The Nature and Practice of Soundscape Composition

Bob Gluck, May 2013

Electroacoustic music capturing a sense of place, often the natural environment, has become an accepted

and widely appreciated compositional approach. This is the culmination of several decades of

development, heightened more recently by a strengthening concern about the future of the planet. When

I first discovered this musical world in the mid-1990s, already twenty years into its history, soundscape

composition was far less widespread in its reach. When I first sketched this essay in 1999, it was to help

clear confusion regarding the aesthetics that differentiated this approach from the more established

descendants of Pierre Schaeffer's *musique concrete*. I revisit the essay now because this confusion

remains, particularly when some listen to Schaeffer's "Etude aux Chemins de Fer" (1948), which *seems*

to reference a sense of place—a train station—whereas its train-related sounds are merely the raw

materials for a non-referential, abstract sound collage and thus not a soundscape composition.

Soundscape composition first emerged as a musical genre in the 1970s. It represents a unique musical

form that grew out of the encounter between electronic music and acoustic ecology. Its driving force has

been Canadian composers and sound artists. Increasingly, it has become an international phenomenon.

An ongoing project "Ear to the Earth" (http://www.eartotheearth.org) is even dedicated to the theme of

"environmental sound art."

Soundscape composition would not be conceivable outside of the history and context of electroacoustic

music. It was within that field that musicians and thinkers extended the boundaries of what constitutes

musical sound, as Joel Chadabe (1997) terms it, "the great opening up of music to all sounds." This

period of artistic and intellectual discovery encompasses, among others, the Italian Futurist composers

prior to World War I, Pierre Schaeffer and the French pioneers of *musique concrete* during the late

1940s and 1950s, and the musical/philosophical explorations of John Cage, beginning in the 1930s. My

understanding of this historical context began during my studies with Joel Chadabe in the late 1970s.

Chadabe (1996 and personal communication, 1999) situates *musique concrete* within an aesthetic that he refers to as 'items and arrangements'. This reflects the artistic form of collage, which emerged 30 years before Schaeffer in the visual art of Picasso and Braque. One might consider the collage aesthetic as analogous to Albert Einstein's relativity paradigm in science. Einstein posited that multiplicities of events, running on independent time clocks could simultaneously coexist within the same universe. Asynchronous time (as opposed to the previous notion of unified time and causation) gave way to a worldview within which events could be juxtaposed.

This new way of thinking became manifest in Arts of the Twentieth Century through the 1950s, encompassing the open structures of Earle Brown, the collages of Robert Rauschenberg, John Cage's structures filled with juxtaposed contents, and Merce Cunningham's dances choreographed independently from its music. Sociologically, one can find parallels in the notion of the mobile (economically and socially) individual outside the historic context of an inherited community, consuming fast foods on disposable plastics, entertained at-home by television (rather than radio, Pierre Schaeffer's professional medium, or "live" events), and traveling by car on interstate highways. *Musique concrete* fits within this theoretical perspective, drawing upon edited, recorded, abstract sound objects, juxtaposed upon other independent, recorded, abstracted sound objects. This way of thinking draws upon Theodor Adorno's (1996) aesthetic philosophical approach, positing that the musical materials and forms of any given era reflect social realities and dynamics. One can trace this idea by comparing forms of artistic expression with contemporaneous theories and formulations in the social and physical sciences and other intellectual disciplines.

Acoustic ecology and soundscapes, a brief introduction

The figure most identified as founding the acoustic ecology movement, from which

Soundscape composition springs forth, is R. Murray Schaefer. Schaefer wrote (1977, 1994): "I call the

acoustic environment the soundscape, by which I mean the total field of sounds wherever we are. It is a

word derived from landscape, though, unlike it, not strictly limited to the outdoors." Schaefer founded

what has become known as the World Soundscape Project (WSP), which has been described by fellow

founding member Barry Truax (1995) as: "to document and archive soundscapes, to describe and

analyze them, and to promote increased public awareness through listening and critical thinking" and "to

re-design the soundscape and to reawaken people's perceptual appreciation of its importance..."

Truax (1995) notes that a second development of the WSP: "a parallel stream of compositional activity

also emerged that created, what I have called, the genre of the 'soundscape composition'… characterized

most definitively by the presence of recognizable environmental sounds and contexts, the purpose being

to invoke the listener's associations, memories, and imagination related to the soundscape." Soundscape

composer Claude Schryer (Schryer 1998) adds: "Electroacoustic soundscape composition is most closely

related to the visual field of

photography.... It is a technique that treats the acoustic environment as both the subject and the content

of a composition, teetering ambiguously on the border between representation and abstraction."

Soundscape compositions represent a diverse set of approaches to this aesthetic. These range from field

recordings created as completed works to through-composed works whose materials consist of highly

processed sounds deriving from field recordings. Claude Schryer (Schryer 1998) identifies several

approaches that he has taken in his work, all of them identified as varying forms of soundscapes. These

include:

"1. Text-based … draws on a counterpoint and rhythm of the timbre of human voices, of the content of

the voices, and the soundscapes in and around the voices….

2. Single-take … field recording (which) can stand along as a composition….

3. Unaltered/edited. For these I use simple editing and mixing techniques, letting the process be guided by the musical gestures of the recorded soundscapes….

4. Processed … include[ing] unaltered edited soundscapes and additional electronically processed sequences….

5. Processed with synthesis … processed soundscapes with additional synthesized sequences….

6. Environmental performance … us[ing] a recorded environmental performance and/or an instrumental improvisation as a point of departure for an electroacoustic composition realized in studio…"

A key inheritance from music concrete is the idea that works can be crafted by recording sounds of the world. Of course, many of the basic sound editing techniques utilized in these ways by soundscape composers are reminiscent of the cut-and-paste approach of *musique concrete*. But the aesthetics of the two approaches are quite different.

The unique perspective of soundscape composers derives, in part, from an approach to listening that Traux calls (and titles a book) *Acoustic Communication* (1984): "... it does not deal with sound in isolation from the cognitive processes that understands it ... we will use the term 'soundscape' to put the emphasis on how that environment is understood by those living within it – the people who are in fact creating it. The individual listener within a soundscape is not engaged in a passive type of energy reception, but rather is part of a dynamic system of information exchange.... The communicational significance of any sound can only be judged within its complete context in the broad environmental, social and cultural sense. In fact it is through context that we understand how a sound functions."

John Hull, an author who is blind, offers support for this view in an interview with composer Darren Copeland (1997): "People can shape ideas about the world and themselves just by listening to the

associations triggered by sounds ... Sounds are dynamic and transient. They are soft at one moment, and then unexpectedly loud at another. They can lurk in the distance for a while, and then suddenly, brush against you. One can never predict their arrival or departure. Acoustic experience is, therefore, a whirlwind of unannounced change…."

Soundscape compositions extend preexisting concerns of electroacoustic music by cultivating sensitive listening. Electroacoustic music calls upon listeners to attend closely to sound itself. In electroacoustic music, and quite prominently within soundscape composition, the listener is asked to think freshly about the relationship—or lack of relationship--between sounds and their source. Soundscape composition in particular calls upon the listener to appreciate sounds of the environment as music, and to heighten one's sensitivity to sounds as they exist in their original context. Truax (1984) notes: "A tape recording of any environment, when listened to carefully, makes us more analytically aware of it ... by representing the environment to us, the recording allows us to perceive it afresh." The acoustical/social/geographical context within which a sound originated is considered to be central attribute of that sound.

My understanding of soundscape composition has been aided by my introduction to General Systems Theory, thanks to Joel Chadabe. This is a model of analysis that emerged in the 1920s and became prominent in the 1950s and 60s. It posits that an "organism constitutes a system of elements in dynamic interaction and this indicates that the behavior of the system cannot be accounted for by a mere summation of the behavior of its parts investigated in isolation." (Bertalanffy 1975). This approach captured the popular imagination in 1969, when a televised view of the small, distant blue-green earth from the Apollo 8 spacecraft was viewed, with much emotional impact, by millions of people. Laszlo (1972) contrasts the "holism" of the systems perspective with the "atomistic" and "mechanistic" views that preceded it: "Instead of looking at one thing at a time, and noting its behavior when exposed to one other thing, science now looks at a number of different and interacting things and notes their behavior as a whole under diverse influences. This is what we do in everyday life, too, when we think, for example,

of players as teams rather than as interacting individual performers."

Bertalanffy (1952, 1975) offers a biological example: "we know a lot about the influence on growth by hormones, vitamins, and nutrition - but why does a living organism grow at all and why does its growth finally come to a standstill?" The growth of a biological organism cannot be understood, Systems Theory posits, by examining its individual biochemical components and influences, as Bertalanfy observes: "… the fundamental character of the living thing is its organization… The properties and modes of action of higher levels are not explicable by the summation of the properties and modes of action of their components taken in isolation. If, however, we know the ensemble of the components and the relations existing between them, then the higher levels are derivable from the components."

Systems theory can be found within thinking throughout an array of disciplines, as mathematics became conceptualized through the lens of set theory, science through quantum physics, the Cold War "domino theory" (that suggested that military victory by one Communist nation in Southeast Asia would result in subsequent victories in neighboring countries), inter-media approaches within the arts, with popular culture dependence upon cross-cultural borrowings (e.g. black rhythm and blues becomes white rock and roll). Computers promised the rapid computation ability needed to analyze and utilize the large streams of data characteristic of complex systems.

Ecological applications of systems theory and a growing appreciation of the wholistic nature of the earth as a system paved the way for the development of Acoustic Ecology, which held that the role and function of a sound in the environment could only be understood within the context of that environment as a whole. The function, meaning and effect of a sound that exists in a particular geographic locale is understood only by examining its place within the context of the entire local and regional soundscape. Similarly, the nature of a local community necessarily includes the impact of its sound environment. The addition or subtraction of environmental noise radically changes the relationship of people to their

community and sounds are bearers of information. Acoustic Ecology developed as a mode of listening and recording, analysis, and ultimately, composition.

Tracing a longer historical arc

Luigi Russolo, the leading musical Futurist, an early Twentieth Century movement, held that music should reflect and comment upon the sounds of one's place and time. At the dawn of the twentieth century, Russolo was captivated by the sounds of urban life, of trains, factories, and of war. The Futurist aesthetic reacted against Art concerned with aesthetic beauty, preferring loud noise and "nonmusical" sound. Despite this preference, Russolo remained cognizant of the musical qualities of the natural world. Russolo (1913, 1967) wrote: "To be convinced of the surprising variety of noises, one need only think of the rumbling of thunder, the whistling of the wind, the roaring of a waterfall, the gurgling of a brook, the rustling of leaves, the trotting of a horse into the distance, the rattling jolt or a cart on the road, and of the full, solemn, and white breath of a city at night. Think of all the noises made by wild and domestic animals, and of all those that a man can make, without either speaking or singing."

His ability to listen closely was quite remarkable: "Truly, water represents in nature the most frequent, most varied and richest source of noises. But it is enough to think of the grandiose symphony that the sea produces in all its agitations, of the surf, of the violent and terrible squalls. It would take an entire book to describe and analyze them all.... do you not remember the gurgle of a spring or brook? You notice, analyzing it, that there near a large rock the water makes a lower noise which is in some way like the fundamental note of a chord, of which the other rocks, smaller, slightly farther away, often produce the third, fifth, and octave. And the sprinkles of falling water form a kind of musical embroidery, with higher notes and very curious rhythmic strides. If you then study the brook in another way, you notice the tones are different, the rhythms changed."

Russolo imagined a new artistic aesthetic: "We will amuse ourselves by orchestrating together in our imagination the din of rolling shop shutters, the varied hubbub of train stations, iron works, thread mills, printing presses, electrical plants, and subways." Despite his appreciation of sound found in natural environments, these sounds clearly did not serve Russolo's compositional focus. He chose to compose noise-music for orchestras of mechanical sound makers, *intonamouri*, reminiscent of industry. Along these lines, Rusollo's colleague F.T. Marinetti delivered spoken text works including "Battle of Andrianapolis" (1911), which utilize onamonipoeia and language-like sounds to represent the sounds of war. The two shared an unquestioning celebration of technological advancement, loud sounds of the city, and of war. They are of course a far cry from the environmental consciousness of the acoustic ecologist / soundscape composers six decades later.

John Cage

Two decades later, John Cage (1937, 1961) commented: "Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating. The sound of a truck at fifty miles per hour. Static between the stations. Rain. We want to capture and control these sounds, to use them not as sound effects but as musical instruments ... If this word 'music' is sacred and reserved for eighteenth- and nineteenth-century instruments, we can substitute a more meaningful term: organization of sound."

Cage's new term "organization of sound" touched on a lasting truth: listening to organized sounds indeed calls upon new and unconventional musical listening skills. Cage was captivated by sound, by its independence from human intervention and control, even when sounds are a consequence of human invention. Cage listened to sounds on their own terms in a different manner than Russolo. Whereas Russolo found analogues between the musical dynamics (pitch changes, musical gestures...) of environmental sounds and instrumental music, Cage was fascinated by sounds on their own terms. He

remained committed to the least conscious compositional choice in their musical usage, pointing him to draw upon chance procedures.

Twenty years after the famous 1937 Town Hall address in which he predicted the use of electric instruments to create musical sound, Cage (1957, 1961) discussed the significance of sounds found in the natural world. He offered a prescient observation about the challenging psychological as well as musical shift involved in an embrace of environmental sound as music: "There is no such thing as an empty space or an empty time ... Until I die there will be [even in my body] sounds. And they will continue following my death. One need not fear about the future of music. But this fearlessness only follows if, at the parting of the ways, where it is realized that sounds occur whether intended or not, one turns in the direction of those he does not intend. This turning is psychological and seems at first to be a giving up of everything that belongs to humanity - for a musician, the giving up of music. This psychological turning leads
to the world of nature where, gradually or suddenly, one sees that humanity and nature, not separate, are in this world together; that nothing was lost when everything was given away. In fact, everything is gained. In musical terms, any sounds may occur in any combination and in any continuity." Cage's comments prefigure concerns of acoustic ecologists and soundscape composers by addressing the permeable boundary between humanity and nature, acknowledging that human-made sounds are part of the larger sound environment. His aesthetic goal was a different one (let sounds be sounds rather than consider their referential qualities).

Musique Concrete

The work of Pierre Schaeffer involved the recording of sounds from the world (including the sounds of voices and musical instruments) and their organization as musical materials. Schaeffer's compositional process entailed the abstracting of a sound from its original context and sonic environment and using it

object sonore (sound object), as Simon Emmerson (1998) observes: "One of Pierre Schaeffer's ideals was to strip down the sound to its intrinsic components and to appreciate its musical potential independent of its origin or cause."

Michel Chion (1982) underscores the abstract nature of Schaeffer's work: "It has not been said often enough that Pierre Schaeffer did not invent *musique concrete* as a 'music of all sounds,' but first and foremost as a music based on editing. One 'snatched' an acoustic sound - most of the time created for that purpose - from its cause-and-effect context, and worked with it as recording where it became orphaned from its original context." Schaeffer had observed: (Palombini, 1993a): "Sound can no longer be characterized by its causal element, it has to be characterized by the effect only. Hence it must be classed according to its particular morphology, rather than according to instrumental provenance. It must be considered in itself...." For Schaeffer, the sounds themselves seem to suggest compositional direction, based on their unique sound qualities: "At each moment of the work of expression, as recording unfolds, sound reacts, proposes its own solutions, incites, elicits ideas, helps the formation of the piece ... When I admit a sound at the output, when I let a sound come out, I must immediately treat it, not as an element whatever, a piece of wood, a fragment of puzzle, but as a pawn or a figure, a person with three dimensions, etc. and I cannot play with it exactly as I please."

The term "acousmatic," first coined in 1955 by writer Jerome Peignot to refer to "a sound that we can hear without knowing its cause," was extended by Francois Bayle (1974) to define the continuing tradition of *musique concrete*. "Acousmatic music" became a name for the art of projected sounds that are "shot and developed in the studio, projected in halls, like cinema." Composer Annette Vande Gorne (1999) elaborates: "Acousmatic listening frees itself from the grip of the visual and liberates the mental images and the creative forms in our imagination…. Perceived through the loudspeaker, the "sound objects" are in fact the imprints, traces which, organized and liberated from an "explained listening", can allow us to access emotions, sensations and metaphors. This is the work of the composer."

The process of *musique concrete* composition could vary from a predetermined structure (the symmetrical forms in Schaeffer's "Etude de Chemin de Fer") to what Jonty Harrison calls "organic structure" (Harrison, 1998). There, "... the composer proceeds by drawing out implicit larger structures from the explicit morphologies of individual sound objects (and, as Varese pointed out using the analogy of crystal formation, such organic growth has many possible outcomes). This is an empirical, pragmatic procedure building on the organic characteristics of the materials being used, in a manner appropriate to their musical unfolding in time. The arbiter of this process is the ear - the composer engages in a 'feedback loop' with the material and the contexts in which it is placed at every stage, making adjustments until the material is 'right'..." The context of a sound has become associations created in the context of a particular work and those suggested by the environmental setting of the source of that sound.

Soundscape composition in the context of *musique concrete*, making distinctions

The musical nature of *musique concrete* is one of abstraction and decontextualizing. This is a very different aesthetic from soundscape composition, even when the *object sonore* derives from an environmental sound. Barry Truax (1984) notes: "The essential difference between an electroacoustic composition [i.e. acousmatic and abstract] that uses prerecorded environmental sound as its source material, and a work that can be called a soundscape composition, is that in the former, the sound loses all or most of its environmental context. In fact, even its original identity is frequently lost through the extensive manipulation it has undergone, and the listener may not recognize the source unless so informed by the composer." Claude Schryer (1998) adds: "For the electroacoustic soundscape composer... the *object sonore* (sound object) is also a complex web of information..."

Truax continues: "In the soundscape composition, on the other hand, 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. Whereas the use of concrete sources leaves the environment the same and merely extracts its elements, the successful soundscape composition has the effect of changing the listener's awareness and attitudes towards the soundscape, and there by changing the listener's relationship to it. The aim of the composition is therefore social and political, as well as artistic."

Clearly, the genres of soundscapes and *musique concrete* are conceptually and aesthetically distinct. They also originate in different eras and intellectual paradigms. But they share a valuation of sensitive, active listening. The abstract nature of *musique concrete* shouldn't suggest a dispassionate attitude towards sounds. Through the process of his investigations, Schaeffer (Palombini, 1993b) discovered that "Each sound imposes upon myself (and upon the music) in all its thickness, with all the associations of ideas which it entails..." Francois Bayle observes (1989), "The great art, for Schaeffer, is to listen. If one stops time, it is for that reason above all. To listen. And to reflect. To reflect on listening, on the object, on the subject. That was the program of the Research...."

Bayle suggests that the fixed and, one supposes, abstract nature of the *object sonore* in fact enhanced Schaeffer's ability to listen and engage with a sound: "... the concrete adventure (music and reflection) emerges in good form from this stopping of time: necessary, it seems to freeze the infinite richness of the actual, the subtle - so that we can rub against it, add to it, learn it ... The more fixed the object that one observes, the more variable is the sense that one gets from it ... Freezing the moving object allows us to do an in-depth inquiry on the different layers of awareness, sometimes based on the feelings of one day, sometimes of another day. "

While Schaeffer and soundscape composers both prioritize sensitive listening, their respective goals of that listening moved them in opposing musical directions. Schaeffer's sound research led him to the isolation/freezing of sound as specimen/object. Soundscape composers may draw upon Schaeffer's legacy (ie. a keen interest in the nature of sound), but their major attention is directed to the broader sonic context within which the sound is placed, and in the relationship- between those sounds and their environment.

It is not surprising that Schaeffer chose to focus in the way he did during the era in which he lived. This was a choice expressive of the paradigm of his time. Music was yet to go through a period of even greater abstraction during Schaeffer's later years. Compositional perspectives following the Second World War, for example the complex mathematical serialism of composers from Columbia-Princeton to early Stockhausen, reflect a movement towards greater abstraction and formalism.

A shift from *musique concrete* to soundscapes

With the exhaustion of some traditions of abstraction within the avant garde by the 1970s and 1980s, soundscape composers have participated in a move by many composers away from abstraction (for some, this has meant greater realism, and for some, a new look at tonality), and towards less formal complexity and an interest in perceivably relating music and meaning. Darren Copeland (1995) writes: "Abstraction is merely just one available working method among a host of others. ... [within] an artistic medium which can engage a new heightened realm of listening sensitivity, a mode of listening that can facilitate intellectual engagement with the meanings and messages embedded in the sounds of daily life.... Abstraction closes doors on the worlds located within the experiential world." Other factors in the shift reflected in soundscapes include these: a growing comfort with less complex and, sometimes, more representational forms; lessening of the modernist connection between formal complexity and human progress; technological means of creating realistic sonic representations of complex sound environments;

technological means to heighten one's perception of sound through digital processing; and an interest in re-enchanting a world whose philosophical underpinnings tended towards a heightened rationalism in modernity. We live in a time of unprecedented technological development, paradoxically leading some to rediscover a sense of wonder in nature and an appreciation of sounds that exist in the natural world.

Some have questioned whether Pierre Schaeffer was right that we can listen to sound without regard to its origin and context. Simon Emmerson (1998) writes: "since the 1960s there has been a greater acknowledgement of a tension founded on the very basis of our ear / brain / operation. It proves very difficult to hear sound only in terms of an appreciation of its shape and spectral properties as Schaeffer seemed to advocate. Just as a Pollock painting might address deep archetypes of form and feeling within our subconscious (even appearing to 'represent' them at times), so we listen to any sound conditioned by our primeval past and evolution."

For some, like Darren Copeland, the question is whether the day of musical abstraction is passing. Copeland (1995) writes: "… it is time that the sonic artist comes to terms with the fact that s/he is in touch with an artistic medium which can engage a new heightened realm of listening sensitivity, a mode of listening that can facilitate intellectual engagement with the meanings and messages embedded in the sounds of daily life."

In sum, does a heightened concern with context reflect a vital shift that has influenced music of our time?

Three listening examples: an exploration of some of the issues of this essay viewed through the lens of music by Annea Lockwood, Hildegard Westerkamp, and Darren Copeland.

Annea Lockwood

On 'A Sound Map of the Hudson River', commissioned by the Hudson River Museum, Annea Lockwood records the one of the world's great rivers from its source at Lake Tear of the Clouds in the Adirondack Mountains, to the place where the river meets the Atlantic Ocean, near New York City. Each moment along the way offers its own sonic texture, its own particular tonal qualities, dominant spectral composition, degree of intensity. The various sections of this work were recorded at different times of the day (6 p.m. to 5 p.m.). Thus, portions of the recordings are shaped by what is happening in the natural environment at various times. In places, we hear early morning birds, for instance. This is an example of soundscape that Claude Schreyer described as: "Single-take … field recording (which) can stand along as a composition…".

What connects most of the segments is the constancy of the sounds of flowing water. It is remarkable to note how different are the sounds that water can make. There is the hollow, yet fluid sound of a stream rushing between and across large and small rocks (each affects the water sounds differently). As we move down the area around Mt. Marcy (tracks 1 - 5), and as the stream of water widens, the sound progressively thickens in density and in its spectral shape: we hear more low frequencies, colored with a greater degree of reverberation. Steadily, sounds from a greater variety of water streams, all present at once, may be heard in a subtle mix.

As the Hudson River widens, moving closer to New York City, the nature of its sounds subtlely change. There is a greater stillness, at moments including less complex, lower frequency rushing sounds more characteristic of a wider, more slowly moving river, and briefly, we hear the sounds of a tugboat and train, But the swirling sounds of a multiplicity of water streams almost always invariably reappears. Only toward the conclusion, as we move toward the Sea, do the steady state lower frequency band sounds predominate, in a small decrescendo.

What is the musical nature of this piece? On one level, there is a transparent meditative quality to the work. Lockwood notes, "It occurred to me that water sounds are so calming because, at one level, it seems as if the sound isn't really changing. And so the part of one's audio system that's scanning for new input is calmed." The lack of dramatic sound material helps keep one's attention upon the steady, calm nature of the sounds.

On a second level, this is a piece about sensitive listening, about focusing on sounds in themselves. The composer continues, "And, on another level, the intricacy of the sound absorbs the mind, so you don't necessarily fall asleep or become disengaged. The mind is both lulled and absorbed at the same time. It's a combination that keeps the listener inside the sound." This work also engages the listener by the subtle but fascinating nature of the sounds. The rate of change is slow, allowing one to focus clearly on the nature of each sound as it presents itself. While the nature of water sounds is a calming one, as they consist largely of white and pink noise, there is a clearly referential nature to the sounds of this river. The sounds are not disguised. Rather, it is always clear that we are listening to water, if not the progress of a river.

It is natural to freely associate memories and experiences of water, and of streams and rivers in specific. The composer is clear about this work being a documentation of the progress of the Hudson River in specific. One who is familiar with this river (as the present writer is keenly so) will find memories of particular places-and associations they evoke-along the Hudson brought to mind as one listens.

These two modes of listening-to the sound and to its referential meanings-can theoretically coexist simultaneously. This listener found himself shuttling back and forth between the two. There is the experience of listening to a calm, complex but relatively steady and interesting sound, with abundant time to luxuriate in its fullness; and also moments where the mind focused on meanings associated with the river. Also at times, the mind wandered, associating personal memories about the Hudson River. Is it

conceivably possible to apply Pierre Schaeffer's 'reduced listening' to this work, treating it as an acousmatic piece? The drone-like quality of water and the manner in which its sounds draw in the listener almost allows such an approach. Yet ultimately, the compositional choice of water sounds that are at their core not disembodied but connected with rivers, the Hudson River in particular, creates associations. The meanings this music suggests or even demands by these associations distinctly define the work as a soundscape, one whose referential pool of meanings are unavoidable and, in fact, central.

Hildegard Westerkamp

Hildegard Westerkamp's 'A Walk through the City' (on her recording *Transformations*) typifies much of the work of this composer: subtle shaping of recorded sound material, at times digitally processed, but showing great sensitivity to the integrity of the source material. Her work is a commentary about the effects of the human presence in the environment and about life in Vancouver's "Skid Row." In this case, since the environment is an urban one, the human presence is dominant. Westerkamp refers to this piece in the liner notes as an "environmental composition". It is 'environmental' in that it brings the listener into a particular neighborhood to experience the sounds one may find there. It is a composition in that the sound material has clearly been organized into an aesthetic whole, and some of the sounds have been processed, some subtly, some more drastically. Westerkamp notes that these sounds are "its 'musical instruments' ... These sounds are used partly as they occur in reality and partly as sound objects altered in the studio. A continuous flux is created between the real and imaginary soundscapes, between recognizable and transformed places, between reality and composition." This is an example of the model of soundscape described by Claude Schreyer as "Processed … includ(ing) unaltered edited soundscapes and additional electronically processed sequences…".

The composition begins out of silence with a slowly emerging non-descript low-frequency rumble, to which is added additional bands of semi-pitched sounds that slowly rise in frequency, all possibly

filtered sounds of traffic or overhead airplanes. Just after three minutes, we begin to hear discernable car horns and the rushing of traffic, and soon voices, and multiple screeching brakes. The repeated brakes sound as if they were played' like musical instruments. Approaching 5 minutes, the words of a poem, after which this piece was entitled, is heard. The poem, written and read by Norbert Ruebsaat, addresses, often in dramatic language, the (painful and violent?) human presence in the environment, which is a major theme of this piece of music: "Somewhere a man is carving himself to death ... Disgarded shoe, like an open note, burned on the pavement." As we approach eight minutes, the voices of children enter, reminiscent of similar sounds in Karlheinz Stockhausen's classic "Gesang der Jungling."

As we enter the second section of this sixteen-minute work, repetitive machine sounds, some of them steady state, rhythmic enter. They sound as if played on percussion instruments. The actual sounds of percussive music are added to the mix in a relatively seamless transition. In the next section, we hear quiet machine sounds, distant traffic, and then the sounds of a man speaking, seemingly unrelated to the poem. Rhythmic material moves into the background; it is hard to identify the sounds as either environmental sounds or percussive instruments, but soon the sounds of harmonica music and the speaking voice of a drunken man move to the fore.

The voice drops out, replaced by hushed sounds of the poet, and then briefly comes a quieter moment, soon filled with rumbling sounds reminiscent of the open section. And abruptly, the piece concludes. Many of the sounds in this piece are recognizable, and may be easily connected with their source. Some have been processed. Westerkamp notes that she processed the brake sounds beyond recognition. The result is the isolation of the sounds from their original surroundings, so that they may be placed with delicate precision in the compositional mix, but also so that they may be treated as if they were pitched instruments. There is a dual use here, with a degree of tension between the two. Periodically there are sections of this piece that move towards abstract sounds, albeit originating in environmental sources, but every time, we are eventually suddenly and at times violently placed back in a recognizable

environmental context.

This shift between abstract and referential, processed and recognizable sounds, characterizes "A Walk through the City." Westerkamp describes her process as "compos(ing) with any sound that the environment offers to the microphone, just as a writer works with all the words that a language provides." This literary metaphor is apt, as the impressionistic nature of Westerkamp's work draws from both the abstract and concrete qualities of spoken language. There is a strong suggestive element in this piece, notably because the work bears a message, albeit one that is presented in a (inherently abstract) musical language. Thus, the use of poetry as an element may suggest the musical nature of that media and the referential nature of a soundscape. Maybe we are brought to explore the meeting point between the two?

This work places the listener in an urban, human environment that is clearly difficult for those who live there. At the same time, the negative effect of humans upon the natural environment is suggested. This is achieved by using sounds suggestive of technology in a way that points to their environmental sound qualities. Human and nature are fused. The composer uses irony to suggest that it is the human and technological that changes the natural environment (one would assume not for the better) and that the human environment can be anything but humane (the speech of the drunken man). On the other hand, the care and sensitivity of Westerkamp's recording and compositional process shows us what deep affection she has for the sounds of this urban environment. We are invited to listen closely as if we were listening to a pristine rainforest.

Westerkamp makes use of all manners of sound processing and treatment to create an impression about this particular place, placing the work clearly in the context of soundscapes. We are presented with both sound images of the actual place along with the composer's subjective commentary. The recorded sounds are shaped in the service of the meanings she seeks to convey. This is a very different type of

soundscape than Lockwood's "A Sound Map of the Hudson River." Ironically, while Lockwood's work tends toward documentary rather than commentary, Westerkamp's composition lacks the apparent abstraction found in Lockwood. In Westerkamp's piece, moments of lessened realism serve to highlight what immediately follows: stark reality, poverty and a dominating technological presence.

Darren Copeland

Darren Copeland's "Rendu Visible" draws exclusively from sounds recorded in the environment. The title of the present work, 'Rendered Visible' is meant to suggest that, in the words of the composer, "a composition using real world sounds is able to re-awaken latent visual imagery in the mind of the listener, as if this disc was really an empty canvas or a fresh stock of film." The composer believes that our visual senses are dominant, at least for people with sight. It is his purpose to use sound to call to mind in the listener visual images. Copeland refers to himself as a "phonographer," a hybrid between the two disciplines. "Rendu Visible" is an example of the model of soundscape described by Claude Schreyer as "Processed … includ(ing) unaltered edited soundscapes and additional electronically processed sequences…".

This piece begins by juxtaposing an inchoate, low rumbling sound, which could point as strongly towards an industrial sound as it could to a waterfall, with clearly definable sounds of birds and geese. Sounds of distant voices and maybe movement through rainforest foliage enter. A dense mix of sounds increase in thickness and spectral span. Much of the "whoosh" experienced by the listener in the presence of the dense mix is higher in frequency, complemented by lower frequency sustained sounds (reminiscent of fog horns or low pitched wind instruments). Calls of geese wax and wane.

The overall effect of this piece is a feeling of being inside a rushing mass of sound, much of it only vaguely identifiable. There is an impressionist quality to the piece. This listener finds himself somewhere between abstraction and referentiality. This seems at odds with the stated intent of the

composer to suggest concrete images. In fact, the beauty of this piece owes to the ambiguity of source material. It is this quality, and the firm compositional hand of its composer, that places the present work on the opposite end of the soundscape spectrum from Lockwood's documentary inclinations. We are left wondering about the identity of the lush sound environment we are experiencing. Yet the free manner in which any potential references are subtly maneuvered renders precise identification less important. I do not know whether this analysis of the source of the success of this piece would trouble the composer. I experience in the work a brief yet fascinating whirlwind ride.

Copeland looks to a time "when the art of phonography [will be endowed] with a dictionary from which a sonic language based on the imagistic properties of real world sound can only ever evolve." His ultimate goal would be phonography, that is, the presentation of sounds that directly point to perceptible images. The present writer finds this suggestion interesting and problematic. On one hand, it suggests a direct relationship between sound and meaning that is generally dismissed by philosophers, yet on the other hand, it is but a further extension of the philosophy of soundscape composition, which is to sonically depict a sound environment.

Maybe Copeland's work can be best described as a hybrid musical form. This would be neither soundscape composition nor *musique concrete*, but a highly subjective, more abstract music drawing from sounds of the world, yet at times evocative of the places to which its sounds allude and refer. It is music that offers a highly personal vision of the acoustic environment, maybe a personal fantasy that draws upon our sensory world. Through the process of listening, recognizable sounds cease to be sound objects, and a distinction between objectivity and abstraction slips away.

Closing observations

By bridging these two genres, Darren Copeland's "Rendu Visible" provokes a larger question about the

nature of soundscape composition. French philosopher Jean-Francois Lyotard (1993) writes: "The function of art and politics is to make people dream, to fulfill their desires (but not to allow their realization), to transform the world, to change life, to offer a stage on which desire (the director) plays out its fantasmatical theatrics." Lyotard notes that art, unlike language is able to tap into the unconscious. Does the referential quality of soundscape composition diminish the ability of these works to do the same? In a sense, Lyotard makes the age-old argument that western instrumental music, unlike songs with lyrics or music defined by its beat structure, uniquely deserves to be called "Art." Many, like African American composer/musicologist Olly Wilson (1983, 1992) have challenged this idea.

But is soundscape composition actually akin to language; does it depend upon its referential qualities for its musical integrity? I believe that the answer is "no." Soundscape composition is not akin to a catalog of sounds from nature. Its power lies in the space that lies between reference/recognition and abstraction, the artistic organization of sounds captivating for their purely sonic qualities. There is a cinematic quality to soundscape composition; both share a power that transcends the literal. They succeed when evoking feelings, ideas, experiences, memories… calling upon the viewer or listener to craft a personal narrative, in a manner than words and images cannot. This is what philosopher Suzanne Langer refers to as music's "ineffable" quality. The melding of this capability with the sonic richness and deeply meaningful referential nature of sounds from the world offers a unique artistic synthesis.

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