SOUNDSCAPE COMPOSITION AND THE SUBVERSION OF ELECTROACOUSTIC NORMS

by Andra McCartney

fields of SOUND

The field of electroacoustic presents a number of potential challenges to assumptions about what Western art music is: as John Cage noted as early as 1937, it opens up the entire field of sound as musical sources. Barry Truax states that "the serious use of environmental sound in music is potentially disruptive and even subversive to the established norms of the artistic field" (1995: 1). Electroacoustic music can shift attention from pitch relationships to timbral possibilities of sounds. As a result, much electroacoustic music confounds traditional forms of musical analysis (Tenney 1986: 4). Soundscape composition, with its focus on environmental sound, could be considered a type of electroacoustic music that is particularly resistant to traditional analysis and categorization.

This discussion will be limted to the serious use of environmental sound (which I will refer to as soundscape composition) within the field of electroacoustic music. Electroacoustic music is a specific genre of Western Art music which has developed only in the last hundred years or so, requiring extensive financial expenditure for equipment and therefore practised–at least until recently–mostly by people in industrialized nations, in large publicly or commercially funded studios. My discussion of the place of soundscape composition within the field of electroacoustic music will raise issues that also apply to the larger field of Western art music, while retaining a focus on the norms of electroacoustic music. The discussion will be in three parts: what is meant by the phrase "the serious use of environmental sound," what are the established norms of electroacoustic music, and to what extent does soundscape composition in itself disrupt or subvert these norms?

The serious use of environmental sound

The concept of an environment of sound is the basis of the word "soundscape," a term credited to composer R. Murray Schafer. He defines it as:

The sonic environment. Technically, any portion of the sonic environment regarded as a field for study. The term may refer to actual environments, or to abstract constructions such as musical compositions and tape montages, particularly when considered as an environment. (1977: 275)

By sonic environment, Schafer is referring to "the ever-present array of noises, pleasant and unpleasant, loud and soft, heard or ignored, that we all live with" (1977: jacket notes). This acceptance of all sounds is similar to that of John Cage, who said that the use of electrical instruments "will make available for musical purposes any and all sounds that can be heard" (1961: 4). Recording equipment makes any sound in the world available: it can be isolated from its context and treated as a sound object, or the interplay of sounds within a specific environmental context can be the focus of attention. Schafer's statement in his definition that abstract constructions such as musical compositions are soundscapes particularly when considered as an environment refers to the importance of context in soundscape composition.

Barry Truax clarifies what the importance of context means:

In the soundscape composition ... it is precisely the environmental context that is preserved, enhanced and exploited by the composer. The listener's past experience, associations, and patterns of soundscape perception are called upon by the composer and thereby integrated within the compositional strategy. Part of the composer's intent may also be to enhance the listener's awareness of environmental sound. (1984: 207)

Truax concentrates on the importance to the composer of the experiences, awareness and perceptions of listeners, and their relationships to the sound environment. These become an integral part of the compositional strategy. Hildegard Westerkamp also defines soundscape composition as a form that insists on contact between the composer, listener and sound environment: "The word soundscape always implies interaction between environment and individual, and between environment and community" (1988: 3). Thus the serious use of environmental sound, according to these composers, is to work with the environment of the sounds, their context and interrelationships with listeners and with the composer.

This focus on relationships between composer, listener, and sound environment grew naturally out of these composers' soundscape research. Truax, Westerkamp and Schafer first worked together in the context of the World Soundscape Project at Simon Fraser University in the early 1970s. This project, founded and directed by Schafer, began with his concerns about noise pollution, and received funding to undertake major research projects of soundscapes in cities and villages of Canada and Europe **[1]**. This work resulted in several research and educational publications about soundscapes by members of the research team.

These composers continue to be involved in the research and education started through the World Soundscape Project (WSP). The "Tuning of the World Conference" in Banff in 1993 led to the founding of the World Forum for Acoustic Ecology, with its head office at Simon Fraser University. The aims of acoustic ecology are often implicated in soundscape composition. Westerkamp, for instance, says that she likes "to position the microphone very close to the tiny, quiet and complex sounds of nature, then amplify and highlight them...[so that] they can be understood as occupying an important place in the soundscape and warrant respect" (1996: 19). Although Torigoe (1982) focuses mainly on the research and education components of the WSP, mentioning soundscape compositions only in passing, several such compositions were made by project members, many of whom were composers. These compositions were assembled into ten one-hour radio programs for the CBC, entitled Soundscapes of Canada.

Truax discusses the range of compositional approaches in this series (1996: 54-58). The collectively authored *Summer Solstice* documents two minutes of each hour of a summer day and night, recorded beside a pond near Vancouver, giving a representation of condensed time. *Soundmarks of Canada*, by Peter Huse, features the juxtaposition of significant sounds associated with particular places in Canada, condensing space. Several pieces included electronic transformations of sounds using a range of classic analog studio techniques. Truax notes that sounds still remained recognizable and within context in these pieces, such as Bruce Davis' *Bells of Perce* and Barry Truax' *Soundscape Study*. Because of the WSP commitment to

bring together research, education, and composition, these soundscape compositions are presented by the composers in the context of discussions on research and education within the radio programs, which also include a range of listening exercises and lectures by Murray Schafer.

Schafer, Truax, and Westerkamp all continue to compose with environmental sound in context. Schafer's environmental work, such as *Music for Wilderness Lake* (1981), tends to be site-specific and acoustic, rather than electroacoustic. This piece uses traditional instruments and voices within a wilderness setting. Truax works with "granular synthesis," a computer process that stretches sounds to create slowly moving textures, revealing complexities within the sound that otherwise would not be heard. Since 1990, he has used environmental sound increasingly with this process, in works such as *Pacific* (1990), *Dominion* (1991), *Basilica* (1992), *Song of Songs* (1992), *Sequence of Later Heaven* (1993) and *Powers of Two* (1995). Westerkamp has done the most extensive work in electroacoustic soundscape composition of the three. In fact, all of her work is with environmental sound in context, usually recorded by her in specific locations. Many of her earlier pieces, such as *Walk Through the City* (1981), and *StreetMusic* (1982) were originally written for and broadcast on "Vancouver Cooperative Radio". Her *Harbour Symphony* (1986), commissioned by the Canada Pavilion for Expo '86, was probably the largest environmental music event ever to be mounted in Vancouver. Some of her more recent works, such as *Cool Drool* (1983) and *India Sound Journal* (1993) also include live performance. Westerkamp (1994) notes that soundscape composition involves a balance of work in the studio with work on location. Techniques of field recording, such as learning how to listen to sound environments, close-miking, protecting equipment from difficult weather conditions, learning how to move through a space with the microphone, and soundmaking in response to environmental sounds, are as important as studio work with the sound.

The composers at the World Soundscape Project had an excellent climate for thinking about and working with environmental sound in context. Several other composers around the world were also working with soundscapes, although they may not have used that name. Many were inspired by the early work of John Cage to pay attention to all kinds of sound within specific environments. In 1954, Luciano Berio and Bruno Maderna composed a piece specifically for radio broadcast, *Ritratto di Città*, a sound portrait of Milan, Italy, during the course of a day. In France, Luc Ferrari's *Presque Rien No. 1* (1970) condensed the sounds of daybreak on a beach. The liner notes for this piece describe a similar focus on the experience and memory of the listener as that espoused by the Vancouver composers:

Instead of forcibly eliminating every trace of the origins of the material which has been taken from reality, Ferrari uses its reference to reality in order to appeal to the hearer's experience and imagination...an undistorted portrayal, although in fast motion, of daybreak on the beach, it is electroacoustic natural photography, in which Cage's respect for reality is crossed with the dream of a sounding 'minimal art.' (1970: unpaginated)

In the United States, Alvin Lucier's *I Am Sitting In A Room* (1970) used multiple recordings of voice on tape to allow the resonant frequencies of the room where the recording was made to cover the sounds of the speech. The first words of the text recited by the performer of this piece stress the importance of context: "I am sitting in a room different from the one you are in now."[2] Americans Pauline Oliveros and Annea Lockwood have both worked with particular sound environments. Pauline Oliveros published *Sonic Meditations*, a set of listening exercises of a similar type to the "ear-cleaning" exercises advocated by Murray Schafer. Recently, she has formed the Deep Listening Band, whose members David Gamper, Stuart Dempster, Joe Giardullo, Thomas Buckner and Oliveros herself play together in places with interesting acoustics. One such place is the Fort Worden cistern, an abandoned water tank in Washington State with a 45-second reverberation, (Deep Listening) or Tarpaper Cave, an abandoned Catskill mountain cement quarry in New York State (Troglodyte's Delight, 1989). Annea Lockwood created *A Sound Map of the Hudson River* (1989), an aural journey which paid attention to the changing sonic textures of every part of the river from source to mouth.

The serious use of environmental sound, then, means to attend to the context and the integrity of sounds, to be aware of the relationships between sounds and their contexts, and to work with a listener's associations and memories of sound environments. An attention to context means that composers often choose to work with the sounds of particular places, listening intently to the sources, relationships, reverberations, and movements of sounds within those places, in order to understand them sonically, then to express that understanding.

The Established Norms of Electroacoustic Music

Definitions

One of the difficulties of defining electroacoustic music is that often the terms "electronic music" and "electroacoustic music" are used interchangeably, even in major library collections (Schrader 1982: 3). To complicate matters, the terms "musique concrète," "tape music," and "computer music" are other designations that are used in related and overlapping ways. Many texts do not define the terms at all, proceeding instead to a historical account which defines by description and inclusion or exclusion.

Deutsch defines electroacoustic music as "Music made in whole or in part by electrical instruments, amplified or electronically modified instruments, recording devices or computers" (1993: 5). This definition is similar in some ways to Otto Luening's definition of electronic music:

Electronic music is a generic term describing music that uses electronically generated sound or sound modified by electronic means, which may or may not be accompanied by live voices or musical instruments, and which may be delivered live or through speakers. (Luening 1975: 2)

Chadabe defines electronic music as "all music made with electronics, whether specifically with computer, synthesizer, or any other special equipment" (1997: x). All of these definitions include the use of electrical instruments or electronics as necessary. All are also general enough to include popular recorded music that uses amplified instruments and sounds modified by electronic means. The extent to which popular and other types of music are included in the definition only becomes clear later in each text. None of these definitions specifically includes recorded environmental sounds, yet none excludes them. Jon Appleton specifically includes concrète or recorded sounds in his definition: "When referring to electronic music I mean music composed by using electronic instruments and concrète sounds by living composers and by computers" (Appleton 1989: 69).[3] It is easy to see why the terms "electronic music" and "electroacoustic music" become confused. It is difficult to perceive from the preceding definitions why the two designations are used: they seem to refer to the same area, and it appears to be a very open field.

The most elaborate set of textbook definitions is given by Barry Schrader. He defines musique concrète as "any electroacoustic music that uses acoustic sounds as source material" (1982: 2). He later discusses some soundscape compositions in the section on musique concrète. Electronic music is "music in which the source, or original, sound material

has been electronically produced. This is usually done with electronic oscillators" (1982: 2). Computer music is "a type of electronic music in which a computer is used to generate the sound material" (1982: 2). He also delineates tape music from live electronics and creates a graphic taxonomy of all types.

Note that all of these definitions refer to the materials involved in the work. Such definitions become problematic for work that involves a combination of oscillator, acoustic, and computer-generated sound materials. Schrader uses the general term electroacoustic to refer to music that involves any of the former definitions.

The textbook definitions tend to be so general and encompassing that little could disrupt or subvert them. One characteristic to note, however, is the emphasis on materials–sound sources and equipment or means of production of sound. Initially, the first two electroacoustic studios to open, the Radiodiffusion Télévision Française (RTF) in Paris, and Westdeutscher Rundfunk (WDR) in Cologne, were antagonistic to each other and described themselves as opposites. Pierre Schaeffer of RTF defined the music he was making, musique concrète, as having direct contact with sound:

> I mistrust new instruments, waves or waveforms, what the Germans pompously call elektronische Musik. Before all electrical music I have the reaction of my violinist father, my vocalist mother. We are artisans. My violin, my voice, I meet them again in this bazaar of wood ... and in my truck horns, I seek direct contact with sonic materials, without electrons interposed. (1990: 26, my translation)

The WDR studio, on the other hand, wanted to sever connections with an outside sound world. They used the serial technique[4] of composition employing simple sine tones produced by oscillators rather than recorded sounds to make elektronischemusik:

> In electronic serial music ... everything to the last element of the single note is subjected to serial permutation ... Today, the physical magnification of a sound is known...as exact scientific data ... Talk of 'humanized' electronic sound may be left to unimaginative instrument makers. (Eimert, 1955: 8)

This artificial distinction between the two studios disappeared within a few years. Although his first pieces used recognizable sound sources, Schaeffer began to manipulate the envelopes of sounds in the studio so that their sources became indistinguishable. Composers at the WDR studio began to use acoustic as well as electronic sources, and extended compositional technique beyond serialism. Their approach has opened up considerably since that time, to the extent that recently, two CDs of urban soundscape compositions, by Michael Rüsenberg and Hans Ulrich Werner, (Lisboa, 1994; Madrid, 1995) were produced by WDR. Yet this initial distinction between musique concrète and elektronische Musik seems to be maintained in the organization of many electroacoustic music textbooks, even though by the time these books were published, the distinctions between the musical styles had diminished greatly. The use of the term musique concrète to refer to tape music as a whole can increase this confusion by associating all tape music with the aesthetic aims of Pierre Schaeffer, who coined the term. As noted earlier, the use of the term electronic music to refer to all electroacoustic music could also associate the entire field with the aesthetic aims of elektronische Musik.

Another area of confusion is that of live electronic music. Manning lists live electronic music as a genre only after 1960, yet live performance with electronics began long before this with the early electronic instruments, and Cage's *Imaginary Landscape #1* in 1939. What is behind this historical and generic confusions? The preface to Pellman may provide a clue:

> Since its origins nearly a half-century ago, the field of electroacoustic music has passed through a remarkable series of changes. New instruments and techniques, based upon the most recent technological innovations, have appeared regularly. These often relegated older electroacoustic instruments to the status of relics. (1994: xi)

Deutsch also claims that technical innovation is important: "Music, the most abstract of mankind's arts, has always been close to its technological developments" (1993: 5). The use of tape becomes one "development", improved upon by the use of oscillators, then synthesizers, computers, and MIDI. Live electronic music is only discussed as a genre when "compositions wholly or largely based on live synthesis became a major sphere of activity during the 1960s" (Manning 1985: 187). Thus live electronic music becomes associated with the technological development of a particular instrument: the synthesizer. All other work with live electronics is considered an antecedent to this moment. Even though new compositions continue to be written for the ondes Martenot and the theremin, which were invented in the 1920s, they are "relegated to the status of relics" by the idea of technological development as evolution of innovation.

Is Soundscape Subversive?

Returning to the initial quote, Truax claims that soundscape music is disruptive and even subversive to the norms of electroacoustic music. My research indicates that soundscape music certainly has an uneasy position within the international field of electroacoustic music. Some composers have worked with environmental sounds in context throughout the history of electroacoustic music. However, these composers' works are less evident in the canon than those of other composers. Soundscape composition, as a type of tape music, is valued less than other types of electroacoustic music such as electronic or computer music. Because of an emphasis in the field on technological innovation and the manipulation of sound objects, the aims of soundscape composition have been misunderstood as simply minimizing manipulation. The definition of soundscape as mimetic or programme music is specifically contrasted with an aural or musical approach in writings on electroacoustic aesthetics. I have never seen soundscape composition defined in a general electroacoustic textbook, which means that perhaps at the moment it is less subversive than inaudible as a voice in electroacoustic music. Soundscape pieces are rarely included in the international anthologies that I reviewed.

This is certainly less true in a Canadian context. The Canadian collections included far more examples of soundscape work than did international collections. The importance of the World Soundscape Project to Canadian electroacoustic composition is discussed by Guérin in the liner notes to the Radio Canada electroacoustic collection:

> Murray Schafer founded the Sonic Research Studio at Simon Fraser University.... Schafer soon acquired international renown, not only for this music but also for the World Soundscape Project, which gave rise to the concept of the acoustic landscape. With the collaboration of several musicians and researchers such as Barry Truax, Hildegard Westerkamp and Jean Piché, Schafer studied the acoustic environment of our cities and cultures, and proposed a new approach to the problems of noise and the acoustic quality of urban life, calling on composers to take an active part in the process. (liner notes 1990: 4, my emphasis)

Elsewhere, Guérin also acknowledges the importance of the WSP and the concept of acoustic ecology to the development of electroacoustic music in Québec.[5] The work of the World Soundscape Project has given Canadian composers soundscape models that are not as available to composers elsewhere. Although soundscape composition may be acknowledged as a valid form within Canadian electroacoustic music, it is not acknowledged to the same extent outside Canada. The work of soundscape composers appears less often than other types of electroacoustic music in the international collections that I reviewed, and in the international libraries that I surveyed. In the last four years, several soundscape CDs have been produced internationally. This is certainly a sign of some positive acceptance of the field. However, these productions are very recent, and are separated from other types of electroacoustic music. If the norms of the field had actually been changed by the existence of soundscape music, there would be significant numbers of soundscape pieces included in the canon.

The international norms of electroacoustic music divide the field into categories. Soundscape composition is categorized as concrète rather than electronic, mimetic rather than aural, programme rather than absolute, using a syntax that is abstracted from materials rather than abstract. For soundscape composition to be truly subversive in an international context, it will be necessary to deconstruct the origins of binary distinctions that tend to marginalize it.

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Notes:

1. See Keiko Torigoe (1982) for a discussion of the research and underlying principles.

2. Several pieces by the Sonic Arts Union (Alvin Lucier, Gordon Mumma, David Behrmann and Robert Ashley) interacted with the performance space, for instance *Mumma's Hornpipe* (1967) and Lucier's *Vespers* (1968). I chose Lucier's *I Am Sitting in a Room* for discussion here because it brings attention to the place of performance through the text.

3. I suppose that this latter definition would exclude the work of composers such as John Cage, since he is no longer alive!

4. A definition of serialism: "For [the European serialists of the early 1950s] serialism was a compositional technique wherein every aspect of a composition--not only notes, but also loudness, timbre, duration, type of attack, and every other imaginable parameter of a sound--could be based on and derived from the same row, or series, thereby producing a kind of total structure wherein every detail was organized" (Chadabe 1997: 37).

5. Guérin, François. "Aperçu du genre électroacoustique au Québec." Circuit: Électroacoustique-Québec: L'Essor 4 (1-2), 1993: 15.

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