Linking soundscape composition[1] and acoustic ecology

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1. EXPLORING THE CONNECTION

The term soundscape composition did not exist when I started composing with environmental sounds in the mid-1970s. Through a variety of fortunate circumstances and because of what the 1970s were in Vancouver and Canada – artistically inspiring and moneys were available for adventurous and culturally, socially, politically progressive projects – I had discovered that environmental sounds were the perfect compositional 'language' for me. I had learnt much while working with the World Soundscape Project at Simon Fraser University, about listening, about the properties of sound, about noise, the issues we face regarding the quality of the sound environment and much more. This in combination with learning to record and to work with analog technology in the sonic studio allowed me to speak with sound in a way I found irresistible. In addition, the start-up of Vancouver Co-operative Radio gave us the – at that time rare – opportunity to broadcast our work. It was a place where cultural exploration and political activism could meet. It was from within this exciting context of ecological concern for the soundscape and the availability of an alternate media outlet that my compositional work – now often called soundscape composition – emerged. And it came as a surprise to me, as I had never thought of composing nor of broadcasting as a professional choice in my life.

Today the term soundscape composition *does* exist, but no-one really seems to know what is meant by it, myself included. Personally, I find myself in the tricky situation where, on the one hand, I would rather not assist in defining it – keep it instead in its infant state of total openness and full of potential, the way it emerged, the way it was 'born' in the first place. But, on the other hand, it seems necessary now to define it to a certain extent – to give it boundaries and clarity, the way one tries to give these to a growing child in order to deal with the confusions and challenges of the world.

Two experiences brought me to this delicate balancing point. The first one occurred when I was invited to be on a jury for a competition of soundscape compositions. The jury was faced with a range of submissions that signalled deep confusion about what was meant in this context by 'soundscape composition'. And no wonder, 'Soundscape as a musical style' was the only theme or guiding idea that was given to participating composers and jury members alike. The organisers had, like me, not wanted to give the term more definition or focus, perhaps for fear of creating undue limitations. But the result was such a wide spectrum of submissions that the theme of soundscape compositions seemed to get lost in the shuffle. Or, to put it another way, submitting composers seemed to be under the impression that the mere use of environmental sounds meant that they had composed a soundscape composition. This is perhaps understandable, since audio technology enables everyone who has access to it to make good quality recordings of *any* sound in the world. Thus, the sound environment has become a huge and rich 'resource' for collecting, stockpiling and processing environmental sounds. So, yes, *all* sounds can become part of a soundscape composition. But can a piece be called a soundscape composition just because it uses environmental sounds as its source material?

The absence of more detailed selection criteria and definitions, and the resulting lack of clarity especially within the jury process, highlighted the need for some type of delineation of the term, some guiding principles.

The second experience occurred when a composer-colleague stated with much conviction that soundscape composition is a sub-category of *musique concrète*. This statement seemed to be driven by a strong desire to find a definition, to make it into a musical genre, to make it into *something*. It alarmed me just as much as the previous experience. But this time, instead of finding clear boundaries in the face of confusion, I wanted to open a gate in an air-tight fence, wanted to *break* what threatened to become a rather restricting boundary. Not only does such a narrow definition remove this type of compositional work into a safe corner, but also and inevitably it serves as a distraction from the deeper issues that had brought it into being: issues of environmental listening and active engagement with our soundscapes.

[1]When I speak of soundscape composition in this article I refer to tape pieces that are created with recorded environmental sounds. I neither speak of sound installations nor of musical compositions for acoustic or electroacoustic instruments that are composed for specific sites and may address soundscape issues.

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Acoustic ecology or soundscape studies – the study of the interrelationship between sound, nature and society – is the arena from which this work and thus, the term soundscape composition emerged in the first place in the mid-1970s, and it is that arena that gave it its context, its voice and its strength.

The same colleague stated, 'Up to now I have not heard any argument which really convinced me that soundscape composition and acoustic ecology belong together'. He is quite right about this: soundscape composition in the sense in which he means it, i.e. as a subcategory of *musique concrète*, do not 'belong' together. It has become an assumption or an opinion among some that they do belong together. And now discussions and debates are often based on this assumption, not on real understanding of what soundscape composition on the one hand and acoustic ecology on the other hand actually mean.

But it is also important to remember that the original impetus for soundscape awareness came from composers and musicians. We are the ones that make listening and working with sound and music our profession. It is therefore a logical extension that we would also be concerned about the ecological health of our acoustic environment and all living beings within. If we – who are specialists in listening and sound-making – are not concerned about the acoustic environment, then who will be? Some biologists have made it their calling to use their special knowledge and education to look at the natural world from the ecological perspectives. Why then should composers and musicians not make it their calling to use their special knowledge and education to listen to the world from the ecological perspective?

It is precisely from this stance, that of an acoustic ecologist, that a definition, a delineation of the term soundscape composition – if we now agree that such a thing is necessary – makes sense. Conscious listening and conscious awareness of our role as sound-makers is an inseparable part of acoustic ecology, as it deepens our understanding of relationships between living beings and the soundscape. The question is, how can soundscape composition enhance such environmental listening awareness? What is its role in inspiring ideas about balanced soundscapes and acoustic ecology? How can the soundscape composer raise listening awareness in an already overloaded sound world with yet another sound piece? What is the ecological stance that we take through our compositions both as listener and composer? How do we or do we not fit in with electroacoustic composition, including *musique concrète* and other styles, with audio art, film sound design, sound installations and so on? And how can we convince other ecologists that the pollution of our soundscape is as much of an environmental issue as the pollution of water and air – that indeed, it is the 'voice' which makes the world's environmental problems audible to all those who care to listen? Perhaps these questions set a clear, yet wide enough boundary around the term soundscape composition which allows us to move on now to explore what is its essence.

So, once we have accepted the acoustic ecology arena as the basis from which soundscape composition emerges, one could perhaps say that its essence is the artistic, sonic transmission of meanings about place, time, environment and listening perception. In my experience, the term eludes any further definition. And my sense is that as soon as we try to define it further, we rob it of its essence, indeed of its freedom within that vast and interdisciplinary arena. Why? Because *each* soundscape composition emerges out of its own context in place and time, culturally, politically, socially, environmentally and is presented in a new and often entirely different context. It has its very own life wherever and whenever it is created and reproduced. And I want to look at the uniqueness of this 'life' in this article.

Each new recording will create a totally new piece as it is nothing more than a specific moment in time, an excerpt and detail of a place with its very own sound characteristics. It can only speak specifically of that moment and that place, not in general terms. But paradoxically, that specific moment and place can contain all the ingredients out of which a meaningful language can emerge for a work that addresses soundscape and listening issues. And it is that material, and not some predetermined musical structure or context, that will contribute significantly to a work's unique character. Of course, every composer will bring in her or his own crafts and skills that may be based in specific musical training and listening experience, along with a unique cultural, social, political and spiritual perspective. It is in the meeting of these 'materials' that the composer inevitably brings into the compositional process and the recorded materials that the essence of soundscape composition is located.

On a more activist/political level, one could perhaps say that soundscape composition can and should create a strong oppositional place of *conscious* listening – that is, in the face of widespread commercial media and leased music corporations, who strategically try to use the schizophonic medium to transport potential customers into a state of aural *unawareness* and *unconscious* behaviour and ultimately into the act of spending money. Rather than lulling us into false comfort, it can make use of the schizophonic medium to awaken our curiosity and to create a desire for deeper knowledge and information about our own as well as other places and cultures. It is a forum for us as composers to 'speak back' to problematic 'voices' in the soundscape, to deepen our relationship to positive forces in our surroundings or to comment on many other aspects of a society. Rather than disorienting us, such work potentially creates a clearer sense of place and belonging for both composer and listener.

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2. WHERE IT ALL STARTS: LISTENING AND RECORDING WITH EAR AND MICROPHONE

The ear and the microphone are the starting points for the soundscape composer. They are two quite different tools with which we gather our sound materials and our listening experiences. I have found it interesting to create situations in which the ear is imagined as a microphone and the microphone as a human ear. It causes a shift in perception both while listening without a microphone and while recording. Not only does it deepen the recordist/listener's knowledge of the specific properties of each of the two 'tools', but it also transmits different information about the soundscape as well as often changes recording/listening practice. This is crucial in the process of creating a soundscape composition: the actual recorded materials are of course important, but the listening *experiences* while recording *and* while going about one's life are just as important and do always figure into the compositional process in some way.

The microphone alters listening. The mere comparison between how our ears listen and how the microphone picks up sounds in the environment, brings alerted awareness to the soundscape. Not only the recordist's listening is intensified, often also that of people witnessing the microphone's presence. It creates an occasion and new significance of a place. Sometimes the microphone can also mean new access to the environment. It frequently legitimises one's presence in certain places and even empowers one to enter normally inaccessible places. It also often heightens the recordist's own curiosity and encourages him/her to venture into unknown territory. Of course, it can also block access when it is seen as a security threat or an invasion of privacy.

The ear has a capacity to focus, to blend in and out, to pay attention to specific sounds and to switch the attention from one sound to another, i.e. it has selective characteristics. In contrast, the microphone's ways of hearing is non-selective, or rather it is limited by its technical specifications. It cannot tune in and out the way the ear can, unless the recordist plays with these parameters – such as moving the microphone closer or farther away from the sound source, changing the mic's angle, using a variety of mics with different properties and so on. Processing recorded sound later in the studio – equalising, filtering, pitch shifting, adding reverb, gating, highlighting certain aspects of sounds and much more – is perhaps the technological equivalent to our ear's selective capacity. That is, our aural perception of the soundscape and our experience of it can potentially be built into our compositions by virtue of the available sound processing tools. The specific 'perspective' of the recordist in combination with sound processing in the studio allows the composer to explore the boundaries between real soundscapes, acoustic experience and aural imagination. This implies of course a knowledge of the soundscape, an understanding of how we hear and listen. It implies continuous attention to the sounds of daily life and while recording. Regular listening as a daily stance, a practice, can only benefit the composer. It inevitably deepens his/her relationship to the acoustic environment and ability to 'speak' through soundscape composition as an acoustic ecologist – in the same way a poet may speak about the state of the world with words.

Soundscape composition is as much a comment on the environment as it is a revelation of the composer's sonic visions, experiences and attitudes towards the soundscape. Audio technology allows us as composers to sort out the many impressions that we encounter in an often chaotic, difficult sound world. If 'listening is as much a "material" for the composer as the sounds themselves',[2] as Katharine Norman claims, then daily sound impressions play a significant role in the compositional process itself.

3. SOUNDSCAPE COMPOSITION AS AN ECOLOGICALLY MEANINGFUL LANGUAGE

A soundscape composition is *always* rooted in themes of the sound environment. It is never abstract. But, as René van Peer writes in a review in Musicworks 80 (p. 55): 'Too often, pieces built from found materials fail to become an integrated whole, remaining only assorted components instead. Recognisable elements bundled together rarely give birth to new pieces'.

What does it take then to create such a *composition* from the found sound materials, in other words a piece with its own integrity, a new moment in time in a new place with its very own life and characteristics, yet still sonically connected to the place and time of the original recordings and the composer's own experiences?

Composer colleague Michael Rüsenberg stated recently on a listserv: 'Soundscape composition is *the intent* of an artist to musicalise a recording of a certain location at a certain time. The artist works on the assumption that aesthetic values *can be ascribed* to that soundscape or to elements of it' (my emphasis).

Although I do not altogether disagree with this definition, it only mentions one aspect of soundscape composition: that of the composer's *intent*. It fails to mention a most important other aspect: the power of the sound materials themselves to shift that intent by virtue of their inherent meanings, as well as through discovery and surprise in the compositional process. To compose with environmental sound implies a relationship – a dialogue – between composer and recorded materials, just as there is a relationship between soundscape and listener in daily life. No matter what the composer's intent may have been from the start, the materials inevitably

[2]Katharine Norman, 'Real-world music as composed listening', *Contemporary Music Review*, 1996, **15**(1): 2.

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speak with their own language, whose deeper meanings may only emerge with repeated listening and sound processing. And that in itself has the power to shift the composer's intent.

So, perhaps one could rephrase his sentence and say: 'In soundscape composition the artist *seeks to discover* the sonic/musical essence contained within the recordings and thus within the place and time where it was recorded. The artist works with the understanding that aesthetic values *will emerge* from the recorded soundscape or from some of its elements'.

The artist's aesthetic musical language and the language of the recorded sounds and soundscapes meet in the process of composing. And it is the meeting of the two 'languages' and the ways in which they are balanced that makes out the creative challenge in a soundscape composition. It is not unlike a traveller's encounter with a new place. The journey itself becomes the point of balance between the traveller's own inner reality and how he or she meets the new place. It is in the quality of the journey that that relationship can be seen as balanced or unbalanced. Similarly, the soundscape composition is the journey that circumscribes the relationship, the conversation between composer and sound sources.

Michael Rüsenberg makes a distinction between the acoustic ecologist and the soundscape composer in his description of one of his compositions: 'I currently work on a piece that starts off with what people living nearby call the ''loudest tram station in Germany''. It's a tunnel-like tram stop and next to the platform on both sides is a two-lane motorway. The allowed maximum speed is 100 km/h. The acoustic ecologist would rather do a noise level survey from different perspectives and conduct interviews with commuters. But the soundscape composer – very perversely – might discover for example, the beauty within the Doppler Effect of a passing Harley Davidson and enhance the descending pitch. The soundscape composer very often works with sonic phenomena other people in the same context call noise . . . Let's face it: soundscape composition very often means bringing the noise into the concert hall'.

If this is indeed what the soundscape composer does, my question would be why and for what purpose? If certain aspects of a soundscape recording become enhanced through processing, what is the composer trying to say with this and how does it contribute to a deeper understanding or a renewed relationship to the soundscape or to our own listening. Or, if processing is done for the pure pleasure of it, why would the composer *want* to create a soundscape of noise in the concert hall? And why can't the composer make sound level measurements both of the recorded space as well as the concert hall – especially if there is concern for the commuters' and concert audiences' well-being? Is it not in fact the composer's responsibility to create a sonic environment with his or her compositions that does *not* damage listener's hearing, as much as it is the city planer's responsibility not to expose commuters to excessive noise? Is it not the soundscape composer's responsibility to act like an acoustic ecologist?

4. NO PLANS, NO EXPECTATIONS, NO ANTICIPATIONS

I do usually have a general sense of a composition's theme. I may have a plan of how to approach a piece. I may even have a title. But in the end, the recordings, the sound materials themselves will reveal the structure and the final content of the piece.

A fundamental truth about soundscape compositions is that they *emerge*, they can only be pre-planned to a limited extent. The sonic materials bring about the essential structures and sound development of the piece just as words bring about a poem. And this can happen in very subtle ways. Not only do we never know what kinds of sounds/soundscapes we gather when we go out recording for a piece, but often we cannot anticipate what is revealed to us when we listen to the recorded sounds and when we start editing, mixing and processing them. Environmental recordings never give us sound objects, i.e. isolated, singular sounds recorded in a quiet studio environment, they give us sounds within a context of other sounds, indeed a whole soundscape. It is precisely this context that guides the composer's decisions of how to work with the available sound materials. The emergence of a piece is not unlike getting to know a soundscape itself, its rhythms and shapes, its atmosphere.

An example of one of my recent pieces may illustrate my point here. Photographer Florence Debeugny and myself were creating a sound-slide installation about the ghost towns – abandoned mining sites, mostly – of British Columbia. Initially, when we arrived at the ghost town sites, the many rusty objects and structures were lying around silently, telling us stories of their working life, of their function. But as we moved through the sites, stepping on and through them, 'playing' on them, hitting them with various objects, listening, they produced the most fascinating resonances. Whether the sounds came from an old steam engine or an out-of-tune piano with broken strings, they became the musical instruments for *At the Edge of Wilderness*. Exploring their acoustic/musical properties in their dilapidated state, brought them to life in surprising ways. In some cases, depending on how they were 'played' and how they were developed in the studio, they created sounds and rhythms not unlike that of old machinery from the turn of the nineteenth to the twentieth century – the time when these sites were bustling with activity.

They are the sounds that carry us from the presence of the existing ghost towns into the imagined past of these places, and they delineate the particular edge that has been created between nature and this form of civilisation all over the North American continent. Turning the

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industrial structures into musical instruments may be a way of exorcising the damage that has been done and is still being done in many cases on this continent and all over the world – a way to make peace or find a balance between the destructive and the creative forces that tend to work side by side in such explorations. None of this was anticipated ahead of time, it simply emerged in the process of being there, of recording and experiencing the place and then working with the materials in the studio, in conjunction with the photography.

I did know, however, that I wanted to explore two general aspects, which had developed over many years of fascination with ghost towns:

- *The edge between wilderness and resource industry*. It is traditionally knife sharp in North America, like the edge between life and a stabbing death. Once resources are drained the company moves away leaving its huge, filthy footprints behind, leaving open gaps in mountains and relying on natural processes to absorb the junkheaps, trailings, the waste. Natural rhythms and movements eventually soften the edges and a once noisy, bustling place becomes a quiet ghost town full of memories. An old industry becomes artifact and lies there like a toothless monster of the past.
- *That strange moment of excitement and magic, discovery and adventure, when the contemporary visitor encounters an abandoned industrial site*. This moment contains questions and stories about human industrial activities of the past and present; or a sense of the spirits and ghosts still hovering among the skeletal remains while nature is gradually reclaiming its place. It is as if visitor and place are taking a deep breath together during this encounter, convalescing from injury, contemplating the edge where junk and artifact, destruction and new growth, noise and quiet meet; where perceptions of a shameful past in need of clean-up collide with feelings of pride towards a heritage worth preserving.

These were the larger issues underlying and influencing this particular compositional process. But the specifics of how the sonic language of the piece and its final structure developed, emerged entirely out of the properties of the recorded materials.

5. EXPLORING RELATIONSHIPS

5.1. Composers and their soundscape compositions

With the available technology, a multitude of sonic possibilities have opened themselves up to composers. Sound recordings can now be organised, juxtaposed, mixed and altered in all sorts of ways. With these possibilities an entirely new place can be created from the sound materials of a certain location. We, the composers, can choose to side-step reality, highlight it, can create a caricature, make it poetic, sharper, softer, harsher. We are free to 'say' what we want to say about a place, discover a specific perspective, or approach. We can oppose the status quo, can speak with our own voice that otherwise may never be heard, but we can also mystify, alienate and estrange our listeners. Whatever we do, our choices are always influenced by our cultural, social and political background and experiences, by age and gender, musical taste, past experiences with various soundscapes, as well as the present life situation.

But do composers who work with environmental sound necessarily record their own sound materials? This can no longer be assumed, given the multitude of CDs with sound effects, sound libraries, etc. Is it possible, however, to create a soundscape composition, i.e. to portray a true relationship to a soundscape, a place, a situation, if the composer has not experienced it through the recording process? The fact is that the recordist/composer's knowledge of a place extends beyond the recorded soundscape to the smells, the air, the temperature, the time of day, the atmosphere, the feel of a place, the season, the social situation and, significantly, the changes that occur when a microphone enters a space. This extended knowledge is bound to influence the piece in some way, as well as intensify the relationship between composer and place, between composer and composition.

What, on the other hand, happens when the composer works with someone else's recordings, does not know the recordist, has bought a CD with sound effects or a library of sounds, has taken sounds off the Web? In such a case, the composer relates to the recording as an acquired object rather than as a representation of an experienced place and of lived time. The composer's knowledge of such recordings is exclusively aural and does not extend to a physical/psychic experience with the recorded place or time. Strictly speaking, the recorded sounds originate in the studio loudspeakers and the actual place and situation from where they come is transformed inside the composer's imagination into an entirely fictional place. The composer is working from within a schizophonic stance, and creating a new schizophonic experience.

If composers do record their own sounds and soundscapes, another important question is whether they are familiar with the recorded environment or whether they are visitors, foreigners. Whatever the situation may be, it inevitably influences the choices of sound sources, the acoustic perspective, the emphasis of microphone placement as well as what message a piece may transmit. As visitors to a place we may have the fresh, alerted ears of the newcomer on the one hand and may notice things to which local inhabitants may have become enured. But, on the other hand, we may be so unfamiliar with cultural, social and political undercurrents and subtleties of a place or a situation that we cannot help but create a superficial, touristic sonic impression of a place. Both of

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these approaches of course have their validity, particularly if they are applied consciously – that is, if the composer is conscious of his or her relationship to the place and situation.

In the end, of course, no matter where the sound sources come from, the composition created from environmental sounds will be experienced as an entirely new place and situation within an entirely new context, depending on where it is heard. What really matters is whether the sonic language of the piece speaks meaningfully to composer and audience alike and whether its presentation is conducted with conscious attention towards an ecologically balanced acoustic environment. In other words, the soundscape composer's attention to ecological issues of the soundscape ideally extends beyond the compositional process in the studio: it starts with listening as a conscious practice in daily life, continues during the acquisition of sound materials, the work in the studio, right through to the presentation of the final piece.

5.2. The listeners and soundscape composition

When compositions are presented, an entirely new sound environment is created with its own sonic atmosphere and its own timespan of listening. Any music and its use in any context (whether in a performance situation or in a mall) is just as much a sound source of environmental concern as, say, car motors or dog barks. The presentation of any music – including soundscape composition – must be included into the realm of acoustic ecology and treated with environmental care and attention.

The big question concerning soundscape composition is whether the listening audience can relate to the composer's sonic language and what he or she is trying to communicate. Even though the composer may have developed a very close relationship to the sound sources, to the recording process and the place where everything originates, it does not automatically follow that listeners connect to the resulting piece. How then *can* a composer create meaning, understanding and resonance in the audience, particularly if the composition and its sound sources originate in a foreign place, situation or culture?

There may be no real answer to this question. But the question itself may enhance the communicational process between composer and audience, audience and composer. In other words, the question brings the unknown listener into the composer's consciousness and introduces the possibility of a relationship, an interaction between composition and receiving ear, similar to the already existing interactions between soundscape and listener.

If the listener knows the place, time or situation of which the piece speaks, the composer may have less of a problem communicating meaningfully to the audience, because a relationship of some kind already exists quite apart from the composition itself.

If the listener does not know the place, time or situation, resonance between composer and audience is hard to achieve. It can be as complicated as creating understanding between foreign cultures, places and languages. The listener cannot understand the deeper meanings or can recognise them only faintly or at best in a mediated way – with some background knowledge from films, radio, books, newspapers, television, National Geograpic – i.e. through a medium that is several steps removed from the original physical place and experienced time; removed from local characteristics, idiosyncrasies, and details that the globalisation movement likes to overlook, streamline, ignore or eliminate altogether. But it is precisely in the face of corporate globalisation where the challenge to the soundscape composer is located: to bridge the gap between audience and the compositional language that originates in foreign places and transmit that which assists us to be open to foreign cultures, to hear and understand each other.

Of course it is not only the composer's responsibility to create resonance between audience and composition. The listener also plays a role in this process – i.e. how can the listener's ears give birth to a piece? One can assume for audiences listening to such compositions that the experience of conscious soundscape listening in daily life would add significantly to the understanding of and involvement with a soundscape composition. Composers and listeners then share the activitiy of listening as an important ingredient for making sense of the sound environment as well as of soundscape composition.

> In fact it *depends* on our listening participation and invites us – through our active, imaginative engagement with 'ordinary' sounds – to contribute creatively to the music . . . As listeners, and composers, we may return to real life disturbed, excited and challenged on a spiritual and social plane by a music with hands-on relevance to both our inner and outer lives.[3]

Can soundscape composition initiate ecological change? This is the challenging question to all of us, whether soundscape composer or soundscape listener. Can we become active acoustic ecologists no matter whether we create the compositions or whether we listen to them? Isn't it precisely in the link between composer and audience that energy for change can be created? And isn't it precisely in the link between soundscape composition and acoustic ecology that meaning is created? Here cultural production can speak with a potentially powerful voice about one of the most urgent issues we face in this stage of the world's life: the ecological balance of our planet. The soundscape makes these issues audible. We simply have to learn to hear it and to speak back. The soundscape composer has the skill and the expertise to do exactly that.

[3]Norman, p. 2.

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