MONO- VERSUS POLY-GENESIS OF MUSIC COSMOLOGIES IN AMAZONIA AND NEW GUINEA

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Abstract: For more than a century, anthropologists have marveled at the remarkable parallels between Amazonian and New Guinean cultures. How might one account for such similarities? I discovered astonishing parallels between the music cosmologies of Papua New Guinean Nekeni and Amazonian Enauene-Naue peoples, based on the transformation of human voices into spirit voices using musical instruments. Voice modifiers, relatively rare among the world's instruments, take the form of long tubes for only a few cultures in the world, with both peoples discussed herein applying them in similar contexts. In this paper, I discuss the growing importance of comparison in ethnomusicology and then present observations of two geographically distant music cultures, which support a theory of either mono- or poly-genesis.

Keywords: Amazon, monogenesis, music cosmology, New Guinea, voice modifier.

MONO- VERSUS POLI-GÊNESIS DE COSMOLOGIAS DA MÚSICA NA AMAZÔNIA E NOVA GUINÉ

Resumo: Por mais de um século, antropólogos têm se arrebatado com os notáveis paralelos entre as culturas Amazônicas e Nova Guineenses. Como podemos avaliar tais similaridades? Descobri surpreendentes paralelos entre as cosmologias musicais dos povos Nekeni de Papua Nova Guiné e os Enauene-Naue Amazônico, baseado na transformação de vozes humanas em vozes espirituais usando

instrumentos musicais. Modificadores de voz, relativamente raros entre instrumentos no mundo, tomam a forma de longos tubos somente em poucas culturas no mundo, com os dois povos aqui discutidos aplicando-os em contextos similares. Neste trabalho discuto a crescente importância da comparação na etnomusicologia e logo apresento observações de duas culturas musicais distantes, o que apoia uma teoria que seja tanto mono- ou poli-gênese.

Palavras-chave: Amazônia, monogênese, cosmologia música, Nova Guiné, modificador de voz.

The Value of Contextualization

> *… the doctrine of cultural relativism, [. . .] carried to its logical conclusion, glorifies the very incomparability of cultures. Such cultural insularity is, in our view, a fantasy; but it has contributed to what has become a very real intellectual insularity among cultural anthropologists, and on the part of anthropology vis á vis important allied disciplines; this insularity--or, if you will, fragmentation or lack of common cause--underlies the malaise or post-paradigmatic sense of crisis one detects in current anthropology. (Gregor and Tuzin 2001, 342)*

> *Musical universals, classification, replicators, and the musical map of the world, are critical concerns that contemporary ethnomusicology has either ignored or simply rejected. In our opinion, ethnomusicology has not met its calling. (Brown, Merker, and Wallin 2000, 20)*

> *Biomusicologists … can convince musicologists in general of the legitimacy of evolutionary studies, and do their best to ensure that no one ignorant of music is allowed to pontificate on the topic. (Derek Bickerton 2000, 155)*

Striking parallels between the geographically and historically distant religio-sonic systems of Nekeni people (Serieng village, Papua New Guinea) and Enauené-Naué of the Brazilian Amazon fascinated *bikmen* (Tok Pisin, "important men") and people of all ages, from a number of villages around Serieng. In this paper, I situate those parallels within a wide framework, after first presenting ideas about the potential value of comparative work. Rather than argue for a particular definitive answer, my goal is to raise pertinent questions about the complex relationships between Serieng music and Enauené-Naué music, as suggested by apparent musical and cultural parallels. I am suggesting the revival of an avenue of investigation that many American ethnomusicologists have neglected since the late 1960s, only gradually returning to comparative work since the turn of the 21st century.

Why is it important to consider individual musics globally? In my view, the world's musics constitute important components of history, religion, philosophy, and anthropology. Scholars in the humanities are typically assumed to have a sophisticated overview of the latter disciplines, but not of music, to the detriment of all concerned. Furthermore, as interdisciplinary studies continue to grow (for example, Klein 1990, Hayles 1991), the sciences increasingly reunite with and reconfigure religion, philosophy, and the humanities. Regarding new bridges between language, music, and biology, Brown, Merker, and Wallin argue that music is important because of its universal and multifunctional presence, because of parallels between music and language, and because it can act as a marker for migration and contact patterns (2000, 4). From an anthropological perspective, Thomas Gregor and Donald Tuzin evaluate comparative strategies as follows:

> *In summary, comparison is the bread and butter of anthropology. It is inherent in the act of classification, by which we identify unfamiliar behaviors, describe institutions, and communicate the*

> *results of our work to others. We cannot describe one society without having others in mind, for comparison is the recurring alloy of our basic analytical tools. Comparison establishes and refines a common discourse among scholars working with different cultures (cf. Strathern and Stewart 1998: 251); it stimulates and provokes new perspectives on findings from particular cultures; and, it allows us to search for general principles through controlled comparison. Comparison elevates the level or our work to the quest for principles of human life that transcend any one culture, even as it accepts the importance of culture in forming people's interests and the views they have of others. (Gregor and Tuzin 2001, 7)*

Three revolutionary innovations have made it possible to reclaim music's role in the sciences and humanities: the invention of recording technology, computerization, and advances in communications. Recording capability spurred a major leap in the quality and substance of representations of music. For the first time, particular experiences of sound-pressure waves on the body could be transported in space and time; scholars no longer had to rely on words and musical notation to represent sounds. This greater accuracy now permits a far more reliable understanding of music, substantially reducing many of the problems inherent in transcription and description.

Armed with ever-improving sound recording devices, ethnomusicologists have amassed an enormous database of the world's musics. Most of the scholars who attempted classificatory and historical studies, however, published their work at a time when only a fraction of today's information was available. There is now a need to return to this type of work, if ethnomusicologists are to participate fully in today's interdisciplinary world. Again, Gregor and Tuzin's

assessment of cultural anthropology seems apropos to ethnomusicology:

> *The Boasian critique discredited the search for universals of human experience and culture, thus leaving cultural anthropology ill-equipped, intellectually and methodologically, to incorporate eventual (especially late twentieth-century) discoveries in psychology, evolutionary biology, neuroscience, and genetics, all of which operate comfortably at the interface of universal and particular humanity. (Gregor and Tuzin 2001, 342)*

A musicologist, linguist, or historian who wishes to find out basic information about instrument distribution, for example, would still have to rely on outdated works because ethnomusicologists of the past four decades have focussed on individual studies, and detailed scholarly overviews do not exist. Classic studies by Sachs (1940, 1953, and 1965), Collaer (1960), and Szabolsci (1965) evaluating instruments and melodies as global phenomena, have scarcely been updated. For example, the most recent overview of the distribution of shell trumpets appeared in 1916 (Jackson), and Henry Balfour's survey of voice-modifying instruments remains the only global consideration of these instruments (Balfour 1948), other than a dictionary entry (Reigle and Niles 2011).

Through a consideration of the relationships between Serieng music and the Enauené-Naué musics, we can take a step towards developing a deeper understanding of the role of voice-modifiers around the world. Considered together with genetic and linguistic studies, the multidimensional music parallels described herein invite a reconsideration of the possibility of cultural practice maintaining continuity over an extraordinary length of time.

Near-Universals and Migrations

Very few characteristics of music appear in every culture. Bruno Nettl has recently suggested that ethnomusicologists, who have shown little concern with comparative work over the last four decades, once again take up an interest in universals (2000, 471). I believe that the complex task of avoiding over-generalizations can now be tackled effectively, because we now have a vast literature and audio-ture to draw from (for a similar view from cultural anthropology, see Gregor and Tuzin 2001), along with high-speed analytical and communications techniques. Perhaps the term "near-universals" should replace the misleading word "universals," as the latter is so circumscribed as to have little practical value. The description, determination of limits, and mapping-out of all things musical are more useful than the identification of true universals.

Several intangible aspects of Serieng and Amazonian musics do appear to function, to greater or lesser degree, both around the world and across modalities. These include the creation/exercise of ambiguity, the use of melody as a deeply emotive memory trigger, the social functions of group music making, and the mystical source of music compositions (cf. Sullivan 1988; Hill and Chaumeil 2011).

While ambiguity appears to me the most important near-universal aspect of Serieng music, the particular melodies, timbres, and instruments associated with it are not near-universals. Delineating the sonic aspects of Serieng music has value, however, not because of its few near-universal characteristics, but because it is a constituent of a global phenomenon, and understanding this phenomenon requires perspectives on both its components and its entirety. Thus, having access to a description of the world's musical diversity (of which recordings constitute one of the most accurate

forms) is prerequisite to any work towards a broader understanding of music.

Along with description, history can provide information needed to make sense out of the many relationships, both in close proximity and widely separated, perceived between different musics around the world. Mapping out the locations of instruments and musical styles can tell us a great deal about migration, particularly when instrument distributions are contrasted with the locations of languages, material culture, food production, trade routes, and now genetic codes. Ideally, all of these markers should be compared at many different time points through history.

In "oral" cultures, the absence of writing has obscured the understanding of events to a greater degree than it has in areas with writing. For that reason, I think it is particularly important to consider all possibilities with an open mind when trying to reconstruct pre-histories of oral societies. Theories of prehistoric contact and/or migration have led to controversy in ethnomusicology (Nettl 2005, 259-71, 320-38; Jones 1964; Messner 1989) and in anthropology (Dillehay 2000; Davis 2000). Victor Grauer, a co-creator with Alan Lomax, of cantometrics, revived interest in the possibility that some aspects of musicking may remain intact or traceable over extraordinarily long time spans (Grauer 2011). Two issues of *The World of Music* (courageously edited by Jonathon Stock) presenting Grauer's ideas and responses to them, point to an open-mindedness too often absent from ethnomusicological discourse (Stock 2006A, 2006B). In his excellent book exploring music from evolutionary perspectives, Iain Morley indirectly critiques the possibility of long-term survivals in the musics of Native Americans, African Pygmies, and Australian Aborigines (Morley 2013, 11-31).

Genetics offers one of the most promising resources, used in combination with other markers, to evaluate and reconstruct contact

and migration theories. Dividing the world's peoples into nine groups according to the analysis of one hundred ten genes, Cavalli-Sforza and his colleagues posited a common origin for Melanesians, Pacific Islanders, and Southeast Asians (Cavalli-Sforza and Cavalli-Sforza 1995, 118-19). In harmony with this theory, recent genetic and archeological evidence lends support to surprising alternative models of the settlement of the Americas (Owsley and Jantz 2000; Schurr 2000), including the possibility of early contact between South America and Asia via Melanesia (Dixon 2000; Nemecek 2000, 86). Archeologists Walter Neves and Joseph Powell suggest that the Brazilian "Luzia," one of the oldest skeletons found in the Americas (13,500 B.P.), may share a common ancestry with Melanesians (Nemecek 2000, 86). The evidence for ancient contact between Melanesia and South America is especially provocative because of the remarkable parallels between Brazil and Melanesia reported by anthropologists and ethnomusicologists (cf. Gregor and Tuzin, eds., 2001; Knauft 1999, 157-94; Veiga 1981, 22-23, 27, 33; Picken 1980). In the first edition of *The Study of Ethnomusicology*, Bruno Nettl wrote that "the historical relationship of Melanesian and South American panpipes remains a possibility." (1983, 230). In the second edition, however, he deleted that comment (2005, 324-25).

In addition to breakthroughs in genetics, linguistic research has mushroomed in recent decades. Comparative work in linguistics draws from several disciplines and has produced sophisticated reconstructions of proto languages, including proto-oceanic. The most powerful reconstructions of migration history have combined genetic, linguistic, and archaeological data (e.g. Cavalli-Sforza 2001). Adding music to the mix has the potential to contribute additional markers in support of, or contradiction to, the evidence from those disciplines (cf. Brown et al. 2014; Savage and Brown 2014).

Parallel Characteristics

In this section, I briefly discuss characteristics of Serieng music (its sounds plus sociological components) in terms of parallels with Enauené-Naué music. I consider seven characteristics: repetition, melody, instruments, performance practice, ambiguity, religion, and language. The value of intercultural work such as this is twofold: First, understanding how a musical attribute functions globally may illuminate or suggest hitherto unnoticed functions in Serieng music; second, in reconstructing music histories, the greater the number of analytical components available, the more reliable the proposed history. In the simplest terms, following Ockham's razor, a single parallel similarity gives no clue as to whether the attribute appears through independent genesis (a biological or spiritual basis for the attribute) or diffusion. On the other hand, the question may be more easily evaluated where similarities appear between a number of attributes that can be compared across cultures.

First, let us consider repetition. An instruction-composition, written for an improvisation ensemble in Seattle, illustrates what I believe is a significant difference between American and Serieng musical experience in regards to repetition:

Repetition does not exist.

Repetition does not exist.[1]

The Seriengs' greatly expanded tolerance for musical repetition, as compared with Eurogenetic listeners[2], is suggested by the way they perform their relatively small repertoire of melodies

1 Robert F. Reigle. 1994. "Repetition Does Not Exist." Copyright Acoustic Levitation Publishing, Los Angeles.

2 I use the term "Eurogenetic" as a more precise descriptor, also calling attention to the value-ladenness of our received dichotomy, "Western" and "non-Western." The latter terminology is commonplace in both American and Papua New Guinean scholarly discourse.

during nine-hour performances[3]. Typically, Seriengs may repeat a short melody dozens of times in succession. Many of the American listeners for whom I played recordings of *Kaapu* said that this repetition made them feel bored. They felt a similar boredom, however, with the music of American composers such as John Cage and Steve Reich, who have developed new pathways into the appreciation of non-developmental and repetitive forms. While Cage embraces the boredom itself, in a move to transcend it, Reich works with shimmering textures that encourage listeners' focus to drift among different levels of the formal structure.

I believe that Seriengs avoid redundancy to an extent similar to Americans, and their reception of repetition parallels, to some extent, the kind of focus Steve Reich works with in many of his compositions. An important difference lies, however, in the focus of attention. The polyrhythmic repetitions in many of Reich's compositions music that is largely self-sufficient, intended for both the concert hall and the disembodied form of a recording or broadcast tend to focus one's attention on the movement and interrelationship of the work's component sounds. The familiar repeated melodies of Serieng sacred songs, on the other hand, guide local listeners to vary their focus among the spectacle of performance, the accompanying social functions, memories associated with past performances, and the sound of the *singsing*. In the music of Serieng (and of Steve Reich), repetition over a long period of time permits a focusing and participation on a deeper level, and may accumulate to alter consciousness in the form of a second wind.

3 I base the observation of low tolerance for repetition by Eurogenetic listeners on the evidence of the history of musical style, and the role and reception of repetitive forms when they were finally introduced under the label "Minimalism" in the 1960s.

Similar uses of repetition appear in many traditional musics around the world, such as the twenty-four second Wayãpi song from French Guiana "The Toucan," that is repeated for five minutes (Beaudet 1998, 27-28). A great deal of Native American music repeats in order to match the duration of a specific activity. In Serieng, however, song leaders determine the length of a song performance first of all according to their own personal choice, and only indirectly according to the requirements of the evening's activities (i.e. the *singsing*). Repetition to this extent does not appear in European notated music until the 1890s, other than in compositions created for repeating over and over on a mechanical instrument such as a *laterna*. During 1893-1895 Erik Satie composed "Vexations," a theme and two variations lasting just under a minute, but to be played eight hundred forty times. After "Vexations," Eurogenetic composers did not take up this idea again until the 1960s, with the development of Minimalism.

There are a number of biomusicological implications related to the use of repetition. In the case of Serieng and probably many subsistence-economy cultures, the capacity for musical repetition may relate to repetition in other facets of life, such as diet. While a large number of foods are eaten during the course of a year, there is a great deal of repetition from day to day. The variety of foods is limited, and tubers, especially sweet potatoes, constitute a large proportion of the diet. The repetition of eating sweet potatoes is compounded by the fact that a large quantity of them must be eaten to obtain adequate protein, thus there is repetition both within a meal and from meal to meal.

A second biomusicological implication of repetition is that of symmetry. Drawing from both scientific and philosophical sources, astronomer John Barrow argues that humans are attracted to symmetrical forms because of the survival value of pattern recognition (Barrow 1995, 104-05). A repeated melody has a built-in

symmetry--one that evolves with the number of repetitions the melody undergoes. Viewed in this way, the symmetry of repetition raises a question of ontology: At what point does the seed unit become different from the entire performance. I believe that in Serieng, the part and the whole are not easily separable because "repetition does not exist" and because of the presence of clan melodies during times of upheaval as well as during day-to-day activities.

A third biomusicological implication of repetition concerns altered states of awareness. Some writings by Eurogenetic scientists cast a generally negative light on repetition. For example, in *Scientific American*, Woodburn Heron conducted an experiment to study the effects of a monotonous environment (i.e. one of sensory repetition), and found that "The individual's thinking is impaired; he shows childish emotional responses; his visual perception becomes disturbed; he suffers from hallucinations; his brain-wave pattern changes." (Heron 1972, 64). Such altered states of consciousness, while producing negative results in some situations, play an important role in religio-sonic systems around the world. Although most of the work on altered states in music has focussed on tempo and rhythm, perhaps equally important for changing states of consciousness are the widespread practices of performing all night, and of repeating melodic (as opposed to rhythmic) patterns. In the case of Serieng music, alterations in consciousness brought about through repetition are inevitably intertwined with memories associated with clan melodies. Such memories, I believe, play a role in the way each Serieng responds to every repetition in the different performances heard and participated in during the course of her/his life.

We have considered melody as an object that can be repeated; now let us move to some of the characteristics of melody itself. Serieng music fits in with the melodic shape that typifies the world's music systems: descent (Sachs 1965, 57; Kolinski 1965; Kunst 1967, 7; Spearritt 1979: 440-41). Descent is a near-universal to the extent that a melody with prominent ascending components may be perceived as ascending even though a majority of the intervals descend and the melody ends with a descent. The ending interval carries greater weight than most internal intervals because in terms of memory it is the most recently perceived interval. While most Serieng melodies start at a high pitch and end lower, the melodic shape of *pakung* flute melodies seems to come from the acoustic qualities of the instrument itself. Serieng's *pakung* melodies start low, go high, and end low, following the instrument's natural harmonics. Every single melodic cell, however, consists descending intervals.

The group of melodic cells that make up Serieng music overlaps with cell repertoires in many styles of music around the world. For example, *Kaapu naing* songs typically start with a held note at the bottom of the male vocal range, and then skip up to the main tone of the song, often approximately a fifth higher. Until more sophisticated and complete analyses of the world's melodies become available, however, it is difficult to evaluate the relative prominence and hence the significance of particular melodic cells[4].

4 Eugene Narmour has set forth a theory that could produce a viable system for cataloging melodic cells. In one book he discussed basic melodic structures, and in another he proposed a "genetic code" of some two hundred seventeen melodic archetypes as the basis of complex melody (Narmour 1992). A book edited by Walter Hewlett and Eleanor Selfridge-Field points out some of the difficulties of such an approach, and offers many ideas on how to work with melodic comparison (1998). New Guinea is probably comparatively rich in terms of melodies. For example, Serieng village with a population of one hundred twenty has thirty-five melodies, or one for every four people; extrapolated to New Guinea's six million people, the potential number of melodies would exceed one million.

Seriengs as well as people from nearby villages perceived similarities between local melodies and Brazilian Indian melodies. During my 1997 research trip I discussed and played a recording of the music of the Brazilian Enauené-Naué (Fernandez 1995) with people in Serieng. As word spread in nearby villages, people began to come to my house and ask to hear the Brazilian recordings. As few as one and as many as twenty people came at a time. They came from four villages, one of which speaks a different language (Ngaing). The listeners unanimously remarked that the music sounded like their own sacred music. Several of them sang along with particular tracks, remarked that the music made them feel very *sori* (Tok Pisin for sadness/longing/nostalgia), or smiled when they heard the instruments that are similar to their own.

In addition to melodies, the Brazilian music exhibited similarities in instrumentation, the third of nine parallels discussed in this section. Both Nekeni and Enauené-Naué use voice-modifiers; the Nekeni *tereri* is virtually identical with the Enauené-Naué *toreukuri*, except that the former is made of bamboo, and the latter of reed. The *tereret* voice modifier of the Brazilian Arara is even more like the Nekeni instrument, being made of bamboo (Estival 1995, 21). The similarity between the names of the instruments could be explained in terms of onomatopoeia, but it is only one of many parallels between the Brazilian and New Guinean religio-musical systems. In addition to similar melodies and the split-tube voice-modifiers, both the Enauené-Naué and Nekeni use more than one type of voice-modifier and both make voice-modifiers out of gourds. In the Nekeni area, men forbid females from seeing the sacred instruments, so accordingly, when I played the Brazilian recordings to mixed groups of males and females, the New Guinean men forbade females from seeing the photographs of the Brazilian instruments.

Although many cultures use voice-modifying instruments, sacred voice-modifiers made of gourd are rare. Outside of Africa, gourd voice-modifiers have only been reported among a few groups in Papua New Guinea (Niles 1989a) and Brazil (Fernandez 1995). On the other hand, scholars have reported the use of gourd voice-modifiers in a number of central African nations, including Cameroon (Balfour 1948, 50), Republic of Congo (Norborg 1989, 339), Gabon (Norborg 1989, 231-32, 339), Malawi (Balfour 1948, 59-60; Tracey n.d., Track 17; Tracey 1973[1], 67), Mozambique, and Zaire (Tracey 1973[1], 67). Additional locations of the instrument will probably be identified in the future. The only worldwide study of voice-modifying instruments appeared more than half a century ago, and was limited to mirlitons (voice-modifiers that produce a buzzing sound, such as kazoos) (Balfour 1948).

In Serieng, the secret nature of the instruments shapes performance practice: The *Kaapu naing* are always used at night, when they can be more easily hidden from women. Before contact, the instruments were kept in spirit houses in the center of the village, a practice also found among the Enauené-Naué and Nhambiquara of Brazil. The former allow women to see the instruments, while the latter do not (Fernandez 1995, 25, 28). The neighboring Myky perform ritual music all night (ibid. 29), as do many New Guinean peoples, including the Nekeni. Many large cities around the world have clubs where people dance all night, perhaps facilitating altered states of consciousness similar to those in Serieng. Music's duration and the use of repetition are closely tied to the unusual length of such marathon performances. Either a large quantity of songs must be performed, or songs may be repeated in order to fill up the many hours of performance. Writing about the Iatmul of the East Sepik Province, Gordon Spearritt suggests that the long duration and repetitive nature of a typical performance produce a feeling of

"timelessness," and that both Iatmul and outsiders may experience it (Spearritt 1979, 455).

Ambiguity, a fifth characteristic of Serieng music, constitutes both a function and a modus operandi of many styles of music around the world. Its importance in religious thought holds implications for musical systems, such as the Fang of Cameroon as discussed by Boyer (1994), and the Nekeni. Furthermore, ambiguity is a key attribute of a substantial portion of Eurogenetic notated music, described eloquently by composers Leonard Bernstein (1976) and Jonathan Harvey (1999, 23-46), as well as music educators Reimer and Wright (1992, 212-20).

The central ambiguity of Serieng music concerns the source of the spirit voices. Much of the discourse on ambiguity in notated music, on the other hand, deals with delayed expectancy and adherence to norms. Harvey's book, accompanied with a compact disc, is exceptional in that he illustrates concepts of spiritual ambiguity with specific musical examples. At an informal meeting, he told me that the spiritual ambiguity of Serieng music as I described it did indeed share a similarity with the concepts he expressed in his book.[5]

Ambiguity functions in nearly all religions, often manifesting as mysticism or counterintuitive belief. Sound plays a key role in the exercising or playing out of ambiguity, as evidenced by the importance of music and the correct pronunciation of sacred texts in the world's religions. Voice-modifiers constitute a particularly direct method for transforming a human voice into that of a spirit or spirits, thus ambiguating both the sound and its creator.

5 I accompanied music critic Steven Koenig when he interviewed Jonathan Harvey in New York in November 1999.

The central story of Serieng traditional religion, that the women first owned the *Kaapu* instruments and the men took them away, was imported from a neighboring language group, as was the flute ritual of the Brazilian Nhambiquara people (borrowed from the Pareci; Fernandez 1995, 28). In both cultures, men forbid the women from seeing the instruments.

The final attribute of Serieng music I wish to consider here is that of language. Terms that may have been used as substitutes for, metaphors of, or in conjunction with key religious words (possibly shifting to an adjacent meaning when passed across languages) include those denoting spirit, song, trumpet, gourd, flute, drum, and ancestor. Some intriguing similarities between key musico-spiritual terms point to the possibility of potential cognates for a cluster of terms that may have been used to refer to a concept similar to the Nekeni *Kaapu*. Most striking of these is the Amazonian term *kapu* (Waiwai language, "heavenly realm") (Sullivan 1988, 116). A preliminary search of instrument names from around the world suggests that a widespread onomatopoeia shaped the naming of wind instruments because many of their names incorporate phonemes, such as /bu/ or /pu/, which reenact playing techniques when pronounced. In light of the multidimensional meaning of Nekeni *Kaapu*—musical instrument, ancestor spirits, and song—the phoneme /pu/ is particularly interesting because of its widespread use both as the onomatopoetic sound/imitation of blowing (Osmond and Ross 1998, 107) and as a component of terms for grandfather/grandparent (Philsooph 1990, 103-105).

Parallel Styles

The seven components of Serieng music, discussed above in terms of parallels with other musics, together form a style that

represents Nekeni music. A few brief comments regarding parallels between Nekeni and other musics may provide an opportunity to evaluate the nature and extent of similarities and differences between the musics, as well as a chance to reflect on the sources of particular musical characteristics (diffusion or independent creation).

In addition to ethnomusicologists who typically develop profound insights into two or more music cultures, a few visionaries have been able to fully integrate a large number of very different musical systems in their listening. That is, they found commonalities below the surface, developing appreciations of underlying components of musics that may not appear obvious in the sound. Some of the most remarkable of these visionaries include Robert Cogan, Pozzi Escot, Peter Michael Hamel, Mickey Hart, Alan Lomax, Maurius Schneider, and Bence Szabolcsi. Finding similarities between one or several characteristics, as these musicians have, can provide the starting point for understanding and appreciating a new style, and expand a listener's aesthetic base with new perspectives.

Perhaps the key characteristic that links Serieng music to styles outside of New Guinea is that of ambiguity. In the case of Eurogenetic classical music, ambiguity in the form of spiritual mysticism constitutes a central motivating factor in the function, detail, and inspiration for a substantial portion of written music. Most of the oldest notated music has to do with religion, mythology, or mysticism. No longer limited to Christian doctrine, many post-World War II composers refer specifically or obliquely to the importance of ambiguity in their views on spirituality (cf. Leonard Bernstein, John Cage, Jonathan Harvey, György Ligeti, Olivier Messiaen, Luigi Nono, and Giacinto Scelsi).

Similarly, many jazz artists have spoken eloquently on spiritual inspiration (cf. Leonard 1987; Spellman 1966; Such 1993; Wilmer 1977).

Jazz musicians notable for prominent spirituality in their work include Albert Ayler, John Coltrane, Duke Ellington, Milford Graves, Cecil Taylor, and David S. Ware.

The sound of jazz and classical music differs greatly from that of Serieng music. The types of ambiguity also differ, but all of these musics may produce ambiguity per se in listeners. In Serieng music, the ambiguity concerns the identity of the source of particular sounds; in much of the specifically spiritual classical and jazz creation, the ambiguity has to do with transcendence.

Musics closer in sound to Nekeni music come from societies in the Amazon and Africa. Dan music from the Ivory Coast, for example, has a number of characteristics remarkably similar to Nekeni music, particularly in the use of voice modification. The musics differ substantially in sound, however, especially in their rhythms and in the relatively slower tempi of Nekeni music.

Musics that share with Nekeni music both similar types of voice modification and typical melodic, rhythmic, and tempo characteristics exist, I believe, only in the Amazon basin and in northern Papua New Guinea. Taken together with the similarities in traditional religion and gender concepts, the parallels between Amazonian and New Guinean cultures in general, and Enauené-Naué and Nekeni music in particular call for some explanation. At this stage, despite the growing genetic and archeological evidence supporting early contact between Melanesia and South America, independent creation appears more likely than diffusion. Biomusicological research combining musical, linguistic, anthropological, psychological, and religious studies is needed to evaluate cross-cultural parallels and their sources, in order to investigate why these widely separated cultures developed such similar religio-sonic systems.

The musics closest in sound to Nekeni music come particularly from lowland South America, but also from societies in Africa. Some groups in Brazil's Mato Grosso use musical systems with many components similar to those of *Kaapu*. These parallels include musical instruments (bamboo and gourd voice modifiers, and sacred flutes), terminology (e.g. Nekeni *tereri* = Enauené-Naué *toreukuri*~Arara *tereret*), protocol (ceremonial hut, hiding instruments, all-night performance), and melodies.[6] Individually, such parallels are meaningless. Taken together, however, they suggest some sort of common agency or influence such as tropical living conditions, flora, and fauna. Diffusion or contact in the far distant past cannot at this point be ruled out, but archaeologists and geneticists have so far presented only meager evidence in its support. In the future, comparative musicological studies may contribute towards the solution of precisely this type of question, particularly where scholars can combine research from a number of disciplines, such as archaeology, comparative linguistics, and anthropology.

The Serieng religio-sonic system evinces striking parallels with a number of similar musics in the Amazon region. Although I have refrained from a detailed comparison of Serieng and Amazonian melodies, the anecdotal evidence of New Guinean village elders is compelling in its own right because it provides an emic view of the familiarity they report when listening to the Amazonian recordings. Taken together with parallels of musical instruments, terminology, legend, and performance practice, relationships among melodic types when placed in geographic, historical, and environmental contexts may provide clues towards distinguishing musical genotypes from phenotypes.

6 Fernandez 1995; Estival 1995, 21.

Conclusion

In his review of the remarkable album of New Guinean music, *Sacred Flutes!* (Johnson and Mayer 1977), biologist/ethnomusicologist Laurence Picken raised the question of diffusion versus biogenesis (Picken 1980). Written at a time when comparison was unpopular among American ethnomusicologists, his query did not spark any response. Discovering the remarkable parallels between Nekeni and Enauene-Nau musics rekindled my interest in Picken's question. Now, in light of a few more decades of advances in genetics, linguistics, and ethnomusicology, the question seems more pertinent than ever. Genetic variation, language, and archaeology have constituted the pool of evidence for reconstructing human evolution before the use of writing (cf. Cavalli-Sforza 2001). Can we add music to our toolkit for studying the distant past?

The striking parallels between Amazonian and New Guinean musics lend weight to the possibility of monogenesis. Although a time span in excess of 10,000 years seems to exclude the possibility of continuous musico-spiritual practice, nonetheless it cannot be ruled out if we are to adopt a scientific attitude of examining all possibilities. Indeed, it is exactly the spiritual practices that are likely to be most stable over time, particularly, it seems, in small-scale societies. It is my hope that comparative ethnomusicological work as garnered through genetics, linguistics, and archaeology, will contribute to our understanding of the distant past.

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