

Portfolio of Compositions

Martin Curtis-Powell

Submitted to The University of Sheffield



For the degree of

Doctor of Philosophy

Department of Music

The University of Sheffield

September 2013

Contents

Acknowledgements.....	4
Abstract.....	5
Introduction.....	6
Compositional Rationale.....	9
Cases of Influence.....	19
The Works.....	22

Pulse	11:09	October 2009.....	22
Carillonneur	9:38	March 2010.....	25
Apoapsis/Periapsis	11:18	June 2010.....	28
The Erinyes	7:59	October 2010.....	32
Ritual	19:50	November 2010.....	35
Breathing Underground	8:17	March 2011.....	39
Harmonics	6:41	July 2011.....	42
Susurrus	9:24	August 2011.....	46
Dies Irae	8:16	November 2011.....	50
Predormitium	15:33	April 2012.....	52

Conclusion.....	55
Bibliography.....	57
Discography.....	58
Selected performances.....	59

Data DVD

Pulse
Carillonneur
Apoapsis/Periapsis
The Erinyes
Ritual
Breathing underground
Harmonics
Susurrus
Dies Irae
Predormitium

Acknowledgements

I am honoured to thank the following people for their unreserved help, expertise, support, guidance and patience in often difficult times throughout the duration of my work:

My supervisor Dr Adrian Moore, Dr David Moore, Dr Adam Stansbie, Stephen Pearse, Benjamin Bartholomew, Adam White, Vanessa Ytterøy-Powell for support and care, Elianne Anemaat for encouragement and criticism, and my parents Derek and Margaret Powell for their untiring support of my often unusual choices.

Abstract

This portfolio consists of musical works in fixed medium composed between 2009 and 2012. It endeavours to refine and develop my own creative engagement with composition and to explore notions of density and texture in the sonic worlds that I have created. The portfolio is comprised of works that exhibit dense, layered sound worlds that often evolve, and move, gradually and minimally. There are both long-form pieces and pieces that are shorter that exhibit more kinesis. The pieces are crafted from sound materials that are of instrumental or vocal origin. There is a recognisable propensity in my work to use these sounds as starting points, whatever the outcome, but there is an inclusion and adaptation of heavily treated sound materials (environmental, synthetic) too. This written document serves to comment upon my compositional rationale, aesthetics and to contextualise these via a discussion of the works themselves.

Introduction

The works in this portfolio are of a fixed medium, acousmatic nature. The musical, rhythmic, dynamic and textural approaches are necessarily predicated upon a vast history of musical endeavours by myriad composers. This document details my compositional rationale: how I approach materials; a brief examination of gesture and texture, and functions and devices that make the works in the portfolio uniquely mine. In Cases of Influence I shall consider the composers and the works that have influenced my compositional practice. A discussion of the works then follows. In that section I examine the techniques used in the works, how the works are constructed and how my chosen materials function.

This document serves to inform and elucidate how the portfolio was generated, how certain existing works inspired and influenced my creative choices, and via a closer examination of my works it reveals how they were crafted, and my compositional aspirations. My research by composition was to find my own voice. I strove to refine my creative processes, my aesthetic choices and techniques of both arrangement and musical phrasing by an engagement with, and development of, my existing methodology.

As in the acousmatic tradition, I composed music for playback over loudspeakers, though that is certainly not the only characteristic that defines it. Harrison (1999) presents several conditions for acousmatic music: that is heard over loudspeakers; it displays acousmatic intent; it is composed on and therefore exists on a fixed medium; that the physical source of the sounds is not pre-

sent when one is listening; the source or cause of the sound may be unknown or unknowable. Certainly, the works in the portfolio adhere to these conditions. I chose to create works for stereo loudspeakers, though I aim to investigate multi-channel playback in future endeavours. I aimed to explore notions of density, texture and immersive sonic environments. My materials were in the large part sound recordings as in the tradition of *musique concrète*¹. Only on relatively rare occasions were synthetic sounds generated.

The journey through this portfolio shows a development of my own compositional voice, and experimentation of styles and approaches has given particular insights – whether of a positive nature or otherwise. The use of detailed textures, glissandi, creating enveloping sonic environments, gradually moving sonic materials and repeating transformed musical themes are defining characteristics clearly heard in the works. From the start of this portfolio I have tried to refine, clarify and improve my composing, and to expand upon the methods I have used to reach a satisfactory progression. The aim has been to produce engaging, polished and satisfying works that clearly show a development of techniques, understanding of dynamics, transitions, shaping of materials, texture-building, the use of gestures as interruptive objects² (Roy, 2000, cited in Stewart, 2007) and their use in directing listener perspectives. There has also been progress through pursuing different approaches; whilst comfortable with certain styles, there have been forays into different arenas. These forays have

¹ Music created by mixing pre-recorded sounds. *Musique concrète* is a technique developed by French composer Pierre Schaeffer which departs from the abstractions of scored, instrumental music and takes concrete, recorded materials as the starting point for compositional practice.

² “*Interruption*: A unit that arrests the progress of another unit.” (Roy, 2000, cited in Stewart, 2007).

been necessary to facilitate learning new techniques of composition: stratification, gesture-building, increased pacing, aggression and working with sounds that have a synthetic genesis.

Compositional Rationale

This development of my existing creative approaches and practice was achieved through a wider engagement with sonic tools and a refinement of pre-existing, learned, compositional approaches. Crucial to the journey as a composer was the acquisition of further skills in recognising subtleties between the interactions of musical materials and the carefully nuanced arrangement of these materials. Painstaking attention to every sonic detail - the sound and its nature, its transitions, its position and purpose - has been the key to refining and developing my approach. Given the often slow transitions of musical and textural phrases, the development of an attention to the minutiae of the materials is a skill that is evident (at least in terms of a continuous improvement) in the works presented here. The works are snapshots of the development of my own aesthetic approach and compositional journey over the duration of this PhD. My fascination with the creation of dense, layered sound structures, blocks and phrases, stasis and kinesis, and achieving smooth and seamless transitions between these states is evident and will be discussed in *Cases of Influence*, and *The Works*.

A discussion of gesture and texture will show how they relate to my own composing, and how they are manifest in the works. An understanding of these important notions greatly informs and clarifies my compositional approaches.

Gesture is concerned with action directed away from a previous goal or towards a new goal; it is concerned with the application of energy and its consequences; it is synonymous with intervention, growth and progress, and is married to causality. (Smalley, 1986, p. 82)

As with any physical action, musical gesture is comprised of representations of energy, trajectory, tension and release. Gestures are necessarily goal-orientated. In this portfolio, gesture involves the accumulation of energy via increasing pitch, frequency, amplitude or perceived tempo, leading to release. This release is often achieved by a diminution of density, amplitude and the simulation of natural, environmental reverberations that fade to silence. Sounds emerge, make a statement – whether bold or understated – then dissipate and disappear. Gesture is often derived or initiated from previous actions, or it can serve as a transitory feature, compelling, impelling and driving the music towards another following action, whether it is related in some manner or whether it is a complete change of approach or mood. Gesture in these compositions presents itself as movement. The use of gesture contrasts, often starkly, often less so, with underlying textural material and as it frequently rises from that morass, it immediately becomes a feature on the sonic page; it is used sparingly. These gestures, however crafted and designed, provide obvious kinetic impetus which when intertwined with the surrounding materials in the works, create a multitude of engaging sonic phenomena. These foundations or skeletal structures of the work, which are composed from less immediately gestural material, are, by their inherent nature and sonic properties, much slower to

evolve over time. There may not even be a huge or significant degree of evolution; the apparent near-stasis of some materials is evident in the some works presented here. It is texture that fascinates me and drives my compositional urge.

Texture... is concerned with internal behaviour patterning, energy directed inwards or reinjected, self-propagating; once instigated it is seemingly left to its own devices; instead of being provoked to act it merely continues behaving. (Smalley, 1986, p. 82).

Sounds of a somewhat constant character, not necessarily articulating to any substantial degree through time, are inherently textural. Certainly, there is not always a compunction or compositional rationale to have stasis in textural material. Many of the works presented in this portfolio rely heavily upon textural material and though it may be the foundation from which other material arises, it certainly can, and does, move. Stasis is only perceived; material does move forward through time, towards conclusion or entropy. This material evolves over time, through dense agglomerations of other similar or dissimilar sonic materials (Wishart, 1994). These sounds are dense but certainly are still subject to treatments, transitions, transformations and phrasing. The use of composite blocks of sound has created some dense, tightly interwoven textures. As with the definitions of gesture, texture can be described via the use of real world descriptors. Concepts from our physical reality are always necessarily involved in our descriptions and perceptions of music. These notions of descriptors pro-

vide a rationale behind our innate and unconscious usage of them in relation to the non-physical world of music.

The rate of development of these sounds is slower than any intrinsically gestural material. This material certainly has trajectory and direction but it is far less goal-orientated. It exists to create a canvas, yet it is not merely that. On the whole, texture has been the intrinsic, important, major structural, defining component of the works. Texture has been created by the intertwining, meshing and mixing of various strands of material. Sound files that have been granulated and looped, convolved, montaged, layered, and time-stretched, have created some extraordinary detailed textures throughout the portfolio.

My textural sonic materials are shaped to seamlessly integrate similar and disparate sounds. Clearly this sense of what will work and what will not, is one that is learned through experience. By the act of the process, by repetition of it and sober judgement of the ensuing results, cumulative knowledge is acquired and brought into to the creative melee. In my works, the act of creating depth in texture is achieved by carefully judging the relative merits of each sound source), automating amplitude level, shaping with frequency addition or subtraction, applying and automating outboard effects (compression, graining, reverberations) until a point of satisfaction is reached. I have exported these hybrid sound files then brought them back into the workspace and adapted them yet further: subtle changes in pitch, convolution, panning bias; all of these actions have added to the perceived depth of the sound object and created interest and an engagement with the material presented.

Texture, like gesture, clearly exhibits both a genesis and termination. The gradual evolving of textural components and musical objects is often achieved in these works by slow, minimal changes; changes in timbre, in amplitude, in frequency, or by the gradual stripping of depth by diminution of accumulated materials, or by morphing into another similar (or entirely unrelated, disparate) texture. Certainly the transition between textures is not necessarily confined to gradual movements and change; it can be precipitated via the sudden interjection of gestural material or by a sudden cessation of sound. A defining characteristic of the works is the use of pitch glissandi as an agent of transition, both ascending and descending.

Much of my work and the textural morphologies therein can be explained in terms of Denis Smalley's (1986) notion of the graduated continuant archetype. The sound objects I have created are composites, the structural blocks are chiefly:

*...the **graduated continuant** which is modelled on sustained sounds. The onset is graduated, settling into a continuant phase which eventually closes in a graduated termination...Attention is drawn to the way in which the sound is maintained rather than to its initiation.* (Smalley, 1986, p. 69)

Sounds *can* be perceived as either textural or gestural, but not exclusively so. These sounds cannot necessarily be classed as solely one or the other; there are myriad states in-between. An intrinsically gestural sound may lose its movement, trajectory and morph into a sonic state that is more accurately described as texture. It also is equally apparent that textural material may sudden-

ly be transformed by conscious agency into a more gestural statement. Smalley again states that:

*Gestural events or objects can easily be introduced into textures or arise from them. This would be an example of **texture-setting**, where texture provides the environment for gestural activities.* (Smalley, 1986, p. 84)

The transition between varying sounds and textures is in the large part reasonably seamless; materials of similar properties are integrated as well as possible. Smalley (1986) observes that the relationship between gesture and texture is one which shows more collaboration than antithesis. It could certainly be said that my musical structures are in Smalley's terms more *texture-carried* than *gesture-carried*. The ear is drawn to the internal, textural elements presented in the sounds and works and:

With a less impetuous gesture we can imagine the possibility of enticement by internal textural detail [...] the sense of directed motion remains, and can be temporarily taken for granted while the ear shifts focus to delve into textural motion, perhaps to emerge again once a more urgent sense of directed motion is detected. (Smalley, 1986, p. 83-84)

There are key elements to my compositional rationale. Throughout the works in the portfolio there are numerous functions, approaches, devices and methods employed that define what my work actually is. In the following few paragraphs I will introduce the central ideas and themes that will later be discussed in relation to each individual work to provide a better understanding of my

compositional approach.

The generative process encompasses the selection of sonic material and the processing and transformations to which it is subjected. The nature and type of processing to which the sonic material is subjected to will always suggest starting points due to the innate qualities and properties of the material produced. There will be interesting avenues for exploration and these materials will often dictate the basis for a compositional journey (whether or not that particular avenue or suggested approach is particularly fecund, successful or productive).

An intrinsic part of my compositional journey has been learning to recognise those sounds which one can use, adapt, transform and that have recognisable potential. It is an aspect of refining one's own technique and working method. The structural process is one which does involve a significant amount of further generative processing.

Source materials for my compositional endeavours have largely been drawn from instrumental samples and human vocal sounds. I have always found them to be a particularly fecund starting point for manipulation and transformation. These very familiar materials are intriguing to me; there is a definable pitch, varying timbral qualities and an identifiable genesis or means of production. The works in the portfolio have a propensity to use these types of source material, and strive to experiment with the transformation and development of such. Often many sequential transformative processes are applied to these sources rendering them unrecognisable, though that being so, the transformations are also sometimes subtle. The degree of transformation and re-contextualisation of the materials varies from outright statement (as in the guitar harmonics of

Harmonics and orchestral and choral quotations of *Susurrus*) to the convoluted manipulations apparent in *Breathing Underground* and *Carillonneur*. Some of the source materials used have been of non-human agency such as recordings of mechanical apparatus, sounds of an environmental nature (objects being hit, scrapes, traffic, weather) and some have been synthetically-generated sounds. The majority of the works presented have used the instrumental/vocal sounds as a start point, and the other categories of sound have been appropriated during the compositional process.

The instrumental sounds and the treatments that they have been subjected to tend to form the backbone of the works. Time-stretching and layering these sounds (*Susurrus*, *Carillonneur*, *Breathing Underground* and *Predormitium* especially) has created the major body of these works. I have used the non-instrumental sounds to create granular textures, abrupt transitions, divergent pathways and additions to contrast the often languorous sound worlds created by the use of layered, smooth instrumental tones. Transition is usually achieved by the interjection of these synthetic sounds; sudden, aggressive gestures are for the most part derived from non-instrumental sources.

The immersive yet familiar element of the works is something I strived for and achieved by using instrumental samples. The layering of this pitched material works best when the phrases move slowly; through amalgamation, agglomeration, pitch accumulation and gradual amplitude increase and decrease they build and fall in intensity. The long, slowly evolving phrases and sections arise from the choice of manipulated materials; it is this basis that I then use to construct semblances of movement; the faster-moving, granulated, synthetic

material is often used as foreground material: its movement creating contrast with the textural material underlying it. This is a notable feature throughout the portfolio. I have endeavoured to create landscape material through the creation of sustained, reverberant materials that clearly exhibit pitch centres; centres are that are sometimes static, sometimes divergent and moving.

The Erinyes is a notable work in the portfolio as it was a conscious effort to begin composing with synthetic (or at least non-instrumental/vocal) materials from the outset. The desire to create an energetic, up-tempo, inherently more gestural work required thinking about the nature of my starting materials. In selecting differing source material I found that the form and feel of the work starkly contrasted the works composed previously. This decision to select sounds largely from a pool of synthetic materials aided me greatly in constructing a work that is – to me - of a different ilk to anything I had composed before.

There are many individual characteristics evident in my compositional aesthetic: material selections, types of transformation, the way in which materials layer, transform, transitions and gestures. Using instrumental samples – either solo instrument/voice or sections, I began to create layers; subtly altering pitch and EQ. Convolution and time-stretching these layered materials added extra detail and shaped them in a way that whilst still denoting their origin, made a textural difference to the spectro-morphology of the sounds. *Susurrus* with its long tonal exhalations perfectly captures the results of these efforts. The samples used are identifiable and to certain degrees recognisable, though much of the material is drastically transformed and re-used. This is a method I em-

ployed throughout the portfolio. Source sounds appear in many different states: clear and unaltered; convolved; pitch-shifted; time-stretched; drastically warped; micro-montaged. Throughout the works there are repetitions of statements³ (Roy, 2000, cited in Stewart, 2007). Another defining characteristic of my aesthetic is that I often place heavily transformed versions of these statements before any utterance of the original version. This reveal of the sound source and iterations of it in transformed states is a distinct and intrinsic facet of my compositional aesthetic. Conversely, the work *Harmonics* states its material initially, then proceeds via transformations of this material; this was a conscious decision to have the major motif clear from the outset, and then to proceed via a multitude of transformations. Creating new constructions from this material and abstracting it proved to be a valuable development of my style. The untreated motif returns consistently and serves as a reminder of how far the transformed materials have developed.

³ “*Statement/Reminder*: A *Statement* is a perceptually prominent presentation of a musical object; the *Reminder* is a restatement of the same, often separated from the *Statement* by a significant lapse of time.” (Roy, 2000, cited in Stewart, 2007)

Cases of Influence

Denis Smalley's *Vortex* (1982), is created with synthetic materials, and employs many falling pitches and moments of silence in-between. Twirling and swirling motions are prevalent throughout *Vortex*, and there are attacks and events that drive forward motion. This work influenced my usage of similar techniques. I have used dynamic drops to simple, subtle materials (sine tones, distant and reverberant thin textures) to present stark contrast to the richly-layered textural utterances that permeate many of the works. I have used attacking gestures to drive forward motion. Again, Smalley's *Valley Flow* (1992) makes interesting use of ascending and descending pitches as means of progression: heightening and releasing tension. This approach to transitory pitches panned left and right informed my compositional choices; markedly so in *Ritual*, where these continually repeated, moving objects take the foreground, with new textures developing underneath. Smalley's use of filtered sounds, and the layers he creates with them inspired my own layering of textures.

François Bayle's *Son Vitesse-Lumière* (1980 – 1983) gave inspiration in the creation of *Ritual*, with its low frequency, gradually ascending tones and its faster, high-pitched material playing above. An appreciation of Bayle's ability to sustain interest via variation in density and pacing for a work of lengthy duration (as in *Grandeur Nature No. 1*) guided my efforts in this regard. Bayle's ability to craft works of immense duration and sustain listener interest via slow textural growth was a quality that I was keen to master. His dreamlike soundscapes that merge the synthetic and the real were another inspiration that drove

my compositional goals.

Francis Dhomont's *Pointes de Fuite* (1982) employs gradually descending pitches to herald sectional change (notably at 8:26). This use of descending glissandi as a transitional device is one that I have used extensively in the portfolio. However, unlike Dhomont, I have not focused upon natural "found" sounds but have used sounds largely created by human agency.

Any use of source material using bells inevitably draws comparison to Jonathan Harvey's *Mortuos Plango, Vivos Voco* (1980). *Carillonneur*'s initial approach was very much influenced by his manipulation of the bell sound and again, his use of descending and ascending glissandi to create tension and release (4:15 – 4:59). Harvey's work also influenced my own approach to material selection. For *Carillonneur*, I too selected bell sounds and chose to use these as a basis for experimentation and transformation. Though not as regimented in the scope of his selection of starting sounds (I added files crafted from many other sound sources) I was enthused by the breadth of transformations possible from a small selection of source material. His choice to use recordings of a bell and his son singing, then to manipulate these materials to create the work, informed my own sound selection. My compositions have taken instrumental/vocal recordings and then subjected them to myriad manipulations and transformations. I have found that this provides a continuity of sound types in my works. Though *Mortuos Plango, Vivos Voco* is inherently a detailed investigation of two sound sources, I have tended to embrace the notion of taking only a few sound sources, subjecting them to manipulations and relishing the huge degree of both transformations possible and the spectro-morphological

differences of these now distantly-related files. This has been achieved by using successive convolution, layering and envelope filtering; a technique that is audible in all the materials I have created in these compositions. *Harmonics* is a work that took this approach. In selecting simple guitar harmonics and creating transformations of these I pushed to see how far it is possible to transform very simple and clear sound samples. Harvey's fusion of recorded sounds and synthetic sounds was an approach that held great interest for me, and I explored the possibilities throughout the portfolio.

Paul Dolden's *Below the Walls of Jericho* (1988-1989) provided similar inspiration by way of its use of instrumental recordings that are re-contextualised, developed and transformed. The work created of hundreds of instrumental lines layered together like a huge orchestra. This notion greatly influenced my use of instrumental samples. Dolden's approach in *Below the Walls of Jericho* guided my experimentation with my source recordings; with the exception of *Breathing Underground* and *The Erinyes* the compositions all spring from instrumental/vocal samples, though the degree to which they are stated varies from clear and relatively untreated to significantly transformed. Intrigued by some of the works of György Ligeti (*Apparitions* (1958–59) *Lontano* (1967), *Atmosphères* (1961), *Lux Aeterna* (1966)) I followed a path of creating dense textures using instrumental, orchestral and vocal samples – recognisable sound sources used in a different way.

The Works

Pulse

Stereo, Data DVD, .wav file, 44.1kHz, 11:09.

The work is clearly presented in four obvious sections. At 2:04, 4:11, and 7:19 these sections are made apparent. Timbral and spatial variations are the properties and processes that drive the work. Material is taken from a wide range of sources: string pizzicato, ambient environmental recordings, vocal tones and exhalations, pure sine wave tones and instrumental ensemble recordings.

The work employs drones and pitched materials; both ascending and descending pitches that are stratified with static pitches. The pulsed material which commences at 0:16 is a feature that pervades throughout – it is an introduction and is subsequently backgrounded as accumulated pitches enter above (in higher registers) and subsume its prominence. The work takes as its initial start point files that have a certain pulse; a mechanical, repetitious drone, which increases in tempo and underpins the sonic landscape. Space is created and tension developed by accumulation of low frequencies and sustained, held, pitched material that falls away, devoid of energy: spent.

There is a propensity to accumulation and dispersion of materials and triggered events (often reiterated) act as transitions between differing textures of varying intensity and depth, 1:16 to 1:23 being a prime example; the creation of tension through rapid, rising pitches creates transitions to new sections and new materials. Reiteration is a feature throughout, both in textural materials and trigger events, the statement at 2:55 that is repeated at 3:08 being one such

example. The initial pulsed material introduced at 0:16, returns throughout the piece. It is a major unit of the work. Its rhythmic properties are often taken up by materials that are of a slightly different nature which provides continuity and creates a theme that runs through the work.

The second section (commencing at 4:11) introduces layered textural features that are occasionally interrupted other, brief events. The basis is still the gradual accumulation and building of different elements until 5:43 where a lone hit demarks a new direction. This trigger event then repeats, building in intensity creating foreground, before dissipating at 6:28 - 6:34 to lay bare the textural drones which are again layered by previously stated material. The third section (commencing at 7:19) takes transformed hits and trigger events heard previously and places them upfront, in a sparse environment before subsiding to allow pitched, textural materials to assume prominence. The movement and layered depth of the first section is sharply contrasted by the drop to a low drone and the montaged string pizzicato samples which are pitch shifted, reversed, layered, envelope-shaped and filtered. Though distinctly and clearly heard in the latter stages of the piece, these montaged pizzicato-esque samples are stated at the very start of the work, albeit in a much more subtle manner, far lower in the audio mix.

Again, amalgamation of textures is achieved and pitches rise and fall as the work begins a crescendo from 9:01 which is heralded by the introduction of a low drone. There is a moment of thinning at 9:14 until another build of tension and a trigger event at 9:41 starts build again. These successive trig-

ger/articulation events (9:41 and 10:04) lead to more falling pitches and a dispersion of textural density as the work draws to a close.

Carillonneur

Stereo. Data DVD, .wav file, 44.1kHz, 9:38.

Carillonneur makes use of pitched materials and their subsequent stratification. Church bells, alarm clocks and other metallic sounds, including tones derived from metallic bowls, were the materials selected to work with. Choppy, montages of bells, pulses and declamatory statements are evident throughout the work. The initial, soft opening bell strike recedes and heralds the start of the dense, layered, granulated and convolved bell textures which dominate the work. The textures in the work are accumulated, time-stretched and convolved - much like *Pulse* - and exhibit rhythmic, pulsing characteristics. The bell samples are convolved with environmental sounds, notably electricity arcing. This provided an interesting way of producing rhythmic attributes to nominally static sounds and one that is often random.

These bells are filtered and stacked, offset against each other and fluttering. They are highly reverberant which, at this stage of the portfolio, is a recurrent feature.

A bell strike at 1:53 serves as an interruption before the commencement of fluttering material. At 2:59 there is another use of rising pitch, creating tension though this is a background feature and does not assume any great degree of prominence. Low frequency material pulses underneath these ephemeral features and when absent (1: 50 – 1:59) gives space to the utterances then heard. At 2:55 rising pitches are again employed, and although they never achieve prominence to the foreground, they are a feature of the voyage towards the gestural conclusion of the first section at 3:43.

Stratified pitched materials again form the background over which shaped bell sounds play from 3:52 – a reminder of the bell sources employed in the work’s first section. Descending pitch is again used; 4:02 – 4:20 shows the low frequency drone falling away giving space to the successive bell hits. There is use of call and response mechanisms here, with material repeated and transformed (4:27- 4:35). As in *Pulse*, there is reliance upon background⁴ (Roy, 2000) textural events underpinning foregrounded materials. The foregrounded materials are clearly stated figures⁵ (Roy, 2000, cited in Stewart, 2007), repeated (albeit transformed) and as such impart motion and a wider sonic depth. Again, from 4:42, gradually rising pitches, intensification and accumulation denote, and lead to, a sectional change at 5:19. After a brief section of sparse, gestural figures, 5:36 sees a reliance on less kinetic figures, and with another functional, divergent rising tone (5:35 – 5:55), sees a return to a more languid, stratified textural section. There are numerous dynamic, reverberant interludes and moments of repose which often dissipate leaving only minimal textures and sounds occupying the space until the onset other textures and features.

In this concluding section there is repetition and transformation of memorable events (bell hits and granulated textures) – notably the figure entering at 6:50 which is repeated in a much higher register, creating tension, at 7:18.

Carillonneur again shows a compositional approach that uses droning

⁴ “*Background*: A generally stable unit of subsidiary prominence, on a medium to long time span.” (Roy, 2000, cited in Stewart, 2007)

⁵ “*Figure*: A unit of great prominence and of unstable morphology on a short to medium time span, so highly articulated as to be memorable for the listener.” (Roy, 2000, cited in Stewart, 2007)

pitched material which rises in transitional sections. There are many repetitions and reminders of significant events throughout which are both transformed and plainly stated. Reverb is quite dominant throughout, there are little - if any - dry sounds presented.

Apoapsis/Periapsis

Stereo, Data DVD, .wav file, 44.1kHz, 11:18.

The point of closest approach (the point at which the two bodies are the closest) to a focus in an elliptical orbit is called the periapsis; the point of farthest excursion is called the apoapsis. The work takes a handful of sound examples/transformations and attempts to posit these as the focus. The piece then manipulates these sound objects in such a way that the compositional process could be described as an elliptical orbit around these focal sound objects and gestures. As is evident in an elliptical arc, the material sometimes returns to a state close to that of the focus but also strives to break free of these original statements.

The material used for the work is again rooted in vocal sounds: long breathy whispers, moans and stretched syllables. Wind instruments are also heavily plundered for their sonic properties. Convolution of both wind and vocal samples alongside judicious envelope shaping created a sonic texture that lies somewhere between the two sounds. Filtering, EQ shaping and montage/layering on a large scale produced an interesting array of textures. The transitions between different materials are certainly evolving into a much more natural and acceptable state. Much material is pitched, but there is a certain degree of incorporation of non-pitched material; granular and noise-derived materials also serve to denote texture and they sit with equal importance with the pitched material.

The initial statement presents material which will become a recurring feature of the piece. This original opening statement appears again throughout the

work and in various guises, albeit transformed. The work is a succession of textural gestures that overlap and press onwards. Dynamics in this work and the gradual build and release of ambient sounds are an obvious feature. With so little kinetic material the work stands or falls on the depth and interest provided by the meshing and interplay of the many intricately layered textures of sound.

There are myriad textural pulses, granulated tones and a large range of dynamics. On occasions the work drops to a crackling, very small dynamic, with a gradual introduction of layered sine wave tones, as heard from 6:20 onwards. There is a gradual segue between differing granulated ideas, underlying texture and drones which are layered and dense. Metallic scrapes mixed with altered, low amplitude wind instrument tones that permeate the textures. There are pauses throughout the work; each denoting a new section and a new iteration of material with each iteration showing more transformation.

Materials accrete: both those which are clearly recordings of human agency and those which are synthetic (as evidenced by the multiple uses of sine waves). Once again dynamics are key here. The rise and fall and the ebb and flow of textural density are an overriding feature of the work and the battleground between static and kinetic (or perhaps gestural and textural) features is once again something that drives the work. Granulated sounds are used as textural elements throughout and, though ostensibly sometimes aggressive, they add a welcome dynamic and are used to enhance the textural features.

Stratified, pitched and indistinct noise material is layered throughout, with increasing and diminishing depths. Again, background textures underpin the articulations and features above. Drones swell then descend and fade leaving

sparser moments as heard at 1:36 onwards. Transformed materials are reintroduced and restated repeatedly giving rise to a sense of continuity, though these features, such as at 2:05 and 2:22 and again with the short flurried gestures at 3:35 and 3:53. Notable devices are the intermittent swelling of low frequencies before an answering texture takes over. Moments of repose are created and act as functional devices enabling the subsequent addition of restated materials and the introduction of new. Functionally, transitions are achieved via sudden interruptions of new material, such as at 4:01 where the high screeching sound acts as a transition into a section that consists largely of high frequency material, which then decreases in pitch acting as yet another transition to another texture. *Apoapsis/Periapsis* is another work which uses these glissandi as a means of changing from one state to another, be it texture or succession of gestures. Sections increase in intensity, before subsiding and moving to more minimal textures (6:12 onwards). The granulated, reverberant material in the foreground at this point is gradually usurped by sine tones from 6:33 which gradually layer before them being usurped by a simple noise texture and build-up of low frequencies. At 8:06 there is a *rupture*⁶ (Roy, 2000, cited in Stewart, 2007) – again with divergent pitches before the noise material (itself subjected to descending pitch) acts as transitional material to yet another intensification of sound. The work is characterised by repetitious gestures, transformed and modified, with transitional phases created by intensification, decreasing pitch material

⁶ “*Rupture*: A dramatic, expressive rupture in the sonic fabric [...] Typically, the *Rupture* follows a sudden increase in tension, e.g. in an *Intensification*, and absorbs the tension thus created, often leading to an *Attenuation*, or [presumably] *Prolongation*.” (Roy, 2000, cited in Stewart, 2007)

and reiteration of the same materials. Accumulation and dispersion characterise the work.

The Erinyes

Stereo. Data DVD, .wav file, 44.1kHz, 7:59.

This work attempts to achieve a more energetic tempo with an aggressive outlook. The work proceeds as a succession of gestures, often aggressive and fast-moving. The work is, as with others, still texturally layered. There are three distinct sections which offer respite from the intense material. This triptych presentation marries well with the notion of The Erinyes: Greek chthonic deities, who were, according to Virgil, three in number.

The work was a conscious effort to adapt my compositional technique and expand creative horizons. The rationale was to expand my engagement with more active material. Although the piece does exhibit a use of textural material, the impetus was firmly upon trying to establish and capture the essence of movement and aggression. The use of fast, fleeting and often very dry (non-reverberant) materials proved an interesting challenge. Accumulation and release of energy is a feature of this work. Much of the material was created using offline processing and the resultant files are highly energised. I found it necessary to use percussive sounds to accentuate the gestural material. There is use of granulation, convolution and, again, micro-montaging.

The samples used as a starting point were crotales, percussive hits and there was some use of VST instruments to provide pitched materials. The processing was largely achieved through the use of CSound, via *Blue*. The chattering sounds in the latter stages of the piece are a result of the judicious use of warping software in that working environment. The frequency spread is very broad, with the upper echelons of the audible frequency range very well represented.

Much of the material was constructed through the technique of micro-montage; several sound files were layered, overlapped, and sometimes reversed or pitch shifted. The resulting amalgam was then bounced down and imported back into the working project. These files were then subjected to further processing, notably convolution.

The work commences with a series of rapidly changing gestures; an opening textural gesture is ruptured by flashes which then give way to a moment of repose (0:00 - 0:10). New sections are introduced by aggressive, swiping gestures which, as before, subside to gentler transitional sections.

These sections are then foregrounded by a combination of rising and falling pitches which yet again fall away, opening up new ground for the introduction of new materials (1:16). Much of the sonic landscape is still dense, with static materials backgrounded and kinetic materials moving across the field. There are ruptures and transitions throughout, the sudden interruption at 1:49 being a perfect example. Iteration of thematic material – be it gestural or textural is abundantly evident throughout. After the repose at 2:47, there is an obvious reminder/statement: 2:51 and again, slightly transformed at 3:05. A sudden break to silence at 3:20 provides opportunity for completely new material to be introduced; it is subsequently merged with previously stated events. Whereas the works prior to this had longer sections, with less abrupt transitions, *The Erinyes* has many differing sections both textural and gestural that change rapidly. From 4:11 there is the stylistic use of pitch glissandi that serves to increase tension and denote another change in texture, as sounds increase substantially in stratification and density. Again, the transition from this section

(4:14 – 5:24) is achieved by the use of both ascending and descending pitched material.

The section from 5:25 onwards exhibits numerous interruptions, hits, moments of repose and reinstated materials that tie to what has been before. These numerous breaks and brief respites allow the energy and momentum to build again before being truncated again. The final section from 7:16, uses the deceleration of rapid materials (and some pitch decrease), as opposed to the previous agglomeration and intensification of such, to bring about a conclusion. The final sound is a repeat of what was heard at 0:23, albeit now dry and free from filtering and reverb. The intention of this is to create a sense of journey and connection within the work. The repetition of this familiar sound creates continuity, and its gradual diminution of tempo creates an interesting end to the work.

Ritual

Stereo, Data DVD, .wav file, 44.1kHz, 19:50.

My starting point was to create a long-form piece; a piece of extended duration to challenge my propensity to produce works of a shorter length.

The work was created using a mixture of reasonably static and moving materials. The work showcases textures and their evolution over time. Retaining interest and adapting sonic material was key to success in this endeavour. Slow-moving, ambient and resonant sonic material, layered and exhibiting a sense of stasis and resonance is the defining characteristic of the work. Contrasting gestures are prevalent throughout; these vary from highly energised movements across the sonic stage to textures that remain static and repetitious. The essence of the work was to create a sense of protracted, mesmeric texture. The attempt was to create, and form, music to represent a trance-like state. The material is repeated and transformed time after time, yet it still aspires to keep the same representational, abstracted atmosphere. A large part of the sounds used were derived from recordings of extra-musical sounds created by the cello: string slides, fingers drumming on the body of the instrument and varying slaps and pizzicatos. Much of the falling, high frequency pitches were derived from metallic sound sources (crotales, cymbals). Flute, ocarina and various other wind instruments provided material for the convolution of the original cello samples. The cello material was convolved with sound sources selected from a different pool of material. Convolution of the sounds was often made sequentially. The result of an initial convolution would then be subjected to further convolution. The resulting files were consequently assessed as to their

suitability for inclusion in the structure of the work. This assessment noted the timbral and rhythmic qualities of the transformed files, and convolutions which were devoid of interesting rhythmic attributes were rejected. The piece progressed by successive experiments in the arrangement stage. Most, if not all, of the processing was carried out in the sequencing software using the processing capabilities and features that were inherent to it. The repetitious nature of the material and the desired objective to create a representation of a mesmeric, almost trance-like flow of music was not hindered by the somewhat limited range of transformations available. Convolution, the use of montage and the combining of similar and sometimes radically differing files created material of an unexpected nature. The serendipitous nature of this compositional process (a process in situ) was similar to the approach to sonic materials used in other works, where unexpected outcome of off-line processing was also evident.

The work re-uses materials and sections; the form is obvious. Each repetition of musical sections, motifs and gestures is, however, subjected to adaptation; both in dynamic change, the reliance on the emphasis of differing frequency, and the highlighting of such. The approach is that of a range of slowly-moving, naturally evolving sounds and textures, interspersed with kinetic materials that draw the ear to other realms. The use of rising, falling and divergent pitches, contrasting with static textures, is an attempt to provide tension, even within passages that are languid and are textural.

The work opens in a very similar fashion to *The Erinyes*: an initial texture is interrupted by a swift gesture which is followed by a drone and the immediate reiteration of the very first sound heard. The pulsating low frequency drone

serves as a canvas upon which numerous falling pitches can rest, before rising again to herald another section. At 1:40 a new texture is introduced and gradually stratified and pitches once again fall from 2:03 creating a transition to another, denser texture. Ritual relies upon these glissandi throughout; they serve both as functional transitions and make up much of the higher-pitched materials. Static moments are rare.

The rapidly falling bass tone at 3:59 again starts a new section which builds in a dynamic crescendo with panning noise to 5:00 where it tails away, with another high-pitched falling gesture. The work is underpinned throughout with low frequency drones which exit through a decrease in pitch (6:46 onwards being a prime example). At 8:28 the first iteration of the original tapping motif is heard; its convolved instances are actually heard and introduced well before this first clear and obvious iteration. This feature is the cello tapping. Introduced earlier, this material occurs throughout. Once this source sound (the cello tap sample) is revealed, one can, upon second hearing, discover its transformed state throughout the work. There are amalgams of this original sample and its transformed versions present throughout. It is accompanied by statements of the woodwind figure, which is then transformed via convolution in an imitative fashion. 9:26 sees another section begin. It enters through a gesture, and again contains the convolved material heard previously. Long phrases define the structure of the work, as does the reiteration of thematic material and figures which are transformed, merged and stratified. Transitions between these sections are achieved via dispersion and subsequent interruptive gesture, by falling pitches and by moments of repose. At certain junctures, the layered tex-

tures dissolve and make space for the original cello tapping sample to be heard along with its convoluted, transformed versions.

15:02 again, via the introduction of a new, unfamiliar sound, marks the start of another section; one which then proceeds to present familiar material again: the layered, reverberant textures that have been heard throughout.

Sections end with conclusions crafted by descending pitches, the events at 16:12 onwards being such an example. The work's conclusion begins at 17:40 by the introduction of a mid-frequency drone that pans across the stereo field as it descends and ascends, holding listener focus. The work is dominated by densely layered materials, ascending and descending figures and much restating of materials –transformed to varying degrees. Material accumulates and builds slowly and there are myriad, repeated swishes of texture and gestures that intertwine, and by their introduction and disappearance, provide impetus in the work. Adaptation is gradual, though features do occasionally present themselves suddenly.

There are many mechanical, synthetic, environmental recordings used in the work. The dense, lush textures, the fluttering rising tones, granulated reverberant hits, the high frequency 'dust', are all features. Again, this work attempts to present the kinetic and the static.

Softly ramping amplitudes, smooth transitions and the attention to these transitions, show an attempt to create a steady flow of materials, no matter what their inherent sonic properties. The textures are dense and reverberant; moving materials are often dry and clear. Though certainly there is a profound tension between the two, the work spans ground between these types.

Breathing Underground

Stereo, Data DVD, .wav file, 44.1kHz, 8:17.

Breathing Underground uses a recording of a spoken poem as its starting point.

The recorded poem was written as part of a project for the Bank Street Arts centre along with many others. Recordings of these poems were then given to myself (and others), with the idea of transforming the material in whichever way we desired. Here is the original call:

Last year composers from the USSS were asked to produce a work drawing on Brian Eno's concept of 'ambient music' – music that could be subtly diffused into the atrium space at Bank Street. In November these compositions were played throughout the day and the writers spent an hour free-writing in response to them. These initial responses were then developed into poems by the writers and recorded by them as sound files. In turn, these sound recordings formed the source material for a new series of compositions – in some cases settings of the poems themselves, in others, more abstract manipulations of the source material.

<http://bankstreetarts.com/exhibitions/untitled-1/>

In my manipulations of the original spoken word piece: “*Waking to Rain*”, I convolved, again and again, the entirety of the spoken word recording. And by layering and offsetting the files generated, I created deep, dense textures that although showing some of the rhythmic characteristics of a spoken passage

were much changed and altered from the original source file. Many of the phrases were repeated, creating obvious repetitive gestures. Much of these snippets were then time-stretched and pitched lower to provide vertical density in what is clearly a work almost wholly reliant upon textural information. Waves of sound ebb and flow throughout and are punctuated by occasional gestures which do not rudely interject but add interest to the static nature of the main component of the work. The title *Breathing Underground* was derived from a line in the recording which featured heavily in the successive convolutions. This title perhaps captured the essence of a filtered voice: underground, reverberant and somewhat undefined, lacking distinction and clarity and only partially heard.

This work showcases a different approach to preceding works in the portfolio; it is quite linear, repetitious and apart from only one or two instances does not use pitch glissandi. There are no breaks in the material and sounds accumulate and disperse throughout.

The work employs and uses a minimal number of sound sources. The recorded spoken passage is used throughout and heavily filtered and treated until it is unrecognisable other than in its rhythmic nuances. The transformed spoken passage appears first at 0:13 after the first two gestures that open the work: the same gesture treated differently. Sounds accumulate and density builds and falls, but unlike any previous works, there is never any true silence or repose denoting sectional change. There are no discernible gaps in the work; there is a continuous flow of material repeated (and transformed) and the introduction of varying sounds from start to finish.

Breathing Underground, once again, employs rising and falling pitched material to create transition. The fluttering, high-frequency granular sounds introduced at 3:25 (over the static tones) are interrupted by a rising gesture at 4:05 which then falls at 4:23 to provide a reintroduction of this material. High frequency, metallic, sustained material fills the frequency spectrum and in doing so frames the work. Vast time stretches and material that has been sequentially cross-synthesised underpins the work. These underlying textures are the constant canvas upon which movement plays, either high above, in the upper echelons, or in the middle ground, gradually impinging upon the sensations created by the constant drones. All movement in the work is gradual, almost lackadaisical. The piece ends very slowly, with no flourishes, fanfare or cadence; there is just a thinning of texture and a slow fade.

Harmonics

Stereo, Data DVD, .wav file, 44.1kHz, 6:41.

The work takes a handful of sampled recordings of guitar harmonics and proceeds to use these as a foundation for sonic exploration. The interesting approach was in the nature of this challenge: to see how far manipulations of these few samples could yield interesting musical results and to see how many differing transformations could be achieved.

Certain elements of the work are, however, constructed from sonic material derived from different source sounds. Although the initial impetus was to produce a work that had only a handful of similar sound files, my rationale changed as the work progressed. In order to achieve a more varied and more engaging work, I felt it necessary to transcend my own self-imposed limitations and use other processed materials that did not result from the same samples. The lower frequencies that I felt a necessary element in framing the sonic space were simply not present in the samples themselves, so adaptation and the inclusion of other sound materials was necessary. I did not feel any compunction to simply stick to the initial concept of solely using my initial selection of samples. Why sacrifice variation and interest purely because of an initial idea of creating a work from a limited sonic palette? I felt that the inclusion of materials not derived from the original selection was entirely justified. Nevertheless, the work clearly does exhibit the utilisation of these very specific sound sources and they did provide grist for some very interesting transformations. The desire to adapt and morph these files was a driving impulse in the work's creation.

Given that the materials were limited (if only by my insistence upon limitations in the choice of starting materials), the work necessarily relies upon repetition; the initial sonic figure is reiterated throughout the work, albeit subjected to transformations and differing representation. The work begins with a very deliberate opening statement and sequence; it is one that is constructed from a layering of individual samples of guitar harmonics. It is this theme that appears many times throughout the work and is transformed by many different agencies.

Its first iteration begins the work (in mono), it then appears at 0:15 (in stereo) and is subsequently stated in a call and response manner, with each answer being a heavily transformed version: an imitation. The motif is clear and moves throughout the work between close and far, clearly stated and obscured. The final iteration of the opening section is at 1:01 and following this there is a definite change in approach: high-frequency pitched material is introduced to transition to another texture. Again, a rising pitch is used (though at a very low amplitude) to facilitate this transition, along with a gradual fade. As successive iterations of the theme appear they are joined by high frequency pitch rises (2:23) which fill that space between each statement. There are many interludes, achieved by a reduction of sounds and treated with reverberations. Distance and depth is created this way.

Achieving continuity and interest with such definitive material is achieved by montaging the single pitches within the theme. After a brief repose at 2:38 the harmonics are agglomerated and brief gestures start to appear. Echoes and developments strive to break away from the simple motif, straining to create

texture beyond the hits. The components of the theme/statement are transformed, convolved and montaged and drones and swishes, dissolving and reappearing, combined with almost engine-like pulse noise material, impinge upon the constant repetition of the initial motif.

Upwards trajectories are achieved by pitch-shifting. There is a conscious attempt to create texture from hits, merging the percussive with the textural and the sustained; creating layered material from rhythm. From 3:42 there is yet another statement (Roy, 2000, cited in Stewart, 2007), but this time a low drone is introduced, creating a background texture that now begins to underpin these statements.

New material is introduced at 4:12, creating a possible way for the work to progress that gives more depth of texture. This material intensifies until a rupture (Roy, 2000, cited in Stewart, 2007) at 5:05 that terminates this progression and once again there is space for the transformed theme to be heard. There are numerous glissandi in the work, but here they are rarely used as transitional features, even when present they are very subtly used. Each iteration of the theme/opening statement is followed by brief gestures or by reverberant, sustained pitched material largely derived from the samples. The original statement is adapted, with pulsed material underlying it. There is a descent into chaos, the pulsed material builds and there are crescendos, added rhythmic material and the introduction of unrelated noise sounds. The concluding section (beginning at 5:48) is two-part: panned, textures give way at 6:08 to a pulsed noise texture that is then briefly layered with moving granular material that creates a sense of urgency before a very sudden descending glissando at 6:30

provides a rapid exit for that texture. An altered (pitch order) final exultation of the original harmonics theme then closes the work.

There are strong, clearly evident, melodic and harmonic relationships between the materials and motifs present in the work. There are numerous gestures that also occur within the work and serve to progress and shape the original material and the motif constructed by it. The material is highly kinetic in nature and it often does arise directly from the more melodic, pitched material. Energy is accumulated and then released, and at the release the music finds a different trajectory.

Overall, there was very limited scope for transformation and retaining interest beyond that which was done. The harmonics of the initial theme are transformed and shaped, developed and changed. They are used as markers for other things to spring forth, either unrelated or progeny.

There is certainly a fixation upon creating dense textures, but they are often much removed, reverberant and in the background. The task was making the piece a fluent entity, not simply a continuous repetition of musical statements. I wanted a work that retained interest and had a definite trajectory and development. Each time there is an iteration of the original motif, the accompanying materials – the kinetic, high pitched or transformed hits – attempt to extend the life of these statements; they seek new ground and attempt to give further life, created by manipulations of their constituent elements.

Susurrus

Stereo, Data DVD, .wav file, 44.1kHz, 9:24.

The work began as an exploration and experimentation using vocal sounds: long chants, layered held notes, whispers and sung phrases. However, the work is not strictly limited to this type of sound source. The droning vocal material is gradually blended with an increasing number of synthetic sounds, and later, orchestral chords. It was composed by the layering of a multitude of instrumental samples and recordings made by myself from live concerts by the University of Sheffield Symphony Orchestra.

The work became an amalgam of recognisable instrumental and vocal sounds. Snatches of vocal and orchestral recordings were montaged and though the resulting files are indeed musical utterances in the classical sense, by their re-ordering and layering, they become textural elements, recognisable as real-world recordings, but devoid of their original context. The subsequent sounds are evocative of classical fare (indeed they are, given their source) but are positioned as textural and often dynamic sonic features. The majority of materials used are heard in their original form and due to limited manipulations they are almost all recognisable. These sounds have been re-organised via judicious editing and are now presented as textural features.

Many of the phrases in the work are long and languorous; they build gradually and there are many respites between successive iterations of similar material. These languid sections are, at first, comprised from densely interwoven vocal sounds. The tempo that is perceived by the use of these swelling passages is quite a slow and relaxed one. There is a focus on the density of sound with very

similar, but differently pitched, tones and with material that is of an entirely different, more abstract nature. The phrases are demarcated by almost solitary bell sounds (0:40 and 0:49) and also by material that is more synthetic and heavily processed. This material gradually interacts with the vocal phrases by means of convolution and amalgamation.

At 1:29 there is a brief interjection of synthetic material, which continues over a very long glissando: at first rising then, from 1:42, falling. This serves as a transition to another section which commences at 2:17 with a pulsed, panned drone. Again, pitch glissandi is used to provide transition, as the low drone falls and the upper, granulated texture rises. The choral sample heard at 3:17 was heard in a convolved form just before at 3:02 – 3:12. The reiteration of the choral sample heard at 3:17 occurs again at 4:14 combined with many other vocal sources. This is a feature throughout the work; often the transformed versions of gestures and motifs are heard prior to the original statement. The interruption at 3:30 (a constructed orchestral chord) serves to break the existing texture and enable transition. Stratification and accumulation of pitched material is prominent throughout and from 5:04 onwards the effect is very apparent. Unlike previous works, pitches are not descending or ascending, but they are exhibiting change through addition and subtraction in clusters.

Sectional change is often denoted and achieved by the sudden interjection of synthetic sounds, 6:11 being a good example. It heralds dynamic change, as heard at 6:27 where ascending pitches (though subtly heard) again serve to move towards change.

The work changes in character from 7:01, with the inclusion of

more relatively clear, unprocessed statements of sound sources. From 7:37 musical quotations begin to appear, then leading to the orchestral crashes starting at 8:09 which, at each occurrence, enable different textures and materials to follow.

Pitches glide and vary throughout and the use of long reverberations on the dense, layered drones creates a soft foundation, which is often rudely shattered by the sudden appearance of the montaged instrumental samples and symphonic quotations (albeit it heavily re-organised). Though not a conscious objective, the use of familiar textures and discernible, identifiable sound sources (orchestral parts, vocal phrases) has, it seems, provided accessibility for the listener. Though myriad other sound sources are incorporated in the work, many of which are abstracted, a certain frame of reference is provided by familiarity with the source sounds. Abstraction is certainly present, but the sound world is largely constructed from the concrete.

There is certainly a distinct homogeneity of sounds employed to generate the densely woven textures but the work also exhibits many contrasts in its use of sounds. There are soft, languid, slowly-evolving sound objects and also kinetic, harsher, fast-moving objects that fly across the sonic stage. The high frequency energetic sounds are very energetic. The denser, more reverberant sounds and textures are situated in the mid-range and low end. The use of objects and materials with a wide range of frequencies creates space.

The rhythmic attributes of the work are less obvious in its structure than the reliance upon texture and density. The rhythmic elements are perceived by the usage of skittering, spliced high frequency sounds, which pan above the more

static material. A driving, constant rhythm is largely absent from the work but perhaps it is merely understated with a reliance on textural movement over time.

Dies Irae

Stereo, Data DVD, .wav file, 44.1kHz, 8:16.

The work takes as a start point the Dies Irae plainsong chant. This phrase is never heard explicitly. The phrase was created on the piano roll via native VST instruments in the sequencing software and bounced to an audio file. The resulting file was then used as a sonic basis for further material and an exploration of differing relationships between varying materials; some a result of processing and some taken from separate pools.

There is, again, no insistence upon sticking to one specific range of sound sources. The material is my own aesthetic choice of combined sound sources; some identifiable, some markedly less so.

The work begins with a sweeping glissando, which paints the picture of the sweeping open of a curtain. Metallic hits then strike. This initial gesture is an opening chord, which is then followed by moving, arrhythmic material, panning around and crackling above. There is an imitative gesture at 0:18 and a very subtle reiteration of the opening gesture soon after at 0:37, establishing a continuity of materials. There is a rising tone at 0:55 again, which leads into more developmental materials. The sudden rupture at 1:35 is followed by an almost vocal gesture; this is repeated at 2:14 after two successive hits and glissandi that serve to the section disrupt the section and detract from the convoluted, reorganised low-frequency statement of the Dies Irae theme that meanders underneath. Whenever present, the theme is swamped by kinetic, granular materials; it is wilfully obscured.

The actual Dies Irae melody is just texture at this point; it is merely a can-

was here for the movement above. There is a huge degree of tonal material and the inclusion of much of it is in a form whereby it rises or falls, increases or decreases in pitch, creating either tension or release.

From 3:27 a high frequency pitch falls, then rises very slowly until it is interrupted at 4:16 by a falling pitch. Once again, pitch glissandi are used as transitional materials as is evidenced by the rise at 4:44 and again at 6:44. After a brief respite filtered material at 4:53 begins a new section and continues onwards whilst dryer, granular metallic sounds play above. The melodic theme appears at 5:50 and is again covered by rising and falling gestures: a sense of stasis and motion at the same time. The Dies Irae theme is overtly stated from 7:38 (though its transformations have been present throughout, albeit subtly) and a final, filtered repetition of the first sound heard in the work: the string sweep, serves to bring the work to a close.

Predormitium

Stereo, Data DVD, .wav file, 44.1kHz, 15:33

Predormitium is a work that aimed to capture the essence (albeit in a purely abstract way) of those liminal moments we inhabit between consciousness and unconsciousness. The title is merely the definition of the semi-unconsciousness that precedes actual sleep; a waning of consciousness in which external sounds often impose themselves as we half-dream. The soft waves of sounds, the sudden starts, the slow build and release of noises are an attempt at a sonic representation of this experience. Once again, as with much of my compositional process, sounds were selected from myriad different pools: instrumental, abstract, mechanical, environmental, then they were transformed and manipulated, edited, abridged, subjected to convolution, montaged, layered and bounced, further convolved and then arranged using my own aesthetic choices. The overriding rationale was create luxuriant textures, slowly moving forward, with seamless transitions and gradually evolving features though often interspersed with moments of distinct transition brought about by sudden introductions of new material.

The sudden gestures represent, or evoke notions of, the myoclonic jerk: an involuntary spasm or twitch of the muscles or limbs. Often when inhabiting the transitory world between waking and sleep we experience these. Specifically the term is hypnic jerk:

Hypnic jerks, otherwise known as sleep starts or hypnagogic jerks...consist of non-periodic myoclonic movements...which occur mainly at sleep on-

set...with a peculiar sensory feeling of “shock” or “falling into the void”

(Vetrugno and Montagna, 2011, p.12)

The work exhibits a series of lengthy, moving pitches; amalgams of similar textures and rising and falling frequencies. The compositional aim was to create a very evocative sound world, languorous and sonically very dense. Textures, even those that are clearly granulated, rise and fall from obscurity, permeating the soft, filtered sounds that constitute the bulk of the material of the piece. Resonances pervade the work, from distinctly low hums to the mid-range and higher tones that sinuously interweave, before disappearing, either by a decrease in amplitude, and/ or by falling/rising in pitch. There are numerous attacks but also many moments of repose, created by both tension and release. Static tones, granulated, abstracted materials, and transformed instrumental samples all vie for attention, creating a morass of sounds. There is repetition of phrases, and specific materials, but at each iteration the materials themselves are adapted, presented slightly differently, or in new combinations with new frequency spectra.

The work begins with tones; rising in amplitude, pitch and gently accumulating, before sudden interruptive gesture at 0:41 – one that is present throughout the work. The work uses a reasonably small palette of sounds, which are restated throughout, transformed and directly repeated. The interruptive gesture, for example, occurs at 10:57, 11:37 and 15:13. It is present at the opening of the work and also acts as a final statement with utterances in-between. A sense of continuity is achieved by the repetition of this, and other, material in the work.

Once again, much use is made of pitch glissandi to create sectional change. At 2:00 a falling low tone and a rising high tone serve to create a transition to another textural section of gathered tones. There are numerous uses of glissandi; 0:13 (rising), 3:08 (descending), and two long instances at 10:15 (descending) and 11:37 (descending). Sectional change is often achieved by a gradual dispersion and diminution of materials, as heard at 7:13 onwards. Amplitude swells and falls are very evident, as are moments of reverberant repose (7:42 onwards). There are moments of interjection, 8:20 being a perfect example of this. These sudden articulations act as transformative sections, enabling a slightly differing trajectory towards a repetition of previously heard materials. As the last completed work in the portfolio, *Predormitium* clearly exhibits a refinement of compositional elements that I explored throughout this period. The use of sustained tones, glissandi as transitional devices, gradually accumulating, intricate textures, interruptive gestures, the use of reverberant background materials contrasted with dryer granulated and kinetic materials, and the propensity to use pitched materials are all showcased in this final work.

Conclusion

The works in this portfolio show an evolution and refinement of my compositional style. Throughout the process I have attempted to consolidate my working methods, expand my approaches, and explore new ground by tackling unfamiliar materials and styles of work. I began the journey by the use of granulated materials as one can hear in *Pulse* (the first work composed), and progressed to using, and being more reliant upon, convolved, pitched, instrumental/vocal materials and layering these carefully to create dense, interwoven textures. With the partial exception of *The Erinyes* where I attempted to create much a more gestural work, the portfolio shows my fascination with textural depth and intricacies. My compositional voice hinges upon many elements. With using layered, pitched, long textural phrases I use glissandi as a transitional device; this is evident throughout the works. There is always a juxtaposition of different types of material: The rich textures and drone materials created from instrumental samples existing with gestural materials created from synthetic sources. There is a propensity to create extensive landscapes populated by unreal objects, and to re-contextualise sound sources. Instrumental phrases are re-ordered, montaged, cut and transformed to create new objects; they function as both texture and gesture. There are frequent dynamic changes, wherein the works build sectionally. The moments of repose and respite are subtle yet intricate.

I have used musical figures (Roy, 2000, cited in Stewart, 2007) in all the works. They appear in many guises, varying in the level of transformation and

recognisability. One of my own stylistic features is to state the motif in its transformed state, before a reveal of it in its natural state at a later point. *Dies Irae*, *Susurrus* and *Ritual* are perfect examples of this structuring technique. I have used motifs in the reverse manner, too. *Harmonics* states its recurrent figures from the very start and then seeks ways of transforming them, creating form.

Having had all the pieces performed with diffusion, I would with hindsight have attempted multi-channel composition. My aesthetic to strive for enveloping, immersive sound worlds would certainly have benefitted from the multi-channel placement of some materials. With performance spaces limited and access rare this was not the case. Stereo has sufficed thus far, but working with spatial diffusion would greatly aid my ability to create works with a deeper sense of envelopment. This is an obvious area for further exploration as I continue as a composer.

Bibliography

Harrison, J. (1999) *Diffusion: theories and practices, with particular reference to the BEAST system* [online] <cec.sonus.ca/econtact/Diffusion/Beast.htm> [accessed 20/06/2014].

Roy, S. (2000, cited in Stewart, 2007) Stewart, I. 2007. *Functional Analysis and Electroacoustic Composition: Theory, Extensions and Implications*. PhD dissertation. London: City University.

Smalley, Denis. (1986) Spectro-morphology and Structuring Processes. In: S. Emmerson (ed.) *The Language of Electroacoustic Music*. London: Macmillan Press. pp.61-93.

Smalley, D. (1997). Spectromorphology: Explaining Soundshapes. *Organised Sound*, **2** (2): 107-126.

Wishart, T. (1994) *Audible Design: A Plain and Easy Introduction to Practical Sound Composition*; York: Orpheus the Pantomime Ltd.

Vetrugno, R. and Montagna, P. (2011) Sleep-to-wake transition movement disorders, *Sleep Medicine*. **12** (2), 11-16.

Discography

Bayle, F. (1997). *Son vitesse-lumière*. Compact Disc. Volumes 9-10. Magison. MGCB 91097.

Dhomont, F. (1996). *Cycle de l'errance*. Compact Disc. empreintes DIGITALEs. IMED 9607.

Dolden, P. (2003). *Seuil de silences*. Compact disc. empreintes DIGITALEs. IMED 0369.

Harvey, J. (1999). *Tombeau de Messiaen*. Compact disc. Sargasso. SCD28029.

Ligeti, G. (2008). *The Ligeti Project*. Compact disc. Teldec Classics. 2564 69673-5.

Smalley, D. (1993). *Tides*. Compact Disc. Ode Records. MANU 1433.

Smalley, D. (2004). *Impacts intérieurs*. Compact Disc. empreintes DIGITALEs. IMED 0409.

Selected performances

Carillonneur, Sound Junction, The University of Sheffield, 2010

The Erinyes, Sound Junction, Autumn, The University of Sheffield, 2010

Harmonics, Sound Junction, Autumn, The University of Sheffield, 2011

Breathing Underground, Bank Street Arts, Sheffield, 2011

Dies Irae, Soundings Festival, The University of Edinburgh, 2011

Predormitium, Sound Junction as part of the Summer Festival of Music, The University of Sheffield, 2012

Predormitium, From tape to type def: compositional methods in electroacoustic music, The University of Sheffield, 2013

Predormitium, Sound Junction meets PHONOS, Universitat Pompeu Fabra, Barcelona, 2013