

A PORTFOLIO OF ELECTROACOUSTIC AND ACOUSMATIC COMPOSITIONS

by

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## ABSTRACT

A portfolio of electroacoustic and acousmatic compositions realised through a variety of audio and audio-visual media, and with a particular emphasis on using speech as compositional material. The use of speech in compositions raises questions of political intent and responsibility, and these are addressed. The challenges of composing electroacoustic works for theatre, film and for a site specific installation are also discussed. The use of electroacoustic principles in the production of rock music is examined with reference to my own works in this genre.

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## MEDIA CONTENTS

### CD 1

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### CD 3 *That Dangerous Sparkle* (2007)

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## INTRODUCTION - AURAL AWAKENINGS

Early in 1967, the tinny loudspeaker of the transistor radio I kept hidden in my bedroom resonated with sounds I had never heard before. The hitherto rigid diet of 1960s beat and pop music was temporarily replaced with something that melted and diffused into the room in a strangely liquid and visceral way. This new musical experience seemed to be finding a path to my auditory senses, bypassing the normal physical route of speaker – air – eardrum. As the music played I found myself drawn into a new sonic world – a world where space – (both temporal and dimensional), was apparently capable of being twisted, distorted and modulated, so that time itself appeared to stand still between the poles of this magnetic force. The arrival of this musical event had been keenly anticipated. Announced weeks before, I had marked its debut in my diary and was sitting patiently and expectedly in my room. As a fan of popular music I was used to this moment – a new release, to be listened to on its debut then discussed critically and, occasionally, even reverently the following day in the school playground. This outing however, stopped me in my tracks. Suddenly I had no reference point; no simple repetitive jangling guitars, no corny lyrical couplings, no ironic pathos, no insistent and exuberant rhythm to carry me through three minutes and forty seconds of pre-packaged teenage hormonal angst. This was different. This was *Strawberry Fields Forever*.<sup>1</sup>

From the opening Mellotron flutes – a breathy yet strangely un-human performance – to the glissando-led descent into a psychedelic collage of flutes, syncopated guitars, disconnected drum fills and morse-code beepings, my sonic world was

forever changed. It is not the intention of this thesis to add to the many papers, musical analyses and critiques of *Strawberry Fields Forever*. I use this moment in the history of recorded music to illustrate a pivotal point in my own development, first as a listener and subsequently as a composer of music. Whether the sonic world of *Strawberry Fields Forever* is truly innovative, or merely a natural technological and aesthetic development of an industry that both revelled in, and depended on, the shock of the new for its continued growth and appeal, is not my concern here, it is enough to say that the novelty and strangeness of *Strawberry Fields Forever* acted as a catalyst that provoked me into exploring the sonic composition of a record as much as the lyrical and musical structure of the song. Of course I had not yet heard Stockhausen, Cage, et al.

So it is from within a pop and rock framework that life as a songwriter and composer begins, with no formal musical training, and finds some professional success over a career spanning many decades. With the boundaries between “rock” and “art” music becoming increasingly blurred as the psychedelic bands of the sixties and seventies experimented with sound as compositional material, I found myself informed by a multiplicity of influences.

Firmly rooted in rock music, my professional life has revolved around the writing, performing and production of recorded popular music.<sup>2</sup> As developments in technology brought innovation into production methods, it also encouraged experimentation, though often within the limitations of the rock genre – limitations that, for example, preclude abandoning altogether the idea of song, metre, and

structure as is generally held to be necessary for a rock or pop recording, though of course along the outer edges of any genre there will be exceptions and practitioners seeking to extend the repertoire's range. As I found myself drawn towards writing abstract music for art installations and experimental films, I unwittingly entered the domain of electroacoustic and acousmatic composition. Here then was the freedom to leave behind the constraints of metre and melody; to experiment with timbre and texture in a form vastly different from that of rock. And yet, as I continued to compose and record songs, sonic installations, music for theatre and film, as well as electroacoustic and acousmatic music, I found myself suffering from a form of musical schizophrenia.

It seems to me as a composer that there are very few musical seams that do not leak in both directions. To hear an electric guitar chord is to hear both a discrete sonic event or artefact and a musical element on a continuum – either and both can be part of a narrative musical structure. The sound of a plank of wood splitting has properties of pitch, timbre, rhythmic articulation, and exists in a time domain that can just as readily be used as compositional material within any musical narrative. Whether I am producing a recording of a song or creating an electroacoustic piece, I am working with both discrete sonic artefacts and continuous musical events that need to be sequenced to form a musical narrative. This musical schizophrenia means that I do not approach any composition from what may be termed a single pedagogical discipline.

## WORKING WITH DIALOGUE

Of particular interest to me in composing electroacoustic works is the use of speech. Several of the pieces in this portfolio use speech as a significant element in the composition. However, since each piece has entirely different textual subject matter, there is no one approach to dealing with speech within my pieces. So for example the political rhetoric of *Fragments of Democracy* is used in a far more cynical and deliberately interventionist manner than the speech collected for *de(re)generation*, the latter being perhaps more deferential and sympathetic to the speakers. These are compositional choices – though it must be said that these choices are driven in no small way by my interest in the political nature of the subject matter. I will discuss the implications and compositional challenges in the individual chapters which comment on each work, where it will be simpler to reference particular examples. It may be that the listener will conclude that my background in lyrical songs has brought these textual materials to my electroacoustic compositions. I am more inclined to believe that it is my interest in the political act of art that draws me to use speech in this way – *vox pop* becoming *vox humana*. Gathering and using speech from the “man in the street” allows me to explore and comment on the politics of everyday life. I am drawn to subject matters that may be controversial. Ironically, the text from speakers within the political process itself (*Fragments of Democracy*) often mirrors that of the protesting workers (*de(re)construction*) complaining about the changes being forced upon them by local political manoeuvring, and their lack of power or consultation in the matter; the councillors in turn bow to a greater body politic (Central Office) and admit to toeing the party line.

## WRITING FOR FILM AND THEATRE

Writing music for film and theatre has at times offered me the opportunity to use electroacoustic compositional methods. Within this portfolio are examples of work in this area. In Sofia Pileci's short film *Stage Fright* I was given the freedom to create a totally electroacoustic score (with no dialogue), and in *Lonely Bridge Song*, a play by Nowell Wallace, the intention was to create electroacoustic scores and backdrops to accompany live action and dialogue. Each of these works presented challenges rather different from those of writing an acousmatic concert piece. These compositions had to function within a broader medium than just sound alone; consequently attention had to be paid to timings and durations that might not otherwise be constrained. Since the emotional or intellectual impact of a scene can be greatly enhanced, exaggerated or otherwise mediated through its accompanying sound, the composer of such a score has the power to create a sub-text or subliminal meaning, or to give a vicarious experience to the viewer who would otherwise have no empirical knowledge of the event being viewed. It is of great interest to me to work in the theatrical domain where the aetiology of such a sub-text subliminally and powerfully alters viewers' emotional responses to the scene. This fascination with sub-text complements my interest in the spoken word as compositional material, allowing, as it does, the re-interpretation of a given text that is not of my making, nor under my control, yet becomes partly so in the realisation of the composition. In this instance the given text and the electroacoustic composition may be said to be acting upon each other in a semi-aleatoric and inter-dependent way. The actor, taking his or her cue from the tape piece, may respond in much the

same manner as if to another actor; moderating, articulating and adding nuances to the delivery of the text as the electroacoustic narrative unfolds. In this sense then, it is only during the actual performance that the completed piece may be heard. Of course, an actor's delivery will not remain identical throughout a series of performances. The term performance in this instance attaches every aspect of human inconsistency, and guarantees to an audience a subjectively varied interpretation for each viewing. Similarly, an audience's perception of the electroacoustic score will be nuanced and mediated by the inter-active performance of the actor. Indeed an audience may be forgiven for wondering whether it is the actor's command of the voice, or the surreal place from which he appears to speak, that lends authenticity to the emotional weight of the scene. From this composer's point of view, a successful outcome is one where the dividing line between these two elements is invisible. Further, the constantly evolving visual stimuli of the play will add to the semi-aleatoric nature of the performance. In the case of the Begging scene, from *The Lonely Bridge Song*, the use of pre-recorded and digitally altered lines of dialogue which are simultaneously spoken by the actor during the play adds particular emphasis to these lines as well as to the dramatic effect of the scene. The ability to create a convincing aural illusion depicting the character's inner state of mind is a powerful dramaturgical-linguistic tool, though, as previously stated, the effect of its use can only be fully understood during performance. As a composer, my concerns regarding audience engagement with the emotional content of the scene were very different from those associated with a tape or concert piece. Indeed, it is likely that my experiences as a singer and performer had a significant influence on the way that this particular piece was created. My intention was always

to use the combination of tape and live action dialogue to create a singular “voice” in performance; one in which the audience engaged emotionally with the whole, not its constituent parts.

## VIDEO ART INSTALLATIONS

Included in this portfolio are two examples of writing for video installations. There may be a subtle difference in presentation from that of what may be called “straight” film or video. Both of course are intended to be viewed from beginning to end. However, perhaps it is the environment in which the video installation is to be viewed that determines its difference. In the main, these installations are to be viewed, looping continuously, in an art gallery or other visual exhibition. There is less a sense of a “viewer occasion” than with a film. A film suggests a sitting, a once-through viewing, and, in most cases, a temporally determined narrative. These video installations, almost by definition, exist in a constant performance state, to be viewed in passing, at a glance, or studied meticulously at close quarters. In composing an electroacoustic score for these types of works it is necessary to understand this subtle difference, and to understand and interpret the intent of the visual artist. Whilst the score may have a linear narrative that supports and underpins the complete visual work from beginning to end, it must also in a sense exist as a moment-by-moment narrative. Yet sound cannot be freeze-framed in the way that pictures can. The temptation to create impact heavy “frames” of musical events must be resisted. Instead, the scoring of subtle musical events to accompany significant visual cues will enable disparate and fragmented moments of the narrative to be articulated. Of course, what the visual artist determines as significant moment-narrative cues may not hold with the composer’s view, but the acknowledgment of the collaborative nature of such composition, and that the composer is scoring to a pre-existing work, will encourage a flexible and adaptive

technique in composing for this medium. These are not significant electroacoustic compositions. They are included as examples of the use of electroacoustic composition, or the principles thereof, in multi-media art forms.

## ELECTROACOUSTIC PRINCIPLES IN ROCK MUSIC PRODUCTION

In presenting my album of rock songs within this portfolio of compositions it is necessary to outline the principles of production that I consider it shares with electroacoustic and acousmatic composition. There are in effect three discrete stages to the rock composition process: the writing of the song, the performance and recording thereof, and finally, the production of the completed track. It is this final stage that I refer to when describing its similarity to electroacoustic composition. I will not complicate matters by introducing the elements of songwriting that may take place through an electroacoustic composition medium (i.e. the computer) – a song might just as likely come to life through the abstract manipulations of sound in the computer as by the strumming of a guitar. In this thesis I will only concern myself with the elements within what is loosely termed “record production” and their relevance to electroacoustic composition. For it is in the final, production stage of the rock recording that similarities exist. It is at this stage that the minutiae of sonic elements is created, chosen and assembled. It is here that, beyond the principal instrumental composition, the sonic world of the production begins. This sonic world is not necessarily pre-determined or constrained by the recorded performances, or by the inherent characteristics of a given instrument or voice. Here, the many abstract musical elements common to both forms of composition – timbre, acoustic environment, frequency equalization, reverberation and spatialisation, can be employed in the final compositional stage of the production. So the selection process in manipulating, altering and placing a particular musical element within the spatial soundscape is common to both genres.

Additionally, modern rock production contains many musical elements which are not of an intrinsically natural provenance. The ability to multi-track and overdub allows placement within the soundscape that defies the science of acoustics – at least in so far as they apply to the natural world. In effect we create an unnatural world and present it as natural. The whole process of creating a modern rock record is the collecting, collating and ordering of the elements. Elements may be created that do not exist in the natural world. Of course, there are varying degrees of production that would, at one end of the spectrum, allow for what may be termed a “naturalistic” recording or production: where the intention is to create as far as possible the illusion of a real acoustic environment. Thus, whilst the individual elements, instruments, vocals etc are gathered singularly, the end product is intended to be perceived as a naturally occurring musical event in time and space. At the other end of the spectrum is the multi-layered production that offers no apologies for presenting the impossible: a whisper set against a cacophonous drum kit is a simplistic but apposite example. It is at this end of the spectrum that most of my rock production work exists. Here it becomes a matter of choice – discriminating between gathered elements, manipulating tone and texture, arranging and placing these in the soundscape. It is here that I find the processes of electroacoustic and acousmatic composition not dissimilar to rock production. The selection of a specific spatial location to place one musical element, in a complex soundscape comprising many different elements with dissimilar properties, is an intrinsic part of the compositional process, whether in song form or in a more abstract musical context. Often the intention in a rock production will be to bend, distort or otherwise alter the natural properties of a given artefact to complement the tonal colour of the

completed work. Perhaps it is a matter of degrees, in that the electroacoustic principles applied in rock music production are mostly subservient to the overall work or song. In fact it is their intrinsic subtlety which understates their importance in rock production. The fact that I spent a week creating the shifting, multi-layered and delicate reverb *behind* the introductory saxophone solo on *Risky Business* (track 7, *That Dangerous Sparkle*) for example, where it will be heard and understood (in compositional terms) by so few listeners, mitigates against making bold claims in this province. Arguably this “effect” is not central to the performance, nor is it necessary or important in determining the overall sonic quality and spatial properties of the saxophone within the mix. It is purely an artistic decision: one that offers the composer the opportunity to create a subtle acoustic environment that becomes central to the composer *as performer*, and this it shares with electroacoustic composition. The electroacoustic composer often has no third party performer to mediate or interpret his or her composition. The act of composition is therefore simultaneously one of performance. As an artist chasing compositional perfection on both sides of these leaking seams, my musical schizophrenia will often be exhibited thus.

## A SHARP INTAKE OF BREATH (2000)

### CD 1 - Track 1

As its title suggests, this composition has at its core the act of breathing. One dictionary definition of 'inspiration' is the act of drawing air into the lungs; I wanted to play on the duality of the meaning of the word, and take the literal act of inspiration as inspiration for my piece. Using vocal elements as sonic artefacts, the human articulations of breath, along with musical shapes of a sung phrase, form the basis for the composition. Whilst no dialogue is used, the use of vocal articulations carry with them expressions of human emotion and are therefore likely to be interpreted by the listener as containing essential information.

The introduction comprises two vocal samples of Cathy Berberian taken from Berio's *Sequenza III* for female voice.<sup>3</sup> Underpinning a repeated sung phrase a breathy arpeggio establishes a rhythmic pattern and sets up a recognisable breathing pulse. At 3'02", my own vocal gesture of drawing breath into my lungs mimics the singer and signifies the figurative act of inspiration. Babbling, incoherent voices challenge us to make sense of their unintelligible ramblings but these are nothing more than exaggerated vocal gestures used for their complex sonic qualities.

*A Sharp Intake of Breath* is not an electroacoustic re-working of *Sequenza III*. It is an exploration and re-interpretation of some aspects of vocal gesture, and the breath that necessarily underpins all human vocal expression. It may challenge the

listener to ascribe meaning or derive emotional understanding of the vocal utterances, but in fact it offers no semantic solution. It is playing with the meaning of gesture.

## FRAGMENTS OF DEMOCRACY (1999-2000)

### CD 1 – Track 2

I had been invited to record, for the purposes of creating an aural archive, the last Birmingham City Council meeting of the millennium. Seeing an opportunity to create an electroacoustic piece, a political commentary on the workings of City politics, I agreed to record the Council House proceedings on condition that I was given free access to the entire building, offices and corridors of power. Surprisingly, consent was given.

So on 12th December 1999, armed with two portable DAT recorders, I spent the day at the Council House. The council meeting itself was due to start mid-afternoon and would last several hours. This was to be followed by a special Christmas Buffet for the Members of the Council, to which I was also invited (the mention of this social event is pertinent to the piece as I also recorded during the buffet). Additionally, there was to be a keynote “Urban Regeneration” speech given by the architect Lord Rogers of Riverside (Pompidou Centre, Berlin Reichstag etc), which I had been asked to record. The council meeting itself was of course open to the public; therefore everything said in the debating chamber is in the public domain. However, my interest lay in the “corridors of power”, where I hoped to gather more intimate and sensitive material. Eavesdropping around the building during the day did not provide much in the way of revelation and intrigue, since I was often chaperoned by an official guide. The Council House, a large, imposing Victorian building, supplied a few booming door-slams, some Gothic squeaks and groans, but little else. These

corridors of power, however, did provide a small amount of controversial material later in the day. This was outside the council chamber itself during the debate, where councillors gathered, whispered, quietly conspired, and generally did deals and decided matters of importance (as I was later informed by a wise old hand) which would in reality be rubber-stamped during the “democratic” process going on in the public chamber. Obviously, sneaking about wearing a pair of headphones and holding a microphone is not the most unobtrusive way to gather gossip or conspiratorial whispering. Nonetheless, I was able to catch one or two subjects unawares for a few vital seconds. More telling though was the willingness of various councillors to speak to me “off the record” (but consensually recorded) about their misgivings over the main agenda of the evening (the changing of the council’s constitution), as well as the more revealing but, I suppose, not surprising admission that “nothing ever changes anything in there” (the debating chamber).

The hours preceding the meeting and debate in chambers yielded little in the way of interesting material. However, once the council meeting got underway I realised that I would have an enormous amount of largely irrelevant and uninteresting material to wade through in the editing and selection process. At the end of the day I had in my bag five two-hour tapes of material. Some were duplicates of the council debate; I’d set up a DAT recorder with a pair of microphones at the front and rear of the chamber to maximise coverage. The sorting process began by eliminating the lower quality material (proximity to relevant microphones) from the duplicates. This was complicated by the fact that at various times during this long and mostly uninteresting procedural event I would leave the chamber, taking one of the DAT

recorders, to prowl the corridors. Nonetheless, after discarding duplicates and poor quality recordings there was still over 6 hours of discrete material from the original 10.

### Compositional processes and material

The process of selecting material to use in my composition was in some ways straightforward. After all, I could at least write down a complete and accurate list of all or most of my material: File 44.wav is – (man’s voice), “I’m not voting for that – no matter what you pay me”, which may be instantly recognised and more descriptive on paper than non-textual material (for example: File 38.wav – loud clang of metal on metal – more distant than File 35.wav”) – could ever be.

However, once I had catalogued all the spoken material, the process of choosing words, phrases and sentences to use in my composition became far more difficult. Unlike any other sound source, intelligible speech carries with it immense amounts of information. Granted, the sound of waves crashing on a pebble beach also carries a great deal of information, but that information is limited by our own experience of such a sonic event – it will not tell us if in this particular instance it is day or night, raining, cloudy, or sunny. Of course that does not preclude using speech in a purely sonic and non-referential manner; though it is almost impossible to dissociate meaning from speech, so long as it is intelligible and in a language understood by the listener. So it raised several questions which had to be answered before the compositional process could begin:

- Is the speech intelligible?
- Is the speech intended to be intelligible in the composition?
- There is an immediate tendency of the listener to ascribe meaning or at least search for meaning within speech once it is recognised as such – would this meaning become a part of the compositional narrative, or exist as a sub-text within it?
- By de-contextualising it, the meaning of a text can be distorted – subverting its message to one’s own agenda. This has further implications in terms of misrepresentation and authenticity. Is there a dilemma, moral or otherwise?

In making a decision then, on the way to proceed with this piece, I needed to take into account my responsibilities (if indeed they existed). Because of the nature of the material, I could liken myself to a journalist. I am, after all, creating a work that reflects, and in some ways reports, on a political event. For the Sun I might report “Councillor in shock admission – it’s all controlled from above, guv.” Whilst for the Guardian I may state quietly that “Councillor Smith admits some pressure from party HQ over constitutional reform”.

But I am not a journalist, and for me there is no dilemma. I am not bound to report – truthfully or otherwise. I am a sonic artist creating a piece of music from found material. I have no control over the material in its raw state. Whilst it is possible to use this material subsequently in a non-political manner, for me, simply choosing one phrase over another becomes a political act. I am not a documentary maker

offering an impartial view of my subject; I am an artist who chooses to express his political viewpoint through his work. Further, by employing the following compositional devices I could radically alter the context and meaning of the textual material:

- Repetition. A powerful linguistic device which has an interesting duality. It can both remove and reinforce the meaning of word or phrase. Repeating the same word or phrase over and over again often seems to denude it of meaning. Yet repetition separated by an event or events in a given context can reinforce its meaning, even if – as in the case of “thank you lord mayor” – it contains information of very little value, being procedural protocol and a traditional response. In fact, in that particular case the repetition of the phrase perfectly illustrates the almost obsessive nature of council proceedings, and indeed it could be seen as a political act to have highlighted it thus.
- Editing. The responses to one statement can be drawn from an entirely different topic. Humorous responses can be used inappropriately, undermining the seriousness of the speaker. Statements can be reinforced by cutting and repeating words or phrases, interjecting them into statements where they did not previously exist. The insertion of the phrase “economic migrants” into several key points in the piece dramatically increases the sense of bias shown by its speaker on the topic of asylum seekers.

- Distortion. From obfuscation to revelation – an analogy of democracy in process? In my piece *Organic Transformation*<sup>4</sup> (1998), a short experimental work dealing with text and intelligibility, a single spoken phrase was made completely unintelligible by digital processing. The phrase was repeated over several minutes, with the processing reduced incrementally until the words were fully intelligible and no processing apparent. Different interpretations of the text were offered by listeners at various points, and the point at which individual listeners were able to fully understand the text varied quite significantly. In this piece I was experimenting with audience perceptions of intelligibility. The moment speech is recognisable one tries to understand it. By repeating a phrase which is unintelligible, the listener is drawn in to try and decode the message. In *Fragments of Democracy*, at 7'00" a phrase is repeated, heavily processed and virtually indecipherable. With its stuttering syllables and morse-like monotone it implies a sense of urgency and tension. When it is revealed in its raw form the direct and quietly urgent warning is more alarming in its naked accusation.

So, much of what took place in the Council Chamber was procedural; in fact it was the interminable repetition and inane nature of these procedures that I used to determine the atmosphere of my piece.

Having decided that repetition and banality would be the underscore to this piece, I opened with a question that perfectly demonstrated this point. Additionally, sarcasm and point scoring between councillors was high on the agenda of the day, so the background is created using a vocoder and derived from the hyena-like laugh of a

female council member early in the proceedings, and underpins the entire first section.

The use of a camera flash and re-charging whine at one minute intervals during this section also points to the almost religious adherence to procedure and protocol, as well as illustrating the ego-centric “fame and glory” nature of many of the speakers.

*Fragments of Democracy* is a politically motivated piece; the decision to record the proceedings in the chamber of local government and use as text rather than as purely sonic artefacts determined that the piece would be overtly political from the outset.

## DE(RE)CONSTRUCTION (2000)

### CD 1 – Track 3

Commissioned by The Forward Festival, most of the text in *de(re)construction* is used in its original non-processed form. Where there is processing it is generally done for spatialisation – setting a text well back in the mix lost in a wash of reverb for example, highlights the sense of powerlessness felt by some of the interviewees. For these, the sense of the impending loss was acute. They articulated their fears for the future; of displacement, redundancy and impotency in a vigorous and rapidly changing world. A big world in which the small part they played had little or no effect on their destiny. For *de(re)construction* is indeed a lament – a song of loss for a disappearing way of life.

In the Digbeth area of Birmingham there are a large number of light and medium industrial workshops. Some of these have been doing business for over sixty years. They have been the lifeblood of an industrial manufacturing city, providing metal fabrications and parts for the motor and other heavy industries in the region. With the East Side development project well under way, and the decline of manufacturing and production in Britain, most of these inner city workshops will either be moved out of the city centre to industrial parks, or forced to shut down their business altogether. The machines used in metal stamping and turning are a rich source of unusual sound material. Some of this machinery is extremely old, increasingly rare, and often tended by minders of similar antiquity. *de(re)construction* is based on the sounds of these machines, and the comments and opinions of their operators.

During interviews with these workmen, it became apparent that they had been informed of the development plans for the area by council representatives. Perhaps it would be more accurate to say that they had been notified, since none felt that they had been a part of any consultation process. There was a great deal of fear and suspicion on the nature and likely outcome of these plans. Most felt that their livelihood and future was under threat. My original intention for the piece had been to create a kind of living archive of these men and their machines – to capture sounds and comments, to get them to reminisce and perhaps speculate on the future of the manufacturing industry in Birmingham. During the interview process, however, it became apparent that the piece would instead be an elegy to manufacturing in Birmingham.

So here the choices of text were central to the narrative of the piece. At the outset the owner of a large steel pressing plant succinctly captures the spirit and purpose of the area. Later in the piece this same commentator is heard shouting over one of his massive steel stamping machines – “that is the heartbeat of industry!”

With much of the source material remaining unprocessed during the first section, the piece juxtaposes commentary with machinery to create an aural documentary. It is not until 5’51” that some digital processing, analogous to the modernisation and development of the area to create an “ideas, knowledge and learning” zone, begins to challenge the domination of these industrial heavyweights. At 7’20” the transformation is complete – the machinery is distant, unstable, stripped of purpose. At 8’59” a summation of a future without manufacturing leads portentously into a

ghostly cacophony of redundant machines and lost voices, wandering in an ethereal space, unable to accept that the future has no place for them.

## AQUALOGICA (2000)

### CD 1 – Track 4

Upon hearing that Metapod Expo was mounting an exhibition/installation at Moseley Baths, to be called *Immerse*, and discovering that only one of the planned installations was to feature the pool itself, I submitted a proposal to write a piece for underwater diffusion. I proposed to use two sub-aqua loudspeakers sited at either side of the pool. From the beginning it was my intention to have the listener submerged to experience a sub-aqua concert; to this end invitations stated that listeners should bring bathing costumes if they wished to hear the piece as intended. I recognised, however, that traditional air-borne diffusion would allow a greater number of people to hear the work and also offer a different sonic experience of the piece for those who were unable or unwilling to enter the water. As well as the sub-aqua speakers positioned in the pool I proposed to site two large speaker enclosures in the balconies above and to one side of the pool. This would also augment the listening perspective for those in the pool, providing a continuity, though different perspective of sound, when emerging from submersion.

Since sound travels at 1500 meters per second in water (approximately five times as fast as in air), the need for stereo or multi-channel diffusion was unnecessary. The dimensions of the pool, 21.19m by 10.07m, would mean that stereo imaging, indeed any directional information of the sound source, would be virtually immeasurable, as all sound is travelling omni-directionally and will reach the furthest point in the pool in around 14 milliseconds. Additionally, the amplitude falls off quickly over a short

distance. The physics of sound travelling through water determine that the higher the frequency, the greater the loss in amplitude. Since the human ear is not good at determining direction from lower frequencies, any sense of stereo imaging would be lost by this attenuation of directionally recognisable frequencies and the near-instant diffusion of the sound throughout the pool. It was apparent during the event itself that listeners were adjusting their experience of the piece by their proximity to the sub-aqua diffusers. The utilisation of two sub-aqua diffusers was intended to increase the saturation of audio in the water, to compensate as far as possible for the attenuation, rather than for stereo imaging. To attain amplitude levels similar to those commonly used in air diffusion a very large number of sub-aqua diffusers would be needed to be spaced at regular and close intervals; the paradoxical effect of this would be to reduce further the sense of stereo imaging.

Following an inspection of the site, it became apparent that the sonic infrastructure and properties of the baths should form the basis for the material of the piece. Moseley Baths is a magnificent example of Edwardian Gothic, built in 1907. More pertinent though is the method by which the water for two pools and the individual slipper baths is heated and circulated. The original steam pumps were still *in situ* and used daily for this purpose. After speaking with the chief engineer I arranged to visit the site at 7 a.m. when the pumps were fired up for the day. An enormous pump room, with pipes carrying steam around the building, generated an array of sonic material: clanking, hissing and fluttering of butterfly valves in pipes, water gurgling through feeder pipes. I successfully destroyed one of my stereo microphones placing it too close to a pipe carrying very hot steam.

I also collected a catalogue of sounds key to the daily ritual of the baths (still in public use at that time, though sadly closed a year later), including human activity in the form of a swimming lesson in progress. I decided that the effect on the listener of the piece would be one of submersion and immersion into the pumping heart of the pool. The title of the Metapod Expo event was after all *Immerse*. Not having experienced a concert underwater, it became apparent that I would need to carry out listening tests frequently in order to compose with some understanding of the way the material would change dramatically when heard sub-aqua. After purchasing an Electrovoice swimming pool speaker unit I was able to carry out frequent though limited tests at home in the bath, and occasional extended tests at the pool itself. However, the changes in aural perception and cognition underwater did not factor heavily in my compositional choices. Rather, I took the view that my in-air composition was being mediated, modified and re-interpreted by the sub-aqua environment.

Given that the installation was one of several taking place in the Baths over a weekend in October 2000, I decided to make the piece relatively short to allow for casual browsing. Having stated that immersion was the best way to hear the piece I wanted to keep the sub-aqua listeners in the pool for the entire piece. Most of those attending this event would fall in to the category of “casual” listeners of this genre of music. Many would never have experienced electroacoustic or acousmatic music; this was not after all a sit-down concert in a recognised concert venue. At just over 11 minutes I found that quite a number of listeners remained in the pool for repeated hearings – the piece was looped continuously throughout the day – often changing

their listening position. For example some listeners lay on their backs, ears submerged. Others swam gently around the area closest to the sub-aqua speakers, one family of four dived repeatedly around one of the speakers, resembling a school of curious porpoises. The exterior speakers in the gallery contributed to the otherworldliness of the environment; the cavernous echoic setting of the pool meant that the entire area both below and above water resonated with *Aqualogica*.

## GUITAR = GOD (2009)

### CD 1 – Track 5

As perhaps the most iconic instrument of the second half of the 20<sup>th</sup> century, the electric guitar eloquently straddles the border between pop and art music; a perfect fusion of musical instrument technology and the emerging principles of electromagnetic sound reproduction. Its early adoption in jazz and dance bands, as a means to compete with the power of a large dance ensemble, quickly led to its amplified sound being recognised as an instrument in its own right, separate from its acoustic precursor. Early adopters such as T-Bone Walker, Charlie Christian and Les Paul experimented with the new tonal and harmonic characteristics that were to alter dramatically the way music would henceforth be created and consumed. It is arguable that the emergence of the electric guitar represents the moment in musical history when science compelled audiences to re-evaluate the notion of what comprised “musical sound”.

In *Guitar = God* I wanted to play on this iconic status. Stripping away the electrical and electronic nature of the instrument at first and concentrating on the mechanical, I recorded the re-stringing of a guitar. String winders, threading, snipping string ends, tensioning and tuning all provided sources for material. As the stringing is completed the guitar becomes an instrument – rhythmic, harmonic and eventually electronic.

A piece based on the iconic nature of the guitar could only be concluded with two iconic guitar gestures: the power chord of E major, and the amplified feedback from which its early developers tried so hard to escape. The development of the electric guitar rescued the original acoustic version of the instrument from a life of dance band accompaniment by allowing soloists to be heard. Highly skilled exponents emerged, creating a new musical vocabulary and inspiring generations of young players to emulate these guitar heroes' virtuosic skills. Ironically though, it is the loud, proud and very fundamental big E that will resonate and personify the electric guitar for a very long time to come.

## STAGE FRIGHT (2001)

### DVD 1

I was approached by independent film director Sofia Pileci to compose a soundtrack for her mute film *Stage Fright* (not a silent film, but a film with no dialogue. It was to be mute partly on economic grounds, and partly for artistic reasons. Sofia felt that given the pictorial narrative structure of the film, a musical accompaniment would be appropriate. She had heard my rock and installation work and suggested a fairly straightforward musical score. However, discussing the script and storyline with her led me to believe that an electroacoustic score would be far more interesting and challenging. Since the film was yet to be shot, I decided to build my score from the live action of the filming process. As there was no dialogue, I was able to participate fully in the filming process without being concerned about intrusive sound. Over three days of shooting I followed every shot, recording not just the physical action of the actors, but also the paraphernalia of the business of filming; the setting up and movement of camera dollies, lighting rigs, movement of props, discussions between the crew and so on.

Given the rather comical, surreal nature of the storyline, I felt there was an opportunity to experiment with the soundtrack. I intended to use collected sounds from the shoot both processed and unprocessed, as well as other elements created from other sources. Working to single frame accuracy I wanted as far as possible to create the sensation that the sounds accompanying the live action were in fact

emanating from the source. Therefore, for example, the scene with a football is orchestrated with exaggerated sonic gestures to coincide with the movement and impact points of the ball. My intention was to create a sonic world that appeared authentic within the narrative – albeit a surreal authenticity.

The realisation of this work was complicated by the fact that at various times the director presented me with re-cut edits. As I was aiming for frame accuracy this often meant adjustments across the timeline in several places.

## ON STONES I DRAW (2003-2005)

### DVD 2

In writing two short electroacoustic scores for Mo White's video installations there were certain elements that needed to be incorporated, at the request of the artist. In the first piece, this was her spoken narrative, and in the second, samples of *Orfeo ed Euridice*, sung by Kathleen Ferrier<sup>5</sup>. The crackly sound of the vinyl from this early recording was also included at the artist's request. The elements for both these pieces were significant for the artist, as the subject matter of her work explored themes of dislocation, desire and memory. I decided to bring the Ferrier vocal in at the moment a tram, travelling in the opposite direction (back into the past) passes the forward moving subject. In this way the aged recording becomes by association a motif for the past; its subsequent reappearance in the video will always speak to memory.

In my previous work with film makers I have always felt that there was a driven narrative throughout the work – one that has a beginning, middle and end. In these video installations however, there is much less a sense of beginning and ending, and more one that is analogous to a static painting or photograph. Despite the moving picture and the changing viewpoint, and in spite of the fact that one piece has a text spoken by the video artist, still there is somehow less of a narrative compulsion to the pieces. This sense of stasis was affirmed by the artist in her directions to me for the creation of the score, particularly for the first part, for which she requested a rainy, monotonous and understated backdrop, with the sound of

domestic pots. Very little movement or “action” was required, more the creation of atmosphere with orchestrated key points.

## CONCLUSION

This portfolio explores electroacoustic composition as both traditional tape pieces for concert presentation and as scores for audio-visual works, incorporating elements of both documentary work and popular music. It brings together various strands from my musical background and compositional practice across a range of genres in the creation of these works. Whilst I may have taken very different musical approaches for each composition, the continuity in execution is provided by an eclectic range of musical influences. I often, for example, find myself thinking in song form whilst composing electroacoustic works, and similarly find myself working in sonic event and artefact form whilst producing a rock song. I find no difficulty in travelling back and forth between these two seemingly disparate destinations; rather, it is a source of constant renewal of inspiration to inhabit this musically schizophrenic world.

## Appendix i

### THE LONELY BRIDGE SONG (2001)

#### CD 2 – Tracks 1 - 3

Nowell Wallace asked me to write a background soundscape to the entire play, *The Lonely Bridge Song*, as well as pieces for three discrete scenes. For two of these scenes I created electroacoustic pieces. The first scene involved a drug-addict shooting up. I wanted to create a visceral, fluid and very physical sonic accompaniment to what was already a very disturbing scene. To create the aural image of intravenous drug use, I recorded a match being struck and the hissing and bubbling of burning sulphur to represent the cooking of heroin. To suggest a needle puncturing skin, and fluid entering the bloodstream, I squeezed a plastic ketchup bottle, recording the sound of air and ketchup exiting the nozzle. This visceral and rather unpleasant sound was then transformed into a vocoder-created wash, to suggest the altered state of mind of the drug user. Since this was after all a soundtrack to a scene from a play, it needed to be larger than life. In the real world no sound would truly represent these actions. My intention overall was to create a sense of disgust in the viewer – it is one thing to see an actor going through the motions of preparing and injecting heroin – quite another to have these actions orchestrated in such a vivid and unpleasant manner.

The second scene depicted a homeless person, begging on the street. It was a lengthy scene with a repetitive phrase and a substantial amount of action in the form of “passers-by” circulating around the actor playing the homeless person.

Both scenes involved intense rehearsals and workshops with the cast. The begging scene in particular would have to be carefully timed, and contain key points for certain actions and business within the scene. Having recorded the actress speaking her lines during rehearsals, I used this as a repeated motif throughout the piece. When the play was performed the actress would therefore be speaking her lines across treated versions of some of the same lines. This was intended to add to the sense of disorientation and isolation felt by a street beggar. As the work progresses the speaker becomes more and more isolated and distant from the real world as her sense of desperation and rejection increases.

When heard in isolation of course the piece is denuded of meaning and context; writing electroacoustic works for theatre often means that the piece is redundant once the production is over. Unfortunately, no video exists of the theatrical performance in which to experience either of these pieces in context.

I have included a short extract of the backdrop piece. This was a 45 minute ambient electroacoustic “wash” which was looped and heard at a very low level throughout the play. The volume was raised and lowered at various points in the action, but at all times its purpose was to provoke a slight sense of discomfort and tension in the audience, to create an unsettling acoustic environment.

## Appendix ii

### THAT DANGEROUS SPARKLE (2007)

#### CD 3 - Elements from tracks 1, 2 & 3

In making this collection of rock songs for an album I wanted to incorporate some electroacoustic music into the compositional process. I did not however simply want to “borrow” the exoticism of such sounds to provide aural abstractions or sonic interludes; rather my intention was to enhance and underpin something of the text and narrative within certain songs. In this sense the electroacoustic elements needed to have figurative qualities as well as their more obvious literal meanings. Thus the sound of whispered telephone conversations (*When You're Lying* – track 3) conveys more in its obfuscated form than through its language. I cannot claim that the electroacoustic elements are profound or intrinsic to the overall work, and they are indeed quite simple and far from revolutionary. All are very short. However, these elements do create an acoustic environment from within which the song can emerge (tracks 1 & 3), or provide an aural summation of the song's narrative (track 2).

Thus the very simple introduction to *The Valentines* (track 1), comprising seagulls, halyards knocking against aluminium masts in the breeze, and ocean sounds, perfectly sets up the environment for a song whose narrative is about travel – both physical and personal. The somewhat plaintive cry of gulls suggests that the narrative may not have a happy outcome. In this way then the listener is subtly imbued with a slight sense of loss at the start of the piece, in much the same way

that a minor chord might traditionally suggest sadness within a popular music idiom – yet the song is in the distinctly major key of E. The use, then, of an electroacoustic element allows the otherwise positive nature of the key to be subverted with melancholy – or at least to become ambiguous. The re-appearance of this lonely cry as the closing chord dies away further emphasises the melancholic narrative over a major key.

As *Let There Be A Place* (track 2) fades away, a distant voice singing that most Christian of hymns, *Hosanna* is set against a Mullah's call to prayers, punctuated by the sound of explosions and guns. This offers a far from subtle reference to religious conflict that is intended to reinforce the song's message of hope, tempered with realism and cynicism. Not a grand statement, but a very succinct way of demonstrating, through aural juxtaposition, the polarity of this particular conflict in ideologies.

The introduction to *When You're Lying* (track 3) is deeply sinister. Recorded telephone conversations, words of paranoia and distrust, set against a backdrop of displaced telephone error signals, suggest a world of intrigue, conspiracy and lies. In dealing with a very common subject matter for a contemporary song – the breakdown of trust between two people – I wanted to create an atmosphere of deep mistrust and suspicion.

Telephone signals and tones were recorded and treated using various plug-ins in Pro Tools. Whispering voices and syllables are layered over these, and, lost in

reverb, the introductory picking of the acoustic guitar appears, disembodied and distant at first, gradually moving forward in the soundscape until it dominates and the song's narrative can begin.

## Appendix iii

Programme notes and dates of public performances.

### Fragments of Democracy

The final meeting of Birmingham City Council of 1999 was recorded in its 6 hour entirety. From fly-on-the-wall veritas to heavy digital processing of the day's proceedings, Scardanelli's electroacoustic composition juxtaposes tradition with a futuristic sonic commentary. A melee of political rhetoric, social comment and procedural banality, *Fragments of Democracy* is an intriguing political document, a sonic Hansard for the people.

### de(re)construction

The Digbeth area of Birmingham is known for its industrial heritage, soon to be swept away with the East Side development program. *de(re)construction* visits factories and workshops, some of which have operated in the area for decades, and talks to owners and workers about the future. Is there a place for manufacturing in the new media-based Digbeth? Will the grind of thread rolling machines and clack of steel stampers be lost forever, to be replaced by the hiss of the cappucino machine? *de(re)construction* is both a historical document of a vanishing industry and a celebration of a vision for the city of the future – a city where the currency of manufacturing is being replaced by one of ideas, knowledge, and learning. Premiered at CBSO Centre, Birmingham. November 16<sup>th</sup> 2000

### Aqualogica

Sounds produced by the machinery at the splendidly Edwardian Moseley Baths, together with biological and environmental sound sources form the material used in the composition of *Aqualogica*, a site specific work composed for *Immerse*, part of the Metapod Expo held in October 2000.

### The Lonely Bridge Song

A play by Nowell Wallace, directed by Tom Bailey. Premiered at the Hexagon Theatre, MAC, Birmingham May 14-19 2001

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