NOISE: USING LOCATION RECORDINGS FOR COMPUTER COMPOSITIONS

By

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Introduction to Thesis

In this thesis, I attempt to explain the theory behind my usage of environmental sound in computer compositions. My main area of interest was to explore ambient and noise sounds through environmental recordings. I wanted to create soundscape compositions from these recordings. I will refer to my research areas and the academic sources I investigated. The project began aiming to use original source material for my compositions from various location recordings around Huddersfield. This is not an essay on electro-acoustic music, I did not want to explore art music aesthetics but rather reflect scene and locality. I wanted to sketch the acoustic image of places that I visit on a regular basis, places where I have previously not taken the time the listen to the acoustics on offer.

While I was in the final year of my Music Technology degree I started to become very interested in the use of location recordings within compositions. My interest was in using the recordings for sound design or within musical compositions as a creative tool. I wanted my compositions to use environmental sounds that I have previously ignored and to integrate them into soundscape composition, thus I investigated the writings of Hildegard Westerkamp, Murray Schafer, Katherine Norman and Barry Truax, who have explored this area. Hildegard Westerkamp for example has stated;

> 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.[1]

[1] Westerkamp, H., 'Soundscape Composition, Linking Inner and outer Worlds', 19-26 November 1999 www.sfu.ca/~westerka/writings%20page/articles%20pages/soundscapecomp.html (18 May 2010).

My research questions for this project focused on investigating how I could implement environmental sounds in my compositions, and asking how I would be able to create soundscape compositions by recording and processing everyday noise?

The sound files I recorded would become the basis on which I would create three compositions. The structure of the pieces evolved from my research into the various writers. My compositions would each have three sections, each section influenced directly by my research into soundscape composition. I wanted my compositions to have a mixture of processed, unprocessed sounds and also abstract sound. The abstract sounds would still keep their relationship to the place in which they were recorded by mixing them with unprocessed environmental sounds. Westerkamp discussed this kind of approach, stating;

> Whatever the continuity is or the proportions are between the real (unprocessed) and the abstract (processed) sounds, the essence of soundscape composition lies in the relationship between the two and how this relationship inside the composition informs both composer and listener about place, time and situation. A piece cannot be called a soundscape composition if it uses environmental sound as material for abstract sound explorations only, without any reference to the sonic environment.[2]

Within my explanation and discussion of each composition, I will detail my recording experiences. I will also explain the reasoning behind multiple recordings at the same location. The theoretical knowledge that I gained through my research was used compositionally, and helped me to understand exactly what I was trying to achieve within my three pieces. I will explain where I chose to record and who inspired me to record at each location. Each composition will be explained in detail, including the structure of the composition and also the processing techniques that I used to manipulate the audio files. Attali summed up my attitude to the creative process well, 'One produces what technology makes possible, instead of creating

[2] Westerkamp, H., 'Soundscape Composition, Linking Inner and outer Worlds', 19-26 November 1999 www.sfu.ca/~westerka/writings%20page/articles%20pages/soundscapecomp.html (18 May 2010).

technology for what one wishes to produce'[3]. The manipulations of audio files using technology are for me the instruments used within the compositional process. After a short discussion of my research context, I will sum up and critique the finished works.

Research Context

In Brian Eno's book *A Year with Swollen Appendices*, he describes that 'ambient music must be able to accommodate many levels of listening attention without enforcing one in particular; it must be as ignorable as it is interesting'[4] and also that 'ambient music is intended to induce calm and a space to think'.[5]

In the book *Brian Eno: His music and the Vertical Colour of Sound* Tamm discusses Cage's influence on Eno and says 'To John Cage, ambient sounds were the sounds of the environment one happened to be in'.[6] These quotes to me sum up the essence of ambient music. Ambient music focuses on the timbre of sounds to evoke an atmospheric or visual quality, this is the reason I decided to introduce these subtle tones in my soundscape compositions. This was just another way to represent the locality from where the sounds came from.

Cage stated that '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'.[7] This is what I started to realise as I began my journey into soundscape composition.

The first of my compositions *Music for Bus Station* referenced Brian Eno's album in the ambient series *Music for Airports*.[8] I wanted my composition to refer only to *Bus Station* and not

[3] Attali, J., *Noise: The Political Economy of Music* (Minneapolis, c1985), 115.
[4] Eno, B., *A Year with Swollen Appendices* (London, 1996), 296.
[5] Ibid.
[6] Tamm, E., *Brain Eno: His Music and the Vertical Colour of Sound* (New York, 1995), 131.
[7] Cage, J., *Silence: Lectures and Writings* (Hanover, N.H. ; London, 1973, c1961), 3.

Bus Stations. Eno's composition was more generic as it was produced for all airports. I wanted mine to be completely different; all the audio used in this composition was recorded at only one location, Huddersfield Bus Station. I wanted my work to be more specific to only one location.

To Brian Eno the 'concept of ambiance is associated with the decorative arts, with places where people gather, with the planning and architecture of urban and suburban spaces'.[9] This quote helped to inspire me to record on locations 'where people gather', and so I chose to create music reflecting and utilising the noises and sounds apparent within the local bus station. As I began to compose in this way, places I previously found to be the most noisy and irritating seemed very appealing. Luigi Russolo stated;

> I will be satisfied if I succeed in convincing you that noise is not always as disagreeable and annoying as you believe and say, and that for him who understands it, noise represents instead an inexhaustible source of sensations, from one moment to the next exquisite and profound, grandiose and exaltant.[10]

In response to this I decided to record at a local supermarket. Where previously I didn't enjoy the acoustics within supermarkets, I now felt compelled to record there and use the audio for my second composition *Music for Supermarket*. My recording at the supermarket was also inspired by Murray Schafer who has said that;

> Noise pollution results when man does not listen carefully. Noises are the sounds that we have learned to ignore. Noise pollution today is being resisted by noise abatement. This is a negative approach. We must seek a way to make environmental acoustics a positive study program.[11]

My perception of noise changed dramatically whilst I was recording on location at the bus station and supermarket. Due to sitting down and listening in detail to the various noises I

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[8] Brian Eno, *Ambient 1:Music for Airports* (London, 1979).
[9] Tamm, E., *Brain Eno: His Music and the Vertical Colour of Sound* (New York, 1995), 131.
[10] Russolo, L., 'The Noises of Nature and Life', *The Art of Noises* (New York, c1986), 41.
[11] Schafer, M., *The Soundscape: Our Sonic Environment and the Tuning of the World* (Vermont, 1994), 4.

recorded, I was amazed at the variety of interesting sounds available within these environments. The perception of noise has become far more interesting than I could have imagined. Instead of ignoring everyday noise, I want to listen more intently and want to record more and more noise. As Westerkamp has stated;

> The sounds are not only highlighted, but the whole experience feels to the recordist as if he or she is more intensely inside the soundscape, because the sound is closer to the ear and usually amplified. But in fact, the recordist is separated from the original direct aural contact with the soundscape, especially from the spatial realities of closeness and distance, from the ability to localize sound correctly.[12]

Westerkamp also goes on to say;

> In that contradiction, however, lies the seduction of the microphone: it feels like access, like closer contact, but it is in fact a separation, a schizophonic situation. Soundscape recordists exist in their own sound bubble and hear the place in which they are, completely differently from everyone else in the same place. They are like foreigners or outsiders, no matter whether the place is their home or foreign territory.[13]

Russolo, Cage, Westerkamp, Norman, Schafer, Truax and Eno have had a dramatic affect on my compositions. Instead of using mostly pre-recorded material, I wanted to surround myself with noise-sounds. I am fascinated by the originality and uniqueness of everyday sounds. To be able to process, listen and manipulate real life is an amazing gift.

I have been inspired to always use location recordings as the basis for future compositions, and I am doing exactly as Russolo stated: 'We must break out of this limited circle of sounds and conquer the infinite variety of noise-sounds'.[14]

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[12] Westerkamp, H., 'Speaking From Inside the Soundscape', 8-13 June 1998 www.sfu.ca/~westerka/writings%20page/articles%20pages/speakingsound.html (24 May 2010).
[13] Westerkamp, H., 'Speaking From Inside the Soundscape', 8-13 June 1998 www.sfu.ca/~westerka/writings%20page/articles%20pages/speakingsound.html (24 May 2010).
[14] Russolo, L., 'Futurist Manifesto', *The Art of Noises* (New York, c1986), 25.

Luigi Russolo was the major inspiration behind the location for my third composition *Music for Woods*. Russolo goes on to say;

> And in a wood, what a magnificent orchestra the leaves make, whether moved by a light breeze or whipped by a strong wind. Here, you come to the exquisite delicacies of the different timbres of the slightest nuances, enharmonic in their diverse passages of tones, to the most curious and bizarre rhythms.[15]

I only live five minutes away from local woods. I walk a lot there and it was one place where I always had enjoyed the sounds that permeate the air. This would hopefully give me a great deal of interesting audio to work with. This would be my third and final composition *Music for Woods.*

Discussion of Research Context

Within my compositions I use a combination of various sounds, including environmental sound as it is recorded, abstract processed sound and also more subtle ambient sounds. My compositions are structured into three parts. The first section uses Cage's theories; it uses unprocessed sounds of the environment within which I recorded. The middle section utilises Russolo's ideas of noise sounds as well as keeping true to Barry Truax's theories about soundscape composition;

> The soundscape composition always keeps a clear degree of recognisability in its sounds, even if some of them are in fact heavily processed, in order that the listener's recognition of and associations with these sounds may be invoked.[16]

I have heavily processed the audio and created as many abstract noises as possible. I wanted to create sounds and noise that were unrecognisable from the original sound source. I

[15] Russolo, L., 'The Noises of Nature and Life', *The Art of Noises* (New York, c1986), 43.
[16] Truax, B., 'Genres and Techniques of Soundscape Composition', 14 May 2002 www.sfu.ca/~truax/OS5.html (30 May 2010).

have also maintained a sense of place and locality by overlaying the sound with distinguishable sounds from the place they were recorded. This approach to soundscape composition is referred to by Westerkamp;

> I like walking the edge between the real sound and the processed sound. On the one hand I want the listener to recognize the source, and thus want to establish a sense of place. But on the other hand I am also fascinated with the processing of sound in the studio and making its source essentially unrecognizable. This allows me as a composer to explore the sounds musical/acoustic potential in depth.[17]

The third and last sections of each piece were principally influenced by Eno's theories on ambient music. They are also related to my research into Westerkamp, Truax and Norman, by wanting to keep the connection to the original source throughout all of my compositions;

> And while there is a vast body of more 'abstract' tape music using real-world sounds as a basis for sonic alchemy, there is also much music which seeks to preserve our connection to its recorded sources.[18]

I am not trying to replicate Eno's ambient music, I am more concerned with the individual ambient sounds that I am hoping to create via processing my recorded audio. Eno's theories of ambient music are more relevant to my ambient section than his aesthetic approach to making ambient music. Eno made synthesized ambient music to be played back into certain urban spaces. In my work the ambient sound will be made entirely from the actual recorded acoustics of the environmental space.

This now provided me with further research questions. How can everyday noise be manipulated and used effectively within my compositions? What does silence mean, or is it

[17] Westerkamp, H., 'The Local and Global Language of Environmental Sound', 2 July 2000 www.sfu.ca/~westerka/writings%20page/articles%20pages/localglobal.html (31 May 2010).
[18] Norman, K., 'Real-World Music as Composed Listening', 4. www.novamara.com/writings/NORMAN-CMR.pdf (30 May 2010).

impossible to find, in this technological and engine powered environment? I explored these questions by further analyzing and processing my recorded material.

Methodology - Equipment Used and Compositional Aesthetic Decisions Relating to my Research

All of my compositions were created using popular music production techniques rather than traditional electro-acoustic ones. The reason for this was that these techniques had resonance with my own background and experiences, which is fundamentally grounded within popular culture. The software I used included Nuendo and Soundforge which are both designed principally for popular music and commercial sound applications. Equalisation, time-stretch, reverb, delay and feedback were the main manipulation techniques used. These are simple signal processing techniques that are commonly found within popular music production, although they are often applied to sound in different ways. This approach allowed me to create my compositions within an aesthetic that was technically, conceptually and culturally relevant to me. I chose not to use traditional tools of electro-acoustic composition such as Max/MSP, Soundhack and Supercollider. It was a conscious decision to stay within a sonic culture that I know well. This allowed me to create without changing the aesthetic and sonic character of my compositions by applying processes that were alien to both myself and the real environments that were inspiring the compositions. I was not writing pieces inspired by intellectual concepts or for art music performance contexts such as electro-acoustic concerts or festivals. I was writing music inspired by bus stations, supermarkets and woods, which were all popular cultural environments, and thus it helped that I was composing within a popular cultural context.

My three compositions all have a common design. They are structured into three parts. This aesthetic decision evolved directly from my research. The first section of each piece is related to Cage and the concept of taking environmental sounds and re-contextualizing them as art. This is why the first section of each piece is mainly unprocessed. My aesthetic decisions for sound within the middle section of each piece came from the sound world of Russolo, categorizing noise and human sounds and dropping these into my music. The more abstract sounds in my compositions evolved from research into Westerkamp and Truax. They both stated that when using abstract sound in soundscape composition it is important to keep a relation to the sonic environment from which they came. It was a conscious decision therefore to mix in the abstract sound with sounds that were recognizable to the original sonic environment and locality. Feedback was the most abstract sound that I created for my compositions. I thought it would be an interesting concept to create noise from adding more noise, taking the environmental sound source and making it indistinguishable from the original recording by means of digital manipulation. Norman's writings encouraged this aesthetic decision;

> Computers give us the power - and it is a certain kind of power - to 'orchestrate' sampled sounds from the 'real world', and to use sophisticated wizardry to cajole them into new forms, frequencies and fantastic documentaries.[19]

The third and last sections of each piece were principally influenced by these theories of Westerkamp, Truax and Norman. I wanted to keep the connection to the original sound source throughout the compositions. I used more subtle tones and textures in my last sections, making the sound ambient and not as harsh as the middle sections. This reflected my own interest in ambient sound. I also wanted to continue to evoke a visual picture for the listener of the place where the recordings were originally taken.

[19] Norman, K., 'Real-World Music as Composed Listening', 3. www.novamara.com/writings/NORMAN-CMR.pdf (30 May 2010).

Music for Bus Station

In my first composition I began by starting to record environmental sound without really knowing how I would approach my compositions, I focused on a space that I found acoustically interesting and that was important to me. As I researched further into the ideas of Cage, Russolo, Westerkamp, Truax, Eno, Norman and Schafer my compositions and aesthetic decisions developed quickly, and I increasingly integrated their ideas into my music. A portable recorder with a microphone and preamp gave me the freedom to record at my desired locations. My first recording came at mid afternoon. I decided on this time as I thought it would be busy and I would be able to pick from a wide array of sounds. As I sat there and listened more intently to the sounds that I was recording, the sounds started to become alive in my head. There were an amazing variety of timbres coming through my headphones.

An underlying bass frequency returns periodically through the whole recording, as did people's chatter that immersed itself into other people's speech, the clunk of the automatic sliding doors closing, people coughing, and the low drone of the diesel engines that were barely audible from inside. This was polarized by the higher pitched sound of people sneezing and children screaming and playing. The first recording was a success, but I thought that I might have missed some interesting sounds. I decided to record at the bus station a further two times. I wanted to make sure that I captured as much of the essence of the bus station as possible.

Huddersfield bus station is an enclosed space. There is hardly any noise spill from outside apart from a few seconds of resonance from workmen's jackhammers. I did pick up the slight drone of the bus engines as the automatic doors opened when the buses approach the boarding areas. The last two recordings were made mid morning when the bus station was

quieter. This would allow me to pick up individual sounds without all the background noise. In these recordings I was hoping to find the ambient sound.

Bus Station Sequencing, Structure and Processing

The structure of the piece was determined by synthesizing some of the theories of my researchers into my composition, and by my own recording experiences at the bus station. The recording made at the busier period actually started off quite passive. The volume of noise rose substantially in the middle of the recording and then tailed off towards the end. This was very noticeable and gave me the idea of how my piece should be laid out, in three sections, beginning simply, building in a second section and dropping away in a third.

I decided to make the first section of my piece '4'33' long in reference to John Cage's composition.[20] This is how long the first section ran using largely unprocessed environmental sound from the bus station. Equalisation was used to clean up the audio file before sequencing. As previously mentioned Cage said that 'ambient sounds were the sound of the environment one happened to be in'[21] so processing was kept to a minimum. The first section was made by using and processing the bus station announcements. I decided on using these sounds as they were very prominent, audible above all of the background noise that was in the bus station. Some of these announcements were kept completely unprocessed, referencing Cage. Other textures that I created for the first section were made by processing the audio through various feedback networks. The very first sound of the piece was created by adding filtered tap echoes to background noises in the bus station. Various interesting sounds were repeated and would

[20] Cage, J., '4'33', *4'33*. Hungaroton (1993).
[21] Tamm, E., *Brain Eno: His Music and the Vertical Colour of Sound* (New York, 1995), 131.

reappear throughout the piece. I wanted to make the listener analyze the various sounds and make them ask themselves if they had previously heard the sound before or not.

The middle section of the piece was influenced by Russolo and his theories on noise-sound. The middle section faded in after 4'33 with a sample that was fed through a feedback network. Most of this section was again made up entirely from the security announcements that blasted over the PA system in the bus station. These short announcements appealed due to their loudness and the noise they produced.

The low frequency humming sound used throughout the middle section was actually the sound of a children's ride. This was an interesting noise that I wanted to use to add a pulse to the section. The sound was subtly rhythmical and I wanted this throughout the middle section to replicate the underlying noise that is present in the bus station. Feedback was used to represent noise, which I wanted to come in and out of the track at intervals. The laughing was taken from somebody's conversation that I luckily came across on one of my recordings. A slight reverb and delay was added to this to give the sound a sense of warmth and depth. The mad laughter that came in just after five minutes was the same laughter that was used before but a frequency shift was used to change the dynamics and pitch of the sound. One of the security announcements was time stretched slightly and given a slight panning at the beginning to diffuse the sound a little.

I also processed some of the bus station announcements to make them higher pitched. They actually came out sounding like raindrops. I decided to add these to the piece to give it a broader range of sounds. Some unprocessed security announcements were interlaced with the abstract noises. The reasoning behind this was so the listener could appreciate the heavily processed from the original sound file.

Just after 6’45 another announcement came in which was processed with a chorus and modulation to add vibrato to the speech. Feedback on one of the security announcements was used to create a deep bass sound. I used a lot of feedback in the middle section. The feedback was not predetermined and came about just by trying out various processing until I found the most interesting results. Because feedback is usually unwanted noise, I increasingly chose to use it. I decided to create more abstract noises by heavily processing the original noise sounds that I had recorded. The middle section fades out on 7’33, leading onto the third and final section.

The ambient section begins with a security announcement that has been processed by again adding filtered tap echoes to the sound file. This is then followed by another security announcement that has been manipulated by a feedback network. The announcements were used a lot in the middle and last sections. The feedback was time-stretched slightly as I didn’t want the sound to be too harsh. Underneath the sounds I placed background noises from the bus station. I wanted these sounds to be barely audible. The time-stretched feedback had a repetitive quality and worked well as an ambient sound.

A bus timetable announcement was processed by a high frequency ring modulator. This made the file sound as though it had been reversed and was placed periodically through the last section. More feedback was used to create the deep bass sound that appeared after 9’40. The feedback was further processed by a 16 band vocoder and layered on top of the existing sounds. I again brought in the sound of the laughter and the old woman talking as I found these sounds to be very interesting. It was not difficult to decide on the ending. The audio of a woman telling her child that ‘the bus driver is here now’ provided an appropriate finish to the piece.

Music for Supermarket

I choose my local Iceland supermarket as another sit at which to record audio. I had noticed the interesting sounds in the space. I was hoping that it would be quieter than the bus station and that this would allow me to pick up individual sounds more clearly without a lot of background noise. The store was in fact very noisy, but this turned out to be a positive situation. Firstly I recorded the automatic doors at the entrance. I then recorded near the two tills of the store. The most interesting of sounds was discovered at the rear of the store. This area contained all the freezers and large fridges of the chilled area. I was amazed at how loud the noise was. As well as recording the noise of the freezers I also picked up the sound of the air conditioning at the same time. The amalgamation of sound was so interesting I focused in particular on recording that section alone. I had been inside this store many times and never noticed the noise before.

I was now paying attention to the noise only in the space. The sound in the freezer section was the most interesting sound that I have come across during my recordings. After this recording I have realised that there are interesting sounds to be discovered anywhere that we wish to find them. I recorded around 20 minutes in total in the supermarket. I was impressed with the sounds that I had recorded first time around. One recording was all that was needed.

Supermarket Processing and Sequencing

The supermarket piece would have the same structure as the bus station composition, unprocessed sounds for the first section, processed noise sounds for the middle section and ambient sounds for the last section. I wanted the composition to have three definitive sections, as

if they were movements. The bus station composition was quite heavily processed in places, I wanted the supermarket track to have a more even balance of processed and unprocessed sounds.

The first section of the piece was arranged with sounds that I deemed to be the most interesting. These were beeps of the till scanner, doors opening and closing, tapping on a trolley, loud noises of baskets being dropped on the floor and random voices of children and adults, to name but a few of the sounds used. These were arranged periodically on top of some interesting background noises recorded in the supermarket. Sounds were placed in stereo and also individually on either the left or right side. I wanted to diffuse the sound spatially and confuse the listener's ears. A few of the sounds used were repeated throughout the piece as I wanted to play with the listeners perception of what they heard.

The middle section came in at around four minutes. This comprised solely of the sound of the original sound of the freezer section that I recorded. I wanted to give the listener an unprocessed snippet of the sound before it was processed. This sound was interlaced with feedback that was made by sending the freezer sound through a feedback network. I became increasingly interested in using feedback in my compositions. I now found it very interesting to create what is usually unwanted noise and place it in my compositions. As the middle section was about noise sounds I brought in a lot of supermarket noises, these included beeps from the till, sounds of trolleys crashing, and people talking. The sounds were used to add a bit of rhythmical quality to the middle section. I also used an audio file of the freezer recording, with frequencies above one kHz boosted using automated eq. A filter sweep also was automated to cut frequencies out, this continued to and fro in the middle section. I wanted to give the sound a sense of movement and this was achieved with this automation.

The third and final section of the composition was made up entirely of freezer section audio files. This came in after about eight minutes. The recording of the freezer section was the most interesting of sounds that I discovered at the supermarket. I wanted to spend more time manipulating and examining the sound. The high frequencies in the sound were cut out by using a filter because I wanted a low bass sound. I also created textures by manipulating the freezer recording with feedback. Sounds were placed subtly within the different textures, for example people shuffling their feet and an alarm bell. I wanted this section to be as atmospheric as possible, and to be created by using as few sounds as possible. The feedback used in the final section was made up entirely of the freezer section audio files. This provided ambient textures. The final section is my favourite of the piece.

Music for Woods

I have walked a lot in the local woods with my dog so I already knew that I would find lots of interesting sounds there, different sounds ranging from the bird song that is always audible, the rustle of the leaves in the large mature trees and the noise of the brook that runs through the forest. I was really excited to record the noise of the brook as there had been a lot of rainfall prior to my recording, which meant that the water was running quite noisily. Russolo inspired me to record the sound of the brook when he said;

> You notice, analyzing it, that 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 and slightly further away, often produce the third, fifth, and octave. The sprinkles of falling water form a kind of musical embroidery, with higher notes and very curious rhythmic strides.[22]

[22] Russolo, Luigi., 'The Noises of Nature and Life', *The Art of Noises* (New York, c1986), 42.

I first went to record in the woods in the middle of the day. This did not turn out to be a good idea as I picked up a lot of low frequency rumbling due to passing traffic. The woods are set back just a few hundred yards from a busy road. Because of this I scrapped the first recording and went back at 5.30am. I knew the road would be quiet and also that bird song comes alive first thing in the morning. I walked as deep into the woods as my eyes would allow me to go as it was quite dark. This worked well and I recorded for around 20 - 30 minutes, walking to various positions that I thought would give me the best recording.

Music for Woods Processing and Sequencing

My main emphasis for this composition was to keep it sounding as ambient as possible. I did not want to over process and have too many noisy sounds. The piece was to be kept minimalist rather than having lots of sounds happening at the same time. I wanted the sound to change subtly and represent the natural ambiance of the woods. The piece starts off with a small section of the recording of the brook that I make in the woods. This was used due to my fascination with the sound and inspired by Russolo as discussed. Bird song was placed periodically on top of this sound. This summed up the introduction to the piece and some of the natural ambient sounds that I would be using.

The middle section was layered with different background recordings from the woods. These were all processed differently; some were manipulated by chorus and some by different settings on the feedback network. Bird song that I had isolated from the main recordings was used to highlight the great chorus of song that happens first thing in the morning. Some of the bird song was processed by feedback but some was also manipulated 75% wet to 25% dry. I wanted to hear some of the bird song rising up through the subtle tones of the feedback. One of

the manipulated bird song files was fed through a slicing plug-in, which added a small element of rhythm to the beginning of the middle section.

The final section comes in at around six minutes. This section focused primarily on subtle textures and using a minimal array of sounds. Bird song was interlaced with the sound of the brook and also different tones created by processing the original audio files with feedback. I wanted to bring attention to some of the most interesting sounds that I recorded, mixed with some minor processing.

Evaluation of Compositions

The bus station composition was a great learning experience for me. I set out to show that I could amalgamate noise sounds, natural sounds of the environment and also ambient sound into one composition. Having the three sections to the piece helped me achieve this. I had great difficulty in isolating individual sounds from the bus station recordings. I also felt that the original recorded audio was the weakest out of the three. The sounds of the security and staff announcements did however help me immensely as these were audible above most other sounds. Creating ambient sounds and noise sounds from processing the original audio worked well with the unprocessed environmental sounds. This composition could perhaps have explored a wider frequency range, as some of the processed sound is too similar in my opinion and needed more diversity in pitch. Overall I am pleased with the piece, and it provided a successful first exploration. The piece helped me to answer my research questions. I gained an understanding of how I could creatively implement environmental sound into my compositions. This was the foundation that helped my soundscape compositions progress.

Music for Supermarket was much more effective from the start. I felt that I had a greater array of timbres and frequencies to work with than the bus station recording provided. This composition achieves the amalgamation of noise, abstract, natural and also ambient sound better. I was more confident with working on this piece as the original recorded audio provided me with the necessary tools that I needed. Having learnt a lot with the bus station composition I had gained a better understanding of what would work or not. My first composition was a learning curve and from that I had a more developed theoretical perspective. My research ran parallel with my compositions and both were evolving at the same time. I think there is better separation between the different sounds and also greater depth to the piece. The structure works better than the first piece and is much more interesting sonically. This composition achieves the amalgamation of sound more competently than my bus station piece. I now felt as though I could easily answer my research questions by showing this understanding within my compositions. I competently amalgamated a wide array of environmental sound into my piece. This piece showed both technically and academically how my understanding was evolving.

My intention for the Music for Woods piece was for it to be as natural as possible. I did not over process the sounds as I wanted a mixture of ambient, natural and noise sounds. I created the noise sounds so they were subtle and not too harsh. My main emphasis was to create a background array of sounds and textures. It was created not as an intense listening experience but as a background piece of music. Music for Woods achieves this and there is a nice mixture of the three main sound sources. The recording of the brook alone is a very calming sound and this is why it was used at the beginning and end of the piece. Music for woods showed how my theoretical perspective had gone full circle. My first piece was really my foundation as regards to soundscape composition. As my research developed, so did my compositions. When I started to

compose my last piece I knew exactly what I wanted to achieve and how this would be done. Each piece increasingly explored my research questions and the understanding was gained from working deeper and deeper within my compositions. My research solidified my appreciation and understanding of environmental sound. This then allowed me to structure my pieces in an interesting and original manner.

Conclusion

During my recordings I have found a multitude of interesting sounds in places where I least expected. My research has focused my attention on the auditory environment in which I live, and Westerkamp's theories of soundscape composition have informed the need to maintain a balance between real (unprocessed) and abstract sounds (processed) within my compositions. My location recordings featured polarization of sound, from the softer tones to the more harsh tones. These considerations allowed me to decide which sounds I should use in my soundscape compositions.

One of the most important elements of my work has been the compositional potential of noise sounds. Russolo inspired me greatly during my research. My own recordings and use of noise sounds has thus solidified my interest and appreciation of noise. I have found noise sounds to be as interesting as ambient sound. The polarization between and integration of ambient sound has been an important issue for me. Using this in my compositions has given them the diversity in sound that I was looking for.

Since my recordings and compositions I have a greater awareness and appreciation of the sounds I hear as I walk around Huddersfield and hear the sound of people laughing and talking. These now sound strikingly familiar to some of the audio that I recorded in the bus station. The

beep of a supermarket scanner seems all too familiar now, and I also never seem to be away from bird song since working on my Music for Woods composition. I am amazed how my perception and appreciation of environmental sound has evolved since starting my research, and these changes have been an important outcome of this project. The project has not only increased my understanding of theoretical concepts relating to composition, but has developed my auditory perception and engagement with the soundscapes of my local culture.

The three compositions that I worked on have used a wide spectrum of sounds. My compositional style has evolved through a mixture of experiments that developed different practical techniques, and from being informed by research into writers such as Westerkamp, Russolo, Schafer, Truax, Cage and Norman. I have moved from the use of environmental sound, onto the exploration of abstract noise sounds and finished with ambient sounds. I have taken a snapshot of my acoustic surroundings and manipulated the sound further to create a world within a world, mindful of Westerkamp's ideology;

> A piece cannot be called a soundscape composition if it uses environmental sound as material for abstract sound explorations only, without any reference to the sonic environment.[23]

My compositions have much in common with such soundscape composers. While their works are set within the field of art music, using art music techniques, software, influences, theories and are begun and situated within the elite cultures of the academy, my own work, although it discusses these art music approaches because they are relevant to this kind of work, is rooted in a different field.

[23] Westerkamp, H., 'Soundscape Composition, Linking Inner and outer Worlds', 19-26 November 1999 www.sfu.ca/~westerka/writings%20page/articles%20pages/soundscapecomp.html (05 July 2010).

My music is not intended for performance in the electro-acoustic concert hall. It was inspired originally by commercial electronic popular music. I used popular music software tools such as Nuendo and Soundforge. I used production techniques such as equalisation, time-stretch, delay and feedback that were taken from recording studio practice, rather than learned in sound art classes.

The source of my sounds has always been spaces that are important within popular culture, thus a supermarket rather than a polite neighbourhood, Huddersfield Bus Station rather than an international airport. I would say that my music is a fusion of popular cultural and sonic art elements, and that it is this popular cultural reference that makes my work different from other works in the same field, and that although these differences are subtle, to me they are important and significant.

I feel that I have answered my research questions, exploring how I could implement everyday noise into my compositions, and that this has been achieved in an original and interesting manner. I have achieved the balance of heavily processing my audio whilst also maintaining reference to the sonic environment they were originally recorded. The originality of my chosen field recordings set the basis for my work to stand in its own light, and because I used popular music production techniques rather than electro-acoustic techniques my compositions have produced an altogether original aesthetic sound.

Bibliography

Books:

Attali, J., *Noise: The Political Economy of Music* (Minneapolis, Manchester, c1985).

Cage, J., *Silence: Lectures and Writings by John Cage* (London: Calder and Boyars, 1968).

Eno, B., *A Year with Swollen Appendices* (London, 1996).

Norman, K., *Sounding Art: Eight Literary Excursions Through Electronic Music* (Aldershot: Ashgate, c2004).

Russolo, L., *The Art of Noises* (New York, c1986).

Schafer, M., *The Soundscape: Our Sonic Environment and the Tuning of the World* (Vermont, 1994).

Tamm, E., *Brian Eno: His Music and the Vertical Colour of Sound* (New York, 1995).

Websites:

Cage, J., 'Silence'
www.idst.vt.edu/modernworld/d/Cage.html (15 November 2008).

Canto, X., 'Bird Song', Bird Sounds from the Americas
www.xeno-canto.org/ (10 December 2008).

Hodgkinson, T., 'Pierre Schaeffer', *The Pioneer of Musique Concrete*, 2 April 1986
www.ele-mental.org/ele_ment/said&did/schaeffer_interview.html (27 November 2008).

Norman, K., 'Music and Sound', *Music, Sound, Writing*
www.novamara.com/index.html (25 November 2008).

Norman, K., 'Real-World Music as Composed Listening'.
www.novamara.com/writings/NORMAN-CMR.pdf (30 May 2010).

Traux, B., 'Barry Truax', *Electroacoustic Composer and Acoustic Communication Researcher*
www.sfu.ca/~truax/ (28 November 2008).

Truax, B., 'Genres and Techniques of Soundscape Composition', 14 May 2002
www.sfu.ca/~truax/OS5.html (30 May 2010).

Westerkamp, H., 'Soundscape Composition, Linking Inner and outer Worlds', 19-26 November 1999
www.sfu.ca/~westerka/writings%20page/articles%20pages/soundscapecomp.html (18 May 2010).

Westerkamp, H., 'Speaking From Inside the Soundscape', 8-13 June 1998
www.sfu.ca/~westerka/writings%20page/articles%20pages/speakingsound.html (24 May 2010).

Westerkamp, H., 'The Local and Global Language of Environmental Sound', 2 July 2000
www.sfu.ca/~westerka/writings%20page/articles%20pages/localglobal.html (31 May 2010).

Discography:

Barry Truax, *Digital Soundscapes.* Wergo 2017-50 (1987).

Barry Truax, *Song of Songs: Computer and Electronic Music by Barry Truax.* Cambridge Street Records CD 9401 (1994).

Barry Truax, *Soundscape Composition* (Barry Truax, 2008).

Brian Eno, *Ambient 1: Music for Airports.* Polydor Virgin (London, 1979).

Brian Eno and Harold Budd, *Ambient 2: The Plateaux of Mirror*. EG Records (1980).

Brian Eno, *Ambient 3: Day of Radiance.* Editions EG (1980).

Brian Eno, *Ambient 4: On Land.* EG Records (1982).

John Cage, *4,33* (Hungaroton, 1993).

Hildegard Westerkamp, *Transformations* (IMED, 1996).

Hildegard Westerkamp, *The Vancover Soundscape* (Cambridge Street Records, 1997).

John Lennon, *Unfinished Music No.1: Two Virgins.* Apple Records (1968).

John Lennon, *Unfinished Music No.2: Life with the Lions.* Zapple Records (1969).

Katharine Norman, 'London E-17' www.novamara.com/mp3s/LONDON-e17.mp3.

Katharine Norman, 'People Underground' www.novamara.com/mp3/LONDON-peopleund.mp3.

OHM: The Early Gurus of Electronic Music. Ellipsis Arts CD 3670 (2000).

Pink Floyd, *Dark Side of the Moon.* EMI CD (London, 1994).

Tangerine Dream, *Dream Sequence: The Best of Tangerine Dream.* Virgin (2000).