THE BEAUTY OF SONIC WASTE:

THE TRANSFORMATION OF SOUND DEBRIS AND JUNK OBJECTS WITHIN ENVIRONMENTALLY BASED COMPOSITIONAL PRACTICE – A METHODOLOGY

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In Voce Diligamus (In Noise We Love)

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Abstract

The beauty of sonic waste is a practice-as-research project that contributes to new knowledge through the development of a sonic waste methodology and experiential insights within new compositions. Sonic waste is an alignment of a range of previously unconnected disciplines that collectively incorporate noise, junk objects and extraneous, sounds. The line of enquiry develops an empowering methodology in transforming *waste* to *beauty*, in this line of enquiry this is taken to mean the transformation of sounds and objects generally considered *unwanted,* to a condition of *wanted*. A holistic, ecological approach is adopted with themes of environmental awareness informing the methods adopted with the compositions. This complementary writing discusses the conceptual and critical topics informing the practical outcomes, and highlights the insights achieved from this approach within the wider methodology. In particular, the disciplines of Acoustic Ecology and Media Archaeology are aligned with the practice. The line of enquiry followed in this study revealed that the engagement within these related fields provided fertile strategic approaches in the development of the compositions. Throughout the critical writing it is argued that this proposed organisation and compositional appropriation of the ever-increasing sonic waste in society produces a positive and pro-active approach to both the understanding and abatement of junk sounds and objects. Through the implementation of this methodology it is possible to engage audiences and contribute to conditions leading towards pro-active change in our understanding of the environmental issues of noise and object pollution. The practice encourages recycling and repurposing waste materials and promotes an awareness of the effects of noise in the environment. The practice portfolio includes a range of outcomes including stereo recordings, live performance, theatre, film soundtracks and sound installations. Four compositions have been selected as case studies, the first two of which are discussed in detail. A wide range of additional studies

and compositions were also undertaken to provide focused research insights. These studies fed into the selected compositions and are discussed at appropriate points.

Preface

The line of enquiry undertaken here seeks to establish a sonic waste methodology based on the transformation of junk sounds and objects. The methodology, articulated through the practice and complimentary writing, argues that materials such as noise pollution, junk objects and extraneous sounds, can be converted from something that is generally deemed to be *unwanted* (described here as *waste*) to something that becomes *wanted* (considered here as *beauty*). For clarification the definitions of waste and beauty are discussed further in *Chapter One – Introduction and Methodology*. All discarded and extraneous sonic and object debris is considered here in terms of waste, and beauty arises from the transformation of these materials once they have been incorporated into the broader practice. The methodology establishes a sonic waste aesthetic within artistic practice.

The practice-based research undertaken here questions the sociological and critical relationships with sonic environments and (potential) sonic objects. The following questions describe these concerns:

1. *Is noise always considered disruptive and how can we incorporate this mixture of intention/un-intention of noise in music?* This is discussed in *Chapter 1.2.1* and expanded in *Chapter 3.1.*
2. *Within a Media Archaeological and an Acoustic Ecological premise, historical, theatrical, nostalgic and political contexts are revealed through the use of waste objects – how do these aspects manifest through the transformation of unwanted to wanted?* These aspects are discussed in *Chapter 1.2.4*, *Chapter 3* and expanded in relation to the selected practice pieces in *Chapter 4.1, 4.2* and *4.4.*

3. *How can the physical, tangible and Media Archaeological properties of waste objects be exploited in compositional practice?* This is discussed in *Chapter 3.5* and expanded in the selected practice pieces in *Chapter 4.1, 4.2 and 4.4.*
4. *What are the Acoustic Ecological relationships between inhabitants and their sonic environments and how can we positively engage this in environmental based works?* This is discussed in *Chapter 3.3, 3.4* and expanded in the selected practice pieces in *Chapter 4.2* and *4.3.*
5. *How can we create a holistic approach to ecologically based arts practice harnessing waste sound and waste object?* The undertaking of this methodology confronts this issue and is most cohesively put in to practice and discussed in *Chapter 4.2.*

The line of enquiry seeks insights into the congruity of these related fields and argues that the separate disciplines of Acoustic Ecology and Media Archaeology, in particular, have common threads which, when combined under a single methodology can reveal insightful ways of working in the pursuit of arts practice with an environmental ethic. The practice, along with this complimentary writing, takes the position that in all waste there exists the potential for transformation, and through the implementation of a sonic waste methodology the practitioner can adopt a positive approach in enabling experiencers of the work to re-evaluate their relationship with the environment.

In creating sound based works built on this methodology, the line of enquiry argues that the environmental, ecological and sustainability issues within society can be successfully engaged with, through artistic intervention, and contribute to conditions leading towards pro-active change. This methodology asserts that this should be achieved through positive, entertaining, inclusive and interactive engagement with the work. Exposure to compositions incorporating soundscapes can reveal an alternative to

everyday negative sound experiences. As Barry Truax concludes in his article Music, Soundscape and Acoustic Sustainability, adopting environmental themes within composition in this way 'may present a powerful means by which artistic work re-invigorates its social role' (Truax, 2016:14).

Truax is clear that experiencing positive engagement with the sounds of the environment within an artistic context can be a powerful force for change. The methodology undertaken here seeks insight in to how we can effectively establish an approach to artistic works that harness well-designed and positive outcomes within an environmental based ethic.

In the field of Media Archaeology Garnet Hertz and Jussi Parikka set out a manifesto for the active engagement with the 'dead media' of society. In an attempt to counter the material waste and pollution of increasing obsolete technology, Hertz and Parikka set out a manifesto for the artistic engagement with such discarded objects. Electronic media, they say, is 'one of the biggest threats for ecology in terms of the various toxins they are leaking back to nature' (Hertz & Parikka, 2012:2). In point five of their manifesto, Hertz and Parikka propose:

> …that reuse is an important dynamic of contemporary culture, especially within the context of electronic waste. "If it snaps shut, it shall snap open." We agree in that open and remix culture should be extended to physical artifacts (Hertz & Parikka, 2012:3).

This is a call for discarded media objects to be re-purposed, re-cycled, up-cycled and re-contextualised within artistic practice to assist in highlighting the polluting aspects of a media hungry culture. This call is integrated within this line of enquiry alongside the Acoustic Ecology premise of re-purposing sound from the environment and therefore the

question noted above arises: *can these approaches be unified to create a holistic methodology incorporating waste sound and waste object?*

The broader critical contexts of Acoustic Ecology and Media Archaeology are discussed in *Chapter Three – Historical and Critical Context* and are then related more directly to the practice in *Chapter Four – Selected Compositions.*

To establish the methodology a wide range of studies were undertaken incorporating a range of strategies (included on the accompanying disc). The insights arising from these individual studies were then incorporated into the larger scale works that are discussed in this complimentary writing. Formative reflection is provided on the studies at relevant points throughout the writing, in particular where the experiments directly influenced the four main selected pieces.

The terminology used throughout is defined in *Chapter One – Introduction and Methodology*, along with the overall location within practice-as-research. *Chapter One* also introduces some initial critical background. *Chapter Two* clearly defines and organises the range of sounds and objects used within the methodology. *Chapter Three* is an aid to the critical contextualisation of the overall study and locates the line of enquiry within a historical and critical framework. *Chapter Three* discusses key practitioners such as Luigi Russolo, Einstürzende Neubauten and Francisco López, and authors of associated critical theories such as John Cage, Murray Schafer, Barry Truax, Katherine Norman, Salomé Voegelin, Garnet Hertz and Jussi Parikka. *Chapter Four* discusses the four selected compositions and provides context for the individual compositions within the frameworks of Acoustic Ecology, Media Archaeology and other pertinent theories.

1. Introduction and Methodology

The line of enquiry discussed in this thesis and formulated in the accompanying portfolio of compositions seeks insights into contradictory experiences of sound environments; noise to one is beauty to another. This is a sound composition based PhD in which practice-as-research is undertaken to produce a series of works that tease out the beauty of sonic waste – the transformation from *unwanted* to *wanted*. The line of enquiry seeks contribution to new knowledge through establishing a sonic waste methodology, manifested in a wide range of studies and selected pieces, and the subsequent insights into the use of such sounds and objects within themes of environmental awareness, noise, physical junk and unwanted or extraneous sounds. This written element contextualises and critiques the approach, however it is important to note that this is not a thesis discussing the philosophy of aesthetics built around concepts of beauty, but rather a response to the possibility that something constructive and insightful can be produced from materials generally perceived as detritus and unwanted. The beauty of sonic waste refers to the transformation of *unwanted* to *wanted* when junk sounds and objects are incorporated into artistic practice.

1.1. Hearing and Sonic History

Hearing is so very different to listening. Sound is perpetual motion, it rushes, hurriedly through our environment, seeks out the ear and is capable of planting itself uninvited within our auditory senses. Sound travels to us and forces us to hear, and we hear without listening. Michel Chion writes:

> Due to […] the absence of anything like eyelids for the ears, the omnidirectionality of hearing, and the physical nature of sound - but

> also owing to a lack of any real aural training in our culture, this "imposed-to-hear" makes it exceedingly difficult for us to select or cut things out (Chion,1994:33).

We are subjects of sound, as we are subjects of the air molecules through which it travels. To listen is active, but to hear is passive. Hearing forces itself upon us, against which we have limited control. Whilst we are in the world we are within sound. Sound travels through us and we travel through sound. To listen requires an approach to hearing, it is something we choose to do and we listen with purpose, yet hearing happens *to* us.

All sound has history. A dual history which manifests firstly within its physical life-span in the short term, and then secondly retrospectively over larger periods of time.

Firstly in the short term, during its rapid journey from source to ear canal, an individual sound is transformed and creates its own personal history between origin and hearing. Often our perception of sound is that it exists at source, as a result of psychoacoustic effects such as hyperlocalization[1] (Augoyard et al. 2009:59) we perceive the sound as external, and yet sound only originates at source. All the information we detect about sound, such as location, loudness, cause, symbolism and texture takes place internally within the brain and yet this capability is so precise the brain is fooled into thinking all of these elements are occurring at the point of causal effect. By the time it has been biologically interpreted by our ear to brain functioning, sound has built up a vibrant history through its short yet adventurous journey through time and space. Sound bounces off people, travels through substance, bumps into objects, bends round corners, climbs over walls and buildings and more, collecting and shedding properties as its tiny life history

[1] "A perceptive effect linked to the sporadic character of a sound source that irresistibly focalizes the listener's attention on the location of emission" Augoyard et.al. 2009, p59

unfolds. The history occurring between causality and interpretation alters the sound with effects such as reverberation, resonance, echo, niche and filtration (Augoyard et al., 2009). According to Brandon LaBelle the environment shapes sound and creates “micro-epistemologies” (Labelle, 2011:XXV) as the sonic materiality collects detail and feeds us information about the world. Sound interacts and has a miniature yet profound relationship with its environment as it travels rapidly outwards in all directions in search of the open ear.

Secondly, over lengthy periods of time as sounds are remembered, recorded, used and talked about, they gather associations, connections, similes, semantic pointers, geographies, causal links, biographies, unique identities and shared identities. Sounds amass thick layers of context throughout their existence across historical time and this feeds into the metaphors and perceptions of sound. Cultural memory imprints (flexible) messages onto that which we hear. “Sound leaves its traces” writes Jonathan Sterne and “we contemplate the history that people have made through shaping and reshaping the experience of sound” (Sterne, 2003:351). Blesser and Salter discuss the potential of sound to create an emotional engagement or a state of “heightened arousal” due to personal meanings and associations; When sound finally arrives at the inner ear:

> sound waves are converted to neurological signals that are processed by the brain; the external world is connected to inner consciousness (Blesser and Salter, 2007:14-15).

It is these simple, yet poignant attributes of sound that underpin this research into composition based on sonic waste; hearing and history - there is no escape from sound and sound has a relevant past. We are subservient to sound, it forces its mind and body

transformative effects upon us. Then, as subjects bowing down before its relentless force, we are susceptible to its historical baggage and all the side effects of those histories.

The portfolio of compositions for this research draws on these aspects of sound whilst establishing a new approach to sound sculptural based music composition - unifying and achieving a sonic waste aesthetic from across a range of previously unconnected sound sources and compositional strategies. This methodology ties together an understanding of the ways in which sound operates in time and space within the context of an environmentally based aesthetic. The research isolates and exploits these sonic waste aspects of our sound environments such as noise pollution from transport (field recordings), the bombardment of pre-existing sounds in everyday activities (found sound materials), the sonic emergence of waste materials from our environment (junk objects and instruments), the aural side effects from the acoustic architecture of our inhabited spaces, extraneous sounds in everyday activities like conversation and daily activities (excess sonic material), and our auditory relationship with the history of recording and playback sound systems and their subsequent side effects (media machine sonic artifacts). These categories and sounds will be defined in *Chapter 2 - Defining The Palette*.

The compositions are yielded from the premise of sound being forced upon us in everyday life and the history that these sounds carry and therefore inflict on, not only our perception of those sounds, but our place and understanding of our near and wide environments. Through reclaiming these types of sonic materials the compositional process is empowering and seeks to engage the listener with idiosyncratic concepts of recycling within an environmental awareness and an archeological and innovative approach to sound material generation. The compositions resulting from this research are built from sounds which we hear yet do not always want to hear and they exploit the histories of those sounds, both aspects of which assist in compositional strategies to

create timbre, structure, arrangement, texture, melodic, harmonic and rhythmic patterns. The portfolio is seeking compositional and methodological insight through its search for *the beauty of sonic waste* – that is, the transformation of detritus through its integration within arts practice creating a sonic waste aesthetic.

1.2. Understanding Sonic Waste.

Noise, extraneous sound, junk - these and other descriptions are all terms being used in the context of this portfolio to describe this 'unwanted' sound, and each of these terms has subtle differences and contexts. When sound is noise, then sound is unwanted. This is a general statement but unwanted sound is now a common description for the term noise (Schafer, 1994:182, Keizer, 2010). When sound is extraneous it is surplus to requirements, it is unnecessary sound. Junk is trash, un-aesthetic, un-musical. However, through the following exploration of these underlying terms, the possibility is encountered that noise may not always be unwanted and is often used against itself to reduce its (subjective) effects, and the fact that 'musical' sounds can actually incorporate noise as an integral part of its timbre.

For the purposes of the line of enquiry followed throughout this PhD I have coined the term sonic waste as an umbrella term for all these components of noise, junk instruments, extraneous sounds and unnecessary sonic occurrences. Sonic waste is an appropriate overarching term given that, for example, unwanted sound may not include the *wanted* sounds from a junk instrument, or extraneous sounds may be produced intentionally within human utterance, or noise would not adequately describe other aspects of intrusive sound. Sonic waste is used here to describe the overall palette of this variety of sonic experiences and the resulting aesthetic arising from the practice outcomes of this methodology.

1.2.1. Noise

In etymological terms, noise is often associated with the Latin nausea and also connected with the Middle English quarrelling. Other possible associations may be the Latin noxious[2]. These semantic connections immediately go some way to indicate the unpleasant associations we have with noise, it is aligned with sickness, argument and foulness. Noise in this context is uncompromisingly negative, a barrier against contentment. Noise interrupts us and disrupts the flow of regularity (the signal). On first glance noise appears as something best avoided, but this portfolio of compositions does just the opposite - It harnesses noise, it takes control of the interruptions.

Unwanted sound also reveals subjectivity. One person's noise is another person's harmony and this personal definition is not always immediate or polarised. Katherine Norman writes, for example, 'In the fold between 'Is this music? and 'Is this noise?' there's some room for manoeuvre. It takes a moment to decide' (Norman, 2004:178). Murray Schafer distinguishes four types of noise in his influential work '*The Soundscape: Our Sonic Environment and The Tuning of the World'.* Schafer (1994:182) outlines the following definitions:

1. Unwanted sound.
2. Unmusical sound
3. Any loud sound
4. Disturbance in any signaling system

Unwanted sound is problematic as there are instances of noise being wanted (being used against itself to cancel out signals, for example, discussed further below).

[2] For example, see Dictionary.com. http://www.dictionary.com/browse/noise.

Unmusical sound is problematic in the context of, for example, musical groups who define their genre as noise. Japan in particular has a number of bands operating under the portmanteau of Japanese and Noise – *Japanoise.* Merzbow[3], for example, uses the noises from machines, feedback, distorted sounds and other sources to create music.

Any loud sound is problematic as loudness is in fact a subjective psychoacoustic perception, and although related to sound pressure levels, an objective measurement of loudness is not possible. For instance, loudness of a sound can depend on the individual characteristics of the source, '…people so dislike the sound of planes that, on average, they consider them to be as annoying as anonymous sounds that are about 5dB louder' (Goldsmith, 2015:25).

Schafer's fourth description of noise, *Disturbance in any signaling system,* leads us to consider that it can be understood in wider contexts than as just a sound entity. For example a photograph can be described as containing noise. In this context, it is an interruption in the smoothness of the image. The intended signal relating to the visual perception is disturbed but noise here is also considered subjective, a grainy, noisy image can be deemed aesthetically pleasing in the right context. In image restoration the noise is also used against itself in restoration techniques. Through modeling the degradation process and applying the inverse process, images can be restored and the noise extinguished (Cattin, 2012).

In *'Noise, Water, Meat'* Douglas Kahn relates the illegibility of handwriting to a form of noise (a disturbance in the communicative signaling system) and yet this noise is of course

[3] http://merzbow.net

subjective too; ‘Where a teacher would be intolerant of scrawl, a graphologist would be excited by its wealth of information’ (Kahn, 2001:26).

These visual interpretations of noise link succinctly to the ways in which we consider a lack of requirement (unwanted sound), a lack of pleasure (unmusical sound) and an uncomfortable sensation (any loud sound) in the interpretation of the noises of sound.

The world of communication technology has always felt the weight of noise as an inevitable and ever present entity in all signals. Early theories of technical communication simply had to embrace the significance of noise in models of ‘signal - receiver - channel - *and noise*’. In the 1940’s Shannon & Weaver outlined an enduring model for communication signals which, although demonstrating the outsider in this model as being noise, it is presented as undeniably integral to the system and that essentially new theories of communication should always include ‘the effect of noise in the channel’ (Shannon and Weaver, 1949:3). Noise is ever present in all signals, and eventually it came to be used as a positive in this sense; by adding further noise into a signal, the effects can be nulled and desirable signals are allowed to flow more freely. Using the effects of noise cancellation allows the use of noise to diminish noise.

Post World War Two the development of cybernetic models of feedback saw the creation of filters to combat the varying types of noise being identified in early communication signals. As Jussi Parrikka eloquently maps out in his discussions around Media Archeology, these early methods of tackling noise in signals is paralleled in modern times in the digital domain with the use of anti spamming, anti viral software and so forth. It still remains a method of inclusion to achieve exclusion with the basic premise that within the physical world noise is ever present and all we can really do is ‘examine, map and constrain that noise’ (Parikka, 2012:101). In this context the noise is the worm, the

parasite, the virus infecting and disturbing our systems, and yet the noise can be organised so it can destroy itself.

So this indicates that noise is unavoidable and in some ways an omnipotent force and a method used to control noise is to use noise against itself. By harnessing noise and embracing its subjectivity we take back control and become empowered.

Jaques Attali ascribes a political dimension to noise. In his Ether presentation at London's ICA in 2001, Attali speaks of noise acting against code-structuring messages, its polluting interruptions are capable of transforming into organised, dissonant transmissions. Noise in this context could potentially assimilate and destroy order.

Studies in Media Archaeology also assist in mapping the wider political manifestations of noise. The emergence of media history and the potential for (re)understanding the machines from the past through archaeological excavations of the noises of the machines enables a rethinking of media cultures. The noises of objects point us towards alternative understandings of communication, mass culture, modernity and capitalism when viewed from the position of 'non-communication, spam, noise, interference and disconnection' (Parikka, 2012:17). Parikka points to the established idea of history being presented through the *archive* of intentional communication, however, in surfacing the *unwanted* and unintentional communication modes, revealed in excavating the noises of machines, history can be reinterpreted. The noise, the neglected, the ruins and fragments of waste point toward the darker world of neglect, of fraudsters, of misinformation, of a disconnect between the intentional messages of political systems, and the noise embedded actuality of such communication. For example, in the current political wave of so-called 'alternative facts', the machines delivering us social media are awash with the noise of elaborated information.

There are now, of course, many examples of the inclusion of noise in music, more of which will be discussed in *Chapter 3*, but generally speaking the western approach to instrument design, performance, recording and playback has been a quest to eliminate noise. And yet, noise sneaks in. In microsounds, in details, in accidents and the physicality of touch and technique, instruments and performances cannot escape the intrusion of noise, and it can often form an essential part of the timbre or texture of the heard outcome. In this way we may embrace noise without truly acknowledging it.

In the Mongolian province of Tuva the traditional throat singing practitioners are known to incorporate the wails and sirens of modern urban life into their centuries old form of vocal droning, a fact related to me by a Tuvan Throat singer, Enrique Ugalde (who performs under the name Soriah) with whom I have collaborated on one of the studies included in the portfolio (see Appendix 1.11). He told me that, centuries ago, the singers of Tuva were influenced by the 'noises' of nature - wind, sea, trees, animals and so forth, and they incorporated these sounds into their representational form of throat vocalising. It makes perfect sense, therefore, for the new sounds of the ever increasingly built up environment to be included within contemporary Tuvan vocal utterances. We can choose to control our own paths through the soundscape or allow the soundscape to control us. With the appropriation of the noises surrounding us, we become the controlling force. The study that uses the voice of Soriah is titled *And Slowly Fell My Ocean Drone* (Appendix 1.11) and seeks to question the musical potential of extraneous vocal sounds that occur outside of the intentions of the performer. The stereo recording isolates the breaths, inhalations, exhalations and stutters and creates rhythmical and textural layers from the unintentional sounds. The recording takes control of all the sonic material and creates intention where there was none.

Conventional western instruments are designed to eliminate noise and have technologically developed in pursuit of their individual but noiseless tones. This is the elimination of noise to eliminate impurity. Japanese 'noise' artist Toru Takemitsu attempts to defy this through his performances on an instrument designed to include noise as integral to its sound, the *biwa.* This is a loosely strung lute style string instrument with just four strings and four or five frets. David Toop describes his own correspondence with Takemitsu, 'It may sound contradictory to refer to "beautiful noise", but the biwa is constructed to create such a sound' (Toop, 2005:129). Takemitsu is actively engaging with noise because he finds it to be beautiful, a contradiction with its etymological roots; It's the recognition that unwanted sound and wanted sound can be synchronous, that they can become symbiotic if culturally, socially or technologically embraced because the two extremes have a co-dependence on each other. Without harmony there is no dissonance, or as Paul Hegarty writes 'For humans, noise is nothing without having meaning, or law, or structure, or music as its other' (Hegarty, 2010:9).

For Stan Link, noise became the essence of recording itself, since the birth of such technology in 1877. Link suggests the very nature of recording determines that noise is introduced in to the experience of a work, and it is this that distinguishes the copy from the original. The elimination of noise within the playback and recording technology has been a priority of the industry, however, the noises of historical machines are frequently referenced in music. Audio plug-ins for DAW applications attest to this – Avid currently include a 'D-Fi' Plug-In package that is sold on its ability to create 'retro' sound processing such as the Lo-Fi noise generator that adds 'distortion and saturation' to the sound.[4]

Link goes on to suggest that the introduction of noise within sound based works is more than just a link to the retro and nostalgia for the past. Link suggests noise connects

[4] http://www.avid.com/plugins/d-fi

us to the past in an ageless, historically non-specific manner. Noise locates the listener back to generic objects, people and places. Noise can create connections to historical listeners such that '…[a]s a barrier to the signal, noise engenders interference with transmission as well as embodying an effort to receive' (Link, 2001:37). Using noise in this way, says Link, is the reconstruction of an occupied listening environment: 'Noise occasions presence' (Link, 2001:37). This enables the listener to listen not only to the past, but to listen in on someone else listening to a machine, in that past. The inclusion of noise in contemporary sound based works embodies more than just the sonic attributes of the sound itself, '…it is an aesthetic and technical approach to the work as a whole' (Link, 2001:41). Noise can be '…exploited for its inherent consequences as well as for its referential significance' (Link, 2001:41).

Noise is both in opposition to, and integral to our ways of listening. Historically it is embedded within the technology used to play and record music and it is embedded within the instruments we use to perform music. Clearly, there is conflict already embedded in noise; it disrupts the signal; it is politically subversive; it is both unwanted and yet integral to our listening experiences; it can breed nostalgia; it can transform us to place and space, machine and listener. It is within these frameworks that the practice undertaken in the included portfolio of works is situated. Noise is harnessed and revealed as so much more than an annoyance. Noise is celebrated for its positivity and feeds directly into the sonic waste aesthetic.

1.2.2. Extraneous Sound

The term Extraneous Sound is used here to define the extra microsounds and glitches, sonic accidents and excess sound moments contained within the function of, and communication between, both humans and machines. These are sounds that are often

considered as errors in the speech, errors in the transfer of data or errors in the sonic machine. Within conversation for example we have the grain of the voice, the breaths, the stutters, the tongue slips and the snorts, the lisps and gurgling noises. All those sounds that are not part of the intended speech patterns, sounds that are surplus to the communication, but sounds that nevertheless slip, often unnoticed, into the communicative details. Sounds which may not be intentional or overtly noticed, and which are outside of the semantic messaging of the words themselves, but sounds which can deliver a wealth of information to the receiver. Machines too can emit noises that are by-products of their functioning. A fridge will hum and gurgle, a radio will spit bands of white noise, a computer buzzes, an old wooden shed creaks and a mains socket hums. The world is full of small yet pervasive extraneous sounds that can be harnessed as potential fodder for compositional materials.

When the extraneous sounds of the human voice are the subject of these compositions, they are playing with those aspects that, in *The Grain of the Voice*, Roland Barthes refers to as 'the geno-song.' Initial influences from a text based delivery in speech, song or poetry are generally the elements of representation, communication, basic language interpretation, which Barthes refers to as the pheno-song. Beyond this, we can discover a more subtle set of codes which influence our grasp of what we are hearing; the geno-song. These more subtle elements often work on a deeper subconscious level and are ingrained into the substance and materiality of the voice. They are moments within the sound that communicate to us and hint 'not at what it says, but the voluptuousness of its sounds-signifiers' (Barthes, 1993:29).

In this article Barthes also interestingly writes of the 'flattening' out of performances when committed to 'long-playing records' (Barthes, 1993). He implies that through the process of recording multiple takes, coupled with the industry's drive to market the 'perfect'

version of a recording, the eventual records that we listen to have a much more neutral or flat sounding performance and can actually reduce all elements of geno-song leaving behind just the phono-textual interpretation. Of course with today's technology it is possible to re-examine this notion, and the fine detail in which we can analyse these recordings enables a much closer scrutiny of the buried idiosyncrasies. This allows us to bore deeper into the grain of the voice and discover those elements Barthes felt were lost. For example, those breathy moments, which were once perhaps inaudible, can now be filtered, extracted, amplified and sonically 'cleaned up' from the surrounding vocal parts and be brought to the forefront of influence. 'The Breath is the pneuma, the soul swelling or breaking…' says Barthes (1993:29). This breath of life that feeds us into and out of each phrase breathes life into the phrase itself, without which a performance becomes inhuman, lifeless. Through the process of isolating these moments we are highlighting and witnessing the very essence of what it is to be human and our ability to express and communicate in ways other than basic representative language. Debussy is often attributed the phrase 'music is the space between the notes' (Koomey, 2001:96). In some of the compositions from this portfolio music is literally constructed from the spaces between the notes; the extraneous sounds. At these points where our awareness is turned off and the performers intentions are absent we are vulnerable to a form of subliminal influence. Barry Truax defines a variety of 'listening modes' and in these spaces between the notes we are perhaps engaged in a diminutive, momentary condition of Truax's definition of 'listening in readiness' in which '...background listening can trigger conscious attention to be focused on an incoming sound' (Truax, 1999:59). The influential aspects of stutters, inhalations, exhalations, reverb trails, extraneous scrapes and squeaks, background intrusions from the presence of others (audience) and simply the ambience of the performance spaces, all feed into our experiences of the music. By isolating these

extraneous sonic moments and discarding all the rest, the compositions that draw on extraneous sound refocuses our attention to the more subtle and overlooked aspects of auditory experience.

In the transfer of data by machines we also experience the extraneous sound, the clearest examples of this being within the playback and recording industry. For example the tape hiss, vinyl crackles and other noises within media playback. More of this will be discussed in *Chapter 4.1 'The Media Machine Centenary'* which draws heavily on this type of noise.

The majority of household appliances, such as fridges, cookers, washing machines and other technology such as computers and phones have associated extraneous sounds. These sounds are explored in the compositions *'Hard Drive Failure (Appendix 1.16) and '[FRIDGER ((noise) This Is Normal)]'* (*Chapter 4.4*).

All around us in everyday life miniature yet profound sounds creep uninvited into our personal soundscapes and it is some of these experiences that are harnessed and exploited within the sound palette for composing.

1.2.3. Aural Environments

In using noise, waste and field recordings from the surrounding landscape as a compositional material, a relationship to environmental issues and ecology is naturally posited. This includes the areas of noise pollution, it's abatement, recycling, upcycling[5], consumerism and resulting waste, increases in urbanism and the resulting traffic, industries, technologies and other sound and noise creating byproducts of developing countries. Therefore it makes sense to turn to some of the societies actively involved in

[5] The process of converting waste materials or useless products into products of better quality and thus lessening the environmental impact. First known use of the term was in October 1994 in the Salvo Magazine, 'A monthly look at architectural antiques, reclaimed building materials & allied topics', in an interview by Thornton Kay with Reiner Pilz, p14. See web link in bibliography.

regulating these forms of noise pollution to help understand (and compositionally exploit) some of these contemporary definitions.

The World Health Organisation states noise becomes an annoyance when it begins to have an effect '...on various activities, such as interference with conversation, mental concentration, rest, or recreation' (World Health Organisation, 1999). According to this sound is noise when it has a detrimental effect on the exposed human.

In support of this experience, Salome Voegelin describes noise as a destroyer of social interaction and an all encompassing experience, removing the possibility of other experiences because of its overwhelming consumption of the senses, 'Noise does not accompany me, but swallows me' (Voegelin, 2011:47). Voegelin relates personal experiences of these types of social noise annoyances such as a neighbours excessively loud music infiltrating her own personal space. The subjectivity here is highlighted of course, as is the clear difference between listening and hearing; this is not noise to the neighbour and yet clearly *is* noise to Voegelin:

> Noise exaggerates the isolation of my sensorial engagement and tightens the reciprocity between the listener and the heard. In the non-sense of a noisy life-world my reciprocal intersubjective 'I' is held down to the ground by the weight and exclusivity of the sounds around me. The room to manoeuvre shrinks in my vis-a-vis with noise as it contracts my intersubjectivity, making me one with its sounds, alone (Voegelin, 2011:46-47).

Voegelin is describing the isolating effects of noise, even within apparently shared experiences of noisy environments, the overwhelming influence of noise on the individual can separate the self from the mass.

Murray Schafer's definitions within Acoustic Ecology are based on this distinction between the acceptable and the unacceptable, or the "hi-fi" environment and the "lo-fi" environment. The recognition is that a 'hi-fi' soundscape can contain sounds which are un-crowded and 'may be heard clearly', compared to the 'lo-fi' environment in which the soundscape has an 'unfavourable signal-to-noise ratio' and the sounds are 'overcrowded, resulting in masking or lack of clarity' (Schafer, 1994:272). Although, as Voegelin points towards, with her 'reciprocal, intersubjective 'I'', the relationship in the environment is just that; a two way experience between human and world, where each can influence the other.

Barry Truax has expanded on Schafer's writings around the soundscape and our relationships within these audio arenas. Truax encourages a consideration to the importance of an understanding of the social, cultural and environmental factors from within the soundscape and writes that it is incorporating these wider concerns, rather than a purely abstracted approach to the use of field recordings, that enables an artist composer to have 'something meaningful to say' (Truax, 2012:8).

Katherine Norman, has also written around the subject of the complex relationships between people and their audio environments, and how processes of listening can influence the methods of performance and composition. Norman proposed the terms 'referential listening' and 'contextual listening' which effectively encourage deeper analysis of the source and context of what is being heard, valuing the subjective interpretation. (Norman, 1996:2)

So, within our real world soundscapes, we can suffer excessive sounds. Excessively loud, excessively irritating, excessively insistent, excessively repetitive - sounds that can consume our sense and destroy the possibility of social cohesion. Sounds which only become noise within certain conditions. However the relationship between us and the

sound environments we encounter are subjective, and based on the ideology of Truax and Norman, we must engage fully within this subjective context to exploit and extend the possibilities of sound art using these forms of sound materials. This type of noise pollution is used within the portfolio as compositional sound materials, for example *Chapter 4.2 Carmouth & Dashboard* - the environmentally pervasive noises of transport related machines and vehicles are recorded, manipulated and incorporated in to the practice. The context of these sounds are explored within the individual compositions, the aim being that both the listening experience and the messages contained within the composition will transfer from performer to listener through the framework of this sonic waste methodology.

1.2.4. Junk Objects

The compositions contained here also use the junk object, the trash, the waste, the discarded and abandoned detritus as a source for the generation of music and sound sculpture. Waste is everywhere. In the western world we live in a throw-away society where the material object is temporary and fleeting, where consumerist greed and want wins out over necessity and need, where material goods are not built to last but are designed and known to be transitional within our lifetimes; planned obsolescence. The thirst for updating goods, particularly technological based items, is continuous and goods are manufactured with this fleeting life span in mind. This is not the place for a polemic on modern life and waste and recycling but a very brief mention of the environmental impact is important because of the obvious link this has to a body of work based on junk sounds and objects. Statistics taken from the Environmental Agency Reports indicate for the year 2011/2012 there were 744,414 incidents of fly tipping nationally in England alone. Of these incidents there was just 2747 total prosecutions, so around three quarters of a million incidents of junk being discarded in the landscape without recourse or individual

consequence[6] (Government Environmental Agency, 2012). This level of fly tipping, ranging from single items, to bin bags full, through to transit van loads demonstrates a disregard for the environmental impact and the potential re-use of the junk object.

This surplus of objects becomes available, then, as source materials from which to compose with. The streets are full of potential instruments; old bike wheels, bits of drainpipe, broken buckets, bins and lids, snapped railings, car parts, metal tubing, cardboard tubing, abandoned suitcases and bed parts, saucepans, obsolete media machines and many, many more. These are just some of the objects I have collected and used as instruments in a variety of forms and the world is full of them. For example, a broken bicycle wheel was found and incorporated into *Carmouth & Dashboard* (see Chapter 4.2), a broken bucket and metal tubing were used to build a string instrument in the style of a Diddley Bow for the additional study *Baptist Prayer Meeting* (see Appendix 1.6) and obsolete and broken media machines such as Reel to Reel tape players, Gramophone Players, Cassette Walkmans and others were used in *The Media Machine Centenary* (see Chapter 4.1).

The use of junk objects in this way also contains an inherent theatricality. The performance on a junk instrument has visual impact and carries an immediate set of visual messages, wearing blatantly its environmental ethic on its sleeve. The junk object as instrument reveals messages of recycling, a social, political message is contained in the physical act of creating music from junk, and it is framed in a performative, theatrical event.

The re-appropriation of the obsolete object is also a form of archaeological design and ecology. The field of Media Archaeology embraces this form of *tinkering* and *repurposing* of historically redundant machines and objects. The interrogation of the once discarded item can yield a compositional methodology and untapped sonic treasures that

[6] From the Environmental Agency statistics on Fly Tipping and Waste Management 2011/2012. See https://www.gov.uk/government/statistical-data-sets/env24-fly-tipping-incidents-and-actions-taken-in-england

were in danger of being buried and lost forever in land fill. Under the banner of Media Archaeology, Garnet Hertz and Jussi Parikka created a manifesto around the idea of 'Zombie Media', which is concerned with the 'living deads of media culture' (Hertz & Parikka, 2012:424). That is, the re-use of past, discarded media objects as both a discursive design approach but also a political drive to react against industry based practices such as planned obsolescence. Point one of their manifesto states:

> We oppose the idea of dead media. Although death of media may be useful as a tactic to oppose dialog that only focuses on the newness of media, we believe that media never dies. Media may disappear in a popular sense, but it never dies: it decays, rots, reforms, remixes, and gets historicized, reinterpreted and collected. It either stays as a residue in the soil and in the air as concrete dead media, or is reappropriated through artistic, tinkering methodologies. (Hertz and Parikka, 2012:424).

Hertz and Parikka are proposing that the recycling and upcycling of junk objects can be a force to create cultural and social change.

Sonically, a discarded object can be explored in detail for its properties of tone, timbre, note rows, harmonies, textures, rhythms and melodic patterns. Through a musical exploration of an object, hidden sound secrets can be unearthed which may have never been originally designed into the object but have been sitting latently within the materiality of the object since its construction. Exploring an object in this way is a fascinating and compositionally vibrant method *(see Chapter 4.1 and Chapter 4.2 for examples of this).*

1.2.5. Beauty

The beauty of sonic waste undoubtedly raises the question; how do you quantify beauty? The emphasis in this writing is on the manifestation of incorporating sonic waste into a compositional process, and the critical debates are focused on the issues arising from the use of such materials and our relationships to them and their environments. As such a detailed analysis of the aesthetic philosophy of beauty is avoided, as the topic would move too far away from the central aims of the enquiry. The concept of beauty in this enquiry is essentially taken as a signifier of the transformation from *unwanted* to *wanted*. The *beauty of sonic waste,* therefore, is essentially a useful and succinct short hand for the methodological approach to harnessing the junk sounds and objects and converting the use of such materials from detritus to music or instrument. However, the subjective questions of *why is your noise my beauty?* or conversely *why is your beauty my noise?* are briefly summarised below for some context on these matters.

The frequently quoted phrase 'beauty is in the eye of the beholder' (attributed to Margaret Wolfe Hungerford in *Molly Bawn*, 1878) and the quote from Scottish philosopher David Hume:

> Beauty is no quality in things themselves: it exists merely in the mind which contemplates them; and each mind perceives a different beauty (Hume, 1742:155)

both suggest that the perception of beauty is purely subjective, however this is not the complete picture. The concept of beauty is based in an aesthetic perception and some studies suggest there is an underlying predisposition in the brain to appreciate aesthetics (Eibl Eibesfeldt, 1988) along with key features of the particular artwork performing an influence (Hanfling, 1992), however subjective evaluation is also a key cognitive factor. So,

although aesthetic preferences 'are affected by several cultural and historical factors they are ultimately rooted in psychological processes' (Chirumbolo et al. 2014:1).

The converse experience is also of interest. Amusia refers to a condition when '[m]usic, or an aspect of it, is perceived as noise' (Wilson in Goddard et.al., 2012:26). Scott Wilson unpacks the idea that although subjective, the perception of others' music as noise can also be rooted in biological and neurological factors. Case studies compiled by Oliver Sacks demonstrate biological predeterminations to experience music in overwhelmingly negative terms, or, as noise (Sacks, 2008). When experiencing music broadcast from an ideologically opposite position to ones own perspective, what is perceived by your opposite to carry harmony and beauty, can be perceived by oneself as unbearable. Scott Wilson cites Brian Eno discussing his perception of classical music as noise, due to its political representation. For Eno, 'classical music […] represents old-fashioned hierarchical structures, ranking, all the levels of control' (Eno cited in Goddard et. al., 2012:27).

For the purposes of this line of enquiry the idea of beauty (and noise) is of course a personal perspective from my own viewpoint and with my own cultural, social, neurological and historical experiences. The decisions on the classification of what is beauty and what is not, has to be based on my own capacity of assigning beauty to a sound or an object. Although beauty here is effectively an unquantifiable perspective, my personal value judgments, embedded with the underlying socio-cultural-historical predispositions, are to be considered the aesthetic benchmark. The aim being, that if I can find it beautiful, then the possibility at least exists for others to appreciate this beauty also, and therefore the implementation of this arts practice methodology is possible.

However, it should be emphasised again that beauty in the context of this line of enquiry is essentially the concept of transforming materials generally perceived as *unwanted* into *wanted*. Beauty should be understood as the amalgamation of noises, junk

objects and extraneous sound materials within arts practice. Junk becomes beautiful following the transmutation of material within the context of the sonic waste aesthetic and the surrounding methodology.

1.3. Praxis

So understanding noise and junk and extraneous sounds in these ways shows that it can be unwanted, it can be ugly, it can pollute and disrupt, and yet it can also be inherently beautiful, and therefore useful as compositional material in the right context, with the right approach to listening or with an appropriation to regain control. Noise interrupts our signals, it disrupts our flow, it is subjective and it can be turned on itself, it can become its own enemy. We can use noise to destroy noise. It is with this background knowledge that the portfolio of compositions takes its initial direction and holds faith in the possibility of undertaking this transmutation of materials.

It is also important to highlight at this point that this is essentially a composition based PhD. Although the research draws on contextual frameworks into noise and waste, and seeks influence from related psychoacoustic effects of this type of sound it is important to note this is *not* a psychoacoustic or cognitive study of the perception of music, or indeed, as previously mentioned, a study of the aesthetics of beauty or philosophy of noise. By drawing on these related areas of research around the social and psychological influences of our acoustic environments the research aims to feed these sound experiences into some of the compositional strategies. The significance of these experiences will be harnessed in the composing which will contribute to new experiential insights within the resulting compositions. The emphasis of the methodology is always on composing with

sound to create an original body of work, albeit centred conceptually and critically within the wider fields of research mentioned.

To carry out this research, the studies (etudes) were undertaken *(see Appendix 1)* to allow me to focus on particular aspects of this enquiry, these findings were then incorporated into the larger selected compositions *(Chapter Four).* This was integral to the process and yielded useful, practical results. For example the detailed digital analysis of vocal sounds in *Old Rocking Chair (Appendix 1.2)* produced an approach subsequently incorporated into the speech samples of Carmouth & Dashboard *(Chapter 4.2),* and the media machine extraneous noises discovered within Radio Stoke *(Appendix 1.12)* provided insight into working methods for *The Media Machine Centenary (Chapter 4.1*).

This is a practice-as-research PhD, which draws on the models of research resulting from the approach of 'theory imbricated within practice' as defined by Robin Nelson in *Practice As Research In The Arts* (Nelson, 2013) and by Smith and Dean with their Iterative Cycle Web (Smith & Dean, 2010). This complimentary writing helps to locate the Praxis in a lineage and attempts to provide signifiers, context and perspective to the practical work which, taking the post-structuralist position of a work being multi-accented and exceeding its phenomenal properties, is not a translation of the work itself but is an assistance to 'the *articulation and evidencing of the research enquiry'* (Nelson, 201:36).

Nelson discusses the inter-relationships between 'theory' and 'practice' (conjunctly defined as praxis) and the dangers of planting theories on to practice retrospectively. The praxis of this research follows a circular reading of Nelson's 'doing-reflecting-reading-articulating-doing' (Nelson, 2013:32) where individual projects are able to start anywhere within this circle and revolve around the parameters in multiple directions until a satisfactory result is obtained. In other words the creative practice is fluid and evolving, sometimes practice comes first, sometimes ideas come first, sometimes theories and

concepts come first, but whichever starting point a composition takes, its journey is one of a multi-faceted and often parallel evolution across all modes of doing, reflecting, reading, articulating, playfulness, imagination, technical implementation, discovery, contextualisation, improvisation, structuring, consolidation and outcome. There is nothing linear or fixed in the compositional approach.

The practice-as-research premise is the revealing of ideas in action and the research is an embroiled combination of 'doing' and critical thinking. The studies undertaken in this line of enquiry enabled very palpable and immediate realisations of this output of ideas. For example the study Old Rocking Chair *(Appendix 1.2)* occurred as a result of an impromptu, spontaneous performance, of which I was able to capture a real time recording with the immediacy of mobile phone recording capabilities.

The original performance and recording at once engaged my thoughts towards some of the issues involved in establishing the sonic waste aesthetic. The surplus of intentional noises resulting from the particularly emotional delivery of the performed song focused my thinking on the surplus of voice materials contained within the performance. The song has a great deal of human sound sonic waste that put me in mind of Barthes writing around *The Grain of the Voice* (Barthes, 1993), Demers' *Listening through the Noise* (Demers, 2010), The issues surrounding music and nostalgia (Boym, 2002), (Reynolds, 2011) and of course John Cage's determination that all sound is music (Cage, 1937).

The lyrics are as follows;

Rocking alone in an old rocking chair

I saw an old mother with silvery hair

She looked so neglected by those who should care

Rocking alone in an old rocking chair

Now I look at her and I think it's a shame

The ones who forgot her, she looks just the same

And I think of Angels when I see her there

Rocking alone in an old rocking chair (Miller, 1932)

These lyrics sung by my Mother are an extract from "Rocking Alone (in An Old Rocking Chair)" written by Bob Miller in 1932 and popularised by The Everly Brothers who released a version of it in 1958 (see discography).

The sonic waste was isolated from the original performance and a simple layering structure utilised to gradually build those unintentional moments into a rhythmic and melodic form. This form gradually builds in intensity (texture) and then gradually unfolds again to enable each of the moments to be heard as individual sound units and also to discover interesting counterpoint and rhythmic juxtapositions as they interact in a variety of combinations. The piece ends with the original performance in its entirety. The compositional effect is, in this way, to have the reveal of the source of the unusual sounds only after all the sounds have been audibly explored. This provides a tension and release across the overall structure.

This compositional manipulation and arrangement was undertaken drawing on tacit knowledge, embedded in my experience of arranging sonic materials, however, the previous writing and thinking around related theories and concepts spring-boarded and influenced the action of the practice. As each moment of the process occurred, there was a continued circling around the thinking, creating, reading and doing. This practice-as-research approach informed the establishing of the methodology throughout.

This research is teasing out the various aspects of sonic waste and creating a practical outcome that attempts to create beauty from junk. It recycles sound and noise

within a critical framework, and although beauty is as subjective as noise, it seeks a personal position of satisfaction that within these ugly audio soundscapes and junk objects it is possible to take control and build something of lasting beauty and significance. The transformation of *unwanted* to *wanted* occurs in the intersection between the implicit and the explicit modes of knowledge and doing.

1.3.1. Contents of Portfolio

The practice manifestation of this research results in a number of different modes of media and outcome, some pieces incorporating a number of these modes:

1. Stereo Recordings for Speakers Type 1 (essentially acousmatic pieces with roots in an electroacoustic approach to composition).
2. Stereo Recordings for Speakers Type 2 (recordings of performances - live or multitrack)
3. Stereo Recordings for Headphone listening (based partly on the methods of autonomous sensory meridian response [ASMR] and aspects of binaural listening and recording).
4. Moving Image Soundtrack (film on screen with suitable speaker accompaniment).
5. Live Instrument performance (homemade Junk Instruments, sometimes improvised, sometimes scored).
6. Installation based artwork Type 1 (fixed and self functioning visual/sound sculptures).
7. Installation based artwork Type 2 (visually sculptural based installations but which include real time performance on the objects).
8. Sonographies (text based Sonic Events).

Selected Compositions - the following four pieces have been selected for the portfolio. In Chapter 4 compositions 1 and 2 are discussed in detail and compositions 3 and 4 are given a brief analysis:

1. The Media Machine Centenary *(live performance) [Chapter 4.1]*
2. Carmouth & Dashboard - A Sound & Puppet Archaeology *(live performance)* [*Chapter 4.2]*
3. The Sound Sweep [Sonovac Installation] *(sound installation) [Chapter 4.3]*
4. [FRIDGER ((noise) This Is Normal)] *(stereo recording) [Chapter 4.4]*

Sonic Waste Studies and Additional Compositions – the following 16 pieces have also been selected to demonstrate the wider field of research conducted, and are included in the accompanying disc (see Appendix 1). The insights revealed through undertaking these studies was useful for the construction of the final pieces and informing the critical writing, and as such they have been made available for reference. Particular moments of influence, interest or reflection are discussed at varying points in the critical writing at appropriate points.

1. Barbershop Quartet *(Stereo Recording)*
2. Old Rocking Chair *(Stereo Recording)*
3. Gateways (The Thresholds Of Perception) *(Stereo Recording)*
4. Broken Zither and Friends *(Stereo Recording)*
5. The Berlin Tapes *(Stereo Recording)*
6. Baptist Prayer Meeting from The Imaginary Delta *(Stereo Recording)*
7. Bicycle Works II *(Stereo Recording)*
8. Fly Tipping (*Stereo Recording)*
9. Old Long Since (Fireworks) (*Stereo Recording & Sound Installation)*
10. Burroughs *(Live Performance)*
11. And Slowly Fell My Ocean Drone (with Soriah) *(Live Performance)*
12. Radio Stoke *(Live Performance & Radio Jingle)*
13. davID digital sculpt *(Film Soundtrack)*
14. I Will Not Hope (Leaf Film) *(Film Soundtrack)*
15. The Cartoonist *(Film Soundtrack)*
16. Hard Drive Failure *(stereo recording)*

Chapter 2 - Defining the Palette

Given the wide-ranging sonic and physical materials that are used within the portfolio of practical works, this chapter succinctly describes and categorises them into groups. For the clarification of this palette I have created four overall categories, **A. Field Recordings (Noise Pollution), B. Extraneous Sound Producers (micro-scale), C. Junk Instruments** and **D. Found Sound Materials**. This covers the full range of potential sonic waste and as such is integral to the development of this sonic waste methodology. The Selected Compositions and Studies all draw on these groupings in varying combinations. Carmouth & Dashboard *(Chapter 4.2)* is fully inclusive and contains sounds drawn from all of the categories identified. Highlighting and isolating these definitions and categories here, also provides a useful reference in the establishing of a comprehensive palette from which to draw compositional ideas. The brackets following each category indicate particular works that have included those sounds or objects.

A. FIELD RECORDINGS (NOISE POLLUTION)

1. Large Environment. This includes recordings of environments such as road traffic, aircraft, trains, industry, crowds, noisy neighbours, amusement centres, busy town centres (*Appendix 1.8, Appendix 1.9, Chapter 4.2, Chapter 4.3*)

2. Small Environment. Examples of this include household equipment (refrigerator, dishwasher, washing machine, kettles, hairdryers) squeaky gates, alarms. (*Appendix 1.1 Appendix 1.3*)

3. Enforced Broadcasts. This category includes environmental music and voices that can be perceived as noise pollution such as shopping centre muzak, street advertising,

public address systems and portable music devices such as the walkman and iPod (*Appendix 1.5*).

B. EXTRANEOUS SOUND PRODUCERS (micro-scale)

1. Extraneous noise from the playback/recording machine such as the gramophone player, the record player, the cassette tape player, the DAT player, the CD player and the mp3 player (*Chapter 4.1, Appendix 1.12, Appendix 1.14, Appendix 1.16*).

2. Extraneous noise from the playback/recording medium such as vinyl crackle, tape hiss, mp3 saturation, radio interference and tape distortion (*Chapter 4.1*).

3. The extraneous sounds produced within human voice communication such as utterance, breaths, fidgeting, stutters and 'erms' and 'ums' (*Appendix 1.2, Appendix 1.10, Appendix 1.11*).

C. JUNK INSTRUMENTS

1. The Existing Junk Object. Found waste objects that remain in their existing condition that can then be used in some form as a music or sound generating device. Some examples used within this line of enquiry include chains, a cooking wok, springs, a child's scooter, car wheels and a selection of other scrap metal and other material objects *(Appendix 1.1, Appendix 1.7, Chapter 4.2)*.

2. The Broken Instrument. Existing instruments that are broken and no longer function in their intended manner but which can still be harnessed in some musical or sound generating way. An example used within this line of enquiry is The Broken Zither *(Appendix 1.4)*.

3. The Made Instrument. A *new* or *invented* instrument constructed from found waste materials. Some examples used in this line of enquiry include The Pickle Shack Diddley Bow (*Appendix 1.6 – see image below*)., The Scooter Bow *(Chapter 4.2),* The Travelaphon - bicycle wheel instrument *(Chapter 4.2),* the movie projector *(Chapter 4.2),* the reel-to-reel tape player and the radio horn *(Chapter 4.1).*

D. FOUND SOUND MATERIALS

1. Discarded Sound Media Carriers. This could include cassette tapes, vinyl records, CD's, mini-discs, and other sound carrying formats (*Chapter 4.1*). These objects are discovered as detritus in the environment, abandoned in rubbish skips or other waste areas.

Image 2.1. Made Junk Instrument The Pickle Shack Diddley Bow, used in Baptist Prayer Meeting from The Imaginary Delta. Made from scrap wood, discarded whiskey bottle, cardboard, snapped guitar string and old chains. (Appendix 1.6).

Chapter 3 - Historical and Critical Context

The underlying contribution to new knowledge within this research is in establishing a new approach to composition. The line of enquiry seeks to draw together a range of disciplines to create a holistic sonic waste aesthetic. Where the history of composition and sound art has many examples of the individual elements contained within this body of work, the accompanying portfolio of compositions is a unification of these separate disciplines.

The use of sonic waste within composition is nothing new. Examples can be found in the work of Luigi Russolo and Pierre Schaeffer of the early part of the 20th Century, followed closely by Percy Grainger, Edgar Varèse, Bernard Parmegiani and Karlheinz Stockhausen, then John Cage, Harry Partch and William Burroughs in the middle of the century. The 1960's saw the emergence of R. Murray Schafer and The Velvet Underground. Through the 1970's and 1980's there was Faust, John Oswald, Yasunao Tone, Barry Truax, Bash The Trash, Autechre and Coil. Then, towards the end of the last Century and the beginning of this Century, there is Merzbow, Einstürzende Neubauten, Nurse With Wound, The Legendary Pink Dots, Kim Cascone, Pure, Christian Marclay, Francisco López and Brandon LaBelle. Many of these artists are discussed below and my own work is located within this tradition.

This is, of course, a whistle stop tour of relevant artists incorporating sonic waste, there being many more, but in the first instance this selection demonstrates the wide ranging aesthetic response which is possible through the embracing of sonic waste as a compositional methodology. The settings presented by these artists and others span Noise Music, Popular Music, Avant Garde Music, Sound-based Music, Sound Art, Acoustic Ecology, Soundscape Studies, Sound Design and Electroacoustic Music. The types of junk

sounds used by these artists include; the homemade junk instrument; the surplus sounds of media; field recordings from our environment (noise pollution); discarded sonic materials and human based extraneous noises. The specific palette of junk sounds used in these compositions has been described fully in *Chapter 2 - Defining The Palette*, and, as can be seen here, this expansive sonification of sounds, objects, genres and motivations describes a wide range of possibilities that the embracing of sonic waste permits.

The backbone research question which underpins this line of enquiry is; can these disparate elements be pulled together compositionally to create an umbrella aesthetic of sonic waste? Given that these very separate disciplines and aesthetic responses all have something in common, that is, the inclusion of sonic waste, it appears valuable to undertake a cohesive and holistic approach to sonic waste within a single body of work and, through which, establish a working methodology for future practice.

The portfolio aims to pull together compositional approaches that embrace a sound based environmental awareness, along the lines of Schafer, Truax and LaBelle; an experimental approach to sound design in the manner of Nurse With Wound and Fransisco López; the development of new junk instruments, similar to Bash The Trash and Harry Partch; and, to present these works in palatable formats explored in the works of Faust and Einstürzende Neubauten, for example. Not to parody or imitate these particular artists, but to embrace the overarching approach to creating sound based works that can be defined as ‘music’ and/or ‘sound sculpture’ rather than just ‘sound’. The research seeks to do this through the implementation of a new body of compositional work thus solidifying the proposition that my individual approach to developing compositional techniques will make a contribution to new knowledge and insights within an emerging sonic waste aesthetic. This chapter places this line of enquiry into its historical and critical contexts.

3.1 Noise As Music

In Russolo's '*Art of Noises*' of 1913 he outlines a list of "6 *families of noises*";

1. Roars, Thunderings, Explosions, Hissing roars, Bangs, Booms
2. Whistling, Hissing, Puffing
3. Whispers, Murmurs, Mumbling, Muttering, Gurgling
4. Screeching, Creaking, Rustling, Humming, Crackling, Rubbing
5. Noises obtained by beating on metals, woods, skins, stones, pottery, etc
6. Voices of animals and people, Shouts, Screams, Shrieks, Wails, Hoots, Howls, Death rattles, Sobs. (Russolo, cited in Cox & Warner, 2007:13).

This list bears a close relationship to some of the sounds assembled in *Chapter 2 – Defining The Palette*, although now of course we can expand this collection with the sounds of industry and technology developed since Russolo's time, such as beeping, ringtone frequencies and computer clicking. Many sounds, too, could be added to the list that have been and gone in the passing of time such as rotary dial telephones, manual typewriters and cash registers. It is also possible to add further categories to Russolo's list to encompass Digital Sounds and High Speed Transport Sounds, for example.

Russolo's list may be incomplete within today's sonic experiences but his claim that noise is the future of composition and that we should strive for an orchestra of 'noise machines' still has poignancy, and in some ways is an approach which is harnessed in this line of enquiry. Russolo advocated the use of noise as a compositional tool and believed its use in this way would create 'a new and unexpected pleasure of the senses' (Russolo, cited in Cox & Warner, 2007:13). Russolo was clearly enthused about the assault of noise

and sonic chaos of the world around him, and whilst being set against the backdrop of political and military ugliness, Russolo was looking to compose something of beauty from the turmoil. He was seeking 'novel emotions of sound […] the passion and the taste for noises […] an intoxicating orchestra' (Russolo cited in Cox & Warner (2007:14). Russolo's use of language here is clearly revealing his developing love of noise.

John Cage also famously continued this embracing of noise as a musical medium. In his canonic lecture of 1937 'The Future of Music: Credo' he opens with the statement '[w]herever we are, what we hear is mostly noise. [...] When we listen to it, we find it fascinating' (Cage, 2009:3). Cage was committed to listening to the noise of his environment as though it *was* music and following this approach enables a deeper relationship with, and appreciation of, those discarded sounds which would otherwise either go unnoticed or just be deemed as interference. More recently, however, Cage's approach has been questioned. Douglas Kahn, for example, argues that once the compositional sound world has been opened up to embrace all sound then by definition sound can no longer be deemed unwanted, therefore noise is, in effect, not possible within this context. Kahn writes that where Russolo initiated the use of noise within music in this way, Cage:

> exhausted this strategy by extending the process of incorporation to a point to every audible, potentially audible, and mythically audible sounds, where consequently there existed no more sounds to incorporate into music, and he formalized the performance of music to where it could be dependent on listening alone (Kahn, 2001:164).

Kahn argues that if all sound is contained within music, then no sound can be unwanted. I would suggest that it is the transformation from unwanted to wanted at the point of

incorporation which is crucial here. It is this moment that translates the noise into a thing of beauty. It is the empowering ownership of sonic waste that is significant. Noise does not cease to exist in this context, it is simply being converted to a position of possible appreciation. In *Le Parasite* (originally published in 1980) Michel Serres eloquently discusses this balance between wanted and unwanted, order and disorder. He points to the necessity of the noise within the harmony, the two opposites are dependent on each other:

> Noise destroys and horrifies. But order and flat repetition are in the vicinity of death. Noise nourishes a new order. Organization, life, and intelligent thought live between order and noise, between disorder and perfect harmony (Serres, 2007:127).

Noise can be perceived as a form of cultural debris, a by-product of the industry, technology, media, and the overpopulated density of the modern age. In this sense noise is defined 'by what it is not (not acceptable sound, not music, not valid, not a message or a meaning)' (Hegarty, 2010:5). We are infiltrated and surrounded by sound - in the home, in the streets, in the workplace and elsewhere. It is partly our subjective response to this barrage that enables us to individually distinguish between acceptable sound and noise. Yet, this is a sonic journey through which we can develop and our appreciation of the beauty within these 'noisy' sounds can increase with time and exposure (and commitment to the cause). The view that Jacques Attali promotes in *Noise: The political Economy of Music* affirms this approach to listening, he states that 'despite the death it contains, noise carries order within itself; it carries new information' (Attali, 1985:33). In effect, Attali is saying, that that which is initially perceived as ugly can be transformed into something

beautiful through its political use. Noise as music, says Attali, can be 'employed to make people believe in the harmony of the world' (Attali, 1985:19).

Pierre Schaeffer was committed to exactly this in the early to mid part of the 20th Century. In the 1940's Schaeffer, along with his colleagues at Radio-diffusion et Télévision Française, developed the techniques described as musique concrète. This approach incorporates sounds from the environment committed to recordings that were then manipulated and arranged to create compositional outcomes. Schaeffer collected sonic waste and used sculpting methods within the domain of tape and phonograph recordings such as pitch and speed alteration, sound reversal, frequency filtering and tape cutting and pasting to create sound based works, for example *Cinq Etudes de Bruits – Etude Violette* (Schaeffer, 1948).

3.2 The Noise Machine as Instrument

What is interesting about both Russolo and Schaeffer in relation to my own line of enquiry, and what still makes their work very relevant today, is the method of communication of sound. In effect, the creation of the noise machine as instrument. Russolo created his Orchestra Of Noises: The Intonarumori, recently recreated by composer Luciano Chessa who released an album of specially commissioned works for the collection of noise instruments (published on Sub Rosa Records, SRV316). Schaeffer used the latest recording and playback technology to present his sound recording collages, but also to use the machines themselves as instruments with which to manipulate the sounds produced.

There is a direct link between the development of the playback and recording machine and the inclusion of sonic waste within composition. The former both enables and

inspires the latter and contributes to the raw materials of composition. By recording sound, the act of converting sound to an object results in the object becoming susceptible to error and breakage. The sound media object can be trashed, broken, turned to junk and therefore turns in on itself to become an object of sonic waste.

Image 3.1. Performing on a 1920's radio horn, transformed into a theremin-like instrument for The Media Machine. See Chapter 4.1.

Since the days of Russolo and Schaeffer the palette of sonic waste sounds has evolved. Schaeffer, for example, began by using the machine to present the sounds already in existence 'out there' in the world. More recently we find ourselves embedded in the world of the glitch and the sound device by-product - the noises contained within the machine. This is an area exemplified by artists such as Kim Cascone dealing with the micro sounds of computer failures, for example, and Autechre using the skipping and skidding of CD samples. The utilisation of the crackling and scratchy sounds of the medium of recording and playback machines is exploited by Christian Marclay with his

multi layered turntablism and the Austrian producer Pure (Peter Votava) released a mini CD which consisted of nothing but run-out grooves (dead wax) collected from vinyl recordings.

Throughout this evolution of the machines developed for playback and recording we have seen them developed as instruments and the machines themselves becoming suppliers of sonic waste. Within turntablism, for example a language of techniques has evolved to describe the use of the machine as an instrument:

> the crab is where you tap the fader using all of your fingers in sequence against your thumb (like fingers drummed on a table), producing extremely fast speeds. The flare is similar to the transformer scratch, but with more speed and noise because you're literally bouncing the fader off the edge of the fader slot. An orbit is essentially a scratch that is performed both forwards and backwards (Shapiro, 2008:173).

It's an interesting point that, with this evolution, the sound carrying media is providing the sonic outcome, but the extraneous sounds from this media is, in turn, being (re)presented via the machine; a self-referencing loop of sonic waste. The machines to record and playback sound have directly contributed to the sound world of sonic waste and are then used to replicate and reproduce those very sounds.

The sonic waste of these machines has been an ever-present entity from their very origins. As they replicate and reproduce, they interfere with the signal, adding noise to the sound, throwing sonic waste into the world. The phonograph industry, of course, has always sought to promote the fact that the playback and recording machine is capable of

perfect fidelity. Descriptions of these machines from their very beginnings have described a romanticised sonic reality;

> Mr. Thomas A. Edison recently came into this office, placed a little machine on our desk, turned a crank, and the machine inquired as to our health, asked how we liked the phonograph, informed us that it was very well, and bid us a cordial good night. These remarks were not only perfectly audible to ourselves, but to a dozen or more persons gathered around, and they were produced by the aid of no other mechanism than the simple little contrivance explained and illustrated below. (Heumann, 2013:384–5).

This extract describes the sound of one of the earliest phonographs as having a sound 'perfectly audible to ourselves' and 'to a dozen or more persons gathered around'. The sound fidelity of these early phonographs are distinctly distant from the notion of perfect audibility, terms like this were used as marketing ploys rather than realistic descriptions of the actual sounds produced. (This is discussed further in Chapter 4.1 - The Media Machine).

Media Archaeology as a discipline originated in the study of film history, but has since embraced the machines of media technology more broadly. It draws on cultural and social studies to demonstrate that contemporary media forms are rooted to the past in numerous threads. Within arts practice, Media Archaeology offers a useful context for exploring the use of discarded media machines, such as the many items used in this practice portfolio. The harnessing of extraneous noises and surface errors of these machines demonstrates how Media Archaeology can be used to reveal the waste and the ruins of modernity. The

sonic manifestations of the unwanted fragments of technology are made explicit. This darker side of technology points towards a material culture in which the anomalies and un-intentional aspects of objects are revealed as *equal* to the capitalistic intentional modes of the objects. Through the incorporation of Media Archaeology within this sonic waste methodology it is possible to reveal how the noise (unwanted) becomes more than a purely acoustic phenomenon - it highlights our wider ecologies of communication, it foregrounds the explicit reliance on the extra noises of the body, of society, of culture and of political systems, in the relaying of information.

Paul DeMarinis discusses this multiplicity of sound qualities – the duality of the wanted plus the unwanted that are apparent in the conveyance of the medium. DeMarinis also points towards a third mode of sonic waste which are the 'squeaks and rumblings of the machinery itself, the whirring of gears and the bumps of unwinding steel springs' (DeMarinis, 2011:221-2), and then a fourth manifestation of the unwanted:

> the sound of overdubbing that soon emerged in public presentations where a single cylinder was recorded over and over again during successive demos, the new sound not totally erasing the memory of previous markings (DeMarinis, 2001:221-2).

This layering effect also manifests in reel-to-reel tape recordings, and cassette tape recordings where the *ghosts* of previous recordings can often be heard seeping through into current takes.

These additional layers of sonic material, both from the machines themselves and from the history of the recorded mediums effectively make

explicit those extras of communication beyond semantic meaning; the noises and expressions of the body; the unwanted waste of materiality; the ecology of communicative media; the reality of capitalist marketing; the failures of modernity and the compression of cultural history. Alongside this, the noises of the machines lead us to confront the various durations of history. The long durations, the intermediate durations, and the *here and now* are interwoven, unravelling concepts of linear time.

Incorporating the noise machines as instruments in this methodology enables engagement with the environmental and ecological aspects of contemporary society. Through exploiting these aspects the practice makes explicit all of recording and playback history in a compression of time, ecology and culture.

3.3 The Soundscape

Recording and playback is, however, not the only method of presenting a sonic waste themed composition. As Cage has so eloquently shown in that most famous of works, 4'33'', it is also possible to simply temporally frame a moment within the environment to create a composition. In this approach, framed time converts noise to music. As Cage describes it, '[t]he composer…will be faced not only with the entire field of sound but also with the entire field of time' (Cage, 2009:5). If that time-framed environment contains an element of sonic waste then you therefore have a sonic waste composition.

Cage is bringing the noises of the environment into the score through the intentional inclusion of notated silences. It was David Tudor who performed the first live version of

4'33" in Woodstock, New York in 1952, and during this performance the sound of rainfall, wind and audience chatter could be heard during the movements; 'You could hear the wind stirring outside during the first movement. During the second, raindrops began pattering the roof' (Cage cited in Kostelanetz, 2003:70). This 'silence' became an essential part of the listening experience. In Cage's words; the sonic occurrences which 'are not notated appear in the written music as silences, opening the doors of the music to sounds that happen to be in the environment […] try as we may to make a silence, we cannot' (Cage, 2009:7-8). In this situation there also functions a form of "aural architecture" (Blesser & Salter, 2007:175-181) that builds additional elements of sonic waste into the composition. The site of performance and its locational attributes of reflective surfaces, thermal refractions and air turbulence also adding to the aural properties of the sounds both performed and contained therein.

The World Soundscape Project (WSP) under the direction of R. Murray Schafer facilitates the discipline of Acoustic Ecology, which studies the relationship between living beings and their environment, when mediated through sound. The WSP emphasised the importance and benefits of close listening to the environment, particularly in relation to the 'soundwalks' and 'audio works' of artists such as Hildegard Westerkamp and Janet Cardiff. Soundwalks frame noise within a time period and a composition is born. Schafer described the soundwalk as:

> the sensitisation of citizens to their acoustic surroundings and the educational imperative of assisting in the development of the individual's listening skills (EARS, cited in Landy, 2007:110).

Schafer clearly feels people need to be educated in this way to be able to not only fully appreciate noise in a positive way, but also to achieve a sonically based ecological

awareness of the relationship between the person and their environment. The soundwalk can provide these polarised experiences of, on the one hand an enjoyed compositional experience and on the other, an acute realisation of the pollutive interference of noise. John Drever noted this range of responses in his accounts of participant experiences in his own led soundwalks:

> A euphoric participant talked from an hedonic perspective of the perfect cinematic-like surround-sound composition that had been opened up to him offering infinite detail … Another bemoaned the onslaught of the noise of the city, as the exercise had engendered a process of sensitization even hyperacusis. The city had got louder and louder as the walk had progressed (Drever, 2013:2)

Drever then goes on to note that the experience may be different for a non-specialist in sound compared to a sound expert. This suggests prior knowledge of sonic attributes may lead to a different appreciation of the environmental noises.

This is also an interesting point in relation to my own line of enquiry where I am seeking to display the beauty in sonic waste. It has often become apparent that audiences have sometimes required prior knowledge and education about the work in general if they are to fully *appreciate* some of my portfolio contents. Appreciating the beauty in sonic waste sometimes requires an assisted development of the audiences' listening mode. It appears beauty can be learnt. The sound expert can perceive a work in a very different way to the non-specialist. This line between noise and beauty is in a state of continuous flux and the individual's journey down this line can be aided through information and education to assist in the potential appreciation of the beauty contained, latently, within the noise. This is a flexible positioning. Hans Joachim Irmler, one of the founding members of

the German based band Faust in the 1970's, who regularly incorporate a variety of sonic waste items and sounds within their music, was interviewed in *Sound On Sound* magazine in 2010:

> In their more extreme moments, Faust — early pioneers of industrial music — still rely on treated recordings of cement mixers and chainsaws to augment their music. "Y'know, where is the point from melody to noise?" Irmler wonders aloud. "It's still very, very interesting to me" (Doyle, 2010).

After around 40 years of experimenting with noise and junk sounds and objects Faust are still wondering about the discovery of melody within noise.

One approach adopted within the portfolio of works here is to provide supplementary talks and/or written information in an attempt to provide some kind of context or education in the appreciation of seeking this beauty within the sonic waste. This is not always successful however as can be noted in two very different anonymous responses to a recent performance of part of my compositional portfolio. The following responses were describing the same sections of the performance;

> *Response A*: "There were periods of time where nothing seemed to happen or change, I felt it needed more compositional variety in these sections."

> *Response B:* "I just loved the very minuscule, subtle changes and evolution in the longer sections which became apparent when I delved deep into the details of the sound."

Clearly *Response B* listener was able to hear in ways as yet unattained by *Response A* listener.

Barry Truax, who has continued and developed the work of the World Soundscape Project, furthering our understanding of Acoustic Ecology, has expanded on Schafer's issues of composing with environmental sound. Truax suggests that even sound specialists are not properly equipped to deal with the issues of 'real world' sounds. In *Sound, Listening and Place : The Aesthetic Dilemma*, he begins by writing '[a] purely aesthetic approach may be problematic when artists wish to deal with the external world as part of their work' (Truax, 2012:1), he goes on to describe that artists may encounter problems of aesthetic communication if only dealing with the 'inner complexity' of sound rather than engaging with the 'outer complexity' of sound. Truax defines the 'inner complexity' as the internal, acoustic properties of sound, and the 'outer complexity' as the sound's relationship with its environment. Truax's position is that Schafer's approach has a negative bias and a more positive approach would be for the sound specialist to become inspired by sound as communication between listener and place within a sociological framework. Truax states both inner and outer (text and context) inform our communication to the sound environment and this relationship is a 'dynamic process of embodied cognition' (Truax, 2012:3).

Truax is promoting a more reflective, ethnographic approach to soundscape composition and cites others working in this way such as Robert Gluck and Gregg Wagstaff. Gluck's approach to creating soundscape compositions includes continuous dialogue and involvement with representatives from the local culture (Gluck, 2008) and Wagstaff's *Touring Exhibition of Sound Environments* (TESE) in the Isles of Harris and Lewis in Northern Scotland, for example, enables the locals themselves to create their own

environment recordings that become integral to the completed set of compositions. Truax promotes the ideology of working in this way as beneficial to all, as 'the soundscape was not interpreted as raw material to be exploited' (Truax, 2012:5), both the local community and the composer were involved in a positive sense.

For Truax, Gluck, Wagstaff and Drever it appears these direct relationships between composer, listener, and environment inhabitant, along with prior experience within the world of the sound specialist can create very different experiences and perceptions within this type of work. To ignore these aspects creates a situation where the work is in danger of becoming a form of "sonic fetishism" (Drever, 2002:21) and can become problematic for an audience. Drever describes 'sonic fetishism', or, alternatively 'sonic tourism', 'as akin to a public showing of personal holiday slides' (Drever, 2002:21). The premise being that the resulting performance of a soundscape based composition is more documentation than artistic in its outcome.

In 'The Self-Sound Identity' Edith Lecourt describes our listening relationship with the environment as 'inside/outside..near/far..subjective/objective' (Lecourt, 1983:570), and Lecourt states that we need this constancy of relation for the 'sublime' experience. This suggests an individual, evolving and fluid relationship. As we listen to the noises of our environment our ears are selective in the information they hear. Perceiving the sonic information around us is to apply differing amounts of signification to sounds that are familiar/non-familar, useful/non-useful. This information selection is built around differentiations such as important/non-important, close-up/far away according to G. Fischer (1997).

Salomé Voegelin depicts a playful and reciprocal relationship between the listener and the soundscape where the intersubjective experience is always unique (Voegelin,

2010:121-125). Voegelin describes how, as listeners we build our soundscapes not just from the sensory encounter but also from the cultural, psychophysical, intellectual and meanings attributed as individuals. Sounds are processed through our own socio-cultural backgrounds and this informs our aesthetic appreciation.

Katherine Norman also depicts this integral relationship between soundscape and listener within the compositional process and describes how our individual sonic journeys within these soundscapes:

> depends on our listening participation and invites us - through our active, imaginative engagement with 'ordinary' sounds - to contribute, creatively, to the music (Norman, 1996:4).

The theme here is the dependency the soundscape has on the listener, a symbiotic relationship between sonic environment as composition and listener as composer; the affect of the individual's ears on the individual's environment. The soundscape is in permanent flux.

Recently, urban planners and architects have also been attempting to understand some of these intricate relationships between the sonic environment and the inhabitant. The aim is to improve the acoustic quality of spaces currently being built. Nina Hällgren, for example, in her paper 'Urban sound design - can we talk about it?' discusses the lack of inclusion of spatial and acoustic relations in Swedish Schools of Architecture (Hällgren, 2012:38) and proposes more empirical spatial/sonic research:

> If we could design our shared everyday outdoor spaces while simultaneously considering the sonic aspects in congruence with functional, formal, visual and tactile aspects, we would emphasise

> progress towards acoustically sustainable environments where attention is paid to the sensuous experiences and quality of life of urban inhabitants (Hällgren, 2012:48).

Hällgren proposes strategies for urban design that seek to understand the sociological and cultural relationships between listener (inhabitant) and environment as well as one based on the understanding of the soundscape defined by decibel measurement alone. Understanding the fine nuances of the sonic environment is crucial, says Hällgren, '[u]rban sound quality is not a fixed term, but a flexible one' (Hällgren, 2012:43). It is interesting to note this link between listener and space, or, the disruption of the signal by human interaction, is gaining ground within urban architecture as well as within soundscape composition.

One of the practice studies undertaken during this enquiry, *Old Long Since (Fireworks),* (See Appendix 1.9 – a stereo document of this piece is provided on the accompanying disc) uses a live microphone feed of my hometown during New Years Eve. This signal is fed into a custom made Max/MSP patch which recognises the transient Firework explosions. At each explosion it simultaneously performs a synthesised frequency chosen at random from the notes that form the melody from Auld Lang Syne in the key of E Major;

E 82.41 Khz

F♯ 92.50 Khz

G♯ 103.83 Khz

B 123.47 Khz

C♯ 138.59 Khz

E 164.82 Khz

The premise being that it is the community who are performing the composition. The firework explosions, the cheers, the dog barks, the laughter and the vehicles all contribute to the soundscape, and it is the direct action of the people, through the propulsion of the noisy fireworks, who control the potential melodic outcome (albeit with an aleatoric sequence of notes). The surrounding architecture also *performs* in this piece as the echoes and reflections all contribute to the resulting sound. The intensity of the explosions and the synthesised notes increases as the approach to midnight draws in and at the sound of the midnight church bells a cacophony of explosive rhythms and melodic sequences creates a rich and exciting burst of sonic activity.

This approach seeks insight into the debate surrounding the relationship between composer, environment, listener, and environment inhabitant. In this piece the possibility of unknowing contribution from the environment inhabitant is revealed. Conceptually the work attempts to create an ideology of incorporating the celebration of the people of the town in the outcome of the composition, however it also reveals the celebration *as* noise pollution (the affect on the dog community is also apparent). The social and cultural aspects of the town are made explicit and the playful relationship between sound/noise as the driver of melodic content makes clear the potential of noise pollution as material from which to compose with. The social/cultural structure of the evening also provides a compositional structure; the overall arc of the piece gradually rising, reaching intensity and then gradually dissipating to fade out.

As Voegelin and Norman depict, the relationship between listener and environment is individual and fluid – for myself as a listener (and as a part of this community) the inclusive feeling of being a part of this compositional process is both wondrous and satisfying (the feeling of being part of a whole town of sonic waste composers, for

example) and yet tinged with melancholy at the realisation of the amount of noise being projected into the air.

Phonography itself also disrupts the soundscape. A field recording is both additive and subtractive of the soundscape in situ. Additive in the way in which a microphone essentially alters the ontological status of a sound - environmental sound is ephemeral whereas fixed sound is immutable and over time becomes a self-signifying medium, it becomes a particular recording of a particular something (Demers, 2010). Subtractive in the way in which a recording is a 'de-reference' of the source material (Norman, 1996).

A recording immediately pulls the soundscape out of context creating further subtractive qualities and of course the person responsible for the sound recording adds subjective choice into the equation; choice of microphones, pre-amps, recording quality, recording position, length of recording, time of day and year.

So, clearly there are representational concerns within the use of sonic waste from the environment and subsequent recordings, and these issues can influence the experience of the listener once the material has become framed as an 'artwork'. The portfolio of works from this line of enquiry has sought to align these issues within the context of creating a compositional outcome from the sound sources with the aim that the resulting works provide some insight into these difficulties. As John Drever writes; '[t]he challenge to soundscape composition artists is whether they can balance musical with representational concerns' (Drever, 2002:26).

A useful method appointed within the context of a work such as Carmouth & Dashboard - A Sound & Puppet Archaeology (see Chapter 4.2), for example, and developed throughout previous research in this area with the theatre group I worked with,

PickleHerring Theatre[7], is that of employing a community based workshop programme. The aim with this is to provide junk band and sonic waste music making with groups local to the site of performance. Groups would typically include local schools, youth clubs, and generally open workshops for children and adults of all ages. The workshops would encourage creativity of sound design and music making created on their own developed junk instruments, with a view to finding a slot within the final theatre performance for the inclusion of any prepared pieces, or improvisation.

This sense of inclusion and belonging is a highly positive event and steers the work away from Drever's 'sonic fetishism'. With a work like Carmouth & Dashboard (see chapter 4.2), where there is also an ecological message embedded within the work, the inclusion of the inhabitants of the environment appears to have been empowering for them as being a part of this message, as opposed to being passive receivers of an environmental polemic. This approach has been insightful in discovering the 'efficacy of junk music-making as a dynamic form of community music' (Smith, 2008:159).

This more active involvement also promotes an inclusiveness of the individual's selective, filtered and playful relationship, with their own sonic environment. These many and various ears make the performance sonically multi-facetted and therefore more depth is embedded within the result.

3.4 Composing With Soundscapes

In compositional terms, the methods of dealing with soundscape material in phonographic contexts are, of course, vast. To establish 'audible relationships amongst

[7] http://desolatemarketrecords.com/artists/pickleherring/

sound materials' (Wishart, 1994:1) may be an underlying goal, but as well as the choices of structural and arrangement permutations we must consider the causal and semantic effects that listening to these types of sounds can highlight. As we have discussed above, sound intrinsically contains information which points to its 'outer context' (Truax, 2012), and sound is physically, psychologically and cognitively dependent on its surrounding architecture (Augoyard et al., 2009). In compositional terms these relationships can be explicitly revealed or deliberately obscured. This creates a range of broad compositional approaches before approaching any internal structural elements.

At one end of these compositional approaches we have, for example, the (seemingly) naturalistic compositions of artists such as Chris Watson[8] which are based around presenting found sound as relatively representative of their source; *seemingly* naturalistic because this type of recording is still dependent on evoking the perception of the listener and their individual relationship to the environmental sounds, and also inherently include phonographic choices as mentioned above.

Somewhere in the middle of this range of approaches we have the more manipulated or abstracted soundscape works such as those by Fransisco López, where the found sounds are not necessarily fully abstract, but partly abstracted to present conceptual ideas as part of the composition. In a piece such as *La Selva*[9], for example, with some choice editing processes López deliberately merges the foreground and background sounds of a rainforest in the Caribbean Lowlands of Costa Rica. The desired effect of this is to present the sonic world of the location as a collated whole, bypassing the selective filtering processes of the ear.

[8] For example; Chris Watson - "Vultures feeding on the carcass of a Deer" (Watson, 1998) See also http://thequietus.com/articles/11222-chris-watson-interview-sound-recording-cabaret-voltaire
[9] Fransisco Lopez 'La Selva': CD edition on V2_Archief – V228: released in 1998

At the other end of these approaches we have the fully manipulated, or abstract works which twist the original recordings into totally new sound based patterns, with very little revealing sonic information about the sounds origins, sometimes even leaving the original context of the found sound completely redundant. This approach can be discovered in works by Einstürzende Neubauten, for example. In 'Ragout: Küchen Rezept von Einstürzende Neubauten' (1998)[10] which translates to English as 'Stew: Kitchen Recipe from Collapsing New Buildings' the sounds are created from the recordings of utensils in the recording studio kitchen as heard from the recording booth. The sounds are electrified and manipulated to a point beyond recognition and the only remaining clue to the sounds origins are hinted at in the title of the piece.

This continuum could be represented as follows;

Soundscape < - - - > Soundscape Composition < - - - > Soundscape Based Composition

In the interests of exploring a wide scope of research approaches in the composition portfolio, the full range of these compositional methodologies have been undertaken. For example;

A naturalistic '*Soundscape*' approach along the lines of the Chris Watson example can be found in sections of 'Carmouth & Dashboard' (see Chapter 4.2 for a detailed discussion), and in the fundamental recording underpinning 'Old Long Since (Fireworks)' (see Appendix 1.9, and discussed above).

A middle ground *'Soundscape Composition'* approach along the lines of the López example can be found in 'Fridger' (see Chapter 4.4), 'Leaf Film' (this piece uses

[10] Einstürzende Neubauten 'Ragout: Küchen Rezept von Einstürzende Neubauten' released on 'an anthology of noise & electronic music/first a-chronology 1921-2001 on Sub Rosa (SR190) in 1998

extraneous sounds from a screendance video recording, partly abstracted to create rhythmic patterns, see Appendix 1.14). and 'Barbershop Quartet' (see Appendix1.1).

'Barbershop Quartet' utilises a collection of field recordings I recorded in a bathroom environment. The sounds clearly reveal their sources (water, shampoo and hairdryers), but are also semi-abstracted with studio manipulation to create textures that point toward music patterns rather than pure field recordings. In summary, the piece was first devised after a particularly noisy trip to a Barbers, which left me feeling sonically assaulted, an experience of hyperacusis. (see Sonography example in *Appendix 2 - Sound Event 19)*.

A quick web search about the noise of hairdryers reveals a proliferation of CD's, YouTube links, and mp3 downloads of the sounds of hairdryers that are aimed at assisting people who have problems with disturbed sleeping. The sound is close to white noise (all frequencies) and some areas of research show white noise can be helpful in this regard (Carlisle et al., 2005) Hair dryers are also recommended as a way of helping babies to calm down and sleep.

This is an odd dichotomy with the build up of excessive noise pollution within, for example, busy urban areas. In these environments, the layering of traffic sounds, construction work, crowds of people, sirens, alarms and many more typical city sounds can layer frequencies on top of each other until something close to white noise begins to manifest. So, it seems noise can build gradually as an annoyance until at some point it will tip across the boundary into a calming relaxing sound.

As a mild pun on words, the title of Barbershop Quartet was chosen as this piece contains the intrusive sounds found within the environment of a barbershop or hairdressers. Because of the *Quartet* in the title, the number 'four' has been used as a

thematic concept for the composition; the work is split into four movements and uses a 4/4 time signature. The movements are as follows;

Movement 1: Shampoo

Movement 2: Water Rinsing

Movement 3: Scissor Cutting

Movement 4: Hairdryers

Compositionally the piece explores the sounds in rhythmical and melodic ways and these approaches were developed intuitively (tacitly) within the studio, the recorded sounds themselves being the catalyst for developing patterns and structures.

This piece is designed to be listened to through headphones. It also has an interesting connection to Autonomous Sensory Meridian Response (ASMR), sometimes described as Attention Induced Euphoria. ASMR is a perceptual phenomenon experienced in the head, scalp, back or other peripheral areas of the body. It can occur in response to auditory stimulation, particularly in headphone listening, and can be described as a pleasurable, tingling sensation. Accounts of this sensation, however, are currently largely anecdotal as there is little academic research on ASMR. Tom Stafford, Lecturer in Psychology and Cognitive Science at the University of Sheffield, says:

> It might well be a real thing, but it's inherently difficult to research. The inner experience is the point of a lot of psychological investigation, but when you've got something like this that you can't see or feel, and it doesn't happen for everyone, it falls into a blind spot (Cited in Marsden, 2012).

A more extremely manipulated or '*Soundscape Based Composition'* approach to the sound materials along the lines of the Einstürzende Neubauten example can be found in

‘Carmouth & Dashboard’ (see Chapter 4.2), ‘Bicycle Works II’ (see Appendix 1.7) and ‘Burroughs’ (see Appendix1.10).

‘Bicycle Works II’ explores a range of acoustic properties of an abandoned wheel. As a result of exploring the object as a percussive item, a range of bell-like notes were discovered from hitting the spokes and other areas of the wheel. These noises were recorded as sound objects and then subsequently abstracted in the recording studio. The palette of sounds ammased from this research was then arranged and manipulated further until almost no auditory links remained to the origins of the sonic material. Only the title reveals the link to the source.

‘Burroughs’ is an experiment in extracting extraneous sounds of the human voice as revealed through micro-analysis of voice recordings. In this piece the deliberately spoken words are removed leaving behind only the ‘erms’, ‘stutters’, ‘coughs’ and vocal slips which occur in the delivery of a lecture in 1976 by William Burroughs. The lecture itself is a presentation on the methods of using Burroughs’ ‘Cut Up’ techniques with tape collage. The concept embedded in this piece therefore also draws on the irony of using Burroughs’ own voice as a demonstration of these techniques, albeit within a modern, digital setting. I distributed the extracted sounds to three performers, including myself, and organised a loose framework for the overall structure. Within this framework the performers were given the freedom to ‘play’ with the sounds, to improvise with each other, and explore possibilities of sound manipulation using my custom built Max/MSP patches and integrated tools. As a result of the integrated improvisations and performer interplay, sections of the piece bear little or no resemblance to the original vocal samples.

Some of the studies and selected compositions draw on one or more of these approaches and others slide in between the extremes with some ambiguity to their positioning.

Parallels can be drawn here to Barry Truax's soundscape composition continuum described in Sound, Listening and Place: The Aesthetic Dilemma. Truax describes the following interrelationship of practices;

Sonification < - - - > Phonography < - - - > Virtual Soundscapes (Truax, 2012:3)

In this example *Sonification* involves the use of real-world data applied directly to sound materials. A method employed by sound artists, composers and others, for example Andrea Polli[11] who uses this approach to convey environmental issues to the public within her work. In a collaborative piece called *Yádiłhił bee'askłóó - Binding Sky (2014)*, for example, Polli incorporates data (information about changing landscapes) collected from inhabitants local to the site of an installation as direct sonic materials within the aural outcome. *Phonography* maps the real world as sound recordings without further manipulation other than basic (transparent) editing and mixing, for example documentary soundtrack recordings. *Virtual Soundscapes* points to works which are abstracted using a variety of sound editing methods, and can eventually lead to total abstraction, much like the examples above of Fransisco López and Einstürzende Neubauten.

3.5 The Junk Object as Instrument

There has been a fairly widespread use of the junk object within the visual arts but surprisingly little in the practice of sonic arts, and even less in scholarly writing on the subject. Publications consist largely of articles around the use of junk music within a

[11] http://www.andreapolli.com

classroom context. The most recent journal entry regarding this, that I could discover, is Dorothy Gail Elliot's 'Junk Music: Recycling Comes to the Classroom' (Elliot, 1972). Articles on junk music and junk objects as instruments are notably absent in peer review journals, despite many general newspaper articles describing the practice within a range of contexts, such as music festivals, classrooms, environmental awareness campaigns, city festivals and theatre (Lambert, 2010), (Mathiesen, 2015), (Scott & Ward, 2003).

Visual artists such as Robert Rauschenberg[12], Jean Tinguely[13], Gillian Whitely[14], Tim Noble And Sue Webster[15], Sudobh Gupta[16] and many others have utilised the found junk object in a variety of assemblage, sculptural and installation based forms. Junk Art, in this sense, was first coined as a term by Lawrence Alloway (Alloway, 1961) and links can be traced to the Dada and Fluxus art movements in the early part of the Twentieth Century. Within the sonic arts however, it is much harder to trace artists working specifically in this way. There are, however, a few 'Junk Bands' and other artists incorporating the junk object such as Bash The Trash[17], Einstürzende Neubauten[18], Urban Strawberry Lunch[19], Weapons Of Sound[20], Stomp[21], Faust[22] and Volcano The Bear[23].

These artists harness the physical detritus of society that have been abandoned or disposed of, often as environmental pollution, and using these waste objects can reveal some interesting compositional insights peculiar to the sonic waste object. In particular, a key aspect of using junk objects is the discovery of unique pitch collections. The *scales* occuring as a result of the chance juxtaposition of found objects and varying textural

[12] http://www.tate.org.uk/art/artists/robert-rauschenberg-1815
[13] http://www.tate.org.uk/art/artists/jean-tinguely-2046
[14] See Whitely's Junk: Art and the Politics of Trash, 2010
[15] See Noble et al, 'British Rubbish', 2011
[16] http://www.saatchigallery.com/artists/subodh_gupta.htm
[17] http://www.bashthetrash.com/Bash_the_Trash_Environmental_Arts/Home_Page_old.html
[18] https://neubauten.org
[19] http://www.stlukeliverpool.co.uk/urban-strawberry-lunch/4551085331
[20] http://www.weaponsofsound.com
[21] http://www.stomponline.com
[22] Website of Faust founder member J. H. Peron; http://www.art-errorist.de
[23] http://www.discogs.com/artist/119766-Volcano-The-Bear

surfaces that are discovered through musical interaction with junk objects can provide tonal platforms on which to develop melodic ideas. For example, as used in Carmouth & Dashboard (see Chapter 4.2), a range of discarded metal car wheels of differing sizes will each produce an individual note, and when played in sequence will reveal a unique set of pitches on which to discover musical phrases. Also, within the parameters of just one of those wheels, differing notes can be discovered through striking a variety of areas across the surfaces, this range of notes within the single object can also provide a unique melodic base. These note rows are often micro-tonal, and have little relationship to established note patterns and can therefore provide fascinating and idiosyncratic melodic patterns.

Timbre peculiarities are also a key feature of the junk object. The utilisation of the sounds produced from junk items can produce sound qualities distinct from known, and established instrumentation. The sounds produced by using rubber matting to strike the end of the giant plastic tubing in Carmouth & Dashboard (see chapter 4.2), for example, are incomparable to existing instruments. This creates a deep resonating thud with percussive slaps and a follow through low frequency rumble - an idiosyncratic sound from an idiosyncratic instrument. See the image of this particular instrument below.

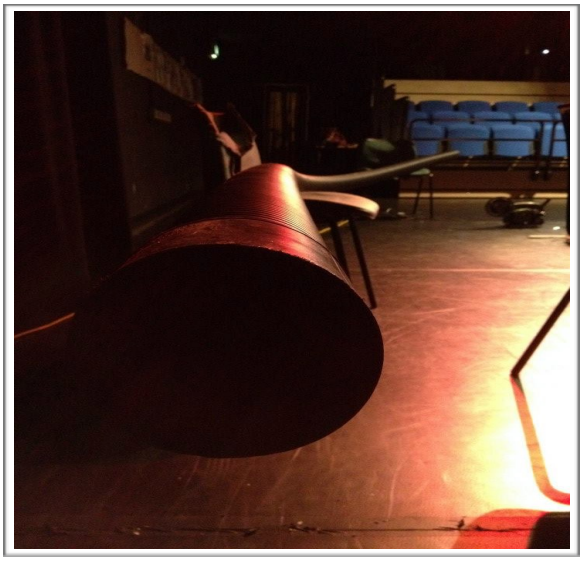


Image 3.2. Giant Plastic Tubing Instrument from Carmouth & Dashboard (see Chapter 4.2)

A theatricality occurs when a junk object is used in the context of a performance. The physicality of the item itself reveals its original circumstance, its subsequent abandonment, and its now depleted functionality. The (often) broken aspect of the item creates intrigue to its relevance and function. The abstract nature of an incomplete part of a once integrated whole sets up an aesthetic of the imagination; it affords a playful reinterpretation of its creative possibilities.

According to Monty Adkins, the listener, whilst in pursuit of understanding sonic material, 'hunts affordances' from both the natural and the socio-cultural environment (Adkins, 1999:4). Adkins established his theories of sonic affordances as an expansion of theories established by J. J. Gibson in the late 1970's. Gibson proposed that, as well as the straightforward perception of an object, opportunities for behaviour are perceived in encountering objects. Gibson describes this as *opportunities for action* (Gibson, 1979). This is of particular interest here as the *perception* of the use of an object can be more influential than the *real* use of an object. When viewed as a 'sounding object' (Adkins, 1999) the junk object provides an audience with physical signification in hierarchical preference to the internal significations from within the 'sound object' of the resulting sonic outcome. Adkins describes these links as 'Acoustic Chains'. As Luke Windsor affirms, 'sounds do not identify their causes, or signify them, they specify events or objects that 'afford'' (Windsor, 1995:57). When used as an instrument a junk object 'asserts the primacy of the perception of the sounding object over the sound object' (Adkins, 1999:3). The act of choosing an item not previously established as an instrument, and an object that has been deemed no longer of any use, the fluid, interactive relationship between listener and sounding object is promoted. Furthermore, the transformation of the junk object from discarded detritus off the street into a performance space *(unwanted to*

wanted), affords the perception of new opportunities for action. The possibilities for music making are thus perceived.

The junk object fits Raymond Williams' definition of the dramatic; it is embedded with 'qualities of spectacle and surprise' (Williams, 1985:109), because of its displacement and its potential. The junk object as instrument is a conflict of use and re-use.

As a 'spectacle' the junk object also offers us a political dimension in Attali's sense of organised disruption to established codes (Attali, 1985). Performing on the abandoned and defunct can be used in disruption to authoritarian hierarchies. Einstürzende Neubauten, for example, were involved in a form of 'anti-architecture' (Dax *et al*, 2005) as they performed on the remnants of architectural destruction and renewal within Berlin in the late 1970's and early 1980's (and are still active in similar ways currently). Neubauten used the junk of their city as sonic objects to find ways of, not only pushing the boundaries of what is understood to be music, but also to create significant criticism of the 'new' buildings and their 'representation of the power and cultural structures of the *Wirtschaftswunder* ['Economic Miracle'] and the *Schlager*[24] music associated with this' (Shryane, 2011:10).

Debord and Wolman also recognise the use of junk as a form of political action. In describing the 'tactical reuse' of discarded materials they consider the process of 'détournement' (or misappropriation) as a subversive starting point (Debord & Wolman,1956).

To gain further insights into some of these aspects of the use of junk as instrument, given the lack of specific academic enquiry, I composed a questionnaire to send out to a

[24] A style of light entertainment music that came to represent the post-war conservative values of the 'Economic Miracle' (and the attempts to 'hide' the past).

selection of musicians who work in this way. Replies were received from J. H. Peron (founder member of Faust), Skip La Plante (NYC based junk instrument builder, who works with Bash The Trash), Matt Smith (Pickle Herring Theatre), John Bertles (Bash The Trash) and Liz Carlisle (Urban Strawberry Lunch). See Appendix 3 for the completed questionnaires in full.

The underlying motivation behind the use of junk from three of the respondents is that music itself is the driving force, in priority to any form of political, cultural or social action; 'music is what matters, no matter what it is and where it comes from' (Peron); '[w]e're just musicians. Who play junk' (Carlisle); 'I'm a composer first, an instrument builder somewhere further down the list' (La Plante). For Matt Smith the focus is on the community engagement; '[t]he most exciting thing is the people, connections and processes' (Smith). John Bertles applies equal weight, '[i]t's not all music, or all junk' (Bertles).

All respondents, however, have a strong awareness of the political, cultural and social implications that working in this way embodies. For Smith, the hope is for people to see the implicit message about seeing the environment differently, to gain an awareness of the ugliness and inherently capitalist over-indulgence in materiality. Smith does, however, prefer the propaganda to be understated and allow the message to emerge from the materials and the process:

> The message is there for people to discover [...] I want audiences to enter the space of junk music [and] not to be repelled by it. They then can take that away and find their own potential junk symphony in their life. (Smith)

Smith is very aware, however, of the cultural activism that occurs in the performance and use of junk objects:

> As a performer the junk music practitioner seems to inhabit the space of punk. The energy of hitting trash is exciting and in some ways a cultural protest. (Smith)

Skip La Plante also prefers to allow the environmental message to be subtle and prefers not to 'preach' the message to others:

> I'm more of the mind that if I present what I do as an option that people can see, perhaps they'll be influenced to change their own relationship to the world's trash. (La Plante)

John Bertles is also very aware of the embedded issues and is clear about the impact and the overt messages contained within this type of activity, however Bertles is also looking to find gentler ways of achieving this objective through participation, inclusiveness and humour:

> We are definitely a very political group in many ways - we deal with the environment, but also lessons about social structure and change within a culture, working to combine cultural sources to create a new compact of sound and music. There are some things about United States culture (or lack of it) that we despise and wish to change, and we feel that our music, our songs, and our educational thrust is all about effecting that change. But again, it's never a lecture or message with a sledgehammer - we do everything through humour. (Bertles)

Using junk objects as instruments opens up possibilities for all. It neutralises access to music making and enables sonic creativity without the need for financial input. La Plante recognises this and sees the engagement with junk as potentially empowering for the participants. By maintaining the junk visual aesthetic in his instrument making La Plante demonstrates this social accessibility:

> I can't tell you how many times different dancers I was composing for wanted me to do something or other to make my instruments conform to their visual aesthetic. This is not a compromise I've ever made. If anything, I think it's important that people see what I did and for them to know they could do it themselves if they wanted to. (La Plante)

La Plante also points out the (anti-) cultural signification that the use of junk objects as instruments can embody:

> the non-standard instruments have no cultural tag. Instead of taking a listener into a predefined musical space, as […] a clarinet […] would automatically do, unfamiliar instruments take the listener into a more magical, uncharted space. (La Plante)

Bertles is also keen to empower people with the ability to create music and culture with found materials in a drive to encourage an anti-materialistic approach:

> we are also trying to teach people to get away from the endless obscene acquisition of money and goods, and consider the possibility of 'make-do-with-what-you-have.' (Bertles)

Urban Strawberry Lunch are junk musicians primarily due to economical reasons:

> For us 'being green' is a bi-product ... there is an ethical element but it's not our driving force or raison d'etre ... we just don't got any money! (Carlisle).

They are, however, seduced by the ever-present availability of junk performance:

> as junk musicians you will find us going into a building and just listening to it, or tapping it or scraping it. Not because we've been booked to play it. But because it sounds interesting! (Carlisle).

Jean Herve Peron is clear about the narratives 'afforded' by the sounding objects:

> Yes definitely…a sledge hammer will talk violence and destruction, a wasted TV will try to seduce you with her previous life before being bashed, an oil barrel remembers all the shit dumped into it…so they tell the story through the artist playing them (Peron).

Despite music being the driving force Peron does feel compelled to convey social and political messages within his work, here eloquently expressed in response to the question "are you attempting to convey a social message through the use of junk?":

> Yes. It is the duty of all artists..it is what they have to give in return of all the privileges they receive. You probably want to know what my message is. Open your heart, your ears, open..do not be sure, do not give up..and the mighty "rund ist schoen !!". (Peron)

Peron’s expression ‘rund ist schoen’ aptly embodies the fundamental core of this research - ‘beauty is all around’.

Chapter 4. Selected Compositions.

This chapter selects four compositions from the wide range of practice undertaken. The first two works are discussed in some detail and the following two works are given a brief analysis.

Chapter 4.1. The Media Machine Centenary - A Sound Installation, Composition & Performance

This section explores the conceptual ideas, processes, context and outcomes of the Media Machine Centenary - a work that was initially commissioned by Manchester Metropolitan University for their Centenary celebrations in 2012, and through which I was able to focus my PhD research into a substantial practical outcome.

Using the Centenary theme of *100 years* as a starting point to generate creative concepts, I focused on the one hundred year timeframe of recording and playback sound devices as a stimulus for the work. This enabled a deep interrogation of the extraneous noises produced by these machines in a very focused manner and the subsequent utilisation of these noises within a series of performances.

The foundation idea was to produce a piece which exploited those sounds which are the byproducts of the media based devices, both from the devices themselves and the media used to play and record music on the devices. The premise was to use noises which form a part of the recorded sound listening experience but which are never the original intentions of the composer or recording artist, sounds which layer themselves within the sonic experience of the listener but which were not present in the making of the original work. This approach to the research partly indicates an allegiance to Kim Cascone's 'Aesthetics of Failure' highlighting the ever-present detritus that accompanies

all technology. Although where Cascone states 'technological failure is often controlled and suppressed - its effects buried beneath the threshold of perception' (Cascone, 2000:13), this research highlights a more direct and blatant aesthetic of failure which, once identified and revealed, is very close to the aesthetic surface even before it has been necessary to 'zoom in on the errors' (Cascone, 2000:13) with audio sculpting tools. This is a research project of surface errors. This work takes a positive viewpoint of this 'failure'; the extraneous sounds produced outside of the composer's intentions become integral to the listening experience and are linked to our emotional connection with the musical experience itself.

The nostalgia associated with some of these unintentional yet inherent sounds such as hissing, scratching, clicking and popping becomes an essential part of our experience with the mediums encountered, or, as Marshall McLuhan states 'the medium is the message' (McLuhan, 1967). The noises of the machines themselves become extensions of our relationships to the media content contained within. According to Monty Adkins (as discussed in Chapter 3), as listeners we are 'hunting' affordances from our listening experiences, these extraneous noises emitted from the media machines are a very literal form of Adkins' 'Acoustic Chains' and enable:

> …the exploration and interpretation of the semiotic effects of sound material beyond the intentions of the composer and go some way to the formulation of an esthesic perceptual framework (Adkins, 2009:7).

This evocation of our sonic past, or 'Anemnesis'[25] (Augoyard and Torgue, 2009:21) feeds us an often unexpected or even overwhelming emotional response to the nostalgia of our listening histories. The music is the intention but the surrounding noisy associative sounds

[25] Anemnesis is a semiotic effect, a reminiscence of the past which is triggered by a sonic occurrence, as described by Augoyard and Torgue in 'Sonic Experience - A Guide To Everyday Sounds', 2009, p21.

become, symbolically, a clear and emotive part of the fabric of the message. As Jean-Jacques Nattiez puts it in *Music and Discourse: towards a Semiology of Music*:

> a symbolic form […] is not some 'intermediary' in a process of 'communication' that transmits the meaning intended by the author to the audience; it is instead the result of a complex *process* of creation (the poietic process) that has to do with the form as well as the content of the work; it is also the point of departure for a complex process of reception (the esthesic process) that *reconstructs* a 'message' (Nattiez, 1990:17).

The surrounding noises connected to these media machines are symbolic, emotive and are as much a part of our reception and communicated nostalgia of the music as the music itself. This nostalgia operates across both *personal* and *cultural* memory. Where personal memories draw on an individual nostalgia and are a rosy eyed longing for what once was, cultural memories are shared and demonstrate a collective recollection of a previous existence. Cultural memories currently abound in all forms of media; retro fashions, music sampling, television documentaries, cover bands, old format music reissues such as the current vinyl revival, and much more. Personal and cultural memories are the breeding ground for nostalgia. Theorist Svetlana Boym identifies two manifestations of nostalgia; reflective nostalgia and restorative nostalgia (Boym, 2002). Reflective nostalgia is a personal, and perhaps bittersweet look back to how things were, often realised aesthetically through the arts, reflective nostalgia understands the past is gone. Restorative nostalgia, however, seeks a return to the past, a reactionary dislike of the new and the progressive, and can be a direct response to the rise in machines such as those used here. In the case of The Media Machine, a reflective nostalgia is coerced from the audience, drawing on cultural memories of media technologies which produce José

van Dijck's 'mediated memories'; we recognise the technologies being used here and have a tangible and direct connection to them as objects and sounds because mediated memories include '…*the activities and objects we produce by means of media technologies, for creating and recreating a sense of past, present and future of ourselves in relation to others'* (Dijck, 2007:21). José van Dijck writes that this interchange between personal and cultural memories is important as it helps to shape our selves as individuals (Dijck, 2007:12). Simon Reynolds writes 'Nostalgia is now thoroughly entwined with the consumer-entertainment complex: we feel pangs for the products of yesteryear' (Reynolds, 2011:xxix). Reynolds discusses this intersection between cultural and personal memories, and how it has encouraged a fascination for all things retro (Reynolds, 2011:xxx). The Media Machine exploits this fascination for retro and reminds the audience of the sounds intricately connected to the objects remembered.

A collection of media machines were sought which span the one hundred year timeframe and these were subsequently investigated in a variety of ways to harness the connected machine sounds. The aim of this was to outcome a work which makes full use of those junk sounds inherent in and evolving across the history of the sound recording and playback device, but also to make use of the decommissioned, unused and obsolete media machine *objects* as an integral physical aspect of the work.

The physicality of the objects, alongside the sounds of the machines, builds on the embodiment of the audience memories buried within the technological temporality of this industry. It is with this in mind that the work is presented as a sound installation and performative (theatrical) piece as opposed to a purely acousmatic work. The objects themselves are as important as the sounds.

The Media Machine Centenary is an excavation in the 'media archaeological' (Hertz & Parikka, 2012) sense through its development of a 'language of reuse' (Hertz, 2009:2).

The work draws on and exploits the failures of the recording and playback device, it draws out the failures of sound reproduction, it interrogates obsolete technologies, it works within the temporalities of the object and understands it to be a comment on the accelerating rise of communication technologies. However, although some emphasis here is on clarifying and highlighting the cultural and social concepts of progress within technology and the work provides a certain clarification of the wasteful and pollutive aspects of areas such as the consistent drive for modification, updating technology and 'planned obsolescence' (Hertz & Parikka, 2012:425), the central emphasis is on producing a compositional work of insightful and aesthetic interest which could then act as a platform for the underlying social commentary. This point is in relation to the overall approach of the PhD research as being in the first instance about the composing itself, and in the second instance about the underlying environmental messages and sometimes polemical position that working within this field of junk sounds and objects naturally posits. The Media Machine Centenary seeks to demonstrate the shift from *unwanted* to *wanted* in these discarded media objects and the underlying positive environmental and social messages are important and useful by-products.

The evolution of this project can be broken down into the following categories, and the subsequent sections will deal with each of these categories in turn:

4.1.1. Collecting

4.1.2. Interrogation

4.1.3. Composing

4.1.4. Performance

4.1.5. Reflection

4.1.1. Collecting

A collection of media devices was needed which spanned the one hundred years from the present leading back to around 1912. I concluded that the latest form of music listening experience was that of online music streaming and the earliest in this timeframe would be the early 20th century Gramophones and Phonographs. Wherever possible I sought items and equipment that had been discarded, thrown out or simply taken out of operation due to broken or unserviceable features. The collecting took a variety of sources from which to assemble the required items. The most recent, and still in use, were taken from my own collection of devices. Stretching a little further back through the history of such items I was also able to plunder my own collection of decommissioned and broken sound devices. The middle era of items took some hunting from various spaces, including old dusty school cupboards, car boot sales and friends and families forgotten and unloved attic spaces. The MMU Cheshire Contemporary Arts department itself also had a cupboard full of decommissioned and broken equipment which was fruitful. For the much earlier items such as the Gramophone players, other resources had to be used such as bidding for items on eBay.[26] These early sound devices have now become quite collectible and so can be quite sought after, commanding high prices.

A list of devices collected and used in the work;

1. 1910's Horn Gramophone
2. 1920's HMV box Gramophone
3. 1930's Radio Horn

[26] An online auction site which lists items for sale and allows electronic bidding on the items until the time limit runs out at which point the item is bought by the highest bidder. http://www.ebay.co.uk

4. 1940’s Bush Bakelite Radio

5. 1950’s Ultra Stereophonic Radiogram

6. 1960’s Dansette Box Record Player

7. 1970’s Akai Reel To Reel Player (A)

8. 1970’s Tascam Reel To Reel Player (B)

9. 1980’s Technics Turntable

10. 1980’s Denon Cassette Player

11. 1980’s Sony Cassette Walkman

12. 1980’s Dictaphone

13. 1990’s Sony DAT Player

14. 1990’s Sony Minidisc Player

15. 1990’s Shower Radio

16. 1990’s Sony CD Walkman

17. 2000’s Sony CD ‘Ghetto Blaster’

18. 2000’s Apple iPod

19. 2010’s Apple iPhone

Other items used in the piece include;

1. Apple Laptop (running custom software developed in Max/MSP (connected to Mackie Speakers).

2. Soundcraft 16 Channel Mixing Desk (connected to JBL Speakers).

3. Small Table Lamp.

4. Old Wooden Rocking Chair.

Other equipment used in the work includes cables, leads and FX units to string the items together through the sound desk.

Image 4.1.1 - The Media Machine in situ for the Centenary Exhibition.

As the items were pieced together a tangible sense of the history of recording and playback began to unfold around me, although I was also aware that I wasn't attempting to achieve a complete and exhaustive history of the items, I was merely dipping into the one hundred years. As a result, it is worth noting that this piece is not historiographical work in the conventional sense. So, rather than saying something specific or exhaustive about this last century, I am exploiting moments within the last one hundred years worth of media machines as a method to assist in finding an aesthetic outcome within the sonic waste methodology, or as a way of discovering a journey towards a new piece of sound sculpture. The Centenary of course gave me that stimulus, and the work is designed to relate to that theme, but the history here becomes manipulated and twisted around, the past becomes the present, the present references the past and the time frames are all layered and intermingled. As I collected the items there was no attempt to provide a continuum of narrative around them as historical artefacts, I was choosing and selecting

items based on my own subjective selection processes to assemble what I deemed useful machines for harnessing junk sounds and extraneous noises.

As a result there is nothing chronological about the outcome of the work. This is not truly an accurate time stamp of the rise of the media machine. There are gaps, inconsistencies and skips within the timeline, it is a confused and selective linear presentation, that does not flow from *left* to *right*, or from *then* to *now* in its compositional conclusion. The Media Machine is steeped in the history but entrenched in the present. This work is historically fluid much like Morton Riis points out in Organised Sound in relation to his 'Steam Machine Music', as a media archaeological artwork it:

> could be seen as a form of spatialized, conversational historical writing, as a way of maintaining a dialogue with the technological past in moving back and forth in time (Riis, 2013:258).

It became apparent that the use of media in this way disguises time, it creates cracks in time and jumps around the decades forcing super-real juxtapositions and partnerships. Music and sound operate within multiple time frames; Jonathan D. Kramer, for example, identifies a list of potential temporalities; Absolute time; Social time; Clock time; Virtual time; Gestural time; Goal-directed time; Nondirected time; Multiply-directed time; Vertical time; Linear time and Non-linear time (Kramer, 1988). In a work such as The Media Machine some of these multiple temporalities are readily apparent as a result of physically sampling sounds and objects from the past. There is the passing of time when the original extracts of sound took place and were recorded. There is the fixing of that time with the original recording and there is the recording object's subsequent journey through history. Then I am fixing that slice of time from the past firmly in the present. I am dividing up and mixing time-frames across the real time of the subsequent performance on the devices. So time here is flexible and fluid. The Media Machine exploits Kramer's multiple

temporalities as a compositional device through its display of sounds and objects spanning a complete century. Although, there is nothing pointedly historiographical here, just a blatant disfiguring of history! This is a Century-wide artwork. This is a 'non-linear engagement with devices and concrete apparatuses that physically carry the past into the present' (Parikka in Kroker & Kroker, 2013:186). I have dipped into the last one hundred years and extracted useful moments as a means to create an *installation based performative sound sculpture,* in which '…the linear interrelationships between past, present and future are suspended' (Kramer, 1988:387).

By exploiting areas and developments of this history without becoming too bound to its historiographical demands, it is possible to pick out selective concepts from the cultural, social and technological relationships we have with these sound reproducing devices to inform the resulting work. By looking back across the Century we can exploit these notions such as the nostalgia associated with these machines as cultural debris, our sociological comprehension of the, at times, rapid evolution of the machines, our relationships with the sound and noise imprinted within the context of these machines and from this we can then ask, 'how can some of these aspects be exploited to inform this particular compositional work?' Despite avoiding a posited historiographical approach I can exploit the history of the media machine to find pathways through a conceptual approach to the process of composing, in both a nano-structural manner; the individual sound elements, and in the macro structural manner; the overall large scale structural devices. More of these aspects are discussed in the next two sections

4.1.2. Interrogation

The approach to investigating and producing sound sources from which to build the composition took three broad directions:

A. ***Using the machines and their sounds in the 'natural' or intended manner (exploiting the side effects).***
B. ***Manipulating the machines to sculpt the 'naturally' embodied sounds (applying sound processing to the side effects).***
C. ***Reinventing the use of the machines to turn them into new forms of sound generation devices (ignoring the inherent side effects and instead using the machines as objects to trigger 'other' media machine sounds - as a control interface).***

These three approaches are now discussed.

A. Using the machines and their sounds in the 'natural' or intended manner (exploiting the side effects).

One interesting aspect of the sound playback machine is the gradual attempts over its history to find the perfect fidelity, to render the machine itself 'invisible' so the literal medium between the original and the copy vanishes. The idea being that when hearing the recorded playback of a performance, the impurities of the recording and the playback are diminished to become unobtrusive. It is an attempt to reproduce precisely the listening conditions as if it were a live experience. The drive towards improving these objects as sound reproducing devices throughout the last 100 years is based around this search for the ideal listening experience.

Contemporary Hi-Fi amplifiers and recording studio speakers, for example, are graded and sold on their 'transparency', their lack of colouring of the original sound. From Genelec's studio speakers website:

> all Genelec solutions reveal the original nuances of the sound, without leaving anything out from or adding anything to the signal in any stage of the production (Genelec [online] 2015).

It is all about reaching a point of absolute perfect sound fidelity. With the very latest technologies and high rate sampling it might be considered that we have reached this point of perfect fidelity, that with all the latest digital sampling and playback we can record and reproduce sound in this ideal, accurate manner. Fairly recent approaches to this claimed that so called CD quality sound was enough, i.e. that a 44,100 Hz sampling rate and a 16-Bit depth of resolution is more than capable of fooling the brain into thinking it is hearing an original sound source. What this means is every second 44,100 samples are taken and the dynamic range of that sample can extend to 16-bits worth of data range - this is based on taking twice as many samples as the human hearing range is capable of in Hertz which is widely recognised as being 20 - 20,000 Hz.[27]

But, along came 24-bit recording, which you now hear in the cinema, and on DVD discs extending the possible resolution of dynamic depth, along with an increased number of samples with a 96kHz sampling rate. Although obviously a subjective experience, in my personal experience, with a focused listening approach, it *is* possible to hear the difference in quality, despite the original claims that 44.1kHz, 16-Bits was enough for perfection. There are other formats too such as SACD which boasts sampling rates as high as 2.8224MHz. Now being introduced more widely is 32-Bit, and soon to be introduced in the general domain will be 64-bit recording and the possibility of using 192kHz is already an option in most DAW software. So, even now, continuous attempts to improve upon this so-called 'perfect' audio quality are being introduced and their positive/negative attributes are

[27] See The Scientist and Engineer's Guide to Digital Signal Processing
By Steven W. Smith; http://www.dspguide.com/ch22/1.htm

constantly debated.[28] Yet at every step of the journey we have been told by the marketing that what we hear *is* perfect sound fidelity, right from the very earliest days of this sound industry.

Around one hundred years ago the horn gramophone was being developed and significantly, at the forefront of the advertising campaigns were the claims of perfect fidelity. The adverts asked 'WHICH IS WHICH?' (Sterne, 2005:217), posing the question; Is it a live human or is it a recording? A Victor advert from 1908 selling machines exactly like the one in this media machine installation claims:

> You think you can tell the difference between hearing Grand Opera artists sing and hearing their beautiful voices on the *Victor*. But can you? (Sterne, 2005:217).

By the 1930's they were saying 'the human voice IS human on the new Orthophonic Victrola' (Sterne, 2005:224). One hundred years ago we were being told the difference between the 'live' and the 'playback' was identical and impossible to distinguish.

In retrospect and with the advantage of hindsight, this now seems an utterly ridiculous claim. Listening to the Gramophone today leaves you in no doubt at all that it bears little sonic relation to a 'real' live performance. Although, it is also clear that those encountering the sounds of their own voices being played back on early phonograms were not necessarily convinced by the reproductive 'realness' of these machines, poetically revealed here by Alfred Jarry:

> O my head, my head, my head, All white underneath the silk sky:
> They have taken my head, my head - and put me into a tea tin!
> (Alfred Jarry cited in Labelle, 1980:26-27).

[28] For example here is an interesting article in Sound on Sound Magazine which debates the use of these higher sampling rates; http://www.soundonsound.com/sos/apr14/articles/qa-0414-02.htm

A more recent example of this is the Memorex Cassette Tape advertising of the 1970's 'is it live.. or is it Memorex?' (see GarfieldFCo, 2011) despite the abundance of tape hiss and wobbly mechanisms distorting the tape playback speed, the contemporary thinking of its day was that this was 'perfect' sound fidelity; once again the storage format is promoting the idea that the difference between live and recorded is indistinguishable.

As noted above, CD quality apparently marked as close to perfection as possible and yet there are improvements being made still, although interestingly these standards are dependent on the medium of the playback machine. With audiophile high-end equipment the formats can be reproduced in the quality they were intended, but many listeners are now listening back to these extreme high quality recordings in the reduced format of the mp3. With an mp3 file the sound is compressed, frequencies removed and multiple artefacts are being introduced into the sound recording, and so what is finally heard is compromised. In simultaneous development with the increase in sound reproduction quality is the increase in lower quality format listening. The end user is becoming more reliant on easy access web streaming and mp3 playback devices that currently accommodate a lossy, compromised sound.[29]

This drive towards improvement and claims of perfection with sound reproduction provided an initial stimulus upon which to draw out some compositional devices. As a starting point to discovering sounds from which to build the piece, each of the machines were listened to using the intended media formats such as Cassette Tape, Vinyl Records, & DAT Tapes. This allowed me to make note of some specific side effects, imperfections and general intrusive extraneous sounds resulting from the 'normal' use of the machines. This research enabled an exploitation of the *lack* of transparency. This immediately started producing a palette of sounds that could be included in the composition.

[29] According to the BPI figures for 2012, that year saw the balance between digital music income and physical music income reach a 50/50 split. See https://www.bpi.co.uk/assets/files/BPI_Digital_Music_Nation_2013.pdf

Examples being;

a) The sound of a Turntable needle on a Vinyl Record at points where no ‘music’ exists.

b) The static pops and crackles bleeding into the music on Vinyl.

c) The background hiss from a Cassette Tape during moments of no music.

d) The static and interference from a Radio tuned between stations, but also bleeding through into tuned stations.

e) The numerous clicks and thuds of the devices being switched on and off and other function buttons.

f) The skips in data loss from digital formats (CD, DAT)

g) The slowing down/speeding up of sound through tape wear and cassette mechanisms failing.

h) The timbre and tonal imperfections of diminished frequency responses inherent in certain formats (particularly Gramophone Players, Small Speaker Radios, MP3 players built in speakers).

i) The audible ‘speeded up’ effect of fast-forwarding a medium, such as Mini-Disc or Cassette Tape.

Some of the machines were used in this ‘acoustical’ way, harnessing the side effects in the manner in which they sounded naturally and with no other manipulation other than the framing of the events within the compositional structure. This goes some way to highlighting the audible distance between the reproduction of music through the machines and the reality of *live* music.

B. Manipulating the machines to sculpt the 'naturally' embodied sounds (applying sound processing to the side effects).

Some of the machines were selected to have their sound outputs manipulated with sound processing through computer based effects or hardware effects units.

These included;

a) HMV Gramophone player

b) Reel To Reel tape player/recorder (A)

c) Cassette Walkman

d) Shower Radio

e) 1960's Dansette Box Record Player

The FX used for these machines are now explained:

a) The HMV Gramophone player had a contact microphone connected to one of the inner slats that form part of the amplification by directing the sound waves outwards when the front doors are opened. The transformative effect I used here was to send the mic output through to a hardware effects unit that combined the FX of Echo Delay with Pitch Shift Modulation. The intention was to create two possible forms of compositional effect. The first was to send a deep thud produced when the front door was opened. In combination with the FX this gave the impression of an *echoey* gust of air being allowed to escape from inside the machine in metaphorical allusion to the sound of ghosts from the history of the machine being allowed to escape when the doors are opened. Secondly this effect also applied to the sound of the spinning turntable to give an eerie textural effect when the disc was spun. This enabled a form of 'Scratching' normally aligned to post 1970's Turntablism on a 1920's turntable which contributed to the position of blurring the distinctions of the

historical periods associated with the machines. When performed in this way during the compositions it draws attention to the multiple time frames as discussed earlier in this chapter. Through the revealing of such sounds and theatrics within a performance it enables the past and the present to co-exist, suspending the temporal interrelationships (Kramer, 1988:387).

b) The Reel To Reel Tape player/recorder (A) had a contact microphone connected to the front panel where it was able to pick up the inner vibrations from the movement of the mechanical workings. This sound output was fed through the 'ping pong' delay of the mixing desk that gave some spatial movement to the click, thuds and whirring sounds produced from operating the buttons and spinning mechanisms. The resulting echoes were panned hard left and right and contributed to the sense of movement around the space of performance. This draws attention to the physical dimensions of the work and assists in the contextualisation in relation to its surrounding Aural Architecture (Blesser & Salter, 2007).

c) The Cassette Walkman had a cable (3.5mm Stereo Jack) from the headphone output connected to an input on the Laptop audio interface which enabled processing through a custom built software patch built within Max/MSP. *[see Image 4.1.2 below]* The Cassette was forwarded to the end of the tape and left in the play position that outputs a continuous whirring and clicking sound. This was then processed through a GRM Pitch Accumulator effects unit. This enabled a repetitive rhythmical device that emphasises the objects as instruments.

d) The Shower Radio had a contact microphone attached to the plastic casing above its small speaker. This was then fed into a custom built Max/MSP patch *[see Image 4.2 below]* that transformed the sounds using a GRM Shuffling effects unit. The Radio was played by adjusting the controllers that alter the tuning of the station, and the changing of

the volume. Also, by handling the Radio in a very tactile way, the motion of the vibrations occurring sent signals through the contact microphone and triggered the FX sounds. This enabled another gestural, performative action to make explicit the use of these items as parts of a musical instrument.

e) The Dansette Record Player had a contact microphone attached to its main body which picked up the whirring, spinning sound of the motor and turntable, the clicks and thuds of the mechanisms from the tone arm and the on/off buttons. These sounds were accentuated using equalisation frequency filtering to highlight the frequency bands of the noises I wanted to use and to suppress certain other less desirable frequencies. This enabled rhythmical material within the composition. The continued revolutions of the turntable create repetitive noises in the manner of a drum machine and facilitated poly-rhythmic sections within the composition when coincided with other repetitive sections, such as the Cassette Walkman.

C. Reinventing the use of the machines to turn them into new forms of sound generation devices (ignoring the inherent side effects and instead using the machines as objects to trigger and manipulate 'other' sounds - as a control interface).

The following devices were transformed into new control interfaces

a) Radio Horn

b) Bacolite Radio

a) Radio Horn

This original radio horn from the 1920's I transformed into an instrument based on similar principles to the electronic ætherphone (more commonly known as the theremin)

created by Léon Theremin and patented by him in 1928. I wanted to develop an instrument that was physically performative similar to the ætherphone and would enable gestural activities in the sound creation. This would accentuate the concept of the Media Machine being an instrument on which I am physically performing.

An infra-red sensor was fitted into the horn opening which transferred proximity data to the laptop via an electronic chipboard which transforms the data from the sensor into USB complicit data. This was then inputted into the laptop where it is mapped into my constructed Max/MSP patch that enables the proximity data to control a sound emitting application.

The horn is played by moving the hands (or other object) in front of the funnel. The distance from the funnel of the horn affects the pitch of the sound emitting application - the closer to the horn, the higher the pitch.

The sound emitting application was designed to emulate a similar sound to the ætherphone; essentially a sine wave which I then processed through an echo delay effect within the application. This provided a sound not dissimilar to some of the uses of the ætherphone from this period of circa 1930 - 1960. To the viewer, the physicality and familiarity of the object confounds expectations when unusual and unfamiliar results emit from the machine and this mixing of time frames also reveals the dependency that contemporary machines have on past technology.

b) Bacolite Radio

This device was also fitted with electronics, in the form of a chipboard to convert the analogue data from the radio controls into digital data which would be readable by the laptop. The Radio resulted in having three effective functions. The first was an on/off switch that I used as a switch to trigger a pre-sculpted sound file of a layering of vinyl

crackle. The second was a dial/switch that could trigger a message on, and then sweep numerical data from high to low. This switch I fed into a custom built application using Max/MSP [*see Image 4.2 below*] intended to emulate the high whistling radio interference encountered between band selections. The third switch simply swept data between two points and this was used to manipulate playback speeds of a prior recording of radio interference.

Once the collection of devices had all been assembled I spent a lot of time playing and improvising to discover and tease out all the sounds possible. This was valuable research that enabled insight into which sounds worked well in combination and which sounds needed space and time to develop individually. A catalogue of sonic results emerged. Through the joyful and tacit process of hitting, scraping, twisting, scratching, spinning and digitally affecting the sonic waste, a proficiency on the overall instrument was achieved.

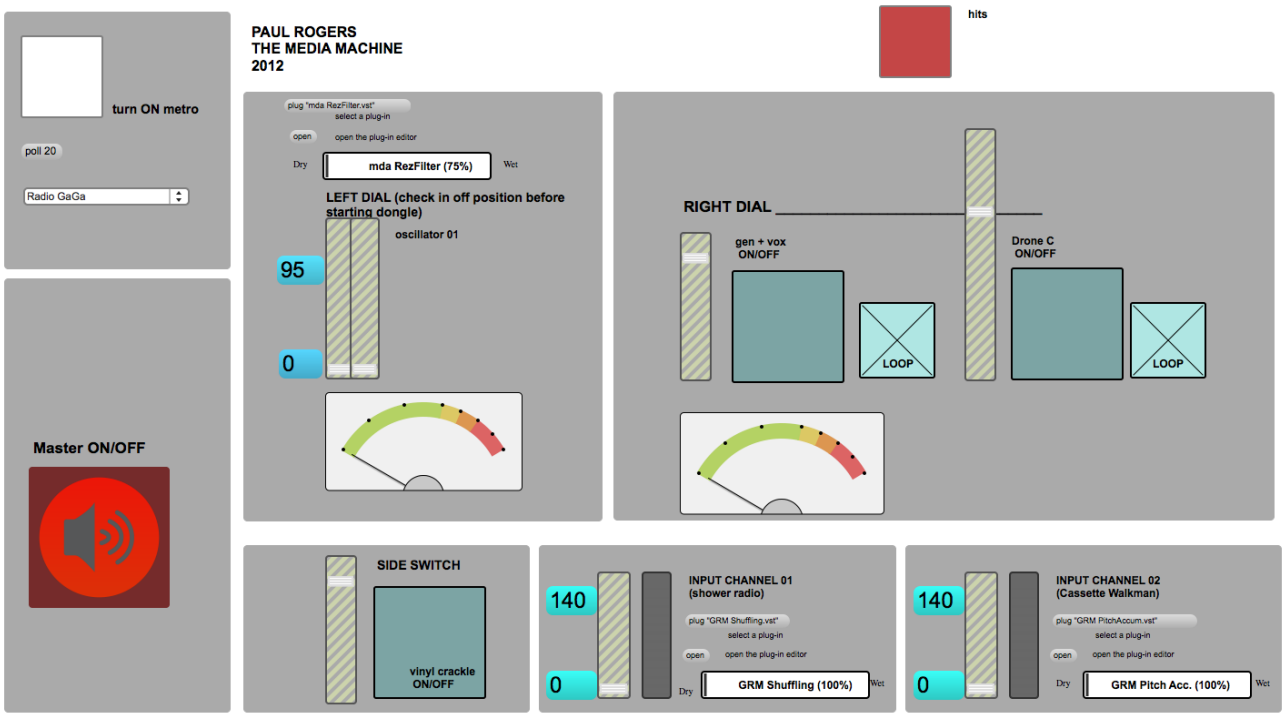


Image 4.1.2. - Presentation Mode of a Max/MSP Patch created for The Media Machine. This software patch functioned as the control operator for all the Bakolite Radio functions as well as the input controls for the Shower Radio and the Cassette Walkman. This shows the presentation mode (the operational interface).

4.1.3. Composing

The first point to make here is that the Media Machine installation itself actually affords multiple possible realisations. It stands, in effect, as one giant integrated instrument therefore allowing for multiple composed or improvised pieces being performed on it. There have been a few different outcomes of the Media Machine each developing in slightly different approaches and compositional forms and structures. In the additional studies and compositions provided on disc (see *Appendix 4*) I have included three versions. Version A is a live, documentary recording of one of the Centenary Exhibition performances. Version B is a studio-edited version of extracts from the Centenary Exhibition live recording (developed as an audio trailer). Version C is another studio created piece that was developed during preparations for another live performance of the Media Machine at 'The Noises Of Art' Conference at Aberystwyth University during September 2013. It is important to remember, however, that the recorded compositions are really just audio documents of the works, even version B which is an attempt at creating an acousmatic snapshot example of the work, which functions slightly better as a *listening only* experience, is only part of the whole. The Media Machine sounds are, specifically designed to be heard in combination with the physical objects themselves and anything else serves as a documentary reference only. What follows is a discussion of the primary outcome of the Media Machine at the Centenary Exhibition.

When Thomas Edison was developing his ideas for the phonograph one of his motivations was to create a machine that transcribed sound into graphical text. He sought a machine one could communicate with, which would understand what was being *said* and would then subsequently create a written version of that text (Sterne, 2005:202). Edison never quite realised this ambition, despite the profound and far reaching influence of his contribution towards recorded sound. We now, of course, can have that machine in the

palms of our hands! For example, built in to the latest versions of the Apple iPhone is SIRI, a communicative piece of technology which is capable of identifying the words being spoken, interpreting these words and, not only transcribing them into a graphical textual version, but also responding in real time and engaging in a form of conversation with the user. One Century later Edison's vision has materialised and so with this in mind I chose to use SIRI as the starting point of the composition.

The piece begins with an improvised conversation about performing some music between SIRI and myself. SIRI plays some pre-recorded music through the iPhone as I request it, and the limited frequency bandwidth of the phone speakers immediately highlights the 21st Century side effect to music listening habits. We don't hear the high fidelity, pristine quality of the recording which highly skilled engineers and extraordinarily expensive recording studio equipment has painstakingly produced in the first instance. Instead we hear a small, compressed and 'tinny' version of the music, a sound saturated with unintentional sounds and side effects. This is a deliberate method to begin the piece with a 'lo-fi' sound. The artistic choice here is to highlight an immediate dichotomy between the transparency of current 'hi-fi' recording techniques, or the attempt to make the 'live' seem 'real', with the reality of the 'lo-fi' listening situation which is a common contemporary occurrence. The sound quality of the music emanating from the iPhone is small, tinny and distant, like some faded memory, further emphasising the distance between the live presence (the now) and the mediated past (the then). As we distinguish memories from the present, we distinguish the copy from the original.

This generates an unusual paradox. High Fidelity music itself is an illusion; the more a recording studio is able to create a facsimile of the 'live' in a recording, the more it becomes manipulated with studio technique and loses its link to real time performance. If 'live' is to be considered 'authentic' and 'recorded' is to be considered 'inauthentic' -

discussed by Melle Jan Kromhout in ‘As Distance As Close Can be’ (Kromhout, 2012) - then the authenticity of ‘liveness’ is here called into question. The presentation of a modern recording through a ‘lo-fi’ medium in a staged, live setting subverts the reading to a kind of *proto-authentic* occurrence. As performance theorist Philip Ausländer argues, the hi-fi recording is always a mediatized version of the real, where the live represents ‘real’ or ‘authentic’ and recorded represents ‘unreal’ or ‘inauthentic’. If we are ‘well into a period of cultural history defined by the domination of mediatized representations’ (Auslander, 1999:10) then this spiral-like intricacy of a live performance of a lo-fi representation of mediatized sound of a hi-fi recording appears paradoxical to the expectations of an audience. Just what is *live* and what is *mediatized* in this situation? Auslander considers the opposition between live and mediated forms are ‘determined by cultural and historical contingencies’ (Auslander, 2008:11). If contemporary audiences are surrounded in abundance with mediated forms then this demonstration of the act of listening to a blatantly frequency altered recorded music within a live music performance draws on these cultural and historical contingencies and subverts the association. The idea, however, of applying *authentic* and *inauthentic* to *live* and *mediatized* sits uncomfortably with my approach with The Media Machine, being that it celebrates both performance and recorded forms. In the early 1990’s Peggy Phelan described a more positive outlook on these potential binary situations. Phelan promotes value and celebration in the ‘impossibility of seizing/seeing the real anywhere anytime’ (Phelan 1993:192), and writes of the impossibility of actually documenting, recording any representations of a performance. For Phelan this activity removes the ontological status of liveness and its reliance on presence (Phelan, 1993:146). In this sense, the playback of the mediatized fragments in The Media Machine demonstrate a presence of both human and machine which clearly demarcates a causality of the listening materials and brings authenticity to the concurrent modes of both

live and mediatized. Simon Emmerson discusses these definitions further in *Living Electronic Music* and pays particular interest to the causality of sound events. The potential confusion of hearing without seeing, observes Emmerson, creates dislocation between 'live' and 'recorded' (acousmatic). Emmerson's 'acousmatic dislocations' (Emmerson, 2007:91); time, space and mechanical causality, which severed electroacoustic music from live music are emphasised on The Media Machine instrument through the ontological properties of the instrument's playback functions. However, the method of causality and human presence adopted on The Media Machine is making it clear that the 'real time' manipulation of these machines is in the hands of the performer. There is a distributed mixture here of Emmerson's *Real* (truly performed through cause and effect in the moment) and *Imaginary* (pre-prepared sounds to imply a causal link). The audience 'perceives the *net result* of the two and cannot (by definition) disentangle them. […] What *sounds* causal *is* effectively causal' (Emmerson, 2007:93).

During the process of assembling the Media Machine I came across an old 78rpm record destined for the scrap heap. The title of the track on Side A was called 'Somewhere A Voice Is Calling' and I discovered it was written roughly one hundred years ago, to within a few months. This seemed an appropriate title to use for the whole piece as it alludes to voices from the past calling out, like ghosts, from the machines of a one hundred year history, being allowed to find their voices once more. Like the scratchy, ghostly voice playing out from the surface of the record itself, the lyrics speak of a voice calling out from the shadows. So the title of the Sound Sculptural performances first presented during the Centenary Exhibition became *Somewhere A Voice Is Calling*.

The complete song lyrics are transcribed here:

Somewhere A Voice Is Calling

Dusk and the shadows falling

O'er land and sea;

Somewhere a voice is calling,

Calling for me.

Dusk and the shadows falling

O'er land and sea;

Somewhere a voice is calling,

Calling for me.

Night and the stars are gleaming

Tender and true

Dearest, my heart is dreaming,

Dreaming of you.

Somewhere a voice is calling,

Calling for me,

Calling for me.

Lyrics by Eileen Newton, music by Arthur F. Tate, 1911

Originally Published by J.H. Larway, London.

This was played out on the gramophone player for the final section of the Version A composition. Toward the end of the piece I wound the handle of the gramophone just enough times to allow the play through of the chorus before the record would begin slowing down as the turntable mechanics ran out of motion. The gradual slowing down of the record indicated time itself slowing down to a stop and was of course, a symptomatic

side effect, a sonic malfunction of the device. A physical manifestation of Zombie Media's assertions of a 'modulation of temporality' (Hertz & Parikka, 2010:6), this transgression of original intention, this error imbued mechanical action was a loaded sound event.

'Dusk and the shadows falling' from the lyrics also put me in mind of the idealist philosopher Georg Wilhelm Friedrich Hegel and his observations on the possibility of philosophising about historical positions. There is a relationship here to the temporality of the media machines. These temporal events and objects can only be fully understood after the dusk has settled. Hegel writes; 'Only when the dusk starts to fall does the owl of Minerva spread its wings and fly' (Hegel, 1820). The temporality of the machine can only be truly understood after the dusk and shadows have settled after its functional life span.

The links between the phonograph and the spirit world of ghosts and disembodied voices has been made here. In *Speaking into the Air: A History of the Idea of Communication*, John Durham Peters has noted the rise of the machine as subjugating both time and space and equates this to the ability of hearing the voices of ghosts; '[e]very new medium is a machine for the production of ghosts' (Peters, 2000:143). This link between recordings and ghosts has been apparent since the inception of the phonograph, which was seen as a method of preserving the dead, allowing the ghostly voices to speak from beyond the grave. Edward H. Johnson, who was Edison's assistant, wrote in *Scientific American* at the time of Edison's first working models that '[s]peech has become, as it were, immortal' (Johnson cited in Sterne, 2005:298). The Media Machine as an instrument is able to contextualise this connection, conjoining the tinny, faded memories of recorded sounds, music and speech from the past with the hi-fi expectations of the present. The Media Machine spotlights the ghostly past of its internal workings of a previous age, as it is mediatized, with presence and ghostly voices, in the present.

These two events; the iPhone conversation with SIRI and subsequent mp3 playback, and the performance of the 78rpm 'Somewhere A Voice Is Calling' on the Gramophone Player became the bookends of the composition for Version A, the start and the finish. This Century-wide celebration of ghostly recordings and cutting edge technology became the outer framework for the Media Machine Centenary Exhibition performance. Between these two points it was essentially an improvisation on the sounds and techniques previously explored and teased out of the machines.

To perform, I followed a plan to make my way physically from left to right across the various instruments as they were set up, however this process was very flexible and I was open to deviation from this as I was *playing*, with the sounds in various combinations. This process relies partly on my tacit knowledge of being able to extract compositionally useful rhythms, melodies and textures within the performance. During the moments spent on each machine an improvisatory flexibility of performance was incorporated within elements such as time spent, depth of texture, dynamics and the specifics of sounds teased out. This approach gave an overall structural framework within which to work but allowed room to maneouvre to evolve varying performances of the piece. The physical layout of the objects then becomes the score structure.

There are also a few theatrical elements to the work that I aimed to spread evenly across the composition as a whole (discussed further in chapter 4.1.4. below) and this also helped to maintain a sense of balance and continuity across the work.

Versions B and C follow different structures to the developed live version as they were intended as recorded 'snapshots' to give some idea of the type of sounds, textures and ideas contained within the piece. They were essentially developed as promotional trailers for the live version in achieving outcomes at conferences and festivals etc. These versions are also included in the documentation for reference [see *Appendix 4* for details].

4.1.4. Performance

Some brief points should be made here about the performance itself and the theatrical qualities included within the presentation of the pieces.

The Media Machine itself has a presence; the immediate nostalgic and physical elements of the objects may broadly resonate in our collective and personal histories. The sounds, too, may evoke not just auditory memory but create a sense of place in the spectator. This was supported by some of the audience feedback from the events. One audience member who experienced a version of the show alone wrote the following in response to encountering the piece:

> It was a lovely experience hearing and seeing your performance all on my own. The 'on my owness' seemed fitting as my experience of these sounds is so bound up with memories of listening to music in my room (oh the days of only having to think about one room…) The sounds had a lovely spatial quality – all that static felt like a cloud I could lie back in. I like the way the brain discerns more and more patterns and layers in the non-music sounds […] It was interesting trying to follow where each [of the] sounds was coming from and how the waves were colliding and forming new sounds […] I felt relaxed about the growing performative element and really enjoyed the theatrical closure of the 'music for pleasure' sleep at the end. It was a warm piece - I enjoyed it very much - thank you.

This spectator describes a transformation of experience as the piece develops and also interestingly describes the transformation of imagined place. The sense of nostalgia is interconnected with the whole experience.

Some of the distinctly theatrical elements consciously included in the performance of the piece are as follows;

1. The opening use of the old squeaking Rocking Chair as the conversation takes place between performer and iPhone.
2. The walking *through* the audience area whilst playing the Dictaphone sounds.
3. The gestures used in combination with the Radio Horn were designed to depict the catching of a ball of sound and throwing it out towards the audience.
4. The gradual 'falling to sleep' in the Rocking Chair at the end of the piece which coincides with the slowing down and fading off of the Gramophone Player.

4.1.5. Reflection

The Media Machine is research into the extraneous sounds and obsolete playback and recording objects of the past one hundred years. The idea being that these items which have been assigned to the trash, along with their accompanying extraneous sounds and noises, are still capable of providing something beautiful and something of value to provide insights into a contemporary aesthetic of composition, improvisation and performance.

This complex and integrated instrument is constructed from items that were originally intended to be playback and recording devices. Phonography has inherently been inclusive of all sounds from the world, and these machines have not only been capable of recording and reproducing these sounds but also contributed to the palette of sounds within the world.

The Media Machine as an integrated instrument can function from multiple aesthetic positions. It can generate concrete sound, electronic sound, soundscape, appropriation, new sounds, old sounds, noise, it can project voice and instrumental sounds. The basic

premise being that it can produce *music* from *noise* or *beauty* from *sonic waste.* This work succinctly demonstrates the transformation of *unwanted* to *wanted*.

The Media Machine is a century wide transmitter of sound generation that reflects the coming of age of the playback and recording machine and operates within multiple 'modulations of temporality' (Hertz and Parikka, 2010:6). These objects of time and place are cultural artefacts that contribute to the structure and engineering of our personal histories. Media archaeologist Wolfgang Ernst describes media archaeology as 'cultural engineering' (Ernst, 2011:243). Media Archaeology, he says, uses time-critical objects which although individually have their functional snapshot in time, also exist as harbingers of the passing of time. As part of a larger whole they '…exist in a different temporal regime' (Ernst, 2011:239). The media machines, says Ernst, belong to a macro-historical world and '…they still function, even if their outside world has vanished' (Ernst, 2011:241).

If noise here is unwanted in the Schaferian sense (Schafer, 1994) then this installation fully embraces Rob Worby's supposition that 'noise may well prove to be the most appropriate metaphor for the twentieth century' (Worby, 2000:138). These unwanted sounds are used in a positive sense and they become the palette of sounds from which to paint the picture of the last one hundred years. The work here aligns somewhat with Stan Links suggestions that:

> Noise […] is not just a particular sound or type of sound; it is an aesthetic and technical approach to the work as a whole (Link, 2001:41).

The Media Machine embraces sonic waste, it transforms objects and sounds to draw out the beauty within.

Image 4.1.3 - The Media Machine at 'The Noises Of Art' conference at Aberystwtyth University, 2013.

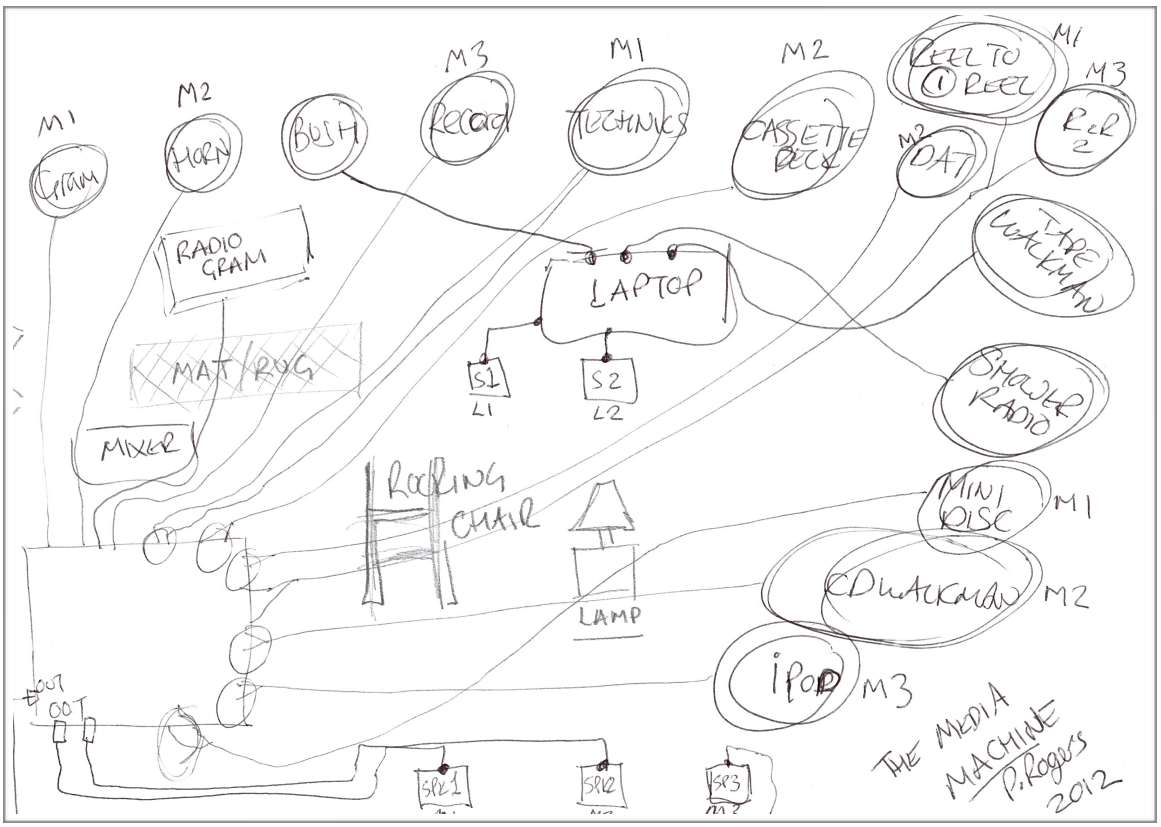


Image 4.1.4. Sketch for the general connections and items being placed in the Media Machine (not in final positions)

Image 4.1.5. Performing on The Media Machine (manipulating the Mini Cassette Dictaphone).

Image 4.1.6. 1910's Gramophone Player next to the 1980's Technics Turntable and 1950's Radiogram.

Chapter 4.2

Carmouth & Dashboard - A Sound & Puppet Archaeology

Image 4.2.1. Image of the electronically adapted Dashboard instrument from the poster design for the production of Carmouth & Dashboard at Axis Arts Centre, 2014.

The aim of this collaborative project was to research the junk sounds and objects of a variety of transportation modes, to extract *noise pollution* and discarded vehicle and transport related junk items from the environment. A sweeping approach over a number of months was used in collecting and 'liberating' junk from the environment to enable its recycling and upcycling in a positive way for a few different motivations.

These motivations include; creating a work which can be presented to both children and adults of all ages in a playful and humorous setting; creating a work which allows an investigative approach to composing with the sounds and objects collected; creating a work in which sound operates as an equal partner to all other elements within a theatrical setting; creating a work with positive and direct social messages.

These social messages include the following; to encourage awareness of the negative effects of dumping rubbish in undesignated areas (fly tipping); to encourage the recycling of old materials to stimulate both imagination and an awareness of the vibrant materiality of objects; to provide entertainment and enjoyment; to highlight the ever

increasing and changing world of noise pollution from our transport systems; to allow space for the nostalgia and love of the sounds of transport systems; to contextualise the overarching approach of this PhD research within a theatrical based performance setting.

The research underlying these approaches enabled insights into related questions such as: How can noise become entertainment and where lies the potential for entertainment qualities in noise? Is it possible to achieve a unity between junk sound and junk object in a combined outcome? In what ways can a social message be achieved with the use of Junk? How best to extract useful acoustical qualities from Junk objects?

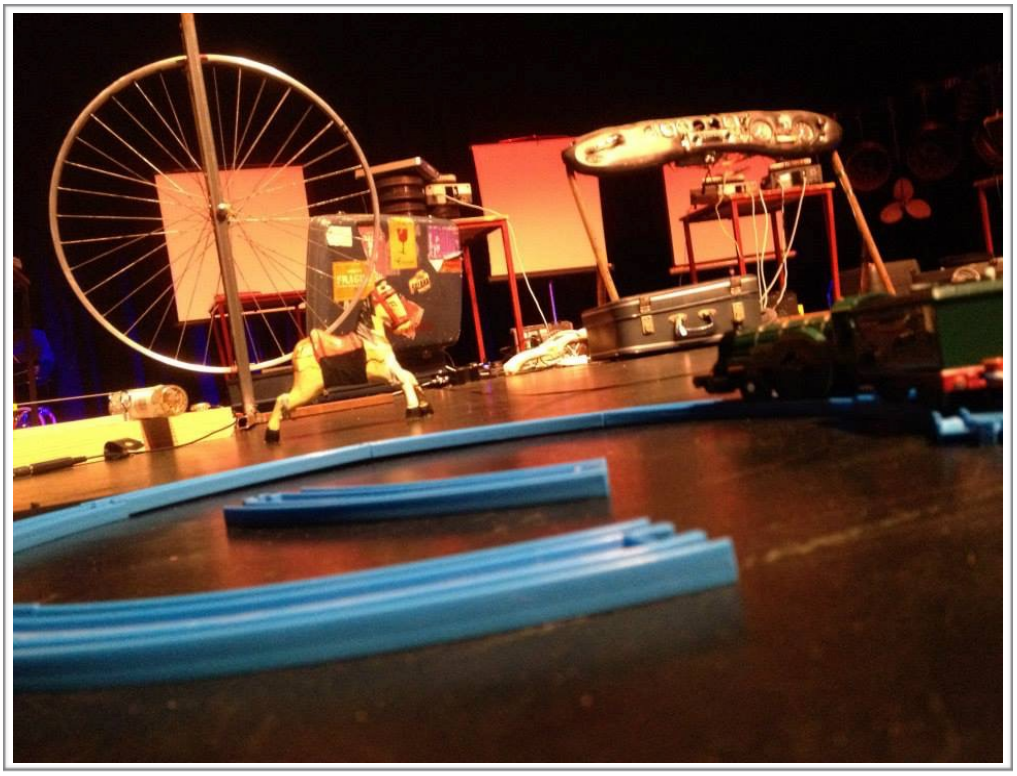


Image 4.2.2. Still from the production of Carmouth & Dashboard at MMU Cheshire.

The collaboration was with Puppeteer and Theatre Director Matt Smith (Senior Lecturer in Applied Theatre at Portsmouth University). Smith also works with a Junk aesthetic through his outcomes in theatre and puppetry, making puppets, stage sets, theatrical objects and instruments from discarded materials.

Image 4.2.3. Still from the production of Carmouth & Dashboard at MMU Cheshire. Humphrey playing with the abandoned wheel.

4.2.1. Collecting

Junk collected for the work and, in brackets, the relationship of the objects and sounds to the sonic waste palette as defined in Chapter 2.

Objects;

1. Canal Boat Propeller - (Chapter 2. C.1)
2. Broken Pram - (Chapter 2. C.3)
3. Coil Springs from a car (x2) - (Chapter 2. C.1)
4. Old Car Wheels (x3) - (Chapter 2. C.1)
5. Broken Child's Scooter - (Chapter 2. C.3)
6. Bicycle Wheel - (Chapter 2. C.3)
7. Part of a Car Exhaust Cover - (Chapter 2. C.1)
8. Old Toy Cars - (Chapter 2. C.3)
9. Toy Train Set - (Chapter 2. C.3)

10. Tram/Trolley Cog - (Chapter 2. C.1)

11. Old Suitcases - (Chapter 2. C.1 & C.3)

12. Selection of discarded bits of wood - (Chapter 2. C.1 & C.3)

13. Electrical Cable Tubing - (Chapter 2. C.3)

14. Disused Super 8 Reel-to-Reel Movie Projector - (Chapter 2. C.3 & D.1)

15. Unknown metal items from railway sidings - (Chapter 2. C.1)

16. Dashboard of a Sprite Car - (Chapter 2. C.3)

17. Scratched/broken 45rpm vinyl records - (Chapter 2. D.1 & B.2)

18. Broken Guitar - (Chapter 2. C.2)

Sounds;

1. Pedestrian crossing ‘Safe To Cross’ beeps - (Chapter 2. A.1)

2. Slow moving train leaving a station - (Chapter 2. A.1)

3. A variety of car engines and general road traffic noises - (Chapter 2. A.1)

4. Aeroplanes passing overhead in various locations - (Chapter 2. A.1)

5. Canal boat engine - (Chapter 2. A.1)

6. Car horn - (Chapter 2. A.1)

7. Bus engine - (Chapter 2. A.1)

8. A selection of roadside generators - (Chapter 2. A.1)

9. Internal train journey ambience - (Chapter 2. A.2)

10. Sounds of a bicycle - (Chapter 2. A.2)

11. Station announcers - (Chapter 2. A.3 & B.3)

12. Sounds of Tramways - (Chapter 2. A.1)

Most sounds were collected through field recordings, using stereo X/Y microphone technique (Rode Nt1 stereo pair) into Zoom Wave Recorder (44.1kHz, 16bit file sizes). On occasion the built in stereo microphone system was used. Sometimes, in moments of spontaneous discovery of a usable noise, a lo-fi recording was taken using the built in microphone of an iPhone 4S.

Image 4.2.4. Car Jacker puppet playing sounds on the dashboard instrument.

In addition, many other objects, including slide projectors, records, old car manuals, junk puppets, broken toy cars, pipes, a wooden horse, a movie projector and other related items were collected and brought to the project by Smith.

4.2.2. Interrogation

The line of enquiry underpinning this particular project includes the aim of aligning the full range of sonic waste materials to seek insight into how this amalgamation of concepts would function within a holistic setting. The project was developed to allow for the inclusion of all aspects of sonic waste, therefore materials from all categories, as outlined in Chapter 2 - Defining The Palette, were applied to the process. This was an important consideration that evidenced the collective nature of the methodology as being able to function in a mutually aesthetic allegiance.

As researchers into environmental sound seek to align separate sound studies such as physical acoustics and psychoacoustics, the mapping of spaces from a sonic perspective can be problematic. For example, there is the approach originally encouraged by the World Soundscape Project which seeks to diminish loud and unwanted sounds to allow for the appreciation of weaker, quieter sounds (Schafer, 1997), however recent moves to integrate the individuals perspective and perceptions of sound from the point of view of wanted/unwanted subjectivism (Marry, 2012 & Hällgren, 2012) can produce very different perspectives. Finding the balance between the impact of decibels and the impact of experience is crucial. An approach embracing social experience can return significantly different conclusions to one based purely on signal levels.

With this in mind, this theatrical based work attempts to allow subjective perspective across the reading of the messages contained within. For example, there are moments of excessive loudness or blunt noises, such as the build of metal percussive sounds in the rhythmical mid-section, but the point is not to *just* create an uncomfortable feeling, or to make a specific point about loudness, but to merely represent a situation. The piece is aiming to provide a social message within its performance outcome and is drawing attention to morally based assertions that sound can be a form of ‘acoustic violence’

(Miyara, 1999), but the message here is flexible; one persons noise is another persons beauty. The message is wrapped inside theatricality, (surreal) humour, music and sound sculpture to render it neutral.

The message contained within functions as an environmental based directive towards improving not only our auditory environments but also the physical junk left abandoned in our landscapes, but more than this it allows for the appreciation and love of some of these transport sounds and objects, which can also be perceived by some as indicators of 'good feeling' such as reminders of childhood, connections to home, nostalgia, a love of transport systems. Various forms of pollution created by the transport industry are highlighted within the piece through their appropriation in the theatrical setting which brings attention and applies significance to these aspects, but this can also signify fondness; 'Emotional reactions are often due to associations, memories and past experiences that may be good or bad' (Wigram et al., 2002:57). The inclusion of the dashboard, for example, which originally formed part of a 1960's Sprite car, though rescued from polluting the environment (perceived as 'bad'), also delivers fond, emotive nostalgia and a reflective appreciation of the craftsmanship of such objects.

The methodology followed here juxtaposes some of these 'harsh' transport sounds and objects with an, at times, light hearted, surrealistic theatricality. This is a deliberate approach to contextualise the poignancy of the polluting aspects of both the sounds and the objects within the parameters of entertainment. The audience are given room to laugh, to enjoy and connect to the work in ways that do not appear overly polemical in its social messaging. In the section of the performance where the microphones are used to narrate passages from discarded 1970's and 1980's car manuals, various sections of text have been cut-up, juxtaposed and pasted back together to create randomised word combinations. These are then randomly selected within the performance and read out at

specific points. This highlights aspects such as the often overly eroticised approach to discussing cars in these books, or the perceived sociological esteem associated with owning a high-powered car of status. This light-hearted approach to text within the performance provides moments of humour within the environmental polemic. Below is an example of a section of text read in a performance;

> *Should the driver feel threatened at the traffic lights, although the odds of meeting a twin turbo are fairly slim, it is possible to adjust the blow-off pressure of the twin wastegates from inside the car to allow an even greater output for a short time. Mercedes were able to cock a snook at the rest of the populace as they glided past. Cocooned in the leather-wood and wool-lined cabin, a sense of lofty superiority develops.*

Perhaps paradoxically, sections of text such as this also allow the audience to feel superior in the knowledge that they are able to see the ridiculousness and humour in such salesmanship.

Acoustic ecology, in one sense, is an attempt to categorise and understand the cultural signification of sound within its own environment or architecture, yet in a work such as this, the sound is also, paradoxically trying to un-attach itself from its fixed referential ties, to give a freedom to interpretation which moves away from the source and into the imagination of theatre and the theatre of the imagination. As an example, the car horn sound which is triggered from the dashboard, although originating within its intended context, soon becomes a clear part of a rhythmical, percussive set of sound sources, able to operate within compositional structure independently of its real world functionality.

Carmouth & Dashboard seeks to build its own environment, to create its own model for listening and experiencing which represents both the acoustic ecology based

'soundscape' and the sonic art based 'sound composition'. This work builds its own walls, its own structures, its own environment in which to exist, as a holistic approach to experiencing sounds from *out there*. The drive here is to build a sound world that is multi dimensional in its substance, to create, perhaps paradoxically, both a refuge *from* and a signpost *to* the multi-faceted experiences which sounds facilitate, and an experience as tangible and dense as the objects within which they operate.

Carmouth & Dashboard does not seek to provide any single acoustical universal truths, or provide a soundscape based specific meaning to the sounds heard, rather it attempts to deliver its messages through 'sensation and the emotive, in the trembling of listening and the vibrations of physical matter' (LaBelle, 2008:218). The work seeks insight into this approach through the holistic conglomeration of the complete categories of sonic waste. In this way, Carmouth & Dashboard appropriates junk from the world and all is equalised within the context of a performance. The results of this neutralises the polemic differences between academic enquiry, entertainment, environmental awareness and noise abatement. The multifarious sounds and objects draw new, unfixed interpretive breath from the holistic context in which they are placed.

Carmouth & Dashboard provides a work in which sound and object are equal and where the sound world provides an aural architecture of substance, or as Bill Fontana writes, an attempt to create something where '..the visual space that was sounding equaled sculpture and architecture' (Fontana)[30]. All the objects in Carmouth & Dashboard are at once theatrical and musical – everything on the stage can be hit scraped or played to make a sound.

The sonic signs that are encountered in this performance are inherited from culturally shared experiences, and continuously straddle between the *sound effect,* the

[30] From an unpublished article on his website resoundings.org. Last Accessed 15.06.2015

sound object and the *sound event.* The *sound effect* (sfx) is understood here as a theatrical device to indicate a link between what you hear and its causality. The *sound object* is understood in the context of Pierre Schaeffer's *musique concrete* – a sound constructed for the purposes of a musical composition. The *sound event* is understood in the context of acoustic ecology and indicates a sonic occurrence within the context of its environment (Drever in Brown, 2010:190).

The mix of sounds used here unashamedly confuses these positions and the subsequent signification. Sounds operating as direct causal links evolve into manipulated abstract objects with subtle links to the causal origins. These altered sounds are sometimes abstracted to beyond all recognition and, in places, buried within clear soundscape environments alien to their original existence. The experiencers of this sound world, the audience, are led to assign sources and causes to this complex tapestry of environments and the signification is deliberately confused. The listener is, in places, directed to feel that that which is heard is 'reflecting a specific state of the environment' (Truax, 2001:163), and yet this is mutated. Therefore the paradoxical elements of unwanted and wanted, noise and music, pollution and purity, ugliness and beauty, induces a holistic and multi-interpretive set of representations. For instance, the encroaching overhead aeroplane sounds, which are a combination of real aeroplane sounds and simulated sounds, are gradually manipulated into a sculpted sound object. This enables the process of sound event evolving into sound effect evolving into sound object: noise evolving into music.

The objects in this work are also embedded with significance and the audience are propelled into the world through sound and object combined. The puppets in Carmouth & Dashboard are the ambassadors of this journey. Puppets are about transformation, the re-

use of materials and objects, in this case the re-purposing of junk to animate; the metamorphosis of stuff. Kenneth Gross speaks of this in his study of puppetry:

> There is an element of transformation, even abuse or theft of function, in the way that puppet theater takes up and makes use of material objects (Gross, 2011:27).

Puppets breathe life into lifeless materials, but perhaps not just a transformation of materials but also a transformation of belief systems. Puppetry allows us to believe in the life contained within, the puppeteer fades and the materials energise and vivify. Puppetry is a world of imperfection and suspended belief, as Gross goes on to say, 'Even the most carefully formed puppets will be partial or imperfect, reduced or fragmented versions of a human creature' (Gross, 2011: 27). So, If we are used to the imperfection of puppetry then the use of junk materials, bits of car, fragments of bicycle, broken trains parts, these objects can easily step in and transform our belief systems also. Puppetry transforms, junk transforms, it's an illusion we almost hypnotically surrender to.

This embedded transformation of materials and belief spreads across the stage in Carmouth & Dashboard and the puppets help to breathe life into all the objects in the work. The presence and animated breath of the puppets breathes life into all the junk placed, seemingly haphazardly (yet carefully placed for performance purposes), across the stage. The interdependence between object and sound becomes ever more intertwined as junk becomes object, object becomes instrument, instrument becomes puppet and puppet becomes junk, an ever-revolving (recycling) cycle of transformation between both form and function. The 'aural embellishments' (Blesser and Salter, 2007: 51-53) of these interdependent items feeds the reception of the acoustic arena in which they operate as the distinctions between an object actively influencing the sound world and an object passively influencing the sound world are continuously evolved.

In this work the vibrations of physical matter, matter. As the distinction between objects and instruments becomes lost, the vibrating junk items are both reflecting sound and creating sound.

This integration between the sounds, puppets, humans and objects neutralises any hierarchy between them, partly drawing on the philosophy of *thing-power* outlined by Jane Bennett in her elucidating book '*Vibrant Matter - A Political Ecology of Things*' (Bennett, 2010). Bennett develops an ecological based understanding that material objects have a 'vital materiality' which has influence and affect on surrounding context, an influence and affect which is as potent as human agency. All objects, even once trashed, argues Bennett, are animate and equally influential to human activity in any situation. The world is filled 'with all sorts of animate beings, some human, some not, some organic, some not' (Bennett, 2010:20). Bennett writes:

> a vital materiality can never really be thrown away, for it continues its activities even as a discarded or unwanted commodity (Bennett, 2010:6).

In Carmouth & Dashboard, the 'thrown away' is celebrated for its continued vibrations. The active influence on the surrounding environment that this trash exhibits is made conspicuous and palpable.

The process of interrogating the sounds and objects occurred gradually across occasional meetings and correspondence over a period of a year or so. This slowly evolving approach functioned particularly well for this work as it gave rise to a comprehensive amount of ideas with a huge range of materials from which to draw from when it came to assembling the show in the final burst of activity prior to the first performance.

Many of the objects are used for their acoustical qualities, such as the car wheels, the boat propeller, fragments of scooter, the pipes, the springs and the suitcases. Time was spent exploring the materials of these objects to discover ways in which to hit them, scrape them or otherwise vibrate the objects to produce a useable range of sounds, textures and tone rows.

Other objects were converted to instrument interfaces to enable performative action on them that results in additional sounds being produced. These included;

2. The Car Dashboard - a few of the dashboard controls (indicator switch, car horn, ignition control, lights on and off switches, steering column) were adapted with electronics to control sounds triggered through a custom built Max/MSP patch.

3. The Bicycle Wheel - also using a Max/MSP patch, the wheel controls the speed parameters of a pre-recorded audio recording of a bicycle based anecdote, narrated by Matt Smith. Incorporating infra-red sensors, the wheel is set up so the faster it spins, the faster the audio file is played back, conversely, slowing the wheel right down enables very slow playback speeds of Smith's voice.

4. Old Suitcase - one of the old suitcases was transformed into a theremin style instrument with an infrared sensor placed inside. This enabled pitch control of a synthesised tone controlled by the opening and closing of the suitcase lid. The sounds used include transport drones layered alongside the oscillator.

5. A couple of 'Diddley Bow' style string instruments were created using an assortment of objects such as slide projectors and parts of a scooter.

Stereo recordings were also prepared in the recording studio and subsequently integrated into the Max/MSP patches to enable the triggering of particular audio moments within the show. Some of these functioned as stand alone sections of sound/music and

other recordings functioned as additional sounds to complement the live sounds being produced within the show.

Sound files were edited, abstracted, equalised and enhanced in the studio from the field recordings and collected junk sounds, alongside junk instrument improvisations performed by Smith and myself. Sounds were also prepared in the studio to provide audio triggers from the prepared junk instruments such as car horns, ignition sounds, and junk based drum rhythms. These pre-prepared sounds provide moments to underpin the live generated sounds occurring throughout the show.

4.2.3. Composing

The show itself was essentially choreographed as a final piece in the two days leading up to the initial performance, however, as previously mentioned, by this point a huge range of ideas, sounds, objects and rough plans had been developed throughout the previous year. Transport and travel related word lists were also developed as a stimulus for gathering ideas (provided online, see appendix 4). As a result of this extended research and enquiry a wide-ranging palette of words, sounds, materials, instruments, thoughts, images, books, puppets, sketches and prior recordings were all assembled.

Everything was brought into the theatre space and during the two days prior to the debut performance the staging, choreography, running order, sounds, objects, puppeteering and lighting were all devised into a cohesive whole.

Hand written and typed scores were developed to give us a framework to the show (presented at the end of this sub-chapter). Sounds, objects, puppets and human activities were rehearsed, improvised and spliced together in a variety of ways until a cohesive ‘journey’ was discovered through the relevant materials that ended up being used in the final performance. Compositional devices such as stark dynamic change, gradual builds in

tension, harshness counterpointed with gentleness, repetition and continual change, were employed to build contrasting sections and multi sensory experiences. Much of this was guided by implicit knowledge, and the connecting themes were, by this point, both consciously and sub-consciously circling around the methodological praxis discussed in the introduction chapter.

Many sounds and experiments, of course, also ended up on 'the cutting room floor'. A stream of sonic waste ideas, recordings and objects were ironically left behind, artistic detritus, as decisions were made on what to keep and what to discard.

Live music and sound moments were developed further in this time, the junk instruments were improvised on until useful structures were discovered. Some moments were deliberately left open to allow for sound and music improvisation within the performance, such as the rhythmical drumming section on the variety of found objects and the car wheels, the ending melodic phrases performed on the Toy Train Diddley Bow, and spoken voice moments where random sections from the Car Manuals are read aloud though microphones. Some moments in the show are also flexible, because when working with junk items such as the half broken projectors, for example, fixed results are not guaranteed to occur in every performance. A slightly dangerous yet fascinating quality of working in this way means you never quite know exactly how a junk object or a junk instrument is going to behave, due to its inherent flaws.

A few particular sonic insights revealed through this compositional and tacitly improvisational process include:

A) The discovery of melodic phrases on the Train Diddley Bow. Sequences were improvised by following pitch patterns from one of the old broken records playing on the turntable. Counterpoint melodic fragments were discovered which sit within the scratchy looped phrases of the broken record.

B) The Car Wheels were used in combination with the broken car Coil Springs. It was found the timbre of both elements combined succinctly to provide a bell like sequence of sounds and this fitted well with a car engine humming on a loop, inducing a meditative, ambient sequence.

C) The operation of the slide projectors was found to create texturally rich percussive sounds and these were used in building a rhythmical sequence. They were fed through a set of transistor radios with contact microphones to amplify and distort the resulting noise.

D) The suitcases were found to provide a convincing kick drum sound when hit with a substantial rubber ended stick and provided a useful addition to the collection of metal objects in building a percussion set.

4.2.4. Performance

Carmouth & Dashboard has currently been performed on two occasions. The debut (trial) performance was at Axis Arts Centre at MMU Cheshire in 2014, then, in May 2015, the piece was performed properly at a Portsmouth University theatre venue as part of a curated season of events. This was to a full venue that included students, staff, general public, with both adults and children, which provided a suitably mixed audience for the purposes of obtaining some spoken feedback about the show, afterwards. The feedback was all highly positive in terms of entertainment values as well as a number of people remarking on the embedded issues of junk sustainability, noise pollution, environmental sound awareness and the imaginative processes produced from encountering such a work.

One audience member remarked that it felt like she “was able to see the inner workings of Matt & Paul’s minds represented in the show” which demonstrates an

alignment to the creative possibilities unleashed with an imaginative use of waste materials. Another discussed the overall visual aesthetic of the stage set and how it made her feel she was witnessing a post human machine world, with the objects placed on stage representing the rusted decay of industrial bones. Another said we reminded her of Vic Reeves and Bob Mortimer, which possibly highlights the connections the piece undoubtedly has to some of the sound and visual approaches found in the DADA and Surrealist art movements, also often referenced by Reeves and Mortimer. A number of discussions were also occurring which revolved around the re-purposing of waste materials and many people were particularly fascinated by the possibilities of recycling when shown in the context of the more complex junk instruments, such as the dashboard, the bicycle wheel and the old suitcase 'theremin'.

Others also commented on the soundscape presented more generally, and more than one person described how it "transported" them into a kind of "hyper-real" and "comforting" world of movement and travel, and made them think carefully and sometimes "lovingly" about the context of where the sounds had been sourced from. Brandon LaBelle writes of a connection between travel and the possibility of a "sensual" experience in car journeys. LaBelle compares the acoustic experience of a car ride to a whole body reverie, stating the vibrations eases one:

> ..into the deep memory of primary caresses - to draw the skin in, affirming the body as a sensing whole and the street a space of acceptance (LaBelle, 2011: 161).

This interesting connection between familiarity of sounds plus the body sensation of sound waves affecting us physically with a sensual experience ties in with some of the audience responses.

A method used in this show to generate a sense of audience inclusiveness was to invite the audience on to the stage at the end of the performance. This is to discuss the work, but also so the audience can encounter the objects, puppets and instruments themselves. The audience are invited to play with the instruments and puppets and experience the tactile elements of 'playing' with the items of sonic waste. This was particularly successful. In Portsmouth nearly the whole audience ended up on the stage and a fantastic cacophony of sound, speech, noise, junk, puppets, instruments, laughter and discussion continued for up to half an hour after the performance.

This was like a form of encore for the performance but also enabled a very tactile involvement of the audience in line with Truax's approach to creating a direct involvement of environment inhabitant within the context of soundscape composition. The active participation of the audience on the sonic waste materials fed into the concept of Truax's 'dynamic process of embodied cognition' (Truax, 2012:3). Adults and children alike appeared to gain much from being able to play with the collected junk.

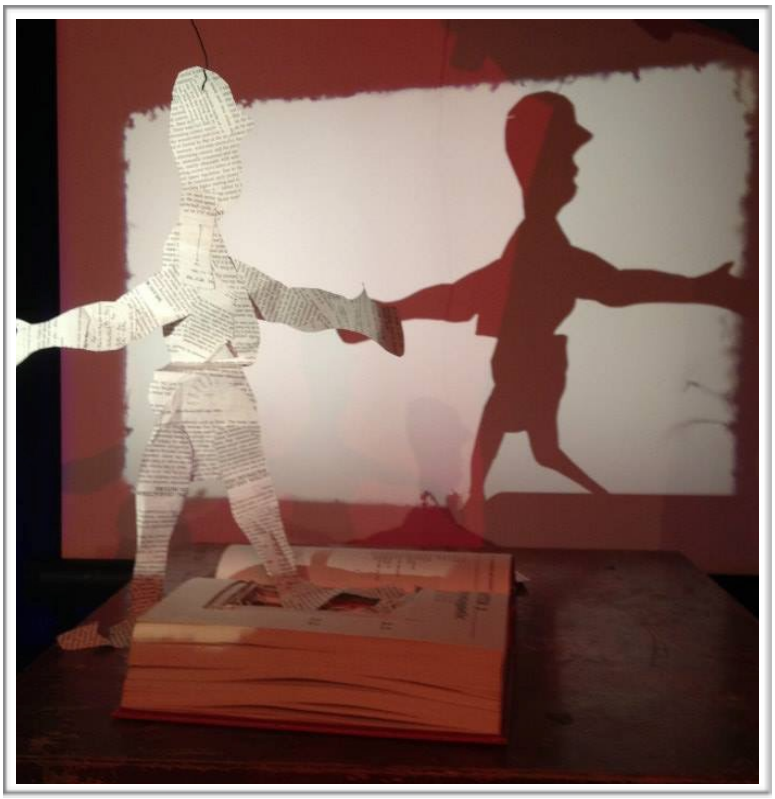


Image 4.2.5. Shadow Puppet arises out of car manual.

4.2.5. Reflection

The inclusion of all aspects of the sonic waste palette was particularly successful. It gave rise to a comprehensive and all-inclusive approach to the use of junk that consolidated the critiques applied to this range of sonic material. This enabled a show that is both entertaining and yet also fully embedded with much of the contextualisation of surrounding debates as discussed here and in *Chapter 3*. Carmouth & Dashboard brings attention to the debates within Acoustic Ecology and also draws on the Media Archaeological approach to re-purposing and tinkering with the 'Dead Media' of society. It enables recycling and repurposing of waste objects, highlighting the areas discussed around fly tipping. It engages with themes of aural signification such as causality, representation and cultural translation. Carmouth & Dashboard affords multiple approaches to sound sculpture, creating a range of sound effects, sound objects and sound events and merging them within a holistic sonic theatricality.

Providing junk puppet and music making workshops within the vicinity of performances (a methodology planned for touring versions of this show, and which has been adopted many times in the past during collaborations with Smith), and inviting the audience on to the stage after the performances reaches out into the environment in ways a simple staging of a show is unable to attain. This collective inclusiveness is a powerful and effective aspect of this work and relates well to the work of Truax, Drever and others in recognising the importance of sociological engagement.

Carmouth & Dashboard enabled insights into the vibrancy of matter in relation to the sonification of objects (Bennett, 2010). The objects, once discarded, are celebrated for the life they still contain and their repurposing into sound generating instruments enables the manifestation of this environmental continuity.

Another interesting insight from working on this piece was that, with the inclusion of puppets and working within the concept of Bennetts vibrancy of matter, all objects on the stage became animated. Puppets, junk, sounds and recycled instruments all became equalised and interchangeable. Everything is sound, everything is animate. This created an illuminating and holistic approach to working with junk items and sounds, consolidating one of the thrusts of this methodology that sound is everywhere, we hear without listening, and therefore the potentiality of all objects to create music is highlighted and the theatricality of all instruments is also posited. The transmutation of sound and object in this piece consolidates the methodological approach to achieving a sonic waste aesthetic.

Puppets are poetry; Puppets are strange and archaic and wonderful; Puppets are grotesque; Puppets are beautiful; Puppets teach us who we are; Puppets breathe life into the inanimate to tell the tales humans are unable to; Puppets can be Demons; Puppets can be Clowns; Puppets reflect the uncanny in life and in art. In Carmouth & Dashboard the Puppets are the voiceless, screaming out the sounds of the city, the noises of the motorways, the airports, the lorries, the whirring wheels of bikes and prams, the train station cacophony and yet these Puppets are wrapped, cocooned, warm and comforted in nostalgia, fondness, empathy and a love of modern life. A paradox; there is beauty to be found in ugliness.

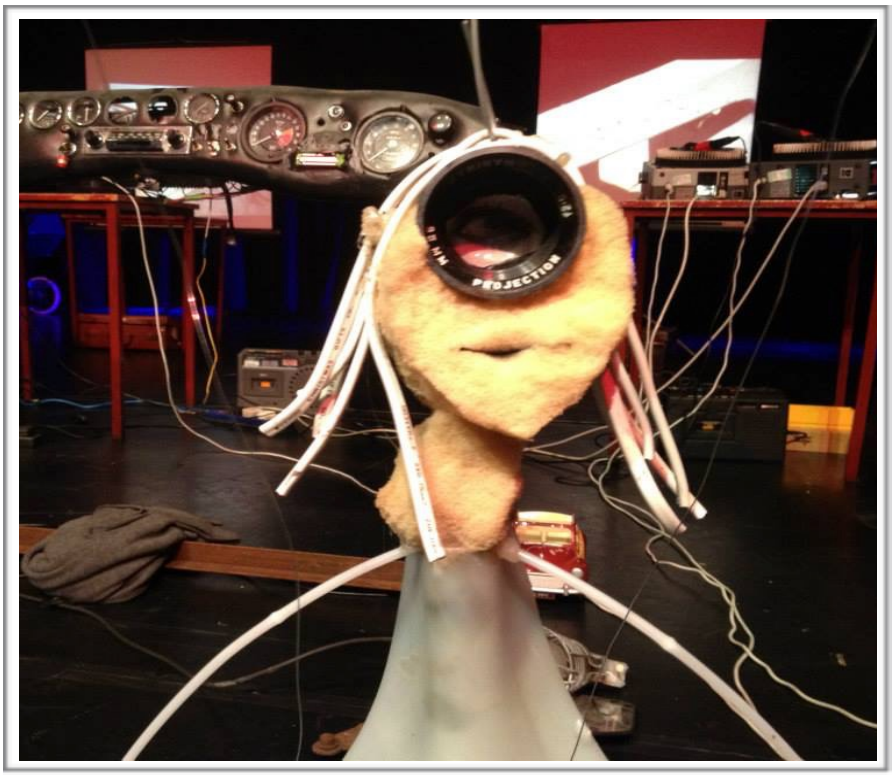


Image 4.2.6. Cyclops Projector Puppet.

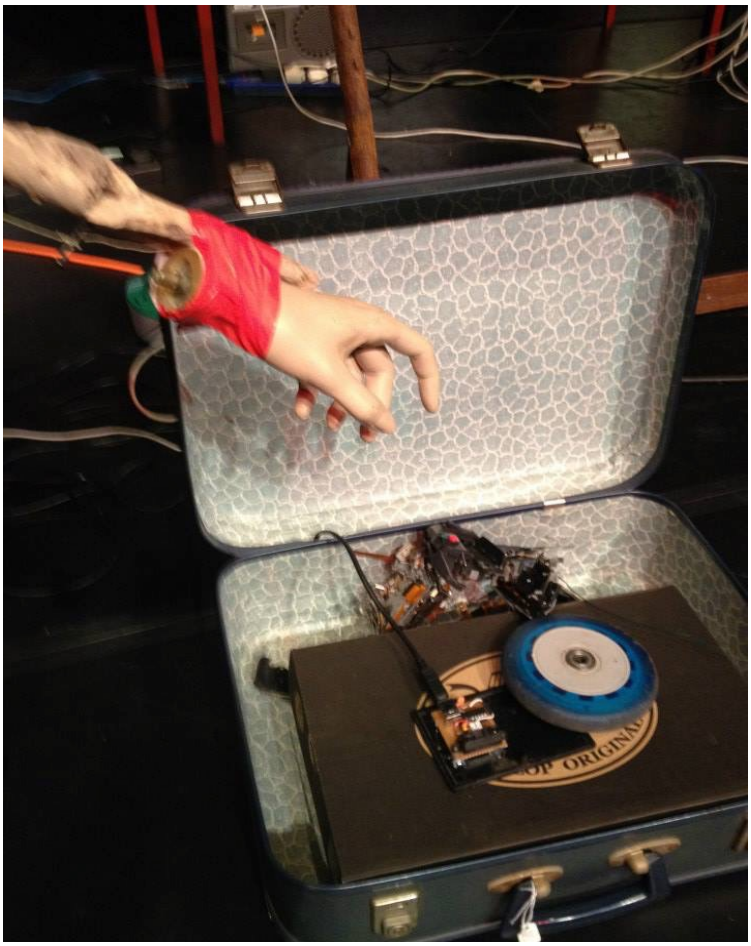


Image 4.2.7. Performing on the Suitcase Theramin

Carmouth & Dashboard - Additional Notes

Walk Through Score Template (running order)

TRAIN SOUNDS ON

WALK ON

[Matt] speaks through mic.

[Paul] fade train sounds off

[P] start talking through mic. When matt stops

[M] lay out small cars from suitcase

[P] Laptop - scrape sounds on

[P] scraping stuff on {projector guitar}

LIGHTS OFF

[M] activate horse on projector pulley

[P] play 2 or 3 notes on {projector guitar} - build a melody

[M] talk on mic.

[M] Turn ON slide projectors

[P] stop guitar

[M] turn Amps on

[P] guitar starts occasionally and builds

[M] start playing slides

[M] Start Record Player 1

[P] Start suitcase HORNS +_ Theramin

[P] Play Suitcases with Beach Arm

[M] Operate Suitcase puppet
finish both

[M] Talk through mic

[P] Stop suitcase sounds
start Plane Drones

[P] Talk on Mic

then… [M] & [P] ---- AAH OOH SONG

LIGHTS OFF

[M] get HipHop Puppet ready

[P] Fade off Plane sounds

LIGHTS ON

HIP HOP puppet plays Dashboard

[P] Meet puppet send him away - (leaving drums only playing)

[P] Drum on JUNK ITEMS & SQUEAKER

[M] Play Giant Tube and METAL BITS

[P] Move to CAR WHEELS AND PLAY

[P] get under Dashboard and OPERATE»

[M] Stop laying and move to Wheels to play a small bit then;
[M] Talk through Mic.

[P] Stop Dashboard

[P] START WHEEL on LAPTOP
sit next to wheel

[M] Collect HENRY
walks him to wheel (kicks suitcase puppet on journey)

HENRY PLAYS THE WHEEL

Paul & Henry Shake Hands

[P] Spin wheel fast and play acoustically with wood stick

[M] PRAM MOMENT

LIGHTS OUT

[P] LAPTOP START TRAIN SOUNDS (with narration)

[M] SHADOW PUPPETS + CINE PROJECTOR

[P] Fade Train sounds

[M] Cinema Puppet walks over little cars

[P] Start laptop BASS THEME SONG

[M] Cinema Puppet kicks Little Cars

[P] Take Puppet Off Matt

[M] Moves light onto Puppet and takes back then shine light through puppet

[P] TURN ON DASHBOARD low drone
fade off laptop rhythm
COLLECT CAR SPRING

[M] Monasterial Talking through mic.

[P] Play spring and walk round play car wheels within this.

[P] Spring back to Laptop and START CAR VROOOMS

[M] GET LIGHT and Under Dashboard for CAR IN MOUTH MOMENT

[P] Disney Puppet Song at Car Mouth Moment

[M] START {RECORD PLAYER}
then move to {SLIDE CLICKER THING} and start playing

[P] Fade off Puppet song
Start Playing TRAIN DIDDLEY BOW

[P] START Plastic Train Set

[M] POINT LIGHT AT TRAIN WITH MIRROR

[BOTH] DANCE LIKE IDIOTS

Chapter 4.3

The Sound Sweep [Sonovac Installation]

In J. G. Ballard's short story 'The Sound Sweep', first published in 1960, some of the elements relating to this PhD line of enquiry also happen to be central to the narrative and conceptual framework of Ballard's story. The story's central theme is noise pollution and it takes place in a world where audible music has gone completely out of fashion, instead a new 'ultrasonic' music that exists above the level of conscious hearing is performed and recorded. Against this backdrop of noise and extraneous sound, the story traces the attempt of an ex Opera singer, Madame Gioconda, to return to traditional, audible singing. In her journey towards regaining control of her voice a range of extraneous utterances and unwanted noises emit from her vocalising.

In the story the central Sound Sweep character, Mangon, who is himself mute, uses his 'Sonovac' to vacuum up all the noises, conversations, banging, traffic sounds, sonic clutter and many more general extraneous sound debris which collect and linger in the environments throughout the day. The sounds in this world never disappear, they linger in the environment until the Sonovac is able to vacuum them up, to be later disposed of in a sonic waste dump.

The installation work which resulted from this enquiry creates a representation of a Sonovac which then contains the music composition within its dust belly, to be accessed by listening to a set of connected headphones. The obvious signification the object of a Sonovac (vacuum cleaner) has to the abatement of noise pollution provides insight to the research thread of understanding how to best reduce unwanted sounds from the environment.

The composition itself uses a particular sound centric method of reading a narrative that I have developed and called a Phonotextual Reduction. A Phonotextual Reduction is effectively the story as it was written but with all non-sound words cut out and discarded. All that remains of the story are the words, phrases and paragraphs that deal directly with describing or talking about sound. Once this has occurred an aural journey through the story is possible, allowing for a purely sonic understanding of the narrative. This method also creates metaphor for the reduction of extraneous objects (words) leaving behind only the desired sonic based material. The Sound Sweep Phonotextual Reduction is displayed on a screen near to the installation in the form of a slowly unfolding slide show.

This Phonotextual Reduction then becomes the score for the sound sculptural based composition sucked inside the belly of the Sonovac. I used the sound words, not in a strict chronological or descriptive manner, but as a palette from which to assemble a composed sound sculpture. The composition then, becomes not only a work describing the sound world of a story about sonic waste, but also a collated structure of the left over detritus of a collection of words with the bulk of the narrative removed.

All of the sounds referred to in the text are used in some form, but many are manipulated, looped, stretched, tonally altered and transformed using other studio techniques to create a responsive structure to the aural narrative. The five chapters are adhered to in chronological order but within this framework the sounds within each chapter are layered and intertwined using a contrapuntal approach rather than a straight linear representation. This enabled some editing and layering experimentation in the compositional process, allowing room for more vertical depth to the sound world. For example in Chapter Two of the composition (see Phonotextual Reduction printed below) the following passage is compositionally compressed and stacked together to create the

rising, electronic arpeggios sequence with repetitions of ‘dahling’ interacting with the ‘ultrasonic’ glissando:

repetitions of ‘dahling’

a dim insect hum

the ultrasonic trumpet he was playing

a brisk allegretto sequence

brilliant arpeggios

fantastic glissandos which raced up twenty octaves

escalators of electronic chords interweaved the original scale

The rising of ‘twenty octaves’ is applied to the arpeggio sequence. This is then layered with the ‘dahling’ repeats, the ‘insect hum’ and the ‘escalators of electronic chords’.

The Phonotextual Reduction of the sound sweep also becomes a sonic waste sound poem in its own right and is presented as such in the pages below.

Image 4.3.1. The Sound Sweep [Sonovac Installation] in situ at the Axis Arts Centre

An interesting insight uncovered in developing this work was the ability to draw attention to, and have control of, the enforced hearing of junk sounds within the environment. The sonic materials are constructed from junk sounds within near and far environments as well as the smaller extraneous sounds extracted from machines and voices. The collation of these sounds in the form of headphone listening empowers the composer to take control of this chaos.

The Sound Sweep bypasses the external aural and acoustic architecture (Blesser and Salter, 2007) of the environment through its use of headphone listening. This enables full control of the sound world and allows the composition to dictate all associative local histories of sound, (as discussed in the introduction chapter). The emotional and visceral parameters of the sonic experience are controlled by the artificial listening conditions. The aim here is to create a fully immersive experience in which the experience of the sound environment is dictated by the work itself rather than any performance space acoustics or interactivity of person and place (other than the relationship between person and Sonovac). Salome Voegelin's and Katherine Norman's active and playful relationships with the environmental soundscapes are narrowed to the internal thought process, rendering the influence of real world sensation redundant. This appears at odds with Barry Truax's call for greater interactivity with the environment inhabitant, and yet the sociologically inclusive aspects of this piece are bypassed as, despite real world sounds being included in the sonic material, the resulting soundscapes are deliberately artificial – a fictional world is constructed from the sounds 'out there'.

The Audio from the installation is provided on the accompanying disc for reference.

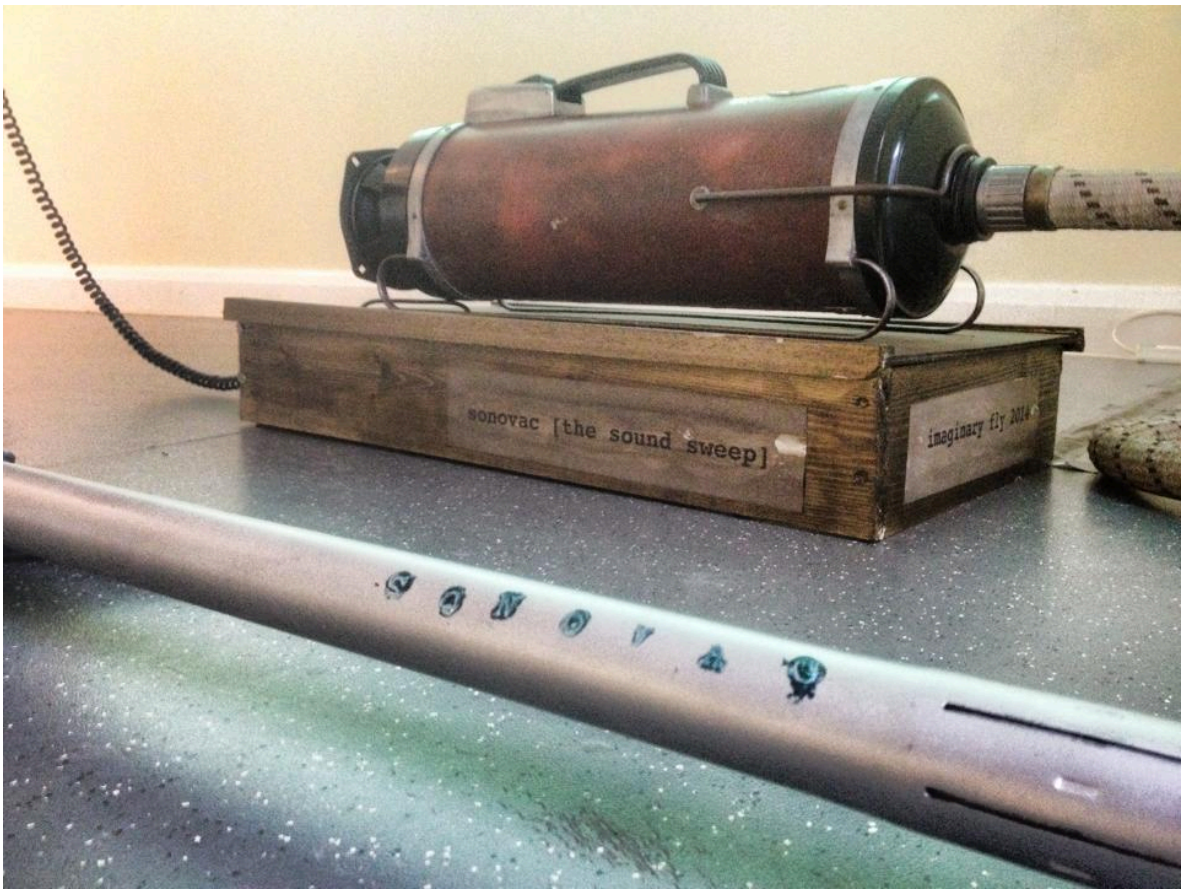


Image 4.3.2. The Sound Sweep [Sonovac Installation] close up, in situ at the Axis Arts Centre.

The Sound Sweep :: A Phonotextual Reduction (score template)

ONE

endless din of traffic

jostling horns

shrilling tyres

plunging brakes and engines that hammered

clapping of her phantoms

sourceless applause

tumultuous ovation

sounds of a door slam

partition collapsing

kettle whistling

a grunt or two

Madame Gioconda's pitiful moanings

listen to her reminiscences and plans for revenge

applause was growing stormier

the boos and catcalls more vicious

'They're still clapping' she shrieked

seven muted pads, the dull echoes of his footsteps across the floor.

a low threshing noise like blurred radio static

the repetition muffled them

mute

voiceless condition

hooted with pleasure

ultrasonic music

the human voice - indeed audible music of any type - had gone completely out of fashion.

A greater range of octaves, chords and chromatic scales than are audible by the human ear, provided a direct neural link between the sound stream and the auditory lobes, generating an apparently sourceless sensation of harmony, rhythm, cadence and melody uncontaminated by the noise and vibration of audible music.

the majestic rhythms of Beethoven

the popular melodies of Tchaikovsky

the complex fugal elaborations of Bach

the abstract images of Schoenberg

raised in frequency above the threshold of conscious audibility

became inaudible

the human voice … its sounds were produced by non-mechanical means

neurophonic engineer

Radio programmes consisting of nothing but silence

the silence was golden

a pleasant atmosphere of rhythm and melody seemed to generate itself spontaneously around them

its frequencies were so high they left no resonating residues in solid structures

no need to call in the sound sweep

After an audible performance of most symphonic music, walls and furniture throbbed for days with disintegrating residues that made the air seem leaden and tumid, an entire room uninhabitable

One 30-second SP record delivered as much neurophonic pleasure as a natural length recording, but with deeper penetration, greater total impact

vocalizing on radio commercials

TWO

beautiful sonic matrices rich with seven centuries of Gregorian chant, overlaid by the timeless tolling of the Angelus

a mellow deeply textured hymn

draining from the walls of the Oratory all extraneous and discordant noises - coughing, crying, the clatter of coins and mumble of prayer - leaving behind the chorales and liturgical chants which enhanced their devotional overtones

buzzed softly with the echoing chatter of guests

confident male tones

repetitions of 'dahling'

a dim insect hum

the ultrasonic trumpet he was playing

a brisk allegretto sequence

brilliant arpeggios

fantastic glissandos which raced up twenty octaves

escalators of electronic chords interweaved the original scale

Transonics

sonic resonances will build up to a critical point

Mangon's muteness

hatred of noise

one nearly finished symphony

Opus Zero

Singing?

piano accompaniment

She wants to SING

Strangled sounds quavered in his throat

THREE

the sound truck

the traffic hammered along the flyover, dinning down on to the cobbled walls

regretted his muteness

the words leapt out from the walls, nearly deafening him with their force

LISTEN

trying to screen his ears

vicious sonic scars

muffled rhythms and intonations of her voice

the sounds of LeGrande's abuse dinned the air

she hummed to herself melodically

you can hear complete conversations hours after they have taken place?

the abuse screaming out into the air

an old gramophone

playing operatic selections

murmured affectionately

trilled out a light recitative from Figaro

A place of strange echoes and festering silences, overhung by a gloomy miasma of a million compacted sounds

a pounding niagra of airliners

the piercing whistle of jets

the ceaseless mind-sapping roar that hangs like a vast umbrella

odd sounds

an unbroken phonic high

a nightmarish cataract of noise

the howling of cats and dogs

the multi lunged tumult of cars, express trains, fairgrounds and aircraft

the cacophonic musique concrete of civilisation

her voice had frozen

no sounds emerged

a faint squeak

'. . . aaauuuoooh,' Madame Gioconda heard herself groan

discordant sounds coming from the stockades

hiccuped

FOUR

party noises

laughter and small talk

a continuous state of uproar

a crowd in a football stadium

voices chattered and whined fretfully

thin nervous tones

a baby bellowed

background murmur of countless TV programmes

patter of announcers,

monotones of race track commentators

the shrieking of audience off quiz shows, all pitched up an octave

a shot rang out

screams and shouting

she heard nothing

a battery of washing machines chuntered to themselves

a cash register slammed

a dim almost sub-threshold echo of 60-cycle hum from an SP record-player

voice was gasping

Bartok all over the place

Paul Merril's voice

Transonics

unyielding bite of the tycoon's voice

echoes of LeGrande's voice

then he heard

speaking at rapid dictation speed

the cry spilt the air like the blade of a guillotine

a tremendous whoop of triumph

I can talk

his voice was gruff, then seesawed into a treble

let out an ear shattering shout. 'I CAN TALK! HEAR ME!'

'you gave me back my voice'

'it's a wonderful voice'

Sotto voce

a loud 'Ole!'

incessant chatter

mouthing silently at the air like a stranded fish

sound-sweeping

a sonic revival

bolted out the traffic noises below

she's going to sing in the middle of Opus Zero

an ancient sonic grand

it sounded like a cat being strangled

her voice will never reach it

enjoying a neurophonic experience of sufficient beauty and power

FIVE

the gramophone played scratchy sonic selections from Traviata

her spoken voice, unless she was being particularly sweet, was harsh and uneven

shouted at the top of his voice

hear anything?

nothing, no vibration at all

'Fiivvveeee! . . . Foouuurrr! . . . Thrreeeeee! . . . Twoooooo! . . . Onnneeee . . . !'

'she sang her greatest roles at La Scala. That's the voice she hears, the voice she'll probably always hear.'

Then he heard it screaming at him from the walls, violent and concise

tried to shout as the walls seemed to fall in on him, but his throat had frozen

Mangon could hear the sounds of the audience

a hubbub of well-heeled chatter

oblique atmospheric shifts cut through the air as the players on the stage tuned their instruments

he lifted out the sonovac

the audience quietened

a round of applause

a rhythmic ultrasonic pressure wave pulsed past

a strange mesmeric echo that held his attention

the wave form pulsing through the cue-box stopped, then soared off in a continuous unbroken crescendo

as the sound burst from her throat Mangon's finger locked rigidly against the trigger guard

a shattering blast of sound ripped through his ears, followed by a slightly higher note that appeared to strike a hidden ridge half-way along its path, wavered slightly, then recovered and sped on, like an express train crossing lines

the voice exploded in his brain, flooding every nexus of cells with its violence.

an insane parody of a classical soprano. harmony, purity, cadence had gone

rough and cracked, it jerked sharply from one high note to a lower, its breath intervals uncontrolled, sudden precipices of gasping silence which plunged through the volcanic torrent, dividing it into a loosely connected sequence of bravura passages

the Toreador song from Carmen

she slipped into an extempore humming, then broke out of this into a final climactic assault

switching off their instruments

could hear individual voices in the intervals when Madam Gioconda refilled her lungs

someone hammered on the door

listened for a moment to the caterwauling above, which was now being drowned by the mounting vocal opposition of the audience

his voice had died

still singing, her voice inaudible in the uproar from the auditorium

banging on the rail

a great white angel of discord on her homeward flight

in his ears the sounds of Madam Gioconda singing echoed like an insane banshee

he switched on the sonovac under the dashboard, turned it full on, then started the engine and drove off into the night

THE END

Chapter 4.4

[FRIDGER ((noise) This Is Normal)] *(Audio provided on accompanying disc)*

> [w]hen sound artists focus on details that would once have seemed just a tiny part of a bigger whole, I believe they are entertaining the microscopic in order to counter a wider sense of fragmentation: too many signals making too much noise (Toop, 2005:3).

With so many machines making so much noise an introverted and microscopic approach to sound composition can be an empowering process. With *[FRIDGER ((noise) This Is Normal)]* the underlying compositional idea is to create something of large-scale from the small-scale sounds emitted by a fridge. From within the plethora of noise that surrounds us in the home each day, this composition focuses on some of the tiniest, microscopic details, as an aesthetic escape from the deluge.

This work also exploits the idea of *concept* as a compositional device. Throughout much of this line of enquiry, applying concept to a work becomes a powerful composing tool which can be an aid in discovering not only over-arching themes to works, but also to inform the choices around the more micro elements such as rhythmic qualities, pitch shifts, structural devices, textural use, and arrangements. Through the application of concept on the parameters of a composition it's possible to find stimulation for ideas in insightful ways. Researching related concepts surrounding these issues of sonic waste creates a breadth of stimuli that can then be applied to a work. The application of concept can also provide unity and balance within a composition because it aligns all the elements within the work to a set of abstract yet related classifications.

In this stereo recording, the organisation of the fridge noises are influenced by the central concerns of the PhD line of enquiry, such as the transformation of unwanted to wanted, the exploitation of noises thrust into our everyday sonic experience, the archaeological exploration of junk sounds as vibrant signifiers and the potential for beauty in noise. But, as well as this, the parameters of actual refrigeration mechanics are also applied to the arrangement, structure and melodic sequencing within the composing.

The sounds for Fridger were collected from two sources. Largely from my own fridge, but also some sounds were extracted from a technical website which explains the sounds emitted from refrigeration units to refrigeration engineers.

The sounds collected from my own fridge were recorded using a stereo x/y microphone set-up onto a Zoom HD portable recorder. This involved a few long sessions sitting with the recorder waiting for interesting sounds to occur which were then edited into usable slices of sound later. A surprisingly wide range of textures, rhythms, drones, melodic fragments and other sounds were recorded.

The website sounds were collected from two video's supplied on the GE Appliances website at http://www.geappliances.com. The videos explain the sounds to be expected from a refrigerated appliance under usual working conditions and a fantastically rich list of sounds expected from 'normal' refrigeration are also given:

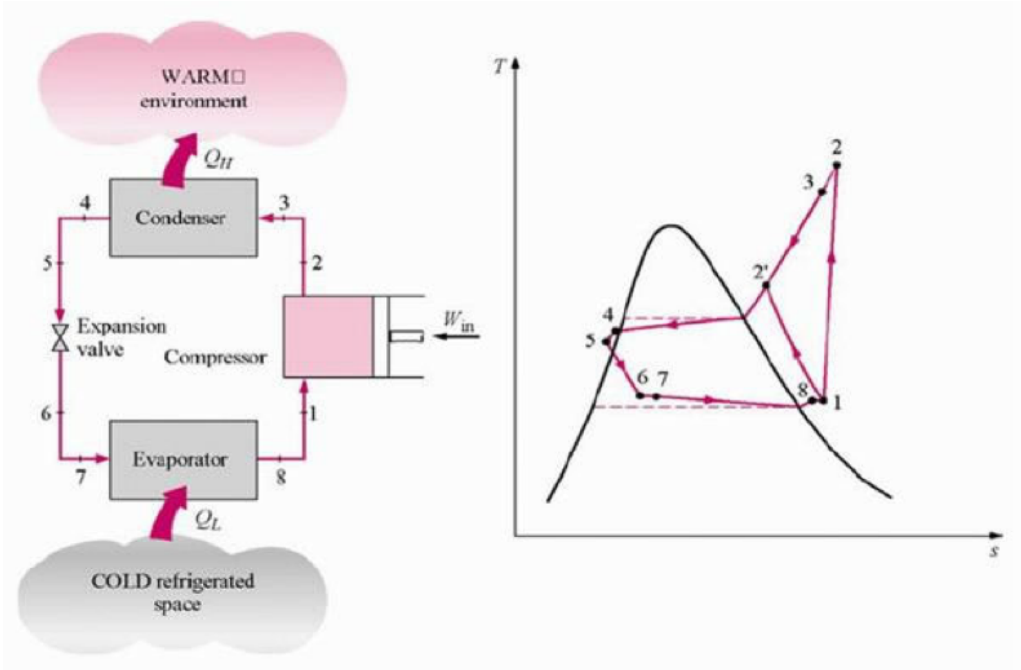
> chirping, barking, woofing, howling, clicking, tic-toc, boiling, gurgling, knocking, dripping, humming, cracking, popping, buzzing, snapping, hissing, sizzling, arching.

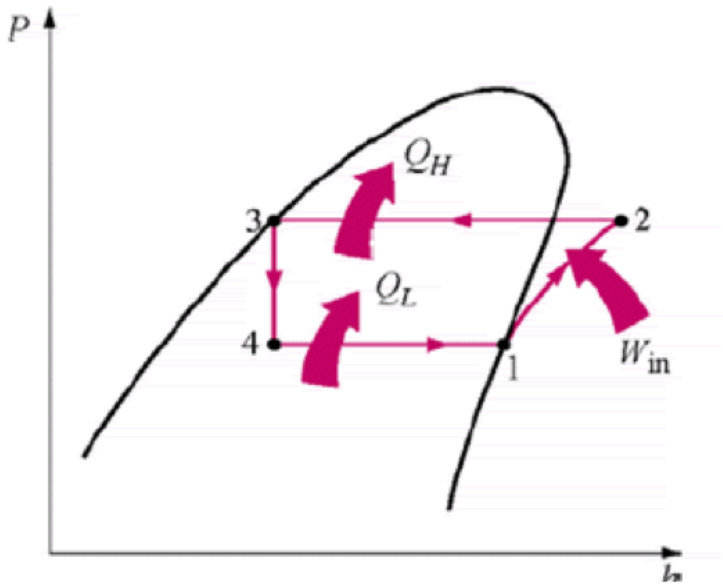
According to the website all of these sounds are considered 'normal', this statement is exploited within the composition to draw attention to the underlying idea that, despite the extraneous and annoying aspects of some of these sounds within human experience, they are not to be considered unwanted within the normal functioning of refrigeration.

The female narrator of the videos was sampled and edited to create snippets of lyrical content to contextualise the refrigerator sounds in this way.

Within the studio the sounds were auditioned and edited into usable fragments. Multiband equalisation techniques were employed to accentuate or diminish particular qualities of the sounds that were compositionally useful. For example, high frequencies were supressed in the noises used to function as bass lines within the work, this allows for more clarity in the overall mix. Other frequencies were expanded where interesting rhythmical textures were discovered at particular frequency bands within the more subtle sounds collected. The list of 'normal' sounds above was used as a template and a collection of sounds were edited and catalogued to represent each description from the list for a complete range of sound objects as potential composing material.

Refrigeration engineering was researched to discover any related parameters that could be mapped on to compositional techniques to aid in the process. It was found that the attributes of the refrigeration cycle, which is represented in the diagrams below, provided an interesting sequence of figures, numbers, engineering devices and diagrammatic elements which were extracted and used as compositional devices.





Images 4.4.1. Diagrams displaying attributes of the refrigeration cycle, including Condensation, Isentropic Compression, Expansion and Evaporation.

To begin, four musical movements were created, based on the four main sequences of the cycle as seen in the first diagram above, with the titles of the movements reflecting the refrigeration cycle:

i. Isentropic Compression [*herbert von compressionem*] (compressed but not altered)

ii. Condensation [*P-h imago score*] (changed from gas to liquid (alteration of elements))

iii. Expansion [*tensionem release*] (expanded and the pressure is decreased)

iv. Evaporation [*Recto Tono*] (vapourised and reduced to nothing)

Within these movements the collected sound materials were treated in ways that adhered to these categories.

The *Compression* movement compresses various sounds together, compresses single sounds internally and uses compression in a dynamic sense, but without any overt integral alteration. The fridge sounds were essentially used in their heard condition.

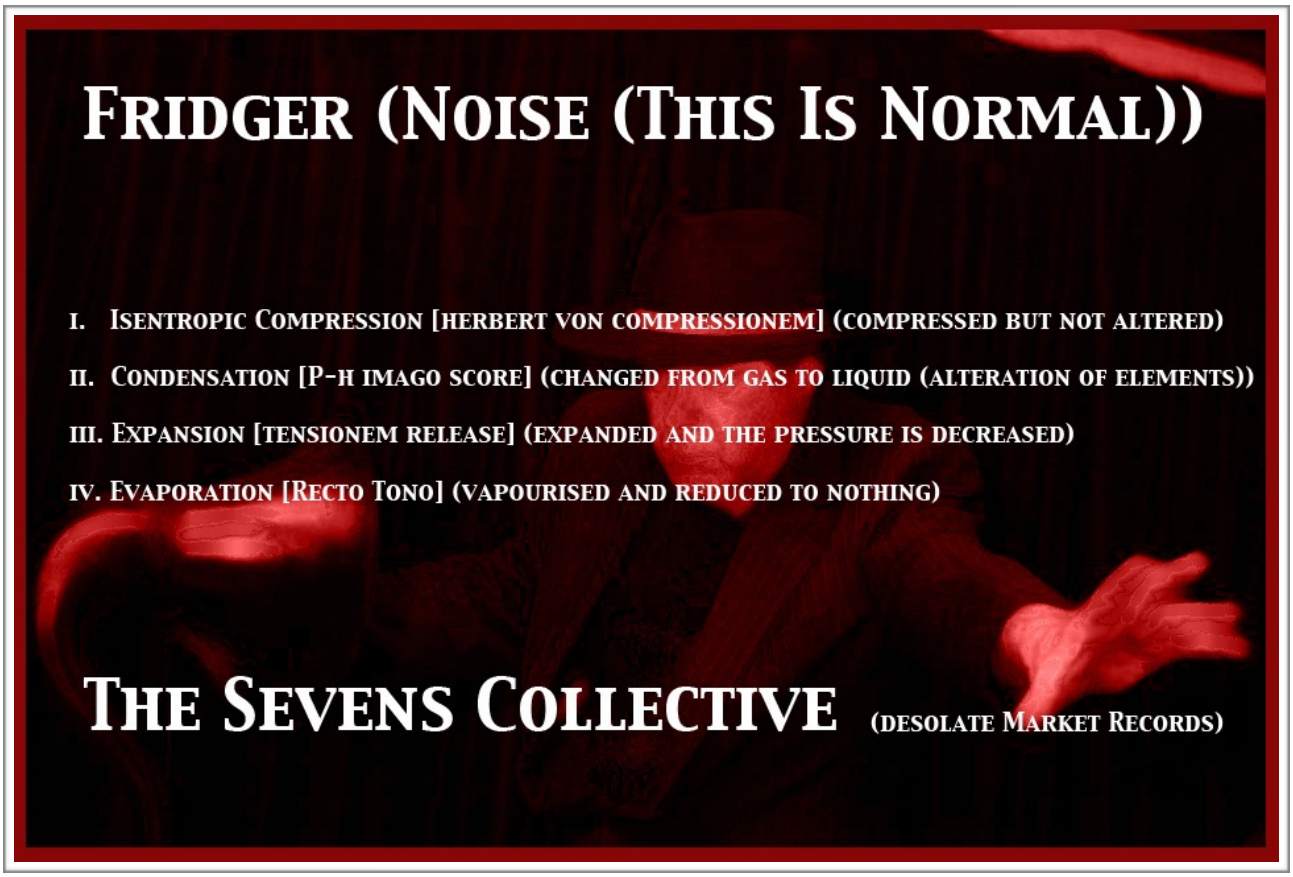


Image 4.4.2. Poster design for the publication of [FRIDGER ((noise) This Is Normal)] in an online compilation curated by Classwar Karaoke, an online 'net label' at http://www.classwarkaraoke.com

The *Condensation* movement uses alteration of sounds and textures to reflect changing from gas to liquid, sound samples were evolved from one sound to another to reflect this change. The P-h Imago Score diagram was also used as a form of graphic score for movement ii. The score was read from left to right with graphical elements such as the curving line, the swooping arrows and the number sequence being represented with sound materials. Height and density of the graphical elements represented pitch and

density of sound texture and the numbers were represented through numerically related repeat patterns.

The *Expansion* movement literally expands the sounds used, in time and timbre, though stretching and multiplying editing techniques. The T-s diagram was used as a graphic score for movement iii. The number sequence within the score was read from left to right and these numbers became intervals from the used scale (a natural minor) that created a melodic sequence. This resulted in a melodic sequence that uses the following interval pattern:

5 4 6 7 2 8 3 2 1

This equates to the following intervals:

5th 4th 6th 7th 2nd 8ve 3rd 2nd 1tonic

The arrow indications on the red line were then used to signify the reversal of this melodic line that resulted in a harmonic layering:

1 2 3 8 2 7 6 4 5

5 4 6 7 2 8 3 2 1

The *Evaporation* movement splits sound apart and attempts to create a 'gaseous' use of sound. To aid in achieving this gaseous sound a strong use of reverb was used. Given the drone like approach of this movement (based on the aesthetic relationship between the original fridge sounds used in this section and the traditional use of drone within the wider field of music), the use of cathedral style reverb was used. This was found to assist in conceptually linking the movement to the earliest forms of drone music created on pedal organs in vast cathedral spaces by composers such as Leonin and Perotin or the anonymous Gregorian chant masters. The Evaporation movement was composed to create a wholesome sense of immersion and prior to an acousmatic performance of this

whole piece it is encouraged, through introductory talks and/or programme notes, that the audience attempt a focused listening mode and try to apply all attention to the sounds experienced.

The movement eventually reduces the sounds down to fade off into *silence*. The sounds are very gradually evaporated, distinguished and reduced. However, another aspect deliberately built into the performance of this piece is, as the final evaporation is designed to gradually reduce down and blend off into nothing, it is effectively transforming into the environmental electrical humming sounds from within the space of performance. The electrical humming drone of the fridge was used for the keynote sound of this movement, with additional harmonies (minor 3rd's and perfect 5th's) being built on this fundamental note. Therefore as the piece diminishes it blends into perpetual continuity with the aural architecture of the surrounding room, reinforcing the *Cagean* premise of all silence is music (Cage, 2009). There exists an electrical mains hum which pervades our homes constantly; a 50Hz frequency (in America it's 60Hz) which resonates throughout all of our mains powered buildings and appliances, a life drone, somewhere between G and G# two octaves below middle C on a piano. This, then, becomes the ending and continuing part of the composition, the idea being that the composition continues in perpetuity for the entire duration of ones existence. Once *[FRIDGER ((noise) This Is Normal)]* has initially been listened to in a performance, it will be playing in ones life forever, a lifelong sound composition. The idea underpinning this approach is to reinforce the concept of our lack of ability to close our ears – hearing is forced upon us.

Chapter 5 – Concluding Thoughts

5.1 Summary

This thesis and its associated portfolio have mapped out a methodology for the establishment of a compositional approach based on sonic waste, and generated a portfolio of works that resulted from the methodology. This provides contribution to new knowledge through the unification of a previously unconnected range of related disciplines and the resulting practice outcomes. The line of enquiry traversed a broad range of existing disciplines; Media Archaeology, Acoustic Ecology, Acousmatic Composition, Noise, Junk Bands, Sound Art, Theatre, Puppetry, Sound Installations and Music Performance.

An enormous range of works was produced during the process and four pieces were selected to represent the findings of the research. These four pieces demonstrate how a sonic waste methodology is able to unify and conjoin the range of disciplines to create an empowering, cohesive, and sonically transformative composing process that encompasses innovative compositional approaches along with a socially relevant environmental awareness. Innovation was most notably found in the application of the surrounding concepts being applied to compositional structure and aesthetics (resulting in original sound works), in the building (or assimilated transformation from junk object) of new instruments, in the development of the Phonotextual Reduction and in the environmentally holistic approach to creating music and sound based works.

Theoretical, historical and critical relationships were explored which were useful in drawing links between the various disciplines. This research was also fruitful within the composing methodology to establish the conceptual ideas from which to map

compositional aspects on to the pieces such as structure, pitch, harmony, rhythm and melody. For example in the *Media Machine* the critical context of the media machine transparency was explored which resulted in specific items being selected for their *lack* of transparency, and these same objects then emitted idiosyncratic rhythms and sonic textures from the speed and mechanics of the inbuilt technology.

Concerning the materials used within the composition, a comprehensive palette of potential sound sources was established and this was mapped out in *Chapter 2 Defining the Palette.* Sound sources include new sounds, found sounds, sound objects and sounding objects. The palette itself provides a useful contribution as a sonic waste aesthetic archetype. The rigorous enquiry explored this catalogue of sounds to create works based on this sonic waste aesthetic.

5.2 Discussion

The portfolio demonstrates the need for a sonic waste methodology in that so many previously unrelated disciplines clearly share common characteristics. A blot on the landscape can be consubstantiated to a blot in the soundscape; a discarded chunk of metal can be consubstantiated to a discarded chunk of sound; unused, extraneous plastic waste can be consubstantiated to unused, extraneous noise. All of these objects (physical or sound) have been harnessed as compositional materials.

The critical studies of Media Archaeology were particularly useful in tandem with the field of Acoustic Ecology in finding a commonality between the disparate areas that have been shown to have congruence, such as the link between object pollution and noise pollution. The transformation of junk object to junk instrument was succinctly revealed in a number of the study pieces, in particular, Broken Zither and Friends (Appendix 1.4) and

Baptist Prayer Meeting (Appendix 1.6). Both of these pieces exploit object pollution in a positive way, demonstrating the possibilities afforded through re-purposing in a Media Archaeological framework. The transformation of materials in these works, such as dis-used, broken instruments and discarded scrap wood and metal, offers exemplar methods within the wider methodology and enables the articulation of ecology based ethics within a positive, entertaining presentation.

The junk object itself has been shown to be both problematic and useful in its physical theatricality. Nostalgia, performative values and idiosyncratic pitch generation were exploited to influence the composing and reception of such items. Idiosyncratic pitch generation was found to be particularly fecund in the junk object, and many fruitful melodic phrases and harmonic patterns were scored as a result of tacit-based improvisation with the multifarious waste objects.

The recent articles and papers exploring the philosophical and practical areas of social engagement were also pivotal in confirming the research discoveries of the socially interactive elements of some of the selected pieces. Carmouth & Dashboard, for example (*Chapter 4.2*) employed methods of social inclusion, which resulted in successful outcomes. Following the lead of the World Soundscape Project this socially interactive engagement with the noise pollution of soundscapes gave rise to audience positivity and the raising of awareness not only with the current environmental themes, but also with the possibilities of adopting a more focused sonic approach to future activities.

In establishing this creative identity, with the additional sustainability messages, the line of enquiry has achieved its aim of transforming *unwanted* to *wanted*, of extracting beauty from the sonic waste. The concept of beauty itself was shown to be partly subjective but it also has inherently objective features and it is within this dual framework that the portfolio demonstrated a sociological value beyond the environmentally political or

polemical position – the practical research produced results that were also successful in terms of audience engagement and entertainment.

Some of the pieces within the portfolio employed an electroacoustic approach to composition, drawing on established frameworks such as those initiated by Schaeffer and Cage, for example [FRIDGER ((noise) This Is Normal)] (*Chapter 4.4)*, and many additional studies including Fly Tipping (*Appendix 1.8*), The Berlin Tapes (*Appendix 1.5*) and Gateways (*Appendix 1.3*). In these pieces the junk object is present, but behind the scenes. The discarded physical objects often played a role in sound generation but not in the final performance of the work.

Other pieces employed a more intermedial approach through collaboration with theatre, video and installations. These works allowed the physicality, presence, nostalgia and history of the waste objects themselves to influence the reception of the compositions and became an integral aspect of the outcomes, for example The Media Machine (*Chapter 4.1)*, Carmouth & Dashboard (*Chapter 4.2)*, The Sound Sweep (*Chapter 4.3)* and from the additional studies – Radio Stoke (Appendix 1.12, davID digital sculpt (Appendix 1.13) and I Will Not Hope (appendix 1.14).

As highlighted in the introduction to the thesis, the elements of hearing and history underpinned the research: ways of hearing/listening and sound/object associations were an on-going concern throughout the process. It was shown that nostalgia of objects in particular played an important role in our reading of a work (particularly prevalent in The Media Machine, *Chapter 4.1*). The dual history of sounds, as described in the introduction chapter, were also shown to influence our reading of a piece: for example the 1920's gramophone recordings employed in The Media Machine, (*Chapter 4.1)*, reveal their historical, nostalgic legacy from decades past, and are also re-contextualised through being performed in an environment such as a theatre space or gallery, which affects the

sound in physical ways unusual to its 'normal' use within the home. The concept of enforced hearing was highlighted in a number of pieces also, for instance in the use of the inescapable domestic soundscapes in [FRIDGER ((noise) This Is Normal)] (*Chapter 4.4*) and in Barbershop Quartet which re-creates the experience of having hairdryers and other items in close proximity to the ears (*Appendix 1.1*).

The reception of a work was also shown to be partly dependent on the listening experience of the audience, and individual associative connections to the histories of sounding objects was a factor. Noise to one is beauty to another.

5.3 Further Research

Despite the prolific outcome of works resulting from the line of enquiry, this is essentially a starting point for further research. In establishing a methodology this PhD provides a blueprint for the dissemination of compositional works based within an environmental ethos.

To answer the question of '*can these disparate elements be unified?'* the practice which provided clarity to this was the work *Carmouth & Dashboard* (*Chapter 4.2*). This outcome merged the full range of sonic waste sounds as well as the many critical and contextual influences. However, the portfolio as a whole would function particularly well as a collective exhibition of works to achieve a perspicuity of the holistic methodology. Although much of the work here has been performed in segments, live in festivals and conferences, exhibited in galleries and released on CD, Vinyl and Digital formats, it would be useful to take this research further and explore the concept of a touring exhibition of an

aggregate body of work to further consolidate the creative identity and assist in raising awareness of the underlying environmental debates.

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Annotated Discography

Adam Fairhall. (2012). *The Imaginary Delta.* Slam Productions. (SLAMCD200). CD.
Includes the track Baptist Prayer Meeting included in the Additional Studies (Appendix 1.6), which includes the use of a Junk Instrument – The Pickle Shack Diddley Bow.

Chris Watson. (1998). Outside the Circle of Fire. Touch Records. (TO:37). CD.
Includes the track '9 Vultures Feeding on a Zebra Carcass' referred to in Chapter 3 in relation to degrees of sound manipulation.

Fransisco Lopez (1998). *La Selva*. V2_Archief (V228). CD.
Referred to in Chapter 3 in relation to degrees of sound manipulation.

The Everly Brothers. (1958). *Songs Our Daddy Taught Us.* Cadence Records. LP.
Includes the track Rocking Alone (in An Old Rocking Chair)" written by Miller, Bob in 1932 and popularised by The Everly Brothers, as sung in the Additional Study 'Old Rocking Chair' – Appendix 1.2.

The Sevens Collective. (2014). *A Too Much Divided Heart: Art Edition.* Beta-lactam Ring Records. (mt261 & mt269). CD & CD/Vinyl.
This album includes the collaboration with Tuvan Throat singer, Soriah, which exploits extraneous human noises.

Various Artists Directed by Luciano Chessa. (2013). *The Orchestra of Futurist Noise Intoners*. Sub Rosa Records. (SRV316). 2LP.
A recent realisation of Russolo's Noise Machines with various composers contributing pieces, referred to in Chapter 3.

Various Artists. (2001). *An Anthology of Noise and Electronic Music / first a-chronology 1921 - 2001*. Sub Rosa. (SR190). CD.
Includes the track by Einstürzende Neubauten, 'Ragout: Küchen Rezept von Einstürzende Neubauten' referred to in Chapter 3 in relation to degrees of sound manipulation.

Appendix 1.

Sonic waste studies and additional compositions

This is a selection of the extensive additional studies and compositions produced as part of this research enquiry. The following are provided on the accompanying disc. Stereo recordings, live documents and video outcomes are also provided online. Brief descriptive notes are also provided online to make clear the background approach to each piece. Visit http://thebeautyofsonicwaste.blogspot.co.uk to access these and further documentation from the research process.

1. Barbershop Quartet *(Stereo Recording)*
2. Old Rocking Chair *(Stereo Recording)*
3. Gateways (The Thresholds Of Perception) *(Stereo Recording)*
4. Broken Zither and Friends *(Stereo Recording)*
5. The Berlin Tapes *(Stereo Recording)*
6. Baptist Prayer Meeting (from The Imaginary Delta album) *(Stereo Recording)*
7. Bicycle Works II *(Stereo Recording)*
8. Fly Tipping (*Stereo Recording)*
9. Old Long Since (Fireworks) (*Stereo Recording & Sound Installation)*
10. Burroughs *(Live Performance)*
11. And Slowly Fell My Ocean Drone (with Soriah) *(Live Performance)*
12. Radio Stoke *(Live Performance & Radio Jingle)*
13. davID digital sculpt *(Film Soundtrack – film provided online)*
14. I Will Not Hope (Leaf Film) *(Film Soundtrack – film provided online)*
15. The Cartoonist *(Film Soundtrack – film provided online)*
16. Hard Drive Failure *(Stereo Recording)*

Appendix 2

Selected Sound Events (Sonographies)

Early on in the research I decided to start logging text descriptions of sonic occurrences. A useful term I have since discovered to describe this approach is *sonographies,* borrowed from Salomé Voegelin, who also adopts this activity.[31] This would include any interesting sound events that caught my ear and attention during everyday activities. The aim is to provide a textual record of possible sonic waste events that could prove useful as a stimulus for compositional ideas. The process did turn out be fruitful and a few of the sonographies became starting points for compositions; For example *SOUND EVENT 18* was the stimulus for *Fridger* (see Chapter 4.4), *SOUND EVENT 15* was a stimulus for *Hard Drive Failure* (see Appendix 1.16) and *SOUND EVENT 19* was the stimulus for *Barbershop Quartet* (see Appendix 1.1). Others were influential less directly but were a useful reference and provided insights into noise and sonic waste experience. Below is a selection of the sonographies influential to the practice.

SOUND EVENT 01

The Theatre of Sound

Juggling life events in the home is likely familiar to most people - those with young children especially can maybe relate to those moments in home life when simultaneous heads are needed to cope with the layering of activities which surround us. Cooking whilst cleaning whilst answering the phone whilst convincing the eldest to stop playing Nintendo whilst playing trains with the youngest whilst finding a swimming costume for the eldest whilst providing a drink for the youngest whilst discussing the days events with the partner whilst

[31] Salome Voegelin's blog which archives her sonographies can be found at http://soundwords.tumblr.com

mentally preparing for the following days work whilst answering the door to visitors whilst burning a CD for a friend . .. . . . and so it goes on. (or is it just me!)

Multi-layered activities and subsequently a multilayered Soundscape. Paying attention to listening above hearing in these situations does of course just add another layer of difficulty to the tasks at hand, but does provide a fascinating theatre of sound - with main characters, co-stars, extras, backgrounds, foregrounds, events in the wings, diegetic, non-diegetic and supra-diegetic sound events staged all around.

The following short documentary home video demonstrates something of this - I'm attempting to cook in the kitchen, I have a CD playing on the kitchen stereo (Huffin Rag Blues by Nurse With Wound), my youngest son needed the toilet so I get him on to the downstairs toilet, my eldest son is asking me to film him in the music room and listen to a drum pattern he has just composed on his mini drum kit, which includes playing bongo's with his feet whilst simultaneously playing the kit with sticks, so I attempt to quickly record him on video but as I do so the youngest son finishes on the toilet and begins shouting for me.

The resulting soundtrack to the short video is fascinating as it seems to create this layered theatre of sound -

Foreground - my breathing and slight grunting to unfolding events.

Near Midground - drumkit and foot bongos.

Far Midground - Nurse With Wound on the stereo.

Background - youngest son shouting for me.

Being committed to film in this way seems to flattens out the three dimensional aspects of the soundscape but maintains the front to back layering - creating a kind of theatrical

presentation of the events, like some victorian puppet theatre with interchangeable painted sceneries which are slid into place at each key point in the play.

SOUND EVENT 02

The Mahabharata Wall of Inexplicable Squeaking.

A Comedy of Sounds.

Glasgow's Tramway Theatre.

During a week of residency working on the creation of a new sound driven theatre work, in collaboration with Proto-type Theater we encountered a wall.

This famous wall which was built for Peter Brookes' work The Mahabharata is still in situ within the theatre space.

The temptation is of course to knock on the wall - to test it's sonic properties. (or is it just me?)

Well its also my colleague Nick who also had a wee (we were in Scotland) knock of the wall - I think the motivation was partly to test to see if the resulting sound confirmed its density/material/realness....

The first 2 knock sequences (approximately 6 or 7 knuckle directed hits) threw back an expected sound if not a little hollow - confirming the partially theatrical prop 'unreal' nature of the wall - however, still retaining something of a fairly firm density and well built identity based on the audio response.

The third knock sequence, which was delivered by myself threw us into literal fits of laughter. Maybe you had to be there... but the sound of the third knock sequence was such a highly incongruent and unexpected quality - and had such expert comic timing in sequence with the first 2 knock sequences, that both Nick and I were reduced to tears of giggling, and literally floored, by the event. To describe the sound is difficult, but it was a

kind of squeaky, high pitched, cartoonish comedic noise, which was so funny not only because of the nature of the type of noise itself, but also its complete lack of attachment to the type of sound you would expect to result from the knocking of a wall - -even a false one. It was funny. Sonic humour.

SOUND EVENT 03

Circle Of Silence

So. I'm heading for this pub on the banks of the River Thames. It's a wet Spring evening, though not unpleasant, very London, very crowded, warm, close but a great Thames breeze swings across the water and washes the cobwebs away as we cross the bridge and glance at the multi lights skipping on the water surface in tandem with the music of speech, buses, cabs, sirens, yells, footsteps, rain, boats and unknown city hum.

But thats not it.

This sound event exists inside the pub, in the basement room hired out for the weddings' evening party. Best Man's speech time. The changing sound scape signifies something is about to happen, or is happening - a hush slowly sweeps across the room, like a soundproofing blanket being spread gradually across the heads of all the chattering guests, in an ever increasing circle from the calm in the middle of the storm that is the Best Man stood next to the Bride and Groom. Eventually the blanket of silence touches all in it's maximum diameter, having hit all areas of the hot basement.

Being stood at the outer edge of this circle turns out be a rather large disadvantage. At nearly 6' 4" I can see clearly over most heads, and as such I am able to witness some very definite mouth movement from the Best Man, in other words, I can see clearly he is speaking. Unfortunately certain factors deny me the possibility of actually hearing a single

word, mutter, exclamation, or indeed any sound emitted by the Best Man whatsoever. Distance. Amplitude. Sound leakage from upstairs. I am listening to ‘silence’.

Now, standing, looking, listening but not hearing, the mind wanders. I become interested in this paradox, this inaudible audio event. I can hear, but not that which is meant. I tune in to the flexible, minstrel-like traveling bass frequencies from upstairs, which are so good at turning corners, meandering through passageways and sinking through floors. The bass thuds of some contemporary chart song make their way to the forefront of my hearing, leaving behind the usually conjoined high and mid frequencies upstairs on the ground floor - like a growing son, flying the nest, leaving it’s parents behind for a new adventure in the basement.

I can see the backs of many heads, then suddenly a ripple of clapping spreads out from the epicentre, it reaches me, I clap, I join the collective sound event, without a clue as to what I am actually clapping for. My mind turns to wondering at what point in the radius of the circle this knowledge exists. How many of us are ‘blindly’ clapping just because the inner circle are? Then come the laughter ripples. I smile, It’s harder to join a collective laugh without the joke, but then the lack of a joke to hear *becomes* the punchline. I manage a chuckle in the sound collective. Finally I see the raising of glasses, a clear visual clue that the end of the speech is nigh.

Finally, like a mini tsunami of conversation, out flows the collective sound of general chatter. The best man’s speech is over and the room returns to it’s general wash of louder than usual crowded voices, all occupying and filling the heated air space of the basement, triggered from the very middle of the sound event circle where the silence existed.

SOUND EVENT 04

Underwater Listening - Bringing the Outside Inside

It occurred to me as I lay in the bath, dipping my head from one side to the other, discovering the stereo peculiarities of filling and releasing each ear in turn with water, that the very specific sense of sound scape one experiences underwater is one of an internal perspective. All listening is of course 'heard' inside the brain, and subsequently interpreted, understood, and located etc, entirely within the circumference of the skull. We only think that we hear sound within the external landscape, we believe the events we can hear are located from that field of vision which we see.

This is of course an untruth because all the processing is carried out inside the brain - sound exists internally, but our brains very efficiently locate it externally and fool us into believing we are hearing it from a distance. The sounds only come into existence once we have received them via the ear canal, tickling the tiny hairs within and converting these patterns into something meaningful (see cliched philosophical question about if a tree falls in a forest with no one there, does it make a sound etc)

Underwater, however, this perspective changes. Dip your head down beneath the surface and suddenly all hearing becomes internalised, the soundscape suddenly sounds as though it exists inside your head rather than outside in the 'real' world.

Vibrations are obviously the key here. Vibrations received through air molecules tell us the sounds exist beyond our brains - vibrations received through the water and solid materials neglect to deliver this information quite so succinctly.

Try it!. Listen underwater and notice how the external world suddenly exists entirely within your own head. Even the sound of your own breathing appears to be coming from directly inside the mind, rather than from your mouth.

With my head beneath the bath water I can hear the sounds of the house - the humming, whirring, squeaking, buzzing of the life force of the building - the central heating, the water pipes, the fridge, the mains electricity, the telephone ringing, the toilets flushing, the radio singing. All these sounds are spread around in a 3 dimensional soundscape, normally locatable physically, but underwater all these frequencies combine and merge into a generic tone which exists firmly rooted inside the smaller confines of my own head.
I have brought the outside inside - it feels a little like painting the 3D in 2D - flattening out the world - hanging a tapestry of sound to peruse at leisure without external interruptions.

SOUND EVENT 05

Selfish Listening

Football competition - crowd listening to results and info and some people make the decision to stop listening when they feel the info they need is finished and therefore interrupting the hearing of others around them who still need to hear more.

Selecting the moments of hearing which they feel is only pertinent to themselves, whilst unflinchingly blocking the hearing of others around them - who still need to gather information imparted.

Selfish Listening.

SOUND EVENT 06

Talking With The Wind

Telephone conversations when the sound of the received voice is muddied with the sound of wind present in the speakers environment

SOUND EVENT 07

The Bleeping Human

Just a quick note about the rather bizarre situation one finds oneself in from time to time when standing chatting to someone and a chorus of bleeps and blips seemingly emanating from deep within the other persons body continuously punctuates the conversation. Usually centred around one type of electrical blip but sometimes a small variety of tones can occur.

To me it always seems like it should be something one of us ought to mention or at least acknowledge, but I so often find myself in the situation where the bleeping human just continues the conversation as though nothing was occurring, despite this invasive array of robot like noises seemingly bursting forth from the wirings of the persons body.

It is, of course, a mobile device, a smart phone generally smarter than those of us attempting to use them, which is receiving data - a text message, a twitter update, a facebook friend has posted something life changing or an email message demanding attention.

The bleeping human usually ignores this extraneous noise interruption or sometimes just looks uncomfortable or at the other extreme, breaks off the 'real life' conversation to deal with the incoming data while you stand there waiting for the priority to shift back to you.

In all situations its a sound interruption. Man becoming machine becoming man.

SOUND EVENT 08

The Warehouse

Walking through an industrial estate listening to the various radio stations playing through the tannoy (loudspeaker) systems.

SOUND EVENT 09

The Cross Conversation

Discussing 'stuff' (in this case upcoming album releases) with someone across the other side of the table in a public house whilst a completely different conversation is taking place laterally across the table between us - but one which involves 4 people and is twice as loud as ours.

Like a kind of Rap Battle - a conflict of words and dynamics - a multi-layered textual barrage of cross fired streams of conversation in competition with each other - attempting to hear the other end of my conversation is only possible with extreme concentrated face to face contact so every word and lip and mouth and face muscle can be as seen as much as heard to try and help with the deciphering amidst the noise and confusion of the perpendicular chatting.

SOUND EVENT 10

The Guinea Pigs

Pig sitting for the holiday week.

Incredible stereo sound of the two animals when held together.

The whirling noise amplifies when the two guinea pigs are closer together, it seems the more contented and happy they feel, the more volume they produce.

It's a continuous mid/high pitched warbling sound.

SOUND EVENT 11

The Vaccination

Youngest Son;

"chatter etc .. . . . ."

***Nan**;*

"Oh Albert, you sound like you've had a vaccination with a Gramophone Needle".

SOUND EVENT 12

The Scream Battle

Battle of the screaming children - some fairly unidentified cause, possibly linked to the huge inconvenience of youngest child having to stop playing with the 'Planet Protectors' and walking all the way downstairs to sit at the kitchen table and eat some scrambled egg. Such interruptions to ones routine can be upsetting of course, but the scream battle which ensued was of gargantuan proportions and although sonically highly interesting, did also push the limits of ones hearing boundaries to the edge of comfortability...

It began as a mild whimper in youngest child, grew to a crying of fairly unsettling proportions and eventually bellowed into a prolonged and continuous scream of total brain filling dimensions.

Being in close proximity to this sound event was difficult, and eldest child handled the opening phases very well, asking nicely underneath the high frequency tones if youngest child would kindly refrain. This only seemed to make matters worse and youngest child now stepped up to a scream of seemingly earth splitting qualities - eldest child cracked. The scream was returned, preceded by an "I CAN"T COPE". The "COPE" stretching out like an audio edited time stretch of glitch opening length, like the fabric of the voice was being dissected and split into it's constituent parts.....

"CCCCCCCCCCOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
OOOOOOOOOOOOOOOOOOOOPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP
PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPEEEEEEEEEEEEEEE
EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE"

The two screams ran parallel, in glorious real world stereo.

The combination of tones, timbre, frequencies, dynamics, amplitude and glitch attributes was stunning, an absolute complete stereo palette. A disintegration of all other thoughts was inevitable, the hearing spectrum was so complete.

Absolutely fascinating experience.

Ah..... lost in the fascination, I suddenly realised maybe I had better intervene and try and settle these two sonically embodied subjects back into quiet.... they are in fact my children after all.

But maybe I just need to write about the experience in my research blog first.....

"Wheres Mum ?".....

SOUND EVENT 13

The Hearing Aid

Pardon . . ..

SOUND EVENT 14

Noisy Easter Play

At my son's school Easter performance in the local church (my son was a very convincing Jesus in the show which made me feel strangely omnipotent) the general ambience of the Church is of course interesting in itself and deserves an exploration of some kind, but one small moment caught my ears .. .

There was a communal microphone used by all the narrators and speakers apart from my son [Jesus] who had his own special radio microphone attached to his robes - his voice reverberating from all around the Church in a powerful disembodied authoritative and godlike manner. I wonder if this was intentional to amplify his status as The Son Of God or just a practical way to amplify his voice as he needed to wander around during the course

of his dramatic sequences. The small moment that caught my ears however was a small line delivered by another child as he stepped to the communal microphone and confidently delivered (though read from a note) the line;

"..... and there was a great deal of **NOISE"**

Noise being shouted so much louder than the previous words, whilst simultaneously leaning into the microphone, the boy's mouth scraping the grill and creating a grinding speaker noise to accompany the shout of "noise". Therefore layering the concept with literal noise. I wonder if this was intentional or just an accident.

The noise was noisy.

SOUND EVENT 15

Studio Drones

Hard Drive Fan

Mixing Desk Power Unit

Desktop Computer

Distant Aeroplane

Breathing

SOUND EVENT 16

The Theatre of Sound

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playing trains with the youngest whilst finding a swimming costume for the eldest whilst providing a drink for the youngest whilst discussing the days events with the partner whilst mentally preparing for the following days work whilst answering the door to visitors whilst burning a CD for a friend . .. . . . and so it goes on. (or is it just me!)

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Maybe this would be even more pronounced if the audio is extracted from the film and listened to without the accompanying imagery.

SOUND EVENT 17

Postman

Mail coming through the letterbox.

Familiar, somehow comforting whilst sonically jarring?

Quick, sudden, loaded with content, significance, expectation, fear(bills), worry, happiness,

Full range of emotional signification……

SOUND EVENT 18

Kitchen

Dishwasher.

Fridge.

Gas hob.

Trio - hiss, gurgle, buzz, clatter, rhythmic murmurs.

Drone like, calming, pleasant, familiar, surround triangle.

SOUND EVENT 19

Barbershop

Had a trip to the barbers today - such an invasive sound experience - literally millimetres away from the ear canal, buzzing whirring clippers shifting and revolving around my head, a close range 360 degree sound installation, a true binaural event filling the entire range of hearing, with bass buzz, mid range whirring and hi frequency overtones spinning and panning in and out of focus, counterpointed only by the blasting voices of Jeremy Kyle on the barbers TV spitting out aggressive advice punctuated occasionally with edited in silences above the swearing participants, it's like the silences hold the power, the more silences occur the more angry and impassioned is the outburst, until the silence becomes the steady sequence, occasionally punctuated with non-swear words, then back to the clippers swirling, buzzing harmonies overtaking the voices and silences. Invasive, extreme sound events filling my thoughts - I wonder what my hair is like ?

Appendix 3

Questionnaire Responses in Full *(unedited)*

A3.1 Jean Herve Peron (founder member of Faust)

1. why use junk?

as long as something generates interesting frequences , let us play with it, eventually combine it with other sources of interesting frequences…sometimes it is a Stradivarius, sometimes a cementmixer, sometimes a sheepstable, sometimes an abandonned bin , ….

2. where do you get your junk from?

rarely consciously do I "look for" something…. except for the futile daily needs because my wife is a great advocate of re-inventing the world every day, every minute…apart from this, I seem to just bump into things or people.

3. do you use entirely waste materials or do you also include other materials?

see 1)…I do not make a conscious decision of " now I look for and use so-called junk "…so you maybe have the wrong artist here to talk about junk-art

4. how did you learn to make junk instruments?

lack of money is always an extremly good teacher.

5. do you attempt to simulate 'real' instruments?

I venture to say that I never try to make something sounds like another thing..i somehow respect things the way they are and I am happy with what they sound like for themselves.

6. do you attempt to create 'new' instruments?

no but I do admire artists creating new instruments . I decided , well, rather discovered that the cementmixer is a powerful musical instrument but I did not create the cementmixer.

7. do you compose on your junk instruments?

yes.. there are a few attempts …I prefer to improvise though

8. how would you describe the 'style' or 'genre' of the music you compose/perform?

I call it " art-errorism "…it keeps me beyond critics and turns my lazy dilettantism into an academic quest.

9. do you stay within established harmonic/melodic patterns and forms?

Yes , no, yes, no, yes, no, yes, no …no.

10. does the junk instrument influence your style of composing/performing and how?

sorry , I now am sure that I am the wrong artist for your research: I do not want to limit the influences on what I do to one , or for that matter any number, of things : evrything , absolutly everything influences my music. The past experiences and the present ones, even the anticipated future ones

11. who do you think your audience is?

the first rows of our audience are people of various age and sex . I feel it makes them happy to listen to what we do and they like to talk to me afterwards.

I have no idea of who sits or stands in the further rows of the audience. They seem to talk a lot and dissapear fast

12. what would you say is a typical audience reaction to the understanding that your music is made with junk materials?

The most extrem reaction I have witnessed was vomitting…I saw people (mostly women) crying out of happiness …the most common (pleasant) reaction is laughter…

13. is the visual aesthetic of the junk important to you, or do you engage with developing the visual element when creating a junk instrument?

oh yes, I like to arrange things so they present a certain amount of harmony to me …the stage set up is very important to me…but here I am not only talking about instruments, so please excuse if I have not really answered your question

14. do you consider the relationship between the environment of the junk source and the resulting music - is there a relationship?

Yes definitey…a sledge hammer will talk violence and destruction a wasted TV will try to seduce you with her previous life before being bashed , an oil barrel remembers all the shit dumped into it…so they tell the story through the artist playing them.

15. are you attempting to convey a social message through the use of junk?

Yes . It is the duty of all artists..it is what they have to give in return of all the privileges they receive . You prbably want to know what my message is

Open ! your heart, your ears , open..do not be sure, do not give up..and the mighty "rund ist schoen !!"

16. is your prime concern the music itself or the exploitation of the junk, or what is the balance between these elements?

oh, easy question: music is what matters , no matter what it is and where it comes from

17. do you consider there is a narrative to your compositions because of the way you compose with junk?

yes . Of course , on the long term, a cello will tell more than an anglegrinder..but again an anglegrinder will tell more in 10 seconds , much more that the cello could in that time…

18. are you using soundscape as music or music as soundscape (or neither)?

both ways : YES I DO. I do not see, feel, hear any separation between the two phenomenoms

19. do you consider that the use of junk empowers you to engage more fully with the world at large?

Yes , using a "different" sources for creating sounds automatically puts you in the outlaw situation…and that means having to engage fully with the world…if you would not fully engage, the world would either ignore or destroy you, no ?

20. do you consider the use of junk is in any way a subversive or anti-establishment message - or is there any kind of political undertone to your work with junk?

oh yes..the junk artist opens a path beyond the politically correct ways. It lightens tabu areas , destablized the brave citizens..oh , established systems don't like that too much.

21. do you have any other thoughts relating to your use of junk in music which you would like to mention?

I would like to be normal and see junk as junk. I would like to practice my trumpet.

I would like to go to a junk concert and be surprised, maybe even annoyed.

A3.2 Matt Smith (director of PickleHerring Theatre)

1. why use junk?

Junk is about possibilities and accidents. It inspires unforeseen responses beyond the conditions of traditional music and art making practices. Junk has a history that is brought out in the reuse and re-purposing of the object. I guess also as a puppeteer I see the potential in objects as elements in performance. I derive pleasure from bringing the inert to life.

2. where do you get your junk from?

Skips are a brilliant source. Industrial waste lands are full of objects full of poems. Household waste is an immediate source of inspiration.

3. Do you use entirely waste materials or do you also include other materials?

The fixing of objects together in new forms is usually done using cable ties, gaffer tape and wire. Some of my best instruments have been surrealist juxtapositions of objects like the banjo made from guitar neck and old tin, tennis racket harps and mastic tube plops.

4. how did you learn to make junk instruments?

When we collaborated and your music making became integral to what I wanted to achieve artistically I started to build junk instruments. The puppets were made from rubbish so it seemed natural to make the instruments from rubbish also. The junk instruments teach you how to play them in the same way as a puppet teaches you how to operate it.

5. do you attempt to simulate 'real' instruments?

I do simulate real instruments but I am mostly inspired by ancient forms of stone and wood instruments. I play guitar so like to construct string instruments. The differences to the 'real' instruments are the fun side of the activity. I also think the audience get a kick out of looking at the ridiculous object that is producing the noise.

6. do you attempt to create 'new' instruments?

If I could I would do this all the time. Making sound from new materials is one of the most exciting aspects.

7. do you compose on your junk instruments?

I mostly rely on intuition and a sense of playfulness. With groups I enjoy seeing them compose in the moment through improvisations. Children love standing in the middle as conductor, which I think was one of your innovations. Visual scores seem to work well with junk.

8. how would you describe the 'style' or 'genre' of the music you compose/perform?

I am often not very confident of the word music and often describe what I do as noise and rubbish music. I think when I do workshops and junk music circles it is within the spirit of community music. I love that phrase ‘musicking’.

9. do you stay within established harmonic/melodic patterns and forms?

I am not entirely sure, but generally the most exciting sounds come from when it is nearly all falling apart. With junk it’s about aiming for some jolly dissonance as part of the fun. Grooves help to keep you going but can be quite boring.

10. does the junk instrument influence your style of composing/performing and how?

As a performer the junk music practitioner seems to inhabit the space of punk. The energy of hitting trash is exciting and in some ways a cultural protest. Strangely though the surroundings soften the sound of junk

11. who do you think your audience is?

Often in workshops and one day events the audience is very diverse and the openness of the workshop allows a free-flow of people. I have never really played what you might call a gig that is worthy of mentioning. I have never fitted into the music venue scene.

12. what would you say is a typical audience reaction to the understanding that your music is made with junk materials?

At community events people delight in the way a simple activity like this is so pleasing for children and adults alike. There is s lack of boundaries. When it moves beyond this into a recording something happens to the audiences expectations. They don’t feel the energy of the junk without the object present.

13. is the visual aesthetic of the junk important to you, or do you engage with developing the visual element when creating a junk instrument?

It is definitely a mixture of both. If the junk sounds great it often looks great.

14. do you consider the relationship between the environment of the junk source and the resulting music - is there a relationship?

This was always part of the reason behind the use of junk. The hope was for people to see the implicit message about seeing the environment differently. This was a message for all people. I remember some suits from the environment agency complaining that our performance looked like Green peace. I was happy with that comment. We waste too much in our country and need to think about what we are wasting. That includes wasting people. Its part of the logic of capitalism to waste. (Influenced by Zygmunt Baumen)

15. are you attempting to convey a social message through the use of junk?

The message is there for people to discover. If it becomes propaganda it looks a bit stupid. I want audiences to enter the space of junk music not to be repelled by it. They then can take that away and find their own potential junk symphony in their life.

16. is your prime concern the music itself or the exploitation of the junk, or what is the balance between these elements?

I have a quite ambivalent feeling towards the music and the junk. The most exciting thing is the people, connections and processes.

17. do you consider there is a narrative to your compositions because of the way you compose with junk?

When we made the marlsite pieces the music needed to fit into narratives and landscapes and sometimes the songs worked with those narratives. I particularly like Dingy Skipper and clinker man for this reason.

18. are you using soundscape as music or music as soundscape (or neither)?

In theatre using music means that you are pretty conscious of the idea of the noise as soundscapes. I think the way around is that the noise is for a soundscape.

19. do you consider that the use of junk empowers you to engage more fully with the world at large?

I seem to go back to Blake when thinking about this. 'to see the world in a grain of sand'. It feels like a good motto for living a richer life and for art-making processes. Working with junk has made me a better artist especially as a listening artist.

20. do you consider the use of junk is in any way a subversive or anti-establishment message - or is there any kind of political undertone to your work with junk?

Making a racket with junk in a public space seems to be a subversive and transgressive act. I don't like establishments and I like to find ways of working around them. Junk can produce a sense of anarchy and this is a good thing.

21. do you have any other thoughts relating to your use of junk in music which you would like to mention?

Junk music making especially with projects we both worked on has given me the confidence to play with sound in ways I never thought possible. Lets keep doing this until we get too old

A3.3 Skip La Plante (New York based Junk Musician, works with Bash The Trash)

1. why use junk?

lots of reasons to use junk. for me it was mostly serendipity. i was playing for lots of dance classes, so i was playing many hours a day. i was living on an old farm which was being warehoused for eventual development. there had been a parade of recent college graduates and other relatively destitute individuals in and out of the place for about a decade, and a resulting accumulation of weird stuff. one day it occurred to me that i could use any of the stuff on the farm that nobody else wanted.

to answer the question more directly. you can have as much material as you choose to take so the cost factor is very much in your favor. and you get to explore lots of non-standard items, some of which sound wonderful. there's a thing that has happened as i write for theater. the non-standard instruments have no cultural tag. instead of taking a listener into a predefined musical space, as anything a clarinet might do would automatically do, unfamiliar instruments take the listener into a more magical, uncharted space. this is a really good place for theater music to occupy.

there is of course more. since there is no limit of materials you can have, there is no limit to the experiments you can make. if you want to mess around with 74 pitch per octave equal temperament, you have the means to do that. you can explore any facet of music you choose to.

2. where do you get your junk from?

many junk sources. the farm contained a mix of old farm stuff like dead tractors, and a mix of household discards like old refrigerators and workable but useless kitchen/household stuff. there were only 10 plates there, but there were 80 tea saucers.

when i moved to NYC i lived in or near soho, which at the time was a hub of small manufacturing. every night there were dumpsters full of strange wonderful stuff. there were hundreds of cardboard tubes. NYC trash removal involves just putting your junk onto the sidewalk for pickup, so anything anybody wanted to get rid of was in the street as well.

for many years nearby buildings were gutted and refurbished. as part of the process, things like the old wiring and plumbing wound up in dumpsters, free for the taking. I've made many instruments out of electrical conduit scrap.

I use a lot of styrofoam. i'm near enough chinatown to go there and collect boxes that once contained fish or vegetables when i need another box.

it really is serendipity. at one point i was standing at the curb waiting to cross the street. a truck drove by, and a large roll of steel wire fell out at my feet. i'm still using that wire on instruments.

3. do you use entirely waste materials or do you also include other materials?

I've never limited things strictly to waste materials. I want the instruments to sound good, and i'll whatever it takes to achieve that. I won't try to make cosmetic adjustments to the materials i use so the trash components read loud and clear, but i buy whatever i need to make the instrument.

4. how did you learn to make junk instruments?

trial and error. mostly i started with percussion instruments-whatever the item sounded like when you hit it was the sound you were working with. eventually i started making stringed instruments and wind instruments, loosely copying instruments i knew about from non-western musical traditions.

5. do you attempt to simulate 'real' instruments?

I'm not actively creating radical new designs, but if you are working with unusual materials, especially with percussion instruments, you are in virgin territory no matter what you do.

6. do you attempt to create 'new' instruments?

no but I do admire artists creating new instruments . I decided , well, rather discovered that the cementmixer is a powerful musical instrument but I did not create the cementmixer.

7. do you compose on your junk instruments?

i wouldn't bother with the instruments at all if they weren't tools for me to use as a composer. i'm a composer first, an instrument builder somewhere further down the list.

8. how would you describe the 'style' or 'genre' of the music you compose/perform?

i'm actually rather conservative as a composer once you accept the notion that i've discarded a tremendous amount of my musical heritage. I want to let the instruments do what they do well, so that's a piece of the aesthetic. I do enough work where I'm referencing something specific in some musical tradition that I could be described as pan-ethnic. I'm also willing to mix and match theoretical constructs in any musical tradition i know about, and deploy those on any instrumental combination that makes sense to me. I was a music major at Princeton. My thesis advisor was Milton Babbitt. that's enough pedigree for western music. I've played gamelan music for years. i'm not at the expert rank, but i know a lot. I spose i know a lot about a lot of stuff and anything might come into play when i'm composing.

to attempt a specific answer-i guess i fall into the new music camp, with elements of minimalism, ethnomusicology, rock, and the European symphonic tradition all mushed together.

9. do you stay within established harmonic/melodic patterns and forms?

nope

10. does the junk instrument influence your style of composing/performing and how?

any instrument has limits. those limits become part of the compositional calculus.

there's a lot of play in this answer. i wrote a piece called Forkfall, in which i put about 10 or 12 forks onto a styrofoam box and hit them. in due course, all the forks fall off the top of the box, usually into the box. So the instrument self destructs as you play the piece. Clearly this is piece about this specific instrument. Ijo is a very substantial piece exploring what a particular collection of metal items is capable of. A lot of my compositions inhabit this territory-an exposition of what a particular object can do. And other compositions are about how the players interact, and the players are free to use any

instruments they choose. That approach arose in response to a group of musicians working with homemade instruments which we only vaguely knew how to play, but the specific games i composed in that vein apply to any instruments that take the challenge of playing the game.

11. who do you think your audience is?

the one steady audience over the years has been NYC's downtown dance and theater communities. i'm always a bit surprised when i discover my music has traveled outside those circles, although i suspect it has.

12. what would you say is a typical audience reaction to the understanding that your music is made with junk materials?

i make no effort whatever to mask the materials i use. part of the audience response is to the dichotomy of materials that look that they couldn't produce much of any sound at all in fact being able to produce very pleasing tone and being able to be manipulated in sophisticated ways.

13. is the visual aesthetic of the junk important to you, or do you engage with developing the visual element when creating a junk instrument?

i can't tell you how many times different dancers i was composing for wanted me to do something or other to make my instruments conform to their visual aesthetic. This is not a compromise I've ever made. If anything, i think its important that people see what i did and for them to know they could do it themselves if they wanted to.

14. do you consider the relationship between the environment of the junk source and the resulting music - is there a relationship?

there really isn't a relationship

15. are you attempting to convey a social message through the use of junk?

not as a primary goal. obviously we should all be environmentally aware, and i'm happy to wear that preachers' hat. but frankly i hate being preached at. i'm not about to inflict that on anybody. i'm more of the mind that if i present what i do as an option that people can see, perhaps they'll be influenced to change their own relationship to the world's trash.

16. is your prime concern the music itself or the exploitation of the junk, or what is the balance between these elements?

i think i've already answered that about 12 times so far.

17. do you consider there is a narrative to your compositions because of the way you compose with junk?

i really don't understand the question

18. are you using soundscape as music or music as soundscape (or neither)?

what i'd say here is that i'm far more aware of soundscape than most people. i'm willing to draw elements from anything i hear anywhere, so this is certainly a potential source of material. when i'm designing for theater, i'm creating a sort of imaginary soundscape, which may include all sorts of simulations of real world stuff. I can do the Cagian thing and decide that any complex of sound from anywhere is music because I've decided it is, but that's not a terribly helpful thing for me to do as a composer.

19. do you consider that the use of junk empowers you to engage more fully with the world at large?

engage more fully? certainly i was more in demand as a composer working with junk instruments than i was a bass violinist in the early going

20. do you consider the use of junk is in any way a subversive or anti-establishment message - or is there any kind of political undertone to your work with junk?

i suppose i'm about as in your face as i could be here. by itself being subversive isn't worth the number of letters it takes to spell it. but if i can demonstrate that the supposedly

subversive thing i'm doing is in fact better at accomplishing certain goals than the more traditional approach, then it really isn't subversion at all.

21. do you have any other thoughts relating to your use of junk in music which you would like to mention?

there was a wonderful moment that came about 10 years ago now. i was asked to play at an event in response to the world trade center destruction. i friend of mine who studied shadow puppetry in Indonesia asked if i would join his pick up gamelan for a performance. no problem. i often play gambang in this context. there was a gambang waiting for me to play it. Before the event started i discovered that the shadow puppet show was only part of the event. in an upstairs space, a long hike up a spiral staircase, there was going to be a dance improvisation and that all the musicians were invited to join. there was no way in hell that gambang was going to make it up that stairway. no problem. I walked around the neighborhood for about 20 minutes, finding an assortment of trash that could produce some sound. I remember i got one cardboard tube and several plastic bags. I don't remember the rest of the array. But when it came time i was able to play along with the other musicians just using the stuff i had. I was enough of a musician to work with whatever limited tools were in front of me.

Looking back at this, this was a declaration of independence. I no longer needed any sort of traditional instrument. I simply needed to be the musician i in fact am, to listen to what the folks around me are doing, and compliment or contrast based on the tools i have available and the logic of the moment. musicianship, an attitude or a complex of abilities, trumps the accumulated ability on any particular musical tool. if all i've got is lemons, i'm perfectly capable of making lemonade music. In fact, lemons wouldn't be very good musical instruments, but the plastic bag they'd probably come in could be. the knife you might cut the lemons with could be used as a twanger. you could throw the lemons at

something, using them as a sort of a drumstick. if you had some time and the right resources, you could sqeeze the lemon juice onto something that would chemically react in some way, and you could then shape that reaction into some sort of musical event. perhaps you could use the lemons as bait. if a rat came around and took a bite of a lemon, that could be a cue to start some kind of musical event.

trash instruments are potential stepping stones to this kind of musical -i suppose there is some appropriate term somewhere in Hinduism but i don't know what it might be- place to occupy. Clearly they are a means to an end, not the end in and of themselves.

A3.4. Liz Carlisle (Urban Strawberry Lunch)

1. why use junk?

Originally we started as a band using conventional instruments, with the odd bit of junk for just some interesting sounds. But --- the rehearsal space burnt in a fire, and there was no money (or insurance) to replace the "real" instruments lost. All that survived were some bits of scrap metal. There were gigs and things lined up, so it was case of carry on with what remained or stop. We carried on with what remained. This was in 1987!!

2. where do you get your junk from?

We used to source from all sorts of places – scrap yards, skips, people, the streets etc. In the early days both the gas board and water board (yes ... just around the time they were being privatised so they were still "boards" in those days) would deliver tubes to us in our workspace – just a case of giving them a ring and asking for some off cuts. But this got more difficult as the greening of society starting picking up pace. Gas and Water Authorities started granulating off cuts (and they were worried in case we were going to start hacking into the mains instead of paying bills!), plus the gas and water pipes were getting too unwieldy and heavy for our developing instruments. Now we concentrate less

on playing (and more on running an old building!) we don't have to source materials that often, but we still go "skip diving" every now and then, and people still give us stuff on occasions too.

3. do you use entirely waste materials or do you also include other materials?

Generally waste, though sometimes we've had to buy materials in order to make the junk work .... our instruments are mainly "home made" – it's not just a case of playing something that it still in it's original state

4. how did you learn to make junk instruments?

A bit of trial and error, and an early member of the group who had some amazing design and build skills!

5. do you attempt to simulate 'real' instruments?

Yes – to a certain extent. Our drum kit looks and works like a kit, and we have to use "real" pedals etc, but the main components are junk (plastic barrels for kick and toms, kitchen sink for snare, old gas bottle for bell sound. We haven't been able to replicate cymbals, but ours come from drummers who chuck them out when they split. Full cymbals are too bright for our sound, so cracked are perfect!)

We have half a guitar (from a skip) that has been adapted (frets removed, changed tuning etc) but it's still a guitar essentially. Our bass works like a bass, but is made from a broom handle and a speaker magnet. Our dulcimer is made from a magnet, a fabricated metal frame..... sometimes we have to use "real strings (bass or guitar), but some instruments use welding wire or piano wire for strings. Percussion instruments have on occasions had "real" skins, but only because rubber wasn't giving us the sound we were looking for – the frames were still made from junk.

6. do you attempt to create 'new' instruments?

is anything really new? Most of the instruments we've seen either in person or on you tube have their basis in something else – whether inspired by music, or industry or something else. We have a bit of a mantra (one of many!) here at "The Lunch" - which is THERE IS NOTHING NEW UNDER THE SUN .... so maybe what we've done is taken ideas from different times and different traditions and put a (then) 20th or 21st Century Urban spin on them.

7. do you compose on your junk instruments?

YES – through Jamming mainly! Sometimes we'll work on a cover, but just like any band we get together in a space and come up with tunes. Sometimes too Ambrose (founder member) will mess about on his synth or bass or guitar at home and then we'll see what we can recreate with the instruments we use. Most of our tunes are original, though working out a cover of James Brown's I Feel Good for a live performance on Car Horns for radio 3 was hysterical!

8. how would you describe the 'style' or 'genre' of the music you compose/perform?

Rock and roll/punk/jazz/funk/dance .... mainly styles that would sit in "contemporary or pop" rather than "serious/classical" ... but we have played about with stuff we lovingly refer to as Ambient Bollox (even did a gig at the International Festival of New Music 96 called Ambient BLX which no one ever got on to!). Check you tube and you'll see we're a band that happens to play junk I suppose! Having said that we did do a recording sessions with musicians from the Royal Philharmonic in London who jammed Pomp and Circumstance – I don't think we, or they, have ever laughed quite so much! And it sounded terrible too!!! That's classical muso's for ya J

9. do you stay within established harmonic/melodic patterns and forms?

Generally ... though obviously there are times when the harmonics and melodics of junk stuff makes things interesting. But you would generally recognise our stuff in broader western terms. We have played with Eastern sounding stuff, but haven't really played about with quarter tones etc.

10. does the junk instrument influence your style of composing/performing and how?

Obviously – you can't really impose stuff on junk, it imposes on your because of it's limitations (or lack of limitations). We each find we have our own styles of playing each instrument (we don't really specialise on one instrument – if you see us gig we're swapping over all the time) – physically as stated we "look" like a band, but the way stuff works can influence how you perform.

11. who do you think your audience is?

Generally everyone ..... sounds a bit wimpy but it's true. Some people love it. Some hate it. Kids. Grannies. Businessmen ... they've all had a bash when we've opened up at the end of a gig. Even had an MEP jamming on the Kit at the European Parliament in Belgium one day, and Tessa Jowell MP banging on our plastic barrels on the streets of Liverpool .... and Norman (can't remember his surname ... "Mr Shifter") having a jam in Liverpool too .... everyone's interested and will come to a gig. Also because we generally play on the streets / civic festivals etc we get a very broad audience.

12. what would you say is a typical audience reaction to the understanding that your music is made with junk materials?

They always love it and react really well, but madly don't really "get it" until we play our one cover tune at the end of the set as an encore, when they go mad. Now that might be just that people always go a bit madder when they recognise a tune, or it could be that

playing something they recognise just slams home what we've been doing for the last 45 minutes!

13. is the visual aesthetic of the junk important to you, or do you engage with developing the visual element when creating a junk instrument?

Initially it wasn't, but the designer/building mentioned earlier brought an aesthetic element, which on occasions seemed to override the functionality of the instrument (eg sheet steel frames for batphones which were REALLY HEAVY and a pig to tour with!). Now it's kind of equal ... we think about what we want something to sound like/do and then see how the visual develops alongside that.

14. do you consider the relationship between the environment of the junk source and the resulting music - is there a relationship?

I think there must be ... really when you think of it all we're doing is what's been done for millennia ... making music on things you find lying around, and then adapting them as your musical ideas develop. We have an urban 21st century approach because that's where we live

15. are you attempting to convey a social message through the use of junk?

For us "being green" is a bi-product ... there is an ethical element but it's not our driving force or raison d'etre ... we just don't got any money!

16. is your prime concern the music itself or the exploitation of the junk, or what is the balance between these elements?

MUSIC – always. Which is why we'll work with other instrumentalists from a variety of traditions and styles (eg Indian. Chinese. Irish. Jazz. Classical etc etc

17. do you consider there is a narrative to your compositions because of the way you compose with junk?

narrative of composition? Don't really know what this means. We just wanna play good music that people appreciate.

18. are you using soundscape as music or music as soundscape (or neither)?

Both ... we can and have written and performed pieces as just that

19. do you consider that the use of junk empowers you to engage more fully with the world at large?

YES ... we always invite the audience to have go. And they always will because they either have an interest in music and are therefore fascinated to see how this mad leg thing with strings works, or they have NO relationship with music and have never thought about trying but this mad leg thing with strings isn't really an instrument so it must be OK to have ago.

Also we are surrounded by music all the time, and as junk musicians you will find us going into a building and just listening to it, or tapping it or scraping it. Not because we've been booked to play it. But because it sounds interesting!

20. do you consider the use of junk is in any way a subversive or anti-establishment message - or is there any kind of political undertone to your work with junk?

Not really. We're just musicians. Who play junk.

21. do you have any other thoughts relating to your use of junk in music which you would like to mention?

Probably loads ... but not sure what they are ... if I come up with anything I'll give you a shout.

A3.5. John Bertles (Bash The Trash)

1. why use junk?

It's cheap, it's available, it sets a good example of reusing resources, it's readily usable by kids.

2. where do you get your junk from?

At home from the recycling bin, along the side of the road, dumpsters, industrial waste, any old place really.

3. do you use entirely waste materials or do you also include other materials?

We strive to use mostly waste materials but every now and then we'll stick a crowbar in our wallet and buy something that's hard to find, like turnbuckles for tuning strings for example. But cheap is the watchword so even children and people on a limited budget can build cool instruments.

4. how did you learn to make junk instruments?

I first started to do this in friends' basements in high school, then I had a professor in college (Gunnar Schonbeck) who built crazy wierd instruments. I read some books about it (including Harry Partch's Genesis of a Music), then tried a hand at doing it myself. Then I saw other people doing it (Skip La Plante comes to mind), then I saw that anytime that people built instruments around the world they were doing pretty much the same thing, just using whatever was in their back yard. At that point the realization came that pretty much any instrument that we saw was an inspiration to build our own versions, or mutate them to our own purposes.

5. do you attempt to simulate 'real' instruments?

Sort of. We don't really try to recreate 'real' instruments exactly, because the real thing almost always sounds better (better materials, better workmanship). But if the form of a "real" instrument provides a model, we'll attempt to build our own versions of that model,

not worrying about whether it sounds the same, but rather interested in how our own version might look different, sound different, and inspire kids to build their own versions as well. But attempt to build a guitar that out-guitars a real guitar? No.

6. do you attempt to create 'new' instruments?

Oh yes, all the time. I'll find something particularly cool-looking or sounding and then try to build an instrument around that. Sometimes I'll look at the form/structure of an instrument from another culture and try to build my own version with local materials (not really worried about the accuracy of the sound). Sometimes we'll build instruments for a specific reason (to fill a niche in a piece, for example). Sometimes we'll build instruments to teach a specific lesson on science or sustainability.

7. do you compose on your junk instruments?

Yes. Sometimes we adapt traditional notation to fit what we need, other times we'll create an invented notation structure if the traditional notation doesn't work for the piece. I do professional development sessions for teachers on how to use invented and graphic notation (among many other workshops), so that tends to be extremely important to what we do.

8. how would you describe the 'style' or 'genre' of the music you compose/perform?

All over the map. Some are straight-out through-composed pieces with everything notated, others are structured improvisations or mixtures. Some are songs with song forms (verse-bridge-chorus), some are inspired by music sounds, forms, and structures from around the world. We've even done cover songs ("You Really Got Me" of the Kinks is going to be on our upcoming CD).

9. do you stay within established harmonic/melodic patterns and forms?

Depends on the piece. If we are trying to incorporate "real" instruments (guitar, accordion, violin, etc.) then we'll stick to western pitches and key changes, or use a combination of

traditional pitch and key changes and non-traditional depending on what we are trying to do. If we are using strictly homemade instruments then we don't have that structural constriction. We (Bash the Trash) tend to create a pitch "scale" using whatever stuff happens to fall into our laps. For example, if we find a bunch of pots and pans (or ceramic tiles, or whatever), we'll arrange them in pitch order, and that will be our "scale". We never (so far) try to create "microtonal" or non-diatonic pitch scales like 17-equal, 21-equal, etc.

10. does the junk instrument influence your style of composing/performing and how?

Well, yes, and no. Sometimes the instruments have total control over how the piece is composed, and usually a piece like that is composed for specific instruments that have specific attributes. Other times we'll create pieces that are more generic and can be played by nearly anything. For example, we have a piece called "Thing Jam" that can be played on anything that we currently have on the stage. Another piece like that is called "Tiny Sounds" and is a structured improvisation for anywhere from 2-4 players who can play any instrument that they want - for that we usually put a pile of instruments on the stage and we just grab and use whatever comes to hand. Sometimes the pieces split the difference. For example, we have a piece called the "Evils of Pots" that was written for 4 players, each with 5 pots. But really, it can be played with 4 players playing any like-materials with 5 different pitches - 5 cardboard tubes, 5 ceramic tiles, etc. And the pitches are not specified (they only have to go from low to high) so any given performance of this piece can sound radically different.

11. who do you think your audience is?

For us, with our educational focus on Science, Sound and Sustainability, our audience is mostly children and families. The great majority of our performances are in schools, family festival venues, museums, etc. But we also have pieces that are written specifically for

more adult audiences and are not really appropriate for children either because the music is dense and difficult, or the lyrics are, shall we say, more racy, more political, or downright trashy.

12. what would you say is a typical audience reaction to the understanding that your music is made with junk materials?

The usual response is amazement that the instruments sound so good (with us it's all about the science), or sound so unusual. Once they hear that, the next reaction is "I want to do that too!" and that is exactly our goal - we want to inspire people to go home and try to build their own cool and wierd stuff, learn more about science, and put the concept of Reusing to the front.

13. is the visual aesthetic of the junk important to you, or do you engage with developing the visual element when creating a junk instrument?

Not so much for us, although we know that many groups look carefully at the visual look of the instruments. We deliberately keep our instruments undecorated, unpainted, un-embellished because we want kids to see what we do and say "I can do that!"

14. do you consider the relationship between the environment of the junk source and the resulting music - is there a relationship?

Yes and no - what we do is very closely tied to the environmental message, so we really hit hard on the aforementioned concept of Reusing (never lecturing, but instead modeling the concept). But on the other hand we typically won't try to, say, write a piece using only kitchen refuse. We don't tend to limit ourselves that way. If it sounds like what we need to make the piece work, we'll use just about anything. We do, however, try to be very careful about using only materials that are safe for children to use, because that is our main audience.

15. are you attempting to convey a social message through the use of junk?

Oh absolutely. The US (and many other "first world" nations) tend to be a "use-once-and-throw-it-away" nation, and we want to inspire people to consider reusing materials as a way of life. Also, with this global recession that we have been suffering through we are also trying to teach people to get away from the endless obscene aquisition of money and goods, and consider the possibility of "make-do-with-what-you-have."

16. is your prime concern the music itself or the exploitation of the junk, or what is the balance between these elements?

I think it's probably a balance, or we wouldn't use "real" instruments in our pieces. I'm a classically trained composer, so the music is extremely important, but the instruments themselves can be the inspiration, the limitation (so important in music!) and the substance. It's not all music, or all junk.

17. do you consider there is a narrative to your compositions because of the way you compose with junk?

Again, it depends on what we are trying to do. We're pretty open and flexible about what we use and how we use it. I wouldn't say that each of our pieces has a particular narrative structure, it's more like - what sounds good (or perhaps "appropriate" is a better word that "good" - some of our instruments sound terrible, and that's deliberate), how does it help the goal of the piece, can it help to teach a lesson (for our educational shows), and many other considerations. No limits, pretty much. On occasion we do music for dance/theater pieces (my wife is not only the co-director of Bash the Trash, but a choreographer and director as well) and in that case the music is all about how to connect, heighten and to enhance what what is happening on the stage.

18. are you using soundscape as music or music as soundscape (or neither)?

We very seldom do soundscapes. But if a particular gig needs that we're not adverse to that kind of musical structure.

19. do you consider that the use of junk empowers you to engage more fully with the world at large?

I don't know about empowers. It's more like a challenge. We've composed and performed pieces that incorporate traditional classical orchestras, jazz ensembles, gamelan, whatever. The fun part is how to make each - the "real" and the junk instruments - fit into the piece in such a way that the listener feels that one is not imposed on the other, but an integral part of the whole.

20. do you consider the use of junk is in any way a subversive or anti-establishment message - or is there any kind of political undertone to your work with junk?

Absolutely. We are definitely a very political group in many ways - we deal with the environment, but also lessons about social structure and change within a culture, working to combine cultural sources to create a new compact of sound and music. There are some things about United States culture (or lack of it) that we despise and wish to change, and we feel that our music, our songs, and our educational thrust is all about effecting that change. But again, it's never a lecture or message with a sledgehammer - we do everything through humor.

21. do you have any other thoughts relating to your use of junk in music which you would like to mention?

Hmm. We like to exemplify the way we want to live on this world through our music. We want to be inclusive, to welcome the new and the different, to live lightly on our Earth, and to find new ways to create, innovate and relate. We want to exhort kids (and adults) to Think Big (which also happens to be one of our song titles).

Other documents and correspondence relating to the questionnaire

Original accompanying email;

Dear Junk Musician,

I am a junk Musician !!

I am currently entering the final year of a PhD for which I am undertaking Doctorate research in Composition using Junk materials and sounds...

My Phd is titled The Beauty Of Waste and I use a variety of junk sources to create compositions, including junk objects, noise pollution,, waste sounds and recordings etc...

Anyway..... of course I am interested in your work and approach to using junk to create music, you have done some excellent and fascinating things.

My Phd is largely practice based but of course I am also writing around the concepts and contexts of what I am doing.....

so as part of my contextual research I have been sending out the attached question sheet to other Junk Musicians to get a range of other peoples approaches in this area...

The results of this will form part of a wider discussion in one of the chapters and will help to compare different practitioners thinking around some of the subjects...

If you have time to take a look at the questions it would be much appreciated, feel free to miss questions out, skip parts, go off on tangents or simply write on your own terms, without following the questions etc...

Basically any thoughts you have around the topics would be appreciated.... however short or basic..

Thanks for your time reading this unexpected and random email!!

and best wishes from Staffordshire,

Paul Rogers

Ethics Information document

MANCHESTER METROPOLITAN UNIVERSITY

MMU Cheshire

Department of Contemporary Arts

PhD: The Beauty of Sonic Waste (Junk Music)

1. You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Please take time to decide whether or not you wish to take part.

2. The purpose of the study is to gain further insights into the working methods of musicians who incorporate junk objects in their work.

3. I am currently undertaking a PhD in Sound & Music composition relating to the use of 'Junk' and 'Noise Pollution' as sound materials for composing with. My PhD, in full, is titled ***The Beauty of Sonic Waste (Junk Music): The Interrogation, Appropriation and Integration of Sound Debris and Junk Instruments Within Compositional Practice.*** As part of my research I am hoping to gather some feedback and opinions from other practicing musicians/composers etc who incorporate some of these elements in their own work.

4. You are under no obligation to take part in this study. If, after reading this information sheet and asking any additional questions, you do not feel comfortable taking part in the study you do not have to. If you do decide to take part you are free to withdraw from the study at any point, without having to give a reason. If you do withdraw from the study you are free to take any personal data with you and this will not be included when the research is reported. If you decide not to take part or withdraw from the study this will not affect your relationship with any of the staff at the Manchester Metropolitan University.

If you do decide to take part you will be asked to return an informed consent form stating your agreement to take part.

5. Some of the data (information) extracted from your responses to the questions will be included within the body of the PhD thesis. The question responses will also be printed in full in the Appendix of the thesis, along with your name.
Once completed the thesis will then be lodged in the British Library along with all other University thesis submissions and the information contained within will be accessible to anyone accessing the paper. It is also possible that some of this information will be disseminated at university conferences as part of my research output.

6. If you feel your rights have been violated you can contact the following MMU Ethics Committee to make a complaint;
Registrar & Clerk to the Board of Governors
Head of Governance and Secretariat Team
Manchester Metropolitan University,
All Saints Building, All Saints,
Manchester, M15 6BH
Tel: 0161 247 1390.

7. I confirm that the insurance policies in place at Manchester Metropolitan University will cover claims for negligence arising from the conduct of the University's normal business, which includes research carried out by staff and by undergraduate and postgraduate students as part of their course. This does not extend to clinical negligence.

8. Thank you for taking the time to read this information and for taking part in the research, it is very much appreciated.

If you are happy with everything please return the confirmation sheet by email including your name, date and email address.

Yours sincerely,

Paul J. Rogers.

Participation consent form from respondents with dates of agreement to the ethical procedures

Participant Consent Form

Title of project: PhD _ The Beauty of Sonic Waste

Student name: Paul J. Rogers

Student id: 67500102

1. I confirm that I have read and understand the information sheet dated 20.04.2015 for the project in which I have been asked to take part and have had the opportunity to ask questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason.

3. I understand that the data being collected during the course of the project may be used for additional or subsequent research including, but not limited to, research papers.

4. I understand that the investigator(s) must adhere to the Ethical Code of Practice set down by MMU.

5. I agree to take part in the above research project.

Jean Herve Peron	24.06.2015	jhp@art-errorist.de
Matt Smith	12.06.2015	matt.smith@port.ac.uk
Skip La Plante	12.06.2015	octobertwelve1582@yahoo.com
Liz Carlisle	08.07.2015	lizthelunch@gmail.com
John Bertles	17.06.2015	johnbertlesbtt@mac.com
Name of participant	**Date**	**email address**

Additional signed document from Jean Herve Peron;

Manchester Metropolitan University

MANCHESTER METROPOLITAN UNIVERSITY

MMU Cheshire

Department of Contemporary Arts

PhD: The Beauty of Sonic Waste (Junk Music)

1. You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Please take time to decide whether or not you wish to take part.

2. The purpose of the study is to gain further insights into the working methods of musicians who incorporate junk objects in their work.

3. I am currently undertaking a PhD in Sound & Music composition relating to the use of 'Junk' and 'Noise Pollution' as sound materials for composing with. My PhD, in full, is titled ***The Beauty of Sonic Waste (Junk Music): The Interrogation, Appropriation and Integration of Sound Debris and Junk Instruments Within Compositional Practice.*** As part of my research I am hoping to gather some feedback and opinions from other practicing musicians/composers etc who incorporate some of these elements in their own work.

4. You are under no obligation to take part in this study. If, after reading this information sheet and asking any additional questions, you do not feel comfortable taking part in the study you do not have to. If you do decide to take part you are free to withdraw from the study at any point, without having to give a reason. If you do withdraw from the study you are free to take any personal data with you and this will not be included when the research is reported. If you decide not to take part or withdraw from the study this will not affect your relationship with any of the staff at the Manchester Metropolitan University.

Read and Understood

June 24th, 2015

If you do decide to take part you will be asked to return an informed consent form stating your agreement to take part.

5. Some of the data (information) extracted from your responses to the questions will be included within the body of the PhD thesis. The question responses will also be printed in full in the Appendix of the thesis, along with your name.
Once completed the thesis will then be lodged in the British Library along with all other University thesis submissions and the information contained within will be accessible to anyone accessing the paper. It is also possible that some of this information will be disseminated at university conferences as part of my research output.

6. If you feel your rights have been violated you can contact the following MMU Ethics Committee to make a complaint;
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7. I confirm that the insurance policies in place at Manchester Metropolitan University will cover claims for negligence arising from the conduct of the University's normal business, which includes research carried out by staff and by undergraduate and postgraduate students as part of their course. This does not extend to clinical negligence.

8. Thank you for taking the time to read this information and for taking part in the research, it is very much appreciated.

If you are happy with everything please return the confirmation sheet by email including your name, date and email address.

Yours sincerely,

Paul J. Rogers.

read and understood

JEAN-HERVE PERON

JUNE 24TH, 2015

Appendix 4

1. Contents of Accompanying Audio Files Disc

Stereo Recordings in 24 bit, 44.1 kHz, .wav format

FOLDER 01

Files 01- 05 - Selected Compositions

01. The Media Machine Version A *Chapter 4.1*

02. The Media Machine Version B *Chapter 4.1*

03. The Media Machine Version C *Chapter 4.1*

04. The Sound Sweep *Chapter 4.3*

05. [FRIDGER ((noise) This Is Normal)] *Chapter 4.4.*

FOLDER 02

Files 01 – 16 - Studies and Additional Compositions

01. Barbershop Quartet *(Stereo Recording)*

02. Old Rocking Chair *(Stereo Recording)*

03. Gateways (The Thresholds Of Perception) *(Stereo Recording)*

04. Broken Zither and Friends *(Stereo Recording)*

05. The Berlin Tapes *(Stereo Recording)*

06. Baptist Prayer Meeting (from The Imaginary Delta album) *(Stereo Recording)*

07. Bicycle Works II *(Stereo Recording)*

08. Fly Tipping (*Stereo Recording)*

09. Old Long Since (Fireworks) (*Stereo Recording & Sound Installation)*

10. Burroughs *(Live Performance)*

11. And Slowly Fell My Ocean Drone (with Soriah) *(Live Performance)*

12. Radio Stoke *(Live Performance & Radio Jingle)*

13. **davID digital sculpt** ***(Film Soundtrack – film provided online)***
14. **I Will Not Hope (Leaf Film)** ***(Film Soundtrack – film provided online)***
15. **The Cartoonist** ***(Film Soundtrack – film provided online)***
16. **Hard Drive Failure** ***(Stereo Recording)***

2. Additional Documentation

Additional documentation, studies and compositions are also available online at the following link: http://thebeautyofsonicwaste.blogspot.co.uk. The main thesis documentation is navigable through the chapter/appendix links and the additional materials of related sketches, thoughts, writings, images, work in progress, audio and video are navigable by category for reference purposes.

Note: The documentation includes recorded audio and video relating to **The Media Machine** (chapter 4.1)**, Carmouth & Dashboard** (chapter 4.2) and **The Sound Sweep [Sonovac Installation]** (chapter 4.3) however as essentially live performances/installations they were presented as such during the external examination/viva.