

Ethno-Electro – A Framework for Examining Cultural Influences In Electroacoustic Music

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Abstract

In the early, evolving years of the genre, electroacoustic music was often defined in terms of technological, not cultural or geographic characteristics. *Musique concrète* came from the Paris studio, pure electronically derived pieces from Cologne. Columbia-Princeton was known for the signature sound of its reverb. The unique equipment that generated the sounds associated with that specific studio defined the cultural roots of the music itself, especially given the international nature of the composers who populated those few studios.

But electroacoustic music itself lost what cultural identity the technology provided when the technology went global. Only in recent years has the hardware and software developed to the point at which we can explore the cultural influences on the composer, rather than the limitations imposed by the equipment upon the composer's expression.

Defining cultural influences in electroacoustic music becomes even more daunting, given that the genre invites the abandonment or radical redefinition of traditional characteristics of form, tonality, harmony, melody and structuring of time. The problem then becomes one of recognizing and defining cultural influences in a music that is no longer reliant on traditional structures. How can we define the cultural and ethnic influences in a music when we abandon the traditional means of the expression of that ethnicity?

This paper presents a framework to examine the ethnomusicology of electroacoustic music. As an example, I examine Jewish influences in electroacoustic music with the intention of providing a model for future *ethno-electro* studies.

Introduction

This paper presents an initial attempt to establish a framework for analyzing the ethnography of electroacoustic music. Electroacoustic music is often presented as an art form bonded together by electricity, computer code and black boxes rather than cultural values and influences. As in folk, classical, popular, and jazz, composers consciously and subconsciously borrow influences from their own and other cultures. The same influences find their way into the works of electroacoustic composers, often in unconventional and less obvious and immediately observable ways. An ethnographic study of electroacoustic music is just one of many analytic tools that may be used to deepen a listener's appreciation of a work.

Of initial concern is defining a culture's characteristics and their musical analogs, especially given the unique possibilities presented by electroacoustic music. How can cultural influence be heard through electroacoustic music with its expanded concepts of melody, harmony, texture, timbral color and spatialization?

In any ethnographic study, an initial concern is defining a culture's characteristics and its musical analogs and artifacts. Ethnographic studies are not limited to purely musical analytic issues; discovering the roots of musical gestures, melodic lines, harmonic thrusts and orchestrational decisions. An ethnographic study also accounts for the intent of the music, its functionality and use. We must also include the perception of the music by the audience, not to mention the cultural influences on the composer, performer and audience. These cultural influences include, but are not limited to social structures from the three stakeholder's past and present history; their socio-economic status, geographic home, both past and present, religious or spiritual influences, education, political influences and predilections, gender identification, as well as esthetic and philosophical leanings and exposures. Musical outcome is but one result of the convergence of these influences.

An ethnographic analytic approach is more interested in observation and recognition rather than judgment. In short, to understand the music, we must understand the culture from which it came to the best of our ability. For those of us from the Western classical tradition, we must be careful not to impose our values, our aesthetics and our semiotics on other cultures, and vice versa.

One immediate question that emerges, as it does in any musicological inquest, is of what value is the study? Why research, examine and explain the cultural influences and implications of a work of art? This question can best be answered with another question; can examination and exploitation of significant cultural artifacts in a work of art help make the work more accessible and therefore more interesting to more people? I will maintain that cultural reference within a work can contribute a vital element to the work's appreciation and success as it gives the audience a common, associative basis of understanding.

Much of the public's lack of acceptance of electroacoustic music (and sound art as well as other emerging media forms) can be understood in terms of the field of information theory. One aspect of information theory postulates that a balance must be drawn between the sheer amount of information disseminated, its "newness" to the brain, and the human ability to absorb that information. It's less a matter of brain capacity and more a matter of brain power; how much energy is necessary to absorb and comprehend and perhaps utilize that information. It is also a matter of association and this is where culture comes in. The psychological notion of association relies on the perceiver's previous known experience. Have they experienced similar information or events before? How often? Recent brain studies with fMRIs confirm that the more one is exposed to certain information, the less cognitive brain power it takes to process that information. In musical terms, the more you practice your instrument (or compositional or technical skills), the more autonomic your reaction and understanding becomes. This literally frees up brain power to absorb new information.

The problem with understanding much of our electroacoustic music is that the audience does not have an associative frame of reference. Gone are the centuries of recognition of traditional melody, harmony, form and familiar sounds such as the violin or guitar or djembe. Much of our electroacoustic music still remains too new, too overwhelming for people to process quickly. Exposed to too many new musical ideas too quickly, and the mind tunes out, it

wanders. Yet given too little new information and the mind becomes bored and tunes out; it wanders. We need to find the *Goldilocks moment*, when the flow of information is *just right*. The scaffolding I am advocating may be used to find that moment. By encouraging the audience and the composer to become aware of the cultural stepping stones in a piece of music, or performance or experience, we can encourage their cultural associations, towards a better understanding and appreciation of the work at hand. Program notes, liner notes, explanatory websites, and in the case of a live performance, a brief pre-performance explanation can serve to open the audience to the experience.

Towards this end, I would propose the following plan of action when examining the ethnographic aspects of an electroacoustic work, with the intent of making it more accessible to the audience. Please note that examining electroacoustic music, I use the term artifact to refer to a clearly recognizable non-abstract musical element. The term influence refers to an abstracted conglomerate of sonic signifiers (they can be artifacts or style characteristics) that taken together, imply consciously or subconsciously a cultural association.

Technological Influences

In the early, evolving years of the genre, electroacoustic music was often defined in terms of technological, not cultural or geographic ones. *Musique concrète* came from the Paris studio, pure electronically derived pieces from Cologne. Columbia-Princeton was known for the signature sound of its one-ton plate reverb. The unique equipment that generated the sound associated with that specific studio became part of the cultural roots of the electronic studio itself.

But electroacoustic music itself lost what little cultural identity the technology provided when the technology went corporate and global. Only in recent years has the technology developed to the level at which we can explore the cultural influences on the composer, rather than the limitations imposed upon the composer's expression by the equipment. In electroacoustic music, we must also include an understanding about the composer's access to technology, which will have implications for timbre design, performance and recording. By access I mean not only which hardware and software was used, but where the studio is located geographically, which itself implicates the intellectual and cultural climate of the studio. The cultural gestalt of the studio includes interactions with other studio users, the discussions held around the coffee machine, even the application process overseen by studio gatekeepers who in one way or another influence who and therefore what comes in and goes out of the studio.

What hardware and software was available to the composer? How did this influence the elements of sound and method of composition? We've already discussed the unique equipment that defined the Columbia-Princeton studio sound, or the Cologne studio sound. Consider as well, that the development of the analog sequencer and later its digital counterpart influenced compositional style and even spawned the field of electronica. Computer programming allowed a degree of interactivity between electronic sound and live performance that did not previously exist with live musician and tape performances. When the first music notation programs emerged, many of us saw a marked difference in the compositional style of new composers.

Cultural Sound Influences

How are composers and performers influenced by the nature of the sounds to which they have been exposed? Numerous Chinese composers refer to the melodic influence of the Mandarin Chinese language in their work and commentary. Some South American composers draw upon the dynamic rhythmic aspects of Latin music in their electroacoustic works. As we shall see, the vocalizations and melismatic nature of Jewish music finds manifestation in various ways in electroacoustic works.

Intellectual and Spiritual Cultural Influences

What is the composer and performer's ethnic, geographic, philosophical and intellectual background? What is the culture of the place of creation, including aesthetic, scientific and cultural proclivities of the studios of origin? This includes both where and how the artist was educated as well as what music and spiritual influences affected the artist. For example, does the work signify an intellectual culture that fosters a specific musical philosophy and compositional style, such as Second Viennese school or Swedish text-sound composition or Canadian and French multichannel diffusion, or British Columbian soundscapes?

Geographic, Economic and Political Influences

Under what conditions was the work composed and disseminated? Was the work politically influenced in either its philosophy or in its ability to be publicly performed? In sample-based works and structures such as soundscapes, where were the original source materials drawn from? For example, were the sound sources collected from urban, rural, natural or machine-dominant environments? From a performance perspective, the venue and the social customs surrounding the venue can reveal ethnomusicological ramifications. The concert hall evokes one set of audience behaviors, the club environment, another. Installations in art museums evoke a different set of audience expectations than a *Vimeo* hit on a computer.

Geography can also reflect educational exposures. Many of the founders of the Chinese studios found themselves studying in the West, where they had access to compositional styles and equipment not available in their own country for economic, cultural and political reasons. In most cases, they adopted the technology and adapted learned compositional styles and techniques to fit their own sensibilities.

Musical Manifestations of the Above Influences

How are culturally significant musical traits defined and conveyed in an electroacoustic work? Whereas in conventional musicological and theoretical studies, examination of melody and harmony consists of pitch analysis, phrase analysis, harmonic activity including rhythm, we can look at the gesture or sound object as the microstructure on which the piece is built. Just as certain collections of pitches form ethnic melodies and harmonies, single or collections of gestures can reveal an ethnically influenced timbre sensibility. When combined with rhythmic gestures, the sound becomes undeniably ethnic in origin.

Rhythm or divisions of time can clearly reflect cultural origins or preferences, the most notable examples come from the minimalist movement, which reintroduced beat-based sound back into the classical electroacoustic tradition. Here we see at first the clash and then the amalgamation of uptown and downtown cultures, town and gown combining forces to produce a new sound.

Some South American composers, such Gabriela Ortiz clearly draw from Latin American rhythms for their works. In her *Second Etude*¹, we may not hear the exact clave rhythm, the artifact, but we will hear the Latin American influence, a polyrhythmically layered texture and a distinctive clave-like rhythm in the forefront.

Cultural Sound Influences on Timbre and Sound Design

The development of timbre is of specific interest to electroacoustic composers. Timbre is an important aspect of many musical cultures, often the defining characteristic. The breath-infused sound of the shakuhachi flute is characteristic of Japanese music. The kaleidoscopic colors of a philharmonic orchestra are a characteristic of Western culture. Timbral inflections are characteristic of many non-Western cultures, Chinese, Japanese Arabic, Indian and Eastern European among others. The realm of timbre is one defining cultural characteristic that may be traceable in electroacoustic music.

How are composers and performers influenced by the nature of the sounds to which they have been exposed? Chinese composers such as Dajun Yao in his *Dream Reverberations*, clearly refer to the melodic influence of the Mandarin Chinese language in his work and commentary. According to Bob Gluck, Zhang Xiaofu says that,

One of the features of our approach reflects what we have found to be Oriental elements in sound. For instance, most of my sound sources are drawn from nature, the human voice and Chinese instruments... I believe that these kinds of natural sounds have an inner beauty and represent Eastern aesthetics. Because of the strongly held preference, also influenced by the French school, most of my students follow the same approach.²

Practical Application of an Ethnographic Approach

An exploration of Jewish influences in electroacoustic music begins with defining the meaning of *Jewish influence*. Painted in a broad stroke, the Jewish people and their culture have wandered homeless for most of the past 5 000 years, assimilating local customs and influences into their own experiences. Jewish music is a diasporatic one. Jews have constantly had to preserve the continuity of their culture, values and heritage while assimilating elements of the cultures in which they lived, sometimes by choice, often by necessity.

The problem then becomes one of recognizing and defining Jewish influences in a music that is no longer reliant on melodic modes, rhythmic and melodic embellishments, even timbres of the traditional instruments. In this sense, the problem of defining Jewish influence in electroacoustic music is the same problem encountered when trying to define any cultural

¹ Gabriela Ortiz, *Second Etude on Alma Latina*, Lorelt (Lontano Records Ltd.), 2001.

² Bob Gluck, "A Conversation with Zhang Xiaofu", originally published online at EMF Institute in 2006. Site is extinct. Scheduled for publication within the next year on <http://cec.sonus.ca/>.

influence in the field. How can we define the ethnic influences in a music when we abandon the traditional means of the expression of that ethnicity?

Traditional musical aspects such as harmony are hard to characterize as inherently Jewish; Mediterranean-influenced might be a better choice of terms as songs in minor keys are characteristic of that geographic area. Jewish melody is a bit clearer to characterize if one considers the orientalism of the eastern Jews.

Orientalism in Jewish music can be defined to a large extent by several characteristics: placement and repetitive use of the half-step, modal harmony, melismatic melodic lines, melodic ornamentation, and melodies with repeated pitches performed in a freely rhythmic manner that emulates the hazzan or leader of religious services in the synagogue. The style is distinctive, though by no means limited to just the Jewish culture. Certainly melismatic melodies are indigenous to the music, derived from ancient Arabic and Aramaic chant, along with other music gathered and incorporated during the Diaspora.

We turn to melody and ornamentation because it is in this area that we see many of the clearest musical signifiers of a Jewish influence. Jewish cantillation is rich and florid, codified in the 1400s and committed to the written page with a system of symbols that indicated the desired embellishments. Jewish music is a vocal-based one. It never wanders far from the sound of the voice, regardless of the instrument. Traditional klezmer improvisation did not wander far from the melody. The chirpings or krechs, the nyuk-nyuks, the shmears and glissandi, especially of the klezmer clarinet are clearly vocal emulating effects. In addition, a fluid sense of time, a sort of personalized pulse permeates much of Jewish music derived from the heterophonic nature of Jewish prayer in which individuals gather together to pray, but at their own pace. Therefore we can look for the use of vocal-like sounds, effects and embellishments as a signifier. To this end, we can look for sounds in the vocal pitch range with timbres and envelopes that somewhat resemble human sounds, perhaps coupled with a heterophonic texture.

In Michael Lowenstern's *Sha*³, the bass clarinet melody is an undeniable doina, characterized by its melismatic nature and scalar material, but the accompanying electronic line is just as melismatic in its timbral shifting. The ensuing delay techniques, applied to the bass clarinet evoke the heterophonic texture indicative of ritual prayer in a shul.

This heterophonic cultural signifier becomes the basis for Bob Gluck's *Maariv*⁴. Maariv is the morning service and captures the essential synagogue experience, everyone praying individually. The polyphony that grows from the heterophonic beginnings is a result of the same melody being repeated by the individual daveners or prayers at their own pace. Here is a case in which the Jewishness of the music is undeniably observable. But the chant's melody and the language blend into a minimalist wash of sound, tape loop style. Gluck's looping finds its basis in the synagogue chant itself, each person chanting the same material at his own pace is a sort of wash of sound by itself.

The Holocaust is a source of material that lends itself to electroacoustic treatment. Anna Rubin's *Remembering*⁵ is a Holocaust lament. The opening breath is a cry. The ensuing

³ Michael Lowenstern, *Sha on Ten Children*, Earspasm Music, 2003.

⁴ Bob Gluck, *Maariv on Stories Heard and Retold*, EMF Media, 2000.

⁵ Anna Rubin, *Remembering on Electric Music*, Capstone Records, CPS-8743, 2004.

cantilation is a series of repeated notes in a cadenza-like environment. It is fluid and loose, reminiscent of a klezmer doina, itself derived from the ornamental vocalizations of the chazzan or synagogue cantor. Her choice of sound source depends upon our association to make the work significant to the listener.

The opening breath-cries eventual reveal themselves to be vocalizations of names of awful places, Auschwitz, Buchenwald, Treblinka, Sobibor and Babi-Yar, places of indescribable death and crying. The Mourner's Kaddish emerges in the final movement. It is powerful, haunting and uses electroacoustic resources to try to impart to us what was and continues to be an indescribable experience.

In *The Lead Plates of the Rom Press*⁶, Jonathan Berger portrays a people and their culture fighting back with the only resources available to them, sacrificing their most precious cultural artifacts in a futile attempt of self-preservation. The Rom Press was a publishing house in Poland known for its Yiddish poetry and Talmudic tracts. A true story, the Jewish Resistance in Lodz tried to melt down the plates of the literary works and tracts to produce ammunition. In this sense, Berger's choice of material carefully explained in his liner notes, associates the sound of the lead plates being transformed in bullets with historical fact, but it also reflects current political dilemmas, the plight of the scholar/warrior debate that is Israel today.

The plaintive cello line is quickly confronted with the guiro scrape. The opening figures resonate with the weighted lead of hundreds of years of writings and readings being smelt into bullets. The cantorial-like repetitive synth figure emerges from the melismatic cello, the physical image of the lead plates being destroyed and recast is unmistakable. Notice the use of repeated notes, a reference to syllabic cantilation.

Final Thoughts

Not all works lend themselves to an ethnographic study, of course. Most works probably reflect the cosmopolitanism that is inherent in a music that, at least at the beginning, relied on large institutional support, either from governments or educational institutions. But this approach can be one of the many evaluative tools that can help provide insight, education and therefore increased appreciation for electroacoustic music.

⁶ Jonathan Berger, *The Lead Plates of the Rom Press on Electric Cello of Jeffrey Krieger*, Composers Recordings, 1995.