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Deterioration and Noise in Technologies of Audio Reproduction

Master of Music by Research

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<u>**Deterioration and Noise in Technologies of Audio Reproduction**</u>

Introduction

This project investigates the physicality of the analogue audio reproduction medium in the way in which a signal deteriorates in time and degrades through processes of noise. The first part of this written commentary is a general introduction to the work undertaken for this research project. This introduction exposes the general ideas that surround the compositions that have been created. Secondly explanations are presented of the conceptual ideas surrounding deterioration and noise which these compositions deal with. This presents the theoretical issues that are important in understanding deterioration and noise. Thirdly is a discussion of other artists' work who have explored these issues as concepts within their work. This situates the work undertaken for this research project in a wider artistic context. The final part of this commentary is an explanation of the experiments undertaken that led to the creation of each of the five compositions included in this project. This section also contains a description of the semantic meaning which constitutes the themes they explore.

I explored the vinyl medium extensively for the sheer capacity of its ability to create noise in the channel between groove and stylus. This began after observing the acoustic affects of the process of dust gathering on the stylus of a dirty vinyl. This process created a kind of sound that could be analogous to disease as the usually unwanted noise created an ominous distortion over the vinyl that was being played. After numerous experiments the most effective interference was found to be from using mud, ash and dust. These substances were experimented with for the way in which they interact with a stylus on a record player. Usable vinyl resources were found in various locations which included a derelict industrial estate, derelict houses, abandoned warehouses, unlocked charity shop bins and a disused World War II bunker. The rationale behind searching for abandoned media was that these resources would have deteriorated in a way that the sound produced through using them in composition would resonate a kind of diseased or deathlike vibration. If no media was found in these deteriorating locations pictures and video were taken of these for two installations entitled 'Free Entry' and 'Technologies of Repetition' in which work created for this composition research project was showcased. These were held on the 10th and 20th of March 2012 using cassette tape players, a vinyl player and VHS player that was connected to a projector. A switch box was made so that two VHS players could be used simultaneously and so that the visuals could be dropped in and out as appropriate to fit the audio. The switch box had a monitoring function and a button to superimpose two video signals on top of one another for the main projector output. Using this deteriorated images were projected and mixed to suit the audio of the performance. I conducted numerous environmental performances in urban spaces such as a World War II bunker, an underground car park and a derelict industrial estate using a portable cassette player to diffuse the compositions. These were performed to small audiences who came along for the urban explorations. This explored deteriorating spaces with a sound that was degraded through a piece of noisy reproduction technology.

This composition project set itself as distinct from and outside of a digital practice where instead of processing audio signal in software environments real world physical processes were sought to create acoustic affects. As a major aspect of contemporary electronic practice is a function of code, I developed methodologies that are in some

way critical of coding as the major direction in composition. In this various audio technologies were utilised to create deterioration or noise upon the resourced signal being processed which achieved organic and inorganic deathly vibrations. The equipment used to create these audio documents was for the most part moribund consumer electronics which when used added a large measure of deterioration or noise upon the signal of media being processed. The equipment I used included a faulty 8-track hard disk recorder and a faulty 4-track tape cassette recorder. Deterioration, that is, a worsening of signal was achieved through using these faulting and noisy technologies.

   Presented in this research project are compositions that actualise in acoustic form ideas surrounding physical and mental deterioration. During the course of undertaking this project my mental health was gradually deteriorating. As a consequence I was sectioned and diagnosed with schizophrenia. As a theme, this process greatly influenced the idea of a worsening condition that was attempted to be made into a composed signal. These compositions attempt to present in sound a resonance that realises the mental processes of this condition in its flux in time. It is suggested within these compositions the internal mental state of a psychotic episode. Presented in these compositions is a sonic actualisation of the mental condition of madness in a way that the repetitive nature of the schizophrenic mind is suggested through the skipping loops of vinyl. Also, the noise processes achieved suggest a worsening mental state. The psychologist R.D. Laing has analysed the process of convalescence for schizophrenics. He describes this as a process in which '[w]hat then entailed is:

   (i)   a voyage from outer to inner,
   (ii)   from life to a kind of death,
   (iii)   from going forward to going back,
   (iv)   from temporal movement to temporal standstill,
   (v)   from mundane time to aeonic time,
   (vi)   from the ego to the self,
   (vii)   from being outside (post birth) back into the womb of all things (pre birth),
and then subsequently a return voyage from
   (1)   inner to outer,
   (2)   from death to life,
   (3)   from the movement back to a movement once more forward,
   (4)   from immortality back to mortality
   (5)   from eternity back to time,
   (6)   from self to a new ego,
   (7)   from a cosmic foetalization to an existential rebirth.'[1]

As an overriding theme these compositions attempt to describe in sonic form the first half of this process, a kind of existential deterioration into a death like experience of time.

Deterioration

On his death bed the Buddha stated 'it is of the nature of things to decay'.[2] This statement presents the inevitability and ineluctable nature of deterioration. It is a

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[1] Laing, R.D., *The Politics of Experience and The Bird of Paradise,* Pelican Books, 1967, p.106.
[2] Gethin, Rupert (trans), *Sayings of The Buddha,* Oxford University Press, 2008, p.89.

phenomenon that occurs to material objects, the organic, the inorganic or a process of the mind. The Oxford English Dictionary defines deterioration as '[t]he process of growing or making worse; a deteriorated condition.'[3] Worsening occurs from a state which is deemed of a more acceptable or of a greater quality. As such, a system of designating value is going to be present in determining the better from the worse. Like noise, this determines deteriorate to be defined in the negative. This is defined in the negative as deterioration is a process of worsening which is generally understood as a negative concept. Deterioration is a temporal phenomenon. It is something that occurs often gradually over a period of time. By its nature deterioration is incremental. It has a link to music through its nature being temporal and its essence being a (gradual) change in the time dimension. The verb deteriorate is defined in the Oxford English Dictionary in its transitive form as '[t]o make worse; to lower in quality or value; to worsen' and in its intransitive form as '[t]o become worse, to become impaired in quality or value; to degenerate.'[4]

I used various media resources for these compositions that had already deteriorated over a period of time before it had been found for this project. This included old VHS tapes vinyl records and audio cassette tapes which were found in various locations of a decaying nature. Both decaying locations and decaying media were explored in an attempt to interrogate the essence of deterioration. Processes were also undertaken to deteriorate found media further. The most effective of these was to bury vinyl records in the ground and playing them covered in mud which resulted in a highly distorted and sometimes looped worsening of signal.

This project frequently encountered the technological problems of deterioration where equipment had worsened beyond its ability to perform its usual required function. This was set into motion by the occurrence of an accident that happened at a house installation where a bottle of wine was spilled over the computer being used for this research project. This was damaged beyond repair. After this disaster the problem of deterioration of technologies towards their inability to be usable in composition became a key issue in the compositional processes and actions that were undertook. The first sound captured and decided to be used within this project was a field recording of the clicks and blips of the faulty computer's inability to access the internal hard drive. Due to the lack of a computer a faulty 8-track hard disk recorder was found and used to produce these compositions on. This had started to deteriorate and sometimes would function incorrectly. While recording into its input it would sporadically post the message 'Drive Busy!' and cease to capture audio. Cutting and pasting would sometimes result in all the recorded audio in a project disappearing or when the project was reloaded being rearranged at the incorrect time in the track. Due to these flaws composition methodology had to take into account the limitations of using moribund hardware. A four track cassette player that erratically switched off was frequently utilised to overdrive signal, re-pitch material using a variable speed dial and reverse the sound on cassette tapes. The dirty tape head created an affect of deterioration upon signal when audio was processed through this machine. By the end of this project the condition of this tape player had essentially worsened to the point of becoming unusable and would not stay switched on for any length of time. This presents the problem of the point of finitude in deterioration where worsening reaches a state where a piece of technology can no longer function in any generally usable way.

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[3] Onions, C.T., *The Shorter Oxford English Dictionary,* Book Club Associates London, 1983, p.532.
[4] Ibid. p.532.

Noise

Noise music is essentially impossible due to a contradiction of the two terms. As noise must be received in the negative and music in the positive one must cancel the other out. As commented by Masami Akita a.k.a. Merzbow, '[t]here is no difference between noise and music in my work. I have no idea what you term "music" and "noise." It's different depending on each person. If noise means uncomfortable sound, then pop music is noise to me.'[5] Here Akita highlights the subjectivity of noise and music and its relation to an individual's subjectivity. Paul Hegarty has stated, 'underlying the whole is the idea that noise is a negativity (it can never be defined positively, definitively and timelessly located), a resistance, but also defined by what society resits.'[6] As such noise is understood within any system as unwanted. It is a resonance that interferes with the coded messages of a society and is in some way situated at the outside of the system which is transmitting and receiving. In discussions on its role in audio culture Noise has frequently been referred to by how it functions in information theory. In one section of *Noise: The Political Economy of Music* Atalli uses ideas from information theory to position it within a system of communication. He states that, '[a] noise is a resonance that interferes with the audition of a message in the process of emission. A resonance is a set of simultaneous, pure sounds of determined frequency and differing intensity. Noise, then, does not exist in itself, but only in relation to the system within which it is inscribed: emitter, transmitter, receiver. Information theory uses the concept of noise (or rather, metonymy) in a more general way: noise is the term for a signal that interferes with the reception of a message by a receiver, even if the interfering signal itself has meaning for that receiver.'[7] This implies that noise is not exclusively meaningless, a resonance of unstructured data, a signal of interference for its own sake. In an instance such as the type of noise just described it functions exclusively as a disruption. However, as stated by Atalli, noise is not necessarily meaningless and has the potential to qualify as a signal of information. In short, Floridi defines a signal of information (infon) as n data (n≥1) that is well formed (i.e. syntactic) and meaningful (i.e. semantic).[8] Non-information is a category of understanding noise as a type of signal being received where there is no semantic or coded meaning. This is the type of noise produced in the channel between the plastic of the vinyl groove and the stylus when playing a dirty vinyl. Extensive experiments with this type of noise were undertaken during the course of this research project. Drawing on the Shannon–Weaver model[9] of communication Floridi has succinctly described noise as data received but not sent.[10] This understanding of noise positions the interference of dirt on vinyl as data that is additional to the transmission of the inscribed signal.

  Noise, at its most primitive, as non-information which is a resonance of data that is neither syntactic nor semantic is a form which opposes life within a transmitted signal. It opposes life as resonance of the inanimate and interferes with living

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[5] Cox, Christoph and Warner Daniel (ed), *Audio Culture,* Continuum, 2004, p.4
[6] Hegarty, Paul, *Noise/Music: A History,* Continuum, 2007, p.ix.
[7] Atalli, Jacques, *Noise: The Political Economy of Music,* University of Minneapolis Press, 1985, p.26-27
[8] Floridi, Luciano, *The Philosophy of Information,* Oxford University Press, 2011, p.84.
[9] http://www.mast.queensu.ca/~math474/shannon1948.pdf accessed 25/03/2013.
[10] Floridi, Luciano, *The Philosophy of Information,* Oxford University Press, 2011, p.276

transmissions. It is the interaction of unorganised matter and materials that interferes within an audio reproduction system and resonates a kind of metaphor between noise and death that is assimilated into the work of noise musicians. If structured data with semantic content is a type of signal transmitted by life forms then the additional data from a noise source is the audibility of an inanimate sound which can be understood as a kind of death like vibration.

Analogue mediums of audio reproduction have the capacity to introduce a large measure of noise into the transmission of an acoustic signal. In 1922 Bauhaus artist Laszlo Moholy-Nagy asked the question on the experimental use of the turntable, 'Are we able, and if so to what end, to extend the apparatus's use so that it can serve production as well?'[11] In answering this question this project draws on noise from the communications model as applicable to the turntable medium and experimented with the potentiality in producing noise within the channel between stylus and groove of this technology. Here, between the transmitter (vinyl groove) and receiver (cartridge stylus) is the channel where different materials can be experimented with in order to produce noise in the production of a vinyl's signal. It was found most successful when the material experimented with was the finest possible, so mud, ash and dust was used in order to interfere with the signal that was being transmitted in playing a record. Large amounts of these inanimate materials were applied to the surface of vinyl records which were subsequently played. When amplified, the interferences from these minuscule materials created a cacophony of noise in the production of a vinyl record's signal.

Issues in Other Artist's Work

Christian Marclay

For this project the media resources experimented with were almost exclusively found objects. This follows from the Dada and Surrealists such as Duchamp who used 'ready-made' objects within his art works. The use of the ready-made emerged out of the cultural and technological changes that were effects of mass production. As the mass produced object began to enter society transforming the producer into a consumer it entered art as new creatively usable materials. Duchamp's *Fountain* challenges traditional notions of creativity and authorship as he used a mass produced object created for non art purposes for this work. More recently and following from the Dada tradition of appropriation is the work of Christian Marclay where the vinyl record as ready-made is a key issue in his work. In discussions of vinyl as a noise producing medium reference is often made to Marclay who extensively uses found sound in his experimental turntable work. He has stated, 'I remember when my attitude towards the record changed from being this object to be respected, collected for posterity, into a piece of plastic that had no more value than a coffee cup in the gutter. Coming from Switzerland to the United States in the 70's, I noticed a change in attitudes towards objects. I would see thousands of records on the street, in the gutter. I would see thousands of records in thrift shops that nobody wanted, that nobody cared about. It was in some way that cultural change that allowed me to see a different attitude towards records in thrift shops that nobody wanted, that nobody cared about. It was in some way that cultural change that allowed me to see a different

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[11] Cox, Christoph and Warner Daniel (ed), *Audio Culture,* Continuum, 2004, p.332.

attitude towards records, and I pushed in that direction, considering them as just a cheap commodity to be used and abused.'[12] In this statement Marclay draws attention to the trashy nature of consumer culture. His uses and abuses of vinyl can be seen as a critique of commodification and the degradation of culture that it ensues. Inspired by the subversion and DIY aesthetic of punk Marlclay began experimenting with the rhythmic noise potential of skipping vinyl. He has cut and pasted different records together which creates new rhythms out of the vinyl's revolutions on the turntable. His work pushes the physicality of the medium to an extreme and explores its capacity as a noise making medium.

I frequently encountered the issue of value within using found sound as resources. A constant problem in utilising media from mass culture in this project was that more often than not the objects I found were unsatisfactory in achieving captivating works of composition using the noise techniques I had developed. For this reason a large amount of the resources found and explored with for this research project did not end up being used in any final composition. This displays a distinction between my work and Marclay's work that shows little regard for value and sometimes pushes his experiments to the extent of a kind of effacing of inscribed sound in his cacophony. Value within individual resources is less an issue for Marclay who has said, 'I never spent more than a dollar on a record. It was just junk, and I would stick things on them to make them loop.'[13]

Boyd Rice

In the late 1970's and early 1980's there began a rise in noise and industrial music from groups and artists that began experimenting with consumer audio equipment. One of the most prominent of these artists is Boyd Rice a.k.a. Non from the United States. Noise is a key issue within experimental and industrial artist Boyd Rice's compositions. He has experimented with different types of distortion and the capacity of vinyl as a noise producing medium. In 1981 under his alias Non, Boyd Rice released a 7" to be played at any speed which contained seventeen locked grooves with an additional off centre hole for playing the record off centre. This presents the record player as an instrument and the listener with an active role in compositional outcome through the indeterminacy of choice. The linearity of passive consumption is challenged from this composition which opens up the instrument to experimentation and noise processes. On his website Boyd Rice quotes Titus 1:15, 'Unto the pure, all things are pure... but unto them that are defiled is nothing pure, but even their mind and conscience is defiled.'[14] Here a biblical text is quoted sardonically which raises the issues of filth which surrounds noise music. Noise music is generally understood as a subversive genre and this quote displays how Boyd Rice goes against commonly accepted values to explore issues relating to impurity and degredation which is a dominant theme within noise music.

In Boyd Rice's composition *Tourist Trap* from 1991 compilation *Easy Listening for Iron Youth* a highly distorted cyclical phrases repeats itself throughout. It is difficult to determine what the sources of this cacophony are due to the level of distortion but it is possible that a turntable could have been used due to the nature of the thumping distortion which resembles the sound of a stylus jumping. Once again it is hard to tell

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[12] Ibid, p.345.
[13] http://www.furious.com/perfect/christianmarclay.html accessed 25/03/2013.
[14] www.boydrice.com/home.html accessed 25/03/2013.

exactly what is going on underneath the sheer amount of noise so this is speculation but is sonic effect similar to those created for this composition project.

William Basinski

Deterioration is a key issue in William Basinski's 2002 released composition *The Disintegration Loops.* In the early 1980's this project of Basinski's was started from a collection of reel-to-reel tape loops he had created. He brought them out again in 2001 to digitise them but had found that the ferrite was breaking away from the plastic tape as it passed through the magnetic head. Over the course of almost twenty years these had deteriorated to the point where the action of playing the tape loops would damage them. On each revolution on the tape player the old tape loops gradually deteriorated which he recorded over the long periods of time it took for them to disintegrate. The track *d/p 1.1* slowly disintegrates over the course of sixty-three minutes at which nearing the end barely any of the original tape material is left before the track fades into nothingness. Slow pastoral phrases gradually worsen as the tape gradually deteriorates over an audible time span. These compositions explore the ephemerality of tape as a material object and he works into a set of compositions the problems relating to the impermanence of the analogue recording format. Basinski has commented, '[t]he music was dying'.[15] The Disintegration Loops create a haunting atmosphere which sounds like a kind of senescence of the analogue medium. Basinski, who lives in Brooklyn, was completing the Disintegration Loops project as the World Trade Centre collapsed from the terrorist attack on September 11th 2001. Allegedly he played the decaying composition on his rooftop as him and his friends watched the atrocity unfolding, listening to the haunting composition as the chaos ensued around them.[16]

Composition Commentary

Disease (Track 1)

This composition begun as a piece of site specific art that raised an analogy between itself and a psychosis I had in which the music library began to resembled a mortuary. For this art work a collection of 33 vinyl records were buried on public land in mid-winter in the Surrey woodland. These records were a selection of the most interesting from a large collection found in a bin during a night-time recovery from behind a charity shop. Pictures from this project can be seen in the appendix. In the graveyard of sound the dead are reanimated through the re-echo of a recording, a kind of zombie like resonance. After three months the site was returned to and the records dug out of the ground. Unfortunately a Brecht and Kurt Weil vinyl was shattered during the excavation but this was attempted to be played regardless. The vinyl records were collected and then performed on a turntable in a garage still covered in the damp mud from the ground they had previously been immersed in. As the vinyl rotated the mud caused distortion and the needle to skip backwards in an unpredictable manner. This achieved a different affect from techniques that create stuck loops in locked grooves

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[15] http://www.hauntedink.com/25/basinski-disintegration.html accessed 25/03/2013.
[16] Ibid.

such as using sticky tape to jump the needle or cutting into the plastic as the loops gradually changed start and end point as the mud was moved around on the vinyl by the cartridge. Also, a toothbrush was used to clear some of the mud approaching the stylus as the record rotated in an attempt to control the signal-to-noise ratio, which otherwise was tending towards almost 100% mud noise. The acoustic affect from the outcome of this project kind of resembled a radio being tuned with bursts of obsolete popular music surfacing through the noise. This sound was of interest but it was decided that for the final composition the mud process would be repeated with vinyl sounds that would have a less banal signal that rises through the mud.

I decided that sounds from a VHS tape also found from behind a charity shop in a bin would be cut onto a 7" which would also be buried in the ground. Around 40 home recorded and pre-recorded video tapes found in this location were played in search of elusive material which could be used to start a theme of a composition. The sounds that it was decided would work best for the mud process came from a pre-recorded VHS tape of Werner Herzog's *Woyzeck* and a drone composition recorded using a reed organ, sine tones from a synthesizer and a freezer drone. On the A side the performance of a Polka by the Fidelquartett Telč from *Woyzeck* was pressed. The sound produced by the ensemble is brut. The group appear in one scene of Herzog's film in which the double bass player can be seen sawing at his instrument with the bow as if it was a piece of wood. Even though the piece only uses chords I, IV and V the quartet's playing is quite dissonant from their off key playing. This resonates the uncompromisingly raw and gritty nature of Georg Büchner's play script. Pessimistic words from the Doctor anticipates a society of indeterminate decay, 'It's bad, Woyzeck, the world's turning bad, very bad.'[17] The Fidelquartett Telč resources were chosen initially for a theme of music of social function. This is similar to the material for the composition *Schizophrenia* which will be discussed later. Once played on a turntable the skipping revolutions from the mud interaction eventually fell into a cyclical phrase which gradually transgressed in time. This created maddening repetitive phrases and although this occurred when the 7" was played on both sides this was most effective on the side containing the Polka. The short sustained tones of the Fidelquartett Telč fell into new rhythms as the needle skipped on the vinyl. As this was mainly coming out of one channel of the turntable the sound was doubled with inversed panning 180 degrees out of phase of the cycle. This created a denser texture that intensified the crazed auditory effect of the repetitive phrases.

I burned an incomplete, tattered score of Karl Von Webern's *Klavierstuck* in a derelict Mausoleum and collected its ashes. The sound of the burning was recorded but did not appear on the final composition. The ashes were then taken back to a house and scattered over the vinyl of a field recording of a swamp in New England in the United States dated from 1966. The ash created a higher frequency noise than those achieved with the experiments with mud. This sound was used to suggest a kind of surreal, uncanny hallucination. On top of the sheer amount of noise the mechanically mediated grunts of frogs surfaces suggesting the consciousness of an entity experiencing a madness which had somehow transmogrified itself into that of an amphibian. The primal mating rituals of this creature resound through the messy distorted environment they have been situated within.

This composition is called *Disease* as it took influence from Artaud's plague theme. Artaud confused the plague with a virus. *The Theatre of the Cruel* can be read with this distinction in mind while interpreting his ideas on cruelty in a degenerating

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[17] Büchner, Georg, *Complete Plays, Lenz and Other Writings,* Penguin Books, 1993, p.121.

human environment. The plague is a disease and should be interpreted as bacteria which reproduce as apposed to the non living entity that is a replicating virus. Artaud states, '[l]ike the plague, theatre is a crisis resolved either by death or cure. The plague is a superior disease because it is an absolute crisis after which there is nothing left except death or drastic purification. In the same way, theatre is a disease because it is a final balance that cannot be obtained without destruction. It urges the mind on to delirium which intensifies it energy.'[18] In this composition this idea is actualised in the maddening cyclical repetitions of the filthy, disease ridden vinyl. Something akin to a deathlike euphoria is experienced in the hopelessness of the situation. Death is inevitable as the disease which has infected the environment enters the internal organs of the human entity. At the end, everything falls apart and death is embraced.

Asbestos (Track 2)

This composition presents a texture of sound which resembles the heavy air of an Asbestos infected environment. This was experienced first hand when an Asbestos contaminated abandoned World War II bunker was explored and performed in for the composition *Deteriorate*. This composition actualises a sound which is both triumphant in a hall of disease and despairing in the real life consequences of lack of self preservation. Asbestos poisoning is a gradual deterioration of the human condition of health towards death. *Dust Breeding* by Christian Marclay was a point of reference for this composition of which the name suggests the kind damaging effects on the lungs of dirty environments. This composition, *Asbestos,* presents the deterioration of the human body, senescence, from disease. The idea that dust breeds is an impossibility but the thought of it reproducing itself is unsettling when imaging the hazardous effects of Asbestos contaminated air.

   Underlying this composition is the *Fanfare* from Benjamin Britten's song cycle *Illuminations* covered in dust. The sheer amount of dust which had been applied to this vinyl resulted in the noise being almost louder than the sound of the trumpet inscribed in the plastic. This sound was slowed down by half and the panning reversed which resulted in the trumpet resembling a trombone and was then played simultaneously with the original at the octave. Due to sheer amount of dust that was used to interfere in the channel between stylus and plastic the signal-to-noise ratio is weighing heavily towards noise. This sound resembles the thick air of Asbestos contaminated chambers that the last composition, *Deteriorate* was played in. Deterioration of the human body is inevitable. Asbestos poisoning speeds this process up. Another resource used was a 7" test tone vinyl record. This was played covered in dust on the area that contained signal of different types of filtered noise. The dust resulted in unpredictable panning of the sound between the left and right channels. The pops from dirt within the dust combined with the constant noise on the vinyl record to create a sound that resembles aerosol cans being sprayed.

   This composition actualises the kind of sustained periodicity of La Monte Young's drone works in a more compact time span. His use of a generator from a pet tortoise tank was a source of inspiration when using a contact microphone recording of a fridge slowly defrosting. This was re-pitched using a variable speed cassette player to the root of the mode the trumpet was playing in. This grounded the recording of dust and trumpets to a drone which became the centre of tonality. Also present throughout

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[18] Artaud, Antonin, *The Theatre and Its Double,* Caldar, 1993, p.22.

is a recording of Benedictine Monks which had been buried in the ground played covered in mud, following the acoustic effects achieved on the composition *Disease*. As the monk's modal chant revolved on the machine the mud caused skips and distortion and a high measure of noise which suggests a kind of surreal, undead signal. This sound was used more for the juxtaposition of meditative atmosphere and machine noise than for any religious connotation. Also, waves of periodic form have been found to be most effective for the atmospheres I desired in the noise processes undertaken and the semi-sustaiend tones of the vocals were found to work very effective within this.

In one rural exploration an abandoned cottage was discovered which a performance of this composition using a portable cassette player was planned in. During this expedition a mud covered unmarked cassette was found amongst clutter. It was something like Lionel Richie. It was a disappointment. When the site was returned to for the performance of this composition amongst the decaying walls of the cottage it was discovered that vandals had burned it down. This piece was nevertheless played amongst the ruins.

Prisoners of War (Track 3)

This composition continues using the techniques previously developed using a vinyl player to create noise upon a found sound. The sounds used were chosen to create a tense and uneasy atmosphere. This composition was arranged around the sound from a vinyl record of a sine wave test tone covered in dust. The physical interaction between the dust which disrupted the channel between vinyl groove and stylus resulted in the sine tone becoming highly distorted and created overtones which were closer to that of a saw tooth wave. When this recording was slowed down by half using a cassette player its sound resembled a kind of mechanical Tibetan trumpet. This sustained tone drones in a similar manner to the way which the trumpet is used in Tibetan ritual music. This periodic wave also contains a noise component to the sound which was the result of the stylus quickly bouncing on the grooves of the vinyl before it settled down on another section of the record. This ominous resonance creates an uneasy atmosphere that connotes the existential concerns of life and death for those contemplating the meaninglessness of existence.

The next sound layered on top of the mechanical doom trumpet was a highly distorted vinyl of a field recording of tantric Buddhist chant. This distortion was created by feeding a recording of the vinyl record into a vinyl pre-amp and taking a recording from the record out of the amplifier while it was switched off. For some reason this created a very effective distortion that was comprised of overdrive, compression and a heavily panning noise in the high frequency range which is not unlike that achieved from creating interference in between the groove and stylus of a vinyl record.

This composition takes as its theme the mental instability and decaying mental state of a soldier captured in a prisoner of war camp. Outside the cell machines are rolling other machines around the general area which create an acoustic dissonance which reverberates across the landscape. Otherwise, there is a deathly silence from the north-west of the compound where it has been deduced by the prisoner contains a shooting range. Time has become both endless and indeterminate as it is unclear whether the next day will be the last. A low hum resonates from underneath the building emanating from some kind of underground bunker. Nothing happens in this state of

stasis which is neither taken as good or a bad thing. It is either life in a cell or execution as escape is impossible and release seems to be a highly unlikely situation.

Schizophrenia (Track 4)

This composition started from a projected where I viewed around one hundred home recorded VHS tapes in search of deteriorating material usable for the visuals for the public performances undertook or from which audio could be taken for use in compositions. Mostly the information found was banal. However, some interest was found in a small amount of the material on offer. This included sine tones broadcasted after scheduled programmes had finished when the VCR had been left running, public information films and advertisements for products that had long since been gone. The most interesting piece of material gained from this project was a fragment of a documentary on R.D. Laing interviewing schizophrenics. This was uncannily found at the end of tape containing a Disney cartoon. In the eight minute fragment from the documentary a woman discusses being molested as a child by her father. It has been an issue deciding how to use this material without causing offence to people who find using this fragment in some way distasteful. This fragment was used in the performances entitled 'Free Entry' and 'Technologies of Repetition' but in the end did not get included on this composition. However, influence was taken from the theme of schizophrenia which the documentary dealt with for the semantic meaning of this composition.

   I had another vinyl record pressed for this composition. This also contained material found from the same charity shop bins as for the composition *Disease*. On one side is a fragment from a home recorded documentary on music making in China after the death of Chairman Mao. This documentary is called *Number 17 Cotton Mill Shanghai Blues* and was filmed in the early 1980's. Selections of audio from the incomplete fragment which did not contain the narrator's commentary were arranged into a four minute collage in order to be pressed onto the 7" vinyl. On the other side sounds from a tape of whale communication was pressed. This was buried in the ground for a month and left to deteriorate. Once dug up again this was played on a turntable like the process undertaken in the composition *Disease*. The Effect of the mud interacting with the stylus created a distortion to the inscribed material and caused the stylus to skip. After a while of changing the weight of the cartridge the revolutions begun to fall into loops that changed sporadically as the mud moved on top of the vinyl. This composition starts from where this begins to settle into a cyclical phrase.

   This composition takes as its theme the mental deterioration of the schizophrenic. R.D Laing has commented, 'If the human race survives, future men will, I suspect, look back on our enlightened epoch as a veritable age of Darkness. They will presumably be able to savour the irony of this situation with more amusement than we can extract from it. The laugh's on us. They will see what we call 'schizophrenia' was one of the forms in which, often through quite ordinary people, the light began to cracks in our all-too-closed minds.'[19] The maddening, repeated phrases in this composition mirror the repetitive voice and mental processes of the schizophrenic mental disorder. Round and round in slowly transgressing phrases goes the repetitions towards a stabilised loop which seems to be going on forever. Near the end this gradually slows down which affects the pitch to be lower as well creating the effect of

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[19] Laing, R.D. p.107

a kind of sinking feeling. Lastly, the cyclical order descends into chaos as the stylus falls out of its muddy stuck loop.

Deteriorate (Track 5)

One object used in this composition was a tape cassette recording of a radio broadcast in which the presenter discusses moral issues with J.G. Ballard. This was found in a house clearance and was the possession of its former resident who had died. The magnetic tape had deteriorated to the extent that it was almost impossible to salvage information contained within the cassette. The first four cassette players this was played on were unable to turn the cassette's spools due to physical resistance from the heavy, stuck magnetic tape. When a cassette player was found that was able to play this recording its continuation had to be frequently motivated by increasing the playback speed over the sections that were getting stuck and during the first four minutes the magnetic tape was almost grinding to a halt. Due to this the pitch and speed fluctuates as the physical resistance resulted in a constant playback being impossible to maintain. This affect was at its most extreme at the beginning of the tape and had pretty much settled after six and a half minutes. The high-mid range frequencies of the spoken voice were highly distorted for the first twenty seconds and after nine minutes a low frequency noise became present and gradually increased in amplitude. It is difficult to determine whether the latter was produced within the primary inscription of the radio broadcast or produced in the process of playing the cassette tape. Either way, this analogue artefact, the irregular pitch/speed and distortion was retained in the secondary inscription of the discussion with Ballard as it was dubbed to a new cassette tape. For the composition I slowed down the dubbed cassette tape which transmogrified the presenter and Ballard's articulate radio voices into a sound similar to the slurring of alcoholics. This resonates a kind of un-dead, zombie like entity. In this discussion Ballard and the interviewer touch upon the decay of moral values in 20th century society with the advent of consumerism.

Underpinning this composition is a tape cassette recording of the sound of dust collecting on a stylus while receiving the signal from a vinyl record of Russian collective Phurpa's interpretation of Tibetan rgyad-skad overtone singing. This process started with minor interference to the signal from the vinyl record and a slight distortion to the vocal drone which gradually intensified over the period of thirteen minutes. This is the audible deterioration of signal's form towards it being effaced. By the end of this experiment the sounds from Phurpa had become completely obscured by the interference of the dust which is heard as a gradual and continuous process from organisation to disorder. Approaching a point in time where the inscribed signal becomes lost entirely the group surface over the noise periodically and highly distorted which resembles a deathly wheezing. In the domestic environment settled dust consists of a high quantity of dead human skin. The worsening of a human signal converges with expended human cells made audible. During the last few minutes the sound begins to resemble the waves of the sea. As the stylus rises and falls in cyclical revolutions on the turntable the noise from the collection of dust forms dynamically in a periodicity like the tide expanding and contracting on the shore, resonating a kind of placidity from non-being. This tape was played at a slower speed to further intensify an effect of doom. This slowed down the revolutions of the turntable which resulted in the cyclical pulses sounding less typical of this machine.

Another sound present in this composition is an ephemeral vocal sound, recorded at different speeds and in different directions with delay using a four track tape cassette player. This was used to suggest a kind of unfulfilled desire of consumerism. The spirit of want reverberates above the surface of the dismal drone as a kind of hungry ghost as described in Buddhism. This is a theme that has parallels with the discussion with Ballard who touches upon the moral decline of society as a result of twentieth century consumer culture.

This composition was auditioned to an audience in an abandoned World War II communications bunker through a portable cassette player. This site was the war time emergency headquarters of Southern Railway's control centre[20] which has become heavily deteriorated from its disuse. A sign warning of Asbestos contamination was attached to a wall at one of the bunker's entrances which had previously been sealed but someone else had already broken in before our troop arrived. In 1997 it was rediscovered and subsequently secured after a fire had been lit inside by a group of youths. The fire brigade who were called out allegedly had to dispose of their clothes due to such a high level of Asbestos contamination.[21] Inside the remnants of 1940's communication technologies had heavily rusted from over half a century of neglect. Entering the bunker posed a health risk from Asbestos from the atmosphere or tetanus if the protruding jagged metal pierced the human flesh of a group member without an immunisation. The quietness of this environment was striking. Underground a silencing of the ubiquitous industrial noise of roads, mains hum, aeroplanes and domestic appliances was experienced. From this silencing the noise of moisture in the atmosphere became the loudest audible environmental sound. In the quietness listening could focus on the further worsening of the composed signal in its defective reproduction through a flawed machine. The tape player's imperfections, the murky EQ, mid range hiss, compression from turning up the volume to the limit of the machines amplitude which verged on distortion but did not quite reach it affected the signal yet in its diffusion the composition retained its ominous distinctiveness. This reverberated through the empty chambers, enveloping the small audience in its atrabilious resonance.

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[21] http://www.subbrit.org.uk/sb-sites/sites/d/deepdene/index2.shtml accessed 25/03/2013.

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http://www.subbrit.org.uk/sb-sites/sites/d/deepdene/index2.shtml   accessed 25/03/2013.

<u>Appendix</u>

Figure 1: Graveyard.

Figure 2: Buried Vinyl Records.

Figure 3: Record Player with Mud on Vinyl Record.

Figure 4: Image Found in an Abandoned Warehouse No.1.

Figure 5: Image Found in an Abandoned Warehouse No.2.

Figure 6: Deteriorated Still from *Number 17 Cotton Mill Shanghai Blues* **No.1.**

Figure 7: Deteriorated Still from *Number 17 Cotton Mill Shanghai Blues* **No.2.**

Figure 8: Still from Video Performance 'Technologies of Repetition' No.1.

Figure 9: Still from Video Performance 'Technologies of Repetition' No.2.

Figure 10: Deteriorating Abandoned Location.

Figure 11: Piano in Abandoned Warehouse.

Figure 12: Derelict World War II Bunker No.1.

Figure 13: Derelict World War II Bunker No.2.
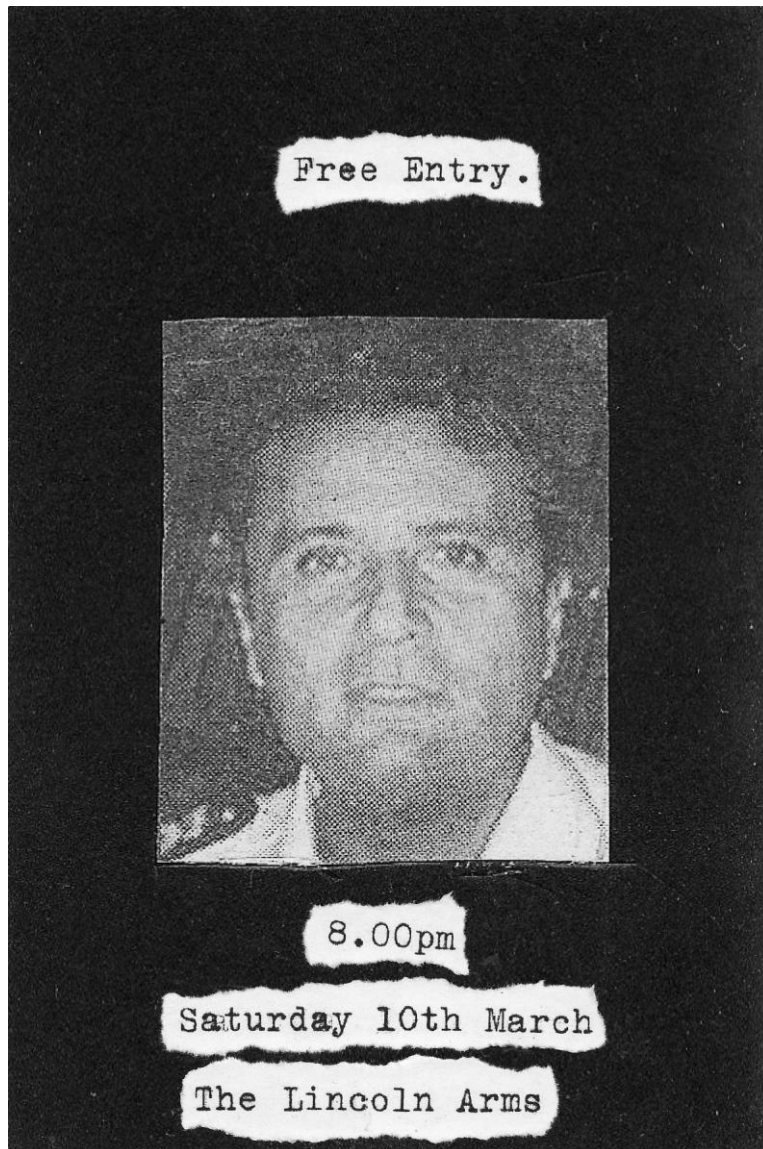
Figure 14: Flyer from the Event 'Free Entry'.

Figure 15: Flyer from the Event 'Technologies of Repetition'.