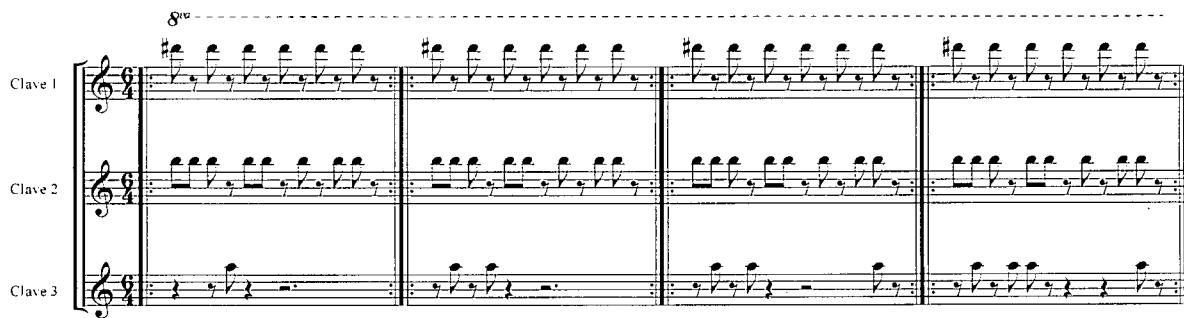
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Originating in “Drumming,” and appearing in an altered form in “Music for Pieces of Wood,” is a process in which individual parts are constructed by successively substituting beats for rests.²⁰ This process is illustrated here by the Clave 3 part in relation to Claves 1 and 2 (Figure 31), and demonstrates how a continuously evolving polyrhythmic texture can be based upon a succession of rhythmic fragments, rather than by juxtaposing entire patterns.

²⁰ In “Drumming – Part I” two, three, or four players construct the same pattern simultaneously on two or four pairs of tuned bongos. However, in “Music for Pieces of Wood,” Claves 3, 4, and 5 enter successively, with the next player beginning only when the previous player has fully established his or her complete pattern.

Figure 31 The process of substituting beats for rests in “Music for Pieces of Wood”



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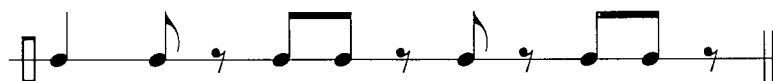
Basing polyrhythmic construction on a succession of rhythmic fragments creates a constantly shifting soundscape – one in which the metrical ambiguity of constituent patterns comes to the forefront for both the performer and the listener. This procedure also demonstrates Reich’s attempt to derive as many innovative compositional procedures as possible from a single source – in this case his signature pattern.

In “Sextet” Reich relies on a more diverse selection of source materials and increases textural contrast in order to expand his method of polyrhythmic writing. In this composition he continues to employ his signature pattern, yet, for the first time in any of his works, he incorporates authentic African rhythms: (1) the Agbekor time line and (2) a time line introduced in Chapter 1 as that used by the Babenzele of the Central African

Republic, the Mende of Sierra Leone (Stone 2005, 82), and the Yoruba of Nigeria.²¹ (Agawu 2003, 75) This latter time line (Figure 32) will be referred to henceforth as the “Babenzele time line.”

When I interviewed him in 2005, Reich acknowledged the influence of the Agbekor time line in “Sextet.” Furthermore, due to Reich’s knowledge of and experience with Ewe music, combined with the prominence of this time line throughout West Africa, as suggested by Stone and Agawu, I contend that he would have been familiar also with the Babenzele time line.

Figure 32 The Babenzele time line



Apart from the incorporation of metrically ambiguous time lines, polyrhythmic tension is heightened in “Sextet” through textural contrast created by different groups of instruments. In other words, “Clapping Music” and “Music for Pieces of Wood” feature polyrhythm produced in homogenous textures - by hand claps and claves respectively; however, in “Sextet” Reich relies on the various timbres of pianos, marimbas, and vibraphones, among others.

²¹ In *Writings on Music* the composer describes how he created melodic material for the first movement of “Electric Counterpoint” (1988) from a transcription of Central African horn ensemble music provided in Arom’s *African Polyphony and Polyrhythm*. “Electric Counterpoint” marks the first use of authentic melodic material taken from an African context; however, “Sextet,” completed two years earlier, marks the first use of authentic African rhythms.

An in-depth discussion of the relationship between Reich’s “Electric Counterpoint” and its source is given by Martin Scherzinger in a paper titled “The African Impact on Western Arts Music: The Case of Steve Reich” presented at the Society of Ethnomusicology Conference in November 2004.

Figure 33 shows a melodic version of Reich's signature pattern commencing in two distinct points within the measure performed by Marimbas 1 and 2. A variation of the signature pattern that extends it to two measures in length, and also features non-corresponding entrances, is heard in the parts performed by Vibraphones 1 and 2. Pedaling indications in these parts create sustained sounds that contrast with the earlier, non-pedaled vibraphone parts, and with the attacks of the marimbas and electric piano.

Figure 33 "Sextet," rehearsal number 51 in Movement I

Electric Piano or Synth

Marimba 1

Marimba 2

Vibraphone 1

Vibraphone 2

Reich SEXTET
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In addition to Reich's signature pattern, the Agbekor time line becomes the basis of rhythmic source material throughout Movement V. It is heard continuously from the opening Movement V (two measures after rehearsal number 169) to the piece's conclusion (eight measures after rehearsal number 215) (Figure 34).

Figure 34 “Sextet,” one measure after rehearsal number 169 in Movement V

The image shows a musical score for two instruments: Vibraphone 1 and Marimba 1. The Vibraphone 1 staff is marked with a series of 'x' symbols above the staff, indicating a rhythmic pattern. The Marimba 1 staff shows a series of eighth notes with stems pointing down, indicating a rhythmic pattern. The two staves are aligned, showing the relationship between the two instruments.

Reich SEXTET
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Figure 35 demonstrates further the structural significance of the Agbekor time line in “Sextet.” At rehearsal number 178 Vibraphone 1 is in rhythmic unison with Marimba 1, and, similar to the function of the time line in Ewe music, these two instruments provide a point of reference for the rest of the ensemble. Vibraphone 2 is in rhythmic unison with Marimba 2; however, depending on the starting point perceived by the listener, the latter two instruments can be heard playing either the Agbekor time line, or the Babenzele time line.

Figure 35 “Sextet,” rehearsal number 178 in Movement V

The musical score consists of four staves. The top two staves are for Vibraphone 1 and Vibraphone 2, and the bottom two are for Marimba 1 and Marimba 2. All staves are in treble clef. Vibraphone 1 and 2 play a sequence of single notes with eighth and sixteenth rests. Marimba 1 and 2 play chords with eighth and sixteenth rests. The score is for rehearsal number 178 in Movement V of 'Sextet' by Reich.

Reich SEXTET
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Beginning at rehearsal number 183, the composer demonstrates other procedures that add to polyrhythmic complexity (Figure 36). Reich extends the period of the Piano and Vibraphone parts from one measure to two measures. While only the pitch content changes in the parts for Pianos, in the case of the Vibraphones, this extension provides a longer grouping structure within which to juxtapose successively the Agbekor and Babenzele time lines.

Figure 36 “Sextet,” rehearsal number 183 in Movement V

Piano 1

Piano 2

Vibraphone 1

Vibraphone 2

Marimba 1

Marimba 2

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Reich uses a two-measure grouping to heighten polyrhythmic complexity in other ways. Figure 37 shows how Reich employs both the Agbekor and the Babenzele time lines at two speeds concurrently. At rehearsal number 200 in Movement V, Marimba 1 and the left hand (lower line) of Vibraphone 1 perform the Agbekor time line within one measure. As in Figure 35, Marimba 2 and left hand (lower line) of Vibraphone 2 execute what can be heard as either the Agbekor or the Babenzele time lines within one measure. However, the Agbekor time line is extended over two measures in the right hand (upper line) of Vibraphone 1, and is supported by Piano 1. Similarly, the right hand (upper line) of Vibraphone 2 performs a time line over two measures and is supported by Piano 2.

Figure 37 “Sextet,” rehearsal number 200 in Movement V

The musical score for Figure 37, rehearsal number 200 in Movement V, is a sextet. It consists of six parts: Piano 1, Piano 2, Vibraphone 1, Vibraphone 2, Marimba 1, and Marimba 2. The score is written in 4/4 time and consists of two measures. The Piano parts play a series of chords, while the Vibraphone and Marimba parts play a rhythmic pattern of eighth notes. The Vibraphone parts play a series of eighth notes, while the Marimba parts play a series of chords. The score is written in a standard musical notation with a treble and bass clef for the Piano parts, and a single treble clef for the Vibraphone and Marimba parts. The Vibraphone parts are written in a single treble clef, while the Marimba parts are written in a single treble clef. The score is written in a standard musical notation with a treble and bass clef for the Piano parts, and a single treble clef for the Vibraphone and Marimba parts. The Vibraphone parts are written in a single treble clef, while the Marimba parts are written in a single treble clef.

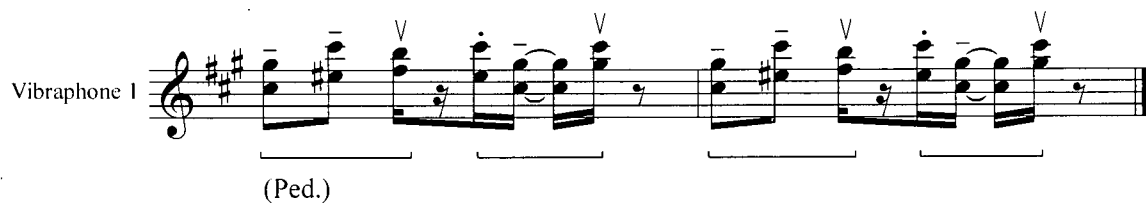
Reich SEXTET
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3.2.4 Cross-rhythm

Cross-rhythm is also an integral part of Reich's polyrhythmic writing. He explains that the juxtaposition of conflicting groups of pulses helps to create metrical ambiguity, and "in music that uses a great deal of repetition ... it is precisely these kinds of ambiguities that give vitality and life." (2002, 134)

Throughout "Sextet" there are numerous examples of cross-rhythm, particularly in the third and fifth movements. In the third movement, for example, the composer develops cross-rhythm by alternating punctuated groups of three and four pulses against a static repeating pattern. This latter part begins as a solo by Vibraphone 1 at the beginning of the third movement and clearly establishes a triple meter (Figure 38).

Figure 38 "Sextet," rehearsal number 126 in Movement III



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The entrance of Vibraphone 2 two measures before rehearsal number 128 creates polyrhythmic tension, but the meter established by Vibraphone 1 remains unchallenged (Figure 39).

Figure 39 “Sextet,” rehearsal number 129 in Movement III

Vibraphone 1

Vibraphone 2

f

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In addition, at rehearsal number 129 Piano 2 substantiates a triple meter by accenting three pulses in each measure (Figure 40).

Figure 40 “Sextet,” rehearsal number 129 in Movement III

Piano

Vibraphone 1

Vibraphone 2

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However, beginning at rehearsal number 130 Piano 1 enters with four pulses to each measure, supported by Piano 2 along with the two Bass Drums (Figure 41). Placed against Vibraphone 1, these two groups express a 4:3 vertical cross-rhythm relationship.

Figure 41 “Sextet,” rehearsal number 130 in Movement III

The musical score for Figure 41 is arranged in five systems, each representing a different instrument or group of instruments. The key signature is two sharps (F# and C#), and the time signature is 4/4. The score is divided into two measures by a vertical bar line.

- Piano 1:** The top system shows Piano 1 playing a series of four pulses (quarter notes) in each measure, marked with a 'V' above the notes.
- Piano 2:** The second system shows Piano 2 playing a series of four pulses (quarter notes) in each measure, marked with a 'V' above the notes.
- Vibraphone 1:** The third system shows Vibraphone 1 playing a series of four pulses (quarter notes) in each measure, marked with a 'V' above the notes.
- Vibraphone 2:** The fourth system shows Vibraphone 2 playing a series of four pulses (quarter notes) in each measure, marked with a 'V' above the notes.
- 2 Bass Drums:** The bottom system shows two Bass Drums playing a series of four pulses (quarter notes) in each measure, marked with a 'V' above the notes.

The score illustrates a 4:3 vertical cross-rhythm relationship between the Piano 1 and Vibraphone 1 parts, as well as between the Piano 2 and Vibraphone 2 parts.

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The procedure of juxtaposing pulses of four against three continues between rehearsal numbers 129 to 143, comprising 36 measures of material. Cross-rhythms occurring here are emphasized further by the change in register in the first piano part. Figures 42a and 42b provide a more comprehensive picture of how cross-rhythm unfolds in movement three.

Figure 42a "Sextet," rehearsal numbers 129-130 in Movement III

129

130

Piano 1

Piano 2

Vibraphone 1

Vibraphone 2

2 Bass Drums

f

mf

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Figure 42b "Sextet," rehearsal numbers 131-132 in Movement III

131

132

p *loco*

Pno. 1

Pno. 2

Vib. 1

Vib. 2

2 B. Drs.

mf *mp* *mp* *mf*

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Cross-rhythm appears again in Movement V of “Sextet” at rehearsal number 180. In this instance Reich integrates cross-rhythms horizontally in a 4:3 ratio into the two piano parts only (Figure 43). This present use disguises cross-rhythm more subtly from its overt, vertical appearance in the third movement (Figures 42a and 42b).

Figure 43 “Sextet,” rehearsal number 180 in Movement V

The musical score for Figure 43 consists of six staves. The top two staves are for Piano 1 and Piano 2, both in bass clef. The bottom four staves are for Vibraphone 1, Vibraphone 2, Marimba 1, and Marimba 2, all in treble clef. The piano parts feature a 4:3 cross-rhythm, with Piano 1 playing a sequence of notes that aligns with a 4-beat cycle and Piano 2 playing a sequence that aligns with a 3-beat cycle. The vibraphone and marimba parts provide a harmonic accompaniment with chords and single notes.

Reich SEXTET
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In his description of cross-rhythm in some examples of African music, Chernoff makes an observation that resonates well with our understanding of cross-rhythm in Reich's music:

the establishment of multiple cross-rhythms as a background in almost all African music is what permits a stable base to seem fluid. Stable rhythmic patterns are broken up and seemingly rearranged by the shifting accents and emphases of other patterns.

(1979, 52)

There are similarities in this statement to thoughts conveyed earlier by Reich: "in music that uses a great deal of repetition, I believe it is precisely these ambiguities that give vitality and life." (2002, 134) Although they describe musical features in two contexts separated by thousands of miles, Chernoff and Reich prove that Reich's music is very closely aligned to Ewe music.

4 CONCLUSIONS

The comparative analysis presented in the preceding two chapters suggests that fundamental features of Reich's music and Ewe music are structured similarly. Musical elements from each of these sources are closely aligned because of their analogous function, and as Reich explains, structural connections overshadow any superficial, aesthetic similarities. (Reich 2002, 70-1)

Reich's music and Ewe music employ repetition, are based on a constant pulse, are governed by time lines, and feature circular time. Metrical ambiguity is especially prominent in each of these contexts, as are polyrhythm and cross-rhythm. Table 2 on the following page provides a side-by-side comparison of the features presented.

While isolated elements such as repetition and polyrhythm are found in other musics throughout the world, the particular ways in which these elements function within Reich's music, and when combined with other recognizable aspects of temporal organization and rhythmic structure within a single composition, point unequivocally to Ewe music. The strength of these similarities is what encourages Hartenberger to characterize Reich's music as "another non-Western music, or partial Western music." (2004)

Table 2 **Comparison of elements between Ewe music and the music of Steve Reich**

Ewe Music	Reich's Music
Artistic Presentation	
combination of several media including music, dance, and drama.	particular focus on instrumental, and to lesser extent, vocal music; however, choreography has been added to several of his compositions.
Contextual Features	
communal participation	reliance on each member of the ensemble: focus on the communal task as opposed to the personal task.
Instrumentation	
percussion ensemble with a reliance on drums	reliance on percussion instruments, and in some cases instruments function similarly to those in the Ewe percussion ensemble (e.g., Music for 18 Musicians).
General Characteristics	
structural use of repetition	structural use of repetition
based on a single sequence of pulses	use of a constant pulse
periodicity	periodicity
circular time	circular time
Specific Characteristics	
use of time lines	use of specific West or Central African time lines as well as Reich's "signature pattern" - an African-derived rhythm.
metrical ambiguity	metrical ambiguity
polyrhythm	polyrhythm
cross-rhythm	cross-rhythm

Furthering this argument are thoughts conveyed by the composer through his own writings and in a personal interview. He recalls a fascination with African music to which he was exposed as an undergraduate student, and explains the impact of A.M. Jones's book during his formative years as a composer. Reich also mentions the importance of his trip to Ghana as a means of confirming his direction as a composer, and he describes how, over several years, his compositional language became a fusion of Western art music and Ewe musical concepts. By the time he wrote "Sextet" Reich admits that African music "was just gut level ... at that point it was just a part of me." (2005)

4.1 Applications of this study

After considering connections between Ewe music and Reich's music, a pivotal question is raised: How can awareness of these cross-cultural similarities assist the performer? From my own experience, I have embraced elements of temporal organization and rhythmic structure in Ewe music in order to learn and to perform Reich's music. I draw upon lessons learned from studying with Kwasi Dunyo and performing with his ensemble, Kekeli. In other words, I equate compositions by Reich that rely heavily on instruments from the percussion family with music for the Ewe or West African percussion ensemble.

In general terms, this study demonstrates that knowledge of non-Western music may assist in the performance of some contemporary Western art music. In particular, experience learning, analyzing, and performing Ewe music produces a set of transferable skills that can be applied to the music of Steve Reich. In light of the connections outlined

in this study, an appropriate step is to embrace Ewe music as an additional, complementary means of comprehending Reich's music. Structural elements common to these two contexts form the basis of successful learning and performance strategies.

I have also applied my experiences as a performer to pedagogy at the post-secondary level. Students of mine at Simon Fraser University's School for the Contemporary Arts were able to absorb concepts regarding temporal organization and rhythmic structure in Ewe music, apply them to Reich's music, and present accurate, informed performances of Reich's works with very little rehearsal time. The ease with which these ideas were transferred between and applied to two musical contexts, and the success of ensuing performances demonstrate that knowledge of Ewe music, can be a powerful tool when approaching the music of Steve Reich.

Steve Schick reached similar conclusions when he first encountered "Drumming." He was confounded initially at his inability to master the apparent simplicity of Reich's music. He attempted various technical and perceptual approaches in order to better understand "Drumming" – techniques that had assisted him in preparing successfully numerous complex works for solo percussion – yet he was unable to comprehend the processes and relationships operating within the music. Once he recognized the communal nature of Reich's music, including the assignment of responsibility to various members of the ensemble, and the focus on a group task as opposed to a series of individual tasks, he came to understand the nature of Reich's music and was subsequently able to perform "Drumming" with greater ease.

Testimony from Hartenberger and Reich also support these conceptions. When Reich was assembling an ensemble of musicians in the early 1970s, he recognized that those with experience in non-Western music best met the demands of the contemporary Western fusion he was creating. When asked if there was a particular type of musical background, or if there were specific qualities in the players for which Reich was searching, Hartenberger replied: "I think that a profile emerged as he saw which kind of percussionists were attracted to his music and were able to play it. ... I think he finally realized that the kind of players who were drawn to his music were those who also had an interest in world music." (2004) Furthermore, when asked if musicians with a background in non-Western music are better prepared than others without this experience to perform his music, the composer replied: "Yes, absolutely they are. ... I would say that players who had played some non-Western music were at an advantage." (2005) Reich also suggests that musicians with a background in jazz or rock understand the rhythmic feel demanded by his music.

These comments point to conclusions reached by Hood and Titon. In their discussion of bi-musicality they advocate basic musical training in non-Western musics,²² including performance-based and theoretical study, as a means to achieve an informed understanding of non-Western musical genres. This type of training augments one's knowledge of historical and contemporary examples of Western art music, and creates a holistic degree of musicianship ideally suited to the demands placed on today's performing musicians.

²² Mantle Hood first introduced bi-musicality, an approach to achieving fluency in non-Western musics through studies in basic musicianship. However, other ethnomusicologists such as Jeff Todd Titon have discussed its validity. See also: Hood, Mantle. 1982. *The Ethnomusicologist*. New Edition. Kent, Ohio: Kent State University Press, 32-34.

Hood suggests, “training in basic musicianship of one order or another is characteristic of cultivated music wherever it is found and to some extent is unconsciously present in the practice of ingenuous music.” (1960, 55) In other words, music students in numerous cultures of the world embark upon training, either informal or formal, that address music’s technical and expressive foundations. By extension, a Western student learning non-Western music in North America should follow a similar course of study. Furthermore, Titon endorses this approach because of how it shapes one’s awareness of broader socio-cultural aims: “bi-musicality can operate as a learning strategy, a strategy that not only leads to musical skills but to understanding people making music.” (1995, 289)

A music theorist and musicologist, Nuss outlines problems in the perception, analysis, and comprehension of non-Western musics by Western audiences. He suggests, “non-Western musics serve as important new ... analytical paradigms that, just as any significant cross-cultural exchanges, have the potential to force us to reexamine our ideas about what we and ‘they’ do and who we and ‘they’ are.” (2001, 263-4) His work is significant to this study because it proposes to eliminate barriers separating Reich’s music from Ewe music, and asks performers, scholars, and educators to design strategies for analysis and comprehension in order to learn and to perform compositions with cross-cultural characteristics accurately.

In a series of articles published since 1999 Nuss offers solutions to the philosophical and technical issues stemming from Reich’s incorporation of Ewe musical

elements.²³ Instead of bi-musicality he proposes musical multilingualism, suggesting the use of “multilingual/non-Western analytical methodologies” (1999, 55) as vehicles through which one can comprehend and appreciate both Western and non-Western musics. Most importantly, this demonstrates that there are reflexive, reciprocal applications to this approach: by understanding Ewe music, for example, we are better able to understand Reich’s music. Conversely, from our understanding of Reich’s music we are better able to comprehend Ewe music.

Nuss argues, “in light of the increasing trend by composers of all nationalities to cross borders, non-Western musics and music theories must also be blended into the contemporary analyst’s creative palette.” (1999, 105) Therefore, it is incumbent on us to achieve a degree a proficiency in musical multilingualism in order to meet the challenges presented by compositions that embrace Western and non-Western traditions.

²³ See: “‘Yes I Wrote It, But I Didn’t Mean It’: Hearing the Unintended in Niimi Tokuhide’s ‘Ohju’ (1988).” *Perspectives of New Music* 37.2 (Summer 1999): 51-115 and “Counterpoint: A Response to Bernard.” *Perspectives of New Music* 39.1 (Winter 2001): 260-264.

4.2 Potential for further research

Bi-musicality and musical multilingualism encourage innovative learning strategies when initially preparing a composition for performance, and even upon subsequent examinations of familiar works. In the case of “Drumming,” “Clapping Music,” “Music for Pieces of Wood,” “Music for 18 Musicians,” and “Sextet,” “an understanding and appreciation of a composer’s chosen borrowing(s) ... can broaden the overall goals and methods of analytical approach, enable an exploration of issues of bi- or multilingualism in a given composition, and bring a work into a broader spectrum of listener reception and appreciation.” (Ibid., 102)

Espousing a bi-musicality or musical multilingualism points to a paradigm shift in pedagogical approaches to music-making. More specifically, it encourages musicians to look to non-Western cultures for assistance in learning and performing Western art music, and it invites cross-disciplinary collaboration to achieve these results. Performers, ethnomusicologists, music theorists, and educators have a role to play in creating successful learning strategies.

This study aims to encourage inquiry into non-Western cultures. It proposes that we investigate how time and rhythm are structured and perceived in other environments in order to improve our understanding of these concepts. A comparison of temporal organization and rhythmic structure between Ewe music and the music of Steve Reich is but one isolated example of cross-cultural connections that provide effective strategies for understanding and performing contemporary Western art music. While focused and precise, it leads us to consider wider avenues of exploration. For example, can the study

of Karnatak (South Indian) rhythm theory, Balinese *kotekan*, or Cuban *clave* assist in the performance of twentieth and twenty-first century Western art music?²⁴ Will the study of other contemporary Western art music compositions with cross-cultural influences lead to a better understanding of non-Western cultures? Can non-Western approaches to rhythm and time be used to form a comprehensive curriculum for basic musicianship for Western music students?

This study was inspired by a handful of structural connections between Ewe music and the music of Steve Reich that I observed as a performer. As a closer examination began to reveal more similarities than I had originally anticipated, I also began to speculate on the multitude of practical performance skills that could be derived from a study incorporating a more diverse cross-section of world cultures.

Throughout the course of this study I reflected on my own musical training, and I recognized that I do not think of myself as a percussionist who specializes exclusively in non-Western music or contemporary Western art music. Simply put, I am a performing artist who specializes in music. Regardless of context I approach every composition with a set of skills fashioned from experiences gathered from a variety of musical environments - Western and non-Western. Of course, this is a perspective shared by many others. Performers that joined Reich's ensemble in the early 1970s already understood the value of studying non-Western music.

²⁴ Kotekan refers to interlocking, syncopated rhythms usually performed at fast tempi by pairs of instruments in the Balinese gamelan. Clave refers to one of several distinct time lines that govern rhythmic, melodic, and harmonic parameters in various forms of popular and folkloric Cuban music.

This vantage point is still in its infancy for it is not widely recognized as a viable approach by many academic institutions that focus primarily on Western art music. However, I trust that combined training in non-Western and Western musics will guide artists successfully through the many challenges of a career in music, for a broader scope invariably leads one to consider a wider realm of solutions.

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APPENDICES

Appendix A: Interview With Russell Hartenberger: Excerpts

DT: How did you become involved with Reich's ensemble?

RH: I was a student at Wesleyan University - a graduate student. I had been studying there for just about a year and was planning on going to Ghana in the summer to hear and to study African music. A friend of mine who was also a graduate student at the time, Richard Teitelbaum, knew that I was interested in going to Africa, and he was also friends with Steve Reich. Richard was a composer. He lived in New York City and knew Steve. He was familiar with the whole underground music scene that was emerging at the time. He knew that Steve was beginning to write this piece "Drumming" and that Steve had been to Ghana the summer before, in 1970. So he got us together, so that I could talk to Steve about Africa and Steve could talk to me about percussion. So we met, and Steve invited me to rehearsals, and that was the beginning of it.

DT: Were there any other percussionists involved at that time?

RH: No, I was the first real trained percussionist. The people playing at the time were Steve Chambers, who is a pianist, Arthur Murphy, who is a pianist, Jon Gibson who is a reed player, and Steve Reich.

Arthur Murphy had been a classmate of Steve's at Julliard along with Phil Glass and Peter Schickele. He became known as much as anything for his transcriptions of Bill Evans' piano solos, but now Arthur's not in music at all. He became a C.P.A. or something. Steve Chambers is also not really in music. He went to architecture school.

But Jon Gibson is interesting because he's probably the only performer who has played with Steve Reich, Phil Glass, and I think also with LaMonte Young and Terry Riley.

Those people were the first in Steve's group. I came in as the first percussionist, and at the time he was still working on the bongo section, and was just beginning work on the marimba section of "Drumming". Shortly after that Steve somehow got in touch with the Manhattan School of Music and was given the name of Jim Preiss, and then Jim was the next percussionist. Jim introduced Steve to several other percussionists – students of his – including Glen Velez and Gary Schall.

DT: To your knowledge, were there any specific qualities in the players for which he was looking? Was he searching for a certain type of player, or for players with a background in a certain kind of music?

RH: I don't think he knew at the time. I think that a profile emerged as he saw which kind of percussionists were attracted to his music and were able to play it. It was the kind of music, and it still is, that either you get it or you don't, or you like it or you don't, and you have a knack for playing it, or you don't.

I think he finally realized that the kind of players who were drawn to his music were those who also had an interest in World Music. Bob [Becker] was there, and Glen [Velez]. Glen eventually had that interest, but not at the time. When Glen started playing with Steve he was just a typical percussion student working on marimba [laughs]. It was actually through Bob and me that Glen became interested in frame drums. We told him that we were studying with Raghavan at Wesleyan, and Sarda Sahai, and I think he went there to study with Raghavan and discovered the kanjira. So that was his first frame drum - the South Indian tambourine.

DT: At the time when Reich was working on “Drumming,” he began to depart from the approaches he embraced in some of his earlier compositions in a number of ways – from increasing the size of the required instrumental ensemble to decreasing his reliance on electronic resources. In his earlier pieces, for example, he had written for tape loops and had composed for the Phase Shifting Pulse Gate.

RH: Yes, that [the Phase Shifting Pulse Gate] was kind of a contraption he made. But he had written “Violin Phase”, which was violin phasing against a tape. Then the first phase piece that was “mano a mano” was “Piano Phase.”

DT: So with “Drumming”, this was the first work that employed percussionists. Other than the maraca part in “Four Organs,” this was a change from what he had been doing before.

RH: Yes, in the sense that he actually needed real percussionists.

DT: What about Reich’s music may have challenged you personally as a performer? Compositional procedures employed in “Drumming,” such as phasing and resultant patterns, were relatively new, and definitely were not present in the works of other Western composers. Did you find those things difficult at all?

RH: I think phasing was different, but I don’t know if it was really difficult. It took some practice to be able to do it really well. I don’t exactly remember it being difficult. It just was a new thing. But I was being introduced to so many new things at the time, with non-Western music. It was another new thing. So it wasn’t like, “this is the most difficult thing that I have ever done”. In fact, it was just another challenge, but an interesting one.

DT: Did you feel technically challenged at all? From your experience with Western classical music, did you encounter anything that you physically couldn't do?

RH: No, not really. I think the things that were kind of challenging, or engrossing, were concentration – figuring things out - and endurance. But they both were kind of wrapped up in the study of non-Western music which presented the same kinds of situations.

DT: In your own teaching you stress both focus and concentration. Did this approach arise through your involvement with Reich's music, or had you already been thinking about them from your studies in non-Western music?

RH: All of this evolved at the same time. When I started playing with Reich it was probably early 1971 – February or March or something – and I had just started Wesleyan in September before that. So I had only been playing non-Western music for a few months. So it all kind of grew up together. In a way, Reich's music was another non-Western music, or partial Western music. It was part of the same package.

DT: There have been some heated discussions concerning how much Reich's music borrows from non-Western traditions, or whether his compositional style developed spontaneously. From reading some interviews with the composer he stated that his compositional style didn't have much to do with his trip to Ghana. From your own involvement with West African drumming or Indonesian Gamelan, could you comment on any similarities or parallels between them?

RH: Steve always says his trip to Ghana was kind of a confirmation of ideas that he already had. I think that's the term he uses. In "Drumming" the only thing that you

could say that was a direct influence might be the choice of a rhythmic pattern that was in six or twelve. I think he discovered, in African music, the ambiguity that happens when you use twelve. So, I think that was the only real thing, because phasing obviously isn't African and resultant patterns aren't, although short rhythmic fragments, I guess, could be considered African. Although, that had been established by Terry Riley in "In C" as a structural framework of the piece, and that aspect became very important in early in Minimalism with Terry Riley, Steve Reich and to a certain extent Phil Glass.

The fact that he uses drums... Steve said that the reason he chose bongos was because when he was a student at Julliard he heard a lunch-time concert by a bongo player who was using sticks on bongos and he really thought that that sound was dramatic. He didn't think about it much more until he started writing this piece for bongos, and he related it to that experience a little bit.

I think some of his other pieces have a little bit more direct influence. A good example is "Music for 18 musicians" which has vibraphone cues that would be similar to either master drum cues [in some styles of West African music] or drumming cues in *gamelan* that signal the whole mood to make a change. I think that's probably the structural idea that he got from those kinds of music.

It's interesting that in "Music for 18" there's this alternating beat that's very much like *amadinda* music, which Steve wasn't really familiar with at all. So Steve came up with that idea independently of that African tradition.

I think some of the interlocking patterns that he became involved with, not only in "Music for 18," but in his counterpoint pieces, are similar in a sense to *kotekan*. But they're also a result of his interest in canons. So I think there's more of a general

influence. I think that the fact that his pieces have a pulse, and quite often an instrument that keeps a pulse is somewhat influenced by that. I guess the “Clapping Music” pattern again is another example of a rhythmic pattern based on twelve that’s even more similar to the *Agbekor* bell pattern. I think he consciously wanted to come up with a pattern that was similar to that, but not that.

DT: And that rhythmic pattern, in particular, seems to be utilized in a lot of his compositions. “Sextet” comes to mind.

RH: Yes, and in “Music for 18” a lot. That’s kind of his signature rhythmic pattern. That, and the *Agbekor* bell pattern which he still uses a lot.

DT: In terms of musical considerations, were there any problems you encountered in ensemble performance, rehearsing, or learning to play as a unit when you first played his music?

RH: I don’t remember that so much in “Drumming”. Although in “Drumming” everything is amplified so you’re hearing stuff through speakers that are behind you. You hear a mix. I guess the only problems in “Drumming” are spatial, especially in the last section if you’re playing marimba. But you learn little techniques, visual techniques – different things to keep together. There’s a bit of a problem in “Six Pianos” just because of the size of the pianos, especially when it’s done on grands. But those are all acoustical problems, rather than problems having to do with his music.

By the time his pieces got up and going there were so many good percussionists. It was an All-Star cast. Everybody was conscious of the situation and could make adjustments.

DT: How about the interaction between the composer and the members of the ensemble? Was there an open dialogue between the two parties? When music was presented were you encouraged to give input, and did a piece eventually evolve out of a collective agreement?

RH: In the early days, for example with “Drumming”, we had rehearsals once a week. Every week we’d come in and there would be new material that he’d written during the week, and he would teach us mostly by rote. He would show you your pattern, and where it came in, what was going on against it, and you would just memorize that and do it. Occasionally somebody would make a suggestion about something, and he would take it into consideration and often adapt it and put it into his piece. They wouldn’t be major suggestions like “change this whole section,” or “cut this out.” They tended to be more simple kinds of suggestions, but he was always open to that.

In “Six Pianos” very much, there was a lot of feedback. “Six Pianos” started as a phase piece, and through various feedback from members of the group, he realized that it wasn’t working. It made him rethink the whole idea of continuing with phasing. Also in “Six Pianos” the register is kind of middle-range. We were playing and I made a comment, I remember, and some other people commented on the fact that we weren’t using the whole piano. We were only using a couple of octaves in the middle, and I think then he realized he needed to expand his vision – his orchestration vision - a little bit more. So he learned through those kinds of things. I think orchestration might have been something that he wasn’t as comfortable with or as familiar with, than some of the other compositional ideas.

I know that he knew something about percussion, because he was a percussionist. But when he was writing violin parts or wind parts he would often invite those players to his loft and go over the part and ask questions about what he was writing. So he kind of learned on the job about other instruments that he wasn't as familiar with.

Of course writing for percussion, especially in "Drumming" everything is left-handed because he's left-handed.

DT: You mentioned learning by rote. Did that become a common practice for learning in the ensemble? Were some things notated, or was it a mix of the two?

RH: "Drumming" I learned entirely by rote. In fact it confuses me still to look at the score. "Music for 18" was kind of a combination. There were little pieces of manuscript paper with a pattern written down on it at first, and then he eventually kind of taped them all together in a page, or couple of pages. You had kind of crib notes, like some people use in *Gamelan* I guess, to play the piece. Still today we just have a couple of sheets of manuscript paper that I throw on the marimba to remind me what to play in that piece. So that was kind of a combination.

I think one of the areas where the performers had a lot of input was in resultant patterns. The bongo section, and also especially with the singing section of "Drumming", the singers would sit there with Steve and listen to the composite patterns and come up with ideas. Eventually they chose a sequence of patterns to use in performance. But he would always be open to those ideas. Of course now in "Drumming" we play different patterns all the time. Particularly with those resultant patterns, there's a lot that he readily accepts from the players.

DT: One of the things that I recall from performing that piece is that there always seemed to be a dialogue developing. I would hear a resultant pattern that another player would create – one that I really liked - and I would try to mimic that, or else find something different in the base pattern. “Drumming” often feels very organic in how it develops.

RH: Bob and I used to work patterns out, although we never really talked about it, but we would work out resultant patterns while we were doing the steady parts in “Drumming”. We would just emphasize certain notes to create a resultant pattern. Sometimes we would react to patterns that the other guys were playing - do a call and response kind of thing, or an exchange. We don’t do that so much any more, but we used to do that a lot.

DT: One of the things that you mentioned in the past is that the duration of the entire performance of “Drumming” has shrunk considerably over the years.

RH: Yes, it started as an hour and twenty minutes, and now it’s down to about 55.

DT: Could you comment as to why that happens now?

RH: I think all the transitions, for one thing, are not quite as drawn out as they were. I think back in the sixties and early seventies the order of the day was to be kind of spaced out, kind of really slowly changing things. I don’t want to use the word “psychedelic,” but more of a mind-bending, hallucinatory style of playing. Things were much more drawn out. Fade-ins and fade-outs would take a really long time. Build-ups would last really, really long. But it felt right to do that. Now it feels like, it’s almost like people know that more. They know what it is, so we don’t need to dwell on it.

Steve used to go to Europe with a core of players from North America, and he'd pick up other players there to fill out some of the bigger pieces. Michael Nyman was one of those guys, and Cornelius Cardew was also one. Cornelius was a great musician who died way too young. He made a great comment once about "Drumming." Bob and I were stretching out every phase as long as we possibly could. We were going through that phase of phasing where we were working on making it all as long as possible. And he said why don't we make the first one really long to show people that's what we can do, and then just kind of get on with it.

DT: From hearing recordings of you and Bob doing that, there seems to be an element of control in how you two phase. Phasing is something with which a lot of students have difficulty - really getting into the zone and finding that space.

RH: Well there's a whole technique to it. Actually I'm writing an essay on phasing right now. I'll send it to you. It talks about that and all the various degrees of phasing, and what's hard and what's isn't, where the guideposts are, and the things that you can latch onto - what it feels like starting a phase and ending a phase. If you want to you can make it very systematic. You can go from point to point within the phase. Then one of the keys, of course, is knowing what the next interlocking pattern sounds like, so that you know if you've gone too far, or you know when you're about to get there.

DT: In considering various approaches to notation and learning styles, did people within Reich's ensemble seem to learn better in certain ways?

RH: Steve would always determine that. He was always the boss. The core group of people always picked up things quickly, no matter how it was presented. Other people

that came into the group, or tried to come into the group, would be subjected to Steve's version of an audition which would be him showing them a pattern and if they didn't pick it up instantly he would start yelling at them so they would not only have to learn this pattern, but to endure him yelling at them while they were trying to learn it. If they could survive that, and pick it up, then they could play. If they couldn't they were unceremoniously tossed out of the room.

So you had to be a pretty confident player to be able handle that. I think the style of learning a piece changed as the pieces themselves changed. As the pieces became more complex, starting probably with "Tehillim," which was completely different, there was a big change in the style of writing. We had to read measure-by-measure in strange time signatures like 13/8, 7/8, 15/8. You just had to read the piece, and you had your head buried in the music. That was a completely different thing. You couldn't just learn a pattern and play it mechanically and listen to what was going on. With pieces like "Sextet" and "Desert Music," that was more like just learning the piece. The style of learning changed from the early days.

DT: "Sextet" is a piece that was originally written for Nexus. Is that correct?

RH: Yes, it was commissioned by Nexus, and we played it, but of course it ended up being for four percussion and two pianos, and there were five people in Nexus by that time. So four of us did it with two piano players. Paris was the first performance, and we never really played it as Nexus again, because we couldn't. But that's the way Steve has always composed. He's composed what he wanted to. And no matter what the commission was, it kind of came out like it came out. I guess all of his solo pieces are really solo with tape, like the counterpoint pieces. So he would write what he wanted,

more or less, and you either accepted it, or you didn't - which I admire, for being able to stick to that. I think a lot of composers confine themselves too much by the restrictions of the commission. And it comes out not necessarily being a pure piece, in a certain sense. It's a compromised piece according to the commission.

DT: And yet, perhaps because of that, his music continues to endure. It's still performed all the time.

RH: Yeah, more and more by other people. For a long time nobody played it, but his group. He had kind of a tight control over it. He was very wary of anybody else playing his music. But he's loosened that up a lot, and now his group doesn't actually play all that much. There are many groups in Europe that play it a lot.

DT: Bob Becker mentioned something that relates to that [in a previous interview]. He said that in his travels abroad - trips to Europe on which you had accompanied him - he was asked to teach some of Reich's music to other people as well. He said that he found some things difficult to teach. He knew all the music intimately, but without having learned from the notation he found it difficult trying to explain it to other people. What are your thoughts about that?

RH: Well, I've taught it in different ways. With Kroumata, rather than sending them the score, I sent them a them a blow-by-blow description of what happens. I assigned parts and then said "Leif does this, and then waits for Anders." I've just told them each what to do all the way through the piece. I've found it problematic with any group that has tried to learn a piece from the notation. I've kind of had to tell them to disregard what they think the notation says, and do it this way.

Some of the time Steve's group doesn't do it the way the piece looks like when it's eventually published. A lot of times Steve would always give the important parts to Bob and me. We would reconfigure the choreography of the piece so that Bob and I could play certain parts. When it was actually published it worked out that that wasn't the most streamlined way to divide up the parts. So it would be a bit different from that. That's not so much the case with "Drumming," or maybe a little bit. People learn it by the published score and then have us come in, and we might be telling them a little bit differently than they actually did it in the score. But the early score of "Drumming" was really difficult to learn the piece from.

DT: Bob mentioned that there's someone else that has been renotating Steve Reich's music?

RH: That's Mark Mellits. He's redone "Music for 18." There was never a score for "Music for 18 Musicians." Steve wrote it week by week, and would sketch out a section and then write parts. From the performers' input, or from ideas that worked or didn't work at a rehearsal, he would change things. So it became a string of events that everybody had in their part and it always would be like: "play this pattern until you get a nod from Les, and then cue Steve, and wait for Jay to sing that pattern, then do this." Very personalized. In fact, all the parts are really personalized. Still I can only think of "Drumming" as Jim's part, Bob's part, Steve's part, and my part. I don't think of it as Percussion One, Two, Three, Four, or whatever.

So Mark Mellitts did "Music for 18," and he just finished doing "Drumming," which is another part that would help. The notation that Steve had was accurate, but

there were a few mistakes. Mark's would be much more readable. He has figured out a good way to notate the stuff.

DT: It's interesting that you mentioned that you conceived of the piece as being assigned to certain people. Because of that, how much to you think personality has affected the way these pieces have evolved, even just in "Drumming," for example?

RH: I think it has affected it quite a bit. I think the personalities of Bob, and Jim, and me in particular, have kind of built the piece. It's also a very North American style of playing. Europeans, until recently, haven't really gotten it. Now there are some really great performances of Steve's music in Europe. There's a certain lilt to the time that North Americans have - either through hearing and growing up with Jazz and Rock 'n Roll and popular music. I think Europeans, especially European percussionists, tend to be more classically trained or geared towards orchestras and not so much other styles. When they do New Music it's more Stockhausen and Xenakis-type music. So there isn't this sense of swing that North Americans tend to just feel naturally.

So that's part of it. And the other part of it is the way that Steve would always demonstrate patterns. First of all he's not a great player. He'll acknowledge that before anybody. He was never a great percussionist, but he did have a certain feel. First of all he's left-handed. He's a very strong, left-hand dominant player. When he played patterns they were always unbalanced, and they would always have kind of a swing - partially because he felt it that way, and partially because he couldn't do it another way. Some of the time we would try to imitate his style of playing, or maybe take that as a starting point and then develop our own style based on his style. But it all goes back to

this sense of time and swing that North Americans innately seem to have and Europeans didn't have for a while.

By the time we got to "Tehillim," pretty much you would just walk in and there would be a piece. He would send you the music and it would be composed. But in "Drumming," "Six Pianos," "Music for Mallet Instruments," "Music for 18", "Clapping Music," and "Music for Pieces of Wood" – in all those pieces the performers had a fair amount of input. "Clapping Music" started out as a phase piece. Steve and I stood in his loft and tried to play it as a phase piece, and it didn't seem to work. All that time he was trying to look for the next step. I think "Drumming" was the high point, but it was hard to know what to do about phasing.

DT: That becomes an interesting composition becomes it seems to encapsulate so many of the things that he was writing until that point – and so many of the things for which his style is known. So it's an important work in that respect.

RH: Yes it is, and I think that the next high point is "Music for 18 Musicians," which broadened his orchestrational palette, brought in a lot of other instruments, combined short rhythmic figures with long breath-length phrases, and created a whole new structural element. Chords got into a little bit of harmonic change, almost functional harmony, and then after that another substantial change would be the next period.

DT: One of the things that I like about a lot of his music is its organic nature. The number of repeats isn't necessarily specified. From what I recall personally of "Drumming," although it's not scripted this way, there seems to be someone who is leading what's going on. It never happens the same way twice. It's always changing

from ensemble to ensemble - between different groups of players. His music seems to be different from other streams of contemporary music which are very scripted in how they unfold.

RH: Yes, it's interesting because, over the years, I've heard a lot of comments about Steve Reich's music - that it's almost fascist in the way it's controlled so much by the composer. I find it just the opposite. I find much more freedom in that music than almost any other music that I play. The performers have a huge say in determining almost everything – the length of anything that happens, the dynamics, phrasing. Any piece that can vary from an hour and twenty minutes to fifty-five minutes, totally at the whim of the performers, that's a huge discrepancy in the time.

DT: And there's room for improvisation within that framework.

RH: Yes there is. It's kind of a controlled improvisation, but there is.

DT: One of the most important factors that I'm considering focuses on implications for curriculum development. The influence of non-Western music is apparent in Reich's work, as well as that of Classical Western music. Does that have implications for young, aspiring percussionists? Can we structure a curriculum for them that would help them to encounter many different types of music, and can Reich's music serve as a cross-over in that respect – as a way into classical Western music or non-Western music? Is it valuable to study and to perform Reich's music as way of teaching people to play music in general?

RH: Well sure, I think so. It's becoming another thing like nowadays you have to know something about African music, and you have to know something about gamelan or frame drumming. I think you have to know something about phasing and Steve Reich's music just to have a basic, general knowledge of 21st century percussion.

As far as curricular changes, I can tell you what we're doing here [at the University of Toronto]. I just finished teaching a graduate seminar called "Rhythm and Meter in Cross-Cultural Perspective" that talked about ways non-Western music has affected rhythm in Western music, or thinking about rhythm in Western music. I just finished teaching another undergraduate course called "Minimalism and the Music of Steve Reich." This got into more in-depth academic and performance study of Steve Reich's music and the other Minimalist composers. The approach that I took was not only to talk about the historical and academic part of it, but to have everybody perform as much as possible. I don't think you can really understand this music from the inside unless you perform it. You discover these things like concentration and focus and keeping your place when all around you is... it's hard to know where downbeats are or where "1" is, or what your pattern is in relation to everything else. If you put that on paper and theoretically understand it, you don't really know it until you experience performing it. So that was my approach in teaching it.

Next semester I'm teaching a course called "Twentieth and Twenty-first Century Music in Cross-Cultural Perspective" which will take many composers who have been influenced by non-Western music and look at that, and parts of pieces. So there are ways of structuring academic courses, or combination academic and performance courses. And of course every year we do some Steve Reich piece. Next year we're doing "Music for

18.” Last year, well we did “In C”, but the year before we did “Drumming.” Plus somebody’s always working on smaller pieces.

DT: One last thing. Do you see Reich’s music surviving, and continuing to grow in popularity in years to come?

RH: I do. I know a lot of people still don’t like it. I think he’s written some really true masterpieces, and I think they will, for sure.

Appendix B: Interview With Steve Reich: Excerpts

DT: Good morning, and thank you for taking the time to meet with me.

SR: My pleasure.

DT: The opening questions I have are very general, but we can move into more specific questions pertaining to your music after those. Let's start with some background information.

In 1973 you wrote, "I believe that non-Western music is presently the single most important source of new ideas for Western composers and musicians." Do you still feel this to be the case?

SR: No. Not for me personally. I think that at the time I wrote it I certainly believed it, and I think that, at that time, a lot of people were discovering primarily Indian music. You had a lot of people interested in that. Some people were interested in *gamelan*. Still less people were interested in African music.

But now, in 2005, if you go into Tower Records or you go online or whatever and you look for World Music you find basically Rock and Roll coming from Africa, Rock and Roll coming from Indonesia, Rock and Roll coming from India, and those traditional musics are in the process of, maybe not disappearing, but receding, and it's quite understandable how that would happen because the force of Rock and roll is enormous, and the possibility for, let's say, a traditional African drummer to go out and make ten times the money that he would make playing *Aghadza* to play James Brown, wouldn't you? I would.

So, on the other hand, these traditional pieces are disappearing because the lifestyle in which they arose is disappearing. African music, traditional music, as I understood it when I was there, was already at the beginning of the change: when it first came in, when [Ghana] started to become a parliamentary government, a democratic country, an industrialized country, a technological country. It was at the very, very beginning in 1970.

Music there is not concert music on the stage. It's part of life - somebody dies, the anniversary of their death, a wedding, a birth, a marriage, the installation of a new chief - these were part of life, and music was designed to accompany those situations. And as those situations disappeared, the music disappeared.

Now I've spoken to African musicologists - one gentleman in particular who is at Princeton and is from Ghana - and I said, 'If you went to Africa today you'd have a hard time finding *Agbadza*, you'd have a hard time finding *Gahu*.' And he said, 'Well, in the *rural* areas' [Reich's emphasis]. So if you go into the boonies, yes, it'll be there. But I think for most people ... the feeling I get is that if you talk to a young African about that he would probably know about it and he would say, 'Well, that's grandpa's music.'

It's a very different situation today. What I feel is that people who don't know [the importance of non-Western musics] are hopeless. If you don't know anything about non-Western music in 2005 and you're a serious musician you're just ill-informed and too bad about you!

There are a lot of good texts out that have adapted some degree of notation for West African music and so on. In a sense the battle has been won, in terms of traditional

music being a kind of academic museum piece in the West, and it's kind of leaving the source countries from which it came.

DT: In particular I know you were inspired to some degree by A.M. Jones' book, written in 1959.

SR: That was the fountainhead of my interest. That really preceded my going to Africa. Without that book I wouldn't have gone to Africa. It was A.M. Jones' book that showed me, as a composer, as a Westerner, what was going on, what these people were doing when they played this music. And seeing that, in notation, was the revelation. That inspired me to go further, and I could see the relationship to tape loops and all these things I was involved with. Jones' book was absolutely pivotal.

DT: Have you come across John Chernoff's book?

SR: Isn't that the book that talks mostly about lifestyle and doesn't have a note of music in it? There's nothing further to be said. I'm not interested. Good musicology begins with good, accurate notation. If you don't have that, basically you've missed the boat. You're a tourist. There are a lot of tourists we can talk to. They don't have to write books. Jones has plenty about lifestyle in his book, and he has the real stuff. Simha Arom, that's the real stuff. Those are the people.

DT: Can you give me an idea of the cultural and musical climate in New York in the 1960s and 1970s when you were composing your first works? In particular, were other Western composers adopting non-Western approaches, and were there certain influences that drew you towards non-Western music, other than A.M. Jones?

SR: Well, when I went to Cornell back in the 50s I had heard recordings of Balinese music through William Austin, the professor who I studied music history with. And he was informed enough, even back then, to include at least a smattering of gamelan. Then later on I heard a recording of African music, I think mostly West African music, and I was knocked out, but I had no idea what they were doing. It swung. It was fantastic. It was very rhythmic. [laughs] But I didn't know anything about it.

When I was a student in the late 50s and the early 60s the Western musical world, the academic musical world in particular, was *consumed* with Boulez, Stockhausen, and Berio in Europe and John Cage, etc. in America. Everything else was considered an *absolute and total irrelevance!* [Reich's emphases] So I was in this kind of extreme minority of people who really could admire musicians like that, but had no use for that music.

Since I had been a drummer, and basically if I hadn't been interested in jazz, if I hadn't listened to Kenny Clarke when I was 14 years old, I never would have been interested in African music. It never would have happened. Jazz is kind of the root of it all, and I was very much listening to John Coltrane. I was enormously interested in anyone who could play for a half-an-hour on 'E' alone, like in "African Brass." It was indeed Kenny Clarke and John Coltrane and Miles Davis that primed me to listen to African music. And then when I heard it [African music] I liked it. Then when I read Jones' book I was really ignited.

But, okay, at that time, in the early 70s, the only other place that I knew, the only other centre of interest in non-Western music was at Wesleyan University, and

specifically in the person of Bob Brown who ran the Ethno program, and who really knew what was going on in a lot of different places.

When I first decided to go to Africa was even before I was familiar with Wesleyan. A musical friend of mine, John Gibson, who plays with Phil Glass, said to me, 'You're so interested in African music... I heard that there's an African drummer up at Columbia University.' I went up there and sure enough there was Alfred Ladzekpo, who was the younger brother of Husunu who had died fairly recently and he said, 'Oh yeah, you should come to Ghana and you should study with the Ghana Dance Ensemble.'

At the same time at Columbia was Nicholas England, who later went out to CalArts and was a serious ethnomusicologist. Nick told me the nuts and bolts about who I should get in touch with, and how I should get there. Then I applied to the Fulbright people and they gave me \$700, which was a lot of money in those days. That was enough money for me to buy the [plane] tickets. First I went to London, and from there I went to this place when you could pretend you were an engineer on Nigerian Airways and get a cheap ticket to fly to Ghana.

But, basically there was hardly ... this was a marginal thing. When I came back from Africa then I became more aware of what was going on at Wesleyan. Then in 1973 and 1974 I went out to the West Coast and studied Balinese Music through Bob Brown at his American Society for Eastern Arts Summer Program.

DT: Apart from the African influence, how did Balinese music influence your compositions around that time?

SR: Let me say one thing. African music really had no *influence* on me [Reich's emphasis]. African music had an enormous confirmation. It was a big pat on the back.

In other words, before I went to Africa I did "Come Out," "It's Gonna Rain," and the live pieces imitating the tape technique: "Piano Phase," "Violin Phase," and "Reed Phase," which was rejected later. And all of that was in place - if you look at "Piano Phase" it's in twelve. "Violin Phase" is in twelve, and this was all done by instinct.

When I got out of Mills College I thought to myself, 'Where in the world is percussion the dominant voice in the orchestra, as opposed to the strings in the West?' And the answer is Africa and Indonesia. As a matter fact Jones wrote another book called *Africa and Indonesia*, where he has a thesis that Indonesians invaded the east coast of Africa and that's why they have so many xylophones.

DT: Yes, I've read that.

SR: It's very interesting.

Anyway. It's the same thing with Balinese music. Again there was a book at the root of it, and the book was Colin McPhee's *Music in Bali*. I saw the Jones book around '63 and I saw the McPhee book probably in the late 60s.

DT: That leads well into more specific analysis of your music. The pattern in 12 that you wrote in "Piano Phase," is grounded in an extremely versatile meter - 12/8 or 6/8.

SR: Right. Well 12/8, 3/2, or 6/8.... in other words you want to write something that at one time or another could be heard as 3/2 or 12/8 or possibly two bars of 6/8. That ambiguity struck me.

If you're going to write repetitive music, intuitively I understood that if it was rhythmically flat-footed or obvious, people were going to get bored. That's just good, common musical sense. So you have to have something whereby, where the beginning is

and where the end of the pattern is, is kind of ambiguous. When it begins to get repeated you begin to hear it in different ways. And you've got to build that into the music. That's got to be a compositional choice.

Repetitive music of that early stage is only as good as the musical module on which it is built. You can't do a contrapuntal piece unless each line is good. If the original pattern for "Piano Phase" wasn't really intrinsically interesting, the piece is dead.

Once I went to Africa the effect of it was ... remember now that this is 1970. What's going on in 1970? Well Stockhausen is doing electronic music with banks of equipment, and Cage is doing live electronic music with banks of equipment, and I'm interested in working with acoustic instruments! I'm trying to get away from tape and going to Africa was as if people were saying to me: 'What you're doing is okay, what you're doing has a long tradition, maybe not in what's right behind you historically in the 12-tone and the Schoenberg people.'

But look back at the Middle Ages. Cannons were common in the 13th century. Augmentation canons, all the techniques that have interested me can be found in the Middle Ages when Western music and non-Western music were more similar. You listen to Perotin and it's actually more like non-Western music than Bach.

It's also saying, percussion can be as complex and more interesting a sound than electronically generated sounds. Percussion was the entrance into electronics. It can be the exit way as well.

DT: Throughout a number of your pieces including “Clapping Music,” “Music for Pieces of Wood,” and “Sextet,” for example, you’ve employed the pattern: [says Reich’s signature pattern].

SR: Which is just a variation of [says and taps the Agbekor bell pattern]. That’s naturally where it came from. Basically I’ve had this attitude, which you’ve probably read many times, I’m interested in not imitating the sound, but the thinking. But the one thing that I did actually take from my studies in Ghana and Jones’ book, which preceded it, was that bell pattern.

In my brand new piece, “You Are Variations,” you get to the third movement and you go to the vibes and the vibes are playing [a slow Agbekor pattern] with lovely chords, but that’s the basic pattern. It also appears as: [says his signature pattern] and [this is] an interesting pattern because of the 3+2+1+2. In all honestly it came to mind to me probably as a result of knowing the [Agbekor] bell pattern.

DT: Musicians such as Russell Hartenberger have suggested that the vibraphone part in “Music for 18 Musicians” functions similar to how a master drummer would in a West African ensemble...

SR: Exactly.

DT: ... or a drummer in a Balinese gamelan...

SR: Right.

DT: ...cueing players to change patterns.

SR: Exactly right.

DT: Can you comment on this similarity?

SR: When I read Jones' book and he explained what a master drummer did I thought - this was way back in the 60s: 'What a great idea! It doesn't distract the musician, who should be listening at all times.'

Let me digress a little bit. In the West, up through Johann Sebastian Bach, and even with the death of Bach in 1750, conducting isn't very important. It's usually a player playing from the keyboard, maybe a violinist nodding and kind of giving a look if someone gets lost to remind him where they are - because it's basically chamber music and extended chamber ensembles.

The conductor really starts to become more important with Haydn and Mozart, but, again, even there you can do a Haydn or a Mozart symphony without a conductor. You might get away with doing some Beethoven, but it would be much harder. By the time you get to Schubert and Schumann and Mahler and Sibelius it's out of the question.

Now, I have no interest in Romantic music. It's great music. It's written by masterful composers, and I never want to hear a note of any of it! Why? Part of it is, as that music progressed it became more and more chromatic and the key centres became less and less clear. This was considered progress, and I don't care for that. And second of all, the tactus, the regular beat became considered mechanical and [to some Romantic composers] real expressivity resided in not having a regular beat. I think that is nonsense!

The most expressive, heart-breaking, elating, joyful music ever written was written by Johann Sebastian Bach, and some people had the nerve in the 19th century to

refer to it as “sewing machine music!” So I believe that having a regular beat does not affect creativity.

Therefore, to go back to the question, the conductor looms large in the West and musicians can no longer listen to find out what they’re doing. They have to follow somebody outside of the music who is going to tell them, ‘Okay, you follow my gestures.’ Well, I want tactus.

Anyway, this visual orientation that we have in Western music, which comes out of the orchestra, as opposed to chamber music or Early Music, was something I had no use for. Some of my pieces are conducted because they are large enough and they’re complex enough, so it really helps, and that’s fine. But it’s not the same thing. You still have to be close together, you still have to listen. The conductor won’t help you if you don’t.

The kind of coordination that’s necessary in my pieces has to come from listening. The conductor can make sure what bar we’re in, in case we get lost. He can throw cues to the singers, things like that. That’s very useful. And I’m delighted to have worked with a lot of really great conductors.

But in those days what I was trying to solve was how to have a large ensemble and have some way of moving on together, to make ensemble-wide changes which were not written in the score. In other words I didn’t want say, ‘Well there are only three repeats here, there are only six repeats here.’ I wanted to say, ‘There’s somewhere between three and seven repeats. Don’t worry about counting, just use your good musical sense.’ Well if it’s just one player or two players someone can just nod and that’s it. But with eighteen players we had to have something that everybody could hear.

The vibraphone's role in "Music for 18 Musicians" is to be an audible conductor so the musicians can literally have their eyes closed and be totally wrapped up in what they're doing but know, 'Aha! Now I change' when they hear that vibraphone part. That's also why [the vibraphone player] is dead centre in the middle of the ensemble. That idea came, not only from Western music, but from, as you say, from the drummers in the gamelan who accelerate and decelerate and run the tempi from within the ensemble as players.

DT: After "Music for 18" did you explore that type of performer-function, in any of your other works?

SR: Not really. No. I tend to move on. The problem was solved, and that piece was a very successful piece.

DT: One composition that I feel is particularly closely aligned to West African musical structures is "Sextet." "Sextet" is a good example of one of your works in which the individual parts can be heard to have downbeats that do not coincide. Patterns are interwoven and cross notated metrical divisions. The vibraphones and pianos in movement III also establish a cross-rhythmic relationship.

SR: Right

DT: Movement V again features a number of instruments performing a rhythm that closely resembles the Agbekor bell pattern.

SR: Right. When I wrote Sextet what was really interesting to me, what I really had on my mind was how to take the harmonic language of the "Desert Music," which just

preceded that piece, and put it into my own ensemble in chamber form. In other words to get the kind of chromatics that were present in the "Desert Music" - basically a lot of altered dominant chords - and get that into my ensemble and something that we could tour with.

It was originally supposed to be written for Nexus, but the two pianos parts insisted on being written. I needed to have that. At first Bob [Becker] said "We'll cover it." And then he said "I'm sorry, we can't cover this! We'll have to get real pianists to play this!" So "Sextet" became a sextet as opposed to a quartet. And another thing which was really interesting to me in that piece was the bowed vibraphones - I didn't invent that. Mostly it's been used before as a splash of colour, a little timbral trick. But I said 'I want this to be basic.' So the second movement of the piece is basically bowed vibraphones playing against the pianos. "Sextet" probably has more bowed vibraphone than anything else in the literature.

I think what you're hearing and what you mention is in the piece, certainly. As a matter of fact the bell pattern is in cannon in two different tempos in the last movement, and that's one of the most exciting things in the last movement - to hear the bell pattern at two different speeds simultaneously. But that was just gut level... at that point it was just a part of me. I didn't have to think to think about that. At that point I wasn't thinking about African music at all. African music was inside of me.

So what you heard is very well heard, and very accurate, but as a mind reading job it's not good [laughs]. But what I told you was what was really on my mind, and the other stuff was really part of my vocabulary at that point.

DT: Do you feel that musicians with a background in non-Western music, such as West African drumming or Balinese gamelan, are better prepared than others without this experience to perform your music?

SR: Yes, absolutely they are. My ensemble has turned into [people in their] late 40s, 50s, and early 60s, and people in that generation - players who had played some non-Western music - were at an advantage. On the other hand you could play my music and also say that you had done a lot of Jazz or even some Rock and had that same kind of rhythmic feel that I wanted. I would say nowadays, all over the planet, young people play my music very well and they look at me and say, "What's the problem?" Because, and I would attribute that to the world-wide spread of Rock and Roll, rhythmic playing is really well understood everywhere. Even if people don't consciously listen to it, it's so much in the air, it's so part of the culture. There have been so many outstanding musicians from the Beatles on down. It's become a part of every Classical players' training. Even the string players have a better sense of time now without being told about it.

I would rather work with musicians who played a lot of Bach and Early Music, and singers who do only Early Music. Musicians who are really caught up in 19th century music still aren't the musicians for my work.

Now with percussion you don't find that because the literature really starts in the 20th century. But in the other orchestral instruments, particularly the string instruments, if the string instruments really want to be doing that - orchestral music - then they're still going to do a lousy job. In other words Romanticism and my music are really fundamentally opposed.

DT: One thing that interests me in particular is curriculum development – what we can or should be teaching up-and-coming musicians in order to build a successful career in music. I’ve found that studying African Drumming, studying gamelan, playing drum set have only helped me in a number of settings...

SR: Absolutely.

DT: ... but there are a number of institutions that are reluctant to encourage Jazz, Rock and Roll, pop music – even African Drumming and gamelan.

SR: Well, those institutions are out of touch with reality, and they’ll suffer the consequences. I mean if Princeton can do it, they can do it too [laughs].

SCHEDULE

SEXTET - STEVE REICH © Copyright 1986 Hendon Music Inc.,

- (1) two measures beginning at rehearsal number 51 in Movement I
- (2) two measures beginning at rehearsal number 126 in Movement III
- (3) ten measures beginning at rehearsal number 129 in Movement III (appearing as the first two measures of rehearsal number 129, the first four measures of rehearsal number 129, and ten measures beginning at rehearsal number 129 to two measures after rehearsal number 132 in three separate examples)
- (4) two measures beginning at rehearsal number 130 in Movement III
- (5) two measures beginning one measure after rehearsal number 169 in Movement V
- (6) one measure beginning at rehearsal number 178 in Movement V
- (7) two measures beginning at rehearsal number 180 in Movement V
- (8) two measures beginning at rehearsal number 183 in Movement V
- (9) two measures beginning at rehearsal number 200 in Movement V

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- (1) six measures: measures 99-104.