

PORTFOLIO OF MUSICAL COMPOSITIONS

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Abstract

This is a portfolio of mixed compositions for a range of musical media. Composition as research is the main theme running throughout the portfolio. Particular focus is given to experimental aspects of composition, in order to see how these function as both creative tools and modes of communication.

For example, use of sampling, use of code followed by digital manipulation, conventional notation and unconventional instruments. Some of the compositions are written specifically for performance, one is written specifically as sound design for a film, and others stand as experimental electronic works.

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CONTENTS

Introduction	p.1
<ul style="list-style-type: none">• Overview• Compositional Processes• Development and Influences• Choice of Materials• Practice as Research	
Commentaries	
<i>sk8erpunk</i> (2005) for electro-acoustic media (dur: 1'00)	p.10
<i>Lines of Defence</i> (2008) for electro-acoustic media (dur: 30')	p.14
<i>Untitled Piece</i> (2006) for small chamber orchestra (dur: 9'07")	p.18
<i>Aquanautics (3 Studies)</i> (2005) for electro-acoustic media (dur: 13' 43")	p.21
<i>Storm Ghosts</i> (2007) for electro-acoustic media (dur: 11'06")	p.24
<i>Aria, Clouds, Riffs and Waves</i> (2017) for toy piano and live electronics (dur; 10')	p.28
<i>4 Rooms</i> (2019) for environmental sounds and digital manipulation (dur:26')	p.33
<i>Alice Attak</i> (2019) for electronics and actors (dur: 12')	p.40
Conclusion	p.45
References/Bibliography/Discography	p.49

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Introduction

Overview

This portfolio seeks to interact with aspects of both Contemporary and popular music. This is particularly apt as the boundaries between the two are dissolving fairly quickly. I have sought to reflect the symbiosis between these two somewhat artificial categorisations in order to produce an original contribution to the musical canon.

I began this PhD portfolio in October 2004 after completing an MA in Composition at Anglia Ruskin University (then Anglia Polytechnic University). At the beginning of the PhD I was working full time at Cambridge Regional College (CRC), a local Further Education college. Due to the time commitments of the PhD I then went part time in my role in further education. During this period, due to work commitments at CRC, and the fact I was not in a university environment, meant that I needed to take two extensions. The first was in 2010 on the second in 2013 between August and September. Again, due to work commitments, even though I was part-time, I found the pressures of completing a PhD somewhat difficult. I then requested a reward of MPhil as I could not meet the University deadline satisfactorily. The University of Birmingham agreed to this and I completed the necessary work for submitting an MPhil, which was awarded in June 2014.

In 2014, I left CRC with voluntary redundancy. I then began working as an Associate Lecturer at Anglia Ruskin University, as well as a consultant for the delivery of teacher training to Addenbrookes Hospital staff, via CRC. Paul Jackson, Head of Music and Performing Arts at Anglia Ruskin University then asked if I would step in as Course Leader for the BA in popular music as a temporary measure due to a

member of staff leaving. When this temporary post was advertised as full time I applied. One of the conditions from Anglia Ruskin University was that any new member of the academic staff should have or be studying for a PhD. I then contacted my supervisor at the University of Birmingham, Dr. Scott Wilson, to request if it was possible to restart my PhD. I also put in an application to transfer the PhD to Anglia Ruskin University, but this was denied. However, Dr. Wilson pointed out that I could restart my PhD, which I did on September 1st, 2015. This is an unusual situation, where the MPhil was then withdrawn by UoB and the MPhil work then became part of the restarted PhD. This is also an unusual situation as it meant that *sk8erpunk*, *Lines of Defence*, *Aquanautics*, *Storm Ghosts* and *Untitled Piece*, and their associated commentaries had already been assessed at Post-Graduate level. During this time, I was working full-time, and once again work commitments, particularly as I was new member of staff at ARU, meant that I requested two more extensions. These were agreed by the University of Birmingham, but with the proviso that I completed by January 1st 2020. I then successfully submitted by the due date.

My interest in musical composition covers a broad range of styles and genres and this PhD submission is designed to reflect that range by a representative sample of my work. Before I embarked on a MA taught course at Anglia Ruskin University my work had primarily been traditionally notated music, partly because of the nature of digital technology (i.e. that it did not exist in its present form) and limited opportunities to use analogue methods, such as synthesisers and tape manipulation. During the MA I began to experiment with electronics and acousmatic compositional tools. These included becoming familiar with PC based software, particularly CSound and Cool Edit Pro, both of which have been used to differing extents in this

PhD submission. Since beginning this research software has evolved, such that Adobe Audition is now my main DAW, but also other software such as Ableton and Spear have been used extensively in the later compositions.

Previous to my MA studies at ARU I composed a number of works, all paper based notation. Examples of these include two ensemble guitar pieces, two pieces for solo flute, a string quartet, a piece for solo harpsichord, a piece for chamber ensemble and a number of miniatures. During my MA studies, I composed two acousmatic electro-acoustic pieces, a piece for toy pianos, a piece for string quartet and electric guitar and a large-scale work for small orchestra.

Initially trained as a classical guitarist and flautist, I have been composing to varying degrees since I was ten years old. From that point, I became interested in rock music and jazz. Much of the rock music that has influenced me is more 'left field' than mainstream and this influence will be discussed in relation to the pieces submitted themselves. In terms of jazz my interests lie predominantly in jazz orchestration and free jazz. My starting point was a developing interest in the music of John Coltrane – mid-period and his later work. I will elucidate further and in more detail about these influences in the examination of various pieces.

In terms of classical or 'art' music I have been particularly interested in the music of the medieval period, particularly Guillaume de Machaut. I am interested in music from the start of the twentieth century onwards, including the orchestrations of the English 'pastoralists' and the music of Bartók and Ligeti for instance, with focus on their work for chamber ensembles.

I am also interested in Music Theatre. This developed when I first discovered the music theatre of Harrison Birtwistle, particularly *Punch and Judy* and *Down by the Greenwood Side*. I have never been a particular fan of opera *per se* but Birtwistle's *Mask of Orpheus* introduced me to both a fascinating musical language and especially the staging and use of three separate entities for each character. This led me back to the work of Brecht and Weill and Berg, to name but a few composers.

Although there is no specific music theatre work submitted for this PhD there are elements in some of the works which I will highlight later. There is, however, a work which can be regarded as a soundscape. I began to get interested in working with other artists in collaborations and there is an example of this in the portfolio. The use of, and juxtapositions of, 'found' sounds and generated sounds, although not by any means new (*musique concrète* onwards), is a fascinating compositional area.

There have been points when I have been using numerical systems and patterns, influenced by the work of Boulez and Xenakis, for example, but I have often found that although intrinsically interesting in themselves, they do not necessarily generate cogent musical material, so they do appear, but not in an overt way.

My musical language utilises a variety of types from rock and jazz through sonic landscapes to free twelve note/chromatic and semi-tonal writing. The following sections deal with the submitted work and I will detail the aspects discussed in general in this introduction with regard to individual pieces.

During my studies at Birmingham I have composed nine works that I am submitting for my PhD. *sk8erpunk* is a short acousmatic piece for sampled skateboard sounds and accompanying video, *Aquanautics* is a set of three acousmatic studies based on the manipulation of material from improvisations on a party hooter, *Storm Ghosts* is a complete rework of a previous acousmatic/electro-acoustic piece for speaker and found sounds and a work for small orchestra, still in progress, investigating the properties of blurring conventional tuning, and incorporating ideas from the free jazz genre. *Lines of Defence* is a sound design for a film by the artist Bettina Furnee detailing the effects of coastal erosion. Later works are *Aria*, *Clouds*, *Riffs and Waves* for Toy Piano and Live Electronics, *4 Rooms* for manipulated field recordings and *Alice Attak* for actor's voices and various computer manipulations. Further details are to be found in the supplied commentary on all of the pieces.

I have worked with both acousmatic/electro-acoustic music and paper composition, as well as compositions that not only sit exclusively in both genres but also works that combine the two. Within the acousmatic/electro-acoustic realms I have extensively used found sounds from a variety of sources, to either stimulate ideas and/or those which are deemed to be useful to build textures and structures for compositions.

Computer based projects have been a major feature, utilising a variety of software on both Mac and PC platforms. These computer based compositions used software primarily on Mac (Adobe Audition, Spear, Ableton Live, LNX Studio, SoundHack, SuperCollider, Csound, Jasmine and Audacity) together with editing and other manipulations on PC (Cool Edit Pro 2 and Audition 3). I also utilised external electronic hardware such as sound modules, fuzzboxes, phasers, chorus, delay,

wah-wah etc in a variety of ways. Time-based media was also a feature, for example video, as a stimulus and integral part of composition, either as composing specifically for visual art, or the relationship between the sonic and the visual.

I would like to have taken a more active part in the activities of the Music Department and BEAST. Work commitments, and not being based in Birmingham, made this difficult, so I was not able to fully contribute to the extensive variety of musical life of the University, and to the continuing musical culture of the department.

Compositional Processes

During my studies at Birmingham, I became influenced by composers such as Dhomont, Parmegiani and James Clarke. These three particularly span the range I have outlined above, from sound processing through construction with found and manipulated sounds to the use of extended techniques and the influence of electro-acoustic music on instrumental writing. I studied these and other composers working in a variety of genres to build my knowledge and range of compositional techniques.

These eight works represent the range of interest that I have in composition. They vary from conventional notated music to more experimental composition methods. In many senses, the compositional methods have been determined by an availability of hardware and software, and other practicalities such as time restraints. There is a certain degree of creative thread running through many of the pieces. The compositional process for each piece is discussed in more depth later on in this thesis.

Development and Influences

As a youngster, I was caught up in the whole Beatlemania craze in the 1960s. At secondary school, I took up the classical guitar. I became fairly proficient on this instrument and was heavily influenced by the music of Albeniz and Tarrega, for example. This led to me writing classical guitar music that was a copy of that 19th century style. When I became a teenager, I discovered rock and progressive rock, such as Jimi Hendrix, Yes, King Crimson, Van Der Graaf Generator, Deep Purple and Led Zeppelin, to name a few. These then became my major influences and classical music was put in the background, particularly as music teachers did not like progressive rock in particular. Later on, I realised, through reading about the influences on some of these artists, that composers such as Stravinsky, Bartok and Varese had a major part in shaping so this music. This led on to further study where I discovered composers such as Ligeti and Kurtag. Through the music of John Coltrane and Ornette Coleman, I also discovered a form of jazz that I found really interesting. Also around this time I began to discover World Music and Medieval music both of which I found captivating. As time progressed I discovered New Wave popular music, Goth and Industrial. Then Scott Walker – a major catalyst musically. The influence of many of these styles can be heard in this portfolio of compositions.

Also prevalent throughout this portfolio is an acknowledgement of the dichotomy between stasis and change in popular music. On the one hand, popular music seems to repeat itself. This is largely at the more commercial chart end of the spectrum, whereas in more 'left-field' areas there is far more of a synergy with contemporary music, such that the two are often indiscernible. A good example of this are the later recordings of the late Scott Walker, such as *Bish Bosch* (2012).

Here Walker is producing enigmatic works using any methods he sees fit. To quote an unidentified journalist: *'Walker's music sounds like someone scraping the inside of a tin bucket, while someone else howls like a ghost'*. The point is that Walker said himself that he is now utilising the bits in between the music, not the music itself (30 *Century Man*, 2006).

Choice of Materials

In general, I have gone against clean and precise sounds. This is a personal choice, as well as an aesthetic and practical one. As I describe later, many of the samples I have taken are not high-quality, and I have used the characteristics of these in a deliberate way. As described below in the individual commentaries, I have deliberately set out to have music that comes at the listener from the front, rather than the acousmatic approach of spatial sound, diffused through a variety of speakers. This somewhat DIY/'Punk' approach is not one for ease or convenience. It is a method that is thought through and implemented for creative and aesthetic reasons.

This is also manifest in the choices of software and methods of mixing, as described below in individual commentaries.

Practice as Research

I consider practice as research to mean that practice is the key method of enquiry, and in a sense, generates new forms of knowledge. Nelson (2013, pp.8-9) states that:

'PaR [Practice as Research] involves a research project in which practice is a key method of inquiry and where . . . a practice . . . is submitted as substantial evidence of a research inquiry'

This argument is also developed further and substantiated by Candy and Edmonds (2018). In my case practice is embedded in the research process, and the two themes coexist throughout the portfolio. A research question may be posed, for example 'is it possible to utilise musical samples but subvert them via signal processing to create a new sonic experience?' To pick one example from the portfolio, this research question was investigated in practice in *Storm Ghosts*, where such a compositional process was utilised in order to create the effect of memories passing by the listener in the imagined sonic landscape. In this sense, it could be argued that as research questions arise the practice element attempts to answer these and therefore both informs and inputs into the process of each of the compositions in the portfolio. This means that the compositional work is extended in a personal sense, which may then feed into a wider framework of artistic output. It could also be argued that this is a form of experiential learning with the theoretical framework and artistic reflections on the portfolio of compositions. In summary, this is advancing my knowledge within the concept of practice as research.

***sk8erpunk* (2005) for electro-acoustic media (dur: 1'00)**

The origins of *sk8erpunk* were realised in a project working with disaffected young people in the village of Gamlingay. The village, with its overspill from the Bedford area, had a number of social problems with teenagers, and a film project was implemented, with the local youth club, to find an outlet for some of their frustrations. I was asked by the sponsors, the Arts Picturehouse in Cambridge, to work with the film maker and the young people on the soundtrack. As all those involved with the project were all skateboarders I decided to record them performing various skateboard moves and then utilise these to build the soundtrack. That particular soundtrack was done in partnership with the teenagers themselves. When I embarked on studies at Birmingham I decided to revisit my original recordings. At this point Vox Novus, an American radio programme, was calling for works for their 60 x 60 output. This is one hour of one minute pieces, so I decided to create *sk8erpunk* to send to them. Although not initially played on that programme it was subsequently played in the 2010 60 x 60 *Dance-Order of Magnitude Mix* broadcast from the FoFA Gallery, Concordia University of Montreal, Quebec, Canada on May 30th. This can be accessed at:

http://www.voxnovus.com/60x60/2010_60x60_Dance_Order_of_Magnitude.htm.

It was also broadcast on the 60 x 60 (2006/UK Mix) in 2006, available at:

http://www.voxnovus.com/60x60/2006_UK_Concert_Program.htm

The piece was also programmed as part of a University of Birmingham BEAST concert.

Stylistically the influence on the piece is that of Electronic Dance Music (EDM).

Subsequently a number of techniques particular to that genre were employed in the composition of the piece.

The recording of the samples was done as a field recording with the skateboarders demonstrating a range of techniques, for example 'flips' and 'ollies', which were recorded as discrete audio units with a view to assembling the piece from each component. This initial separation meant that I could audition each audio file for its potential for transformations and where it might sit in the overall texture of the piece. Individual samples were then subjected to a range of effects in Cool Edit Pro. Samples that were suitable for the basis of a rhythmic 'drum' pattern were looped to give the foundation track on which other samples were added to build a relatively dense structure. This was designed to give a maximum impact over the single minute. The looping of the rhythm tracks gives a tight bpm (beats per minute) with relentless rhythmic impetus. At the end of the piece a time and pitch stretching technique were used (Squirrely) which is a common technique used by dance DJs during live mixing on their decks – using their hands to control the speed, and hence the pitch, of the vinyl record to finish or sequence into another track. A good example of this is Fatboy Slim's (aka Norman Cook) 'Rockafella Skank (1998) where he uses this, but in this case, restarts the track. I have just used this to end the piece.

Other dance genres have been loosely incorporated into the style of the piece but not in a rigid or specific way. For instance, the sub-genres of Dance are quite tightly classified, mostly by bpm, types of rhythm patterns, pitches and instrumentation for instance. Such sub-genres as Jungle, Hard House, Deep House and Acid House probably influenced some of the sonic statements but, as I have noted before, not in an overtly conscious way.

The piece is, however, most definitely not a 'Dance' track *per se* but more 'serious' music which is based on sampling and manipulation techniques first and foremost, with the 'Dance' music influence as a conduit with which to focus the electronic material.

It is interesting to note that when the piece was played in the Vox Novus *60c60 Dance Order of Magnitude* all the pieces were actually used as the basis for improvised dance sequences, but this naturally is a far cry from the aforementioned clubbing scene.

The video to accompany the piece was added later – it was not used in the Vox Novus broadcasts but was in the BEAST concert. It was filmed by simply hanging a digital camera around my neck and walking around Barbara Hepworth's garden in St. Ives, Cornwall. I then took the video and sped it up to last exactly one minute. The interesting part was the still that I inserted from one of the frames – it looks like a person in a hoodie. I wrote to the estate of Barbara Hepworth to ask for clearance to use the video for performances and Lady Bowness kindly agreed.

I consider *sk8erpunk* to work well on a number of levels. Although not part of the original community project, the influences from that are evident in the EDM aspect of the piece, which is a type of music popular with young people when this was created. The video also hints at this by the lo-fi camerawork and the sense of rushed movement in the filmed material. The piece also works as a comment on EDM traditions, whilst technically not belonging to any genre /sub-genre, by incorporating EDM elements but utilising only skateboard samples instead of drum machines and

the sampling that would conventionally be found in EDM. A useful reference that illustrates the wide range of music that falls under the EDM umbrella is detailed by Mark Butler in his book (Butler, 2006).

Lines of Defence (2008) for electro-acoustic media (dur: 30')

Lines of Defence was a collaborative project with the artist Bettina Furnee and film maker Tim Sidell. In 2005 Bettina Furnee recorded a year of coastal erosion at Bawdsey in Suffolk by means of time lapse photography. The resulting images were then realised into a visual narrative by Bettina Furnee and Tim Sidell. I was then approached to add a suitable sound track to reflect and complement the film.

As the project (and the film) is a visual narrative about the destruction of a part of the Suffolk coastline by sea and weather I determined that I would need to compose something that would reflect this gradual dynamic erosion but at the same time almost have a sense of inevitable stasis – in that unless there was some kind of man-made intervention the process would continue ad-infinity. As a footnote, it is worth noting that certain sections of the Norfolk and Suffolk coastlines have been protected while others are left open to the full force of nature. I did not want to produce anything too emotive or literal so I decided to compose a soundscape that alluded to the processes of nature but at the same time would be somewhat distant from the actual footage.

I had used SuperCollider to generate artificial wind type sounds for *Storm Ghosts* in a basic way, so I decided to experiment with a much more developed and intricate use of the basic code block to produce material that could stand alone as the basis for the soundscape. I generated a number of different blocks and then selected those which felt most suitable in terms of interest and diverse sonic shifts.

Essentially, I manipulated the frequencies of the SuperCollider blocks and left the modulator operations as per the original block. I discovered by judicious

experimentation that this process produced interesting and arresting sounds as the random generator object (rrand) would sweep through the frequency parameters set and give the desired effect. In essence, as a composer, I was controlling the random elements by delineating the parameters and this seemed to me to be the perfect basis to express my ideas for the central tenet of the film.

I then realised that I could combine these blocks to produce even richer and more complex interactions. This process yielded five suitable program blocks. Each block was then signal processed to yield four transformations over a range of frequency bands. The four transformations were filed as 'VVHi' ('Very, Very High'), 'VHi' ('Very High'), 'Hi' ('High') and 'Lo' ('Low'). This meant that there were deliberately no mid frequencies, so there was an emulation of wind noise but without the broad spectrum, and a low frequency sub-bass element to represent movement of the sea and land. Each of the four transformations from each program block were then grouped together as 'Quads' to make it more practical when the audio was inserted into the film. One example of the transformations was taking the 'Hi' block and manipulating this in Cool Edit Pro 2 to produce a distorted version ('Hi Fuzz') and two others initialising the Inharmonic Resonance tool. I utilised a gradual pitch slide on both and re-sampled one of them at 16000 Hz. The overall process gave me a range of material to utilise in realising the soundtrack with both artist and filmmaker.

It is interesting to note that the compositional process appears again in *4 Rooms*, where there is both the sense of environmental change and technical manipulations in that a similar process to produce frequency bands was realised using Spear software, and this is discussed in the *4 Rooms* commentary.

At this point I met up with the artist and filmmaker with my ideas. It is interesting to note that the seemingly democratic process of producing a multi-media work is not easy at all. I had fortuitously not spent a lot of time on producing a finished work at this stage as I realised that there would possibly be differences of opinion and necessary re-workings before the final product. Eventually the inevitable artistic compromise was agreed. The opening section of the film and the sunrise/sunset sequences utilised the main blocks in certain sequences, so there was a degree of manipulating sections of the files to build the soundtrack in the film maker's software (Final Cut – so the files were all converted to aiff format). The result was a more dynamic and evocative first half with the 'Lo' block gradually dominating the middle section of the film, producing a sense of resigned inevitability, before the return of other wind voices that move the sonic and visual narrative to the end of the film.

Given that this is a soundscape and that there were random elements involved in the original sound generation, there is no climax or conventional structure as such. If anything, the soundscape could be seen to be shadowing the film as entering at a set point and leaving at another set point of a continuing process of change. I had also decided to make no reference to seasons nor to tidal rhythms as to me it was the relentless process of erosion that was the main concern.

In terms of situation of the work there are a range of reference points. The 1982 film *Koyaanisqatsi* (1982) with soundtrack by Philip Glass could be considered as a starting point. The conventional television documentary utilises music/soundscapes but often in a superficial way and not necessarily deeply connected to the narrative. So, leaving that and conventional film music aside, this work belongs more to the

soundscapes of, say, Chris Watson, founder member of Cabaret Voltaire and sound artist – although, in this case, I was using artificially generated sounds rather than live natural recordings. There are good reasons for this – for instance I often hear the resonate pitches of metal structures vibrated by the winds on the North Norfolk coast – fascinating sounds but for me difficult to record in the field due to the omnipresent wind noise – a slight irony. *Lines of Defence* is a successful project, and I feel that my soundtrack perfectly complements the visual narrative giving an aural depiction of inevitable change.

It may be worth mentioning that a further project with the artist and filmmaker (*Powerhouse* – not submitted here as not deemed suitable) was more difficult and, although satisfactory, did not yield the artistic rewards that *Lines of Defence* did as the gap between the artist's vision and the composers was more prevalent.

Lines of Defence also formed part of an installation at the Tower, Walton-on-the-Naze in 2006. Publicity is included but unfortunately my name is omitted!

I have included a copy of the film but if the DVD copy fails to play in any machine the film can be accessed at:

www.ifever.org.uk/camera/

or

www.vimeo.com/9448884

NB: As far as I can tell it cannot be accessed through Firefox but this may just be on particular PCs.

Untitled Piece (2006) for small chamber orchestra (dur: 9'07")

This piece is for wind (2 oboes, 1 bassoon), brass (2 horns in F, 1 trumpet, 1 trombone) and strings (5 violin 1s, 5 violin 2s, 4 violas, 3 cellos, 2 double basses). I decided to leave out any percussion, the flute and the clarinet, as the chosen sonic combination would give me the best ensemble in order to realise my ideas.

In this piece, I wanted to investigate the blurring of conventional tuning, and make extensive use of this as an ethos for 'de-tuning' around central pitches to de-stabilise the expected pitch sequence. I also wanted to attempt to emulate electro-acoustic sounds with acoustic instruments, in some passages and sections. I regard the concept of blurring tuning as somewhat different from microtonal techniques. The latter can be considered to be a more deliberately structured compositional technique, whereas the former can contain a more improvisatory or chance elements. Krzysztof Penderecki was an influence here with *Threnody to The Victims of Hiroshima*, creating dense sonic spaces with constantly moving and ambiguous tones. I was attempting to apply this to all the instruments, but not in such a complex way. The contemporary composer Scott McLaughlin, for example, also investigates 'de-tuning' as a compositional device, for instance *Surfaces of Emergence* for six electric guitars. In my MA, I experimented with a similar technique with *Hexagram of the Heavens* for re-tuned/de-tuned solo electric guitar.

The piece also contains some use of semi-improvisatory/aleatoric elements, particularly in the use of pitch bends, vibratos, glissandi and key flapping in the oboes to produce a fast-moving texture, similar to that employed by James Clarke in his *Oboe Quintet*. There is also a link here to *Aquanautics* and the techniques utilised by Evan Parker, which are discussed in the commentary for *Aquanautics*.

In order to get an idea and direction for the piece, I initially experimented with random number systems. There is no particular high level mathematical basis for this, rather a set of related numbers such as dates are arranged into a sequence and then subjected to simple operands to generate a second sequence and so on. The sequences are then drawn onto graph paper and served as a guide when developing the overall piece. I find this a useful technique for focussing on the development of the material.

The basic language used in the piece is primarily free 12-note, but this is not kept to strictly, and I decided that any language or stylistic technique that fits into the aesthetic of the composition could be utilised. The reason I adopted this approach was to attempt to foreground tonal colour over perceived harmonic changes.

Structurally the composition is built up of a series of contrasting sections, beginning with long held tones that interlock and provide shifts of colour and a rhythmic gesture in the double basses that is developed during the piece. The second section continues these ideas, but introduces new timbres and textures, leading to the third section that contains a melodic fragment played by the trumpet and trombone. In the next section the tempo slows down and long held chord tones lead to a treatment of the rhythmic gesture in the bassoon and trombone. After a pause, the fifth section has more activity, particularly in the oboe and string textures, before resuming the starting tempo and suddenly becoming very rhythmic, with the lower strings acting as a quasi-echo to the rhythms in the wind and brass. This short section leads into extended textures in the strings and wind, with the melodic material again in the brass, before the eighth section introduces a short passage of counterpoint around

the melodic material, followed by a return in the next section to long notes, but now with more pronounced glissandi in the strings and more extreme pitch bends in the reeds and brass. Section ten begins with the melody stated by the first horn, before an accelerating tempo through two bars of held notes leads into a new tempo and a rhythmic but more fragmented and staccato texture. The final section cross layers the material in quartet groupings, although the instruments multi-layer in various densities of textures before decelerating to a chromatic chord across the instruments in section twelve, with Oboe 1 tailing off the section. The chord is restated before the melodic material that was overtly stated by Horn 1 at bar 76, although appearing in various guises previously, is developed in layers and, once again, in varying densities towards the end of the piece. The full ensemble then restates a variation of the previous chord as an end point to juxtapose with the beginning of the piece.

I consider this to be the least successful of the compositions in this portfolio. It would definitely have benefited from at least one live playthrough, allowing me to gauge the impact of each idea and the piece overall. Also, comments from the instrumentalists as to playability of parts would have been useful. The scoring needed to be cleaner and more accurate as well. For any future notated works, I would ensure this.

However, I feel that the piece has partially succeeded as an example of practice as research, as the experiment with ambiguous pitch is well demonstrated in the score.

Aquanautics (3 Studies) (2005) for electro-acoustic media (dur: 13' 43")

The basis for this composition was a set of live improvisations using commercially available party hooters, consisting of an untuned single plastic reed and a cardboard bell. The instrument can only produce one basic pitch, which can be coloured with a wide range of noise formants on production of the sound by blowing at various intensities and other techniques discussed below.

The live improvisations were recorded in stereo onto Cool Edit Pro 2 software on a PC, via a digital interface. A variety of playing techniques and strategies were used, including wind techniques such as flutter tonguing, vocalising whilst playing, overblowing and manually distorting the cardboard bell whilst playing, as well as playing more than one instrument at a time on some takes. On some of the improvisations live electronics were used, in the form of analogue effects (fuzz-boxes, delay and wah-wah pedal), again in an improvised way. Spatial movement in the stereo picture was realised by moving around the room whilst performing. In particular the influence for the initial idea was Evan Parker's solo saxophone improvisations. This gave rise to a range of sonic material suitable for building the three studies.

A short extract from the full set of improvisations was then selected for further manipulation. This technique of improvising then selecting the most suitable material was influenced partly by the German Avant-Rock band Can. This sound file was loaded into Jasmine software on the Mac. Jasmine is primarily a sound editor but enables the sound file to be dragged backwards and forwards at varying speeds by the mouse, in the same way tape can be moved across playback heads using the

reels as controllers. This generated a second layer of improvisation, with the mouse as the 'instrument', responding to the original sound file by alternately letting it run or dragging it backwards and forwards.

The Mac was connected to the PC and the improvisation recorded in real time into Cool Edit. The stereo recording was then split into mono files and each of these reversed, resulting in four sound files. These were then overlaid in Cool Edit's multitrack mode and panned. This resulted in a third layer of improvisation and was then mixed down to stereo to create *Aquanautics 1* (dur; 4.43). This first study investigates a dense sound world with constant movement.

Aquanautics 2 (dur: 4.31) was composed from fragments from the first study that suggested Morse code type signals. It was realised entirely in Cool Edit. The sounds are separated and there is a significant use of silence. The sounds were treated primarily using normal and backward reverberation, multi-tap delays, undersampling and filtering. This results in a contrast to the first study – a more intimate investigation of the material, and the relationship between live and processed sound. There is no direct improvisation in this study.

Aquanautics 3 (Dur: 4.33) is an attempt to combine the elements of the first two studies into an aural landscape. This study is closer sonically to the second study, and uses similar techniques, but attempts to fuse elements of the first two. It builds from a similar starting point to that of the second study but gradually increases in density and both *Aquanautics 1* and *2* appear in the last part as time compressed

versions, slightly overlaid, to provide a return to the starting point and a reference to the initial direct improvisations.

Aquanautics takes initial inspiration from Evan Parker's *Aerobatics* sequence of improvised pieces in which he utilises multiphonic techniques on a soprano saxophone. I decided to experiment, in a sense, with this inspiration and starting point to try, sonically, to give an impression of being under water. This is an extremely loose reference as, firstly, I am not using a conventional instrument and, secondly, the allusions to dolphin like sounds are not meant to be literal, only suggestions. Nonetheless, the spirit is one of free-jazz, or a primitive sound generator (also a nod to Ornette Coleman and his experiments with any instrument), but then to manipulate the improvisation into a structural and textual format.

Aquanautics works on a creative level as a set of three experimental studies, and I learnt a number of useful improvisatory techniques utilising a range of technologies. I was already familiar with the wind instrument extended techniques as a flute player. However, I feel that for any future creative work of this kind I would select sound sources with a more interesting sonic palette, as the tones produced by the party horn were somewhat narrow in scope.

Storm Ghosts (2007) for electro-acoustic media (dur: 11'06")

Storm Ghosts is a sonic evocation of impressions from visits to the far North West of Scotland, primarily the area around Cape Wrath and Faraid Head. It is a development of previous compositional ideas and the basic premise was a piece called *Storm Crow* composed for my MA submission. I then decided to develop the idea much further to compose a more fully formed piece realising my compositional concerns – namely a piece where the sonic backdrop is formed from a large range of samples from commercial recordings. This could be perceived as contentious given copyright legislation but I wanted to see if I could take the raw samples and then manipulate them so they would become part of the musical fabric and essentially unrecognisable from their origins. There are similarities with John Oswald's *Plunderphonics* approach to composition, where he creates pieces from commercially available material, but I chose sample anonymity. The title of the piece suggests the ethos of the composition. Standing on the headland of Faraid Head with Cape Wrath to your left and the view of the horizon with nothing until the Arctic Circle produces, at least for me, a kind of 'quasi primitive' set of emotions encapsulating received history that suggested the rationale for the piece.

Initially I had tried to construct the spoken word part by sampling commercial recordings of female singers, for instance Nico, Björk, Nancy Sinatra, Brigitte Bardot and the Shangri Las, to name just a few. However, despite long periods of auditioning and digital cut ups, I abandoned this as basically obvious and not in keeping with my ideas. I then decided to write a lyric/poem that would reflect the ethos of the piece. There is some integration of the words to some of the music but basically the two bounced off each other in terms of inspiration.

The piece was constructed in three parts which were then dovetailed together. I found that a work utilising so much sonic material needed careful cataloguing and filing in order not to lose the creative thread. Although time consuming I found this vital during all stages of the composition, and is a technique I used in the later electronic pieces.

The bulk of the compositional process consisted of hearing a sound, or in some cases hearing a recording by chance, and then sampling from the recording. This was a case of deciding if the potential sample had both enough interest as a sound and whether it could be manipulated satisfactorily. The sample was then transformed by experiment using a variety of software or both PC and Mac platforms. On the *PC*, the primary software was Cool Edit Pro 2 and on the Mac a variety of software such as CSound, Jasmine and Soundhack were used as well as Audacity on some occasions.

As with most creative processes, eventually there was a useful sonic result for each sample. The next stage was to build the samples and weave them into textures. Again, experimentation was a key process and involved many attempts, some working, some not. I realised that I would need to file multiple Cool Edit sessions with appropriate file names and dates so I could always revert back to the original compilations of material as necessary. I also decided to use the sample of a carrion crow that I sampled from a film in which I participated as an interviewer about Cambridge United – fortuitously it flew very close during an outside interview and we had to retake – I did however realise that this was an excellent sound for the piece and became a significant sonic gesture in the mix – and another ghost voice.

To give an example of an individual sample I decided to use the instrumental trumpet section from *Sleepwalkers Woman* by Scott Walker as this has a mournful, evocative exposition of the song's melody. Whilst wanting to maintain the character of the music I set about disguising it by reversing the wave, pitch shifting and adding various reverbs and echoes and then seeing how it fitted into the mix of the third section. This is a brief example of the process to which individual samples were subjected.

In many ways, the selection of samples represented my 'past', as it were, in that they all came from my CD collection. The inclusion of not only Scott Walker, but particularly King Crimson, Yes, Frank Zappa, Emperor to name a few represent my listening in the left field rock genre. This fitted perfectly with the idea of *Storm Ghosts* – that is once could be stood on Faraid Head looking out to sea with the wind carrying those memories in a soundscape almost like a 'sonic dream'.

I have not listed every sample for several reasons. Firstly, this was an exercise/study in utilising found material and attempting to retain the character, whilst disguising the source and producing a new sonic experience. I do not think this worked in every case – for instance the Black Metal 'blastbeat' from *I am the Black Wizards* by Emperor may be somewhat obvious, but this was necessary for the flow of the piece. If this type of composition were to be developed, then careful attention would need to be paid to avoid any possible litigation.

In terms of evaluation, I feel that overall *Storm Ghosts* is a successful realisation of sampling techniques, in that I was able to produce the sound world I had envisaged, and produce a range of interesting textures. My reservation is the way in which the spoken word fits in to the mix. If I were to do a remix (unfortunately not possible as Cool Edit no longer exists, so the 'session' files could not be accessed), I would sonically transform the spoken word parts further and mix them at a lower volume to provide a more interesting and consistent texture throughout the piece.

Aria, Clouds, Riffs and Waves (2017) for toy piano and live electronics (dur; 10')

This piece was written for the Russian pianist Xenia Pestova. One of Xenia's specialisms is in toy piano performance. I was invited to a workshop in London prior to writing the piece, in order to get an idea of what was possible and what was not, regarding the instrument. I have a number of toy pianos of my own, but these are not professional concert instruments. The idea of using live electronics was there right at the beginning, although we discussed the possibility of using some of my pianos in addition to Xenia's Schoenhut. This idea was discarded fairly early on as impractical. We both had a limited amount rehearsal time, so we had to keep things simple. Up until the last minute, I was unsure as to exactly which instrument we would be using. This meant I had to have contingencies in my writing, and also be prepared for last-minute alterations during the final rehearsal. All this meant that there had to be an artistic compromise, but I was satisfied with the creative result.

The piece received two performances, one at the BEAST (Birmingham Electro Acoustic Sound Theatre), weekend in Birmingham, and the other at Anglia Ruskin University in a lunchtime concert. The performance at ARU was videoed and is included in this portfolio.

In terms of the musical material this piece was originally written for a specific instrument, at the request of the player, and the original score reflects this instruments range. However, in final performance it was performed on a different instrument. This meant they had to be some octave transpositions, and some notes had to be removed where they were doubled. The score is handwritten, as in the timescale between starting the composition and performance, roughly four weeks, there was not time to input into a software package such as Sibelius. There are a

number of complexities in the scoring that would have been difficult to realise, meaning the logistics of preparing a basic score in the software, hand notating specific events and subsequent photocopying.

As its title suggests, this piece has four events. Each one of the events has its own characteristic notation and texture, and each one appears on a number of occasions. This means the piece has a number of textual contrasts throughout stemming from both the instrument and the electronics. The musical material is generated from a straightforward set of 12 note tone rows, subject to the common manipulation of original, retrograde, inverted and retrograde inverted. These form a continuous stream throughout the piece, however the four events do not begin or end when the rows do. Rather there is overlap. This was a deliberate compositional device, in order that the tone rows could not be perceived as just being delineated.

Each event initially has a particular electronic treatment utilising the four effects boxes discussed further on. As the piece progresses these electronic events also begin to overlap, thus changing the perception of each event.

Toy pianos do not function in the same way a standard pianoforte. Despite having keys, they strike chime bars to produce notes. This means one has to give a sonically different treatment when writing for the toy piano. There is very little range of dynamics because of this mechanical operation, so once a note is struck it will sound for its duration, unless contingencies have been made to damp it. This would require taking the toy piano cover off. These kinds of techniques have been explored by other composers, but I did not wish to do this. There were other

considerations as well. Xenia Pestova is very keen on the theatrical aspects of the toy piano. Whilst I was not specifically trying to pursue this line either, I was aware of it. Another aspect is what appears to be a rich chord or harmony on the piano will sound totally different on the toy piano. So, whether to 'roll' or not was an important consideration. The toy piano also produces a fair amount of instrument noise, so a thick texture may not sound as such. One also has to be fully aware that more notes means more volume. Composers also have to be aware of fast changes in the shape of the movement of the hand. Unlike the piano the short keys do not allow much space for hand movement.

I decided follow the root of irregular rhythms and cross rhythms, such as those used by Ed Bennett in *Crazy Legs*, and Alvin Curran in *Inner Cities 3*. I found this very satisfactory way to compose for the toy piano, as it allowed me to experiment with contrasts.

I decided not to use any form of computer based digital manipulation to this piece. Rather, I decided to use 'old school' guitar effects units. This would mean a more 'organic' live performance, with a high chance of unforeseen occurrences and their solution in real time adding to the realisation of the material, as indeed what happened in the performances. I have a number of effects units, and many of them have had significant road usage. After experimenting with my own toy pianos on these effects units I selected four. These were Wah-Wah pedal, a Fuzz box, an Analogue Delay and a Chorus. My own experiments were somewhat limited, but Xenia was able to have an idea of the sounds that could be generated by an exchange of sound files between us.

At both performances, the toy piano was contact mic'd and fed into a small mixing desk. The four effects pedals were given their own channel. This meant they could be permanently on to avoid switch clicks, and only needed to be faded in and out. The Delay box and the Wah-Wah pedal were both manipulated during performance by myself. My original delay box broke down, so I used a more recent, but still analogue, complimentary unit.

I have stated earlier that I was satisfied with the creative result of this piece. In general, most things worked as I hoped they would do, but also as stated above there had to be some compromises. The difficulty with rehearsals meant that there were changes I may have made, but could not before the actual performances. However, in some ways this adds another layer of improvisatory/chance element in addition to that previously discussed, to the work which may have resulted in somewhat different, but nonetheless interesting performance, such as in John Cage's *Suite for Toy Piano*, although there are differences in compositional technique.

My realisation of the sonic possibilities of the toy piano with live electronics worked well overall. The Wah-Wah pedal was very successful, as although toy piano has a hard initial strike and a short delay, the pedal was able to add interesting textures with this unit. The Chorus added, as one might expect, a slight thickening of the sound, and also worked relatively successfully. The Fuzz box was the least successful unit. The nature of the attack and decay time on the toy piano notes meant that the expected distortion was far less effective and meaningful than it would have been with a guitar. The analogue Delay was the most successful unit used, as might be expected as although the notes are short it can hold them. By

manipulating the intensity and delay time, some very interesting effects were produced, and can be heard on the recording.

It would be interesting to a try similar experiment like this again, perhaps using more up-to-date effects units such as a loop pedal, and a more sophisticated digital delay.

4 Rooms (2019) for environmental sounds and digital manipulation (dur:26')

Barry Truax's *Islands* was an initial starting point for this composition. This is a soundscape composition that blends natural acoustic environmental sounds with processed versions of the same sounds, which gave me the idea of experimenting with a similar creative idea.

However, rather than focus on any one composition as inspiration for this piece, I would rather say that many influences have come and gone over the years from a variety of sources. Having absorbed all or parts of these, I was interested in listening and analysing sounds around me in order to inform this composition. There is also an influence from my collaboration on *Air, Earth, Fire and Water*, which was a set of four unreleased pieces for improvised guitars and electronics. Four different guitars were used - normal solid body electric, 12 string electric, six string bass and a standard electric guitar re-entrantly tuned. Although not directly in comparison with *Four Rooms* there are elements from this previous work that have a bearing on this composition.

This electronic piece was initially inspired by sounds of the sea. The recordings of the sea were made in Hunstanton in West Norfolk during a particularly high summer tide. The location was a meeting of the sea defence and the beach, where the waves were pushing pebbles and stones against the concrete seawall, combining the sound of the waves and the pebbles and stones being rolled backwards and forwards.

I then decided to use a number of other field recordings in order to provide material as contrasts to the sounds of the sea. I recorded a number of different sound events on the guided busway between Cambridge and St Ives in Cambridgeshire. I was particularly interested in birdsong, so I recorded a number of samples of these, although no attempt was made to identify them as this was felt unnecessary for the ethos of the piece. At Longstanton on the Cambridge busway there is a stone and gravel site, and I recorded a number of sounds from here such as lorries reversing, diggers working, steam jet outlets and other interesting samples. There were also to accidental sounds that appeared which I have used in this piece. These include guided buses going past, cyclists going past and some insects flying close to the microphone. Naturally a good deal of this contains a wide spectrum of frequencies so the number of digital manipulation manipulations are applied in order to make a meaningful discourse between the various sounds. A further set of samples were recorded in the Highlands of Scotland, between Drumnadrochit and the Divach Falls. These consisted of waterfall samples and wind blowing through trees. There are also some other countryside sounds that appear accidentally.

This piece comprises of four episodes – the *4 Rooms* of the title. Each episode is roughly six minutes long. The first episode is comprised of sea sounds. The second is birdsong primarily, with some other sounds from those recordings. The third episode consists of industrial sounds. The fourth utilises tree, wind and waterfall sound frequencies.

In many ways, this piece can be seen as a piece of sonic art, in that the listener would be walking through, and spending time, in each of the four rooms. The idea is

that the listener would focus on the individual sounds and their interaction within the sonic environment. An analogy to this would be my experience with Rothko's paintings. Having consulted a fellow musician some years ago, and said that I could not find anything in Rothko, I was told to sit and focus on one painting, adding in his words 'to lose oneself in it'. This gave me a greater appreciation of Rothko's work and his intentions. I took the germ of this idea in order to inform the four episodes of this piece.

As I was constructing the pieces in Adobe Audition, I was introduced to Spear software. Spear allows you to select frequencies from any sound sample in a variety of ways, such as pinpointing individual events or taking a single frequency band from the sample. I found this very interesting tool, although initially I was unsure how to use it in these pieces. Then, again, taking an idea from Rothko, instead of a similar shape, I decided to use the device of mixing down all elements in any one of the Adobe Audition sessions, and then selecting a frequency band in Spear. I imported this into each session, so that these frequency bands added a background to each individual episode, which gives a sense of continuity across the four episodes.

Room 1 (dur: 6.31) contains manipulated sounds of the sea, as described above. Samples were subjected to a range of treatments, but the primary focus was on shifting pitch in order to produce a series of sonic events. Various fragments were also used at key points in order to inform the narrative. Various types of reverb were used on these fragments. In terms of the Spear frequency band sound files, a reverse sound file was also added into the session. Annie Mahtani is an example of a contemporary composer/sound artist working in similar ways, for instance *Norfolk*

Sea, which is a field recording, but with no sonic transformations. The range of frequencies in this are also not dissimilar to the approach for *Room 4*.

Room 2 (dur: 6.33) is based predominantly on birdsong, as described above, collected on the guided busway in Cambridgeshire. The initial field recording was individually manipulated, again with pitch shifting and reverb, in order to produce the sonic environment intended. The chance encounters with the guided bus going past, and cyclists is also woven into this episode. There was an interesting natural stereo effect as both cyclists and bus pass the field recorder. I decided to utilise these as a commentary on the sounds of the birds and nature, and human transportation both pedal powered and petrol powered. Again, another Annie Mahtani example is *Dawn Chorus*, but this is a much denser texture of birdsong than I used.

In *Room 3* (dur: 6.29), the industrial sounds I collected in my field recordings are the focus for this episode. As one might expect, the cement works recordings have events with a rhythmic quality, and I used these in this episode. The steam jets gave a particularly interesting sound. I discovered also that there was a kind of harmonic event going on in these field recordings. I decided to pitch shift various blocks in order to enhance this harmonic effect, whilst keeping the rhythm. The overall effect seems to be one of intense melancholy in a manipulated industrial landscape.

Room 4 (dur: 6.11) was approached slightly differently in its construction than the other three. The sonic events in this episode have a much wider frequency band. I decided to use a simple method of composition to see what would happen. This consisted of some slight adjustments to the samples and then a very early mix down.

I left this mix down as it is, but then produced two other sound files in Spear which I added to the session. The idea of noise frequencies as sonic tools is a sound art in itself, for instance some of the contemporary noise artists, for example Masonna, the Japanese Hard Noise artist, but does not always make for comfortable listening. I personally find this an interesting area of music, and one I may pursue further.

The recordings were done with a digital field recorder. The recording used was a Sony PMC M-10, which is battery-powered. A Rycote Windjammer was used in order to filter out much of the extraneous wind noise, which was particularly relevant in the sea samples, although it was common to the other samples as well. The Sony PMC M-10 proved to be a good choice, as it had the necessary sonic resolution and was portable and quick and easy to use. This allowed me to be reactive quickly when I came across sounds that were suitable for the project. I tended to record between five and ten minutes of sounds from any one location, although there were some shorter ones, particularly with some of the birdsong samples. The longer location recordings often meant I was concentrating on standing still and not allowing breath noise or body movement to interfere with the recordings. It also led to the recordings of passing buses and cyclists as I often did not see them coming, so they found a way onto the longer recordings. At all locations, I made sure I was safe from any potential risks.

Initially the software I would have preferred to use was Cool Edit Pro 2, for instance which was used with *Storm Ghosts*, *Aquanautics* and *sk8erpunk*. I found this an extremely useful DAW, as it did not tie you to quantisation and timings, and had the

necessary filters and other digital manipulation tools. However, by the time I began work on this place Cool Edit Pro 2 was no longer in existence. This would have meant using an old outdated version on a PC, which was not a technical option, particularly if one is going to mix in Mac based studios. The solution was found using Adobe audition. This is the follow-on software from Cool Edit Pro 2 who were taken over by Adobe. The program has many similarities to Cool Edit Pro 2, and also some differences. It is less easy isolate individual wave samples in some instances, but it still has this possibility. The filters and digital manipulation tools are similar and are as useful as working Cool Edit Pro 2. Basically, it still has the same overall result. I also experimented briefly with Reaper, but I felt that this was more suited to other types of experimentation, and that Adobe Audition was a better option. I briefly considered the possibility of using Max MSP and Pure Data, but I felt at this stage I was not familiar enough with either of these programs to be able to use them in any meaningful way.

As discussed above, Adobe Audition and Spear were the primary pieces of software that were eventually used in the execution of this composition, both for sound manipulation, realisation and final mix downs. Spear has been discussed briefly in the commentary for *Lines of Defence* (where it was not used), but in *4 Rooms* it is an important creative tool. Any frequency can be manipulated, including small individual waveforms. I chose to select various frequency bands from the spectrum and use these files for subsequent signal processing.

A piece such as this requires a great deal of thought as to its initial inception. From the outset, the selection of suitable field recorder is extremely important in order to

get efficient and sonically meaningful recordings. As stated above, the process of field recording needs to be considered in advance both in terms of locations and health and safety, as well as other practicalities, such as the weather any particularly appointed recording day. I felt the field recordings themselves very successful given mode of operation under which they recorded. For any future work of this kind it possibly would have been more efficient to use a static recording unit so that the problems of breath and body movement would not have arisen. However, I also felt that the idea of a handheld field recorder would give more spontaneity as to the range of recordings. This is particularly true of the birdsong samples.

In terms of the digital manipulation, I found I was doing great deal of experimenting with filtering out the broadband frequency characteristics of many of the samples. This was particularly noticeable where there was anything to do with moving water. The sea samples have more interesting characteristics than those from the waterfalls. This is because the sea has the semi rhythmic sounds of waves, and on my recordings the sound of pebbles and stones moving, which are not always uniform. The problem I encountered with waterfall sounds was that they tend to be uniform and so lack the characteristics of the sea.

Overall, I feel that the textures and contrasts between the episodes has been successful, but for future work perhaps more detailed digital manipulation could be used in a larger longer-term project.

Alice Attak (2019) for electronics and actors (dur: 12')

This piece is an experiment with a subversion of EDM (Electronic Dance Music), and is an engagement with popular music culture. I had initially wanted to create the kind of spacey, somewhat ethereal sound, similar to 'chill out' music. However, the piece took a very different turn once I had started to do some sampling. My initial two samples that are detailed below have been transformed in such a way as to be unrecognisable. If one takes the ethos of Schaeffer's *Musique Concrete*, then any sounds should be admissible. Of course, this is not the case with music and copyright restrictions. I could hear that they could be manipulated by various means in order to produce a sonic effect very different from the original, and in keeping with this piece.

My initial sample was from *Krautrock* by Faust, a German 'Krautrock' band. This was taken not from the original studio recordings, but from a live version recorded at the Amersham Arms in 2008. Faust often perform very different versions of their material. On this particular version, they had a pulsating synthesiser/ electronic section as part the introduction, which leads into the full trancelike two chord realisation. It was this introduction that I knew could be sampled and transformed to give an effective 'loop'.

I sampled part of this and then created a loop with it. I also then sampled a section from *Krigsgaldr* by the Danish New Pagan/New Warrior collective, Heilung. This is particularly interesting piece to sample and, as it forms part of a full pagan ritual performed on stage. Much of the percussion is modelled on old Viking drums, together with metal percussion, i.e. swords and knives, as well as animal bones.

They also use animal horns as wind instruments, as well as some electronics. I decided I wanted to get away from more conventional EDM tropes so I initially decided on the idea of putting overlaid and interleaving guitar parts produced by using an EBow, and digitally manipulate these.

However, this piece took one of its first major turns. I decided that as I was dealing with EDM types of genres, I decided to take the sampling aspect further. The use of samples is well documented in popular music literature, and the associated copyright actions. A good example of this is the Utah Saints utilising samples from Kate Bush's *Cloudbusting* for their hit single *Something Good* (1992). They did this without permission, but the situation was resolved amicably. The major point here is that the record would not have had its impact if it had not been for Bush's samples.

I then decided on a similar tactic. As I now had a backing track consisting of the two aforementioned samples, and the drum track created in LNX Studio, I began to create a collage of samples similar to the conventions of EDM. However, I decided there was going to be a more unfolding narrative and less repetition. The samples all worked well with the backing track, but the piece lacked a central creative theme.

In the final creative turn of the piece, it was obvious that commercially sourced samples would cause immense problems. Even if permission could be gained, notwithstanding financial expense, the timeframe would have been too great. This is in contrast to John Oswald's *Plunderphonics* approach because I chose to mask the material far more. This is also discussed in the *Storm Ghosts* commentary. In my original samples, I had used section from a track that I had written for a charity

album. In the 'outro' track of that release I had a female voice reading a short section from Lewis Carroll's *Alice's Adventures in Wonderland*. I decided to create some kind of thematic narrative loosely based on a selection of the text, but in a more obtuse way. I then had the idea of replacing the samples with actor's voices. Many of the phrases and words on the original samples were common in everyday use anyway, so there would be no conflict. Where, for example, there was a recorded conversation, I asked the actors to replace this with their own. I gave the actors a brief, and then looked at the samples they had sent. A few were unworkable, but those that were useful could be manipulated effectively.

Basically, this piece is a collage of sounds. The consistent sounds throughout are the initial two backing samples. However, they do not play continuously but are juxtaposed with the other material. This is the same with the drum track. The initial drum track is used but is cut up. The drums on this are fairly basic, which was intentional. In order to counterbalance the repetitive nature of this material, the backing track was fed into Ableton Live and then manipulated in real-time. These manipulations were then also cut up and interjected into the original session. For the most part, I put the actor's parts where the original commercial samples would have been. Where this did not work I kept them as close to the original timing as possible.

The quality of the samples from Heilung and Faust both presented both a problem and an opportunity. Samples were taken from YouTube as Mp3's and there is a subsequent loss of the initial quality. One could go to the studio recordings for better quality samples as mentioned above, but the Faust sample does not exist on a studio recording in the form that I wanted. This means that these two samples have

a somewhat 'Lo-Fi', slightly 'grungy' sound. I decided to take this as an opportunity and uses these qualities to create the piece.

Initially I tried to match both samples and run them together. This proved problematic, as the Heilung sample turned out to be not such a good loop for matching, and no amount of time shifting helped. I did a second Heilung loop, but the results were no better. At this point I decided to concentrate on the Faust loop as the rhythmic centre of the piece, and use the Heilung loop as an interjection, particularly utilising its out of sync nature, in order to provide contrast.

The samples of the actor's voices were variously manipulated digitally, or left untreated, apart from some reverb. An example of this is the 'operator says your numbers been disconnected' sample. This appears both in 'close-up' and as a disconnected telephone voice.

The piece is built in Adobe Audition, and both initial samples were looped, and then subjected to a variety of digital manipulations. One of the main ones was pitch shifting, as the experiment (similarly to *Storm Ghosts*), was to disguise these samples and give them a new identity. As mentioned above, Ableton Live was used for some real time Digital manipulation.

I feel that this somewhat 'rough and ready' nature of the sounds and construction of this piece work well. As mentioned before, this was an engagement with popular music culture and as such take something of a 'punk' ethos. By this I mean the DIY aspect of punk, and the immediacy of some of those artefacts. I was not after clean

and precise sounds, rather to let these lo-fi contributions speak for themselves within the context of the piece. This is very much in keeping with the way I prefer to create music in certain contexts, this being one of them. Having now produced this work electronically, it would be interesting in the future to produce a live version of this piece, perhaps with multimedia presentation.

Conclusion

This commentary presents a number of musical works, representing the more academic and experimental side of my compositional technique. There is evidence of an environmental thread running through much of this portfolio, as a number of the pieces are directly linked to specific places, particularly links with coastal regions in the UK. Works such as *Lines of Defence* obviously sit completely within this agenda, being centred the coast at Bawdsey in Suffolk, as both as a comment on the destructive power of nature and also the destructive power of humankind. *Storm Ghosts* is linked to Faraid Head on the northern coast of Sutherland in the Scottish Highlands, and as it says in the title, these ghosts are being blown through one's memory (real or imagined), from across the sea onto the land. Although it may not be obvious at first sight *Aquanautics* also takes on an environmental thread. The destruction of a cheap and unrecyclable instrument, and the consequent distortion and reshaping of the sound produced is again a comment. *sk8er punk* with its skateboard samples works as a comment on reshaping sounds from a community youth activity. This activity refined the skills and fitness of its participants, and so the very short one-minute piece also reflects the kind of music that these young people listen to. *4 Rooms* is probably the most obvious piece with an environmental narrative. The links are wider ranging from field recordings around Loch Ness, the West Norfolk coast and rural Cambridgeshire. The very use of natural sounds from the sea, trees and wind juxtaposed with industrial sounds, gives each room both its own environment generated by the treatment of sounds, and in a sense a meta-environment to which each of the *4 Rooms* belongs. The environmental context in these pieces is subtler in many ways than say the direct approach of *Aquanautics*. Even *Aria, Clouds, Riffs and Waves* has a sense of environmental commentary by

the use of analogue effects for the electronic part, and the use of a toy piano, which itself could be seen as a comment on an unsophisticated and simple instrument.

There were a large number of influences on the contents of this portfolio, and these are discussed in more detail in the individual commentary sections for each piece. It would be interesting to have followed some of these influences further, for instance the Japanese Noise artists. Many of the influences I have stated throughout this commentary, have been quite generically stated, and have shaped my compositional style to greater or lesser extent. It would not be possible to single out anyone composer, genre or artists as a major influence.

In terms of technology, some of the resources used have meant a steep learning curve. Initial studies with software such as Max MSP lead nowhere eventually. This is because I found this program fairly impenetrable and extremely difficult to use. SuperCollider sits somewhere halfway between these. Unfortunately my familiarity with CSound did not particularly help me with this piece of software, however I learned enough to be able to use it to the ends that I wished. I found some software such as Sound Hack and Spear particularly useful. I discuss Spear in more depth in the commentary on *4 Rooms*. Whilst in no way an expert on these at this point, I was able to get meaningful artistic results from these. I also engaged with software such as Ableton, and I used this to a certain extent but it did not really provide me with much material. The DAW software, and particularly Cool Edit Pro and its successor Adobe Audition worked really well for me. I found both these intuitive, and easy to manipulate material in satisfactory way. I have had a look at other DAWs such as

Logic, but this is mainly tied into popular music production to my mind and would not have given the freedom and flexibility that I required.

Overall, I feel the portfolio is effective as piece of postgraduate research work. Looking back now, I felt that the notated music side was not as successful as the electronic music side. This is something that occurred during the course of the PhD. I found that I became increasingly dissatisfied with notated music, and I wanted to be able to produce things myself more quickly and instantly. This may have something to do with my leanings as a popular music artist. Part of this may well have been the fact that I was unable to access resources such as instrumental players easily at all. I would like to have introduced more in the way of hybrid crossover with popular music, this did not seem to be possible within the academic environment.

In terms of future developments, I would definitely be looking at this hybrid crossover with popular music, particularly 'Left Field', together with the environmental aspects in a much greater way. This is obviously a pathway that much music is taking in both the academic and commercial areas. It would be unlikely that I would return to notated music to any great extent. There are a number of things I would have done to some of the pieces, and a good example of this is the main spoken vocal part in *Storm Ghosts*. I thought this could have been subverted and woven into the texture of the piece in a more effective way. Also despite my predilection for 'Lo-Fi' rough and ready production, I thought it would have been useful for me to have been able to develop my skills in the studio environment. I felt this is something that I missed out on during the course of my PhD, for all kinds of reasons.

So finally, I am pleased in most respects with the outcome of this practice-based research, but with the provisos that I have outlined, mainly that more development work could have been done on each piece, sometimes but not always with some better production, a more focused central thread of environmental aspects, with more concentration on this as a source of material, and the omission of the *Untitled Piece for Small Chamber Orchestra*, which could have been replaced with a more suitable work.

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